Bay Area to Central Valley High-Speed Train

Summary of Key Issues on the Draft Program Environmental Impact Report/Environmental Impact Statement (EIR/EIS)

December 19, 2007

California High-Speed Rail Authority

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1.0 INTRODUCTION

This document highlights and responds to key issues and concerns raised during the circulation period of the Draft Program EIR/EIS, July 20, 2007, through October 26, 2007, and the November 14, 2007, Authority Board meeting regarding the Staff Recommendation. Concerns brought forth related to the environmental process, alternatives, ridership, air quality, biological resources and wetlands, growth, and cumulative impacts. This document discusses some of the most repeated issues and does not include all of the comments received from the more than 400 people who provided over 1,300 comments during the circulation period (either through written letters or oral comments). Table 2-1 lists the number of those providing comments during the public comment period, including those from the public hearings. The Authority will respond to comments received during the circulation period and include those in the Final Program EIR/EIS.

Table 2-1
Comment Submittals on the Draft Program EIR/EIS

Method of Comment Submission	Federal		State		Local		Organization	Individual	Total
	Elected	Agency	Elected	Agency	Elected	Agency			
Public Hearings									
Oral Testimony	4	0	1	3	21	30	47	57	**163**
Written	2	0	1	2	3	6	1	12	**27**
Letters/Faxes	1	8	3	6	12	24	17	35	**106**
Web				1		5	15	83	**104**
Total	**15**		**17**		**101**		**80**	**187**	**400**

2.0 KEY ISSUES RAISED BY COMMENTS FROM THE PUBLIC AND AGENCIES

2.1 Issues and Responses Related to Process

Issue: **The comment period ended on October 26, 2007. There was little time to review the numerous comments that were submitted at or near the deadline prior to the November 14, 2007, Authority Board meeting.**

Response: The Draft Program EIR/EIS was released for public review and comment on July 16, 2007, and noticed in the *Federal Register* on July 20, 2007. The initial public comment period was scheduled to end September 28, 2007, but due to public requests, it was extended to October 26, 2007. During this period, the Authority held eight public hearings to present the Draft Program EIR/EIS and to receive public comments. Originally, six public hearings were scheduled, but, due to requests, two more public hearings were held. Comments were received from local, state, and federal elected officials; agency representatives; organizations and groups; and individuals.

All comments submitted on the Draft Program EIR/EIS to the Authority during this period were reviewed and catalogued by Authority staff as they were received. Authority staff

identified concerns by commenters as they were raised during the comment period and evaluated those issues, which included the Don Edwards San Francisco Bay National Wildlife Refuge, Grasslands Ecological Area (GEA), HST operations and ridership, and other ongoing projects, such as the Metropolitan Transportation Commission's (MTC's) San Francisco Bay Area Regional Rail Plan. Prior to the preparation of the November 14, 2007, Staff Recommendation, Authority staff reviewed each comment and took those concerns into account in developing their recommendation.

Issue: **There is good reason to question the analysis and conclusions presented in the Draft EIR/EIS. Staff's decision to throw its support behind the Pacheco alignment as the primary preferred route shows prejudice – staff has prejudged the impacts when not all the evidence has been presented.**

Response: The Authority and FRA completed and circulated the Draft Program EIR/EIS and received numerous public and agency comments, including 163 individuals who testified at public hearings, 133 letters, and 104 website comments. The comments ranged in subject area from strong preferences for either the Altamont or the Pacheco alignment to comments regarding the adequacy of the document.

During the review period, portions of the Draft Program EIR/EIS were criticized for specific impact evaluations or findings—particularly evaluation approaches or findings that presented adverse impacts for an alignment that was supported by the commenter or approaches and findings that presented lower impact levels for an alignment that was opposed by the commenter. The Authority and FRA feel that the draft environmental document provides a comprehensive, thorough, and objective review and analysis of impacts and mitigation for the multiple alignment and station location options studied. The NEPA/CEQA process provides an opportunity for the public to provide comments on the draft document, including views on its adequacy, and the Authority and FRA will respond to these comments in the Final Program EIR/EIS.

The environmental process allows for identification of a preferred alternative in the Final Program EIR/EIS, which is the approach being followed here. Any approval of alignment and station locations occurs at the end of the NEPA/CEQA process, once the Authority Board and FRA have reviewed the Final Program EIR/EIS, including responses to public and agency comments.

By developing recommendations concerning the identification of preferred alternatives and station options and presenting them to the Authority Board before preparing the Final Program EIR/EIS, additional opportunity for public comment has been provided, although this is not required. Staff's recommendations took into account the extensive information in the public record. The information used as the basis for the staff recommendation was developed over the course of nearly 2 years, built upon extensive previous studies and the statewide Final Program EIR/EIS, and included careful examination for numerous environmental subject areas for multiple alignment and network alternatives and station location options, as presented in the Draft Program EIR/EIS.

In addition, the staff recommendation took into account the numerous public and agency comments on the draft environmental document. All comments were reviewed by staff in advance of the publication of the staff recommendation.

2.2 Issues and Responses Related to Alternatives

Issue: **The Altamont Pass should be selected since it serves the entire Central Valley. The Central Valley does not want to be "fragmented" or "broken in half".**

Response: The HST system approved at the conclusion of the Statewide Program EIR/EIS includes corridors and stations for HST service through the entire Central Valley from southern California to Sacramento. This has not changed. The subject at hand is the service connecting the Central Valley to the Bay Area. Whether HST service is provided via Altamont Pass or Pacheco Pass, the Authority Board has stated its intent to serve the entire Central Valley.

Consistent with the current statewide bond measure for 2008, the Authority Board has selected as its first phase the line from Anaheim to the Bay Area, and has stated its intent to subsequently add service to both Sacramento and San Diego. The first phase of the Board-adopted phasing plan includes development of a test track from Bakersfield to Merced, regardless of whether the Altamont or Pacheco Alignment is selected. Thus, for the initial phase, the Central Valley is served between Bakersfield and Merced for either alternative.

The staff recommendation recognizes the desire of the full Central Valley to be served. While the Pacheco Pass is proposed as the primary north/south alignment between southern and northern California, the staff proposal includes a recommendation for additional improvements to be made in the Altamont corridor in concert with regional partners, and the staff recommends that the Authority pursue additional high-speed rail bond funds for such improvements.

The exact nature of these improvements has not been defined, but it is clear that improvements to train services in the Altamont corridor would provide additional mobility and accessibility to Central Valley residents and would likely involve improvements in the Central Valley. As described in the staff recommendation, the Authority and regional partners, including the Central Valley, would need to define the priorities for these improvements.

It is envisioned that this approach would involve incremental improvements in the Central Valley and Altamont corridor during the initial phase of the adopted phasing plan, and these improvements could come before the development of the Pacheco Pass portion of the HST alignment.

Issue: **There have been new bay crossings successfully implemented in recent years. BART crossed under. The difficulties of building a new Dumbarton Bridge are being overstated.**

Response: This comment needs to be placed in the appropriate context. The BART San Francisco Bay tube was actually placed in the Bay in 1969—the same year that NEPA was passed and prior to the application of the more stringent environmental permitting and regulations in place today. The new Bay, Carquinez, and Martinez bridges were approved principally in response to public safety issues related to existing road ways. The Bay and Carquinez bridges were replacements bridges and did not require new approaches.

In the case of the HST alignment, however, alternatives do exist for not crossing the San Francisco Bay, and the staff proposal would not involve a Bay crossing.

The Draft Program EIR/EIS indicates that the alternatives that include a Bay crossing would have the greatest potential impacts on the San Francisco Bay waters and would have high capital costs and constructability issues.

The Dumbarton crossing would also have the greatest potential impacts on wetlands and the Don Edwards San Francisco Bay National Wildlife Refuge. To implement these alternatives, extensive coordination would be required with the USACE under Section 10 of the Rivers and Harbors Act, U.S. Fish and Wildlife Service (USFWS), and California Coastal Commission. Proposed facilities crossing the Bay would be subject to the USACE, California Department of Fish and Game (CDFG), and San Francisco Bay Conservation and Development Commission (BCDC) permit processes.

Proposing to construct a new crossing of the San Francisco Bay is a controversial concept. A considerable number of organizations, agencies, and individuals have expressed concern regarding potential impacts on the San Francisco Bay and Don Edwards San Francisco Bay National Wildlife Refuge by HST alternatives via the Altamont Pass using a Dumbarton crossing. These include the MTC; BCDC; EPA; USFWS; Don Edwards San Francisco Bay National Wildlife Refuge; Congress members Zoe Lofgren, Michael Honda, Anna Eshoo, and Tom Lantos; State Senators Elaine Alquist and Abel Maldanado; Assembly Member Jim Beale; Santa Clara County; San Mateo County Transit District (SamTrans); San Mateo County Transportation Authority; Peninsula Corridor (Caltrain) Joint Powers Board (JPB); San Francisco Bay Trail Project; San Jose Chamber of Commerce; San Francisco Bay Trail Project; the City of San Jose; the City of Oakland; and Don Edwards (Member of Congress, 1963–1995).

Issue: **Altamont should be selected since long-distance commuters and intercity passengers would share the same infrastructure in a multi-use corridor reducing costs and impacts.**

Response: The HSRA staff recommendation carefully considered how best to capture riders from these two markets—interregional travel and long-distance commuters. The HST service is most competitive in the intermediate to long-distance California markets where it offers:

- Much faster travel times than the lower cost and more convenient auto mode, particularly for people traveling in groups;
- Much faster travel times and higher frequencies than the lower cost conventional rail model; and
- Equivalent door-to-door travel times and frequencies as the more expensive air mode.

A competitive service for long-distance commuters requires more frequent station stops so that travel times for the commuters from the origin to the ultimate destination is competitive with the automobile.

A system with HSTs that includes a commuter-oriented overlay service would require more closely spaced stations and two additional express tracks so that HST trains could pass through the stations without stopping, as would be the case for the Caltrain Corridor. Without these express tracks, HST travel times would be compromised and the ability to capture interregional passengers would be reduced.

In short, a combined HST and commuter rail overlay in the Altamont corridor would involve more stations, each with four tracks. Additionally, the Altamont alignment requires provision for two freight tracks, so six tracks would need to be provided for the Altamont stations and station areas. The transition from two to four HST tracks requires some distance on either side of the stations and for very closely spaced stations, this transition would not occur, i.e., there would be four tracks between the stations. For example, this is the proposed approach for the Caltrain Corridor.

The staff recommendation would allow for the HST north/south interregional travel to be provided via the Pacheco alignment, with the long-distance commuter rail trains in the Altamont corridor stopping at each of the more closely spaced stations.

The impacts associated with a shared infrastructure in the Altamont corridor is one of the reasons that the "hybrid" solution is being proposed by the staff. The Tri-Valley Policy Working Group and Technical Advisory Committee (Tri-Valley PAC) is a partnership that includes the cities of Dublin, Livermore, Pleasanton, Danville, San Ramon, and Tracy along with transportation providers Livermore Amador Valley Transit Authority (LAVTA), Altamont Commuter Express (ACE), and BART. This group understood the need for six tracks in the station areas – four high-speed track and two freight tracks – and provided the following statement.

> *The Draft Bay Area EIR/EIS includes a Bay Area HSR alignment that would include High Speed Train service through the Pacheco Pass and regional overlay service provided through the Altamont pass. The Policy Advisory Committee believes that this option may present the best way of addressing our concerns and delivering optimal HST service to the region as a whole.*
>
> *The combined Altamont/Pacheco(Hybrid) alignment option allows HSR to provide frequent service along the most direct route between northern and southern California, while still serving the important regional transportation corridors in Northern California, including those in the Central Valley, the Tri-Valley, and between Sacramento and the Bay Area. The Draft EIR/EIS demonstrates that the corridors served by the Altamont alignment include some of the greatest travel demand in the entire system.*
>
> *While providing these important transportation advantages, a system that provides service in both major corridors also mitigates some of the possible negative impacts identified in the Draft EIR/EIS. Specifically related to the Tri-Valley's key concerns, it would improve the likelihood that HST service could be delivered within the existing Union Pacific Right-of-Way without the need for major aerial infrastructure, or significant right-of-way acquisition through the developed portions of the Tri-Valley.*

Issue: **Aerial structures were used through the Pleasanton, Livermore and Fremont. What concept is used through the Central Valley, Diridon Station and the south end of San Jose? The simulations suggest trenches through downtowns and the idea of structures were never floated through these communities – this appears to be a political maneuver.**

Response: As shown in the Draft Program EIR/EIS, aerial stations are proposed in several locations, including downtown San Jose (Diridon), Gilroy, and Stockton. As shown on Figure 1 (Figure 2.5-3 in the Draft Program EIR/EIS) aerial sections are proposed through Morgan Hill and Gilroy and for several sections in the Central Valley. For example, aerial is proposed through

Stockton, Turlock and Atwater for the Central Valley UPRR alignment. Trenches are not proposed in the Central Valley.

Rather than being a political decision, the proposed alignment and station configurations presented in the Draft Program EIR/EIS took into account available right-of-way and impacts to adjoining land uses. At-grade alignments and stations were selected where they appeared to be feasible and practicable, i.e., where the right of way existed and/or it appeared to be feasible to acquire the necessary right-of-way with minimal impact. As noted above, several cities express major concerns regarding the impacts of a four track station along side of a two track freight line, i.e., acquisition of additional right-or-way or construction of an aerial alignment or station.

Issue: **There is total consensus with Altamont, whereas Pacheco has all this opposition.**

Response: Both the Pacheco and Altamont alternatives have their supporters and opponents. The following is a list of supporters and opponents, based on comments during the Draft Program EIR/EIS public comment period that ended on October 26th, 2007.

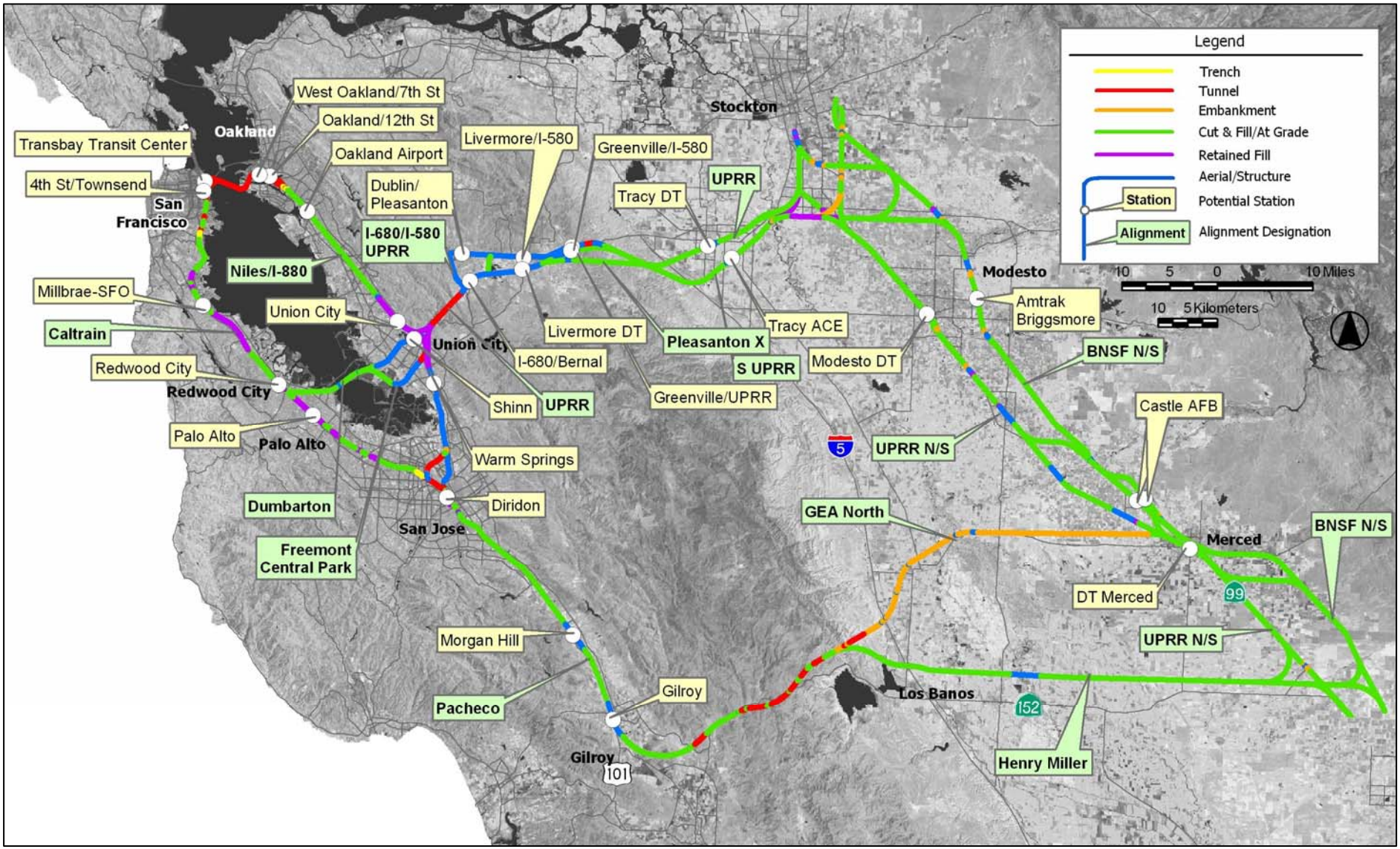
PACHECO

The Pacheco Pass supporters include the MTC, the cities of San Francisco, San Jose, Redwood City, Fremont, Morgan Hill, Cupertino, Sunnyvale, Gilroy, and Salinas; the counties of San Francisco, Santa Clara, San Mateo, and Monterey; Congress members Lofgren, Honda, Eshoo, and Lantos; Assembly member Beale; State Senators Alquist and Maldanado; the San Francisco County Transportation Agency; the Santa Clara Valley Transportation Authority (VTA); Caltrain JPB; SamTrans; San Mateo County Transportation Authority; Monterey County Transportation Agency; Alameda County Congestion Management Agency; Alameda County Supervisor Scott Haggerty; the San Jose, the Redwood City, and the San Mateo County Chamber of Commerce; the Silicon Valley Leadership Group; and a number of members of the public representing themselves.

There are a considerable number of organizations, agencies, and individuals who have expressed concern regarding potential impacts on the GEA and/or the uninhabited portions of the Pacheco Pass by HST alternatives via the Pacheco Pass. These include the USFWS, CDFG, California Department of Parks and Recreation, Grassland Water District, Grassland Resources Conservation District, Grassland Conservation, Education and Legal Defense Fund, Ducks Unlimited, California Outdoor Heritage Alliance, California Waterfowl Association, Sacramento Area Council of Governments, Citizens' Committee to Complete the Refuge, Bay Rail Alliance, California Rail Foundation (CRF), California State Parks Foundation (CSPF), Defenders of Wildlife, Planning and Conservation League (PCL), Regional Alliance for Transit (RAFT), Sierra Club, Train Riders Association of California (TRAC), and Transportation Solutions Defense and Education Fund (TRANSDEF). California Department of Parks and Recreation raised concerns regarding potential impacts on State Parks and reserve resources through the Pacheco Pass. In addition, the town of Atherton opposes use of the Caltrain Corridor between San Jose and San Francisco and the City of Millbrae has raised concerns regarding potential impacts through the City of Millbrae.

ALTAMONT

The Altamont Pass supporters include the cities of Oakland, Union City, and Atwater; the town of Atherton; the counties of San Joaquin, Stanislaus, Mariposa, and Kern; the California



Source: California High-Speed Rail Authority 2007.

Figure 1
Profile Characteristics

Partnership for the San Joaquin Valley; the San Joaquin Regional Policy Council; Sacramento Area Council of Governments; San Joaquin County Council of Governments; Tulare County Association of Governments; ACE; California Department of Parks and Recreation; California Environmental Coalition; CSPF; PCL; Sierra Club; Grassland Water District; Grassland Resources Conservation District; Grassland Conservation, Education & Legal Defense Fund; California Outdoor Heritage Alliance; Bay Rail Alliance; Transportation Involves Everyone (TIE); San Joaquin COG Citizens Advisory Committee; Tracy Region Alliance for a Quality Community; Ducks Unlimited; TRANSDEF; CRF; Defenders of Wildlife; RAFT; Citizens' Committee to Complete the Refuge; TRAC; and a number of members of the public representing themselves.

There are a considerable number of organizations, agencies, and individuals who have expressed concern regarding potential impacts on the San Francisco Bay and Don Edwards San Francisco Bay National Wildlife Refuge by HST alternatives via the Altamont Pass using a Dumbarton crossing. These include the MTC; BCDC; EPA; USFWS; Don Edwards San Francisco Bay National Wildlife Refuge; Congress members Zoe Lofgren, Michael Honda, Anna Eshoo, and Tom Lantos; State Senators Elaine Alquist and Abel Maldanado; Assembly member Jim Beale; Santa Clara County; SamTrans; San Mateo County Transportation Authority; Caltrain JPB; San Francisco Bay Trail Project; San Jose Chamber of Commerce; San Francisco Bay Trail Project; the City of San Jose; the City of Oakland; and Don Edwards (Member of Congress, 1963–1995). The East Bay Regional Park District has raised concerns in regards to potential impacts on nine regional parks, in particular the Pleasanton Ridge and Vargas Plateau regional parks, and the Alameda Creek Regional Train between Pleasanton and Niles Junction for Altamont Pass alternatives. In addition, the City of Fremont opposes the Altamont Pass, and the City of Pleasanton does not support the Altamont Pass but remains "open" to terminating Altamont alternatives in Livermore. The MTC and Alameda County Supervisor Scott Haggerty also support the investigation of Altamont Pass alternatives terminating in Livermore.

Issue: **There is an Altamont example that has 28 minutes longer travel time between San Jose and Los Angeles. This alignment option has Altamont crossing the bay and then using the Caltrain corridor to serve San Jose. No one would ever build this and it should not even be an option**

Response: Based on public comment on the Statewide Program EIR/EIS, the Authority and FRA included in the Draft Program EIR/EIS multiple alignment and network alternatives and station location options. This was to allow for a comprehensive comparison of a broad range of alternatives. Included among these alternatives were the options to cross the San Francisco Bay at Dumbarton and to make use of the full Caltrain Corridor right-of-way between San Francisco and San Jose.

The referenced alternative is not the Authority staff recommendation, although the MTC did recommend it for reasons summarized below. A more detailed discussion of MTC's reasons is contained in the adopted Regional Rail Plan for the San Francisco Bay Area. Excerpts are provided here.

- *Duplicate Investment – commitments have already been made to improve Capitol Corridor service and to extend BART to San Jose but these improvements could not support high-speed rail service, which is on a different alignment. When fully developed, BART and Capitol Corridor will provide complementary rail options with BART serving more local stops and*

Capitol Corridor primarily serving regional stops. The capital cost of the East Bay line segment is approximately $4.9-billion.

- *Risk of UPRR Right-of-Way Agreement – Risk of reaching agreement from UPRR to obtain the right to construct high-speed rail along the Niles Subdivision where the high-speed alignment is proposed between Mission Boulevard and Oakland.*

- *Potential Environmental Justice Concerns – The environmental screening indicated potential concerns with construction of a new elevated alignment though existing urbanized areas especially in the East Bay between Fremont and Oakland.*

- *Ability to Improve ACE Service with High Speed Regional Train – This alternative would allow a train to be operated from Sacramento to San Jose via Altamont Pass, thereby resulting in a major service upgrade in the market area currently served by the Altamont Commuter Express.*

- *Construction within I-880 – The East Bay alignment segment south of Fremont would need to be constructed along I-880 freeway south of Mission Boulevard towards San Jose with the potential for a long process with Caltrans to define and construct the high speed rail trackway within the freeway right-of-way.*

- *This option would have an opportunity for cost sharing with Caltrain improvements on the Peninsula between Redwood City and San Francisco which is a segment estimated to cost $3.9-billion. Because this option only shares with Regional Rail north of Redwood City on the Peninsula, there would be no opportunity to leverage local investment in the Caltrain line between Redwood City and San Jose.*

Issue: There is a problem with a "hybrid" solution since there is no funding for the Altamont. Only the Pacheco would be implemented.

Response: At this point, there is no funding for construction of the HST system in California. A state bond measure is expected to be on the November 2008 ballot, and the Authority staff has recommended that the Authority pursue funds for Altamont pass rail improvements in partnership with the region. Such additional funds could be applied incrementally to the Central Valley and Altamont corridor at the same time as the initial phase of the Authority Board–adopted phasing plan, actually in advance of the Pacheco Pass portion of the Pacheco Alternative.

2.3 Issues and Responses Related to Ridership

Issue: The Authority should "follow the lights" choosing a route where more people live.

Response: To "follow the lights" suggests that the HST system should go where current population centers exist to minimize disruption to the natural environment while serving that existing market. The core purpose of the HST system is to serve passenger trips between the major metropolitan areas of California. There is a critical tradeoff between the accessibility of the system to potential passengers that is provided by multiple stations and stops, and the resulting HST travel times. Additional or more closely spaced stations (even with limited service) would lengthen travel times and reduce frequency of service and the ability to

operate both express and local services. The Pacheco Pass has the advantage of fewer stops through the high-speed trunk of the system between San Francisco or San Jose and Southern California, the most populated regions of the state.

Between Merced and Gilroy, the HSTs will be maintaining speeds well over 200 miles per hour. The fact that there is no population between Merced and Gilroy along the Pacheco Pass is a positive attribute since there are fewer communities and hence less community impacts. Moreover, there will be no station between Gilroy and Merced. As a result, the Pacheco Pass minimizes the potential for sprawl inducement as compared with the Altamont Pass. Staff recommends that the Authority reiterate its determination that there will be no HST stations between Merced and Gilroy. Staff further recommends that any approval decision by the Authority following the preparation of the Final Program EIR/EIS be conditioned upon having no HST stop or station between Merced and Gilroy and upon development of additional measures to prevent sprawl.

In order for the statewide system to reach the major markets in the Bay Area, via the Altamont Pass, the alternatives must go through Alameda County, including Livermore and Pleasanton in the Tri-Valley and Fremont. The Tri-Valley PAC (a partnership that includes the cities of Dublin, Livermore, Pleasanton, Danville, San Ramon, and Tracy along with transportation providers LAVTA, ACE, and BART) has raised serious concerns regarding right-of-way constraints and the need for aerial structures through the Tri-Valley. The Tri-Valley PAC supports HST service through the Pacheco Pass and "regional overlay service provided through the Altamont pass." They believe that this option may present the best way of addressing their concerns and delivering optimal HST service to the region as a whole. The Alameda County Congestion Management Agency and Alameda County Supervisor Scott Haggerty both support the MTC recommendation for the Pacheco alignment via the San Francisco Peninsula as the main HST express line between Northern and Southern California while also supporting upgraded interregional services between the Bay Area—Sacramento and the San Joaquin Valley via the Altamont Pass. The City of Fremont opposes the Altamont Pass alternative as does the City of Pleasanton although Pleasanton remains "open" to terminating Altamont alternatives in Livermore. The concerns through Alameda County are significant enough that the MTC, Alameda County Congestion Management Agency, and Alameda County Supervisor Scott Haggerty have requested that "the CHSRA also evaluate an alternative in the Altamont corridor that terminates HSR at a proposed BART Livermore station"—even with the main HST express line using the Pacheco Pass.

Issue: **The ridership analysis is flawed since it ignores the well established practice of splitting and joining trains commonly used in European high-speed rail systems. If train splits were allowed Altamont ridership would greatly exceed that for Pacheco.**

Response: The operational planning assumptions used as inputs for the ridership and revenue forecasts were based upon well established HST operational practices.

As acknowledged in the Draft Program EIR/EIS, some HST systems physically separate trainsets ("splitting and joining trains") at some point on the route. However, the percentage of HST trains actually using this practice worldwide is very small. In France, about 10% of the TGV trainsets are physically split, whereas in Japan the percentage is even smaller. HST trainsets generally are not split during peak hours or at peak traffic points. For example, the TGVs that split in southwest France have already served the major Paris-Bordeaux market, and do not add time to the passengers on this critical city-pair. The Paris-Bordeaux

passengers in the other direction also do not lose time waiting for the trains to be combined into one, since they board after consolidation. The mini-Shinkansen that splits to Yamagata, does so after the major stations at Fukushima and Sendai. The Thalys HST does not split until after Brussels passengers get off. The HST splits are generally done in places where the traffic demands are low—not on the main trunk line between the major markets.

The Draft Program EIR/EIS notes that it is unlikely that the application of splitting and joining trains would benefit one alignment alternative over the other. Practically, only one such train split could be accomplished for each scheduled train operation. Limited and appropriate splitting of trainsets could be used for either the Altamont Pass or Pacheco Pass alternatives (at Fresno or Los Angeles for example). As stated in the Staff Recommendations, a key operational benefit of the Pacheco Pass is that it minimizes the number of HST network branches and splits.

The HST ridership and revenue forecasts done by MTC in partnership with the Authority concluded that both the Pacheco Pass and Altamont Pass network alternatives have high ridership and revenue potential. While additional forecasts with different assumptions may result in somewhat different results, the bottom-line conclusion is expected to remain the same and therefore ridership is not a major factor in differentiating between the Altamont and Pacheco Pass alternatives.

Issue: **How is the Pacheco Pass able to entice more than twice as many intraregional Bay Area "recreational and other" riders as compared to the Altamont. It is not credible that these riders are coming from Gilroy.**

Response: There is substantial intraregional trip making in the corridor between Santa Clara County and San Francisco. Pacheco's ability to draw more "recreational and other" trips is due primarily to the directness of service that Pacheco provides in the entire Santa Clara County to San Francisco corridor rather than the inclusion of a Gilroy station. The HST would substitute for some Caltrain and auto travel in this corridor across all trip purposes. HST is at a relative disadvantage to Caltrain for commute and business travelers since, during peak commute hours, Caltrain runs at similar frequencies to HST with lower fares and many more stations. However, HST is at a competitive advantage to Caltrain for recreation and other trips since most of these trips occur during off-peak hours; in the off-peak, HST's travel time and frequency advantage outweigh Caltrain's lower cost. Hence, HST would be able to capture recreation and other riders at a higher rate than business and commute riders in the corridor between Santa Clara County and San Francisco.

From a ridership and revenue standpoint, one of the main differences between the Altamont and Pacheco scenarios involves the splitting of train service between San Jose and San Francisco in the Altamont scenario. This split eliminates a direct HST connection between San Jose and San Francisco and significantly reduces the frequency of train service to either destination. The effects of an Altamont operational split are not obvious for business and commute travelers since, during peak commute hours, HST would provide high frequency service to both San Jose and San Francisco and the alternative transit options (BART to San Francisco and ACE to San Jose) provide substantially slower travel times. The effects are much more obvious for recreation and other travelers since:

- Overall HST frequencies would be lower during off-peak hours when most recreation and other trips occur. With the operational split, frequencies would be further reduced to San

Jose and San Francisco, putting HST at a strong disadvantage to the auto for recreation and other trips.

- In spite of its slower travel time, BART is a relatively more attractive transit option for recreation and other travelers between the East Bay and San Francisco due to its lower cost and much higher off-peak frequency.
- The loss of direct service between Santa Clara County and San Francisco means that HST is capturing very few recreation/other trips in this corridor.

Hence, HST is able to capture business and commute riders at a much higher rate than recreation and other riders for trips to and from the East Bay.

Issue: **The revenue analysis assumes that fares must be directly proportionate to distance but doesn't adequately consider that higher fares would mean lower ridership. Revenue for Pacheco will equal Altamont since it is a longer route (and have higher fares).**

Response: The recommended strategy of distance-based fares was reviewed and concurred in by a Peer Review Panel assembled of local, state, and global experts on HST systems. Distance-based fares are used across the world for high-speed rail, conventional intercity rail, commuter rail, and some rapid transit systems (such as BART). Since the HST alignment between the Bay Area and Northern Central Valley is longer via Pacheco than via Altamont, it is reasonable that Pacheco's ridership and revenue forecasts would be based on higher fares than Altamont's in these markets.

The HST fares, parking costs, and travel costs to/from an HST station are direct inputs to the total cost of HST travel. The ridership and revenue model considers the total cost of the HST mode along with many other factors such as travel time and cost on competing modes when determining each individual's propensity to pick HST. Consequently, when HST fares are increased it becomes less desirable to pick HST compared to one of its competing modes, and ridership decreases. However, each remaining HST rider is paying a higher fare. Therefore, ridership and revenue do not change in similar ways as the fares change in a market.

To demonstrate the model's sensitivity to HST fares, a variety of ridership and revenue tests were performed, the results of which are detailed in Table 3.2 of the *Ridership and Revenue* Report. In one test, the HST fares were increased systemwide by 25%, and the ridership decreased by 13%. Even though the total systemwide ridership decreased, the remaining HST riders all paid higher fares resulting in a 2% increase in systemwide revenue.

The model's sensitivity to the HST fare is also demonstrated by comparing ridership and revenue between the Bay Area and Northern Central Valley (Sacramento to Merced) for Altamont and Pacheco. The average paid HST fare in this market is about $24.50 for Altamont and $35.80 for Pacheco. This fare difference results in Altamont carrying about 8.8 million HST riders in this market compared to 6.6 million for Pacheco. Altamont's lower average fares clearly lead to higher ridership in the market. However, Pacheco ends up generating more revenue than Altamont in this market since the increase in average fare (46%) is more than the decrease in ridership (25%).

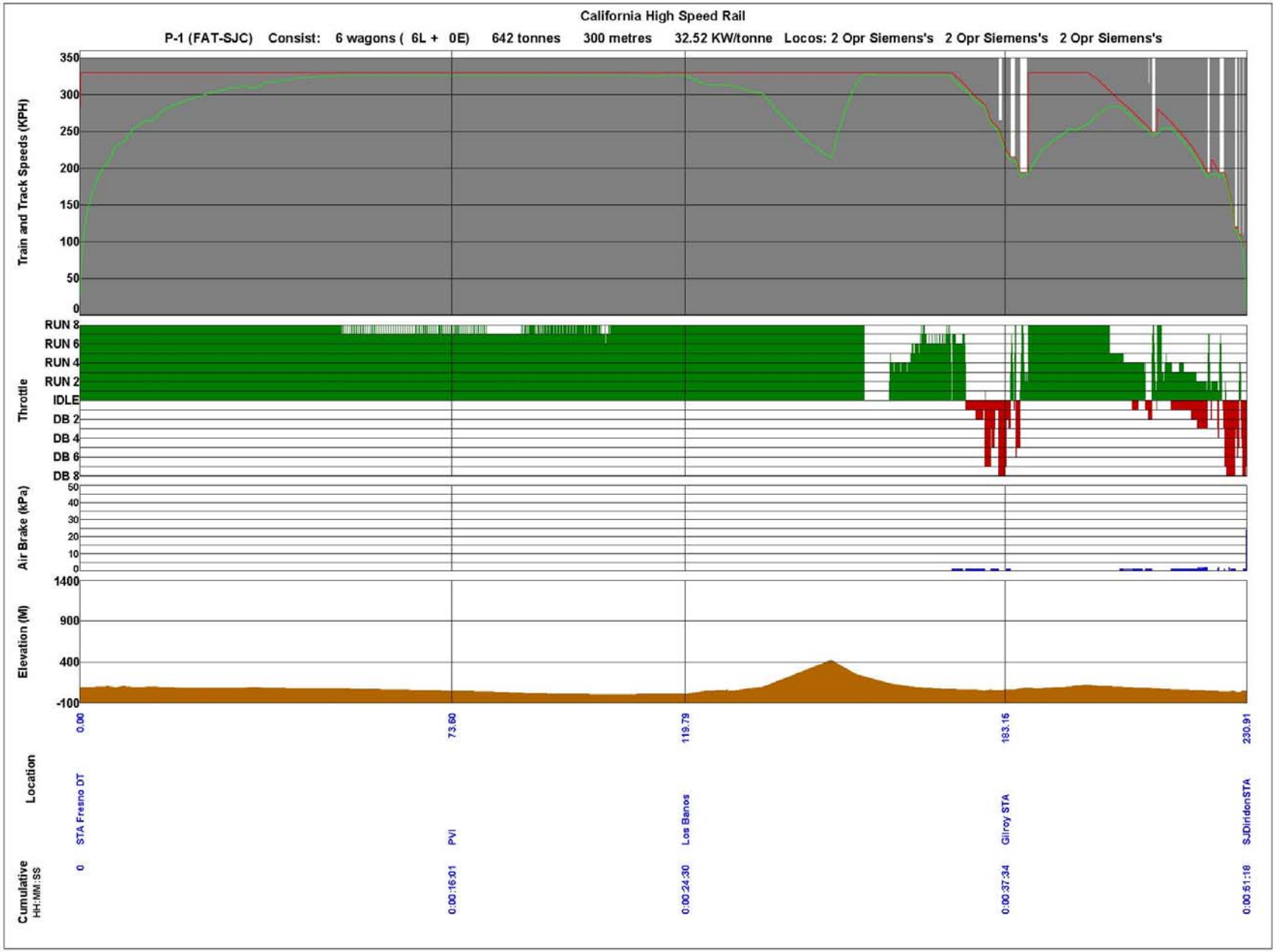
Issue: **Ridership analysis has been "falsified" since the Pacheco Pass HST travel time of 51 minutes between Fresno and San Jose is not achievable. The whole recommendation for Pacheco rests on travel times.**

Response: An express HST trip between Fresno and San Jose is estimated at about 51 minutes via the Pacheco Pass (using the Henry Miller Road alignment). This "optimal" express HST travel time, and the others presented in the Draft Program EIR/EIS are both reasonable and achievable.

The projected HST travel times assume a maximum operating speed of 350 kilometers per hour (about 220 miles per hour) and account for alignment, train performance characteristics, acceleration and deceleration capabilities, and passenger comfort criteria. HST system operators and manufacturers of HST equipment were extensively consulted in the development of the travel times and design criteria for the proposed HST system. The assumptions used in the Draft Program EIR/EIS are consistent with those used in the Authority's certified Statewide Program EIR/EIS, the Authority's June 2000 Business Plan, and the Authority's 1999 Corridor Evaluation Final Report. A peer review of the assumptions and findings of the Business Plan and Corridor Evaluation, including HST travel times and the underlining assumptions behind these numbers, conducted by Japanese (JARTS), French (SNCF), and German (DE Consult) HST experts confirmed that these were appropriate for the Authority's analyses.

As part of the Statewide Program EIR/EIS process, a network computer model was developed for the proposed HST system serving the major metropolitan markets in California (San Diego, Los Angeles, Sacramento and the San Francisco Bay Area) to simulate train operations and to support the development of applicable engineering criteria, estimate travel times and speeds, and to develop the most effective rail operations plan(s) and planning-level timetables. The Berkeley Simulation Software Rail Traffic Controller model is a tool that accurately represents the physical characteristics of the proposed HST alignment options as well as the performance of the HST equipment that would operate on the system.

As part of the operations model, a Train Performance Calculator (TPC) is used to compute optimal (minimum) run times and operating speeds for trains running from one specified point to another over the rail network without interference from other trains for the full range of options being considered at a segment-by-segment level as well as at the systemwide level for specific combinations of potential alignment and infrastructure options. This TPC uses published trainset performance specifications including tractive effort and dynamic braking characteristics to replicate the dynamics of each train. As shown in the example in Figure 2, for a trainset composed of 12 Siemens type electric multiple unit (EMU) cars operating between Fresno and San Jose via the Pacheco Alternative the total run time will be about 51 minutes. The figure also illustrates the train and track speed; the throttle application and dynamic braking activity; elevation; distance, speed and run time along the entire segment. The TPC was used for determining potential express travel times for both the Altamont and Pacheco Pass alternatives.



Case : C:\RTC\CHSRA BA-CV HSR STUDY\BA-CV STUDY V3 RTC run : 13 October 2006 8:51:39 User : James Campbell of PB Transit & Rail Systems

Source: Parsons Brinckerhoff 2006.

Figure 2
Illustrative Train Performance Calculator Output for Fresno to San Jose via the Pacheco Pass

Issue: **Your ridership studies have shown that Bay Area or Los Angeles to the Central Valley, and Valley-to-Valley trips are the first and third largest markets for the HST system whereas the Bay Area to Los Angeles amount to only 2% of the daily trips. Therefore the system should be focused on serving the Central Valley.**

Response: The ranking of markets noted by the commenter is based on total trips irrespective of travel mode. The commenter correctly notes that trips to, from and within the Central Valley represent a large portion of the raw market potential for interregional travel in California. However, raw potential market size is but one issue to consider; market capture potential is a more critical issue, with this potential dependent upon relative competitiveness of travel options.

HST is most competitive in intermediate to long-distance California markets where it offers:

- Much faster travel times than the lower cost and more convenient auto mode, particularly for people traveling in groups;
- Much faster travel times and higher frequencies than the lower cost conventional rail model; and
- Equivalent door-to-door travel times and frequencies as the more expensive air mode.

For example, over a third of the trips between the LA Basin and Bay Area choose HST because it takes approximately the same door-to-door time as air, but costs about half as much. For trips between the Bay Area and Central Valley, HST is most competitive for trips that begin or end in the Southern Central Valley between Fresno and Bakersfield; in this submarket, HST has a 33% mode share for Pacheco and 27% for Altamont. The submarket between the Bay Area and Northern Central Valley is dominated by the auto mode (about 95% mode share), which is about an hour (or less) slower than HST but costs about half as much; the HST mode share for this market is 4% for the Altamont scenario and 2% for Pacheco. HST is also not as competitive as auto for travel <u>within</u> the Central Valley, with HST capturing 4% of the market for the Altamont scenario and 3% for Pacheco.

Altamont and Pacheco provide similar service levels for trips to, from, and within the Central Valley. The only substantial service-level difference between Altamont and Pacheco is between the Bay Area and Central Valley areas north of Merced; Altamont provides faster travel times in this submarket compared to Pacheco. About two-thirds of all trips between the Bay Area and Central Valley begin or end in the area between Merced and the greater Sacramento region. Even with this large raw market potential, HST is not able to capture a substantial share of the submarket between the Bay Area and Northern Central Valley for either Altamont or Pacheco due to the competitive advantage offered by auto travel.

2.4 Issues and Responses Related to Air Quality

Issue: **The Draft EIR/EIS does not properly analyze the potential impacts on air quality and does not compare the network alternatives in regards to air quality.**

Response: The Draft Program EIR/EIS properly analyzed the potential impacts on air quality and compared the network alternatives in regard to air quality impacts. Section 3.3 of the Draft Program EIR/EIS describes the potential effects on state and regional air quality under the

No Project Alternative and a representative HST network alternative, using the existing and No Project conditions for comparison.

Because the differences in ridership between the Altamont Pass and Pacheco Pass network alternatives were minimal, only one representative set of air quality benefits is shown in the Draft Program EIR/EIS (Table 3.3-4 of Section 3.3). A base ridership forecast of 88 million intercity trips, which includes 25 million commuter trips, served as the representative scenario for analyzing the potential air quality impacts. The air quality analysis shows that there would be a considerable benefit with the HST due to reductions in pollutants over the No Project Alternative for the year 2030. This includes a reduction of about 17.6 billion pounds of CO2 emissions annually by 2030.

As noted in Chapter 7 of the Draft Program EIR/EIS, the network alternatives with the highest ridership levels would have the greatest reductions in VMT on the roadways in the region. This reduction in VMTs would result in a corresponding reduction in vehicular emissions, energy consumption, and traffic. Ridership is a proxy for traffic, energy, and air quality benefits since the network alternatives with the highest ridership would have the greatest traffic, energy and air quality benefits.

2.5 Issues and Responses Related to Biological Resources and Wetlands

Issue: **Altamont Pass should be selected because it is located in a region that has already been impacted by extensive human development. In contrast the Pacheco Pass alignment will have a severe negative impact on intact natural landscapes of global significance.**

Response: At the program level, both the Altamont Pass and Pacheco Pass network alternatives would potentially result in significant environmental impacts even with mitigation strategies incorporated. Both alternatives are within areas that have undergone human change either through the development of buildings, transportation, or through ranching, farming and other agricultural activities. The alignments for both alternatives were located to minimize impacts to both the built and natural environments.

The staff recommended Pacheco Pass network alternative serving San Francisco and San Jose termini minimizes impacts on wetlands, waterbodies, and the environment and minimizes construction issues, which can lead to delay and cost escalation. It best serves the connection between northern and southern California with the greatest potential frequency and capacity, superior connectivity between the South Bay and Southern California, and fewer potential intermediate stops. It fully uses the Caltrain Corridor, and is consistent with the Authority's adopted phasing strategy. Much of the Bay Area (MTC, City of San Francisco, Cities along the San Francisco Peninsula, City of San Jose, the South Bay, and Monterey Bay Area) strongly supports the Pacheco Pass with HST service on the Caltrain Corridor to San Francisco.

The Altamont Pass network alternatives that require a new transbay tube to serve San Francisco would have high potential environmental impacts on aquatic and sensitive resources and considerable construction issues. These alternatives would have over 38 acres of potential direct impacts on the San Francisco Bay and other waterbodies and more than 33 acres of potential direct impacts on wetlands, 70% of that occurring within the area of the Bay. The Altamont Pass network alternatives that require an elevated Bay crossing along the Dumbarton corridor to serve San Francisco would have even greater potential environmental

impacts. These alternatives would also impact the nationally recognized Don Edwards San Francisco Bay National Wildlife Refuge. The network alternatives crossing at this location would result in more than 39 acres of potential direct impacts on the Bay and other waterbodies and up to 46.3 acres of potential direct impact on wetlands, 73% occurring within the area of the Bay. For any alternatives that include a new Bay crossing, extensive coordination would be required with the USACE under Section 10 of the Rivers and Harbors Act, USFWS, and the California Coastal Commission. Proposed facilities crossing the Bay would also be subject to the USACE, CDFG, and BCDC permit processes.

The staff recommended Pacheco Pass alternative serving San Francisco and San Jose termini via Henry Miller Road was also located to minimize impacts. Extensive use of tunnels and elevated sections of the HST system have been included to minimize impacts on the Diablo Range and the GEA (Figure 1). This network alternative would result in potential direct impacts to 3.8 acres of waterbodies and 15.6 acres of wetlands, 74% of that occurring along the Henry Miller Road alignment.

In comparing the staff recommended Pacheco Pass preferred alternative with the Altamont Pass alternatives that serve San Francisco, the Pacheco Pass alternative serving San Francisco and San Jose termini via Henry Miller Road (UPRR Connection) would not impact the Don Edwards San Francisco Bay National Wildlife Refuge but would extend through portions of the GEA. The staff recommended Pacheco Pass preferred alternative would extend along Henry Miller Road and would not directly impact the San Luis National Wildlife Refuge Complex, existing wildlife management areas, state parks, or established wildlife areas contained within the area generally identified as the GEA. Impacts on wetlands, waterbodies, and sensitive aquatic habitat would be less for the staff recommended alternative than for the Altamont alternatives, but the Pacheco alternative would result in higher impacts on farmlands and streams. Future project-level analyses would include focused surveys for state and federal threatened and endangered species and detailed identification of habitat, wildlife movement/migration corridors, and wetlands and water resources to further identify impacts and develop site specific mitigation measures. In addition, engineering design refinements would be undertaken to avoid and/or minimize environmental impacts.

Issue: **Overstating potential impacts to Don Edwards National Wildlife Refuge, the Draft EIR/EIS ignores the potential for the high-speed rail line to use the rehabilitated Dumbarton Rail Corridor Bridge, at least in the short run, and to use High Speed Rail funding for bridge improvements that would actually reduce impacts on Bay wetlands. The Dumbarton Rail Bridge is funded through Regional Measure 2 funds.**

Response: The program-level environmental analysis that was conducted evaluated the potential impacts of the HST on resources within the Don Edwards San Francisco Bay National Wildlife Refuge and other areas of the project equally following the same methodology and does not overstate impacts.

The HST alignments evaluated that crossed the Bay, including the tube alternative between San Francisco and Oakland, would have a significant impact on the Bay and its aquatic resources, including wetlands and sensitive plant and wildlife species. The Dumbarton crossing analyzed in the Draft Program EIR/EIS was estimated to result in potential direct impacts on 33.9 acres of wetlands through the Don Edwards San Francisco Bay National Wildlife Refuge and potential direct impacts of 2,310 linear feet of Bay waters. All of the

Dumbarton alternatives analyzed are estimated to have high noise impacts where the alignment is predominately on aerial structure through Fremont, and the bridge alternatives (high bridge, and low bridge) would have high potential noise and vibration impacts throughout the alignment. The construction cost associated with this crossing is estimated at $1.5 billion (low bridge) to over $3 billion (tube). With the low-bridge alternative, HST service would be interrupted by water traffic, adversely impacting the reliability and service quality of the HST system. Constructing a new bridge or tube crossing along the Dumbarton corridor would involve major construction activities in sensitive wetlands, saltwater marshes, and aquatic habitat, requiring special construction methods and mitigations. As shown in Figure 3, construction of the low-bridge, high-bridge, or tube would result in significant direct impacts on Don Edwards San Francisco Bay National Wildlife Refuge and require extensive coordination with the USACE under Section 10 of the Rivers and Harbors Act and the California Coastal Commission and would be subject to the USACE, CDFG, and BCDC permit processes. BCDC scoping comments note that bridge alternatives that could have adverse impacts on Bay resources can only be approved by BCDC "if there is not an alternative upland location for the route and if the fill is the minimum necessary to achieve the purposes of the project" (BCDC scoping response, December 15, 2005). The Authority has received comments signed by 5 members of Congress and 4 members of the California Legislature stating that any alternative requiring construction through the Don Edwards San Francisco Bay National Wildlife Refuge with additional impacts on the San Francisco Bay and Palo Alto shore of the Bay should be rejected. The City of Fremont opposes the Dumbarton alternatives because of the potential impacts on Fremont neighborhoods.

The staff recommended preferred Pacheco Pass network alternative serving San Francisco and San Jose termini would not require a Bay crossing and would not affect the Don Edwards San Francisco Bay National Wildlife Refuge and would result in fewer impacts to aquatic resources and wetlands (11.6 acres along Henry Miller Road and 15.6 acres overall).

As noted in Chapter 2 of the Draft Program EIR/EIS, the approval of Regional Measure 2 (RM2) in March 2004 included funding to reconstruct the out-of-service Dumbarton Rail line between Southern Alameda County and the San Francisco Peninsula. The reconstructed rail bridge across the Bay would be the key component in the establishment of the commuter rail service between the Union City BART station and the Caltrain line on the peninsula. Rail equipment comparable to current Caltrain rolling stock is expected to be employed. The reconstructed Dumbarton segment includes embankment, trestle structure, and two swing bridges; most of the segment is single track with limited passing sidings. The project is currently being considered for phased implementation due to funding constraints and the inability to reach a track sharing agreement with the Union Pacific Railroad.

The Dumbarton Rail project might be able to be completed prior to implementation of the HST system, but it would conflict with the proposed HST system. The HST system planned for 2030 includes at least two tracks for all of the system and does not include a single track as planned for the Dumbarton Bridge, which would not accommodate HST service. The HST system would also conflict with the Caltrain JPB EMU option which would not be compatible with HSTs currently in service around the world, nor with the similar EMUs proposed for use by the JPB. If high-density regional rail service is developed in the future along this route, a double track bridge across the Bay would be necessary and would likely result in significant impacts to San Francisco Bay, Don Edwards San Francisco Bay National Wildlife Refuge, aquatic resources, and sensitive plant and wildlife species. This would also hold true for adding HST service across the Bay.

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SOURCE: California Resources Agency Legacy Project, November 8, 2002. California High-Speed Rail Authority 2007. Aerials Express (2006; 0.5m), NAIP (2005, 1m).

Jones & Stokes

Figure 3
San Francisco Bay HST Alignment Alternative and Public Lands

Issue: **The Draft EIR/EIS ignores the potential impacts to the Grassland wetlands that are far larger than and at least as significant as the wetlands along the Bay. There is prominent mention of Don Edwards National Wildlife Refuge, but not the GEA.**

Response: The Draft Program EIR/EIS recognizes the importance of both the Don Edwards San Francisco Bay National Wildlife Refuge and the GEA (including the San Luis National Wildlife Refuge Complex and other managed lands within the GEA). Both resources are considered to be of national importance. The Draft Program EIR/EIS analyzed the potential environmental impacts, including wetlands, of the HST alignment alternatives and stations regardless of land designation. All impacts were analyzed equally following the same methodology. Impacts on resources within and outside of the Don Edwards San Francisco Bay National Wildlife Refuge and the boundary of the GEA were analyzed and are documented in the Draft Program EIR/EIS.

For the staff recommended preferred Pacheco Pass network alternative, the potential direct impact to wetlands along the Henry Miller Road alignment alternative, of which a portion would be within the boundary of the GEA, would be 11.6 acres and the indirect impacts to wetlands would be 1,186 acres. The potential direct and indirect impacts to wetlands associated with a Bay crossing along the Dumbarton corridor, a portion of which would be within the Don Edwards San Francisco Bay National Wildlife Refuge, would be 33.9 acres and 1,644 acres. The potential direct impact on wetlands would be more than twice as high for the Dumbarton Bay crossing than for the Henry Miller Road alignment. The potential indirect impact on wetlands for the Dumbarton Bay crossing is also substantially higher than for the Henry Miller Road alignment.

Issue: **Strongly oppose the proposed Pacheco Pass alignments due to their potential to result in "devastating impact" on the GEA. Both the alignments pose a serious threat to the GEA and could result in substantial injury to this internationally important resource. The Henry Miller Road alignment could provide the "final blow" in fragmenting the vulnerable linkage between the north and south units of the Grasslands Wildlife Management Area.**

Response: The GEA is described by a non-jurisdictional, non-regulatory boundary used by the USFWS in order to identify an area for priority purchase of public easements for wetland preservation and enhancement. The boundary of the GEA encompasses over 160,000 acres and includes two federal wildlife refuges, a state park, state wildlife management areas, and a block of privately managed wetlands. Lands within the GEA managed by public agencies include the Great Valley Grasslands State Park; CDFG North Grasslands Wildlife Area, Los Banos Wildlife Area, and Volta Wildlife Area; the San Luis National Wildlife Refuge Complex, which includes the San Luis National Wildlife Refuge and Merced National Wildlife Refuge. Also within the GEA are numerous privately owned parcels and a large number of waterfowl hunting clubs. Activities and land uses within the GEA include hunting, fishing and other active and passive recreation, agriculture, and residential and associated land uses. The GEA was designated a wetlands of worldwide importance under the Ramsar Treaty in 2005, one of four sites in California.[1]

Within the area identified as the GEA is the USFWS Grasslands Wildlife Management Area (WMA), which was established to protect wetlands. Land within the WMA is privately owned

[1] RAMSAR Report for the Grassland Ecological Area. accessed at http://www.wetlands.org/reports/output.cfm. 2005.

and some protected by conservation easements. The size of this management area as of the last expansion in 2005 is approximately 133,000 acres, with over 70,000 acres protected through conservation agreements. Daily management of the easement area remains under private landowner control, the majority of the properties being managed for waterfowl hunting, cattle grazing, and agriculture.[2], [3]

The Draft Program EIR/EIS analyzed two Pacheco Pass alignment alternatives that would cross the boundary of the GEA. These included the GEA North alignment alternative and the Henry Miller Road alignment alternative as shown in Figure 4.

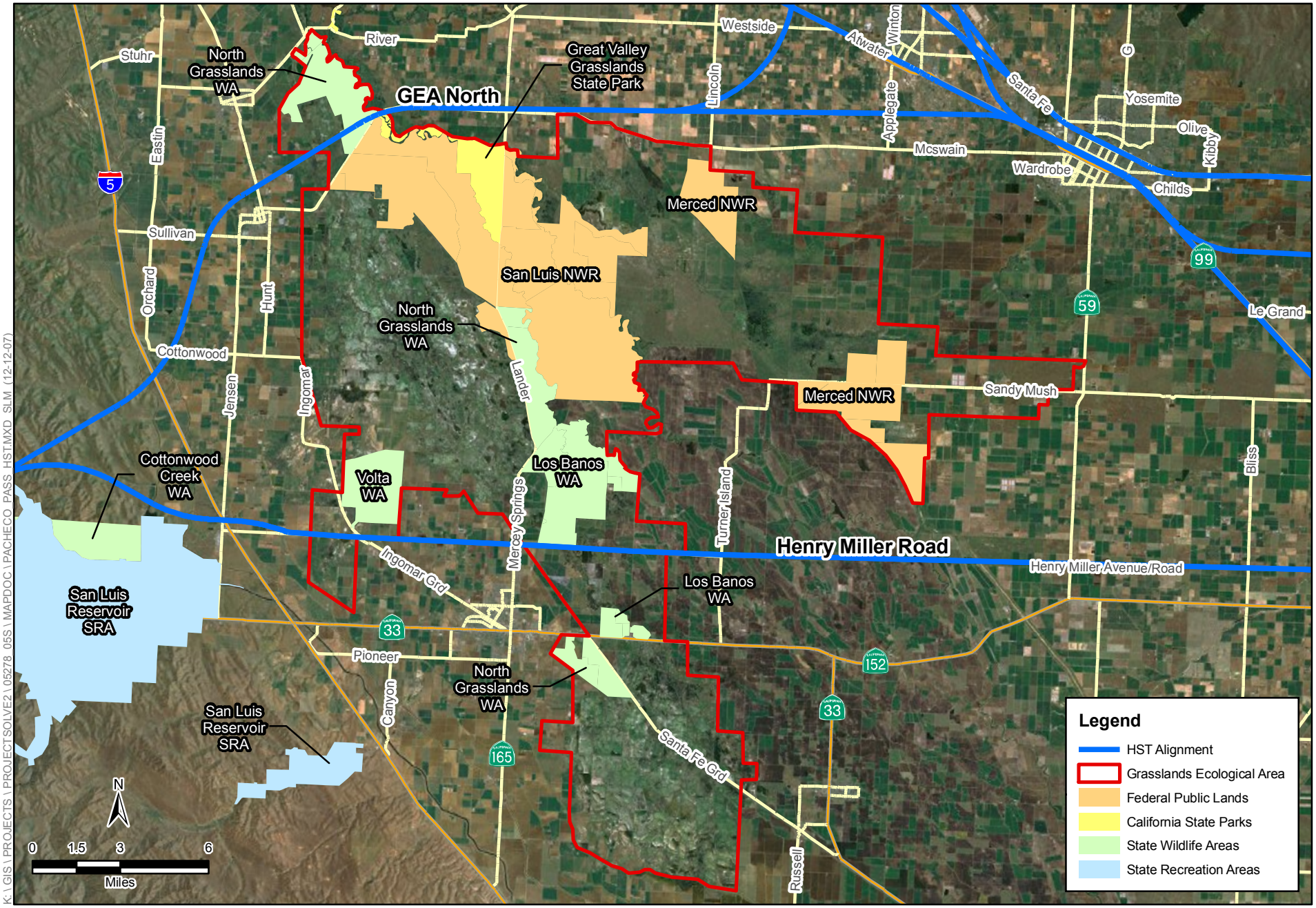
The GEA North alignment would extend through the northwest portion of the GEA which includes about 1.4 miles through the CDFG-managed North Grasslands Wildlife Area. State Route 140 also extends through the GEA just south of the GEA North alignment alternative. Other development in this area of the GEA includes roads (Santa Fe Grade, Preston Road), canals, farm operations, and agriculture. To the south of the GEA North alignment alternative is the San Luis National Wildlife Refuge and the Great Valley Grasslands State Park. This alignment alternative would result in a potentially significant impact because it would not be adjacent to an existing transportation or utility corridor, it would bisect and fragment the North Grasslands Wildlife Area, and it would result in impacts on wetlands, streams, and the 100-year floodplain, as well as sensitive plant and wildlife species. This alignment alternative was not included in the staff recommended preferred alternative due to its environmental impacts.

The Henry Miller Road alignment alternative would extend through two southern portions of the GEA boundary and between, but not across, areas now managed by public agencies. This alignment alternative would be adjacent to the existing Henry Miller Avenue/Road and would avoid or minimize potential impacts on biological resources. The western portion crossed by the alignment alternative closest to Los Banos would extend adjacent to Henry Miller Avenue/Road and the San Luis Wasteway and cross Ingomar Road south of the Volta Wildlife Area. This area of the GEA is already bisected by transportation and infrastructure facilities including rail and roadways, and also includes housing development, farm operations, and land under active agricultural production. The other area of the GEA crossed by the alignment is south of the CDFG Los Banos Wildlife Area. The alignment would extend approximately 3.3 miles on elevated structure, through the GEA boundary along Henry Miller Avenue/Road. This area of the GEA is bisected by Henry Miller Avenue/Road, State Route 165, Baker Road, Delta Road, Santa Fe Grade, Criswell Avenue, a number of man-made canals, and also includes housing development, farm operations, and land under active agricultural production.

The Henry Miller Road alignment alternative would not further fragment the linkage between the north and south units of the Grasslands WMA since the alignment is adjacent to Henry Miller Avenue/Road, an existing facility, and would be elevated for almost half the distance through the GEA. Both the general area designation of the GEA and the establishment of the Grasslands WMA occurred well after roads, utilities, farms, and residences were already well established, and the Henry Miller Road alignment alternative would not further result in additional fragmentation. As noted above, the boundaries for the GEA and the WMA may change. Expanding the WMA does not mean that all properties within it are, or would be, under conservation easements. An Environmental Assessment prepared in 2005 by the

[2] Grasslands Wildlife Management Area Proposed Expansion EA, Land Protection Plan, and Conceptual Management Plan, USFWS, January 2005.

[3] Grasslands Wildlife Management Area Expansion Study, Planning Update 5, July 2005. USFWS, July 2005.



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SOURCE: California Resources Agency Legacy Project, November 8, 2002. Duck's Unlimited, The Grasslands Ecological Area & Surrounding Communities. California High-Speed Rail Authority 2007. Aerials Express (2006; 0.5m), NAIP (2005, 1m).

Jones & Stokes

Figure 4
Pacheco Pass HST Alignment Alternatives and Public Lands

USFWS supported its decision to expand the general area by an additional 46,400 acres. The USFWS and other agencies may seek to acquire easements, lands, or interests in lands from willing sellers, as funds allow, but landowners are not required to participate and their lands have no regulatory restrictions placed on them as a result of the 2005 review by the USFWS.[3]

The environmental analysis for the Draft Program EIR/EIS was conducted at a program level and identifies the need for field reconnaissance-level surveys to be conducted in the future at the project level. These future surveys will determine specific habitat conditions and impacts along the Henry Miller Road alignment alternative, and the entire preferred HST network alternative, and surrounding areas and will identify specifically where impacts on wetlands, sensitive habitat, and special-status species could occur, and where focused species surveys are required. The Henry Miller Road alignment alternative and other alignment alternatives utilizing the Pacheco Pass will be further designed at the project level to avoid or minimize potential impacts. Broad program mitigation measures have been identified, and will be further refined and applied at the project level to mitigate impacts. The Authority and FRA will continue coordination with all agencies and organizations involved to identify specific issues and develop solutions that avoid, minimize, and mitigate potential biological impacts.

Issue: **One of the most significant long-term ecological impacts of the HST project will be the fragmentation of wildlife habitat and isolation of species. This effect will be the greatest in the Diablo Range bisected by the Pacheco Pass and the GEA.**

Response: A large percentage of the HST system would be either within or adjacent to an existing transportation or utility corridor (existing railroad or roadway right-of-way), such as Henry Miller Avenue/Road. Placement of the alignments along these corridors would avoid or minimize potential impacts on biological resources. Portions of the HST system would also be on aerial structures or in tunnels. A smaller portion of the HST system would be in new at-grade rail corridors (not on aerial structure or in tunnel) and not within or adjacent to an existing transportation right-of way). To lessen the effects on biological resources at these locations, culverts would be constructed at regular intervals to allow for the movement of wildlife species, such as the San Joaquin kit fox, red-legged frog, and other species. The alignment alternatives located in the mountain passes would include tunnels, which would avoid or substantially reduce surface impacts on sensitive biological resources. The HST system would be placed on bridges or elevated railways across water bodies or sensitive natural communities. The new bridges would replace older bridges whenever possible, and the new bridges would use materials and designs to minimize the number of piles/columns in the water. Additionally, the HST right-of-way width could also be reduced in constrained areas to minimize impacts on biological resources.

The staff recommended preferred Pacheco Pass network alternative serving San Francisco and San Jose termini would extend across the Diablo Range. Almost half of the length of this segment would be in tunnels, as shown in Figure 1, thereby reducing impact on habitat fragmentation and isolation of species. As discussed above and shown in Figure 4, this network alternative would also extend through two southern portions of the GEA along Henry Miller Road within an area that is already bisected by transportation, canals, infrastructure, agricultural uses, and development.

Program mitigation strategies have been identified throughout the HST system to reduce the impact on wildlife movement and migration corridors, plant communities and habitat, and sensitive species. For example, wildlife crossings would be of a design, shape, and size to be sufficiently attractive to encourage wildlife use. Overcrossings and undercrossings for wildlife

would be appropriately vegetated to afford cover and other species requirements. Functional corridors would be established to provide connectivity to protected land zoned for uses that provide wildlife permeability.

Subsequent project-level analysis would include analysis of site-specific impacts. Site-specific impacts will be assessed and evaluated in a project-level environmental review, and specific mitigation measures for impacts on biological resources will be considered, such as preparing a wetland delineation; compensating for impacts on wetlands; conducting protocol-level surveys for listed species, surveys for nesting birds, and species-specific surveys; and compensating for temporary and permanent impacts on listed species. Site-specific mitigation measures will be developed through consultation with state and federal resource agencies. During project-level review, where the agencies determine that mitigation is required to address site-specific impacts from the HST system, mitigation strategies may include easements to preserve habitat for sensitive biological resources. The Authority would coordinate with agencies and ongoing mitigation programs in limiting impacts to biological resources and in developing appropriate mitigation measures.

Issue: **The Bay would have the same potential mitigation "benefits" as the staff claim for GEA.**

Response: As noted above, the HST alignments evaluated that crossed the Bay, including the alternatives that cross the Dumbarton corridor and those that cross the Bay between San Francisco and Oakland, would have a significant impact on the Bay and its aquatic resources, including wetlands and sensitive plant and wildlife species. As shown in Figure 3, much of the area surrounding the Bay is already protected and there are challenges for developing substantial mitigation strategies. The staff recommended preferred Pacheco Pass network alternative serving San Francisco and San Jose termini would not require a Bay crossing, would not affect the established Don Edwards San Francisco Bay National Wildlife Refuge, and would result in fewer impacts to wetlands and aquatic resources than the Altamont alternatives. The Pacheco Pass network alternative, although it would pass through the generally designated GEA, would have less impact than would crossing of the San Francisco Bay and the Don Edwards San Francisco Bay National Wildlife Refuge. The magnitude of impacts to biological resources of the Bay crossing would be greater than the impacts along the Pacheco alignment. In the area along Henry Miller Road and through the Diablo Range, the Authority could work with stakeholders in developing mitigation that would benefit the GEA and surrounding area.

2.6 Issues and Responses Related to Growth Inducement

Issue: **The Pacheco Pass would be more sprawl inducing since this route traverses more undeveloped land. While the Authority claims there will be no station between Gilroy and Merced, the people of Los Banos will demand that there ultimately is a station to provide them high-speed commuter overlay service.**

Response: The Pacheco HST alternative would have less of a growth-inducing effect than the Altamont HST alternative. Table 5.3-5 in the Draft Program EIR/EIS shows that the Pacheco HST alternative could induce up to 1.2% population growth and 1.7% employment growth in the northern Central Valley (Sacramento County to Fresno County). The Altamont HST alternative could induce up to 1.9% population growth and 2.3% employment growth in that area. The reasons for this difference are two-fold:

- While Pacheco traverses more undeveloped land than Altamont, station location (rather than HST alignment characteristics) is the primary determinant of growth inducement. Altamont is likely to have more stations than Pacheco in the Bay Area to Central Valley corridor.
- Pacheco and Altamont provide relatively similar accessibility between the Bay Area and Southern Central Valley (Fresno to Bakersfield). However, Altamont provides better accessibility between the Bay Area and Central Valley areas north of Merced due to more direct service and faster travel times.

Since growth inducement is directly related to the number of stations, station locations, and accessibility gains, Altamont has a slightly higher growth inducing potential than Pacheco.

While groups in some jurisdictions may advocate for an HST station in their community, no additional stations beyond those listed in the Draft Program EIR/EIS are being considered. The Authority took affirmative action to eliminate a potential Los Banos HST station as part of the Statewide Program EIR/EIS, stating:

> *The Authority also has determined that the Pacheco Pass alignment HST station at Los Banos (Western Merced County) should not be pursued in subsequent environmental reviews because of low intercity ridership projections for this site, limited connectivity and accessibility, and potential impacts to water resources and threatened and endangered species.*

Nothing in the Draft Program EIR/EIS alters this prior decision regarding a Los Banos HST station. In fact, the Staff Recommendation for the Preferred HST Alternative states:

> *Staff also recommends that the Authority re-affirm its Statewide Program EIR/EIS decision that there will be no stations between Gilroy and Merced and dismiss from further consideration the potential "Fleet Storage/Service and Inspection/Light Maintenance" location near Los Banos.*

Issue: **If the Pacheco Pass is selected, it is likely that there would be increased pressure for a highway and associated infrastructure through the heart of the Diablo Range following completion of the HST system to provide increased access to San Jose from the relatively less expensive homes in the Central Valley.**

Response: Either of the HST alignments, Pacheco or Altamont, would REDUCE pressure for a highway and associated infrastructure through the Diablo Range. The most pressure would arise under the No-Project Alternative. Table 3.1-2 in the Draft Program EIR/EIS shows that year 2030 peak-period traffic volumes across the Diablo Range (SR-152 and I-580) would be reduced by 6,937 for the Pacheco HST Alternative and 6,566 for the Altamont Pass Alternative. These reductions represent about 5% of peak period traffic across the Diablo Range.

Further, Table 5.3-5 in the Draft Program EIR/EIS shows that the Pacheco HST alternative could induce up to 1.2% population growth in the Northern Central Valley (Sacramento County to Fresno County), while the Altamont HST alternative could induce up to 1.9% population growth in that area. This growth inducement (1.2 to 1.9%) is less than the reduction in auto travel due to modal diversion, indicating that either HST alternative will result in less traffic over the Diablo Range than the No Project alternative.

The net conclusion is that HST would reduce the pressure for a new highway and associated infrastructure across the Diablo Range, and Pacheco would result in a greater reduction than Altamont.

2.7 Issues and Responses Related to Cumulative Impacts

Issue: **The Draft EIR/EIS does not include an adequate analysis of the reasonable foreseeable direct, indirect and cumulative impacts associated with each alignment alternative to inform a recommendation. The Draft EIR/EIS should be substantially revised to incorporate additional analysis to ensure that the least environmentally damaging alternative is selected as the preferred.**

Response: The Draft Program EIR/EIS looked at the HST Network Alternatives and 58 other projects within the region that could potentially result in cumulative impacts. These other projects varied in size, scale, and location and included reasonably foreseeable, relevant projects and focused on those that, when combined with the proposed HST Network Alternatives, could contribute to cumulative impacts. Projects considered in the cumulative impacts analysis were identified through (1) telephone conversations with respective city planners and engineers and (2) review of projects identified under applicable Bay Area and Central Valley regional transportation improvement plans (RTIP) as part of the State Transportation Improvement Plan (STIP). Based on information gathered, the cumulative projects list was prepared; the list identified regionally significant projects as well as projects in the same general geographic area as the proposed HST project, including projects for which development is underway, for which applications have been filed, or that have recently been approved but not yet constructed.

As provided for in CEQA and NEPA for program documents, the Draft Program EIR/EIS analyzed the broad environmental effects of the HST network alternatives. Site-specific environmental review will be required for implementation of the various elements of the program. The cumulative impacts in the Draft Program EIR/EIS are analyzed at a broad landscape-level scale because of the general nature of the program description. Consideration of local area cumulative effects will be undertaken as part of future project-level environmental review. Consideration of the indirect effects related to the reasonably foreseeable population and employment growth that could result from the proposed action and alternatives, as may be identified in local agency general plans and other planning documents, is addressed in Chapter 5, *Economic Growth and Related Impacts*. Resource specific indirect impacts are discussed in their respective sections of the Draft Program EIR/EIS.

Appendix 3.17-A lists the projects identified for consideration in the cumulative impact analysis. While other project-level actions may be likely to occur in the study area by 2030, the Draft Program EIR/EIS analyzed the broad environmental issues based on the broad program definition and the regional cumulative impacts and, therefore, appropriately does not consider the more localized cumulative issues related to subsequent approvals.

The cumulative impacts analyzed in the Draft Program EIR/EIS identified projects and programs related to the undertaking being analyzed and evaluated the combined (cumulative) effects of those past, present and reasonably foreseeable projects on the environment. Where cumulative impacts were identified as significant, the analysis assessed the degree to which the proposed undertaking and alternatives would contribute to those impacts, and identified mitigation strategies for any contribution evaluated as “cumulatively

considerable." Mitigation strategies are discussed at the program level to avoid, minimize, or compensate for the cumulative impact; specific analysis of localized impacts and related cumulative impacts, as well as specific mitigation measures related to any cumulative impacts that could occur for subsequent project-level approvals, will be addressed through project-level CEQA and NEPA compliance.

3.0 NEXT STEPS

3.1 Clean Water Act, Section 404(b)(1) Alternatives Analysis

The Authority will seek FRA concurrence on the preferred alternative. Although no permit is being requested at this time under the Clean Water Act, FRA has further committed to obtaining EPA and USACE concurrence that the selection of the preferred corridor(s) is most likely to contain the least environmentally damaging practicable alternative (LEDPA) consistent with the USACE's permit program (33 CFR Part 320–331) and EPA's Section 404(b)(1) Guidelines (40 CFR 230–233). In seeking EPA and USACE concurrence, additional commitments may be identified for future project-level studies.

3.2 Final Program EIR/EIS

As noted above, the Authority will respond to comments received during the public circulation period and include those responses in the preparation of the Final Program EIR/EIS. The members of the Authority Board will consider the comments and input received on the Draft Program EIR/EIS and the responses prior to certifying the Final Program EIR. Once the Authority Board has certified the Final Program EIR, it may approve the project and issue CEQA Findings of Fact and a Statement of Overriding Considerations. By preparing these documents, the Authority provides an understanding of why the benefits of the project would outweigh potential environmental impacts. The Authority will then file a Notice of Determination with the State Clearinghouse in the Governor's Office of Planning and Research.

The FRA is the agency responsible for authorizing federal involvement for the project and is the NEPA lead agency for the Final Program EIS. The EPA and USACE are federal cooperating agencies under NEPA. The FRA will consider all comments and responses in the preparation of the Final Program EIS and the issuance of a NEPA Record of Decision.

3.3 Scope of Project-Level Environmental Review

Following the issuance of the Notice of Determination/Record of Decision, the Authority and FRA would be able to move forward with project-level documentation. The Authority would begin working with local governments, transportation agencies, and private parties to identify right-of-way preservation needs and protective advance acquisition opportunities consistent with state and federal authority requirements.

Site-specific location and design alternatives for the preferred alignment and station options, including avoidance and minimization alternatives, would be fully investigated and considered during the tier 2, or project-level, environmental review. Preliminary engineering and project-level environmental review would commence in the preferred HST alternative alignment corridor to the extent needed to assess site-specific issues and potential environmental impacts not already addressed in the Draft Program EIR/EIS. Project-level environmental review would provide further analysis of potential impacts and mitigation at an appropriate site-specific level of detail to obtain needed permits and to implement HST projects. Specific mitigation measures will be identified that build off the mitigation strategies developed as part of the Draft Program EIR/EIS. The project-level EIR/EIS analysis would also include a Section 404(b)(1) project-level analysis. This more detailed analysis would provide for the issuance of a Section 404(b)(1) permit for the LEDPA.

4.0 REFERENCES CITED

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