

**Comment Letter 0034 Continued**

Oceanside to San Diego

- SC 3: The Diequito River corridor is a choke-point and main corridor for the movement of large carnivores and deer. The alignment crosses this corridor at the Encinitas to Solana Beach subsection.
- SC 1: The Penasquitos Canyon and Carmel Mountain Preserve corridor is a choke-point for the movement of large carnivores and deer. The alignment crosses this corridor at the I-5/I-805 split to SR-52 and Miramar Hill Tunnel subsections.
- SC 2: The San Diego River corridor is a choke-point for the movement of large carnivores, deer, and steelhead. The alignment crosses this corridor at the SR-52 to Santa Fe Depot subsection.

**II. Adequacy of mitigation measures**

**A. The DEIR/EIS fails to adequately discuss the adequacy of overpasses and underpasses to facilitate species movement.**

Yanes et al. (1995) studied vertebrate movement through 17 culverts under roads and railroads in Central Spain. The results of this study indicate that animal movement was dependent on culvert dimensions, road width, height of boundary fence, the complexity of the vegetation along the route, and the presence of detritus pits at the entrance of culverts. The construction of underpasses and overpasses is a nascent effort. The DEIR/EIS contains only a fleeting discussion of this issue without any citation to scientific literature. This section needs significant expansion and detailed discussion of the issues involved in the siting and construction of overpasses and underpasses.

The following are some additional underpass/overpass issues that should be incorporated in the mitigation discussion:

- To reduce collision, fences should be checked, repaired, and built high enough, and vegetation should be kept down so that wildlife is not attracted to the railway.
- Wildlife crossings should be installed at a frequency of one every 1-3 km in areas where there are large animals, regardless of how many large animals are observed, and one every 5-10 km where there are no large animals but the habitat is favorable for them. Because these animals follow traditional routes, success depends greatly on the location of the passage. The crossing should be built on the exact site of the interrupted path if it is to be really effective. The restoration level should be as near as possible to the natural ground level; however, connecting gradients does not make the structure ineffective.
- Underpasses are effective only if they are large enough and properly landscaped.
- Planting trees along the lines, the tops of which would be at least the same level as the top of the pylons, can reduce the risk of collision for some bird species.
- For amphibians, some of the compacted ballast under the rails should be removed, and prefabricated corridors should be installed under the rails. For tortoises, netting should be buried 10 cm deep alongside a rail to direct them to a passageway.
- Vegetation in edge zones that is attractive to ungulates should be removed. Elimination of vegetation from railway verges makes it easier to see animals alongside the railway and limits their presence by not attracting them.

0034-19  
cont.

0034-20

- Reflective mirrors, repellents, ultrasound, and road lighting are not effective in reducing collisions.

See COST – European Co-operation in the Field of Scientific and Technical Research. 2000. Habitat fragmentation due to transportation infrastructure. COST 341, French state of the art report

**I. San Joaquin Kit Fox:**

Underpasses are the preferred crossing structure for SJKF and should be at least 0.5m high and 0.5m wide. Also, in order to maintain normal daily movement patterns, underpasses should be placed every 0.5km. Exclusionary fences should be used to encourage foxes to use the crossing structures (Bjurlin 2003). Fencing should be buried in the ground deep enough that coyotes, foxes, and other digging animals cannot dig under them and enter the tracks. Artificial dens and dens to escape predators should also be incorporated alongside the tracks in San Joaquin kit fox habitat.

**B. Numerous reasonable mitigation measures were not even discussed in the DEIR/EIS.**

The DEIR/EIS discussion of mitigation was so cursory that it failed to include the following potential mitigation strategies:

- ii. Speed of operation
- iii. The preference to construct rail lines along existing roads only
- iv. The installation of wildlife warning devices
- v. Reduced train speed in wildlife areas or during times in which wildlife are active (e.g., May for bears).
- vi. Carcass removal to decrease attraction for carnivores and scavengers.
- vii. Clean up of any spilled grain or food attractants.
- viii. Reduce vegetation that is attractive to wildlife
- ix. Minimizing fragmentation and/or maximizing the ration of areas of fragments.
- x. Narrowing travel corridors.
- xi. Insulation of catenary suspension wire.
- xii. Oversizing of insulators to discourage perching by birds.

These are just a few of the mitigation options that should be discussed in the DEIR/EIS.

Again, biological impacts of the high speed train will vary considerably based on alignment. Yet, the DEIR/S does not provide the information necessary to evaluate these differences. The analyses suggested above, which are technically feasible, must be performed in advance of alignment decisions.

0034-20  
cont.

0034-21

**Comment Letter O034 Continued****III. The DEIR/EIS should be redrafted and recirculated.**

Due to the significant inadequacies of the DEIR/EIS, the High Speed Rail Authority must revise the environmental documents to raise the issues raised by ourselves and the other commenters and then recirculate the documents for additional public comment. CEQA requires that a draft EIR is recirculated when the document is so fundamentally inadequate as to preclude meaningful public review and comment. See CEQA Guidelines section 15088.5.

We appreciate the opportunity to provide comments on the DEIR/EIS. Please keep me informed of any upcoming matters related to the High Speed Rail project.

Sincerely,

  
Kim Delfino  
California Program Director

O034-22

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**Comment Letter 0034 Continued**


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**Response to Comments of Kim Delfino, California Program Director, Defenders of Wildlife, August 30, 2004  
(Letter O034)**

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**O034-1**

The Co-lead Agencies believe that the data used and the level of analysis presented in the PEIR/S is appropriate and sufficient to make a decision on whether or not to proceed with the HST Alternative and to identify various corridor alignments to continue to study at the project level. Please also see standard response 3.15.7, and standard response 3.15.13.

**O034-2**

More detailed resource data, including that cited in the comment and data collected through field-work, will be used in subsequent studies including review of the northern mountain crossing corridor (Bay Area to Central Valley Corridor) and project-level environmental reviews. The Program EIR/EIS recognizes the limitations of these databases. Please see response to Comment O034-1 and response to Comment O034-3. Please also see response to Comment AF007-3C.

**O034-3**

The following text (similar to text suggested in the comment) has been added to the PEIR/S in Section 3.15.3: In general, railroad corridors have been found to have the following environmental advantages over highways: 1) Water drains away from the track-bed, maintaining a dry environment that prevents unwanted vegetation from establishing. 2) The track-bed has a porous, stable base that prevents runoff from concentrating, keeps slope erosion to a minimum, and filters out particulates and chemical pollutants. 3) A service road or other narrow access strip running alongside the track-bed prevent spoils from shifting beyond the toe of the track-bed slope. 4) Drainage ditches parallel to the track-bed prevent uncontrolled erosion, act as sediment traps, filter railway runoff, and insulate adjoining land from uncontrolled channel flow. 5) High Speed Rail (HSR) construction usually has a significantly smaller

footprint than road construction, so it has less long-term and short-term impacts. 6) HSR corridors are narrower than roads, so animals are more willing to cross under them. This is a significant advantage. 7) It is more feasible to elevate an HSR system on pile-supported structures than to elevate a road.

"Elevated corridors on bridges or viaducts undoubtedly have the less disruptive impact on wildlife movement and migration passageways." (DeSanto, R.S. and D.G. Smith; Environmental auditing: an introduction to issues of habitat fragmentation relative to transportation corridors with special reference to high-speed rail (HSR); Environmental Management 17:111-114; 1993)

**O034-4**

Please see standard response 3.15.2 and standard response 3.15.13 for more information on subsequent studies and the project-level, Tier 2 evaluations that would be prepared on HST corridor alignments identified as preferred. The project-level, Tier 2 studies would provide a more detailed evaluation of potential impacts of habitat fragmentation on specific species. The analyses would be prepared as part of these subsequent studies once design has progressed to a point where details regarding fencing, grade separations, aerial section, and culverting are available. The information provided in this comment regarding (among other things) appropriate fencing strategies, will be used in these subsequent studies to consider design options for the proposed rail alignments and appropriate mitigation for project impacts. The Co-lead agencies believe that the PEIR/S provides sufficient information to support selection of a system alternative and identification of various preferred HST corridor alignments, but acknowledge that much additional analysis will be necessary at a project level. Because of the large amount of technical data generated during the preparation of the PEIR/S, the impact analysis sections contained in the PEIR/S are, of necessity, summaries of information found in the

technical reports. The comment is correct that additional details regarding fencing and its effects on habitat fragmentation can be found in those technical studies. Technical Evaluations for Biological Resources for each region are available for review on the California High Speed Rail Authority website ([http://www.cahighspeedrail.ca.gov/eir/regional\\_studies/default.asp](http://www.cahighspeedrail.ca.gov/eir/regional_studies/default.asp)) and have been incorporated by reference. The analyses requested in the comment will be conducted at a project-specific level, and will include an analysis of fragmentation impacts on both special-status species and wildlife species such as mountain lions, coyotes, bobcats, and bears. Details of fencing and wildlife movement mitigation will also be developed at the project level. The information provided in the comment regarding appropriate height and design of fences is appreciated. The Final PEIR/S has an expanded description of the overall approach to fencing, culverts, and overpasses as they relate to wildlife movements – Please see standard response 3.15.9 and Section 3.15.5 and Section 3.15.6 of the Final PEIR/S. The comment has provided valuable references to information regarding effects of transportation facilities on habitat fragmentation, and these reference sources will be used in the project-level, Tier 2 evaluation of impacts.

#### **O034-5**

Please refer to Response to Comment AS004-45 regarding potential spread of exotic species of plants.

#### **O034-6**

Please see response to Comment O034-4. The type of impacts listed in this comment cannot be further evaluated until more detailed project level designs are developed for the alignment options. These potential impacts will be fully evaluated in the project-level, Tier 2 studies. Please see standard response 3.4.1 regarding noise impacts to wildlife. Please see response to Comment AS004 – 49 regarding EMF/EMI levels associated with the HST Alternative. Lighting of the entire length of the HST alignment is not needed or anticipated. Lighting will be provided for station areas and maintenance and storage facilities. Other facilities such as roadways crossing over or

under the HST alignment will also be lit as appropriate for safety and according to Caltrans/FHWA requirements. Please see standard response 3.15.13 regarding intended uses of this PEIR/S.

#### **O034-7**

The Authority acknowledges your concerns regarding potential hazards for birds interacting with overhead catenary power supply lines on the HST alignments. In the Final Program EIR/EIS, each environmental section of Chapter 3 has been modified to include mitigation strategies that would be applied in general for the HST system. Each section of Chapter 3 also outlines specific design features that will be applied to the project level studies and implementation of the HST system to avoid, minimize, and mitigate potential impacts. The design and mitigation suggestions in the comment, as well as other measures, will be given full consideration in subsequent project level analysis.

Overall, it can be expected that the HST Alternative would introduce additional EMF exposures or EMI at levels for which there are no established adverse impacts on humans or wildlife. EMF emissions from HST vehicle passby's are very low, and impacts are therefore not expected to be significant. EMF/EMI characteristics will be analyzed in the subsequent project level environmental review, as summarized in the Program EIR/EIS in Section 3.6.4 and 3.6.5.

#### **O034-8**

The Co-lead agencies are aware that Section 7 of the Endangered Species requires consultation with the U.S. Fish and Wildlife Service, and this consultation will be conducted as part of the project-level, Tier 2 environmental evaluations. The project-level evaluation (outlined in response to Comment O034-4) will consider both designated and proposed critical habitat in the project area. The project-level studies will consider potential overlap with critical habitat for all species of concern within the project area, including those listed in the comment: arroyo toad, California gnatcatcher, California red-legged frog, Least Bell's vireo, Quino checkerspot butterfly, Riverside fairy shrimp, San Bernardino kangaroo rat,

southwestern willow flycatcher, vernal pools species, California tiger salamander, California red-legged frog, Alameda whipsnake, Valley elderberry longhorn beetle, Central California coast coho salmon, Central Valley steelhead, Central California coast steelhead, southern steelhead, Sacramento river winter-run Chinook salmon, Central Valley spring-run Chinook salmon, Central Valley fall/late fall-run Chinook salmon, delta smelt, and tidewater goby.

**O034-9**

Section 7 Consultation with U.S. Fish and Wildlife will be conducted as part of the project-level environmental evaluation, and will include an evaluation of project impacts on species recovery plans within the project area or affected by the project. The final selection of alignments and the design of facilities will include consideration of design options that would have the least impact on threatened and endangered species. The project-level studies will evaluate consistency of the project with recovery plans.

**O034-10**

It is agreed that past experience provides considerable information about effects of transportation corridors on ecological systems, and provides guidance on mitigating those effects. A preliminary literature review has been conducted and used to provide further guidance regarding the description of potential impacts and design options for wildlife passages in the final PEIR/S. Please refer to Responses to Comments AS004-47 and AS004-51. Literature reviews will be continued as part of the project-level, Tier-2 environmental evaluation, and as input to the design of mitigation measures.

**O034-11**

Please see response to Comment AL063 – #1 and #14 regarding review of local and regional plans. Please refer to standard response 3.15.10 regarding evaluation of conservation plans. More detailed review of these plans will be included as part of the project-level environmental documentation. Please see Chapter 6B of the Final

Program EIR/EIS for a discussion of transit-oriented development measures.

**O034-12**

The Co-lead agencies appreciate this information and understand the importance of possible conflicts and accidents between high-speed trains and wildlife, including costs to the rail system and adverse affects to wildlife.

**O034-13**

Please refer to standard responses 3.15.3, standard response 3.15.9 and response to Comment AS004-51 regarding evaluation of impacts on movement corridors. Additional analysis will be conducted in project-level environmental reviews which will include consideration of more detailed alignments and facility design information.

**O034-14**

The Co-lead Agencies believe that the level of analysis presented in the PEIR/S is appropriate and sufficient to make a decision on whether or not to proceed with the HST alternative and to identify preferred corridor alignments for more detailed study at the project level – please see standard response 3.15.13. The project-level studies that would be completed for selected HST alignment options will include detailed field analysis of potential impacts to vernal pools and wetlands. This information will be used at the project level to look for ways to avoid impacts, e.g., through track/alignment adjustments or use of structures), and, if adverse impacts are identified, the Co-lead agencies will pursue other possible mitigation measures. Completing a planning level analysis of corridors using consistent methodology and data (as has been done in the PEIR/S) is an appropriate, reasonable, and practical way of considering decisions on whether to proceed with the HST Alternative and identifying alignment options to study further.

**O034-15**

Please refer to standard response 3.15.2 regarding the level of detail of habitat analysis. Detailed field surveys will be performed for the project-level, Tier 2 studies, allowing for the evaluation of relative quality of specific habitats. As noted in the comment, impacts to wildlife have been documented to occur at varying levels. To represent the potential for direct impact to water and biological resources for the System Alternatives (Modal and HST) in the Final Program EIR/S (see Section 3.15.2), a GIS analysis was completed for the approximate footprint of the alternative facilities. For the HST Alternative, this analysis identified and quantified potential direct impacts based on the HST alignment options within the broader GIS envelopes used to identify the potentially affected resources. For the Modal Alternative, this analysis identified and quantified potential direct impacts for the highway improvements only. The quantifications are representative of the unmitigated potential for direct impacts that could occur within the corridor. The envelope widths were applied in a uniform basis across the alternatives to allow for an objective and uniform comparison of alternatives and alignments. An evaluation of site-specific impacts at the project-level will take into account relevant findings regarding the physical extent – the appropriate distances from the alignments – within which impacts to wildlife habitat might occur. Please also see standard response 3.15.7 regarding a discussion of analysis envelopes.

**O034-16**

Please see response AL072-9 regarding the Grasslands Ecological Area. The project-level studies will include a detailed analysis of impacts at each HST station. These impacts will include growth-inducing impacts and impacts on sensitive lands (e.g. biological resources, wetlands, agriculture, etc.). Please also see Section 5 of the PEIR/S regarding economic growth and related impacts. Please note that the Authority has dropped the Los Banos station option from future evaluation. Please see standard response 5.2.6 regarding the anticipated growth inducement potential of each of the system alternatives and the HST station areas, including Merced and

Gilroy. Potential impacts to the GEA will also be reviewed in the future program-level northern mountain crossing studies (Bay Area to Central Valley).

**O034-17**

As the comment notes, the Modal and HST alternatives would potentially affect numerous species. Please refer to standard response 3.15.2 regarding the level of detail and analysis of species of concern. Additional evaluation will be performed project-level environmental reviews, at which time alignments can be adjusted to minimize impacts to species such as burrowing owl. It should be noted that the detailed alignments prepared for project level environmental reviews can be shifted within the corridor alignments identified in the PEIR/S. Please see standard response 3.15.7 regarding the evaluation “envelopes” (bandwidths) used for analysis in the PEIR/S.

**O034-18**

The Draft PEIR/S should have listed the desert tortoise as a potentially affected species. The list of sensitive wildlife species on page 3.15-10 of the Draft PEIR/S is revised in the Final PEIR/S as follows: San Diego horned lizard (*Phrynosoma coronotum blainvillii*), desert tortoise (*Gopherus agassizii*), arroyo toad (*Bufo californicus*). However, the Tehachapi alignment option was considered during the screening evaluation and has been dropped from further consideration. The proposed alignment through the Palmdale area will be evaluated in greater detail as part of the project-level, Tier 2 environmental documentation. Potential impacts on desert tortoise and pronghorn antelope will be considered in those future studies should the HST proposal move forward. Please refer to standard response 3.15.2 regarding level of detail of analyses and standard response 3.15.13 regarding the intended uses of this PEIR/S.

**O034-19**

Please see response to Comment AF008 – 25 and standard response 3.15.9 regarding wildlife corridors. The information provided by the

Defenders of Wildlife is now incorporated in the Final PEIR/S – Section 3.15 and will receive further consideration in future studies.

**O034-20 and 21**

The information provided by defenders of wildlife has been considered and included, where applicable and appropriate, in discussions of mitigation strategies and design features in Section 3.15.5 and Section 3.15.6 of the Final Program EIR/EIS, and will receive further consideration in future studies.

**O034-22**

Acknowledged. The Authority and the FRA respectfully disagree with your assessment of the Draft Program EIR/EIS.

Comment Letter O035

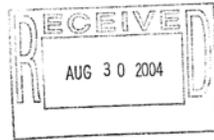
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O035

Desert Tortoise Preserve Committee, Inc.



August 27, 2004

Mr. Joe Petrillo
Chair
California High-Speed Rail Authority
Draft Program EIR/EIS Comments
925 L Street, Suite 1425
Sacramento, CA 95814

Re: California High Speed Rail Draft Program EIR/EIS.

Dear Mr. Petrillo:

The Desert Tortoise Preserve Committee and Desert Tortoise Council appreciate this opportunity to comment on the California High Speed Rail Draft Program EIR/EIS.

The Desert Tortoise Preserve Committee has worked since 1974 to promote the welfare of the desert tortoise and the species that share its habitat through preserve development and management, and through research and education. The Desert Tortoise Council was established in 1976 to promote the conservation of the desert tortoise in the southwestern United States and Mexico.

The desert tortoise (Gopherus agassizii) is a State and Federal-listed threatened species. The West Mojave population of the desert tortoise has suffered severe declines in recent years. Many biologists, including members of the Desert Tortoise Recovery Plan Assessment Team, recent convened by the USFWS to review the 1994 Desert Tortoise (Mojave Population) Recovery Plan, consider the West Mojave population to merit endangered status.

The Council On Environmental Quality - Regulations for Implementing the National Environmental Policy Act Section 1502.14 Alternatives including the proposed action states: This section is the heart of the environmental impact statement. Based on the information and analysis presented in the sections on the Affected Environment (Sec. 1502.15) and the Environmental Consequences (Sec. 1502.16), it should present the environmental impacts of the proposals and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decision maker and the public.

- (a) Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.
(b) Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.

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- (e) Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference.
(f) Include appropriate mitigation measures not already included in the proposed action or alternatives.

The proposed project considers two alternative routes for the Bakersfield to Los Angeles portion of the High Speed Rail. One of these, the Palmdale alignment, cuts through the West Mojave Planning area between Tehachapi and Palmdale, and passes through desert tortoise habitat for about 20 miles. The EIR/EIS is deficient in failing to mention either the desert tortoise or the West Mojave Habitat Conservation Plan (WMP) in connection with this Palmdale alignment alternative. The EIR/EIS needs to review impacts to the proposed conservation strategies of all species to be covered under the West Mojave Plan. Consideration should be given for the need for take avoidance measures, compensation for lost habitat (under the WMP compensation ratios of 0.5:1 to 1:1 prevail in the impacted area) and the cumulative impact of increased development facilitated by the provision of a new commuter rail to Los Angeles.

Because the draft EIR/EIS fails to review and analyze impacts to the desert tortoise, and fails to review and analyze impacts to the WMHCP no basis for the project managers to make an informed decision on the choice of alternatives and the public has no basis for determining if the proposed mitigation measures are adequate to minimize and fully mitigate impacts to listed species as required under the California Endangered Species Act. The draft EIR/EIS needs to be revised to include an adequate review of impacts to California's State reptile.

We thank you for this opportunity to submit written comments on the California High Speed Rail Draft Program EIR/EIS. Please continue to keep us informed of any decisions related to this and similar projects. I can be reached by telephone at (951) 683-3872 or by e-mail at <dtpo@pacbell.net>.

Sincerely,

[Handwritten signature]

Michael J. Connor, Ph.D.
Executive Director

Desert Tortoise Preserve Committee, Inc.

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U.S. Department of Transportation
Federal Railroad Administration

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**Response to Comments of Michael J. Connor, PhD. , Executive Director, Desert Tortoise Preserve Committee, Inc., August 27, 2004 (Letter O035)**

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**O035-1**

The Co-lead Agencies have considered feasible and practicable alternatives in the Program EIR/EIS process in compliance with CEQA and NEPA requirements. The development of HST alignment and station options for the Draft Program EIR/EIS included an extensive screening analysis in which many alignment and station options were eliminated from further consideration according to several criteria including high potential for impact to biological resources. The remaining alignment and station options were analyzed in the Program EIR/EIS and potential impacts were identified and compared. This information was considered and influenced the identification of a preferred system of alignment and station options. In identifying a preferred HST system, additional alignment and station options were eliminated from further consideration according to several criteria including high potential for impacts on biological resources. The subsequent preliminary engineering and project level environmental review will provide further opportunities to avoid and minimize the potential effects to biological resources including the desert tortoise and its habitat.

Section 3.15.2.C of the Final Program EIR/EIS has been revised to identify the desert tortoise habitat and the West Mojave Habitat Conservation Plan. Sections 3.15.3.C and 3.15.4.C of the Final Program EIR/EIS have been revised to address potential impacts to the Desert Tortoise its habitat. Please also see response to Comment O034-18.

Comment Letter O036

O036

**FRIENDS of the GREEN LINE**  
FRUSTRATED LA COMMUTERS... FIGHTING FOR BETTER MOBILITY

Saturday, August 28, 2004

Mehdi Morshed  
Executive Director  
California High-Speed Rail Authority  
Attn: California High-Speed Train  
Draft Program EIR/EIS Comments  
925 L St. #1425  
Sacramento, CA 95814-3704



Dear Mr. Morshed:

**Re: Comments on the Draft Program Environmental Impact Report and Statement for the Proposed California High-Speed Train System**

The Friends of the Green Line (FoGL) is pleased to be able to enter one concern and our comments on the draft EIR/EIS for the proposed California High-Speed Train system.

Our one concern addresses the segment of the MTA Harbor Subdivision Right-of-Way (HSD ROW) between Imperial / Aviation and Aviation / 98<sup>th</sup> Street. Our organization believes that this segment provides the needed path for any future northward extensions of the MTA Green Line. We seek to protect the possibility of such northward extensions from encroachment by the City of Los Angeles World Airports or any other group, such as the High-Speed Train System.

Our following comments and recommendations regarding the Harbor Subdivision Right-of-Way (HSD ROW) from Los Angeles International Airport (LAX) to Los Angeles Union Station are based upon the opinions of our members, as well as comments collected at numerous outreach events organized or attended by FoGL including presentations to the South Bay Cities Council of Governments, the City of Inglewood Traffic Committee, Los Angeles World Airports, various City of Los Angeles Neighborhood Councils, local elected officials and the LAX / Westchester / Marina del Rey Chamber of Commerce.

(310) 416-6919 • Fax: (310) 364-6128 • 7416 West 82<sup>nd</sup> Street • Los Angeles, CA 90045-2308

**FRIENDS of the GREEN LINE**  
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1. FoGL strongly supports use of the HSD ROW for the High Speed Rail project, and has for some time advocated passenger rail service on this underutilized line.
2. FoGL recommends that the HSD also support local and regional train service, thus offering significant benefits to communities along the corridor, such as Inglewood and Downtown Los Angeles.
3. FoGL recommends that every effort be made to optimize connections between High-Speed Rail and existing transit services and bus/rail infrastructure.
4. FoGL recommends consideration of any Intermodal Transportation Center (ITC), such as that described in the current LAX Master Plan, be an alternative terminal point for this alignment. All LAX Master Plans to date have included an ITC connected to the LAX terminals by a People Mover. FoGL believes that the ITC is a much more accessible "gateway" to the High-Speed Rail for residents of the South Bay and other cities close to LAX.

Friends of the Green Line is a group of concerned citizens working to help develop the full potential of the Los Angeles County Metro Green Line. FoGL is a project of The Transit Coalition, a grass roots volunteer organization that advocates a balance of bus, commuter, heavy and light rail, bike, airport access, goods movement and automobile transportation in the Los Angeles region.

Should you have any questions or need additional information, please contact Bart Reed at (818) 367-1661.

Sincerely,

*Kenneth J. Alpern*  
Kenneth Alpern, M.D.  
Steering Committee Co-Chair  
Friends of the Green Line

*Daniel Walker*  
Daniel Walker  
Steering Committee Co-Chair  
Friends of the Green Line

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O036-1  
cont.

O036-1



U.S. Department  
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Comment Letter 0036 Continued

**LAX Express Proposal**

Most world-class airports offer direct rail service to the heart of their cities. Friends of the Green Line (FoGL) advocates the LAX Express with rail service between Los Angeles International Airport (LAX) and downtown Los Angeles Union Station.

The Metropolitan Transportation Authority owns a lightly used existing Right-of-Way known as the MTA Harbor Subdivision.



This map shows the complete Right-of-Way, which runs northwest from San Pedro, past LAX, then continuing northeast on to Redondo Junction, a rail interchange with connections to Los Angeles Union Station (LAUS). At LAUS there are connections to existing rail lines and future proposals like the High Speed Rail to the Bay Area.

The LAX Express proposal could provide Local and Cross-town Express service for South Bay and West Los Angeles residents between transit hubs at LAX and LAUS.

**Green Line Rail Access To Westchester Via LAX**



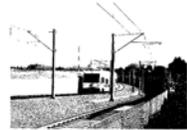
Friends of the Green Line (FoGL) recommends that any plan for improvements in security, noise abatement and traffic include the FoGL LAX Express proposal and the FoGL Green Line extension proposal to Westchester via LAX as an integral part of the overall LAX Master Plan and not just a connection to the Green Line on the outskirts of LAX. By reducing the number of transfers, more passengers will utilize public transit and this will reduce traffic congestion, air pollution and noise around LAX.

FoGL recommends a regional airport system, and the LAX Express can be modified for direct transit between most of the major Airports in the Los Angeles Region. The above map shows the Green Line as originally adopted by the MTA, and includes the Los Angeles World Airport (LAWA) proposed People Mover. FoGL remains neutral on any LAWA proposal and supports efforts to regulate passenger capacity at LAX.

**Light Rail and Airports A Perfect Match**

Construction of the Green Line past LAX was halted in the 1990's due to concerns about interference from the train's overhead power collectors interfering with airplane landing systems. An exhaustive study showed a shallow trench, which lowers the light rail trains below the line of sight of the radar beacons, solves the problem.

The Santa Clara Valley Transportation Authority (VTA) Light Rail system in San Jose California was extended past the end of the runways at NAS Moffett Field with its highly sensitive electronic equipment without any problems, using the same exact configuration recommended by the Green Line Interference study.



This photo shows the train's overhead wires—the source of the potential interference—just above the level of the fence and just feet from the end of the runway as a VTA Light Rail train passes under the flight path in a trench that helps shield any interference from the train.

FoGL advocates extending the Green Line in a trench, similar to the one shown in the above photo, past LAX's south runways and continuing on to Westchester.

**Why The Green Gap?**

Extending the Green Line 2.5 miles north to Westchester with stations at LAX would save 15-30 minutes per trip by eliminating the walking and shuttle transfer currently needed to get from the Green Line to LAX.

Extending the Green Line 2.5 miles east to the Norwalk Metrolink Station would save 15-45 minutes per commute by not having to use the current shuttle bus system.

Extending the Green Line 2.5 miles south to the South Bay Galleria would move the terminus to an existing transit hub, a busy shopping mall and provide a friendlier pedestrian environment.



Commuters on this Shuttle bus will miss the East Bound Green Line Train by seconds and have a 15-minute wait for the next mid-day train to arrive.

**Save Our Health**

Traffic noise at all I-105 freeway median Green Line stations frequently reaches the 85 to 90 db range.

This is not only uncomfortable but also unhealthy. Prolonged exposure to noise levels over 85 db may gradually lead to some hearing loss. Simple measures such as sound barriers can significantly reduce noise levels at the station platforms.

Protection from noise and weather is urged at all Green Line Stations.

**Friends Of The Green Line Goals**

- 1 Extend the Green Line thru LAX to Westchester to allow access from the North and the South
- 2 Provide Express Train Service between LAX and Union Station
- 3 Extend the Green Line South to the South Bay
- 4 Extend the Green Line East to the Norwalk Metrolink Station
- 5 Provide shelter from noise and weather at Green Line Stations

**Conceptual Westside Rail**



**Who Are We?**

Friends of the Green Line (FoGL) is an all-volunteer organization of frustrated commuters and transit users working for improved mobility and less pollution in the Greater Los Angeles Region. FoGL is not affiliated with the MTA or LAWA.

FoGL recognizes the Green Line as a form of mass transit that is positioned to improve ground and air transportation throughout Southern California, in particular because of its proximity to LAX, the Westside, the South Bay and the Norwalk Metrolink Transit Center which would link MetroRail to Orange, Riverside and San Diego Counties.

**How Can You Help?**

The Transit Coalition is a 501 (c) (3) non-profit organization. Please contact us if you would like to attend our meetings, make a tax-deductible contribution, volunteer your time or help in any other way.



www.transitcoalition.org  
www.friends4theline.com  
www.foql.org • www.lalakecoalition.org  
www.railadvocates.org • www.brutrueth.com  
www.railpac.org • www.metroilverline.com  
www.friends-gap.org  
Please make your donation payable to:  
SEE/The Transit Coalition  
12463 Telfair Avenue  
Sylmar, CA 91342-3736  
transitcoalition@earthlink.net  
Voice: 818-367-1661 • Fax: 818-362-7997



**Green Line Extensions: The Ones That Got Away!**



Friends of the Green Line

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**Response to Comments of Keneth Alpern, M.D., Daniel Walker, Steering Committee Co-Chair, Friends of the Greenline, August 28, 2004 (Letter O036)**

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**O036-1**

Acknowledged. The Authority has determined that a direct HST service to LAX would not be part of the initial statewide HST network. Connections to the HST system would be provided to LAX and Western Los Angeles County by local transportation (shuttle, regional transit, or the automobile). A direct HST link to LAX would require a costly spur line with very limited maximum speeds that would have lower ridership potential than HST links to the San Diego (via the Inland Empire) and to Orange County. See Standard Response 6.39.1.

**Comment Letter O037**

**O037**



**KAWEAH RIVER ROCK CO., INC.**  
P.O. Box 515 • Woodlake, California 93286-0515  
Telephone (559) 564-3302  
Fax (559) 564-8389

August 26, 2004

Mehdi Morshed  
Executive Director  
California High Speed Rail Authority  
925 L Street, Suite 1425  
Sacramento, CA 95814

Re: Support for High Speed Rail Project – City of Visalia Site

Dear Mr. Morshed:

On behalf of Kaweah River Rock Co., Inc. and the Tulare/Kings Chapter of the Construction Materials Association of California I would like to thank you for the opportunity to respond to the Draft EIR/EIS on the High Speed Rail project proposed for the State of California. We endorse the project and support the alignment along the Union Pacific corridor with a station site in Visalia, California. It is our belief a station site in Visalia will best maximize rider-ship opportunities throughout Tulare, and Kings Counties. At the time estimated for the completion of the High Speed Rail project, the regional population for this area is projected to reach 750,000 persons. In addition, the Union Pacific alignment would be located in existing transportation corridors so there would be less potential for significant environmental impacts (e.g. reduced auto emissions, etc. due to shorter driving distances to access trains).

We understand there is some expressed concern regarding the Union Pacific alignment and, if chosen as the preferred route, it would travel directly through the downtown areas of some of the smaller cities located in southern Fresno County and southern Tulare County. We would like to express our support for the evaluation and the possibility of a by-pass route around these smaller rural communities as a resolution to concerns expressed by these communities.

Finally, we believe the proposed Union Pacific alignment would optimize operational and capital costs, while minimizing natural resource disruption. The Union Pacific alignment would provide numerous employment opportunities to the many agricultural communities along the route. High-Speed Rail related growth in service industries would diversify local job markets and provide jobs for low-skilled workers, thus contributing to a reduction of the area's historically high unemployment rate of 17%. The UP alignment would provide the highest potential benefit to helping to reduce unemployment.

Thank you again for the opportunity to comment on the Draft EIR/EIS and the proposed High Speed Rail Project. Please feel free to contact me if you have any questions or clarification of any of the comments stated herein.

Sincerely,

David F. Harrald  
General Manager, Kaweah River Rock Co., Inc.  
Chairman, Tulare/Kings Chapter, CMAC

O037-1



CALIFORNIA HIGH SPEED RAIL AUTHORITY



U.S. Department  
of Transportation  
**Federal Railroad  
Administration**

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**Response to Comments of David F. Harrald, General Manager, Kaweah River Rock Co. Inc., August 26, 2004  
(Letter O037)**

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**O037-1**

Please see standard response 6.15.4 and standard response 6.21.1.

Comment Letter O038

O038



Dan Leavitt, Deputy Director  
California High-Speed Rail Authority  
State of California  
925 L Street, Suite 1425  
Sacramento, Ca. 95814

August 27, 2004

Re: Menlo Park Chamber of Commerce Comments on High-Speed Train EIR/EIS

The Menlo Park Chamber has reviewed both the EIR and EIS for the proposed California High-Speed Train System. We support the establishment of a High-Speed Train System to serve our California transportation needs. We would expect that future documents as the proposed project moves forward would provide more detail on the specific impacts of High-Speed Train operations on residential/commercial land uses and mitigation measures that would be provided as part of any future project. We are particularly interested in the Caltrain corridor on the San Francisco Peninsula. It is not clear for example the requirements for a station which could be located in Redwood City or Palo Alto.

O038-1

In order for the High-Speed Train to be successful considering that a major part of the travel demand will be between the San Francisco Bay Area to the Los Angeles Area, we would encourage the routing that provides the shortest travel times between these two areas. In the reports the Henry Coe State Park and Pacheco route alignments are discussed between the Bay Area and the Central Valley. We do not support the Henry Coe State Park alignment but do support the Pacheco Pass alignment.

After our support for the Pacheco Pass alignment the Bay Rail Alliance requested a meeting with us to discuss our position and they further discussed the Altamont Pass alignment which has been eliminated by the California High-Speed Rail Authority after much study. We also understand TRACK and the Sierra Club are also still interested in this option and may challenge the EIR/EIS process to further evaluate this option. Our concern is the High-Speed Train will probably appear on the statewide ballot in 2006 for approval by the voters and we would hope this issue with them will be resolved prior to that vote and current process underway.

O038-2

Our concerns with the Altamont Pass alignment are the same as those in the EIR/EIS. The environmental challenges in the area of the Don Edwards Wildlife Area and requirements to get a new Bay crossing through BCDC would not be easy. Pacheco Pass provides more service through Santa Clara County and up the Peninsula. There are also benefits for Caltrain mainline improvements with Caltrain and High-Speed Rail working together. The higher ridership with the Pacheco Pass alignment is also important for the economics of paying the operating costs of the new system. We very much support this project look forward to working with you as the High-Speed Train moves forward.

Sincerely,

Rick Ciardella, Chairman of the Board

1100 Merrill Street • Menlo Park, California 94025-4386 • Ph: 650.325.2818 • Fx: 650.325.0920  
E-mail: info@menloparkchamber.com • www.menloparkchamber.com



CALIFORNIA HIGH SPEED RAIL AUTHORITY



U.S. Department  
of Transportation  
**Federal Railroad  
Administration**

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**Response to Comments of Rick Ciardella, Chairman of the Board, Menlo Park Chamber of Commerce, August 27, 2004 (Letter O038)**

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**O038-1**

Acknowledged. Should the HST proposal move forward, future project specific studies would provide more detail on the site-specific impacts of HST operations on residential/commercial land uses and mitigation measures as well as station requirements.

**O038-2**

Please see standard response 6.3.1.

**Comment Letter O039**

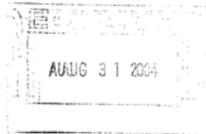


**MIRANDA, TOMARAS & OGAS, LLP**

10755-F SCRIPPS POWAY PARKWAY #281 • SAN DIEGO, CALIFORNIA 92131  
 TELEPHONE (858) 554-0550 • FACSIMILE (858) 777-5765 • WWW.MTOWLAW.COM

**O039**

August 30, 2004



**Submitted via Facsimile**

California High-Speed Train  
 Draft Program EIR/EIS Comments  
 Attn: Dan Leavitt  
 925 L. Street, Suite 1425  
 Sacramento, CA 95914

**RE: Comments on behalf of the Pechanga Band of Luiseño Indians on the Draft Program EIR/EIS for the California High-Speed Train**

Dear Mr. Leavitt:

The Pechanga Band of Luiseño Indians, a federally recognized Indian Tribe (hereinafter the "Pechanga Tribe") submits the following comments through its attorneys regarding the above-referenced Project. The Pechanga Band has previously commented on this Project at the Public Hearing on June 23, 2004 in Los Angeles, and requests that these written comments and the Public Hearing verbal comments be incorporated and considered in the record of approval for this Project.

The Pechanga Tribe's primary concern regarding this Project is the impact it will have on significant cultural resources, Luiseño sacred sites, and Native American human remains. The Pechanga Tribe has a long history of involvement with development Projects, local, State and Federal, that impact cultural resources affiliated with the Pechanga Tribe. The Pechanga Tribe is not opposed to this Project at this time. The Pechanga Tribe is concerned, however, about both the protection of unique and irreplaceable cultural resources, such as Luiseño village sites and archaeological items which would be displaced by ground-disturbing work on the project, and on the proper and lawful treatment of ceremonial and sacred items, including Native American human remains and likely to be discovered in the course of the work.

The Tribe is particularly concerned about one segment of the proposed route that passes through the City of Temecula, as it appears to impact one of the Tribe's sacred sites, known as "Temeku". Consequently, it follows that, because this project area is rich with cultural items, sacred sites, and Native American remains, development of this project area will have a direct and significant impact on known archeological areas. Thus, the Tribe requests that the California High-Speed Rail Authority ("Authority"), the Federal Railroad Administration ("FRA"), the Department of Transportation ("DOT"), and all other cooperating agencies on this Project pay careful attention to identify and evaluate Project impacts to cultural resources, including completing mandatory consultations with the Pechanga Tribe.

O039-1

August 30, 2004

RE: Comments on behalf of the Pechanga Band of Luiseño Indians on the Draft Program EIR/EIS for the California High-Speed Train

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**Project Impacts to Luiseño Sacred Site, Cultural Traditional Properties and Archeological Sites**

Of particular concern are any of the routes that pass through the Pechanga Tribe's traditional territories, including the "Los Angeles to San Diego via the Inland Empire Route" which address the "Ontario to March AFB" segment and the "March AFB to Mira Mesa" segment; and the "Los Angeles to San Diego via Orange County Route" which addresses the "Irvine to Oceanside" segment and the northern part of the "Oceanside to San Diego" segment. A copy of Luiseño traditional territory map is enclosed for your convenience. The Tribe has an interest in any portion of the Project within those territory boundaries.

The "Inland Empire Route" from March AFB to Mira Mesa segment alone contains approximately 62 recorded archeological/cultural resources. That number is likely higher as required archeological surveys have not yet been completed for this Project. In addition, the Tribe may know about additional sites that are not yet recorded, as well as having additional information about the sites that is not reflected in the site records. Such resources include village sites, ceremonial sites, and extremely unique and irreplaceable cultural resources, and sites which explain the migratory and habitation practices of the Luiseño people.

Within this route is also a site which is sacred to the Pechanga people. This site known as "Temeku" was recorded with the County Archeological Resources Unit in 1973 and was also added to the National Historic Register. This site meets and exceeds the CEQA eligibility requirements for a unique historic/archeological resource (Cal. Pub. Res. C § 21083.2(g)). This site is of great importance as it is a chronicled Luiseño village and plays a central role in Luiseño creation stories. A loss of this site, which actually consists of at least four recorded tri-nomial sites, would encroach upon the Tribe's sovereign rights to its culture, religion, and self-governance. The Tribe requests that this Project be designed so that the "Temeku" site will not be impacted by this Project, but preserved and left in its natural state.

As this Draft Program EIR/EIS does not engage in focused review of the Project's proposed alignments, the Tribe is unable to submit detailed comments at this time, but will submit further detailed comments on the specific impacts to cultural resources as soon as it is provided with specific information on route locations, grading plans, engineering plans, etc. In addition, as the information concerning cultural resources is sensitive and subject to confidentiality requirements under State law, the Tribe requests that the Authority consult with the Tribe in-person regarding the specific locations and details of the Project impacts to cultural resources, as the Tribe is unable to disclose specific details in this letter.

**Applicable Federal Law Section 106 Review Required**

The National Historic Preservation Act (16 U.S.C. §§ 470 *et. seq*) requires that a Section 106 review be performed for all Federal undertakings (16 U.S.C. 470w(7); 36 CFR §800.16(y)).

O039-1  
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U.S. Department of Transportation  
**Federal Railroad Administration**

## Comment Letter 0039 Continued

August 30, 2004  
 RE: Comments on behalf of the Pechanga Band of Luiseño Indians on the Draft Program EIR/EIS for the California High-Speed Train  
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As such, the Authority must initiate the Section 106 review process which includes consultation with, among others, federally-recognized Indian tribes. (*Id.* at §800.16(f) and (m)). Consultation is required whether the property in question is on or off tribal lands (*Id.* at §800.2(c)(2)(ii)).

As part of the Section 106 review process, agencies must make a “reasonable and good faith effort” at identification of historic properties within the area affected by the undertaking. (*Id.* at 800.4(b)(1)). The ACHIP and Federal Courts have determined that the process must be completed for not just the “permit area,” but for the entire project area. Colorado River Indian Tribes v. Marsh (1985) 605 F. Supp. 1425.

Historic properties are defined to include archaeological sites and areas which have religious or cultural significance to Tribes. *Id.* Further, such identification efforts should include consultation with Tribes. *Id.* As discussed below, the Pechanga Band therefore requests that appropriate assessments be made according to the Section 106 review process, and that the Pechanga Band be a consulting party on a government-to-government basis. (Executive Order 13175).

### Applicable State law

The Tribe requests, pursuant to Cal. Pub. Res. C. § 21092.2, to be notified and involved in the CEQA environmental review process for the duration of the Project. The California Environmental Quality Act (CEQA) requires the Authority to identify cultural resources that will be impacted by this Project, and then assess Project impacts to historic, archeological and cultural resources (Cal. Pub. Res. C. § 21082.2). The CEQA suggests mitigation for historic and archeological sites, which includes avoidance when feasible. Such potential mitigation also includes placing sites in conservation easements and open space areas. Salvage excavations are only limited to situations where the Lead Agency determines that a site will be destroyed or damaged by the Project. The Tribe’s position is that salvage procedures should be the last option on a list of preferred mitigation for cultural resources, with avoidance being the preferred method of mitigation, as Cal. Pub. Res. C. § 21083.2 states, “...the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state.” Such a mitigation plan can be employed with early planning and identification of cultural resources (Cal. Pub. Res. C. § 21003.1). A key element in this process is to include the Tribe in the identification of such resources. Since Luiseño cultural resources will be impacted by this Project, the Pechanga Tribe, as an expert in Luiseño cultural resources, requests to work with the Authority and other interested agencies on a government-to-government basis in developing all monitoring and mitigation plans concerning cultural resources for the duration of the Project pursuant to the CEQA (Cal. Pub. Res. C. § 21104).

Based on the history of known cultural resources in the area, the Pechanga Tribe contends that a thorough cultural resources assessment should be required as part of this Project, and that further focused EIRs should be prepared in conjunction with each of the potential alignments and route segments. The Tribe asserts, pursuant to State law, the Authority is required to engage in further environmental assessments for this Project which would consist

August 30, 2004  
 RE: Comments on behalf of the Pechanga Band of Luiseño Indians on the Draft Program EIR/EIS for the California High-Speed Train  
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of focused EIR/EIS documents concerning the specific segments and proposed alignments of this Project (Cal. Pub. Res. C. § 21068.5; CEQA Guidelines § 15385). The Tribe further asserts that a focused EIR be prepared in conjunction with the Inland Empire route between March ARF and Mira Mesa which will address cultural resources impacts. Pursuant to CEQA and Federal law, such assessments should concern the specific identification and analysis of historic, archeological and cultural resources that will be impacted by the Project, along with proposed mitigation measures to address such impacts, as these requirements do not appear to have been completed through this Draft Program EIR/EIS process. Such assessments should be based on further archeological testing, including Phase I and pertinent Phase II testing, a site records search, and consultation with the Tribe, most of which have not been completed as of the publication of this EIR/EIS.

In addition, the Pechanga Tribe requests that the Authority take steps for the protection and culturally appropriate treatment of any uncovered resources in the process of any such further assessments. Archeological surveys may reveal significant archaeological and cultural resources and sites that may be eligible for inclusion in the historic site register, may contain human remains and/or may be sacred Luiseño sites.

The Tribe would like the Authority to take notice of a State law that protects Native American religion and aims to prevent damage to cemeteries or places of worship:

“No public agency.....under a public license, permit, grant lease, or contract.....shall in any manner whatsoever interfere with the free expression of exercise of Native American religions as provided in the United States Constitution and the California Constitution; nor shall any such agency or party cause server or irreparable damage to any Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine located on public property, except on a clear and convincing showing that the public interest and necessity so require.” (Cal. Pub. Res. C. § 5097.9).

The Tribe asserts that this law is applicable to the Authority and this Project, as the Authority is a Public Agency and the Project will be located on public property. The “Temeku” site is a religious site to the Pechanga people and, as such would be covered by this law. As such, the Tribe asserts that because this Project is early in the planning process, as the focused EIR/EIS has not yet been prepared and as the State required archeological/cultural resources assessments have yet to be completed, the Authority must engage every effort to ensure that the “Temeku” site, and other sacred sites, are preserved and not impacted or damaged in any manner by this Project, pursuant to State law.

Further, the Band believes that if human remains are discovered, State law would apply and the mitigation measures for the Project must account for this. According to the California Public Resources Code, § 5097.98, if Native American human remains are discovered, the Native American Heritage commission must name a “most likely descendant,” who shall be consulted as to the appropriate disposition of the remains. Given the project’s location in Pechanga territory, the Pechanga Tribe intends to assert its right pursuant to California law with

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**Comment Letter 0039 Continued**

August 30, 2004  
RE: Comments on behalf of the Pechanga Band of Luiseño Indians on the Draft Program EIR/EIS for the California High-Speed Train  
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regard to any remains or items discovered in the course of this project in the Tribe's traditional territory. And, accordingly, the Tribe further requests that all permitting agencies, including the Authority, the FRA, the DOT, and all other cooperating agencies, work with the Tribe to draft an Agreement which would address any inadvertent discoveries of cultural resources, including human remains.

**Request Mitigation Measures and Authority Action**

1. The Tribe requests that the Authority, the FRA, and the DOT consult with the Tribe regarding Project impacts. Given that Native American cultural resources and sacred sites will be affected by the Project, the Pechanga Tribe must be allowed to be involved and participate with the Authority and other cooperating agencies in identifying cultural resources impacts and developing all monitoring and mitigation plans for the duration of the Project under Federal and State law.
2. The Tribe requests further archeological surveys be completed to meet the legal requirements for this Project. The Tribe requests to participate in those surveys, and to be a partner in setting forth survey methods and procedures, especially in culturally sensitive areas. Based on the history of known cultural resources in the area, the Pechanga Tribe contends that a thorough cultural resources assessment is necessary as part of the Section 106 review process and the CEQA process. Further, the Pechanga Tribe requests that the Authority and other cooperating agencies take steps for the protection of any uncovered resources in the process of any such assessment. Surveys may reveal significant archaeological resources and sites which may be eligible for inclusion in the historic site register, may contain human remains and/or may be sacred Luiseño sites.
3. The Authority commit to avoidance and preservation of Native American sacred sites, including the Pechanga "Temeku" site.
4. The Authority and/or other pertinent agencies enter into an Agreement with the Tribe which would address inadvertent discoveries of cultural resources, Native American human remains and cultural sites.
5. The Pechanga Tribe requests that the Authority allow the Pechanga Tribe to monitor all grading and ground-disturbing activities in culturally sensitive areas within the Tribe's traditional territory. Further, since there is the potential for archaeological resources within the Project area, it is the position of the Tribe that Pechanga tribal monitors should be required to be present during all archeological testing performed within the Tribe's traditional territory.
6. All Luiseño cultural resources uncovered in the Tribe's traditional territory shall be relinquished to the Pechanga Tribe for proper treatment. Such treatment may include leaving resources in place, reburial of resources in an area not subject to further disturbance, or repatriation of the resources to the Tribe.

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August 30, 2004  
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The Pechanga Tribe looks forward to working together with the Authority, the FRA, and the DOT, and other cooperating agencies on this Project to address impacts to sacred sites, historic properties and cultural resources.

If you have any questions, please do not hesitate to contact me.

Very truly yours,

MIRANDA, TOMARAS & OGAS, LLP



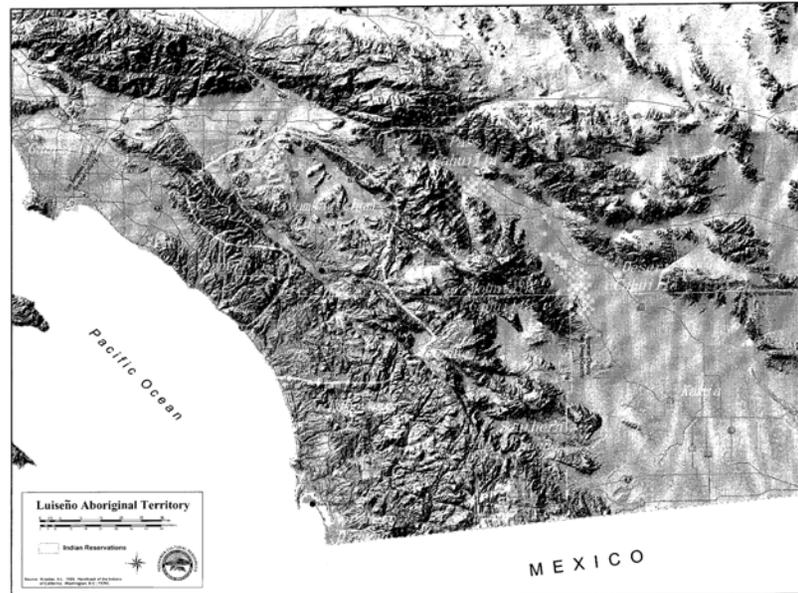
Laura Miranda  
Attorneys for the Pechanga Band of Luiseño Indians

Enclosure: Map of Luiseño Territory

Cc: Mr. Bob Giroux, Authority Board Member  
Riverside County Supervisor Venable  
City of Temecula, City Manager, Shawn Nelson  
Riverside County, Transportation Department, Edwin Studor  
Riverside County Transportation Commission, Cathy Bechtel  
Riverside County Tribal Task Force



**Comment Letter O039 Continued**



**Response to Comments of Laura Miranda, Miranda, Tomaras & Ogas, LLP, August 30, 2004 (Letter O039)****O039-1**

Please see standard response 10.1.14 and standard response 3.12.1.

The Authority is committed to avoiding impacts to Native American resources to the extent feasible and practical through careful alignment design and selection. As part of future project specific studies, the Authority will develop procedures for fieldwork, identification, evaluation, and determination of potential effects to cultural resources in consultation with SHPO and Native American tribes (see Section 3.12.5 of the Final Program EIR/EIS). More detailed evaluation and avoidance efforts will be included in project-level studies and appropriate monitoring procedures would be specified as part of project-level studies should the HST proposal move forward.

The archaeological reports and studies for this project, *Paleontological Resources Technical Evaluation* and *Cultural Resources Technical Evaluation* technical reports (January 2004) for the Los Angeles to San Diego via Inland Empire region are available on the Authority's website ([www.cahighspeedrail.ca.gov](http://www.cahighspeedrail.ca.gov)) along with the other technical reports for the Los Angeles to San Diego via Inland Empire region and the other four regions investigated. These two technical reports were mailed to the Pechanga Indian Reservation care of John Macarro (July 23, 2004).

This program-level environmental process was done at a conceptual level of detail and relied upon existing available data for cultural resources. There was no field review or testing for cultural resources. Should the HST project move forward, field review and testing would be required as part of more detailed project-specific analysis. In particular, the Authority will coordinate with the Pechanga Tribe regarding avoidance of the Exeava'Temeku village (located just west of the I-15/I-79 interchange). As part of this program-level process, the co-lead agencies initiated consultation

with the Native American Heritage Commission for a search of their Sacred Lands file and lists of Native American contacts. The Native American contacts were sent letters providing information about the proposed project alternatives and requesting information about any traditional cultural properties that could be affected by the project. Authority staff also met with tribal representatives in a series of three Native American Outreach Workshops during the fall of 2003 (Frazier Park, San Luis Recreation Area, and Temecula Community Center). Following the release of the Draft Program EIR/EIS, two additional workshops were held (March 24, 2004, at the San Luis Recreation Area; and April 14, 2004, at UC-Riverside), led by the co-lead agencies' staff.

The co-lead agencies will continue to work with the Pechanga Tribe in all subsequent phases of planning and construction of the HST system should the HST project move forward. The co-lead agencies also will work with the Pechanga Tribe as well as other interested and/or potentially impacted tribes to develop appropriate mitigation measures.

Comment Letter O040

O040

2

CALIFORNIA HIGH SPEED RAILROAD FANTASIES

The massive Draft Program Environmental Impact Report/ Environmental Impact Statement (DPEIR/EIS) for the fanciful California High Speed Railroad (not train or rail) System (CHRS) requires trenchant analyses which most citizens do not have time nor capability to accomplish. (we don't get paid for such an effort), None-the-less, enclosed are some comments about the report and the system:

1) OVERPOPULATION. California has become grossly overpopulated, by five or six times at over 40,000,000 humans. The overpopulation of increasingly impoverished people being exploited by the greedy, destructive Ruling Class and Corrupt Governments can no longer pay to maintain, restore, and expand the failing infrastructure. Consequently, the Quality of Life of most Californians has been grossly degraded over the past fifty years. The urban disaster areas have become overcrowded human jungles and concrete wastelands featuring gridlocks everywhere - whether highway, water, air pollution, etc. The Urban Wastelands have become uninhabitable!

The Report optimistically assumes that the overpopulation must expand forever, thus justifying wasting billions of dollars on some High speed Railroad System. Environmental social, economic, political, etc. disasters will restrict population growth at some point.

Instead of wasting hundreds of billions if not trillions of dollars subsidizing assorted transportation schemes, including the CHRS the money could better be spent REDUCING the overpopulation to reasonable and sustainable levels to restore the Quality of Life: STOP all immigration, deport aliens, carpetbaggers, and breeders, castrate the breeders (and feed the hungry), deport businesses and jobs elsewhere, etc.

The Growth-at-Every-Cost Criminals who have destroyed California as a better place to live are running an obscene PONZI SCHEME which requires more and more suckers to pay more and more taxes to prevent the bankrupt, corrupt, incompetent government from collapsing completely and to finance an endless list of projects to occupy the lives of overpaid politicians, bureaucrats, consultants, contractors, et al. Bankruptcy is at hand!

2) WELFARE FOR THE RICH. The major purpose of the Growth-at-Every-Cost Maniacs' endless list of massive, expensive projects is to provide Welfare for the Rich who get richer controlling and financing and constructing them and robbing the taxpaying suckers to pay for them. They are all on Welfare! Poor people will not be riding the CHRS!

3) IS ALL OF THIS TRAVEL NECESSARY? The only reason why travel is increasing faster than the overpopulation is the cheap subsidized modes available paid for by the taxpaying suckers. If passengers were charged the full cost of travel there would be less unnecessary trips consumed, including those on the CHRS. There is no justification why the poor and middle classes should pay to subsidize the Dole/Dole Rich, the upper corporate and government bureaucrats, and other assorted parasites to indulge in shopping trips from San Diego to San Francisco at high, expensive, and convenient speeds, get their trade at the store around the corner! Let them meet on the electronic railroad!

4) LOW BALLING THE COST TO BRAINWASH THE SUCKERS. Like all pork barrel, smokestack, wastemoney projects the corrupt politicians and bureaucrats have deliberately underestimated the CHRS cost as a means to gain the taxpayers' approval. At 700 miles and \$35-37,000,000,000 construction cost the CHRS is claimed to cost \$47-53,000,000 per mile. At a more reasonable \$60,000,000 per mile the cost advances to \$42,000,000,000. At a ball park \$70,000,000 per mile the cost escalates to \$49,000,000,000.

If the claimed operating "profit" is extracted from passengers the private sector should be required to design, finance, construct, and operate the CHRS; NOT the taxpaying suckers! Or, rob the Dole/Dole Rich to pay for it! Or, rob the passengers to pay for the CHRS!

5) MEANDERING ROUTE STRUCTURE. The pork barrel, smokestack, wastemoney purpose of the CHRS is revealed in the promoters' failure to recognize that the shortest distances between railroad stations (in miles, time, and money) is a straight line. The meandering routes between San Diego and Los Angeles and around the Tehachapi Gap negate the alleged purpose of the System - HIGH SPEED. So too for the Sacramento - San Francisco Gap!

6) INCOMPLETE ROUTE STRUCTURE. Missing from access to the San Ball Route Structure are the millions of people stuffed into the urban wasteland between San Diego and Los Angeles, millions more escaping along the Coast between Los Angeles and Alhambra, millions between San Francisco/Oakland and Sacramento, and millions more outside of the High Speed Corridors. The System must be expanded to include more passengers and VOTERS! (See enclosed Route Structure Maps). Why should they vote for the CHRS?

7) PRIORITY ROUTE STRUCTURE. Evidently, far too many route miles have not been located and optimized to benefit the High Speed Railroad System, but have been mislocated for various social, environmental, political reasons and purposes. The CHRS must have priority over other issues, problems, and goals in order to maximize its benefits over the LONG TERM. Obviously, heading for the long term stations will cost much more during construction but will result in increased ridership, revenue, and "profit."

Do the CHRS to replace the existing passenger railroad lines or supplement them? Should it become a long-distance System or a slow-speed commuter one? If High Speed over long distances is the goal money can be saved by limiting connections with the existing route structures. If subsidizing rich commuters is the purpose they do not need high-speed trains. High speeds cannot be maintained by stopping every 15 miles.

Will not elevated viaducts collapse in the next earthquake and stop high speed trains for long periods? Just like the highway viaducts!

If the CHRS is to replace the existing routes why are billions of dollars being wasted subsidizing the private railroads by AMTRAK, the California Department of Transportation (CDOT), et al? They have wasted billions of dollars on badly conceived and designed stations, unnecessary route structure improvements, etc. Is it all PORK?

Who wants to ride a train in trenches and tunnels? Passengers cannot see the scenery and urban wastelands!

PAGE

O040

Comment Letter O040 Continued

If the CHSR is constructed in the freight railroads, right-of-way, freight train derailments and wrecks will involve or stop high speed trains, so will hazardous material releases, explosions, and fires.

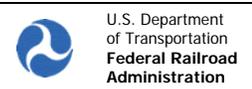
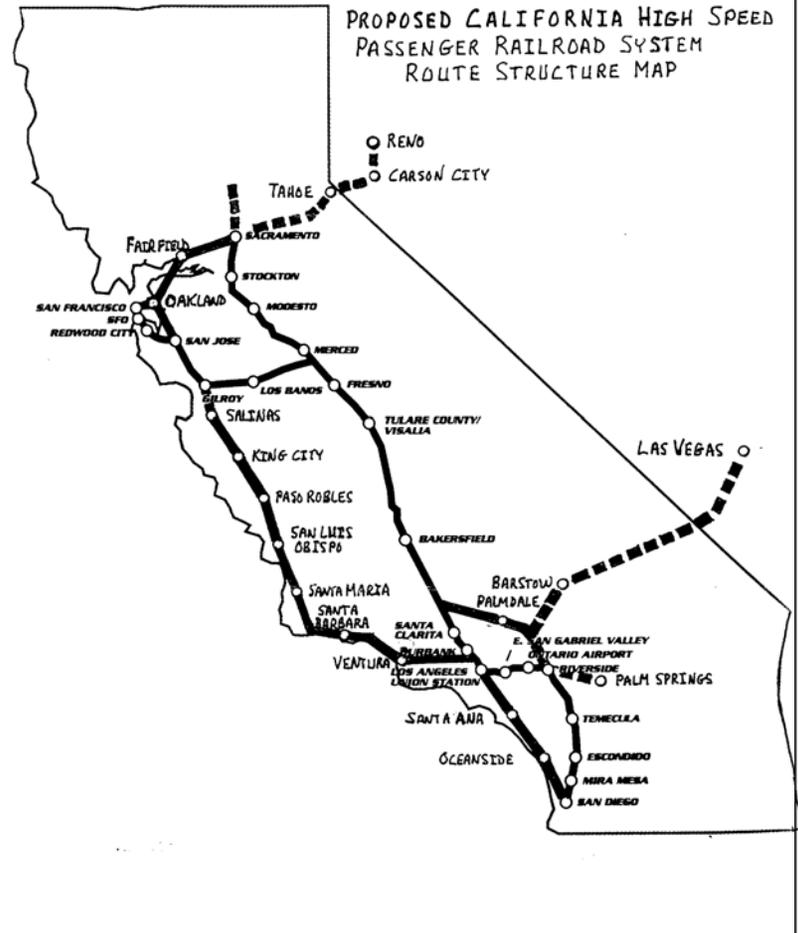
AUG 30 2004

The DPEIR/EIS requires discussions of these and other issues to escape being inadequate, incomplete, error-filled, and boilerplate saturated.

The Authority has refused and failed over many years to supply interested parties with more and detailed documents for our perusal.

For more information on this topic contact:

Richard A. Stromme  
Railroad Advocate  
P.O. Box 162  
Santa Ynez, California 93460. Ph: 305-638-3145



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**Response to Comments of California High Speed Rail Fantasies, August 30, 2004 (Letter O040)**

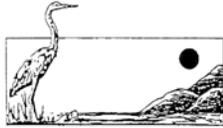
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**O040-1**

Acknowledged. Please refer to Chapter 2 "Alternatives" of the Program EIR/EIS for the rationale of the development of the HST Alternative. Please see standard response 2.36.1 in regards to other potential HST links. The program EIR/EIS does not assume that the HST system would "replace existing railroad lines", but would instead compliment existing rail services. Please see standard response 2.31.4 in regards to potential station stops and variety of levels of service (express, skip-stop, local, etc.). Please see standard response 2.8.1 in regards to the safety of the HST system. Please see standard response 2.33.1 in regards to the use of freight railroad rights-of-way.

Comment Letter O041

O041



Friends of the San Dieguito River Valley

P. O. Box 973 Del Mar CA 92014

August 25, 2004

Attn: California High Speed Train Draft Program EIR/EIS Comments 925 L Street, Suite 1425 Sacramento, CA 95814



Subject: Comments on Draft HSR Program EIR/EIS

To California High Speed Rail Authority:

The Friends of the San Dieguito River Valley appreciates the opportunity to comment on the draft California High Speed Rail (HSR) Program EIR/EIS. The Friends is an incorporated citizen group advocating for the preservation of land within the San Dieguito River Valley system. We have been active, since 1986, in testifying on various land uses in the River Valley, and in securing funding for a number of projects to enhance public access and appreciation of the River Valley's natural resources. The most recent projects are the site plan for a new interpretive learning center just east of I-5 and preservation of an historic bridge as an important bird sanctuary overlook on the southern shore of the San Dieguito Lagoon, west of I-5.

Our comments are limited to the proposed LOSSAN corridor into San Diego. We are particularly alarmed that the draft does not acknowledge the impact of the I-5/Penasquitos Bypass Option on the San Dieguito River Valley Regional Open Space Park or the 440-acre, \$65-85 million San Dieguito Lagoon Restoration Project on which work will begin this spring.

Specifically:

- 1. The Draft Summary at S.2 lists key criteria used to assess LOSSAN alignment options. One criterion is to "maximize compatibility with existing and planned (emphasis ours) land uses." The draft fails to meet this criterion as follows:

There is no mention of the River Park or the River Park's Master Plan. There is also no mention of the Park's land acquisitions near the Bypass Option Project area and its planned restoration of disturbed lands in the River Valley. For instance on Page 3.15-16 the draft states "...vegetation is highly disturbed and is not considered a sensitive vegetation community". The Draft ignores the River Park's ongoing efforts to purchase and restore native vegetation critical to wildlife species and wildlife corridors. This is important since the I-5/Penasquitos Bypass Option would place double tracking across

O041-1

restored wildlife corridors. The double tracking would also cut off the Regional Park trail from the river valley into Crest Canyon, with many well hiked trails in a Torrey Pines reserve (see attachment).

There is no mention of the San Dieguito Lagoon Restoration Project. Beginning its work next spring, the Project will restore approximately 440 acres of wetland to support a revitalized Lagoon and its habitat. The Project, funded and managed by Southern California Edison as an environmental mitigation project, includes restoration of tidal wetlands, reestablishment of historic uplands, expansion of freshwater and seasonal coastal wetland areas, and increased public access and interpretation. The San Dieguito River Park Joint Powers Authority, U.S. Fish and Wildlife Services, National Marine Fisheries Services, the California Coastal Commission and a variety of other state and local agencies are involved in this extraordinary effort. The Penasquitos By-Pass Option would jeopardize the success of the restoration project by causing habitat destruction, blockage of wildlife corridors, visual blight, noise and degradation of a unique regional natural resource.

The draft on Page 3.15-17 states in Section A that only existing conditions are considered when comparing the alignment options because changes are "speculative." And, "...no substantial change to existing conditions is assumed for purpose of the program-level evaluation and comparison of alternatives." The River Park and the Restoration Project are clearly not speculative. Eliminating this information allows the inclusion of an option at the program level that would not otherwise be considered and also results in eliminating other options less harmful to the environment. We feel it is a glaring deficiency in the draft.

- 2. Additional criteria listed in S.2 are inadequately addressed, also due to the failure to consider the impact of the Bypass Option on the San Dieguito River Valley Regional Open Space Park and the San Dieguito Lagoon Restoration Project. The criteria are: "Minimize impacts on natural resources" and "Minimize impacts on parks and cultural resources."

The By-Pass Option would have a significant negative impact on the western end of the River Park, at the San Dieguito Lagoon. It is in this very area where the Park's "Coast to Crest Trail" extends from the ocean at Del Mar to the mountains - approximately 55 miles to the east. The trail is intended to enhance public awareness and enjoyment of the park's unique environment by offering firsthand experience of the spectacular views of the River Valley, the

O041-1 cont.

Comment Letter O041 Continued

restored lagoon, the bird sanctuaries and the ocean. Imposing a double track railway system along the southern shores of the Lagoon would create significant negative impacts including habitat destruction, blockage of wildlife corridors, visual blight, noise and degradation of the recreational value of this unique regional park and natural resource.

- 3. In S.3 the draft also states "The system should maximize existing transportation corridors, etc." There is *no* existing transportation corridor on the southern shores of the Lagoon. There is *only* a narrow two-lane road leading to a residential zoned very low density by the City of Del Mar *to preserve the sensitive environment.*
- 4. Omissions in the System-wide Environmental Impact Comparison (S.6) and the High-Speed Train Alignment Options Comparison (pages 6- 91 through 6-97 specifically) are as follows:

Biological Resources and Wetlands: Does not cite impact on the Lagoon or the Wetland Restoration Project. This must be addressed.

Section 4 (f) and 6 (f) Public Parks and Recreation: Potential impact on the 60,000 acre San Dieguito River Valley Regional Open Space Park is ignored. The draft statement that "potential impacts on several state beaches would be limited due to use of existing rail corridors" is misleading because it ignores the impact on a regional public park.

Hydrology and Water Resources: Impacts on the restored San Dieguito Lagoon are not included under the I-5/Penasquitos Bypass Option. Amazingly, the mitigation strategy listed is to "avoid or minimize footprint in floodplain" when, in fact, the Penasquitos Bypass Option places new double tracking in a flood plain area that is now a pristine wetland open space and is a critical part of a major mitigation project which is to begin next spring.

Cumulative Effects: The visual effects of the Penasquitos Bypass option ignore completely the impact of double tracking in an almost pristine wetland, marked for restoration and enhancement in 2005. It also ignores the current trail and wildlife corridor that enters Crest Canyon, a spectacular Torrey Pines reserve on the southern shore of the Lagoon.

In summary, the draft program omits from its analysis imminent land uses that would have a significant negative impact from the HSR I-5/Los Penasquitos Bypass option,

contrary to the draft's own stated analysis criteria. The draft program EIR does not fulfill its obligations under CEQA that requires California agencies to identify the significant environmental impacts of their projects, and decision makers rely on to determine whether or not to approve a project. In this particular case the deficiencies of the draft Program EIR also allows an Option to be considered that would otherwise not meet the analysis criteria and eliminates other options that might do less harm to the environment.

We feel a more complete environmental analysis would eliminate the I-5/Los Penasquitos Bypass Option from consideration and additional options would be considered. Limiting the LOSSAN alignment options to double tracking along the southern shores of the San Dieguito Lagoon or through the Los Penasquitos Lagoon does not provide *any* alternative to avoid damage to one of Southern California's most significant natural resources and public parks, its coastal lagoons and wetland habitats.

Respectfully submitted,

*Ann Gardner*  
President, Friends of the San Dieguito River Valley  
P.O. Box 973  
Del Mar California, 92014

Enclosures: Abstract for San Dieguito Lagoon Wetland Restoration Project  
Introduction and Concept Plan, San Dieguito River Valley Regional Open  
Regional Open Space Park

O041-1  
cont.

O041-1  
cont.



**Comment Letter 0041 Continued**

DRAFT

**Environmental Impact Report/  
Environmental Impact Statement (EIR/EIS)  
for the San Dieguito Wetland Restoration Project**

**ABSTRACT**

This project involves the development, design and ultimate implementation of a comprehensive restoration plan for approximately 440 acres in the western end of the San Dieguito River Valley, San Diego County, California. The project includes restoration of tidal wetlands, reestablishment of historic uplands, enhancement and expansion of freshwater and seasonal coastal wetland areas, and a public access and interpretation component. In accordance with the adopted San Dieguito River Park Concept Plan, a Park Master Plan for the project area has also been prepared to address these project components.

An essential component of this restoration project is the creation and restoration of tidally influenced wetlands. The major elements of tidal restoration would include: 1) restoring aquatic functions of the lagoon through the opening and permanent maintenance of the inlet channel and expansion of the existing tidal prism, and 2) creating subtidal and intertidal habitats on both the east and west sides of Interstate 5 (I-5). Tidal restoration would involve excavation/dredging of sediments to create/restore wetlands, excavation of the tidal inlet to promote continual tidal exchange, construction of berms along the river to maintain existing flood flows and direct sediment transport to the ocean, and identification of appropriate disposal sites for excavated/dredge material. Nesting sites for the California least tern, western snowy plover, and other shorebirds are also proposed.

It is anticipated that tidal restoration would be accomplished primarily by Southern California Edison and its partners, provided the restoration satisfies the conditions of the California Coastal Commission Permit for the construction and operation of the San Onofre Nuclear Generating Station Units 2 and 3. The San Dieguito River Park Joint Powers Authority, Fish and Wildlife Service, and a variety of state and local agencies would be involved in the restoration of the project's other non-tidal wetland and upland restoration proposals, as well as the public access and interpretive aspects of the proposal.

The draft joint Environmental Impact Report/Environmental Impact Statement analyzes six project alternatives, including the Mixed Habitat, Maximum Tidal Basin, Maximum Intertidal, Hybrid, Reduced Berm, and No Action alternatives. Potentially significant environmental impacts have been identified in the areas of land use, landform alteration/visual quality, hydrology/water quality, traffic circulation, noise, air quality, geology and soils, public utilities, public health and safety, biological resources, and natural resources. The project includes measures to mitigate some potential impacts, while other mitigation will be made a condition of subsequent permits.

**Lead Agencies**



U.S. Fish & Wildlife Service  
Carlsbad Field Office



San Dieguito River Park  
Joint Powers Authority

**Cooperating Agency**



U.S. Army Corps of Engineers  
Los Angeles District, Regulatory Branch

**INTRODUCTION**

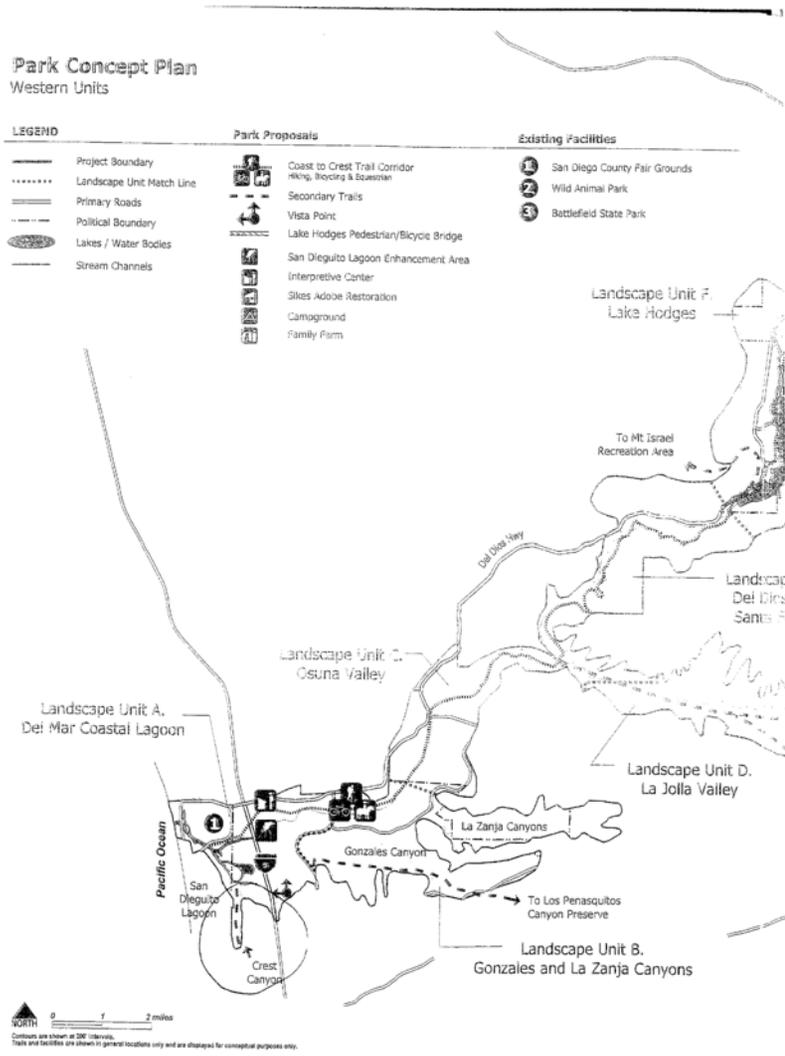
The San Dieguito River Park Concept Plan has been prepared to formally establish the vision and goals for the future use of the San Dieguito River Valley. Implementation of the proposals included within this plan by the San Dieguito River Valley Regional Open Space Park Joint Powers Authority (JPA) and its member agencies will ensure the preservation and protection of the sensitive resources within the San Dieguito River Valley Regional Open Space Park's Focused Planning Area (FPA). All future proposals within the planning area should be consistent with the goals, objectives and development standards set forth in this plan.

The San Dieguito River Park Focused Planning Area extends for 55 miles from the desert just east of Volcan Mountain to the ocean at Del Mar (Figure No. 1). This river system forms a natural corridor, uniting a wide variety of native and non-native environments. Many of San Diego County's most sensitive habitats are found here, including oak and pine woodlands, coastal sage scrub, riparian woodland, native grassland and coastal wetlands. The quality of these habitats along with the largely rural character of the river valley provides a unique opportunity to experience the natural environments that once characterized all of the river valleys within San Diego County.

Also present within the river valley is a rich diversity of cultural resources. Evidence of human activity dating back at least 9,000 years is known from this area, with remnants of California's early history present throughout the length of the FPA. These resources include evidence of long term habitation by Native Americans, remains of campsites of the Portola Expedition of 1769, the battle sites of the Mexican-American War, remnants of early European settlements, and past and present agricultural activities.

The vision to create the San Dieguito River Valley Regional Open Space Park reflects a commitment to protect the area's natural waterways and associated ecosystems, preserve its unique natural, cultural and agricultural resources, retain a regional network of wildlife corridors, and provide meaningful open space recreation areas for public enjoyment. Additionally, the vision includes a desire to develop within park visitors an appreciation for the natural environment and its importance both locally and globally.

Comment Letter 0041 Continued



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**Response to Comments of Ann Gardner, President, Friends of the San Dieguito River Valley, August 25, 2004  
(Letter O041)**

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**O041-1**

There is no further consideration of the LOSSAN Conventional Rail Improvements in this Final Program EIR/EIS. These potential improvements are the subject of the Caltrans LOSSAN Rail Improvements Program EIR/EIS (Draft PEIR/EIS SCH # 2002031067). These comments have been forwarded to Caltrans for consideration. Please see standard response 6.41.1, and Section 2.6.9 and Chapter 6A of the Final Program EIR/EIS document.

## Comment Letter O042

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## VIA FEDERAL EXPRESS

Mr. Dan Leavitt  
California High Speed Rail Authority  
925 L Street, Suite 1425  
Sacramento, CA 95814

Re: Comments on Draft Environmental Impact Report/Environmental Impact Statement for the Proposed California High-Speed Train System

Dear Mr. Leavitt:

This firm represents the San Felipe Ranch with regard to the California High-Speed Train System (hereinafter referred to as the "HST" or the "Project"). This letter and the attached letter from consulting biologist Diane Renshaw ("Renshaw letter"), incorporated herein, provide San Felipe Ranch's written comments on the Draft Program Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the *Proposed* California High-Speed Train System ("DEIR/S").

Three of the proposed Bay Area to Central Valley alignments<sup>1</sup> for the HST considered in the DEIR/S are identified as the Diablo Range Direct Alignments (Northern Tunnel, Minimize Tunnel, and Tunnel Under Park Options). (DEIR/S, pp. 2-53 to 2-54 and Fig. 2.6-22.) As currently proposed, all three Diablo Range alignment options would bisect San Felipe Ranch. The approximately 28,700 acre San Felipe Ranch consists of vast rolling hills covered by untold numbers of oaks, pines, and sycamores. It is dotted throughout by seasonal and perennial watercourses. San Felipe Ranch provides habitat for numerous threatened and endangered species, including California tiger salamander, California red-legged frog, burrowing owls, and western pond turtles. (Please see attached Renshaw letter for a detailed description of the Ranch's diverse biological resources.) Currently, this primarily undeveloped

<sup>1</sup> All of the proposed Diablo Range alignments run between Merced and San Jose.

Mr. Dan Leavitt  
August 30, 2004  
Page 2

area supports a working cattle ranch and contains only a handful of structures. The extensive surveying, geological testing, blasting, excavating, and hauling necessary to construct any of the proposed Diablo Range alignment options, which includes lengthy stretches of tunnels, would have significant impacts upon the on-going cattle ranching activities. In addition, all of the Diablo Range options would have substantial adverse effects on the rural character of the region and the natural environment of the ranch and the surrounding areas, including Henry W. Coe State Park and other environmentally valuable open space areas.

As discussed below, the DEIR/S falls far short of the standards for adequate environmental review as set forth in the California Environmental Quality Act ("CEQA") (Public Resources Code § 21000 *et seq.*) and the CEQA Guidelines (California Code of Regulations, title 14, § 15000 *et seq.*), even for a program-level EIR/S.<sup>2</sup> Regardless of whether an EIR is styled as a program-level document, CEQA Guidelines section 15151 states that an EIR "should be prepared with a sufficient degree of analysis to provide decisionmakers with information which enables them to make a decision which intelligently takes account of environmental consequences." Given the unprecedented scale of this important statewide transportation project, it is imperative that the DEIR/S provide both decisionmakers and the public a full opportunity to understand and analyze the Project's significant effects on the environment.

Far from providing the requisite level of information and analysis, this DEIR/S fails to provide information in any meaningful degree of detail with regard to the significant effects on the environment of constructing and operating the alignments and station locations that will be approved by the California High Speed Rail Authority (the "Authority") and United States Department of Transportation (hereinafter referred to collectively as "the agencies"). Entire categories of key analyses appear to be missing from the document or given such superficial treatment as to contain no useful analysis whatsoever. These include:

- Construction Impacts: No discussion of construction-related impacts on air or water quality, solid waste or hazardous waste generation, hydrological systems, biological habitat, noise production, or traffic effects. No discussion of construction equipment, staging areas, or haul routes. Additionally, no description of grading, filling, tunneling, or blasting activities and associated environmental effects.

<sup>2</sup> While the focus of this letter is primarily on compliance with CEQA, the federal government's obligations under the National Environmental Policy Act ("NEPA") (42 U.S.C. § 4321 *et seq.*) are similar to the State's with regard to the adequacy of the DEIR/S.

**Comment Letter 0042 Continued**

Mr. Dan Leavitt  
August 30, 2004  
Page 3

- Hazardous Materials and Waste: No discussion of the types of hazardous materials that will be used and hazardous waste generated for the operation and maintenance of the HST system.
- Noise and Vibration: No analysis of the effects that the noise and vibration created by the HST system will have on wildlife, and, specifically, on migratory birds and waterfowl.
- Agricultural Use: No analysis of the effects particular alignments will have on ranching or grazing activities.
- Fire: No discussion of potential fire hazards posed by construction or operations in rural and open space areas.

The DEIR/S also repeatedly and impermissibly defers mitigation to the next phase of environmental review, even though the HST's alignments and station locations will be selected and their environmental impacts can be identified, analyzed, and lessened or avoided through the adoption of mitigation measures. In fact, it is unclear from the DEIR/S whether the agencies are willing to commit to *any* mitigation at this time. In addition, the DEIR/S fails to analyze other far less environmentally damaging alternatives for the Bay Area to Central Valley corridor, most notably the Altamont Pass alignment<sup>3</sup>

Overall, the DEIR leaves decisionmakers and members of the public with little information or understanding of the significant environmental impacts of the proposed Project and undermines their efforts to assess the differences among the alternatives and the various proposed alignments. The numerous flaws in the DEIR/S are so fundamental as to render the document legally inadequate. Because the DEIR/S lacks sufficient analysis of the significant environmental impacts of the Project, fails to propose and analyze mitigation measures, and all but ignores the cumulative impacts analysis, a revised DEIR/S must be prepared and recirculated

<sup>3</sup> The Altamont Pass alignment was previously the favored alignment for the Bay Area to Central Valley Corridor because it generated the highest ridership and revenue for the system, was less costly, and had less environmental impacts than the other two northern mountain pass alternatives (Panoche and Pacheco). See *High-Speed Rail Summary Report and Action Plan* (California Intercity High Speed Rail Commission, 1996), p. ES-7. By excluding the Altamont route from consideration and analysis in the Project DEIR/S, the agencies appear to have committed to a predetermined set of alignments prior to preparation of the required environmental review and to have impermissibly eliminated a viable and environmentally superior route, thereby unreasonably constraining the range of alternatives prior to completing the environmental review process.

Mr. Dan Leavitt  
August 30, 2004  
Page 4

in order to adequately inform the public, decisionmakers, and the affected agencies of the environmental repercussions of the Project.

**DISCUSSION**

**I. PREPARATION OF A PROGRAM-LEVEL EIR/S DOES NOT ALLOW AN OVERLY VAGUE AND INCOMPLETE ANALYSIS.**

"The purpose of an environmental impact report is to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided." (Pub. Res. Code § 21002.1(a).) As will be discussed more fully below, the DEIR/S fails to adequately disclose and analyze the Project's significant environmental impacts; to identify or adopt specific, feasible, and enforceable mitigation measures; and to analyze a reasonable range of alternative alignments. The DEIR/S justifies this lack of analysis and disclosure on the grounds that this EIR/S is a "tier 1" or "program-level" document (DEIR/S, pp. 1-1 to 1-3) and, therefore, the DEIR/S only presents information the agencies consider necessary to analyze "a general conceptual design." (DEIR/S, p. 1-3.) It defers the "detailed analysis" of the specific impacts of the Project to future, project-level documents. (*Id.*) This approach, however, is misguided. It is clear that calling an analysis "program-level" does not relieve the lead agency of its duty to address the significant environmental effects of the Project at the earliest possible time. "EIRs should be prepared as early in the planning process as possible to enable environmental considerations to influence project, program or design." *Bozung v. Local Agency Formation Commission*, 13 Cal.3d 263, 282 (1975) (quoting CEQA Guidelines § 15013); see also *Stanislaus Natural Heritage Project v. County of Stanislaus*, 48 Cal.App.4th 182, 202-3 (1996). This is to allow for flexibility in the planning process and ensure that environmental factors be considered "at the earliest stage of a planned development before it gains irreversible momentum." *Bozung*, 13 Cal.3d at 284, fn. 28.

The DEIR/S systematically fails to disclose impacts through presenting impacts as gross aggregation of background data, ignores the severity of impacts, and presents a conclusory analysis of the Project's environmental effects. Merely because the agencies have prepared a programmatic DEIR/S, they are not exempt from providing all relevant and reasonably available environmental information to enable the public and decisionmakers to discern whether a selected corridor or station would have a significant effect on the environment.

**A. DEIR/S Impermissibly Defers Disclosure and Analysis of Potentially Significant Environmental Impacts to Future Environmental Review.**

Simply calling the DEIR/S a program-level document does not excuse the agencies from complying with CEQA's requirement to prepare an DEIR/S that includes a detailed

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description of the reasonably foreseeable environmental impacts of the proposed project. Stanislaus National Heritage Project, 48 Cal.App.4th at 197. “[T]he tiering provisions of CEQA do not exempt a public agency from the Public Resources Code section 21100, subdivision (b)(1) requirement that an EIR shall include a detailed statement setting forth ‘[a]ll significant effects on the environment of the proposed project[.]’” *Id.* at 186.

Preparing a program-level DEIR/S does not grant an agency permission to defer the identification of significant environmental impacts until the preparation of project-specific studies. *Id.* at 199. CEQA requires consideration of environmental consequences at the “earliest possible stage, even though more detailed environmental review may be necessary later.” McQueen v. Board of Directors, 202 Cal.App.3d 1136, 1147 (1988); see also Bozung, 13 Cal.3d at 282. Regardless of an agency’s stated intention to undertake site-specific environmental review for future project phases, the use of tiering and a program EIR is not a device for deferring the identification of significant environmental impacts. Stanislaus National Heritage Project, 48 Cal.App.4th at 199. More detailed analysis may be deferred only if: (1) it is not “meaningfully possible” to obtain more detailed information during the earlier stage of the program EIR; and (2) having the additional information at the earlier stage is not important in determining whether or not to proceed with the project. No Oil, Inc. v. City of Los Angeles, 196 Cal.App.3d 223, 236-7 (1987).

For this Project, it is both meaningfully possible and crucial to obtain more detailed information prior to approval of the proposed Project. Because the DEIR/S is intended to be used in “selecting a preferred corridor and station locations” (DEIR/S, pp. S-16, S-18), the DEIR/S must analyze the significant environmental impacts of these actions as well as examine mitigation measures and alternatives that could feasibly lessen or avoid the Project’s impacts. “While foreseeing the unforeseeable is not possible, an agency must use its best efforts to find out and disclose all that it reasonably can.” (CEQA Guidelines § 15144.) Towards this end, the agencies must “attempt in good faith to fulfill its obligation under CEQA to provide sufficient meaningful information regarding the types of activity and environmental effects that are reasonably foreseeable” from the proposed alignments and stations. Laurel Heights Improvement Association v. Regents of the University of California, 47 Cal.3d 376, 399 (1988) (Laurel Heights I).

Rather than fulfilling this obligation under CEQA, the DEIR/S provides insufficient detail concerning many elements of the proposed Project and its associated significant environmental impacts. The following is a non-exhaustive list of potential environmental impacts the DEIR/S improperly defers for study:

- Regional air quality impacts related to power generation for operation of the HST system. (DEIR/S, pp. 3.3-7, 3.3-19.)

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- Adequacy of power supply for HST system. Defers study of electricity requirements and transmission infrastructure needed to supply power for HST system. (DEIR/S, p. 3.5-23.)
- Impacts on grazing lands. (DEIR/S, p. 3.8-6.)
- Identification of potentially affected archaeological and historical resources. (DEIR/S, p. 3.12-27.)
- Geological impacts which might affect project design. (DEIR/S, p. 3.13-8.)
- Aesthetic impacts on Section 4(f) and 6(f) resources as a result of noise barriers. (DEIR/S, p. 3.16-11.)
- Impacts related to construction. (DEIR/S, p. 7-2.)

Deferring these essential analyses renders the DEIR/S incomplete, and undermines the EIR’s important purpose of enabling “informed decisionmaking and informed public participation.” Save Our Peninsula Committee v. Monterey County Board of Supervisors, 87 Cal.App.4th 99, 118 (2001). The DEIR/S’s failure to adequately identify and analyze the potentially significant effects of the Project renders this document legally inadequate.

With regard to impacts that the DEIR/S does purport to analyze, many of the “analyses” simply compare aggregate, gross acreage affected by the different alternatives, but do not indicate the relative value or significance of the resources in those affected areas. For example, the entire analysis of impacts on biological resources and wetlands for the Bay Area to Merced region consists of two pages comparing the number of acres of habitat and wetlands potentially affected by the Modal Alternative and the alignment options for the High-Speed Train Alternative. (DEIR/S, pp. 3.15-21 to 3.15-22.) As set forth in the attached Renshaw letter, the analysis determines which HST alignment option is preferable based on the number of acres (or, in the case of wetlands, the number of linear feet) affected without further inquiring into the nature of the resources within those areas.

**B. The DEIR/S Improperly Defers Identification and Adoption of Feasible Mitigation Measures.**

“The purpose of an environmental impact report is . . . to list ways in which the significant effects of . . . a project might be minimized . . .” (Pub. Res. Code § 21061.) Hence, CEQA requires that mitigation measures, which “avoid or substantially lessen” the significant environmental effects of proposed projects, be identified and analyzed in the EIR. (Pub. Res. Code § 21002.) The California Supreme Court has described the mitigation and alternatives

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sections of an EIR as the "core" of the document. Citizens of Goleta Valley v. Board of Supervisors, 52 Cal.3d 553, 564 (1990).

An EIR is inadequate if it fails to propose mitigation measures, or if the proposed mitigation measures are so undefined that it is impossible to evaluate their effectiveness. San Franciscans for Reasonable Growth v. City and County of San Francisco, 151 Cal.App.3d 61, 79 (1984). In addition, mitigation measures must be "fully enforceable." (Pub. Res. Code § 21081.6(b).) Thus, CEQA generally requires that all mitigation measures be adopted simultaneously with project approval. An agency may only defer formulation and adoption of detailed mitigation measures when the agency commits to adhering to specified performance standards that will ensure the avoidance of any significant effects, and lists potential, feasible means to achieve those performance standards. Sundstrom v. County of Mendocino, 202 Cal.App.3d 296, 306-7 (1988); Sacramento Old City Association v. City Council of Sacramento, 229 Cal.App.3d 1011, 1028 (1991); CEQA Guidelines § 15126.4(a)(1)(B).

Contrary to these core requirements of CEQA, the DEIR/S does not propose enforceable mitigation measures. Instead, it suggests "strategies" - possible ways to avoid potential environmental impacts - of which detailed descriptions and analyses are to be postponed until preparation of the project-level DEIR/S. For example, in the Air Quality section, the DEIR/S states:

Potential construction impacts and potential mitigation measures should all be addressed in subsequent analyses. Once an alternative and alignment is established a full construction analysis should be conducted. This analysis should quantify emissions from construction vehicles, excavation, worker trips, and other related construction activities. Mitigation measures, if required, should be detailed and a construction monitoring program, if required, should be established.

(DEIR/S, p. 3.3-33.) Another, typical example can be found in the Energy section: "If the proposed HST Alternative were implemented, the HST system would be designed to minimize electricity consumption. The design particulars would be developed at the project-level of analysis . . . ." (DEIR/S, p. 3.5-22.) And in the Biological Resources and Wetlands section, the following mitigation "strategy" is proposed for future study:

Avoidance of potential impacts may be achieved through project design changes to reduce the impact footprint or relocation of the sub-segments. For example, to avoid or minimize impacts in sensitive areas, alignment plans and profiles could be adjusted, or proposed structures could be constructed above grade or in tunnels. In addition,

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construction of wildlife underpasses, bridges, and/or large culverts, could be considered to facilitate known wildlife movement corridors.

(DEIR/S, pp. 3.15-30 to 3.15-31.)

The following is a non-exhaustive list of DEIR/S subject areas where mitigation measures are vague, unenforceable, and improperly deferred to a later date:

- Traffic. (DEIR/S, 3.1-24 ("Consultation and coordination with public transit services in order to encourage the provision of adequate bus feeder routes to serve proposed station areas could mitigate potential transit impacts."))
- Air quality. (DEIR/S, p. 3.3-33 ("The proposed HST system could be designed to use state-of-the-art, energy efficient equipment to minimize potential air pollution impacts associated with power used by the proposed HST system."))
- Noise and Vibration. (DEIR/S, p. 3.4-23 ("More detailed mitigation strategies for potential noise and vibration impacts would be developed in the next stage of environmental analysis""))
- Land Use. (DEIR/S, p. 3.7-26 ("Local land use plans and ordinances would be further considered in the selection of alignments and station locations."))
- Biological Resources. (DEIR/S, p. 3.15-31 ("Special mitigation needs would be considered in the future with the appropriate authorities that are responsible for regional mitigation (conservation) banks, HCPs, NCCPs, or special area management plans. Mitigation may include consideration of acquisition, preservation, or restoration of habitats, or relocation of sensitive species. Specific mitigation measures would be identified at the project level of environmental review."))
- Section 4(f) and 6(f) Resources. (DEIR/S, p. 3.16-12 ("Given the broad focus of analysis for this Program EIR/EIS, the primary goal for project-level analysis would be to identify Section 4(f) and 6(f) resources and potential impacts in greater detail, to identify the existence of potential prudent and feasible alternatives, and to identify and analyze potential mitigation measures."))

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The DEIR/S's failure to identify feasible mitigation measures renders the DEIR/S inadequate. In the absence of proposed mitigation measures that will, at the very least, achieve specific performance standards, the public and decisionmakers cannot evaluate the effectiveness and feasibility of the proposed mitigation, and the DEIR/S cannot conclude that the potentially significant impacts of the Project will, in fact, be mitigated.

Moreover, it does not appear that the agencies have committed themselves to carrying out any of the proposed "strategies." Further, the DEIR/S does not describe what would be required to be accomplished under these strategies and how the strategies would be monitored pursuant Public Resources Code section 21081.6(a)(1), which states that:

The public agency shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during project implementation.

For example, in the Traffic and Circulation section, the DEIR/S states: "California High Speed Rail Authority could participate in developing potential construction and operational mitigation measures in consultation with state, federal, regional, and local governments and affected transit agencies during project-level reviews." (DEIR/S, p. 3.1-23.) This measure does not involve a commitment on the part of the Authority to perform any particular action that would lessen or avoid a significant effect of the Project on the environment. Similarly, in the Agricultural section of the DEIR/S the following is suggested:

Consideration of potential mitigation such as protection or preservation of off-site lands to mitigate conversion of farmlands or acquiring easements, or payment of an in-lieu fee as mitigation mechanisms, would depend on the potentially considerable environmental impacts identified at specific locations, as assessed in a project-level document.

(DEIR/S, p. 3.8-18.) None of these are actually selected, described in any detail, or analyzed for effectiveness in addressing potentially significant environmental impacts.

The mitigation strategies throughout the DEIR/S represent suggestions for possible future areas of study and potential adoption, not effective and feasible measures that will reduce the environmental effects of the proposed Project. Therefore, the DEIR/S must be revised to include specific mitigation measures that can be assessed by the public, agencies and decisionmakers as to their effectiveness in mitigating the environmental harms associated with the Project.

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**II. THE DEIR/S IS NEARLY DEVOID OF MEANINGFUL ANALYSIS OF THE PROJECT'S SIGNIFICANT EFFECTS ON THE ENVIRONMENT.**

CEQA requires that an EIR be detailed, complete, and reflect a good faith effort at full disclosure. (CEQA Guidelines § 15151.) The DEIR/S should provide a sufficient degree of analysis to inform the public about the proposed project's adverse environmental effects and to allow decisionmakers to make decisions that intelligently take account of environmental consequences. (*Id.*) Consistent with this requirement, the information regarding the project's impacts must be "painstakingly ferreted out." Environmental Planning and Information Council of Western El Dorado County v. County of El Dorado, 131 Cal.App.3d 350, 357 (1982) (finding an EIR for a general plan amendment inadequate where the document did not make clear the effect on the physical environment).

Meaningful analysis of impacts effectuates one of CEQA's fundamental purposes: to "inform the public and its responsible officials of the environmental consequences of their decisions *before* they are made." Laurel Heights Improvement Association v. Regents of the University of California, 6 Cal.4th 1112, 1123 (1993) (Laurel Heights II) (emphasis in original). To accomplish this purpose, an EIR must contain facts *and* analysis, not just an agency's bare conclusions. Citizens of Goleta Valley v. Board of Supervisors, 52 Cal.3d 553, 568 (1990). In addition, an EIR's conclusions must be supported by substantial evidence. Laurel Heights I, 47 Cal.3d at 392-3.

As documented below, the DEIR/S's vague analysis of potentially significant environmental effects precludes a full and proper understanding of the Project's impacts.<sup>4</sup> Indeed, in most sections of the DEIR/S, it is impossible to determine whether and on what basis an impact is considered significant, less than significant, or would be reduced to a less-than-significant level following mitigation, or how the impact analysis is relates to the standard of significance.<sup>5</sup> Furthermore, the DEIR/S is almost entirely devoid of information that can be used to assess whether any particular corridor or station will have a greater or lesser effect on the environment than another.

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<sup>4</sup> Regrettably, the maps provided in the DEIR/S add little clarity to the analysis. The maps, on the whole, are at an extremely small scale, and the shading scheme attempting to distinguish differences is all but illegible.

<sup>5</sup> Table 7.3-1 does not satisfy CEQA's requirement that the EIR identify the significance of impacts before and after mitigation. (CEQA Guidelines § 15126.2.)

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**A. The DEIR/S Fails to Adequately Identify and Analyze the Project's Impacts on Biological Resources.**

As discussed in greater detail in the attached Renshaw letter, the DEIR/S fails to adequately describe the biological resources and wetlands present on the San Felipe Ranch, and does not disclose the potential impacts the Project could have on these resources. The ranch is of immense value as an undisturbed wildlife habitat for California red-legged frogs, California tiger salamander, western pond turtles, and burrowing owls. Herds of tule elk and pronghorn antelope have been reintroduced to the ranch. There are outstanding examples of valley oak woodlands, with heritage oak trees of great antiquity, sycamore woodlands, and valley needle grasslands. However, the DEIR/S is silent as to the potentially significant impacts the proposed Diablo Range alignments would have on these protected species and sensitive plant communities. As is documented in the Renshaw letter, all three of the proposed Diablo Range alignments will substantially adversely affect special-status species, jurisdictional waters, and wildlife corridors, but there is no informative discussion of these impacts in the DEIR/S nor are appropriate mitigation measures proposed. Moreover, there is no discussion of construction impacts on these biological resources or wetlands.

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In addition, the DEIR/S uses incomplete data to analyze and compare alignment options. The California Natural Diversity Data Base (CNDDDB) maps, upon which the DEIR/S relies, only show reported occurrences of special-status species and, thus, are heavily biased toward areas where site-specific environmental surveys have been required as part of development projects. Because many private lands and ranches, such as the San Felipe Ranch, have not been surveyed, the CNDDDB is likely to have few reported occurrences for the vast area affected by the Diablo Range alignments. Thus, when the DEIR/S merely uses a comparative count of the occurrences of special-status species in the database, this analysis is meaningless in determining the absolute sensitivity of a particular area and makes no distinctions based on the rarity or legal status of the species involved.

**B. The DEIR/S All But Ignores Construction Impacts.**

While the projected construction period for the Project is 10 years and construction will impact thousands of acres throughout the state, including construction in numerous state parks and open space areas, the DEIR/S makes only the most cursory of references to construction impacts. (DEIR/S, p. 7-2.) This lack of disclosure and analysis cannot legitimately be avoided under the guise of a program-level DEIR/S. The types of construction impacts associated with the proposed Project are knowable at this time and must be disclosed and analyzed in the DEIR/S.

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A revised DEIR/S must contain, at a minimum, a discussion of the following construction related impacts:<sup>6</sup>

- A description of the newly created access roads running through undeveloped open space and parklands, the associated impacts of creating such roadways, and feasible mitigation measures to reduce these impacts.
- Identification of the magnitude of staging areas for construction equipment and supplies, and what mitigation measures will be implemented to reduce environmental impacts associated with these areas.
- A comprehensive discussion of all impacts associated with tunneling, including above-ground disturbances required as part of the geotechnical investigations needed to design and locate the tunnels as well as the tunneling process; use of explosives associated with blasting; effects of tunneling on hydrological systems; and water use and water diversion issues related to tunneling.

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**C. The DEIR/S Fails to Adequately Identify and Analyze the Project's Significant Traffic Impacts.**

While the DEIR/S provides generalized information about LOS and V/C around individual stations *after* the HST system is operational, it completely ignores the substantial effects to surrounding roadways *during* the construction of stations, crossings, and railways. Given the 10-year construction period for the Project, these impacts would be significant. In addition, the DEIR/S fails to assess construction phase impacts to rural roadways and the effects of building access roads in parklands and other previously undeveloped areas.

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The DEIR/S should be revised to present a description of these construction based impacts. At a minimum it should describe the potential traffic and safety impacts associated with heavy equipment, the temporary detours and delays to be experienced near construction sites, and estimate the length of the proposed construction for each type of station and/or crossing in order to assess the duration of construction effects. Additionally, the revised DEIR/S should contain an analysis of the impacts associated with building roads in previously roadless or less developed areas. Further, the revised document should contain feasible mitigation measures to address these impacts.

The Traffic and Circulation section is also flawed in that it presents only the most cursory and vague of mitigation "strategies," and, as discussed above, improperly defers

<sup>6</sup> This is in addition to the construction impacts identified throughout this letter.

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formulation of detailed mitigation measures until the project-level review process. This approach to mitigation is legally inadequate. Feasible mitigation measures must be identified and their effects analyzed.

Finally, the DEIR/S fails to present any significance determination or analysis concerning the environmental impacts related to traffic. There is no description or discussion of whether an impact will be significant, less than significant, or can be lessened through adoption of mitigation measures. With several proposed alignments running through parklands or other previously undeveloped or little developed areas, road building and construction traffic will have major effects. A revised DEIR/S must identify the significant impacts, and then present and analyze appropriate mitigation measures.

**D. The DEIR/S Fails to Adequately Identify and Analyze the Project’s Air Quality Impacts.**

The DEIR/S completely fails to identify and analyze the air quality impacts resulting from Project construction; instead, deferring this study until project-level review. (DEIR/S, p. 3.3-33.) For example, diesel exhaust, which would be produced by construction equipment, contains approximately 40 compounds that are listed by the U.S. Environmental Protection Agency (“EPA”) as hazardous air pollutants and by the California Air Resources Board as toxic air contaminants. Additionally, particulate matter contained in diesel exhaust also poses a serious public health concern. However, nowhere in the DEIR/S are these construction-related air quality impacts of the proposed Project discussed or analyzed. A revised DEIR/S should identify and analyze the increase in diesel emissions and evaluate the public health impacts from construction equipment exhaust, as well as other construction related air quality impacts. Additionally, adequate mitigation measures should be proposed.

In addition, the DEIR/S fails to identify or analyze the impacts resulting from PM<sub>2.5</sub> emissions. Substantial information has been published demonstrating that fine particulate matter causes significant health impacts at concentrations that are much lower than existing air quality standards. The DEIR/S does not evaluate whether the construction of the Project would cause or contribute to exceedances of these new standards or result in health impacts to local residents from the increase in particulate matter.

In addition, as in the Traffic section, the DEIR/S impermissibly defers the adoption of feasible mitigation measures until the project-level review stage. (DEIR, p. 3.3-33.) Mitigation measures must be identified for each significant impact identified in the EIR, and such measures may not be deferred to a future study. (CEQA Guidelines § 15126.4(a)(1)(B).) Because the DEIR/S fails to present specific mitigation measures and analyze them in the context of the identified air quality impacts, the DEIR/S is legally inadequate and must be revised.

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**E. The DEIR/S Fails to Adequately Identify and Analyze the Project’s Noise and Vibration Impacts.**

The DEIR/S entirely ignores the noise impacts associated with construction of the HST system. It presents no information whatsoever about anticipated noise levels, their duration and effects upon sensitive receptors—both human and non-human. Noise from construction equipment, tunneling/blasting, and pile-driving must be disclosed, analyzed, and mitigation measures proposed.

In addition, the DEIR/S fails to analyze the impacts and effects from the noise produced by train operation on wildlife, and, specifically, on migratory birds. This information is not presented in either the noise or the biological resources section of the DEIR/S. The DEIR/S rates the HST as having a low potential noise impact through the rural Central Valley area, but this assessment is based on the fact that very few humans will hear the train running at its maximum operating speed. (DEIR/S 3.4-18.) This assessment in no way accounts for the impacts of noise, vibration, and air movement on wildlife and migrating birds.

**F. The DEIR/S Fails to Adequately Identify and Analyze the Project’s Hazardous Materials and Solid Waste Impacts.**

The DEIR/S fails to include any discussion of the hazardous materials used or hazardous waste produced during the construction, operation, or maintenance of the Project. The DEIR/S merely describes the potential for proposed stations or alignments to disturb existing hazardous waste sites which might result in exposure. (DEIR/S, p. 3.11-2.) However, the DEIR/S must provide information regarding the types of hazardous materials that will be utilized in building the stations and tracks, what hazardous waste will be generated during this process, how workers, the public, and the environment will be protected from exposure, and what disposal methods will be used. Further, the DEIR/S fails to disclose what types of hazardous materials, if any, will be used during the operation and maintenance of the HST system. Will herbicides be sprayed on the tracks? What lubricants will be used on the trains themselves? What will be the potential for exposure to workers, contamination of waterways, and effects on wildlife? Appropriate mitigation measures also must be described.

Additionally, the DEIR/S fails to discuss the generation of solid waste during the construction phase of the Project. Enormous amounts of soil, rock, and other debris will be produced during the tunneling process, often in remote areas. Additional waste will be generated during the excavating, grading, and filling processes associated with laying track. A varied waste stream will be created during the construction of stations. None of the components of these potential waste streams is discussed, nor are any disposal and/or recycling strategies for this material. Such an analysis must be included in a revised and recirculated DEIR/S.

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**G. The DEIR/S Fails to Adequately Identify and Analyze the Project’s Cumulative Impacts.**

The DEIR/S fails to provide an analysis of the cumulative impacts of this Project together with other projects in the area, as CEQA requires. The CEQA Guidelines define cumulative impacts as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.” (CEQA Guidelines § 15355.) “[I]ndividual effects may be changes resulting from a single project or a number of separate projects.” (*Id.*) A legally adequate “cumulative impacts analysis” views a particular project over time and in conjunction with other related past, present, and reasonably foreseeable future projects whose impacts might compound or interrelate with those of the project at hand. *Kings County Farm Bureau v. City of Hanford*, 221 Cal.App.3d 692, 721 (1990).

The cumulative impacts concept recognizes that “[t]he full environmental impact of a proposed . . . action cannot be gauged in a vacuum.” *Whitman v. Board of Supervisors*, 88 Cal.App.3d 397, 408 (1979). The requirement to provide a cumulative analysis of a project’s regional impacts is considered a “vital provision” of CEQA. *Bozung*, 13 Cal.3d at 283.

While the DEIR/S includes a list of transportation-related projects to consider in the cumulative impacts analysis (DEIR/S, App. 3.17-A), aside from this list no analysis of cumulative impacts is presented. The DEIR/S fails entirely to identify the magnitude and severity, or the locations at which such cumulative impacts will occur, or the impacts of the HST in combination with the listed projects. This cursory approach is wholly insufficient under CEQA. And, while the DEIR/S admits that the HST will contribute to cumulative impacts in a number of impact areas, it again fails to provide any mitigation measures to address these potentially significant environmental impacts. Such a discussion is required and must be included in a revised DEIR/S.

**H. The DEIR/S Fails to Identify an Environmentally Superior Alternative.**

The DEIR/S conducts a comparison of environmental impacts caused by the No Project, the Modal, and the HST alternatives, and concludes that the HST alternative is the preferred system alternative (DEIR/S, p. S-8). It fails, however, to indicate the environmentally superior alternative alignment and station locations for the HST Project. (DEIR/S, pp. S-16, S-18) Because the DEIR/S is intended to be used in “selecting a preferred corridor and station locations” (DEIR/S, pp. S-16, S-18), the DEIR/S must include sufficient information about each alternative route and station location to allow the public and decisionmakers to make a meaningful evaluation and comparison of the options. (CEQA Guidelines § 15126.6(e)(2).) Such an analysis must be included in a revised and recirculated DEIR/S.

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**III. THE ANALYSIS OF SECTION 4(f) AND SECTION 6(f) RESOURCES DOES NOT COMPLY WITH FEDERAL LAW.**

In enacting Section 4(f) of the Department of Transportation Act of 1966, Congress declared that “special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands.” (49 U.S.C. § 303.) As a means of realizing these broad goals, Congress specified two fundamental substantive mandates under the Act: (1) federal agencies are prohibited from approving transportation projects that require use of a public park or recreation area unless there is no feasible and prudent alternatives to using the parkland; and (2) transportation projects which use a public park or recreation area are required to include all possible planning to minimize harm to the parkland. (49 U.S.C. § 303(c).) The United States Supreme Court has held that “only the most unusual situations are exempted” from the 4(f) mandate. *Citizens to Preserve Overton Park v. Volpe*, 401 U.S. 402, 411 (1971). These situations include “truly unusual factors” demonstrating that alternatives to the proposed action present “unique problems” or require costs of community disruption of “extraordinary magnitudes.” *Id.* at 411, 413. The Court made clear that choosing a siting alternative that requires the use of a public park or recreation area simply because it is the least expensive or most efficient choice does not meet the rigorous mandate of the provision. The Ninth Circuit Court of Appeals has subsequently interpreted this exception quite narrowly, holding that an alternative that required dislocation of several residences and businesses and cost millions of additional dollars did not justify an exception to Section 4(f). *Stop H-3 Association v. Dole*, 740 F.3d 1442, 1451-2 (9th Cir. 1984).

The enormous impacts that the proposed HST alignments would have on public parklands directly contravenes the goals and directives of Section 4(f). The DEIR/S admits that, depending upon the selected alignment, the HST could have impacts on between 58 and 93 parkland resources. (DEIR/S, p. 3.17-10.) Indeed, the Diablo Range alignments will traverse Henry W. Coe State Park, including the Orestimba Wilderness portion of that park, as well as other preserved open space. Nevertheless, the DEIR/S only discloses that the Bay Area to Central Valley portion of the HST Alternative “could impact between three and eight Section 4(f) and 6(f) resources” (DEIR/S, p. 3.16-7), without even identifying (with the exception of Henry W. Coe State Park) or assessing the impacts on these resources. The DEIR/S is similarly uninformative with regard to impacts on historical resources

Nowhere in the document, moreover, is there a discussion of the “special effort” or assessment of “prudent and feasible alternatives” required by Section 4(f). Indeed the DEIR/S asserts that “[a]t this stage, it is not practical to study and measure the severity of each potential impact identified.” (DEIR/S, p. 3.16-2.) Instead, this critical analysis “to identify Section 4(f) and 6(f) resources and potential prudent and feasible alternatives, and to identify and analyze potential mitigation measures” is deferred to future project-level review. (*Id.*) As the Supreme Court made clear in *Overton Park*, the essential endeavor of a lawful and legitimate 4(f)

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evaluation is to choose alternative routes which avoid 4(f) resources when such routes are feasible and prudent, not to evaluate the possibility of such avoidance in already determined corridors. Study and disclosure of these crucial and legally necessary issues must be addressed at this stage of Project approval and not delayed until after the stations and alignments have been selected.

Section 6(f) of the Land and Water Conservation Fund Act ("LWCFA") prohibits recreational land acquired or developed through LWCPA grants to be converted to non-recreational uses without Department of the Interior (DOI) approval. Such approval is conditional upon the guarantee that such land will be replaced by property of equal monetary value, location, and usefulness. When such conversions are for transportation projects, such conditions apply. Here, the DEIR/S also postpones this critical and legally required analysis until the project-level review. (DEIR/S, p. 3.16-13.) Deferral of this consideration until after the stations and alignments have been chosen is both inconsistent and contrary to the intention of Section 6(f).

**IV. THE DEIR/S MUST BE REWRITTEN AND RECIRCULATED.**

"Public participation is an essential part of the CEQA process." (CEQA Guidelines § 15201.) The requirement for public review provides for "the strongest assurance of the adequacy of the EIR." Sutter Sensible Planning, Inc. v. Board of Supervisors, 122 Cal.App.3d 813, 823 (1981). The purpose of the public review process is to demonstrate that the agency has, in fact, analyzed the ecological impacts of its action, that appropriate alternatives and mitigation measures have been considered, and that input and information has been received from a variety of sources and expertise. Schoen v. Department of Forestry and Fire Protection 58 Cal.App.4th 556, 572-3 (1997). "Public review permits accountability and informed self-government." Id. at 573 (citation omitted).

When, however, an EIR is "so fundamentally and basically inadequate and conclusory in nature that public comment on the draft [is] in effect meaningless" then recirculation of a redrafted EIR is required. Laurel Heights II, 6 Cal.4th at 1130 (citing Mountain Lion Coalition v. Fish & Game Commission, 214 Cal.App.3d 1043 (1989)); CEQA Guidelines § 15088.5(a)(4). Where it is impossible for the public to fully assess the environmental impacts associated with the proposed project, the DEIR/S must be rewritten and recirculated. Mountain Lion Coalition, 214 Cal.App.3d at 1051. Here the DEIR/S is "woefully inadequate" in disclosing the numerous environmental consequences of the proposed Project and, as such, "deprived the public of its opportunity to comment[.]" Laurel Heights II, 6 Cal.4th at 1131.

CEQA also requires recirculation of a draft EIR "[w]hen significant new information is added to an environmental impact report" after public review and comment on the earlier draft EIR. (Pub. Res. Code § 21092.1; CEQA Guidelines § 15088.5(a).) The opportunity

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for meaningful public review of significant new information is essential "to test, assess, and evaluate the data and make an informed judgment as to the validity of the conclusions to be drawn therefrom." Sutter Sensible Planning, Inc., 122 Cal.App.3d at 822; City of San Jose v. Great Oaks Water Co., 192 Cal.App.3d 1005, 1017 (1987). An agency cannot simply release a draft report "that hedges on important environmental issues while deferring a more detailed analysis to the final [EIR] that is insulated from public review." Mountain Lion Coalition, 214 Cal.App.3d at 1052.

As described at length in this letter, in order to adequately assess the proposed Project's environmental impacts, and to identify effective mitigation measures and alternatives capable of minimizing the Project's significant impacts, extensive new information and analysis will need to be added to the DEIR/S. CEQA requires that the public have a meaningful opportunity to review and comment upon this significant new information in the form of a recirculated draft DEIR.

**CONCLUSION**

For the foregoing reasons, the San Felipe Ranch urges the agencies to delay further consideration of the High Speed Rail Project until after the agencies prepare and recirculate a revised DEIR/S that fully complies with CEQA, the CEQA Guidelines, and NEPA.

On behalf of the San Felipe Ranch, we request, pursuant to Public Resources Code section 21092.2, notice of any and all CEQA environmental documents pertaining to this Project. (Such documents include: (a) notices of preparation (NOP), (b) notices of exemption, (c) initial studies, (d) negative declarations, (e) draft and/or final environmental impact reports (DEIR/FEIR), and (f) notices of determination (NOD). This remains a standing request under section 21092.2.)

Very truly yours,

SHUTE, MIHALY & WEINBERGER LLP  
ELLEN J. GARBER  
ROBIN A. SALSBURG

By Ellen J. Garber

Attachment: Diane Renshaw letter  
cc: Robert Stephens  
Ralph and Barbara Jacobsen

[P:\PACK\ARL\JG\03\2 (DEIR comment ltr) WPD]

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cont.



U.S. Department  
of Transportation  
**Federal Railroad  
Administration**

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August 30, 2004

Mr. Dan Leavitt  
 California High Speed Rail Authority  
 925 L Street, Suite 1425  
 Sacramento, CA 95814

Subject: Comments on the California High-Speed Train Draft Program Environmental Impact Report/Environmental Impact Statement (DEIR/EIS)

Dear Mr. Leavitt:

I am writing on behalf of my client, the San Felipe Ranch, with comments on the California High-Speed Train Draft Program Environmental Impact Report/Environmental Impact Statement (DEIR/EIS). It is my opinion that this DEIR/EIS does not meet CEQA requirements of full disclosure regarding the potential impacts on biological resources and wetlands, particularly those on the San Felipe Ranch. Further, the DEIR/EIS uses information on biological resources and wetlands in an inappropriate and misleading manner, and as a consequence understates the potential impacts that would result from the selection and development of all three options for the Diablo Direct Alignment. All three of the proposed Diablo Direct Alignment options cross the lands of the San Felipe Ranch.

I am a consulting ecologist and principal of my own firm, and have over 28 years experience working in the San Francisco Bay area and elsewhere throughout California. My professional expertise includes sensitive species survey and management, grassland and grazing issues, jurisdictional wetland determinations, and familiarity with state and federal requirements and CEQA. I am equally experienced as a wildlife ecologist and a vegetation specialist, and I am a certified by the Ecological Society of America as a Senior Ecologist.

While my comments here apply most specifically to the San Felipe Ranch, I am familiar enough with the landscape and ranchland to the east along the remainder of the Diablo Direct Alignments to assert that the same types of considerations and impacts that will affect the San Felipe Ranch are also to be expected on these lands to the east. Because my familiarity with CEQA is greater than my familiarity with NEPA my comments are apply primarily to the former.

**INTRODUCTION**

The San Felipe Ranch is situated in the Hamilton Range, a part of the Diablo Range of the inner Coast Range. Downtown San Jose lies roughly 20 miles to the northwest, and the Coyote Valley is roughly 10 miles to the west and southwest. To the north, east, and south of the San Felipe Ranch are approximately 1,900 square miles of remote, undeveloped public and private lands that stretch from just south of the Livermore – Altamont Pass area on the north to the Pacheco Pass on the south.

Much of this open terrain consists of large ranches, many of which date back to the Spanish land grant days. The San Felipe Ranch is on the western side of this rugged and relatively wild landscape, flanked by Henry W. Coe State Park on the south and southwest, Joseph Grant County Park and Lick Observatory on Mt. Hamilton on the north, and private ranchland on the east and elsewhere. Because it is situated so close to a major urban center, this large expanse of open land on the Hamilton Range is a public treasure of immense value as undisturbed wildlife habitat, as a relatively intact and interconnected ecological unit, and as a working landscape.

The San Felipe Ranch comprises approximately 28,700 acres, almost 45 square miles, of steep, rugged terrain, punctuated with a number of open valleys and drained by a network of seasonal and perennial watercourses. Vegetation on the ranch is generally representative of the Mt. Hamilton Range, and includes mixed oak woodland, annual grassland, valley needlegrass grassland\*, sycamore alluvial woodland\*, blue oak woodland, chamise chaparral, coastal scrub, and stands of grey pine and ponderosa pine. There are outstanding examples of valley oak woodland\* in Horse Valley on the western part of the Ranch; some of the trees in this valley oak woodland are estimated to be 500 years old, and many other individual trees on the ranch qualify as heritage trees (Santa Clara County, §C16-12, 2004).

The ranch is well-supplied with water from perennial streams and seasonal watercourses, which also support valuable riparian habitat\* and form an interconnected network of corridors that facilitate wildlife movement inside and outside the ranch. There are native fish in the streams on the San Felipe Ranch, including rainbow trout and California roach. Throughout the ranch there is a complex pattern of seeps and springs\*, some of which are evident only as patches of *Juncus* and *Carex* on a hillside, others of which form more extensive wetlands\* or have been developed as permanent and seasonal ponds (habitats that meet the definition of a natural community of concern as listed by the California Department of Fish and Game Natural Diversity Database [CNDDDB] are marked with an \*).

At present most of the ranch is grazed by cattle, managed under a program that maintains open grassland, keeps weeds under control, and is compatible with a diversity of native plant communities, including bunchgrasses, spring wildflowers, and other indigenous forbs. Herds of tule elk and pronghorn antelope have been reintroduced to the ranch and are now established in the area (Schauss, pers. comm.). Reports and lists prepared for the Ranch by resource experts document the presence a wide variety of wildlife, including white-tailed kite and golden eagle (California fully-protected species), California tiger salamander and California red-legged frog (Federal Threatened species), burrowing owls and western pond turtles (California Species of Concern) and a wide variety of neotropical migratory songbirds,

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waterfowl, and raptors, protected under state and federal statutes. Some but by no means all of these occurrences have been reported to the CNDDDB.

### IMPACTS TO BIOLOGICAL RESOURCES AT THE SAN FELIPE RANCH

There are three proposed options for the Diablo Range Direct alignment: the Northern Alignment Option, the Tunnel Under Park Option, and the Minimize Tunnel Option. All three cut through the middle of the San Felipe Ranch, and all have potentially significant impacts that are not adequately described or mitigated in the DEIR/EIS.

#### Northern Alignment Option

This option crosses a total of 7.4 miles of San Felipe Ranch lands; 1.4 miles would be at grade, and 6 miles would be in two tunnels. From the western boundary of the ranch, the proposed alignment would eliminate roughly 0.5 miles of San Felipe Road, cross a seasonal watercourse that is a Corps of Engineers jurisdictional water of the U.S., and impact the historic Highland School building and two ranch reservoirs. This proposed alignment is less than 2 miles from the functional center of the ranch where ranch buildings and residences are located, and construction at this location as shown in the DEIR/EIS would block the primary entrance into San Felipe Ranch. East of the historic school the at-grade alignment is shown on the DEIR/EIS maps as traversing a steep wooded hillside with a 200-foot elevation change; construction of the at-grade alignment at this location would almost certainly require a deep cut, with associated earth-moving concerns and potential erosion and sedimentation impacts. Removal of heritage trees requires a separate application to the Santa Clara County Heritage Commission, site-specific study and evaluation, and a public hearing. Removal of heritage trees is subject to approval by the Heritage Commission (Santa Clara County, 2004).

Next, the proposed alignment would enter a short section (roughly 0.5 miles) of tunnel, cutting off a secondary ranch road. The western entrance to the tunnel is near the top of a ridgeline, roughly 220 feet above the stream crossing by the Highland School; the placement of the proposed tunnel is not at all responsive to the topography of the local setting and appears to be arbitrary.

The end of the short tunnel would be roughly 200 feet lower than the entrance; the next at-grade segment would require two crossings of San Felipe Creek, a perennial stream lined with sycamore woodland, a sensitive natural plant community. California red-legged frogs (CRLF)(Federal Threatened species) and California tiger salamanders (CTS)( Federal Threatened species) have been reported from this drainage within two miles of this crossing (CNDDDB, 2004), and should be assumed to be present at and impacted by the crossings. The alignment continues at grade for roughly 0.6 miles, cuts across another ranch road, and crosses a tributary stream corridor, also lined with sycamore and willow and also potential habitat for CRLF and CTS. From this stream valley the at-grade segment cuts sharply up a wooded hillside. The DEIR/EIS maps show this segment climbing approximately 500 vertical feet over a linear distance of 800 feet (a very steep 1.6:1 grade), at the top of this climb entering another tunnel near the northern end of Henderson Ridge.

From Henderson Ridge the tunnel continues under the Ranch another 5 miles, passing under the eastern Ranch boundary north of Horse Valley. In between Henderson Ridge and Horse Valley are at least two watercourses, and CRLF and WPT have been identified at ponds in the vicinity (Schauss, pers. comm., Renshaw, pers. obs.). Horse Valley and the nearby hillsides are another location where sensitive species are known to occur (CRLF, Western Pond Turtle, CTS, valley oak woodland) (Schauss, pers. comm., Renshaw, pers. obs.).

Impacts to sensitive species, sycamore riparian woodland, and jurisdictional waters are all considered significant under CEQA, but none of these impact types are addressed in an informative way in the DEIR/EIS, and no appropriate mitigation measures are proposed. The placement of the tunnels and the at-grade sections of the alignments seem to be arbitrary and not responsive to local topography or the presence of reported and mapped sensitive species (CNDDDB, 2004). The DEIR/EIS assertion that the tunnels will avoid impacts is not supported by the proposed route maps published in the DEIR/EIS, and impacts associated with the at-grade sections (fill in wetlands, fencing, access roads, fragmentation of habitat, blocked animal movement, loss and disturbance of sensitive species and natural communities) are ignored.

#### Tunnel Under Park Option

The Tunnel Under Park Option crosses San Felipe Ranch in roughly the middle of the property, just south of Henderson Ridge. The portion of the alignment within the Ranch boundaries is roughly 4.6 miles long, with 3.3 miles of tunnel and 1.3 miles at grade. This alignment crosses into rough terrain on San Felipe Ranch on the south flank of Henderson Ridge, crosses a seasonal stream, and follows a ridgeline parallel to Carlin Canyon for roughly 0.75 miles. At that point there is a short (0.3 mile) length of tunnel where the alignment passes under a north-south trending ridge, followed by an at-grade section across several hundred feet of steep elevation change and a stream crossing. A shed tule elk antler was found along this ridgeline on 8-17-2004 (Renshaw, pers. obs.). The alignment enters a second tunnel just before it crosses Carlin Canyon, and continues to the east for almost another mile before leaving the Ranch property. As with the Northern Alignment Option, the placement of the at-grade segment on the steep side slope and across streams in Carlin Canyon is not responsive to the local topography, and does not appear to be oriented so as to avoid impacts.

Carlin Canyon is an important watercourse and east-west movement corridor for wildlife on the San Felipe Ranch, and would be impacted by both the at-grade section of the alignment at this location and by the second tunnel entrance. Construction of the at-grade segments and the tunnel entrances in the indicated locations would require substantial cuts and fills on a steep hillside location, with potentially significant impacts to the jurisdictional waters in Carlin Canyon from erosion and sedimentation. The engineering and geological feasibility of this alignment location is not discussed in the DEIR/EIS. Fencing along the at-grade section would disrupt wildlife movements, but there is no description in the DEIR/EIS of what the fencing would look like, or how effective it would be in excluding wildlife from the high-speed train path.

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### Minimize Tunnel Option

This third alignment is 4.2 miles long, located just south of the previously discussed Tunnel Under Park alignment, but it would be at a slightly lower elevation closer to the watercourse at the bottom of Carlin Canyon. From the western edge of the Ranch there would be over 1 mile constructed at-grade in the deep canyon. Beyond this point the alignment would be contained in a tunnel and would continue underground for approximately 3 miles until it exited the Ranch. Impacts associated with constructing and operating the high-speed rail line along this alignment would be significant and similar to those discussed above under the Tunnel Under Park option.

There are no reports for sensitive species in the immediate vicinity of Carlin Canyon, although CRLF have been reported nearby. Lack of reported occurrences is likely due to the absence of surveys in this area, as there is good suitable habitat in and around the canyon for a variety of sensitive plant and animal species. The watercourse at the bottom of Carlin Canyon and its tributaries are jurisdictional waters of the U. S.; disturbance of these streams is regulated by the U.S. Army Corps of Engineers and by California Department of Fish and Game. While most of the other major valleys on the San Felipe Ranch and in this part of the Hamilton Range trend north-south, this deeply-incised wooded canyon, flanked by spectacular rock outcroppings studded with Native American bedrock mortars (Stephens, 1995), runs east-west, providing an important cross-connectivity link for wildlife movement. The minimal mitigation "strategies" proposed in the DEIR/EIS include tunnels, underpasses, and culverts to move animals across the alignment barrier, but these measures would not mitigate blockage and disruption of movement along the linear corridor.

### DEIR/EIS ANALYSIS OF IMPACTS

Section 3.15.4 of the DEIR/EIS compares the potential impacts of the various alternatives on biological and wetland/water resources. However, this comparative analysis is based on incomplete information, and the DEIR/EIS conclusions are seriously flawed in several important regards. As an example, on p. 3.15-21, the DEIR/EIS concludes that "...the HST Alternative would potentially affect fewer special-status species than the Modal Alternative (24 to 38 species for the proposed HST Alternative compared to 80 species for the Modal Alternative), because of proposed tunneling in a sensitive part of the region" (added emphasis is mine). Table 3.15-1 summarizes these "potential impacts," presenting special status species numbers, acres of sensitive vegetation, and hectares of wetlands as if they represent reliable quantitative data, without noting that these numbers are derived from data with major gaps and limitations.

CEQA requires that, among other things, an "...EIR serves not only to protect the environment but also to demonstrate to the public that it is being protected [and that] the EIR is to demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological implications of its action" (CEQA Guidelines, §15003). CEQA does not require technical perfection in an EIR, but rather adequacy, completeness, and a good-faith effort at full disclosure. This DEIR/EIS fails to meet that minimal standard.

### Incomplete data are used to analyze and compare alignment options

First, the DEIR/EIS analysis relies on counts of special-status species taken from California Natural Diversity Data Base (CNDDB) mapping. These maps show only reported occurrences, and frequently are record-heavy in areas where site-specific environmental surveys have been required as part of development projects. Typically, private lands and ranches in the area have not been surveyed by resource experts, or the owners keep wildlife and rare plant information confidential. As a consequence, the large tracts of private land that comprise almost the entire Diablo Range Direct Alignment footprint are likely to have no or few reported occurrences at the CNDDB. All CNDDB data that are made available by California Department of Fish and Game (CDFG) are accompanied with the warning that CNDDB is a positive sighting data base and that the data sets cannot be considered complete for all sensitive species that might occur in a given area. Because the number of special-status species in the CNDDB is a function of reporting activity and not a definitive indicator of the presence of sensitive species or their habitat, using a comparative count of these special-status species occurrences is meaningless in determining absolute sensitivity, and its use to determine a higher or lower level of impact is inaccurate and misleading. Further, the numerical comparison makes no distinction between the rarity or legal status of the species involved, giving equal weight to highly sensitive and regulated Federal Threatened or Endangered species that would require a Section 7 take permit, California fully-protected species (no take permitted at all), California Species of Concern (no specific protective code or ordinance, but conservation is of concern to CDFG), or a California Native Plant Society List 3 species (a watch list only; no legal protections).

Data on hectares of sensitive vegetation were derived from California GAP analysis maps, and hectares and linear feet of jurisdictional waters and wetlands were taken from NWI maps, both of which are coarse-grained and not guaranteed to show sensitive resources at a fine scale. Furthermore, the NWI maps for the four 7.5' quadrangles that include the San Felipe Ranch (Morgan Hill, Isabel Valley, Mt. Sizer, and Lick Observatory) were not available and were excluded from the tabulation of hectares of wetland and linear feet of waters. Absence of data on wetlands, waters, or sensitive vegetation cannot be assumed to indicate an absence of the resource, but are more likely to indicate a gap in the baseline data. Because the data presented in the DEIR/EIS on vegetation, wetland, and jurisdictional waters lack sufficient detail to analyze the actual potential impacts of the proposed options, use of these data to compare the various alignment options is meaningless and misleading.

### Tunneling will have undescribed and unanalyzed impacts on sensitive resources

The second error in the DEIR/EIS conclusion is that the proposed tunneling will be impact-free, and that sensitive resources along tunneled segments of the alignment will not be adversely affected. There is no information presented in the DEIR/EIS that supports this assumption. The technical study on tunnels (Parsons Brinkerhoff, 2004) reports the conclusions of a conference on feasible techniques and makes recommendations regarding tunnel configuration. None of these recommendations are presented as part of the project

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description, however, and there is no good discussion as to what impacts the tunnel construction would potentially have.

Potential impacts associated with tunnels are likely to include construction of access roads for preconstruction survey and geological testing; construction noise, dust, and lights; staging and stockpiling areas, fuel containment areas; and the need to build new access roads to reach the tunneled areas, with associated road kill, wetland and watercourse fill, and disturbance of nesting and breeding wildlife, but these impacts are neither defined nor described in the DEIR/EIS in any way.

In association with the tunnels are aerial structures proposed at approximately Station 43+000 on the Northern Alignment and at Station 29+000 on the Minimize Tunnel option. While neither of these bridges is on the San Felipe Ranch, both locations are in the middle of other sensitive, undeveloped open space lands with no existing road access. There is no description of these bridges in the DEIR/EIS, nor is there discussion of how they would be built, how their locations were chosen, and no discussion of any sort of impacts that might be associated with their construction and on-going maintenance of the aerial structures and their necessary access roadways.

The feasibility study (Parsons Brinkerhoff, 2004) recommends using a combination of tunnel-boring machines and drill-and-blast to construct the long tunnels across the Diablo Range alignment. The assumption is made that where the alignment is in an underground tunnel, impacts to sensitive resources on the surface along the alignment will be avoided. Where tunneling is done without disturbing the overlying surface this may in part be a valid assumption, but there is no discussion or consideration of how construction requirements will be accomplished, and what potential impacts may occur at the tunnel entrances. It will be at the tunnel entrances and exits where the large amounts of excavated material will be removed and transported to unknown locations for deposition or use as fill. Tunneling through bedrock in these mountains is likely to intersect with existing groundwater. While the tunnel may be protected from the water seeping in, there is no guarantee that subsurface disturbance of seeps and springs will not have a deleterious impact on these aquatic resources, adversely affecting surface flows and known CTS, CRLF, and WPT habitat, disrupting springs and seeps (all are natural communities of concern), and disrupting water supplies for resident wildlife and cattle populations.

**Tunnel through sensitive areas is not continuous; approximately half the length is at-grade**

A third flaw in the assumption that by tunneling the Diablo Direct options will avoid impacts to a very sensitive part of the region is that the tunnel segment proposed for all three options is not continuous, and in fact contains almost as much at-grade track as there is tunneled track. At-grade segments appear to be located largely in sensitive areas (streams, wetlands), although this is difficult to determine precisely with the DEIR/EIS description and maps. At-grade segments will almost certainly require placement of fill, fencing to exclude wildlife, access roads, and other accessory activities, although the DEIR/EIS fails to describe this important aspect of the project.

**All three Diablo Range Direct options will impact undisturbed open lands with regionally significant wildlife habitat value, and will disrupt wildlife movement corridors within and between those lands**

The DEIR/EIS concludes that the proposed tunneling in a sensitive part of the region will avoid or minimize impacts, but fails to discuss the fact that all three options are proposed for an intact, undisturbed landscape with biological values that are of state-wide significance. Almost 1,900 square miles of oak woodland, grassland, and other native habitats that stretch from just north of Mount Hamilton and extend to near Highway 152 on the south have been earmarked as high-priority for acquisition and protection by the Mount Hamilton Project, a public interest coalition that includes the Nature Conservancy, the Santa Clara County Open Space Authority, Land Trust for Santa Clara County, Silicon Valley Conservation Council, Committee for Green Foothills, Greenbelt Alliance, Santa Clara Valley Water District, California Department of Parks and Recreation (Henry Coe State Park), California Department of Fish and Game, California Wildlife Conservation Board, East Bay Regional Park District, San Francisco Water Department, University of California, Santa Clara County, City of San Jose, Santa Clara Valley Transportation Authority, and the Santa Clara County Parks District. The rich resources of these lands are well-documented in the public record. All three proposed Diablo Range Direct options cut across the heart of this area, yet no mention is made in the DEIR/EIS of the inherent biological values of the area, or the potential conflict with those significant biological resources or with the established public interest in these lands.

There is a large body of scientific literature on the subjects of landscape continuity, values of continuous landscape units, habitat fragmentation, and the importance of maintaining connectivity between and among habitats, but none of it is referenced in the DEIR/EIS. While the DEIR/EIS does state that it referred to the Missing Linkages report (California Wilderness Coalition, 2000) it fails to mention that there are high-priority and medium-priority corridors identified by the report that would be affected by any and all of the Diablo Range Direct options.

Impacts associated with disruption of connectivity and fragmentation of habitat are not discussed at all, even though this is an area of continuing research and interest to groups as diverse as the Federal Highway Administration and the National Academy of Sciences (Tewksbury, *et al.*, 2002). There is nothing listed in the references used in the preparation of the DEIR/EIS to suggest that the report preparers even considered the topic.

**Impacts to grazing lands are not evaluated, even though these ranchlands preserve valuable biological resources**

Grazing lands are not included in the DEIR/EIS discussion and analysis of Agricultural Lands (Section 3.8), even though grazing land is specifically mentioned as an agricultural resource category in the State of California Department of Conservation Farmland Mapping and Monitoring Program (FMMP). Section 65570 of the Government Code defines those resource categories as follows:

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"Category of agricultural land" means prime farmland, farmland of statewide importance, unique farmland, and farmland of local importance, as defined pursuant to United States Department of Agriculture land inventory and monitoring criteria, as modified for California, and grazing land. "Grazing land" means land on which the existing vegetation, whether grown naturally or through management, is suitable for grazing or browsing of livestock.

While Section 3.8 lists and discusses prime farmland, farmland of statewide importance, unique farmland, and farmland of local importance, it excludes grazing land from consideration.

Regardless of the status of grazing lands as agricultural lands for which the impacts of the HST project must be analyzed under CEQA, grazing land like that on the San Felipe Ranch and the other ranches crossed by the proposed Diablo Range Direct options provide extremely valuable wildlife habitat and preserve a diversity of native vegetational communities. In contrast to highly mechanized and irrigated row agricultural lands, where natural systems and processes are typically disrupted and biological values minimized, grazing lands may be managed as functional ecosystems that retain many biological values. When managed appropriately, grazing can be an effective tool for preserving and increasing native grasslands in Central Coastal California. Immediately east of the San Felipe Ranch along the Coyote Ridge are grazed serpentine grasslands that support a long list of endangered and threatened plant and animalspecies, including the Bay checkerspot butterfly. Grazed grassland on the San Felipe Ranch may contain patches of similar habitat and the alignment options should be evaluated more carefully for the presence of serpentine species.

The large ranches that would be impacted by any of the Diablo Range Direct options have maintained to the present day grasslands, oak woodlands, riparian areas, wetlands, and other habitats that provide for the protection and recovery of many native wildlife species, including the federally-listed San Joaquin kit fox, California red-legged frog, and the California tiger salamander. These ranchlands provide critical connectivity over and between public parklands and wildlife refuges, and connect the Mount Hamilton range with the ecosystems of the Central Valley and the Coyote Valley. Without some discussion of impacts to grazing lands and the disruption of the undisturbed landscape this DEIR/EIS fails to disclose a number of potential significant impacts, and fails to meet the requirements of CEQA.

### **DEIR/EIS maps are inadequate to evaluate the options or analyze potential impacts**

The maps that are published in the DEIR/EIS and available to the general public on-line are at a scale and level of detail that makes them useless in evaluating the proposed locations of the tunnels and at-grade sections of the alignments. The DEIR/EIS states that the biological analysis was done in part using 7.5' USGS topographic maps (1:24,000); a comparable level of detail is necessary in the proposed alignment maps in the DEIR/EIS so that the public and decision-makers can evaluate the DEIR/EIS conclusions and the subsequent ranking of options.

Maps obtained by the San Felipe Ranch show the alignment options at a scale of approximately 1:72,000. On this more detailed map the placement of tunnel vs. at-grade sections shows a general disregard for the underlying topography or the location of watercourses and mapped occurrences of sensitive features, with seemingly arbitrary placement of the tunnels. From this map it is difficult to determine whether the locations of tunnels are intended to be generic/typical/ schematic, or if they are intended to be site-specific. Locations must be site-specific, even at the program stage, because without that information it is not possible to determine if the options that are being presented are feasible from an engineering standpoint; if they have been designed to avoid sensitive biological resources, waters, and wetlands as the DEIR/EIS asserts, or if they will cause significant impacts; and if the very minimal mitigation measures proposed in the DEIR/EIS (for example, re-routing to avoid impacts; see more below) are feasible and effective.

Accurate mapping at a scale that allows meaningful interpretation of essential information must be included in a complete DEIR/EIS. This current document is inadequate in this regard and should be revised to include accurate mapping of all proposed project features at an appropriate scale.

### **DEIR/EIS MITIGATION STRATEGIES**

Section 3.15.5 of the DEIR/EIS presents "Impact Strategies," but does not describe or recommend any actual mitigation measures that might be used to avoid or attenuate project impacts, as required by CEQA. The Biological Resources Technical Evaluation (Parsons, 2004) prepared as a part of the DEIR/EIS summarizes a number of generic and potential impacts but neglects to propose any sort of biologically appropriate mitigations for any of the impacts, and in fact includes no recommended mitigation measures of any kind. In Section 3.15.5, the DEIR/EIS states that there are gaps and other limitations inherent in the DEIR/EIS data that were collected for the analysis. Effectively acknowledging that the information presented in the DEIR/EIS is inadequate, the document defers making any meaningful mitigation recommendations to the future, proposing additional site-specific data-gathering as a mitigation "strategy." Site-specific information gathered in future studies would then be used to "...allow designs to avoid impacts on special-status species and sensitive habitat areas;" however, the DEIR/EIS does not acknowledge that this approach could change the project description. Other suggested mitigation strategies for impacts that cannot be avoided by realignment include constructing "proposed structures" above grade or in tunnels (these structures are not described); the use of wildlife underpasses to facilitate wildlife movement corridors (none are identified in this DEIR/EIS, and the problems and relative effectiveness of such solutions are not discussed), relocation of sensitive species (a strategy with questionable success, viewed by experts as a last-resort measure for most species), and use of mitigation banks, acquisition and preservation of land, and restoration of habitats (with no indication that there are any such remedies available for this project, or that they would result in an effective and acceptable reduction of impacts).

The mitigation measures proposed in this DEIR/EIS fail to meet CEQA requirements because they are neither specific nor measurable, the feasibility of the proposed measures cannot be determined based on information presented in the DEIR/EIS, and they are deferred to a future

**Comment Letter O042 Continued**

date, citing the need to rely on future studies for information-gathering. Further, the proposed mitigations propose changes in the project design with no consideration for additional impacts the changes may cause, and no discussion of mitigations for those potential changes; the mitigation "strategy" is in response to an incomplete project description and an impacts analysis that is based on incomplete data and flawed assumptions; and the mitigations fail to indicate any performance standards to evaluate success or failure.

To meet the most basic standards and requirements of CEQA, this document must be revised to provide an adequate discussion of impacts and recommended mitigation measures, as provided for in §15126 of that Act.

**ALTAMONT ALTERNATIVE**

The Altamont Pass Alternative that was identified by the High Speed Rail Commission as a preferred route in 1996 has been removed from consideration in this DEIR/EIS; the reasons given for its elimination are based on decisions that appear to have been made outside the public review process. Biological impacts that would result from an alignment through the existing developed transportation corridor over the Altamont Pass are likely to be significantly less in number and severity than those that would occur with development of any three of the Diablo Range Direct alignments proposed for the undeveloped ranchland and open space south of Mount Hamilton. There is not enough information contained in this DEIR/EIS to make that comparison, however, and no there is no substantive discussion of the reasons the previously preferred alternative was removed from consideration.

This DEIR/EIS should be revised to allow a fair and accurate comparison of all alternatives and options for connecting the San Francisco Bay area with the Central Valley alignment of the HST. The revised version should at a minimum include a comparison of the Altamont Pass Alternative with the Diablo Range Direct options and the Pacheco Pass options, using a complete project description; comparable, quantitative, and consistent data on biological and wetland resources and permitting issues; an accurate assessment of all potential impacts based on those data; and recommendations for avoidance and mitigation measures, based on existing research and industry experience, including success criteria and methodologies for monitoring, evaluating, and verifying success over time.

Thank you for providing the opportunity to comment on this DEIR/EIS.

Sincerely yours,



Diane L. Renshaw  
Consulting Ecologist

Certified Senior Ecologist, Ecological Society of America

**REFERENCES:**

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**PERSONS CONSULTED:**

|                            |  |
|----------------------------|--|
| Martha Schauss             | Associate Wildlife Biologist<br>California Department of Fish and Game<br>Monterey Regional Office |
| Ralph and Barbara Jacobson | Ranch Managers<br>San Felipe Ranch<br>Santa Clara County   |



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**Response to Comments of Ellen J. Garber, Shute, Mihaly & Weinberger LLP and Diane L. Renshaw, San Felipe Ranch, August 30, 2004 (Letter O042)**

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**O042-1**

Please see standard responses 3.15.2, 3.15.13, and 3.19.1. The topics listed will receive more detailed analysis in subsequent project level environmental review when the facilities and alignments are further refined.

**O042-2**

In the Final Program EIR/EIS, sections of Chapter 3 have been modified to include more detail for mitigation strategies that would be applied in general for the HST system. Each section of Chapter 3 also outlines specific design features that will be applied to project level studies and the implementation of the HST system to avoid, minimize, and mitigate potential impacts. Specific impacts and potential for site specific mitigation will be addressed in detail during subsequent project level environmental review, based on more precise information regarding location and design of the facilities proposed, and the planned operations on those facilities. The more detailed engineering associated with the project level environmental analysis will allow further investigation of ways to avoid, minimize and mitigate potential visual affects. Once the alignment is refined and the facilities are fully defined through project level analysis, and after avoidance and minimization efforts have been exhausted, site specific impacts and more detailed mitigation measures will be addressed.

**O042-3**

Please see standard responses 3.15.1, 3.15.2, 3.15.3, and 3.15.4.

**O042-4**

Section 3.18 of the Final Program EIR/EIS generally addresses construction methods and the potential for construction impacts. In addition, each section of Chapter 3 also outlines specific design

features that will be applied to project level studies and the implementation of the HST system to avoid, minimize, and mitigate potential impacts. However, construction impacts are highly site-specific in nature. These issues will be addressed in detail during subsequent project level environmental review, based on more precise information regarding location and design of the facilities proposed (e.g., specific alignment, right of way corridor width, type of section (elevated, at-grade, or tunnel, excavation/earthwork, etc.). The more detailed engineering associated with the project level environmental analysis will allow the Authority to identify potential construction impacts and further investigate ways to avoid, minimize and mitigate potential construction impacts. Please also see Section 3.15.5 of the Final Program EIR/EIS in regards to "design practices" commitments for tunneling practices in sensitive areas.

**O042-5**

Please see response to Comment O042-4.

**O042-6**

The Program EIR/EIS traffic analysis was completed at a regional level of detail based on regional modeling data. Should the HST program move forward, site-specific intersection traffic analysis addressing impacts anticipated during and after the construction of the proposed facilities will be included as part of subsequent project level analysis. The project level analysis would address specific impact and significance determinations for all routes potentially affected, including rural roadways and access roads. Should the HST proposal move forward, the Authority would work closely with local governments and others to ensure consistency to ensure that improvements are identified to minimize and mitigate potential traffic impacts and adequate access and traffic handling is provided during the construction period. See also Response O042-4 regarding

construction impacts in general. Please also see Section 3.15.5 of the Final Program EIR/EIS in regards to “design practices” commitments for tunneling practices in sensitive areas.

**O042-7**

Section 3.3 of the Final Program EIR/EIS has been revised to more thoroughly address PM2.5 as part of the overall air quality analysis. Construction related air quality impacts would be addressed in detail in the subsequent project level analysis. For a program environmental review, not enough information is available regarding location of facilities, implementation phasing, and construction methods and needs for specific sites to accurately predict equipment use scenarios and durations that will be used to define construction emissions. More detailed construction staging, traffic handling plans, and detailed traffic analyses will be prepared at the project level to address potential construction related air quality impacts.

**O042-8**

Potential construction noise and vibration impacts would be addressed in more detail in the subsequent project level analysis. The program environmental review considers these issues generally, and more specific and detailed analyses cannot be prepared until more site specific and detailed design information is available. See standard response 3.4.1.

**O042-9**

Specific substances potentially produced or used during construction, operation, and/or maintenance of the proposed HST system will be identified during project level analysis. The generation of solid waste materials (construction and operationally related) will be addressed in subsequent project level environmental review. The methods of construction including excavation and disposal/use of excavated materials are generally discussed in Section 3.18.5 of the Final Program EIR/EIS.

**O042-10**

See Standard Response 3.17.1.

**O042-11**

The data and analyses in the PEIR/S provides an informed comparison of potential alignments that would be environmentally superior. While data will be provided in greater detail in subsequent, project-level Tier 2 analyses, the Program EIR/EIS contains sufficient data and analyses to provide for an overall comparison of the potential levels of impacts with the development of the Alternatives and alignment options. Using the date the co-lead Agencies have identified the HST option as environmentally superior and have identified various preferred HST corridor alignments for additionally review – Please see Chapter 6A of the Final PEIR/S for a summary of these HSRA Board decisions and the underlying reasons for them.

**O042-12**

The Authority will not pursue HST alignments crossing Henry Coe State Park. See Standard Response 6.3.1. In terms of identifying alternatives, see Standard Response 3.16.1. Identification of site-specific impacts for project-level analysis will be appropriate in the future and can not be provided at this program level. Subsequent preliminary engineering and project level environmental review will provide further opportunities to avoid and minimize the potential effects to 4(f) and 6(f) resources. Once a project level analysis of the alignment, and only after avoidance and minimization efforts have been exhausted, will mitigation be addressed. Please see Appendix 3.16-A for a listing of potential impacts to 4(f) and 6(f) properties.

**O042-13**

The Co-lead agencies disagree with the comment that the overall analysis is fundamentally inadequate and that recirculation is required. The Co-lead agencies consider the program level analysis adequate and appropriate to satisfy CEQA and NEPA requirements and to provide a reasoned comparison of overall system alternatives

and HST alignment and station options based on a broad review of environmental data compiled for the state-wide study area.

**O042 (attached letter from Diane Renshaw)**

Acknowledged. Please refer to responses to Comments O042-1 through O042-13.



Comment Letter O043

O043



Sea Point Letterhead  
August 25, 2004

13022 Camino del Rocio  
Del Mar, California 92014  
Office: (858) 755-1918  
Fax: (858) 755-4929

Attn: California High-Speed Train  
Draft Program EIR/EIS Comments  
925 L Street, Suite 1425  
Sacramento, CA 95814



To Whom It May Concern:

Sea Point Townhomes (Sea Point) is an enclave of 237 homes overlooking Torrey Pines Reserve, Torrey Pines State Beach, and the State protected Los Penasquitos Lagoon State Preserve (Penasquitos Lagoon).

By this letter, the Board of Directors of Sea Point (the Association) officially states for the record that it unanimously opposes any proposed route that would run through Penasquitos Lagoon, and any route that would tunnel under Camino del Mar in the City of Del Mar. Specifically, the Association strongly opposes both "Camino del Mar tunnel" options (CDM/Penasquitos routes) contained in the California High Speed Rail Authority (CHSRA) draft EIR/EIS document.

The Association is joined in this opposition by a broad coalition of citizens and elected officials, including San Diego Mayor Dick Murphy, San Diego City Councilman Scott Peters (also a member of the Coastal Commission), the Torrey Pines Community Planning Board, the Torrey Pines Association, the City of Del Mar, the San Dieguito River Park Joint Powers Authority, and many others. In short, there is no community support whatsoever for expanding the railroad through Penasquitos Lagoon, yet your EIR document makes an absurd assertion that this "enjoys community support." We can only wonder at the fantastic nature of such a false statement.

We note that the CDM/Penasquitos routes violate the City of San Diego-approved community plan, and furthermore fundamentally violate the spirit and letter of the California Public Resources Code by causing permanent and irreparable harm to a protected wetlands resource, due to heavy construction impact, significantly increased train vibration, diesel emissions, noise pollution, habitat disruption, property value destruction, view shed desecration, and other harms.

O043-1



In short, these routes are a non-starter, and we strongly object to CHSRA or any other entity spending one additional cent to "study" routes that are so harmful that in our view they never will be selected.

Penasquitos Lagoon is part of Torrey Pines State Reserve, a unique natural and scenic resource that exists nowhere else in the world. It is unconscionable to continue CHSRA's aggressive campaign to wipe out forever this irreplaceable public resource. To "double track" this area, enabling more and more harmful heavy diesel passenger and freight trains to spoil the public's enjoyment, is not now and never will be acceptable to this community.

We also note that this plan offers no commensurate benefit to the community but that, even if it provided some negligible benefit, the immorality, fiscal recklessness, and environmental harm overwhelm any such small benefit.

CHSRA's plan also betrays the trust of taxpayers, by squandering hundreds of millions - perhaps billions - of dollars of scarce transportation funds on an obsolete technology that will require larger and larger public subsidies to operate, and which will have no observable benefit in terms of improving expected peak hour level of service on I-5. For similar reasons, this plan raises serious issues of unfair competition that could destroy public consensus for more efficient, more scaleable, more environmentally friendly alternative modes of transportation.

For these and other reasons, it is the view of the Association that CHSRA's CDM/Penasquitos routes constitute a violation of our City-approved community plan, make a mockery of the California Public Resources Code, are environmentally harmful to a state preserve, will materially and permanently harm residents in the City of Del Mar, the Del Mar terrace, and other established neighborhoods, and therefore strongly objects to these routes. By this letter, the Association calls on CHSRA, Caltrans, and others to immediately cease and desist from spending any further funds to study or promote the double tracking of Penasquitos Lagoon.

For the board,  
  
Sheldon Krueger, Vice-President, for  
Bob Berman  
President  
By Order of the Board of Directors

O043-1  
cont.

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**Response to Comments of Sheldon Krueger, V.P., Sea Point, August 25, 2004 (Letter O043)**

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**O043-1**

The LOSSAN Conventional Rail Improvements are not part of the proposed HST system in the Final Program EIR/EIS. These potential improvements are the subject of the Caltrans LOSSAN Rail Improvements Program EIR/EIS (Draft PEIR/EIS SCH # 2002031067). These comments have been forwarded to Caltrans for consideration. See standard response 6.41.1 and Section 2.6.9 and Chapter 6A of the Final Program EIR/EIS.



Comment Letter O044

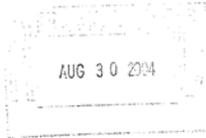
O044



TEJON RANCH COMPANY

August 26, 2004

Attn: California High Speed Rail
Draft Program EIR/EIS Comments
925 L. Street, Suite 1425
Sacramento, CA 95814



RE: Comments related to the "Draft Program Environmental Impact Report/Environmental Impact statement (EIR/EIS) for the proposed California High-Speed Train System"

Dear Ladies and Gentlemen:

Rather than undertaking a review and analysis regarding the overall technical adequacy of the Draft EIR/EIS document, which is currently being addressed by others, this letter will confine itself to addressing the legal adequacy of the document and its environmental analysis.

The EIR/EIS, as presented, is legally inadequate in the manner in which it conducts its analysis of the potentially significant impacts of the High Speed Rail System project. As such, the document is not in legal compliance with the requirements of the California Environmental Quality Act ("CEQA"), or the National Environmental Policy Act ("NEPA").

The document does not provide a sufficient level of detail in its analysis to allow the decision makers to come to an informed conclusion. Nor, does the document satisfy the public disclosure requirements provided for in CEQA Section 15003. The project description is inadequate. The project objectives do not conform with the objectives outlined in the State's authorization legislation. The analysis of the various alignment alternatives is confusing and inadequate. Additionally, the analysis included in the documents is often conclusory, and not supported by substantial evidence. It is important that the EIR/EIS correct these deficiencies in order to comply with CEQA.

This document does not comply with the NEPA requirement that an EIS develop and describe appropriate alternatives to the proposed project nor does it comply with NEPA Section 1502.14(e) which requires that the level of analysis accorded to each alternative be substantially similar to that of the proposed project.

While the Lead Agency may contend that any such shortcomings are due to the fact the document is a program level EIR with an expectation that individual project-level environmental reviews will be prepared at a later date, such an argument does not relieve the Lead Agency of its responsibility to provide sufficient information to make an informed decision

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regarding the project as described. The EIR/EIS falls well short of this requirement. This deficiency is particularly glaring in relation to the analysis of the various routing alternatives. Sufficient information to make an informed decision regarding the various potential route alignments is not provided.

GENERAL COMMENTS

Prior to undertaking a review of the EIR/EIS it is necessary to understand the State's objectives in proposing the HST in the first instance. Such an understanding would allow for a determination as to whether such objectives are included in the EIR/EIS, and more importantly, how the implementation of those objectives might support one of the two proposed Bakersfield to Los Angeles alignments over the other.

Section 185000 et. seq. of the California Public Utilities Code provides for the creation of the High-Speed Rail Authority (Authority) and defines the Authority's responsibilities. Amongst the findings provided for in Section 185000, subsection (e) states that:

"Intercity rail service, when coordinated with urban transit and airports, is an efficient, practical, and less polluting transportation mode that can fill the gap between future demand and present capacity." (emphasis added)

Section 185030 goes on to delineate the basic objectives of the Authority as follows:

"The authority shall direct the development and implementation of intercity high-speed rail service that is fully integrated with the state's existing intercity rail and bus network, consisting of interlinked conventional and high-speed rail lines and associated feeder buses. The intercity network in turn shall be fully coordinated and connected with commuter rail lines and urban rail transit lines developed by local agencies, as well as other transit services, through the use of common station facilities whenever possible." (emphasis added)

Section 185032 goes on to state that:

"The plan shall include an appropriate network of conventional intercity passenger rail service and shall be coordinated with existing and planned commuter and urban rail systems." (emphasis added)

Taken together, it is clear that these sections require that the planned HST be coordinated with, and connected to other transit systems (including airports), as well as other planned rail systems. Generally speaking, the EIR/EIS has endeavored to identify other transportation systems, including airports, found along the HST's proposed route. Unfortunately, however, the document does not take into consideration future plans for the Palmdale Airport.

0044-1



U.S. Department of Transportation
Federal Railroad Administration

**Comment Letter O044 Continued**

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The Palmdale Airport is not one of the seventeen airports considered in analyzing the State's transportation system (Figure 2.4-1).

While to some degree this might seem understandable, in that Palmdale currently does not have any scheduled commercial flights, it ignores the absolutely critical role that this airport will play in the future, as outlined in the Southern California Association of Governments' (SCAG) 2004 Regional Transportation Plan. In order to meet the Authority's mandated goal of providing for a "coordinated and connected" transportation system, inclusion of the future plans for this airport in the analysis of the two alternative HST alignments being addressed is absolutely essential.

In addition to the document's shortcomings related to the project's objectives, as was noted above, other aspects of the document are legally deficient. For the most part, the EIR/EIS is a conclusory document, without sufficient references to the source material which is being utilized to generate the environmental analysis. The appendices do not include the full range of material utilized in the analysis, thus depriving the decision makers and the public from access to all of the information pertinent to making an informed decision on the project

The EIR/EIS lacks a legally sufficient project description. The Project description should set forth the physical characteristics of the proposed rail system.

Again, as noted above, the EIR/EIS should address the environmental impacts associated with the various route alignments in order to provide the decision makers with sufficient information to assess the differences between the alignments, or to choose the environmentally superior alternative.

The EIR/EIS fails to provide thresholds of significance or make findings of significance for many potential environmental impacts. In many cases, the EIR/EIS utilizes unique 'Methods of Evaluation' that deviate from thresholds found in CEQA Guidelines Appendix G, and are not in conformance with the legal requirements of CEQA.

Finally, the proposed mitigation measures found throughout the document are often legally deficient in that they are not, in fact, mitigation measures so much as they are suggestions for subsequent environmental review.

Following, is a section by section review of the legal deficiencies inherent in the current EIR/EIS document.

**SECTION 1, PURPOSE and NEEDS and OBJECTIVES**

In response to these statutory directives, in June 2000, the Authority published the High-Speed Rail System Business Plan (Business Plan). Chapter 5 of the Business Plan addresses the statutory mandates noted above and goes on to further refine and delineate the goals of the HST in calling for the enhancement of the efficiency of highways, freeways, *airports* etc. In fact, the third goal in Section 5.2 of the Business Plan calls for the maximization of

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connectivity to all other transportation services. Section 5.6 of the same chapter discusses the opportunity for intermodal connectivity, including connections to Ontario and Burbank airports. Unfortunately, the Business Plan has ignored this critical policy goal, at least as it relates to Palmdale Airport.

While the Purpose, Need and Objectives Section of the EIR/EIS, Section 1, spends a good deal of time and effort in discussing the importance of tying the development of the HST to the California airports located along the proposed route, Palmdale airport is not one of the airports identified (Figure 1.2-3), and, hence, has not been considered in the discussion and analysis related to the statutory policy goal of transportation system interconnectivity.

As outlined in the Southern California Association of Governments' (SCAG) 2004 Regional Transportation Plan's Regional Aviation Plan, due to the severe constraints on the possible expansion of the other existing airports in Southern California (an issue that is discussed in the EIR/EIS), SCAG's future plans call for the eventual commercial use of Palmdale Airport to accommodate up to 12.8 million annual passengers (MAP).

Additionally, while the EIR/EIS briefly addresses SCAG's plans for a Maglev rail system to connect the various regional airports and transportation systems, including a connection at the Palmdale Transportation Center, there is no comprehensive discussion relating to those transportation corridors where the HST and Maglev systems might overlap. This is particularly pertinent when considering the proposed Maglev connection between LAX and Burbank Airport with an extension connecting to the airport in Palmdale. Obviously, any such extension of the Maglev system would, over a good part of its route, overlap with the proposed HST. A single HST or Maglev connection between Burbank and Palmdale would clearly be more efficient and economical while generating fewer environmental impacts. The utilization of the SR-58 alignment would logically allow for this interconnectivity without the need to build a separate, Maglev rail connection.

Specific comments included within this section which would provide strong support for the SR-58 alignment over the I-5 corridor are as follows:

1.2.1 Identifies one of the project's objectives as being an interface with commercial airports to, amongst other things, "relieve" capacity constraints. Additionally, in discussing the project's consistency with federal transportation policy, the section notes such benefits as links to all major forms of transportation; and providing better access to airports. Finally, in discussing the project's conformity with the Authority's statutory mandate it is noted that the HSR will be coordinated with the State's transportation system, including airports, and will maximize "intermodal transportation opportunities" through connections to "local transit, airports, and highways." (emphasis added)

1.2.2 In discussing the need for the HSR, this section goes on to analyze the constraints placed upon the state's air traffic system due to the difficulties inherent in expanding existing airport facilities, while also discussing the limited existing connections between airports. While the SCAG transportation and LAX expansion plans are addressed in

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some detail, no mention is made of the future use of Palmdale airport to relieve the capacity restraints at LAX and the other regional airports. Given the critical role that Palmdale airport will assume in the future, its absence from the EIR/EIS severely limits the decision maker's ability to utilize the document in properly analyzing the two Bakersfield to Los Angeles alignment alternatives.

SECTION 2, ALTERNATIVES

Section 2, of the EIR/EIS, titled "Alternatives" outlines the basis upon which the alternative analysis in the document will be undertaken. Unfortunately, that analysis is limited to the three overall alternatives provided for in the document: The "No Project Alternative," the "Modal Alternative," and the "High Speed Train Alternative."

While the section does include a discussion of the various alignment alternatives that have already been considered and rejected, the remaining alignment alternatives are not analyzed in a comprehensive fashion that would allow the decision makers to determine the environmentally superior alternative.

SECTION 3.1, TRAFFIC and CIRCULATION

In analyzing the two alternate alignments, the EIR/EIS states that the HST alternative would cause no significant change in levels of service in the Burbank airport area, ignoring the positive impact that Palmdale airport would have in alleviating growth pressures at the Burbank airport.

Additionally, and as has been discussed earlier, by not including the Palmdale airport in the analysis, the EIR/EIS does not recognize the true traffic and circulation improvements, both along the proposed route, as well as in other areas of the region, that would result from the connection to the Palmdale Transportation Center when utilizing the SR-58 alignment.

The EIR/EIS goes on to state that a comparative traffic analysis of the proposed alternative routes shows no significant difference between the two options. It would be our expectation that this would not be the case, in that the SR-58 alignment provides a significant opportunity to provide an alternative means of transportation for Antelope Valley commuters.

Additionally, the EIR/EIS provides an inadequate characterization of baseline transportation conditions and utilizes outdated regional forecasts to develop future baseline traffic conditions along the State Route 14 (SR-14) and Interstate 5 (I-5) study segments. For these facilities, traffic data relied upon to create the baseline condition dates to 1999; consequently the information is five years old.

This deficiency is compounded by the reliance on the Southern California Association of Governments (SCAG) traffic model to forecast travel behavior within the region. The model used by SCAG relies upon a regional land use database that contains land use information on existing and future development patterns for the five county Southern California

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region based on local General Plans. This model was last updated in 1997 and does not reflect recent large-scale development plans for the western Antelope Valley. For instance, in March of 2004, the County of Los Angeles released the Notice of Preparation for an EIR on the Centennial Specific Plan. The Centennial Specific Plan is proposed on approximately 12,000 acres of land located in the northwestern portion of the Antelope Valley in Los Angeles County. Buildout of this project would result in a maximum of 22,998 dwelling units, over 1.9 million square feet of commercial space, and 12 million square feet of employment generating space in the form of business parks. No consideration is given to this project, despite the fact that it would likely have a substantial influence on travel patterns along SR-14, State Route (SR-138), and I-5.

The EIR/EIS also does not provide sufficient level of detail in the analysis to permit informed decision-making and to satisfy the public disclosure requirements articulated under CEQA Section 15003. Nor does this document satisfy the requirements for the National Environmental Policy Act. Section 102(2)(E) of the National Environmental Policy Act requires that the responsible agency study, develop and describe appropriate alternatives to the proposed project. Section 1502.14(e) requires that the degree of analysis devoted to each alternative be substantially similar to that of the proposed project.

Clearly, this is not the case for this EIR/EIS. While the document identifies the operating condition of the primary freeway segments and interchange locations for the existing and no project alternative, it fails to provide this same level of analysis for the modal and high-speed rail alternatives in the main body of the document. Absent such information in the main body of the analysis, it is difficult for decision makers to conduct a meaningful evaluation comparing the merits and impacts of each alternative under consideration, or to determine which might be the environmentally superior alternative. This is a clear deficiency that must be addressed.

SECTION 3.1.1, REGULATORY REQUIREMENTS AND METHODS OF EVALUATION

This section does not describe the relevant NEPA requirements for preparation of this document, and does not address whether the analysis complied with any such NEPA requirements.

SECTION 3.2, TRAVEL CONDITION

This section includes extensive discussions regarding the impact that the HST project would have on air travel within the State of California. Again, since future use of Palmdale Airport is not considered, the analysis is inherently flawed, particularly as it relates to the discussion related to the Bakersfield to Los Angeles Sector. With that being said, however, this Section does go on to note that the potential Palmdale station would have a "particularly high impact" on connectivity due to its ability to serve the growing communities of the Antelope Valley.

It should also be mentioned, that despite the fact that the Palmdale Airport is not

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considered in any aspect of the EIR/EIS document, this section, in discussing potential station locations, does mention that a station at the Palmdale transportation Center will maximize opportunities for intermodal connectivity because, amongst other things, it is close to the Airport and will provide the opportunity for "convenient shuttle or people mover connections."

**SECTION 3.3, AIR QUALITY**

There is no discussion regarding the relative differences in Air Quality impacts attributable to the alternative alignment options as otherwise addressed in the EIR/EIS. There is however, an analysis of the improvements in air quality attributable to the HST in comparison to the No Project and Intermodal alternatives. These improvements are separately classified for both roadways and air travel. Since Palmdale Airport is not included in the analysis, however, any improvements in air quality attributable to the movement of flights out of the LA basin, as well as improvements related to both local and airport HST ridership to the Palmdale Transportation Center has not been taken into consideration.

Two points should be noted regarding the route alignment options. First, the Air Quality Technical Evaluation does not identify which of the route options it used in evaluating the proposed project. Secondly, by not providing a separate evaluation for each route option, decision makers within the lead agency are unable to know the air quality impacts associated with each of these different routing options and will, therefore, not be able to make an informed decision, as it is expected that the different route alignment options will produce differing air quality impacts.

The lack of detail presented in the EIR/EIS extends to the characterization of baseline conditions. An EIR must describe the "environment in the vicinity of the project" as it exists before commencement of the project, from both a local and regional perspective. 14 Cal.Code of Regs §15125. Where basic information is missing from an EIR, the document is deficient as a matter of law. *San Joaquin Raptor v. County of Stanislaus* (1994) 27 Cal.App.4th 713,734. The HST EIR/EIS is deficient for omitting basic information available about all criteria pollutants. Under the Federal Clean Air Act, the EPA regulates six criteria pollutants: ozone (O<sub>3</sub>) carbon monoxide (CO), oxides of nitrogen (NO<sub>x</sub>), oxides of sulfur (SO<sub>x</sub>), particulate matter (PM) and lead. Under the California Clean Air Act, the California Air Resources Board regulates these same six criteria pollutants, as well as hydrogen sulfide, vinyl chloride, and visibility reducing particles. The EIR/EIS omits any description of existing air quality with respect to these last three elements. The EIR/EIS also understates the severity of the air quality experienced in the San Joaquin Valley Air Basin (SJVAB) as is summarized in Table 3.3-3. It would be helpful if the specific levels of nonattainment (e.g., moderate, serious, severe, extreme) were included in this table. Without this information, the reader may conclude that the severity of air pollution in all the listed nonattainment areas is identical, which it is not.

An additional measure of air quality is the emissions, or levels of, Hazardous Air Pollutants (HAPs, also called Toxic Air Pollutants (TACs) under California law) in ambient air. The ARB presently monitors and assesses the health risk of 10 HAPs in California, including acetaldehyde, benzene, 1,3 butadiene, carbon tetrachloride, chromium (hexavalent), para-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel particulate

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matter. The EIR/EIS fails to describe any of these HAPs, the total amount produced in the Air Basins studied, or the potential health impacts attributable to the HAPs, despite the fact that such information is readily available. The EIR/EIS must discuss this issue.

The Air Quality Technical Evaluation only summarizes the analysis and does not contain information or data sets that would allow for a critical review of the analysis process or verify the quantitative results. This information needs to be presented in the Air Quality Technical Evaluation report supporting the findings in the California High-Speed Train Program EIR/EIS in order to provide public agencies and the public the ability to give meaningful comments on the adequacy and accuracy of the air quality evaluation.

On page 3.3-8 of the Program EIR/EIS, the discussion states that "detailed intersection information has not been generated" to facilitate an analysis of localized air quality impacts. This statement is incorrect. In Appendices Q through U of the "Traffic, Transit, Circulation & Parking Technical Evaluations" for each segment of the proposed project there is detailed intersection analysis that shows estimated volumes of traffic during the peak hour, estimated volume to capacity (V/C) ratios, and estimated level of service (LOS) values for each alternative. This information combined with emissions data from the EMFAC2002 computer model, and climate data (average temperature and wind speed) is all that is needed to conduct an analysis of localized air quality impacts.

The California Department of Transportation describes the state and national guidelines for conducting localized air quality impacts in a publication titled "Carbon Monoxide Protocol" (hereafter referred to as the Protocol). The Protocol requires that intersections impacted by the proposed project with LOS D or below conduct a detailed localized air quality impact analysis using the CALINE4 computer model. The Air Quality Technical Evaluation failed to conduct this analysis. *CEQA Guidelines* Section 15064 (d) requires that lead agencies consider both direct and indirect physical impacts when evaluating the potential for significant impacts. The Program EIR/EIS, in failing to address localized impacts even though all the information is available to do so, also failed to assess all of the reasonably foreseeable environmental impacts associated with the proposed project. This is a violation of CEQA and deprives both decision makers and the public of information on potential environmental impacts associated with the proposed project.

The air quality analysis does not address short-term construction impacts that would be associated with the proposed project. *CEQA Guidelines* Section 15126 states that "All phases of a project must be considered when evaluating its impact on the environment: planning, acquisition, development [i.e., construction], and operation." While additional analysis may be required on a project by project-level analysis in the future, information is currently available to assess construction activities as a result of the proposed project on a programmatic level.

In addition, the EIR/EIS must compare the construction impacts of the route alignment options. This would help decision makers to understand and compare the construction impacts of the route options. The Air Quality evaluation in the Program EIR/EIS needs to address construction impacts on a programmatic level and propose programmatic mitigation

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measures.

The EIR/EIS did not establish clear thresholds of significance or make significance findings for air quality impacts. CEQA Guidelines Section 15126 requires that an EIR identify potentially significant environmental impacts associated with proposed projects. CEQA Guidelines Section 15064(b) requires that the lead agency make a determination of whether a project may have a significant effect on the environment based to the extent possible on scientific and factual data. CEQA Guidelines Section 15064.7 encourages lead agencies to "develop and publish thresholds of significance..." On page 7-4 of the Program EIR/EIS the discussion states that, "Given the planning-level impact analysis considered in this Program EIR/EIS, the Authority has not developed project-specific significance thresholds." While it may be true that the "Authority" has not developed its own significance thresholds, this does not alleviate the Program EIR/EIS from using significance thresholds in its evaluation and making a determination of significance related to air quality impacts. Since the Program EIR/EIS failed to make significance findings or establish significance thresholds for air quality impacts, the analysis in the Program EIR/EIS is in violation of CEQA.

SECTION 3.4, NOISE and VIBRATION

Again, without a discussion regarding the use of Palmdale Airport for commercial flight services, there is no analysis related to the positive noise and vibration impacts related to the movement of flights out of the LA Basin and into the new airport. Nor, is there any discussion related to the positive impact that a high speed rail connection to the Palmdale Transportation Center would have on the viability of those flight operations.

In considering the impacts related to the alternative alignments, the EIR/EIS describes both optional routes as having low potential noise impact ratings. The discussion does, however, go on to make the unsupported assertion that due to the greater amount of tunneling along the I-5 route, there would be fewer potential noise impacts along this route.

Additionally, operation of the rail line would generate noise levels in excess of 90 dB (A) when trains are operating at full velocity. While noise is generated by a variety of sources including wheel/rail interaction and motors/gears, the primary source is unsteady airflow that creates aerodynamic noise. The EIR/EIS fails to address potential impacts to biological resources known to occur in the Tehachapi Mountains despite the amount of literature that clearly establishes a link between noise levels and the integrity of habitat. This is a deficiency that must be addressed.

SECTION 3.5, ENERGY

There is no discussion regarding the relative differences in Energy impacts attributable to the alternative alignment options as otherwise addressed in the EIR/EIS. Although traffic data was available in the "Transit, Circulation & Parking Technical Evaluation" for each of the route alignment options, the "Draft Statewide Energy Technical Evaluation" did not assess impacts for each route alignment of the proposed project. This section does not allow the reader

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to determine, in a comparative fashion, the energy impacts of one alignment when compared to another. As written, there is no way for the reader to come to a conclusion that one alignment is environmentally superior to another.

The document does not make a determination as to the significance of energy impacts. CEQA Guidelines Section 15126 requires that an EIR identify potentially significant environmental impacts associated with proposed projects. CEQA Guidelines Section 15064(b) requires that the lead agency make a determination of whether a project may have a significant effect on the environment based, to the extent possible, on scientific and factual data. Since the EIR/EIS fails to make significance findings for energy impacts, the analysis in the Program EIR/EIS may be in violation of CEQA, and the Program EIR/EIS must be revised to include these findings and recirculated for public review.

The EIR/EIS also presents mitigation strategies for energy conservation. These mitigation strategies are so vague as to be meaningless. As an example, on page 3.5-22 of the Program EIR/EIS one mitigation strategy listed is "Use energy-saving equipment and facilities to reduce electricity demand." While the Program EIR/EIS is a broad program-level analysis reviewing potential energy use statewide, mitigation strategies this broad are of no value. The programmatic level analysis should identify regional impacts and find regional mitigation strategies designed to address those impacts.

SECTION 3.6, ELECTROMAGNETIC FIELDS and ELECTROMAGNETIC INTERFERENCE

There is no discussion regarding the relative differences in electromagnetic fields and electromagnetic interference impacts attributable to the alternative alignment options as otherwise addressed in the EIR/EIS. For consistency purposes the electromagnetic fields (EMF) and electromagnetic interference section should provide an existing conditions section associated with each of the alignment alternatives. If the alternative alignments are proposed to travel through residential areas that should be discussed. The EIR/EIS states: "The study area for EMF/EMI associated with operation of the alternatives is limited to potentially affected land uses and populations in the vicinity of the alternative corridors." This is inconsistent with the analysis undertaken in other sections of the EIR/EIS.

SECTION 3.7, LAND USE AND PLANNING

The document fails to consider relevant plans in determining plan/land use compatibility on the Bakersfield to Los Angeles route, such as the Los Angeles County General Plan (current and draft update), the Angeles National Forest Land Management Plan, and the Kern County General Plan Update.

The method of evaluation used for land use compatibility and property impacts relies upon very broad and imprecise assessments of land use types, density categories, and proximity to Modal and HST alignment alternatives. The definitions of low, medium, and high

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compatibility and property impact rankings are so highly generalized as to make them almost meaningless in allowing the decision makers the opportunity to make informed decisions.

The method of evaluation used in this section does not conform specifically to the CEQA Guidelines Appendix G Land Use and Planning criteria, generally relied upon as the measures of land use and planning thresholds of impact significance. These criteria are:

- a) Physically divide an established community;
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project...
c) Conflict with any applicable habitat conservation plan or natural community conservation plan.

Other than mentioning the general policies of many jurisdictions (unnamed) to promote transit and transit-oriented development, there is no meaningful discussion of local land use policies in this section.

Environmental Justice

Presidential Executive Order 12898, issued in February 1994, requires all federal agencies to analyze environmental justice impacts when proposing public projects. The analysis is intended to determine whether minority and low-income communities are unfairly burdened by project impacts...

The EIR/EIS does not address specific impacts in the discussion of environmental justice. Rather the discussion of environmental justice merely addresses whether or not minority or low-income populations were located in areas adjacent to the proposed project alignments.

The document "Environmental Justice Guidance Under the National Environmental Policy Act," published by the Council on Environmental Quality, Executive Office of the President, requires that a determination needs to be made as to "whether a proposed action is likely to have disproportionately high and adverse human health or environmental effects on low-income populations, minority populations, or Indian tribes..."

It is difficult to see how the analysis and presentation of Environmental Justice

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issues in this section, both for the system alternatives and the HST alignment alternatives, meets the intent of Executive Order 12898, even at the program EIR/EIS level of review. Based on the information presented, it would not appear that these issues have been considered as required by EO 12898 "to the greatest extent practicable and permitted by law" in the EIR/EIS.

SECTION 3.8, AGRICULTURAL LANDS

The discussion of the alternative alignments found in this section of the EIR/EIS notes that the I-5 alignment would encounter, and impact, a greater amount of farmland than the SR-58 option. While this conclusion would seem to suggest that the SR-58 alignment would be preferable in relation to this impact...

Section 3.8.5, Mitigation Strategies, suggests that specific farmland mitigation strategies should consider measures such as "protection or preservation off-site lands to mitigate conversion of farmlands or acquiring easements, or payment of an in-lieu fee". In this instance, the ability to mitigate the I-5 HST alignment's impact on farmlands through creation of agricultural easements or other identified measures may be limited by appellate court findings in Friends of the Kangaroo Rat v. California Department of Corrections [111 Cal.App.4th 1400 (2003)]...

Short of avoidance of important farmlands altogether, the impacts of the I-5 HST alignment option within the Bakersfield to Sylmar segment are likely to be found to be significant and unavoidable, should this alternative be carried forward to project-level environmental review.

SECTION 3.9, AESTHETICS and VISUAL RESOURCES

This section asserts that the SR-58 alignment would result in a greater number of cut and fill impacts, and therefore the visual impact along this alignment would be greater than along I-5. The document goes on to say, however, that both alignments would have high-contrast impacts and high potential shadow impacts, seemingly without making any attempt to compare the relative severity of those impacts along each route.

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Further, the analysis of the relative aesthetic and visual impacts of the HST alignment alternatives in the Bakersfield to Los Angeles segment (p. 3.9-17) is confusing and the conclusions lack support. The I-5/Wheeler Ridge alignment is identified as having the lowest aesthetics/visual quality impacts of the alignments in the Bakersfield to Sylmar segment, yet the Wheeler Ridge and Union Avenue alignment options are both identified as having high-contrast impacts related to aerial structures. This section also indicates "the landform in the mountainous areas on the Antelope Valley corridor would be largely unaltered," yet the next sentence indicates "visual contrast related to cut and fill in these areas would therefore be greater than along the I-5 corridor"—an apparent contradiction.

Given the high visual quality and sensitivity of the I-5 corridor, particularly within the Grapevine to Santa Clarita section which includes scenic national forest lands within the viewshed, it is difficult to justify the conclusion that either of the I-5 alignment options would be superior to an Antelope Valley alignment. As noted above, the visual impact of a HST construction and operation along an I-5 alignment would likely be visible to more people along non-tunnel segments than with the Antelope Valley alignment. The contradictory nature of the analysis renders the resulting conclusions as being legally unsupportable.

**SECTION 3.10, PUBLIC UTILITIES**

In analyzing the alternative routes, it is noted that the SR-58 alignment has the potential of impacting the Lancaster Water Reclamation Plant. In discussing this potential impact, however, there is no analysis related to the possible movement of the rail lines to miss this fixed facility. Regardless, the discussion goes on the state that SR-58 alignment would have the fewest utility conflicts, and that the I-5 option would have the most. There is however, absolutely no discussion as to how this particular conclusion was reached. Without supporting data and evidence the conclusion reached is legally unsupportable.

**SECTION 3.11, HAZARDOUS MATERIALS and WASTES**

The analysis included in this section is limited to the topics of hazardous materials and wastes, and does not discuss other hazards listed in *CEQA Guidelines* Appendix G (VII., Hazards and Hazardous Materials) that may result in significant impacts. The EIR/EIS must address all hazards listed in *CEQA Guidelines* Appendix G (VII., Hazards and Hazardous Materials).

The information included in Section 3.11 is so broad and preliminary as to make hazardous materials and wastes considerations insignificant in the selection of a system alternative or selection of the HST alternate alignments. This section should include separate discussions of the alignments so that a reasoned analysis of impacts can be undertaken.

The information included in Section 2.3, Hazardous Materials Used in Operation, Maintenance, and Construction of the Alternatives, indicates that a 'qualitative review' of these impacts will be included in the Program EIR/EIS. However, Section 3.11 discusses only the

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impacts of existing or potential hazardous materials and wastes sites upon construction, operations, and maintenance activities (page 3.11-3). Hazardous materials used must be identified or characterized in the EIR/EIS.

**SECTION 3.12, CULTURAL and PALEONTOLOGICAL RESOURCES**

This section presents a potentially insufficient assessment of cultural resources impacts by failing to clearly factor in the percentage of each HST alignment alternative that has not yet been surveyed. In so doing, the estimation of the number of cultural sites potentially impacted can be very misleading. Also, use of a methodology for assessment of historic impacts based primarily upon the percentage of each alternative corridor that passes through areas that originally developed in specific predefined historic time periods is inconsistent with common practice. This provides a poor substitute for preliminary surveys for historic structures and/or quantification of the number of sites listed on the National Register of Historic Places (NRHP) which may be impacted.

The methodology for determining low, medium or high impacts is based on "known" information. Thus, if an area has been subjected to extensive surveys, there is a greater potential that there will be a high impact in that area. This might not be the case in the real world. A more appropriate way to evaluate would be to include a number indicating the percent of the route that has been surveyed. Using this number with the number of sites in an area would be a better method for comparison and must be included within the analysis.

The analysis related to historic structures is inconsistent with common practice methodology. The methodology used states that any developed areas might have impacts based on nothing other than being built more than 50 years ago. It specifically states, "Specific structures from the historic period were not identified for this program level analysis. Instead, the percentage based on linear miles of each alternative corridor that passed through areas that originally developed in specific predefined historic time periods (before 1900, 1900 to 1929, and 1930 to 1958) was determined from historical maps, aerial photographs, and local planning documents of the history of the region." (p. 3.12-5).

Again, using a methodology that documents what percentage of a route has been surveyed, what types of sites have been identified and what number of existing NRHP sites are present on a route would be a more reasonable and legally supportable approach to an environmental analysis and should be incorporated into the EIR/EIS.

**3.12.2 AFFECTED ENVIRONMENT**

There is no reference in the rest of the section on where the Areas of Potential Impacts ("APE") are defined for the routes. Does the I-5 corridor have the same width the entire length? What are the impacts to SR-58/Soledad Canyon? There is no indication that similar areas were examined for each alternative. It may be possible that one route was primarily analyzed at 100 feet and another was done at 500 feet. A consistent approach is necessary in order for any resultant analysis to be to be legally supportable.

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Generally, it is difficult, if not impossible to determine what has been studied, what the widths of study are, and whether they are the same width between the two alternative alignments. There is no comparison provided. This limitation, is coupled with the fact that there is no way to determine if the lack of sites on a portion of a given route is due to little or no survey coverage or the true lack of archaeological materials. The EIR/EIS must expand this discussion and address which portions of the routes were not analyzed due to a lack of surveys and for comparison purposes in order to be legally supportable.

No where in the document is there a discussion of tunneling impacts on paleontological resources. Nor, is there a comparative evaluation of alignments in this regard. This is one of several issue areas in the EIR/EIS where the subsurface impacts could be more severe than surface impacts. Based on the current information, it is impossible to make a comparative finding of impact, other than the fact that the I-5 Tehachapi Corridor has more miles of tunneling than the SR-58/Antelope Valley/Soledad Canyon Corridor. Consequently, the EIR/EIS must provide this analysis in order to be legally supportable.

**SECTION 3.13, GEOLOGY and SOILS**

The Ranking System utilized for Comparing Impacts Related to Geology/Soils/Seismicity, page 3.13-2, is misleading and fatally flawed. As an example, with regard to the issue of "Difficult Excavation" the impact rating is high, medium, or low based upon percentage of length. Therefore, if one had to tunnel through solid bedrock for less than 10 percent of an alignment, the resulting impact would be low. Whereas, if an alignment had a longer length of excavation, even with less difficult terrain or soil features, the ranking would be high.

The ranking system places too much emphasis on length, as opposed to the true difficulty of the excavation based upon such determining factors such as soil, geologic formations, slope, etc. As an example, Table 3.13-A-4 concludes that the I-5: Tehachapi Corridor is ranked "L"- for low impact. This conclusion is illogical. Considering the amount of excavation, the type of geological materials and the tunneling that would be necessary for this alignment, the conclusion that impacts would be low defies logic. The analysis tying "difficult excavation" to length of tunneling grossly understates the severity and significance of the impacts. The methodology used is not legally supportable.

The ranking system also equates the impacts of slope instability on oil and gas fields with percentage of length. More real determining factors such as topography and soils should be considered when evaluating impacts to slope stability in oil and gas fields. This analysis is completely flawed and ranking system must be reevaluated.

Table 3.13-2, Summary of Geology Potential Impact Rankings by Alternative and Segment, is too vague and combines the High-Speed Train and High-Speed Train Alignment Options into one HST category. Each alignment of the HST must be clearly differentiated in the table. By combining impacts, this table is misleading and does not give the decision makers a sense of the relative impacts on each of the High-Speed Train route alternatives, and does not allow them to make a determination of the environmentally superior alternative. The section is

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so unclear as to which improvement locations are associated with each alignment, the necessary evaluation of potential impacts required of the decision makers prior to choosing a preferred alignment will not be possible.

Finally, there is no clear discussion of CEQA significance thresholds for discussion and analysis purposes.

**SECTION 3.14, HYDROLOGY**

The information that is presented is of little value. The use of the total number of linear feet of streams that may be impacted is an inappropriate measure of impact significance. The text indicates that the I-5 corridor has a potential to impact 30,000 linear feet of streams, while the SR-58 route would impact 60,000 linear feet. The report does not mention anything related to the types of streams, flow rates, and length of downstream impact. It does not contain a description of the methodology used to calculate the impacted areas nor where the impacts are located. An appropriate number for analysis might be stream crossings (perennial vs. intermittent or ephemeral). This impact could be quantified and could result in a number that could be calculated into acres. The section is currently so unclear that the necessary evaluation of potential impacts required of the decision makers prior to choosing a preferred alignment will not be possible.

The document goes on to state that it is impossible to determine which potential alignment alternative would affect more groundwater resources. At the Program EIR level, however, the amount of tunneling could be compared and used as an indicator of the potential significance of this impact for each alignment.

**SECTION 3.15 - BIOLOGICAL RESOURCES AND WETLANDS**

The biological resources study area was 1,000 feet in urbanized areas, 0.25 mile in undeveloped areas, and 0.50 mile in sensitive areas. The criteria for "urbanized", "undeveloped", and "sensitive" is not defined in the EIR/EIS. The EIR/EIS goes on to state that the study area in the Bakersfield to Los Angeles region was 0.5 mile, which was supposed to be used in sensitive areas. The document further states that the broader study area was used due to the Tehachapi mountain crossings. The urbanized area study criteria does not appear to have been used in the highly urbanized area of Los Angeles. The use of each buffer area differed from segment to segment based upon the judgment of the technical report team. This lack of consistency renders any conclusions drawn as being legally unsupported.

It should also be noted that no field verification was conducted related to any of the data used in the report's analysis. The lack of field verification is a major flaw in the biological section as many of the databases relied upon by the authors are unreliable, have data gaps, and do not always represent current habitat conditions. The use of unreliable data combined with unknown or speculative methodology, the failure to field verify data sources, and the failure to use existing/extant data and reports where available, are significant issues, and it is important that the EIR/EIS provide full and accurate information in order to comply with CEQA.

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Because construction of the HST project will involve temporary and permanent fills in waters of the U.S., issuance of a permit under Section 404 of the Clean Water Act from the U.S. Army Corps of Engineers (Corps) will be required. In accordance with the Clean Water Act, the Corps "...cannot permit a discharge of dredged or fill material into waters of the U.S. if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences." The Least Environmentally Damaging Practicable Alternative is known as the LEDPA.

When an individual 404 authorization is requested from the Corps, the LEDPA is determined through the preparation of an alternatives analysis. The alternative analysis must "rigorously explore and objectively evaluate" all reasonable and practicable off- and on-site alternatives capable of achieving the purpose of the proposed activity. Practicable is defined by cost, technical, and logistic factors. The EIS/EIR should identify alternatives that would ultimately be consistent with the LEDPA that will be required by the Corps.

SECTION 3.17 - CUMULATIVE IMPACTS EVALUATION

This section provides only a superficial discussion of cumulative impacts for the Systems Alternatives, and does not differentiate on the cumulative impacts of the HST alignment alternatives. Appendix 3.17a provides information on cumulative projects for the SR-58 corridor, but nothing for any of the other alignments between Bakersfield and Los Angeles. Consequently, the EIR/EIS is in violation of Section 15130(b)(1)(A) of the CEQA Guidelines:

"(A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or

(B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or areawide conditions contributing to the cumulative impact."

The method utilized within the EIR/EIS is the list method and must delineate which projects should be considered from a cumulative perspective for each segment.

Contrary to the intent of CEQA Guidelines 15168(b)(2), the Program EIR does not reflect a thorough consideration of cumulative effects associated with the HST alignment alternatives. The section should clearly delineate the cumulative impacts related to each HST alignment. "Combining" HST cumulative alignment impacts into one discussion provides the decision makers with no real means of identifying potential impacts associated with each of the alternative alignments. Consequently, no valid conclusions can be made with regard to the cumulative impacts of the alternative HST alignments. The cumulative impact analysis as proposed is inadequate and must include all projects that may create combined impacts when considered in conjunction with each of the proposed HST alignment alternatives. This is particularly true with regard to geology, biological resources, and aesthetics.

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SECTION 4, COSTS AND OPERATIONS

As with other sections of the EIR/EIS, it is unclear which combination of alignment and station options the included analysis represents, thus depriving the decision makers of the necessary information in order to determine the environmentally superior alternative.

SECTION 5, ECONOMIC GROWTH AND RELATED IMPACTS

This section of the Draft Program EIR/EIS purports to address the extent of potential statewide, regional and certain local growth effects of the HST and Modal Alternative. The analysis, however, focuses primarily on very large geographic areas (subregions and counties), and the differences in percentages of growth between the HST and the Modal Alternative, as compared with the No-Project Alternative, both of which mask important sub-county absolute growth and HST station-specific issues.

The analysis also fails to analyze important segments of the proposed HST system that cross its subregional designations, such as the Los Angeles-Bakersfield Segment, whose end points are located in different subregions (Southern California and South Central Valley, respectively) and counties (Los Angeles and Kern, respectively). As a result, this section does not adequately fulfill the requirements under CEQA and NEPA that the induced growth section analyze and disclose the degree to which the project directly or indirectly fosters population, household, housing and employment or other indicators of economic growth, removes obstacles to growth or taxes community service facilities to the extent that would cause construction of new facilities, or encourages or facilitates other activities that cause significant environmental impacts.

Additionally, as noted earlier in these comments, this section, as with the entire EIR/EIS, fails to take into account the probable development of Palmdale Airport and the related economic benefits which would be brought about from the development of the HSR combined with an alignment which provided intermodal connectivity between Burbank and Palmdale Airports.

SECTION 5.3, POTENTIAL GROWTH-INDUCING EFFECTS

The induced growth section appears to be based largely on analysis contained in a technical report cited in the Section. Although this document is listed in the references, it was not included among the Draft EIR/EIS technical reports made available for public review, preventing members of the public and the decision makers from performing a complete review of the Draft EIR/EIS, contrary to the requirements of both CEQA and NEPA.

The induced growth impacts analysis is based on a projection of total, statewide economic impacts (measured in terms of population and employment growth) due to the HST, Modal Alternative and No-Project Alternative. The analysis, however, is conducted using geographic scales that mask potentially important impacts that cross the system of subregional

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areas and counties. For example, the end points of the Los Angeles-Bakersfield Segment are located in counties (i.e., Los Angeles and Kern, respectively) which are in two separate analysis subregions ( Southern California and South Central Valley, respectively), and there is no analysis of induced growth across subregions. Thus, prospects for the HST to induce population growth in Bakersfield, because of the faster and cheaper commute it would make possible between less expensive housing there and employment centers in Los Angeles County, is not considered in the induced growth analysis, consequently the analysis of potentially growth inducing effects is legally inadequate. The same deficiency exists regarding potential growth in the North Central Valley by persons employed in the Bay Area.

**SECTION 6, HIGH SPEED TRAIN ALIGNMENT OPTIONS COMPARISON**

The summary table used in Section 6.4 is very brief and masks problems associated with the methodologies used to derive impact conclusions in several key impact categories for the various possible alignments. No references and sources are provided to support the entries in the comparison tables. Without supporting data and documentation, the conclusions drawn related to the alternative alignments are not properly supported by substantial evidence.

**SECTION 7, UNAVOIDABLE ADVERSE ENVIRONMENTAL IMPACTS**

This Section states that "Only general statements of potential impacts can be made at this program level of review because field studies were not conducted and the buffer area used for the analysis was many times larger than the actual right-of-way for the alternatives under consideration in most instances." As has been noted, the lack of field verification of alignment information, the use of highly variable and overly broad potential zones of impact, and the recognition that impacts may be overstated for particular alignments renders the document inadequate. Sufficient information is not provided in order o allow the decision makers and the public to be aware of the potential environmental impacts of the project.

This section fails to identify an environmentally superior alternative from among the alternative HST alignment options. The Final EIR/EIS should make such a determination.

**SECTION 8, PUBLIC AND AGENCY INVOLVEMENT**

No Comment

**SECTION 9, ORGANIZATION, AGENCY AND BUSINESS OUTREACH**

No Comment

**SECTION 11, DRAFT PROGRAM EIR/EIS DISTRIBUTION**

No Comment

Draft Program EIR/EIS Comments  
Page 20  
August 26, 2004

**SECTION 12, SOURCES USED IN DOCUMENT PREPARATION**

As has been noted the 'Sources' listed in this section include statewide and regional technical studies that were not part of the EIR/EIS appendices. Any source material relied upon in the preparation of the EIR/EIS must be included in the appendices made available to the public and the decision makers.

Sincerely yours,



Dennis Mullins  
General Counsel

O044-31  
cont.

O044-32

O044-33

O044-34



**Response to Comments of Dennis Mullins, General Counsel, Tejon Ranch Company, August 26, 2004 (Letter O044)****O044-1**

The Authority has identified the SR-58/Soledad Canyon Corridor (Antelope Valley) with an HST station at Palmdale as the preferred option for crossing the Tehachapi Mountains between the Central Valley and Southern California. This alignment and station configuration allows for connectivity with Palmdale Airport. Palmdale airport is not included in Figure 2.4.1 of the Draft Program EIR/EIS because it is not a part of "the existing intercity transportation infrastructure that currently serves the major travel markets", as Figure 2.4.1 is noted. Palmdale airport is not included in the No Project Alternative because it does not have identified funding for implementation by 2020.

**O044-2**

The co-lead agencies respectfully disagree with the commentor's assertion. The Program EIR/EIS provides sufficient information and analyses to satisfy legal requirements and to inform the decisions to be made at this phase of project development. Extensive documentation supporting the PEIR/EIS is incorporated by reference, included in appendices, and referenced in the document. Please see Standard Response 3.15.13.

**O044-3**

Section 2.6 describes the physical characteristics of the proposed HST Alternative. Each section of Chapter 3 also outlines specific design features that will be applied to the implementation of the HST system to avoid, minimize, and mitigate potential impacts.

**O044-4**

The Program EIR/EIS addresses potential environmental impacts for the system alternatives and for alignment and station options. Key differences between alternative alignment and station options are highlighted in each environmental section of Chapter 3 and

summarized in Chapter 6. Specific impacts would be addressed in detail in subsequent project level analysis.

**O044-5**

A discussion of general mitigation strategies for the program level of analysis has been included in each environmental section of Chapter 3 in the Final Program EIR/EIS and includes mitigation strategies that would be applied in general for the HST system. Each section of Chapter 3 also outlines specific design features that will be applied to project level studies and the implementation of the HST system to avoid, minimize, and mitigate potential impacts.

More specific mitigation measures will be addressed during subsequent project level environmental review, based on more precise information regarding location and design of the facilities proposed. The more detailed engineering associated with the project level environmental analysis will allow the Authority to further investigate ways to avoid, minimize and mitigate potential impacts. Once the alignment is refined and the facilities are more fully defined through project level analysis, and after avoidance and minimization efforts have been exhausted, specific impacts and mitigation measures will be addressed in more detail.

**O044-6**

The Authority has identified the SR-58/Soledad Canyon Corridor (Antelope Valley) with a station at the Palmdale Airport/Transportation Center as the preferred option for crossing the Tehachapi Mountains between the Central Valley and Southern California. This alignment and station configuration allows for connectivity with Palmdale Airport. Palmdale airport is not included in the No Project Alternative because it does not have identified funds for implementation by 2020.

Regarding the relationship of the proposed HST Alternative to the SCAG Maglev project, please refer to Response AL065-1.

**O044-7**

Acknowledged. Please see standard response 6.23.1.

**O044-8**

Acknowledged. Please see standard response 6.23.1 and response O044-1. The Palmdale Airport/Transportation Center site has been identified as the preferred location for a HST station to serve the Antelope Valley. This potential station location would offer a high level of connectivity to Palmdale airport. The Draft Program EIR/EIS acknowledged that the Palmdale station site "is close to Palmdale Airport, with the opportunity for convenient shuttle or people-mover service".

**O044-9**

Acknowledged. The Authority and FRA believe that the Alternatives analysis in the Draft Program EIR/EIS meets the intent and requirements of CEQA and NEPA.

See also standard response 3.15.13 and standard response O042-11.

**O044-10**

The Authority has identified the SR-58/Soledad Canyon Corridor (Antelope Valley) with an HST station at Palmdale as the preferred option for crossing the Tehachapi Mountains between the Central Valley and Southern California. This alignment and station configuration allows for connectivity with Palmdale Airport. The Program EIR/EIS traffic analysis was completed at a regional level of detail based on the most current available regional modeling data. Should the HST system move forward, site-specific intersection traffic analysis utilizing current traffic count data and the most current available land use development data would be required as part of subsequent project specific analysis. The Authority would work closely with the local governments (cities) and others involved to ensure that adequate and appropriate access improvements are identified to minimize and mitigate potential traffic impacts. Detailed traffic studies would not be appropriate until proposed stations are

more defined in terms of location and design during subsequent project level studies.

**O044-11**

Section 3.1.1 addresses general NEPA and CEQA requirements together with regard to the scope of the traffic analysis and methodology to be used to satisfy both. No specific revisions are required to be noted. The entire document was prepared to satisfy applicable CEQA and NEPA requirements.

**O044-12**

To include the Palmdale Airport as part of the No-Project Alternative would be inconsistent with the basic premise of the alternative (includes programmed and funded improvements only). The airport improvements defined for the Modal Alternative are representative in nature and are not meant as an explicit or implied recommendation for aviation infrastructure capacity improvements to serve the future intercity demand. See response O044-1. Development of the Modal Alternative provided for a comparison of the overall potential for environmental impact of system alternatives (No Project, Modal, and HST). The specific placement of these improvements is immaterial to the purpose and results of the study.

The Authority has identified the SR-58/Soledad Canyon Corridor (Antelope Valley) with an HST station at Palmdale as the preferred option for crossing the Tehachapi Mountains between the Central Valley and Southern California, due in part to its connectivity benefits.

**O044-13**

It is not reasonable, practical, or appropriate to conduct localized air quality analyses at the program level of study. The alternatives cannot be defined in sufficient detail (precise alignments, precise station locations, and station access configurations) to enable the detailed intersection level of traffic analysis necessary to support a localized air quality study utilizing such tools as the CALINE4 computer model. The differences in potential air quality impacts for

various HST system alignment options would be relatively small, although these would be differences in local background levels also, and the differences for the alignment would not be discernable given the level of analysis detail that is possible at this program level of study.

Construction related air quality impacts are generally addressed in the Final EIR/EIS at sections 3.3 and 3.18 and would be addressed in more detail in subsequent project level analysis. In the program environmental review, not enough information is available regarding location of facilities, implementation phasing, and types of construction required to accurately predict equipment use scenarios and durations that will be used to define construction emissions. More detailed construction staging, traffic handling plans, and traffic analysis can be completed when specific sites are identified and project level design plans are prepared.

#### **O044-14**

Regional planning does not suggest that development of commercial service at the Palmdale Airport would result in a net reduction in flights at LAX; instead, a new Palmdale facility would serve the growth in air traffic. No significant differences in noise impacts would be anticipated.

Trains in tunnels do not have ambient noise impacts to sensitive receptors located on above ground, unless the receptors are near the portal locations.

More detailed evaluation of potential noise impacts will be included in subsequent studies.

Regarding potential noise impacts on wildlife, see Standard Response 3.4.1.

#### **O044-15**

- The co-lead agencies disagree with your assessment. Although differences in energy impacts between alignments were not included specifically in section 3.5, these were calculated for the various HST alignment options as part of the O & M costs

(referenced in section 4) analysis. Please see response to comment O056-4.

In regards to determination of significance, please see Section 7.1.1 and Table 7.3.1.

#### **O044-16**

Overall, it can be expected that the HST Alternative would introduce additional EMF exposures or EMI at levels for which there are no established adverse impacts on humans or wildlife, and there would be little differences, if any, between alignments identifiable at the program level of analysis.. EMF emissions from HST vehicle passby's are very low, and impacts are therefore not expected to be significant. EMF/EMI emissions will be analyzed in the subsequent project level environmental review in more detail, as summarized in the DRAFT PROGRAM EIR/EIS in Section 3.6.4 and 3.6.5. This analysis is not inconsistent with other areas in the EIR/EIS.

#### **O044-17**

Please see response to Comment AL063 – #1 and #14 regarding review of local and regional plans. Please see standard response 3.15.10 regarding use of habitat conservation plans, natural community conservation plans (NCCP), and other approved local, regional, or state habitat conservation plans. The analysis conforms with applicable legal requirements.

#### **O044-18**

The evaluation of environmental justice impacts is described on pages 3.7-4 and 3.7-5 of the PEIR/S. This evaluation looked at study areas through which the Modal and HST Alternatives would pass – i.e., the areas that could be potentially affected by the alternatives and their alignments. An evaluation was made as to whether these areas where impacts could occur, contain high levels of minority or low-income residents. Each of the sections in Chapter 3 discusses the potential impacts that could occur along these alignments according to environmental subject area (e.g., noise, land use, etc.). The review of the presence of low-income and

minority populations in the environmental justice section in combination with other sections of Chapter 3 is therefore sufficient, particularly to draw program level conclusions for the proposed system as a whole regarding the potential for disproportionate impacts.

**O044-19**

In the Final Program EIR/EIS, each environmental sections of Chapter 3 has been modified to include mitigation strategies that would be applied in general for the HST system. Further discussion of possible mitigation strategies for potential impacts to farmland has been included in section 3.8 Specific impacts and potential mitigations will be addressed in more detail during subsequent project level environmental review, based on more precise information regarding location and design of the facilities proposed. The more detailed engineering associated with the project level environmental analysis will allow the Authority to further investigate ways to avoid, minimize and mitigate potential impacts to farmland resources. The case cited as possibly limiting mitigation for impacts to agricultural lands has been depublished and cannot be cited as authority. In other cases, the use of easements for mitigation has been found to be appropriate.

**O044-20**

As stated in the Draft Program EIR/EIS, while both alignment options have potential for high contrast and shadow impacts, the SR-58 alignment option would have a greater extent of cut and fill slopes resulting in greater potential for visual impacts than the I-5 alignment option. The relatively large portion of tunneling would reduce the I-5 alignment option's potential for visual impacts as compared to the SR-58 alignment option.

**O044-21**

The conclusion that the SR-58 alignment option would have less potential for utility conflicts is based on the number of potential utility crossings estimated for each alignment option. For more

details of the conflict types see the Bakersfield to Los Angeles Public Utilities Technical Evaluation, January 2004. Refer to discussion about potential utility conflicts and likely avoidable through alignment and design variations with more detailed study at the project level environmental review.

**O044-22**

Hazardous materials impacts are highly site-specific in nature. These issues will be addressed during subsequent project level environmental review, based on more precise information regarding location and design of the facilities proposed and the construction and operation activities that are likely to occur near any potentially impacted sites. The more detailed engineering associated with the project level environmental analysis will allow further investigation to avoid, minimize and mitigate potential impacts. Once the alignment is refined, the facilities are fully defined through project level analysis, construction and operational plans are refined, and after avoidance and minimization efforts have been exhausted, specific impacts and mitigation measures will be addressed.

The generation of solid waste materials (from construction and operations) will be addressed in subsequent project level environmental review. It is appropriate to consider the potential for impact at the project level of analysis when accurate quantities of waste can be determined. The methods of construction including excavation and disposal/use of excavated materials are generally discussed in Section 3.18 of the Final Program EIR/EIS.

**O044-23**

Please see standard response 3.15.2, standard response 3.15.13, and standard response 3.16.1 for more information on the intended uses of the PEIR/S and anticipated subsequent studies including project-level evaluations that would be prepared for selected HST alignment options. These studies would provide a detailed evaluation of cultural resource data. The analysis of cultural resources was based on literature review as described in section 3.12. This level of detail is appropriate for this programmatic review to produce a

general comparison of potential resources/impacts between alignment options.

**O044-24**

The APE for cultural resources is described in subheading 3.12.2 of the PEIR/S. This program level, Tier 1 study used existing information regarding cultural resources (see section 3.12.1B) and did not provide a “gap analysis” identifying portions of the alignments that have not been surveyed. The existence of previous surveys and any need for additional information will be addressed in the project-level, Tier 2 studies when potential tunnel impacts can also be considered in greater detail.

**O044-25**

The Co-Lead agencies respectfully disagree with the commentor’s assertions regarding the use of length of potential impact as an indicator for comparing alignment options. The use of length or proportion of alignment options with similar constraints or types of impacts is appropriate to allow the comparison of two alternative alignment options in the same segment. This is an appropriate methodology for program-level environmental review. The methodology used is also appropriate for considering slope instability. More detailed analyses will be included in project-level environmental review.

**O044-26**

Please see standard responses 3.15.2, 3.15.6, 3.15.7, 3.15.8, and response to Comments AF007 – 2, AF007 – 5, AS004 – 41, and AS012 – 12. Currently, 23 miles (37 km) of the I-5 Tehachapi alignment option between Bakersfield and Sylmar are anticipated to be in tunnel, representing about 27 percent of the total alignment. 13 miles (21 km) are anticipated to be in tunnel for the Antelope Valley alignment option through the same geographic segment, representing about 18 percent of the alignment. Impacts to groundwater are more likely to occur for tunnel portions of the HST

alignments. Please see standard response 3.15.5 regarding groundwater evaluations and mitigation.

**O044-27**

The purpose of the program level environmental analyses were to identify potentially impacted resources and impact areas to provide a basis for evaluation and comparison of system alternatives and HST alignment options within the same segment and to focus subsequent project level environmental review. The HST alignment options between Bakersfield and Sylmar were compared using consistent envelope widths. Additional analysis is included in the Final Program EIR/EIS to describe representative direct impacts of the Modal and HST Alternatives and HST alignment options based on the likely footprint of the facilities proposed. Please see Section 3.15.3. Please see standard response 3.15.2 and standard response 3.15.13 regarding the level of detail used for the evaluations in this PEIR/S and the intended uses of this PEIR/S. In evaluating alternatives, every effort has been made to carry forward those options that are likely to be the least environmentally damaging practicable alternative (LEDPA). The nature and large geographic extent of the proposed HST system precludes total avoidance of jurisdictional resources. Even at this stage, every effort has been made to avoid wetland resources. As the Project progresses through subsequent design and environmental reviews, more detailed analyses will be possible, and additional avoidance and mitigation techniques can and will be applied. For example, one mitigation strategy identified in the Draft PEIR/S is the adjustment of alignment plans and profiles and construction of structures above grade or in tunnels to avoid impacts. Please see response to Comment AF007 – 2, and standard responses 3.15.6, 3.15.7, and 3.15.11 for additional discussion of the LEDPA.

**O044-28**

See Standard Response 3.17.1.

**O044-29**

Consistent combinations of alignment options have been used for all comparisons. Please see standard response 5.2.2.

**O044-30**

Please see response 5.2.4 for issues related to the geographic scale and subregional designations of the analysis.

Please see standard response to comment O044-1 in regards to Palmdale Airport and potential intermodal connections.

**O044-31**

Please see standard response 5.2.4 for issues related to the geographic scale of the analysis and availability of the technical report on economic growth effects.

**O044-32**

The comparison of alignment options in Chapter 6 focuses on the key differences. All information presented in Chapter 6 is drawn from the information presented in the other Chapters of the Program EIR/EIS; primarily Chapter 3.

**O044-33**

The Authority and FRA believe that the Unavoidable Adverse Environmental Impacts chapter in the Draft Program EIR/EIS meets the intent and requirements of CEQA and NEPA.

See response O042-11 regarding identification of the proposed HST system as the environmentally superior alternative and the identification of various preferred alignments and station options for further study. This satisfies CEQA requirements for the program-level analysis and environmentally superior alternatives among

specific alignments will be identified during future project-level environmental reviews.

**O044-34**

The technical studies are available for public review at the Authority's office in Sacramento. The technical studies were made widely available to the public by placing them on the Authority's website at [www.cahighspeedrail.ca.gov](http://www.cahighspeedrail.ca.gov). Please see standard response 10.1.1.

Comment Letter O045

O045



TORREY PINES  
COMMUNITY PLANNING BOARD

ROBERT GILLESKIE, CHAIR 2670 PINWOOD ST., DEL MAR, CA 92014  
Phone 858-793-1757 Fax 858-654-8202 rgilleskie@torreypp.com

August 28, 2004

Attn: California High-Speed Train  
Draft Program EIR/EIS Comments  
925 L Street, Suite 1425  
Sacramento, CA 95814

To Whom It May Concern:

Torrey Pines Community Planning Board (TPCPB) is a City of San Diego-recognized planning group with a mandate to develop and defend the community plan for an area that includes the State-protected Los Penasquitos Lagoon State Preserve (Penasquitos Lagoon).

By this letter, TPCPB officially states for the record that it unanimously opposes any proposed route that would run through Penasquitos Lagoon, and any route that would tunnel under Camino del Mar in the City of Del Mar. Specifically, TPCPB strongly opposes both "Camino del Mar tunnel" options (CDM/Penasquitos routes) contained in the California High Speed Rail Authority (CHSRA) draft EIR/EIS document.

TPCPB is joined in this opposition by a broad coalition of citizens and elected officials, including San Diego Mayor Dick Murphy, San Diego City Councilman Scott Peters (also a member of the Coastal Commission), TPCPB, the Torrey Pines Association, the City of Del Mar, the San Dieguito River Park Joint Powers Authority, and many others. In short, there is no community support whatsoever for expanding the railroad through Penasquitos Lagoon, yet your EIR document makes an absurd assertion that this "enjoys community support." We can only wonder at the fantastic nature of such a false statement.

We note that the CDM/Penasquitos routes violate the City of San Diego-approved community plan, and furthermore fundamentally violate the spirit and letter of the California Public Resources Code by causing permanent and irreparable harm to a protected wetlands resource, due to heavy construction impact, significantly increased train vibration, diesel emissions, noise pollution, habitat disruption, property value destruction, view shed desecration, and other harms.

In short, these routes are a non-starter, and we strongly object to CHSRA or any other entity spending one additional cent to "study" routes that are so harmful that in our view they never will be selected.

Penasquitos Lagoon is part of Torrey Pines State Reserve, a unique natural and scenic resource that exists no where else in the world. It is unconscionable to continue CHSRA's aggressive campaign to wipe out forever this irreplaceable public resource. To "double track" this area,

enabling more and more harmful heavy diesel passenger and freight trains to spoil the public's enjoyment, is not now and never will be acceptable to this community.

We also note that this plan offers no commensurate benefit to the community but that, even if it provided some *negligible* benefit, the senselessness, fiscal recklessness, and environmental harm overwhelm any such small benefit.

CHSRA's plan also betrays the trust of taxpayers, by squandering hundreds of millions of dollars of scarce transportation funds on an obsolete technology that will require larger and larger public subsidies to operate, and which will have no observable benefit in terms of improving expected peak hour level of service on I-5. For similar reasons, this plan raises serious issues of unfair competition that could destroy public consensus for more efficient, more scaleable, more environmentally friendly alternative modes of transportation.

For these and other reasons, TPCPB finds that CHSRA's CDM/Penasquitos routes constitute a violation of our City-approved community plan, make a mockery of the California Public Resources Code, are environmentally harmful to a state preserve, will materially and permanently harm residents in the City of Del Mar, the Del Mar terrace, and other established neighborhoods, and therefore strongly objects to these routes. By this letter, TPCPB calls on CHSRA, Caltrans, and others to immediately cease and desist from spending any further funds to study or promote the double tracking of Penasquitos Lagoon.

  
Robert Gilleskie, Chair  
Torrey Pines Community Planning Board

O045-1  
cont.

O045-1

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**Response to Comments of Robert Gilleskie, Torrey Pines Community Planning Board, August 28, 2004 (Letter O045)**

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**O045-1**

The LOSSAN Conventional Rail Improvements are not considered part of the proposed HST system in the Final Program EIR/EIS. However, these improvements are the subject of the Caltrans LOSSAN Rail Improvements Program EIR/EIS (Draft PEIR/EIS SCH # 2002031067). These comments have been forwarded to Caltrans for consideration. See standard response 6.42.1 and Section 2.6.9 and Chapter 6A of the Final Program EIR/EIS.

Comment Letter O046

O046



August 25, 2004

Mehdi Morshed  
Executive Director  
California High-Speed Rail Authority  
925 L Street, Ste. 1425  
Sacramento, CA 95814

Dear Mr. Morshed:

On behalf of the Visalia Chamber of Commerce and its 1,100 active members, I wish to express this organization's firm support of a proposed alignment that would follow the Union Pacific/Highway 99 corridor for the proposed High-Speed Rail service in California.

Relative to the Draft EIR/EIS we are convinced that this alignment makes the most economic and environmental sense of the two alternatives currently being considered. Visalia continues to be the retail, commercial, and population hub of the area encompassed by Tulare, Kings, and Southern Fresno counties. Selecting the UP alignment ensures the High-Speed Rail will have access to the greatest possible number of users at the lowest cost. It is our understanding that this alignment also represents the most economical option in terms of construction costs. Finally, it is our belief that this alignment represents the option with the greatest potential for positive environmental impacts (e.g. reduced auto emissions, etc.) because of the proximity of a Tulare County station to existing population centers (e.g. shorter driving distances to access trains).

O046-1

Finally, we wish to endorse the City of Visalia's request that it be considered as a site for a future maintenance/service facility serving the High-Speed Rail system. Again, the city's central location, availability of land, and workforce availability combine to make Visalia an excellent choice for this important component of the overall rail system.

Thank you again for the opportunity to comment on the Draft EIR/EIS. Please feel free to contact me if I can provide any further clarification or information related to this issue.

Respectfully,

Mike Cully  
President/CEO  
Visalia Chamber of Commerce



*The mission of the Visalia Chamber of Commerce is to preserve, model and advance business vitality and prosperity for our members and community*

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**Response to Comments of Mike Cully, President, Visalia Chamber of Commerce, August 25, 2004 (Letter O046)**

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**O046-1**

Acknowledged. Please see standard response 6.15.4 and standard response 6.21.1. See also responses to Comments AL066 (City of Visalia).

## Comment Letter O047

O047



August 31, 2004

The California High Speed Rail Authority (Authority) proposes a high speed train system that would link Los Angeles, Sacramento and the Bay Area via the Central Valley.<sup>1</sup> The Authority has prepared and invited comments on a Draft Environmental Impact Report (DEIR) for this project, which are due August 31, 2004. American Farmland Trust respectfully submits and asks consideration of this critique of the DEIR. We would also call the attention of state and local policy makers to the perspective it offers on future growth and development in the Central Valley.

American Farmland Trust (AFT) is the nation's leading agricultural conservation organization. It works with farmers, policy makers and other organizations to promote policies that will minimize conversion of the most productive farmland and to encourage farming practices that are environmentally friendly. AFT has had an office in California since 1983 and now has approximately 3,500 members in the state.<sup>2</sup>

AFT's interest in the high speed train (HST) project stems from its potential impact on farmland and agriculture in the Central Valley.<sup>3</sup> The Valley was identified by AFT's 1987 *Farming on the Edge* research as the most productive and threatened agricultural resource in the United States. AFT's 1995 study *Alternatives for Future Urban Growth in California's Central Valley: The Bottom Line for Agriculture and Taxpayers* (1995) documented the consequences of sprawl and the benefits of more compact, efficient development in the Valley, concluding that a much more aggressive effort to combat sprawl must be made to protect agriculture and avoid a crippling public tax burden.

#### DEIR Critique in a Nutshell

By dramatically reducing travel times between and among communities in the Central Valley and the state's major population and employment centers, the HST will almost certainly stimulate enormous growth and development in the Valley. Properly guided, this growth could create tremendous economic opportunity for a region that has lagged behind much of California. But, without proper guidance, development could transform the Central Valley into another version of the Los Angeles Basin, with urban sprawl supplanting much of its agricultural land and virtually wiping out production agriculture.

<sup>1</sup> For project details, see [www.cahighspeedrail.ca.gov](http://www.cahighspeedrail.ca.gov)

<sup>2</sup> For more information, see, [www.farmland.org/California/index.htm](http://www.farmland.org/California/index.htm)

<sup>3</sup> Throughout these comments, we define the Central Valley to include the 10 counties considered in the DEIR: Fresno, Kern, Kings, Madera, Merced, Sacramento, San Joaquin, Stanislaus, Tulare and Yolo.



The DEIR concludes without sufficient evidence that HST will have virtually no impact on population growth in the Central Valley, compared with the no-project alternative. This simply defies credibility. The Authority's own advertising promises that HST will bring a "new California Gold Rush" and, judging from the turnout of civic boosters at the hearings held by the Authority, local officials and businesses also expect the HST to be a boon to their communities.

The DEIR dramatically underestimates the potential conversion of farmland to non-agricultural use. It assumes that the density of future development in the Central Valley will be much higher than both recent trends and county general plans indicate. It also ignores the very real phenomenon of "ranchette" development scattered throughout the Valley.

The DEIR does not adequately address the potential disruption of agricultural operations by conflicts with new urban development, by the severance of farm properties and transportation routes by the rail right-of-way itself, and by the increased urban competition for water now used for irrigation.

The DEIR fails to propose adequate mitigation for these impacts. The Authority's own consultant, Cambridge Systematics, Inc. (CSI), suggests that the HST could be a "potent tool for encouraging more compact development patterns."<sup>4</sup> The DEIR seems to assume that this will happen automatically. But the evidence suggests that it won't occur unless county and city plans and land use policies are changed to encourage more efficient land uses. Explicitly linking the construction of HST to stronger state and local smart growth policies is a mitigation strategy that definitely should be evaluated.

#### The Impact of HST on Central Valley Population Growth

There is little doubt that the population of the Central Valley will grow significantly in the coming decades – with or without HST service. In *Alternatives for Future Urban Growth*, AFT itself relied on population forecasts by the California Department of Finance (DOF) that predicted a tripling of the region's population by 2040. But, to our knowledge, DOF did not consider the impact that HST service might have in coming up with its projections.

Common sense would suggest that a futuristic transportation system, bringing virtually the entire San Joaquin Valley within easy commuting distance of the Bay Area and much of Southern California, would attract significantly more people to the Valley. The DEIR itself acknowledges that "Transportation investments can lead to reduced travel time or cost [and] improved accessibility to regions. These effects contribute to economic growth ... attracting businesses and residents to places with increased accessibility." (DEIR, p. 5-1)

Yet, astonishingly, the DEIR concludes that, despite making it possible for people to travel from, say, Fresno to Los Angeles in about an hour, HST will attract only 2.5

<sup>4</sup> *Economic Effects of the System Alternatives for the Program*, CSI 2003, p.1-7.

Comment Letter O047 Continued

percent more people (162,000) to the Central Valley than would otherwise come to live there (6.48 million) by the year 2035. (DEIR Table 5.3-5, p. 5-15) This conclusion is simply not believable.

DEIR Population Forecasts for 10 Central Valley Counties

|                               |           |
|-------------------------------|-----------|
| Current Population 2002       | 2,499,216 |
| Projected Population 2035     |           |
| With HST                      | 9,138,284 |
| Without HST                   | 8,975,634 |
| Population Increase 2002-2035 |           |
| With HST                      | 6,639,068 |
| Without HST                   | 6,476,418 |
| Difference Made by HST        | 162,650   |
| Percentage Difference         | 2.5%      |

The DEIR does not clearly document how it reached its conclusion. It does reveal, however, that the analysis on which it relied "suggest[s] that the additional population growth under the HST Alternative is driven by internal job growth [in the Central Valley] ... related to initiation of HST service, rather than by potential population shifts from the Bay Area and Southern California accompanied by long-distance commuting." (DEIR, p. 5-17)

This, too, is unbelievable. Already, there are substantial numbers of people who live in the Valley and commute to the Bay Area.<sup>5</sup> We challenge the Authority to explain exactly how this trend would be mitigated or reversed *after* HST service makes the commute much easier.

The DEIR also does not acknowledge the margin of error in its population distribution projections. The report of consultant CSI explains, "While the exact role of particular factors varies by region, several influences are consistently important, including proximity to freeways, access to jobs, site slope and site incorporation status. To the extent that these factors are less important in the future, or are important in different ways – or, as is even more likely, that other factors become important – the model results will vary widely than [sic] what is presented here." [Emphasis supplied.] (CSI, at H-4)

**The Impact of HST Induced Development on Farmland and Agriculture**

Even if we assume that the population projections of the DEIR are accurate, the potential impact of the development that would accompany HST on farmland and agriculture appears to be very significant – perhaps ruinous. The DEIR concludes that growth and development under the HST base case alternative will result in the urbanization of

<sup>5</sup> In 1996, an estimated 31,000 people commuted from the Central Valley to Santa Clara County in the Bay Area. San Francisco Chronicle, "Altamont Rail Plan on Track," Dec. 2, 1996.

447,995 acres of land in the Central Valley by 2035.<sup>6</sup> (DEIR, Table 5.3-6, p. 5-20; CSI, Table 5.2, p. 5-3). But this almost certainly underestimates the impact of HST because it relies on many assumptions that are at best questionable and at worst simply wrong.

The DEIR presents tables both for anticipated population growth (Table 5.3-5, p. 5-15) and for future urbanization of land (Table 5.3-6, p. 5-20). But the DEIR does not explicitly present any information about the density of future development (people per acre) that it presumably used to derive urbanized acres from the number of new people.<sup>7</sup> The figures in the tables imply, however, that future development in the Valley will have to occur at 8.7 people per acre between 2002 and 2035 to accommodate the anticipated population within the urbanized area projected by the DEIR.<sup>8</sup>

The density used by the DEIR to calculate future urbanization approximates those now found in the Bay Area and Southern California, but is 18 percent higher than the current density of development in the Central Valley, 7.3 people per acre.<sup>9</sup> The DEIR, relying on the CSI report, attempts to justify the higher figure by invoking economic theory and citing recent trends toward higher density.

The theory, as articulated by CSI, is that "It is an axiom of economics that scarce resources are used more intensely than plentiful ones. Following this logic, as available supplies of developable land are used up, developers seek ways to use remaining land more intensely, either by increasing densities or through redevelopment. Thus, both development densities and infill activity should increase with population growth."<sup>10</sup> (CSI, p. H-5)

The problem with applying this theory to the Central Valley is that developable land in that region is anything but scarce. Right now, the general plans of the 10 counties

<sup>6</sup> See Table 1 in the Appendix to this critique for county and Valley-wide figures. The DEIR also estimates that 303,200 acres of "farmland" will be developed in the Central Valley during the same period. (DEIR, Table 5.4-1, p. 5-28) No independent documentation is offered for this conclusion. The only way this figure can be reconciled with the DEIR's urbanization figure is if more than *one-third* of the land developed in the Central Valley counties is *not* farmland. Yet, because the eastern side of the Valley where the HST line would be located is today almost entirely productive farmland, it is difficult to imagine how this could occur. Thus, we use the larger urbanization figures for purposes of our critique.

<sup>7</sup> The CSI report on which the DEIR is based says that it used the "marginal" density of development between 1988 and 1998, based on population figures from the Department of Finance and urbanized acreage figures from the Department of Conservation's Farmland Monitoring and Mapping Program (FMMP). But these figures are not included in the report. (CSI, p. H-4)

<sup>8</sup> See Table 1 in the Appendix to this critique for county and Valley-wide figures.

<sup>9</sup> See Table 2 in the Appendix. All density figures used herein are "gross" in that they are the product of dividing the total population by the total amount of urbanized land, regardless of whether it is used for commercial, industrial, institutional or residential purposes. This is the way the DEIR calculates density and, so, for comparability is used throughout this critique except for Table 9.

<sup>10</sup> CSI also issued a caveat that is nowhere reflected in the DEIR: "Counteracting this tendency [toward higher density] is the desire of many residents to preserve a rural or suburban lifestyle. Thus, there are many parts of California where infill activity and development densities are below what theory suggests they should be." (CSI, p. H-5)

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included in the DEIR analysis designate more than 2.5 million acres of land for future development.<sup>11</sup> Much of this is zoned for residential lots of 2 acres or greater in size.

Nor are recent trends toward higher density in the Central Valley as dramatic as the DEIR suggests. The DEIR cites the findings of a report, *Raising the Roof: California Housing Development Projections and Constraints, 1997-2000*, done for the California Department of Housing and Community Development, to the effect that residential densities increased between 50% and 58% in nine counties between 1984 and 1996. (DEIR, p. 5-12, fn. 7) But only four of those counties (Kings, Merced, Stanislaus and Yolo) are in the Central Valley, their average density in 1996 was only 6.7 people per acre, the average increase in their density from 1984 was only 3 percent (0.2 people acre) and in two of the counties (Kings and Merced) density actually declined.<sup>12</sup>

CSI says that it used the density of development between 1988 and 1998 to calculate future urbanization of land. (CSI, H-3) As noted above, this density would have had to be 8.7 people per acre for the Valley as a whole to arrive at the urbanized acreage in the DEIR based on its projected population increase. In contrast, the density of development for a more recent, comparable period, 1990-2000, based on the same DOF and FMMP figures used by CSI, was only 7.4 people per acre.<sup>13</sup>

Perhaps CSI somehow manipulated the 1988-1998 data, or introduced additional assumptions that are not apparent in its report, to generate a higher density figure for purposes of calculating land urbanization in the DEIR. But the 1990-2000 "marginal" density is much closer to the 1990 density in the Valley (7.3) and, thus, appears to be much more realistic than the figure apparently used by CSI. If the 1990-2000 density is used to calculate the land that would be urbanized in 2035 under the HST scenario, the total urbanized land in the Valley would be 561,681 – 83,686 (or 18%) more than the DEIR projection.<sup>14</sup>

But there is a further problem with the approach that CSI and the DEIR took to projecting urbanization. It is based on the assumption that everyone in the Central Valley lives in urbanized areas, i.e., within cities that are relative compact and contiguous. However, according to the U.S. Census, in 2000 about 484,000 people, or 11 percent of the total population of the Valley, lived in rural areas outside cities.<sup>15</sup> And, with the exception of the farm population (approximately 77,000 in 1990, the latest year for which figures are available), these exurbanites tend to live on large residential lots and "ranchettes" that are

<sup>11</sup> See Table 3 in the Appendix. Data are from the Information Center for the Environment, U.C. Davis, compiled for the Resource Agency's California Legacy Project, 2004.  
<sup>12</sup> See Table 4 in the Appendix.  
<sup>13</sup> See Table 5 in the Appendix.  
<sup>14</sup> See Table 6 in the Appendix. All of the DEIR's urbanization projections for the HST alternative are for a "base case" in which all stations would be located in downtowns rather than outlying rural and suburban areas. It acknowledges that outlying stations, which are proposed as an alternative, would weaken the attraction of the stations for higher density development, resulting in even greater urbanization of land. (DEIR, p. 5-21) However, it makes no attempt to calculate the increased amount of land likely to be urbanized under the outlying stations alternative.  
<sup>15</sup> See Table 7 in the Appendix.

the most inefficient use of land from the standpoint of both providing urban services or conserving agricultural land.

A study recently done by AFT, *Ranchettes: The Subtle Sprawl, A Study of rural Residential Development in California's Central Valley* (2000), identified 42,690 developed parcels of land averaging 5 acres and totaling 214,000 acres in 13 Central Valley counties (including Placer and Solano as well as the 10 studied by the DEIR). The estimated population living on these parcels was 139,500 or a mere 0.65 people per acre.<sup>16</sup>

If we assume that the same percentage of the population in the Valley will continue to live in rural areas, and apply the density of current ranchette development to the population increase projected by the DEIR, the amount of land "urbanized" by 2035 would be about 674,000 acres.<sup>17</sup> (This is only about a third of the land now zoned for ranchettes!) If, to correct for over-counting, the 1990-2000 density of development is applied only to the urban population (89% of the total population), the additional acreage urbanized would be about 502,000. Adding these figures yields a total of 1,179,000 acres likely to be urbanized, developed or removed from agricultural production under the HST alternative – 2 ½ times what the DEIR predicts. Considering that there are only about 5 million acres of irrigated farmland in the 10 Central Valley counties studied, such a loss could be devastating to agriculture in the region, the more so if development is scattered throughout the region.<sup>18</sup>

In summary, the DEIR presents a far more optimistic picture of the efficiency of future development – and the loss of farmland – in the Central Valley than both actual trends and future county plans suggest.

Summary Comparison of Land Urbanization Projections

| Source                  | Gross Density (People per Acre) | Acres Urbanized 2002-2035 |
|-------------------------|---------------------------------|---------------------------|
| (a) DEIR/CSI            | 8.7 for entire population       | 447,995                   |
| (b) 1990-2000 DOF/FMMP  | 7.4 for entire population       | 561,681                   |
| (c) 1990-2000 DOF/FMMP  | 7.4 for urban population        | 502,469                   |
| (d) AFT Ranchette Study | 0.65 for rural population       | 673,930                   |
| Sum of (c) and (d)      | 3.5 for combined population     | 1,179,400                 |

Indeed, the DEIR's estimate of urbanization more closely approximates the hopeful, "compact growth" scenario, rather than "business as usual," envisioned in a 1995 AFT study of future development in the Central Valley. That study found that, using current

<sup>16</sup> See Table 8 in the Appendix.  
<sup>17</sup> See Table 9 in the Appendix. Not to overstate the case, we do not have enough information to determine how much of this land might be cropland in the Central Valley proper rather than in the Sierra or Coast Range foothills.  
<sup>18</sup> See Table 10 in the Appendix for Central Valley agricultural statistics.

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densities in the Valley (7.9 people per acre – deliberately erring on the conservative side) and DOF population projections, 1,035,477 acres of land would be developed by the year 2040. The “compact growth” scenario assumed higher densities (~ 17 people per acre) to reduce the loss to 474,370 acres.<sup>19</sup> Nearly a decade has passed since that study and, despite the DEIR’s rosy assumptions, there is little evidence to suggest that more compact, efficient growth has or will become the norm in the Valley.

**Potential Disruption of Agricultural Production by HST and Induced Growth**

There are several sources of potential disruption of agricultural production that could be associated with HST, beyond the loss of farmland: conflicts between new development and agriculture, severance of farm parcels and agricultural transportation routes, and competition for irrigation water. Together, they could have an impact on agriculture as significant as the loss of farmland itself. But the DEIR fails to consider any of them.

The 1995 AFT *Alternatives* study calculated that, under the “business as usual” scenario, in addition to the one million acres of farmland that would be urbanized in the Central Valley, as much as 2.5 million additional acres of farmland could be affected by potential conflicts with that development. This was based on a buffer zone around developed areas within which the conduct of routine agricultural operations could result in noise, odors, dust, chemical drift and other harmful or annoying spillover effects. These conflicts are well-documented and have led to the adoption of “right to farm” laws in nearly every state, including California, in a not-so-successful attempt to protect agricultural operators from nuisance lawsuits and liability.<sup>20</sup> The DEIR does not consider this additional source of interference with agricultural production in the Central Valley.

The DEIR does raise the issue of the severance of existing farms by the high speed right-of-way itself. (DEIR, p. 3.8-14) But it defers an attempt to quantify the number of farms and acreage that would be affected until specific station sites and route alignments are chosen. This omission seems curious in view of the fact that the DEIR does quantify the acreage of farmland that the right-of-way would directly remove from agriculture. (DEIR, Table 3.8-1, p. 3.8-10) The severance of farms is, therefore, a huge unknown that could have consequences for agriculture well beyond the actual conversion of land to development. Moreover, the DEIR fails to consider the potential for the right-of-way to sever transportation routes over which are moved farm equipment as well as shipments of production inputs and crops. This, too, could dramatically affect agricultural operations and/or result in significantly increased costs associated with mitigation measures such as elevating the rail line, and building underpasses and overpasses.

Finally, the DEIR fails to consider the impact that increased demand for water to supply new development would have on irrigated agriculture and the viability of farmland in the

<sup>19</sup> E. Thompson, T. Bradshaw, B. Muller and D. Strong, *Alternatives for Future Urban Growth in California’s Central Valley: The Bottom Line for Agriculture and Taxpayers*, Table 3, p. 8.  
<sup>20</sup> See, e.g., E. Thompson, *Case Studies in Agricultural-Suburban Land Use Conflict*, 1982 ZONING & PLANNING LAW HANDBOOK 297; E. Thompson, *Right to Farm Laws*, 1983 ZONING & PLANNING LAW HANDBOOK 207.

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O047-3

Central Valley. Eighty-six percent of the cropland in the 10 studied Central Valley counties is irrigated, accounting for most of the \$13 billion in agricultural commodities – half of California’s total output – produced there annually.<sup>21</sup> Thus, water is as essential as land to Central Valley agriculture. A significant increase in the Valley’s population, whether caused by HST or not, will consume an enormous amount of water and have an equally significant impact on agriculture. Yet, the DEIR’s section on the impact of HST on hydrology and water resources is limited to construction of the rail line itself as it affects “encroachment on or location in a floodplain, potential impacts on water quality, potential increased/decreased runoff and stormwater discharge due to changes in the amount of paved surfaces, potentially increased or decreased contribution of nonpoint-source contamination from automobiles, and potential impacts on groundwater from dewatering or reduction of groundwater recharge.” (DEIR, p. 3.14-8) This is a major limitation that grossly understates the impact of HST induced-growth on agriculture.

**Mitigation**

Assuming that HST will, indeed, cause more development in the Central Valley than would otherwise occur – and, the DEIR’s obscure economic models notwithstanding, it is hard to believe it will not – serious mitigation measures would seem to be required to prevent it from consuming an excessive amount of farmland and possibly crippling the agriculture industry. The DEIR suggests a number of mitigation strategies, including aligning the HST route to avoid the most productive farmland and the acquisition of conservation easements with mitigation fees, but does not meaningfully examine them. (DEIR, p. 3.8-18) We encourage the Authority to do so.

Another, more promising mitigation strategy is suggested by the Authority’s consultant CSI, whose report says that HST “provides a potent tool for encouraging more compact development patterns” and notes that there should be “synergistic opportunities to combine [HST] with regulatory based development strategies that could limit land consumption in many counties to well below that needed for the other ... alternatives.” (CSI, pp. 1-7, 1-10)

CSI further suggests that “regulatory-style efforts by cities to encourage increased density and a mix of land uses near rail stations have been effective,” noting that such land use patterns have emerged around the French and Japanese HSR stations. (CSI does not, however, compare the land use policies in France and Japan with those in California generally or the Central Valley specifically.) It also notes that “other [U.S.] jurisdictions have had some success in implementing more aggressive and regionwide regulatory-style strategies” such as “urban growth boundaries, maximum parking requirements, jobs housing balance, more diversity of land uses, higher densities [and] higher service levels of mass transit.” (CSI, p. 1-8)

The DEIR seems to suggest that densification of development will somehow automatically occur as HST acts as a magnet for business and ultimately people. But other studies of new transit stations and development patterns have concluded, for

<sup>21</sup> See Table 10 in the Appendix.

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example, that "land use benefits from investments in rail transit are not automatic. Rail transit can contribute to positive change, but rarely creates change by itself. The hardware needs the software – supportive land use policies such as density bonuses and ancillary infrastructure improvements – if it is to reap significant dividends."<sup>22</sup>

An alternative that explicitly links HST with the adoption of stronger state and local land use plans and policies, designed to encourage more compact growth and a reduction of farmland loss, is a mitigation strategy that should be examined in closer detail. It is relevant to the future of the Central Valley and its agriculture whether or not the DEIR is correct about the marginal impact of HST on population. Indeed, if HST is never built, the opportunity to use it as a magnet for more compact development will be lost, making more effective land use policies all the more important.

Conclusions

The DEIR for the proposed high speed train system raises serious questions about the impact of growth and development on Central Valley farmland and agriculture. The principal issue is not the extent to which a "bullet" train will induce additional growth, but whether the growth that is sure to occur in the Valley, as California's coastal areas become more crowded, is appropriately managed.

American Farmland Trust's highest priority in California is to work with state and local policymakers – including the High Speed Rail Authority – and the agriculture community to assure that the loss of the state's best farmland to development is minimized. As we said in our testimony to the Authority last March, "The proposed high speed train system could be one of the best things ever to happen in California – or one of the worst. It could harness tremendous civic enthusiasm to build diverse, efficient, livable communities in the midst of a living landscape of sustainable agriculture and a healthy environment. But without a comparable effort to harness the development it will attract, the system could be a 'train wreck' for agriculture, for the environment and for every Californian who will end up paying the bill for sprawl. If we marry the excitement of high-speed rail and the responsibility of smart growth – and only if we do so – we will avoid the 'train wreck' and build a better California where our freeways are less congested, our skies are less crowded, our environment is cleaner, our housing is more affordable and our agriculture can still be counted on to feed America and the world."

Respectfully,

Edward Thompson, Jr.  
California Director  
(202) 309-1162

AFT gratefully acknowledges the contributions of Professor Alvin Sokolow, and graduate students John Speka and Evan Schmidt, at U.C. Davis, in compiling and analyzing population, land development and county plan data for this critique.

<sup>22</sup> J. Landis and R. Cervero, Access No. 14, University of California Transportation Center, Spring 1999, p. 15.

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Appendix

**Table 1 - Density Implications of DEIR Population & Urbanized Land Data**

|                                   | Fresno    | Kern      | Kings   | Madera  | Merced  | Sacramento | San Joaquin | Stanislaus | Yuba    | Yolo    | Total     |
|-----------------------------------|-----------|-----------|---------|---------|---------|------------|-------------|------------|---------|---------|-----------|
| Population 2000                   | 839,592   | 712,188   | 132,092 | 135,695 | 224,709 | 1,259,423  | 607,331     | 485,123    | 397,618 | 170,518 | 4,664,287 |
| Population 2015 HST               | 1,441,977 | 1,479,976 | 245,137 | 175,340 | 449,329 | 2,061,967  | 1,164,907   | 804,368    | 763,163 | 262,497 | 9,138,264 |
| Urbanized Land 2000               | 96,977    | 811,468   | 29,479  | 23,255  | 31,713  | 167,101    | 74,250      | 35,426     | 44,656  | 29,342  | 654,659   |
| Urbanized Land 2015 HST           | 169,503   | 226,891   | 44,910  | 45,329  | 57,212  | 202,471    | 137,960     | 93,562     | 97,841  | 37,022  | 1,132,661 |
| Additional Population 2000-2015   | 601,985   | 767,788   | 113,041 | 119,645 | 224,620 | 802,544    | 557,576     | 449,265    | 365,547 | 111,979 | 4,173,577 |
| Land Urbanized 2000-2015          | 92,526    | 115,383   | 15,431  | 22,074  | 25,500  | 45,370     | 63,710      | 38,135     | 44,185  | 10,680  | 477,665   |
| Unplanned Urban Density 2000-2015 | 6.5       | 8.7       | 7.3     | 8.1     | 8.9     | 17.7       | 8.8         | 11.8       | 7.4     | 10.5    | 8.7       |

\* Assumes entire population is housed in urban areas.  
Urbanized land figures are in acres. Density is people per acre.

**Table 2 - Current Urban Densities in the Central Valley**

|                            | Fresno  | Kern    | Kings   | Madera  | Merced  | Sacramento | San Joaquin | Stanislaus | Yuba    | Yolo    | Total     |
|----------------------------|---------|---------|---------|---------|---------|------------|-------------|------------|---------|---------|-----------|
| Population 2000 (DOF)      | 803,401 | 661,643 | 128,461 | 123,059 | 210,715 | 1,223,499  | 567,738     | 449,777    | 369,355 | 168,660 | 4,707,581 |
| Urbanized Land 2000 (FMMP) | 97,002  | 106,955 | 28,939  | 23,071  | 31,596  | 187,197    | 74,156      | 51,380     | 49,378  | 29,939  | 624,901   |
| Urban Density 2000*        | 8.3     | 6.2     | 4.5     | 5.3     | 6.7     | 7.8        | 7.7         | 8.8        | 7.5     | 6.5     | 7.3       |

\* Assumes entire population is housed in urban areas.  
Urbanized land figures are in acres. Density is people per acre.

**Table 3 - Land Planned for Development by Central Valley Counties**

|   | Fresno    | Kern    | Kings   | Madera  | Merced  | Sacramento | San Joaquin | Stanislaus | Yuba    | Yolo** | Total     |
|---|-----------|---------|---------|---------|---------|------------|-------------|------------|---------|--------|-----------|
| Industrial, Commercial, Institutional & Residential on lots up to 2 acres | 139,595   | 228,707 | 61,597  | 63,304  | 57,363  | 179,689    | 128,667     | 78,630     | 109,437 | 31,218 | 1,068,081 |
| Rural Residential 2-50 acre lots*   | 881,900   | 237,447 | 160,043 | 77,247  | 51,512  | 77,825     | 335,362     | 2,332      | 352,423 | 13,819 | 2,209,530 |
| Total Planned for Future Development                                      | 1,021,515 | 466,154 | 221,640 | 130,551 | 108,875 | 257,514    | 464,029     | 80,962     | 461,860 | 45,037 | 3,277,611 |
| Less Urbanized Land in 2000   | 97,002    | 106,955 | 28,939  | 23,071  | 31,596  | 187,197    | 74,156      | 51,380     | 49,378  | 29,939 | 645,587   |
| Net Land Planned for Development  | 924,513   | 359,199 | 192,701 | 107,480 | 77,279  | 100,317    | 389,873     | 29,472     | 412,482 | 15,098 | 2,632,024 |

All figures in acres.  
County general plan figures compiled by the Information Center for the Environment (ICE) at the University of California at Davis.  
\* May include some acreage that is not on the floor of the Central Valley.  
# Kern figures do not include 93,000 of industrially zoned land presumably devoted to oil production.  
\*\* Yolo figures include an urban reserve not included for other counties.

**Table 4 - Density Calculations from "Raising the Roof" Study**

|                             | Fresno  | Kern    | Kings   | Madera  | Merced  | Sacramento | San Joaquin | Stanislaus | Yuba    | Yolo    | Subtotal* |
|-----------------------------|---------|---------|---------|---------|---------|------------|-------------|------------|---------|---------|-----------|
| Population 1984 (DOF)       | 563,700 | 453,400 | 81,000  | 71,900  | 150,200 | 661,400    | 351,300     | 297,600    | 270,600 | 116,200 | 642,000   |
| Urbanized acres 1984 (FMMP) | NA      | NA      | 16,003  | NA      | 21,148  | NA         | NA          | 40,804     | NA      | 20,851  | 28,512    |
| Urban Density 1984          | NA      | NA      | 5.1     | NA      | 7.1     | NA         | NA          | 7.2        | NA      | 6.3     | 6.5       |
| Population 1996 (DOF)       | 701,300 | 620,400 | 115,300 | 106,300 | 199,400 | 1,124,900  | 628,000     | 478,100    | 381,700 | 157,700 | 887,500   |
| Urbanized acres 1996 (FMMP) | 89,234  | 96,219  | 27,158  | 22,437  | 30,156  | 148,958    | 69,792      | 48,175     | 48,021  | 24,542  | 131,031   |
| Urban Density 1996          | 8.3     | 6.4     | 4.2     | 4.8     | 6.6     | 7.1        | 7.6         | 8.5        | 7.5     | 6.2     | 6.7       |
| Change in Density 1984-1996 | NA      | NA      | -1.7%   | NA      | -7%     | NA         | 16%         | NA         | 8%      | 8%      | 3%        |

Urbanized land figures are in acres. Density is people per acre. Source: Raising the Roof, Exhibit 17.  
\* Subtotal includes only the 4 counties for which data exists in both 1984 and 1996.

|                             |           |
|-----------------------------|-----------|
| 1996 Total for All Counties | 4,377,600 |
| 602,290                     |           |
| 7.3                         |           |

**Table 5 - Marginal Densities in the Central Valley, 1990-2000**

|                                   | Fresno  | Kern    | Kings   | Madera  | Merced  | Sacramento | San Joaquin | Stanislaus | Yuba    | Yolo    | Total     |
|-----------------------------------|---------|---------|---------|---------|---------|------------|-------------|------------|---------|---------|-----------|
| Population 1990 (DOF)             | 667,490 | 543,477 | 107,468 | 88,290  | 178,403 | 1,047,219  | 480,628     | 370,522    | 311,921 | 147,092 | 3,524,311 |
| Population 2000 (DOF)             | 923,401 | 661,643 | 128,461 | 123,059 | 210,715 | 1,223,499  | 567,738     | 449,777    | 369,355 | 168,660 | 4,707,581 |
| Additional Population 1990-2000   | 133,911 | 118,166 | 27,992  | 35,019  | 32,412  | 176,280    | 81,170      | 79,255     | 21,434  | 27,568  | 783,270   |
| Urbanized Land 1990 (FMMP)        | 81,400  | 84,021  | 28,700  | 19,841  | 21,374  | 137,374    | 63,760      | 44,956     | 39,304  | 22,428  | 540,165   |
| Urbanized Land 2000 (FMMP)        | 97,002  | 106,955 | 28,939  | 23,071  | 31,596  | 187,197    | 74,156      | 51,380     | 49,378  | 29,939  | 645,587   |
| Land Urbanized 1990-2000          | 15,593  | 22,934  | 3,239   | 3,230   | 10,222  | 19,783     | 10,390      | 6,424      | 10,074  | 3,513   | 104,400   |
| Density during 1990-2000 Period   | 8.3     | 6.2     | 8.6     | 10.8    | 3.2     | 9.3        | 8.4         | 12.3       | 5.7     | 7.8     | 7.4       |
| Compare Density Implied by CSEDER | 8.3     | 6.2     | 7.3     | 8.1     | 8.8     | 17.7       | 8.8         | 11.8       | 7.4     | 10.5    | 8.7       |

\* Assumes entire population is housed in urban areas.  
Urbanized land figures are in acres. Density is people per acre.



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**Table 6 - Urbanized Land Calculated Using 1990-2000 Marginal Density**

|                                | Fresno  | Kern    | Kings   | Madera  | Merced  | Sacramento | San Joaquin | Stanislaus | Yuba    | Yolo    | Total     |
|--------------------------------|---------|---------|---------|---------|---------|------------|-------------|------------|---------|---------|-----------|
| Population Increase 2002-2035  | 651,950 | 787,781 | 113,343 | 179,843 | 224,622 | 602,544    | 557,876     | 449,253    | 365,547 | 111,979 | 4,173,907 |
| 1990-2000 Marginal Density     | 8.7     | 8.2     | 8.6     | 10.8    | 9.3     | 9.3        | 8.4         | 12.3       | 9.3     | 7.8     | 9.4       |
| Projected Urbanized Land 2035* | 69,097  | 149,011 | 13,081  | 16,570  | 20,707  | 67,101     | 66,459      | 36,415     | 64,111  | 14,370  | 561,481   |
| Current Urbanized Land (02-35) | 52,229  | 115,363 | 18,431  | 22,074  | 25,500  | 48,370     | 63,710      | 38,139     | 49,189  | 10,680  | 477,995   |

\* Assumes entire population is housed in urban areas.  
Urbanized land figures are in acres. Density is people per acre.

**Table 7 - Differentiation of Urban and Rural Populations**

|                       | Fresno  | Kern    | Kings   | Madera  | Merced  | Sacramento | San Joaquin | Stanislaus | Yuba    | Yolo    | Total     |
|-----------------------|---------|---------|---------|---------|---------|------------|-------------|------------|---------|---------|-----------|
| Population 2000       | 853,401 | 681,843 | 129,481 | 173,109 | 210,876 | 1,223,499  | 567,798     | 449,777    | 369,356 | 166,860 | 4,707,581 |
| Urban Population 2000 | 698,827 | 563,841 | 112,697 | 83,245  | 174,810 | 1,193,703  | 507,534     | 407,092    | 298,726 | 162,951 | 4,211,516 |
| Rural Population 2000 | 150,580 | 77,854  | 16,784  | 41,854  | 29,736  | 56,064     | 35,625      | 69,235     | 58,809  | 483,635 |           |
| Percentage Urban      | 82%     | 83%     | 87%     | 65%     | 83%     | 98%        | 89%         | 91%        | 81%     | 91%     | 89%       |

All figures from U.S. Census, 2000.

**Table 8 - Ranchette Development in the Central Valley, 2000**

|                             | Total Ranchette Parcels |         | Developed Parcels |         | Average Size of Developed Ranchettes | Estimated Population | Density |
|-----------------------------|-------------------------|---------|-------------------|---------|--------------------------------------|----------------------|---------|
|                             | Number                  | Acres   | Number            | Acres   |                                      |                      |         |
| Southern Sacramento Valley* | 23,685                  | 112,518 | 11,014            | 56,240  | 5.1                                  | 25,400               | 0.82    |
| Northern San Joaquin Valley | 8,680                   | 41,102  | 5,992             | 31,960  | 4.8                                  | 31,200               | 0.98    |
| Southern San Joaquin Valley | 82,624                  | 409,143 | 24,684            | 124,439 | 5.1                                  | 78,000               | 0.63    |
| Total                       | 114,989                 | 563,963 | 42,690            | 213,639 | 5.0                                  | 139,500              | 0.65    |

All figures from American Farmland Trust, Ranchettes: The Subtle Sprawl, 2000.  
\* Includes Placer and Solano as well as Sacramento and Yolo.  
Density in people per acre.

**Table 9 - Urbanization of Land Calculated by Differentiating Urban and Rural Populations**

|                                       | Fresno  | Kern    | Kings   | Madera  | Merced  | Sacramento | San Joaquin | Stanislaus | Yuba    | Yolo    | Total     |
|---------------------------------------|---------|---------|---------|---------|---------|------------|-------------|------------|---------|---------|-----------|
| Total Population Increase 2002-2035   | 651,950 | 787,781 | 113,343 | 179,843 | 224,622 | 602,544    | 557,876     | 449,253    | 365,547 | 111,979 | 4,173,907 |
| Urban Population Increase 2002-2035*  | 523,631 | 677,496 | 98,359  | 118,550 | 156,223 | 753,000    | 456,321     | 456,029    | 295,046 | 101,483 | 3,733,981 |
| Rural Population Increase 2002-2035*  | 78,356  | 90,259  | 14,984  | 61,093  | 38,417  | 19,544     | 59,179      | 42,526     | 69,901  | 10,496  | 440,028   |
| 1990-2000 Marginal Urban Density      | 8.1     | 8.2     | 8.6     | 10.8    | 9.3     | 9.3        | 8.4         | 12.3       | 9.3     | 7.8     | 9.4       |
| Ranchette Density 2000                | 0.63    | 0.63    | 0.63    | 0.63    | 0.63    | 0.63       | 0.63        | 0.63       | 0.63    | 0.63    | 0.63      |
| Urbanized Land 2002-2035              | 60,077  | 131,488 | 11,366  | 10,955  | 58,614  | 84,980     | 59,405      | 33,950     | 51,887  | 12,932  | 562,489   |
| Land Developed for Ranchettes (02-35) | 124,597 | 143,563 | 23,250  | 97,138  | 39,351  | 37,303     | 60,921      | 43,915     | 111,148 | 20,078  | 673,850   |
| Total Land Urbanized 2002-2035        | 184,674 | 275,051 | 34,616  | 108,093 | 97,965  | 122,283    | 120,326     | 78,034     | 163,000 | 33,010  | 1,176,400 |
| Current Urbanized Land (02-35)        | 92,826  | 115,363 | 18,431  | 22,074  | 25,500  | 48,370     | 63,710      | 38,139     | 49,189  | 10,680  | 477,995   |

\* Assumes percentage of urban population remains constant from 1990.  
Urbanized land and ranchette figures are in acres. Density is people per acre.

**Table 10 - Central Valley Agricultural Statistics, 2002**

|                                       | Fresno      | Kern        | Kings     | Madera    | Merced      | Sacramento | San Joaquin | Stanislaus  | Yuba        | Yolo      | Total        |
|---------------------------------------|-------------|-------------|-----------|-----------|-------------|------------|-------------|-------------|-------------|-----------|--------------|
| Market Value of Farm Products (x1000) | \$2,789,421 | \$2,058,705 | \$793,061 | \$710,433 | \$1,409,254 | \$259,266  | \$1,222,454 | \$1,226,607 | \$1,338,977 | \$315,482 | \$13,073,260 |
| Land in Farms                         | 1,428,885   | 2,171,341   | 645,568   | 682,486   | 1,006,120   | 314,317    | 812,629     | 789,883     | 1,393,456   | 856,407   | 10,885,099   |
| Cropland                              | 1,229,643   | 998,297     | 466,918   | 362,055   | 693,247     | 181,033    | 674,720     | 426,244     | 770,484     | 310,844   | 9,868,834    |
| Ungrazed Land                         | 1,098,941   | 811,672     | 407,031   | 317,241   | 518,538     | 124,931    | 520,172     | 401,439     | 682,385     | 208,670   | 9,181,020    |
| Cropland as % of Land in Farms        | 84%         | 47%         | 71%       | 53%       | 69%         | 61%        | 71%         | 52%         | 55%         | 67%       | 59%          |
| Ungrazed Land as % of Cropland        | 89%         | 61%         | 61%       | 66%       | 67%         | 62%        | 61%         | 66%         | 62%         | 61%       | 66%          |

All figures from U.S. Census of Agriculture, 2002.

**Response to Comments of Edward Thompson Jr., California Director, American Farmland Trust, August 31, 2004  
(Letter O047)****O047-1**

The co-lead agencies agree with the commenter that Central Valley population is poised for substantial future growth with or without HST service. We also agree that a substantial portion of this growth is driven by the disparity in housing prices between Coastal California and the Central Valley, and that large numbers of Central Valley residents currently commute to jobs in the Bay Area and Southern California and will continue to do so in the future (although these numbers are not large when compared to the number of passengers that could be served by the proposed HST system).

We disagree, however, on the effect that HST service is likely to have on this phenomenon, and with the commenter's assertions that HST service will make a daily commute "much easier", that the growth inducement potential of HST was under predicted, or that the methodology and conclusions included in the Draft Program EIR/EIS were not clearly documented. The growth inducement analysis estimated the likely population shifts due to the accessibility benefits conferred by each system alternative, considering issues such as differential housing costs and the door-to-door time/cost for using each system alternative to commute from the Central Valley to either Southern California or the San Francisco Bay Area.

Section 5 of the Draft Program EIR/EIS and the technical report cited by the commenter both provide substantial detail on the background data, assumptions, and analytical methods and models that were used in the analysis. In particular, Section 5.3.1 of the Draft Program EIR/EIS identifies that the population and employment conclusions were reached through an integrated process that used population forecasts from the Department of Finance, employment forecasts from Caltrans and Woods and Poole, the Authority's intercity travel demand model, the REMI economic impact model, and an additional business attraction model. Page 5-6 of the Draft Program EIR/EIS indicates that the integrated process fully assesses

the potential "shift in residential population between counties (with fixed employment location) due to changed accessibility because of the Modal or HST Alternative (i.e. long-distance commuting)". The data collection assumptions and analyses contained in the Program EIR/EIS are adequate and appropriate for this program-level review.

The commenter's suggestion or expectation that HST service would bring "virtually the entire San Joaquin Valley with easy commuting distance of the Bay Area and much of Southern California" is factually incorrect. The commenter states that it would be possible for people to travel from Fresno to Los Angeles "in about an hour", but a citation for this travel time estimate is not provided. The Authority's Business Plan indicates that an express travel time between Fresno and Los Angeles Union Station would be at least 95 minutes<sup>1</sup>. Furthermore, this travel time value is strictly an "in-vehicle" time; it does not include the substantial time needed to access an HST station from home, park a car and walk to the station, buy a ticket, walk through the stations at the origin and destination ends, wait for a train, and travel from an HST station to the final destination. Indeed, the Authority's travel model used for this analysis showed that this "out-of-vehicle" travel time would be an additional 95 minutes, on average, for a trip from Fresno County to Los Angeles County; similar out-of-vehicle travel times exist for other travel markets. Therefore, the true door-to-door travel time between Fresno and Los Angeles is over 3 hours, which is substantially higher than the one hour claimed by the commenter.

Quite clearly, egress from an HST station to an actual employment location will be a major impediment (but not necessarily the only one) for use of HST as a daily commute option by large numbers of workers. The HST system will have a very limited number of stations in the Bay Area and Southern California, requiring that users

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<sup>1</sup> *Building a High-Speed Train System for California – Final Business Plan*; June 2000; Page 59.

transfer to another transit mode to access any employment site that is beyond walking distance from one of the HST stations. An analysis prepared for the I-580 BART to Livermore Study<sup>2</sup> showed that only 30% of job destinations in the Bay Area for Altamont Pass commuters would be accessible via BART and local transit (only 4% are within walking distance of a BART station).

In terms of travel costs, some households located in close proximity of an HST station might be able to use HST as an alternative to owning a second (or third) car if an HST station is located in close proximity to their job. For many households, however, a second (or third) car is still needed for access/egress at the origin end. Once a vehicle is owned, its major expenses (i.e., initial cost and depreciation) cannot be significantly reduced by leaving it at an HST station rather than driving it all the way to work. If commuters face high parking costs at their destination, then travel costs tilt in favor of HST. However, outside of the handful of urban centers, free and abundant parking is common. Thus commuting on HSR merely adds fare costs to household expenses rather than substitute for the cost of owning a second (or third) car.

The analysis results in the Draft Program EIR/EIS accurately reflect the role that: a) a limited number of HST stations; b) the limited number of jobs that are within walking distance of potential HST stations; c) the relatively limited access to job sites via a transfer to local transit; and d) the availability of abundant free parking at suburban job sites will have on limiting the potential growth in long-distance commuting for the HST Alternative. These results are further validated by the large growth projections in the Central Valley for the No-Project and Modal Alternatives. Taken together, the results accurately portray the reality that long-distance commuting is currently occurring out of the Central Valley and will accelerate at roughly the same level under any of the system alternatives.

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<sup>2</sup> *I-580 Bart to Livermore Study – Final Report*; Cambridge Systematics, Inc.; July 2002; page 6-8.

We disagree with the commenter's assertion that the Draft Program EIR/EIS claims that the extent of long-distance commuting from the Central Valley "would be reversed or mitigated after HST service [is initiated]". No such conclusion is reached in the Draft Program EIR/EIS. Indeed, the Draft Program EIR/EIS indicates (page 5-14) that Merced County will have one of the highest population growth rates under the HST Alternative. This population growth is related to a shift in relative accessibility among Central Valley counties that happens with the HST Alternative. Some of the housing growth for Bay Area workers that would otherwise occur in San Joaquin or Stanislaus Counties under the No Project or Modal Alternatives is shifted to Merced County under the HST Alternative. The reason that there is no net growth in addition to the internal shift is that the HST Alternative, contrary to the commenter's assertion, does not "make the commute much easier". The accessibility barriers that exist between Northern Central Valley housing and Bay Area jobs is largely overcome with the highway improvements included in the No Project Alternative. This result means that the Central Valley is an attractive housing location for Bay Area and Southern California job seekers under all system alternatives. Simply put, the HST Alternative is not expected to lead to a significant increase in commute accessibility between Central Valley homes and Bay Area or Southern California jobs.

The commenter quotes from Page H-4 of the technical report in questioning the population distribution projections. However, the quote actually refers to influences on densification and development patterns, not to influences on net population growth or distribution among the counties. The population distribution projections are overwhelmingly influenced by the baseline projections provided by the Department of Finance. Any margin of error within these baseline projections would equally affect the population distribution projections for each system alternative. The Draft Program EIR/EIS states (page 5-35) that the baseline projections "rely on many assumptions related to future conditions and are subject to the same uncertainties as any other long-range forecast," and presents a sensitivity analysis of structural changes within these baseline

forecasts. This sensitivity analysis provides the discussion of “margin of error” requested by the commenter.

#### **0047-2**

Recognizing that analysis assumptions such as development densities are important considerations in assessing potential growth impacts, the Draft Program EIR/EIS analysis used consistent density assumptions to assess each system alternative. These development assumptions were taken from the CURBA model; the infill and density models within CURBA were validated during development of the 2001 California State Housing Plan<sup>3</sup>.

The co-lead agencies agree that the future development densities found through the CURBA model are higher than the historical average and marginal densities reported in the California State Housing Plan. These higher residential densities, which were developed and applied consistently for all system alternatives, arise for a number a reasons:

- Contrary to the commenter’s claims, the vast majority of population growth within the Central Valley has been and will continue to be accommodated in urbanized areas;
- As noted in Table 3 in the commenter’s submittal, very little undeveloped land is still zoned and available for development at urbanized densities; and,
- Several areas have moved aggressively in the last few years to encourage or require that future development occur at higher densities.

Looking further at the issue of future growth in rural versus urban areas, U.S. Census data (Table 1) indicates that non-urbanized areas in the ten Central Valley counties considered in this analysis lost population during the 1990s. In fact, rural population (including

ranchette development) decreased in eight of the ten counties, with overall rural population decreasing by nearly 100,000 people in the 1990s. Population within “other urban areas” (i.e. areas that are neither rural nor urbanized) also decreased in the six of the ten counties and showed a net decrease across all ten counties. The Census data clearly shows that population growth during the 1990s occurred overwhelmingly in urbanized areas, and there is no reason to believe that this trend will not continue into the future.

In terms of the availability of developable land, the commenter asserts in (Table 3 in Appendix to comments) that over 2.6 million acres of land is planned for development in the ten counties. However, this same table shows that over 2.2 million acres of this land is zoned for rural development, leaving only 400,000 acres as currently planned for urban and urbanized development. Clearly, planned and zoned land to accommodate population growth at urbanized densities is much more scarce than the commenter asserts. Nonetheless, the analysis undertaken for the Draft Program EIR/EIS was not limited to the 400,000 acres that were noted in the commenter’s Table 3. In fact, the CURBA model was run by assuming that over 4.4 million acres of land was potentially developable within the ten Central Valley Counties<sup>4</sup>.

In terms of governmental actions aimed at increasing residential densities in the Central Valley, Yolo and Stanislaus Counties have specific policies and actions within their general plans that focus on preservation of agricultural land. Also, the Sacramento Area Council of Governments (SACOG) recently adopted a Blueprint Scenario to guide development over the next 50 years. The Blueprint Scenario, when implemented by the SACOG’s member jurisdictions, would be expected to direct a significant portion of new development to reinvestment, would nearly double the amount of residential

<sup>3</sup> *Raising the Roof- California Housing Development Projections and Constraints 1997-2020.*

<sup>4</sup> Includes all developable and accessible sites excluding wetlands, prime and unique farmlands, and Q3 floodzones. See Exhibit 13 in *Raising the Roof- California Housing Development Projections and Constraints 1997-2020.*

development occurring as attached or small-lot single family homes, and would decrease the growth in the urbanized area by over 228,000 acres as compared to a base case scenario.

As noted earlier, the future development densities found through the CURBA model are higher than historical average or marginal densities in the Central Valley. Many places in California have initially developed at lower densities, but these development densities have increased with job growth and decreases in the amount of developable land. For example, Census 2000 reported that the Los Angeles and San Francisco urbanized areas have population densities of nearly 11 people per acre, which is substantially higher than the 8.7 people per acre asserted by the commenter. There is no reason to believe that this historical pattern towards increased densification will not continue and spread to the Central Valley's major urbanized areas as growth accelerates in the future. The overall average density for the Central Valley (8.7 people per acre), which as noted by the commenter is about 18 percent higher than the 1990 average, is not high by California standards, particularly since many Central Valley cities were initially built at extremely low densities and skipped over a great deal of currently vacant land that was taken out of farming and declared "urban" in the FMMP data. Furthermore, given that densities were applied equally across all system alternatives, use of the densities asserted by the commenter would lead to no overall difference in relative growth patterns between alternatives since the change in density assumptions would affect all system alternatives equally.

The default CURBA assumptions were only modified for two isolated situations in the HST Alternative:

1. For employment densities in a one-mile band around each proposed HST station, as noted in Table G.2 of the technical report; and,
2. For population growth within a one-mile band around each proposed HST station. This effect was modeled by slightly increasing the "effective infill rate" for new residential development in several Central Valley counties, as shown below in Table 2.

These two modifications were developed based upon consideration of relevant research<sup>5</sup> and a careful review of development experience around high activity intercity rail stations in the United States, Japan and Europe. Details from this review can be found in Section 3.3 of the technical report on economic growth effects.<sup>6</sup> These very modest development intensification assumed for the HST alternative was based on market forces observed after the introduction of high-speed type rail services in the U.S. and overseas, and assume no regulatory intervention. The assumed development intensification reflects a reasonable expectation of market adjustments after 30+ years of potential growth.

The commenter asserts that a substantial percentage of the overall future Central Valley population growth will occur in rural areas. However, as shown in Table 1, this assertion is not supported by population changes in the 1990s. Furthermore, even if the commenter's assertions were true, there is no evidence to suggest that the HST Alternative would lead to substantially higher rural population growth than the other system alternatives. Indeed, several factors suggest that the HST Alternative would have, at most, little or no effect on the extent of rural ranchette development:

- As noted by the commenter, Bay Area and Southern California workers are attracted to the low-cost of Central Valley housing. However, rural large-lot housing is quite expensive, even in the Central Valley, thus destroying the housing cost advantage that

<sup>5</sup> See, for example: Cervero, Robert and M. Bernick; *Transit Villages in the 21st Century*; McGraw-Hill, 1997; and Cervero, Robert et al; *Land-Use and Development Impacts of BART, BART at 20 Study*; IURD, Monograph 49; 1995.

<sup>6</sup> *Economic Growth Effects of the System Alternatives for the Program Environmental Impact Report/Environmental Impact Statement – Final Report*; Cambridge Systematics, Inc.; July 2003. This report is available from the High-Speed Rail Authority, and has been posted on the HSRA website since March 29, 2004.

the vast majority of long-distance commuters seek in the Central Valley.

- To the degree, if any at all, that the HST alternative may make some long-distance commuting more feasible, it will further drive up the cost of land, which in turns leads to even smaller lot sizes.
- It is unlikely that a significant number of rural ranchettes would be located within a reasonable driving distance of an HST station. Individuals living in outlying ranchettes would be unlikely to use HST on a daily basis due to the relatively long station access time compared to people residing within an urbanized area near an HST station. The long station access time required for a low density ranchette would offset the line haul travel time benefit of an HST Alternative.
- The HST Alternative does nothing to affect several important factors, such as school quality or a community's perceived quality of life or municipal services and infrastructure, that are integral to an individual's home buying decisions.

**O047-3**

The Authority and FRA have focused the central valley alignment options within or adjacent to existing transportation corridors in large part to avoid potential impacts and potential severance of farmland properties. The alignment options identified as preferred have greatly minimized potential severance impacts through maximizing the use of existing transportation corridors. While quantification of potential area of farmland impact is appropriate at the program level through GIS analysis, analysis of potential severance issues would require parcel specific details related to alignments, identification of property boundaries, and analysis of existing access facilities, all of which is more appropriate at the subsequent project level of detail.

Please see standard response 5.2.3 for issues related to water supply for new development. Please also refer to Chapter 6B of the

Final Program EIR/EIS that discusses transit-oriented development measures and development around potential HST station sites.

**O047-4**

Please see standard response 5.2.1 for issues related to mitigation of significant indirect impacts.

Table 1 – 1990 to 2000 Population Change in Central Valley Counties

| County               | Population Change 1990-2000 |                 |                   |             |
|----------------------|-----------------------------|-----------------|-------------------|-------------|
|                      | Total Population            | Urbanized Areas | Other Urban Areas | Rural Areas |
| Fresno               | 131,917                     | 101,455         | 42,966            | (12,504)    |
| Kern                 | 118,168                     | 93,520          | 35,358            | (10,710)    |
| Kings                | 27,992                      | -               | 41,951            | (13,959)    |
| Madera               | 35,019                      | 58,107          | (25,625)          | 2,537       |
| Merced               | 32,151                      | 53,450          | (13,389)          | (7,910)     |
| Sacramento           | 182,280                     | 197,013         | (10,113)          | (4,620)     |
| San Joaquin          | 82,970                      | 179,732         | (85,620)          | (11,142)    |
| Stanislaus           | 76,475                      | 131,992         | (42,715)          | (12,802)    |
| Tulare               | 56,100                      | 96,711          | (12,301)          | (28,310)    |
| Yolo                 | 27,568                      | 15,809          | 11,223            | 536         |
| Central Valley Total | 770,640                     | 927,789         | (58,265)          | (98,884)    |

Source: American Fact Finder; U.S. Census Bureau; Census 2000 Summary File 1, Table P2 and Census 1990 Summary Tape File 1, Table P004.

Table 2 – Effective Infill Rates Developed in CURBA Model for Central Valley Counties

| County      | Percent of Total Population and Employment Growth<br>Occurring as Infill Development |                    |                                       |                    |
|-------------|--|--------------------|---------------------------------------|--------------------|
|             | Between 2002 and 2020  |                    | Between 2020 and 2035                 |                    |
|             | No Project &<br>Modal<br>Alternatives  | HST<br>Alternative | No Project &<br>Modal<br>Alternatives | HST<br>Alternative |
| Fresno      | 11.0%  | 11.1%              | 14.0%                                 | 14.3%              |
| Kern        | 11.1%  | 11.2%              | 14.0%                                 | 14.3%              |
| Kings       | 14.0%  | 14.0%              | 17.0%                                 | 17.0%              |
| Madera      | 10.0%  | 10.0%              | 14.0%                                 | 14.0%              |
| Merced      | 14.0%  | 14.1%              | 16.0%                                 | 16.3%              |
| San Joaquin | 18.0%  | 18.2%              | 24.0%                                 | 24.5%              |
| Stanislaus  | 45.0%  | 45.5%              | 14.5%                                 | 14.8%              |
| Tulare      | 13.0%  | 13.1%              | 15.0%                                 | 15.3%              |
| Yolo        | 40.0%  | 40.0%              | 20.3%                                 | 20.3%              |

Comment Letter 0048

08/31/04 13:57 510 238 4397

GOV. & PUB. AFF

001/004

NATIONAL RAILROAD PASSENGER CORPORATION Amtrak Strategic Planning 530 Water Street, 5th Floor, Oakland, CA 94607 Tel. 510.238-4350

0048



AUG 31 2004

Date August 31, 2004 To High Speed Rail Authority Company Fax Number (916) 322-0827

From Liz O'Donoghue Department Amtrak Planning Subject Draft PEIS/EIR Comments Number of Pages 4

Message Attached are comments to the Draft PEIS/EIR. Thank you.

08/31/04 13:57 510 238 4397

GOV. & PUB. AFF

002/004

NATIONAL RAILROAD PASSENGER CORPORATION 530 Water Street, Oakland, CA 94607



August 31, 2004

Mehdi Morshed Executive Director California High-Speed Rail Authority 925 L Street, Suite 1425 Sacramento, CA 95814

Attn: California High-Speed Train Draft Program EIR/EIS Comments

Dear Mr. Morshed:

Thank you for the opportunity to comment on the Draft Program EIR/EIS for the proposed high-speed train system for intercity travel in California. Please accept these comments on behalf of Amtrak. In addition, Amtrak concurs with the comments submitted by the Capitol Corridor Joint Powers Authority and the LOSSAN Rail Corridor Agency. As Amtrak will be submitting separate comments on the Draft Programmatic EIS for the LOSSAN Corridor, this letter focuses exclusively on the California High Speed Rail Authority's Draft Program EIR/EIS for the statewide system.

In short, Amtrak:

- Supports the purpose and need for the high-speed train system.
• Supports the implementation of the high-speed train system and technology that cooperates with and is compatible with existing and planned intercity rail systems.
• Supports station locations that directly connect with existing and planned intercity and commuter rail stations.
• Supports substantial improvements to the conventional rail lines for faster, more frequent and reliable service as indicated in the Draft California State Rail Plan 2003-04 to 2013-14 and the Amtrak-sponsored California Passenger Rail System 20-Year Improvement Plan (March 2001). The improvements and connections would ensure the greatest mobility and ease of use for passengers.
• Supports the upgrade of the LOSSAN corridor to serve as the preferred route for the Los Angeles - San Diego coast corridor.
• Supports the construction of new right-of-way that will provide a direct connection between Bakersfield and Los Angeles for both Amtrak intercity service as well as the high-speed rail service.
• Supports continued collaboration as the Authority progresses in the planning, engineering, environmental documentation and construction phases, particularly as the implementation of the plan directly affects existing and planned intercity services.

0048-1



U.S. Department of Transportation Federal Railroad Administration

Comment Letter 0048 Continued

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General Comments

Amtrak supports the purpose and need for the high-speed train system as presented in the Draft Program EIR/EIS. California's transportation system simply cannot continue to maintain the level of mobility in the next couple of decades given the projected growth in the population and the economy and the ensuing impacts that growth will have on the existing transportation infrastructure, land use, clean air and the environment.

O048-2

High-Speed Rail System Needs to be Compatible with Existing and Upgraded System

For years Amtrak has supported the concept of a high-speed rail line, with dedicated, grade-separated track, serving the largest population centers in the state, routed through the Central Valley. A major element of that vision is the upgrade of existing rail corridors for more frequent service and higher average speeds.

For a statewide system to capture the largest ridership and work most efficiently, the high-speed rail system must be compatible with the existing and planned conventional intercity rail services, particularly those that are state supported. Conventional and high-speed services would operate in cooperation with planned schedules and operations to maximize ridership and revenue, and provide the greatest ease of use for the passenger.

O048-3

For these reasons, we support a high-speed rail system that is closely planned with the existing, anticipated and upgraded conventional intercity rail services. We support connections at common intercity and commuter rail stations with the greatest potential of connections to other modes. We support technology that is likely to be compatible with conventional intercity rail. Operationally, we support coordinated schedules.

Existing and Planned Service

Amtrak operates an average of 68 trains a day in California - 58 shorter distance state-supported corridor trains and eight long distance trains. Amtrak also operates over 230 commuter trains a day by contract with three commuter agencies. Amtrak's contracts with commuter agencies vary, but include maintenance of the equipment, maintenance of way, operations and dispatching.

O048-4

Amtrak has worked closely with the state, freight railroads, commuter agencies, regional and local representatives to plan for future intercity rail service. In 2001, Amtrak and its partners released the California Passenger Rail 20-Year Improvement Plan, sponsored by Amtrak but directed by local Task Forces for the Pacific Surfliner, San Joaquin, Capitol Corridor and Coast Corridor. The Plan called for increased service at faster trip times on all services, and the initiation of new corridor service on the Coast Corridor. It addressed a number of specific issues, such as recommending that the new right-of-way through the Tehachapi Mountains for high-speed rail service would also serve as the direct connection for intercity rail service between Bakersfield and Los Angeles.

O048-4 cont.

Amtrak continues to urge the Authority to ensure that planning and implementation of the high-speed system take into account all future expansions and trip time reductions that are noted in the California Passenger Rail 20-Year Improvement Plan as well as the Caltrans Ten-Year Plan for Intercity Rail.

Thank you for the opportunity to comment. We look forward to working with you on efforts to develop a comprehensive statewide high-speed and conventional intercity rail system.

Sincerely,

[Handwritten signature]

Elizabeth O'Donoghue
Principal Officer - Corridor Strategy West

cc: Gil Mallery, Amtrak
Warren Weber, Caltrans



U.S. Department of Transportation
Federal Railroad Administration

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**Response to Comments of Liz O'Donoghue, Amtrak Planning, National Railroad Passenger Corporation, August 31, 2004 (Letter O048)**

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**O048-1**

Acknowledged.

throughout this program EIR/EIS process. Please see response to Comment O048-3.

**O048-2**

Acknowledged.

**O048-3**

Acknowledged. The Authority has identified a HST system, which would compliment and have a high level of connectivity with conventional intercity rail services. The Authority concurs that conventional and HST services should coordinate schedules and operations to maximize ridership and revenue, and provide the greatest ease of use for the passenger. However, in order to meet the purpose and need of the HST project, the Authority has identified the HST system must be capable of maximum speeds of at least 200 mph (see Program EIR/EIS pages 2-23, 2-24, 2-27 & 2-28). The Authority has concluded that while the HST system could share tracks at reduced speeds with other services in some heavily urbanized areas, "a completely dedicated train technology using separate track/guideway would be required on the majority of the proposed system" (page 2-28). Heavy, conventional, non-electric intercity services are not compatible with the much faster (220 mph assumed maximum speed) and very frequent HST service where the HST trains are operating at high-speeds. Also, trains crossing the mountain crossings must negotiate steep gradients, up to 3.5%, in order to avoid crossing major faults such as the Garlock and San Andreas in tunnel – which exceed the capabilities of conventional rail equipment.

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Acknowledged. The Authority and the FRA appreciate Amtrak's cooperation, willingness to share data collected, and participation



Comment Letter O049

O049

Audubon California
Bay Area Open Space Council
California Native Plant Society
Center for Law in the Public Interest
Defenders of Wildlife
Defense of Place
Greenbelt Alliance
Golden Gate Audubon Society
Mountain Lion Foundation
Natural Resources Defense Council
Planning and Conservation League

August 31, 2004

Chairman Joseph E. Petrillo and
Members of the High Speed Rail Authority
Attn: California High-Speed Train
Draft Program EIR/EIS Comments
925 L Street, Suite 1425
Sacramento, CA 95814

Re: Comments on Draft Environmental Impact Report/Draft Environmental Impact
Statement (DEIR/S) for the Proposed California High Speed Rail Project

Dear Chairman Petrillo and Members of the Authority:

These comments are submitted on behalf of the following groups:

Bay Area Open Space Council
California Native Plant Society
Center for Law in the Public Interest
Defenders of Wildlife
Defense of Place
Greenbelt Alliance
Golden Gate Audubon Society
Mountain Lion Foundation
Natural Resources Defense Council
Planning and Conservation League

The purpose of this letter is to provide comments on the Draft Environmental Impact
Report/Draft Environmental Impact Statement (DEIR/S) for the proposed California
High Speed Rail Project (hereinafter "project" or "HST") and to inform the Authority
that the document fails to comply with the requirements of the California Environmental
Quality Act ("CEQA"), Public Resources Code Section 21000 et seq. and the CEQA
Guidelines, California Code of Regulations, title 14, section 15000 et seq. ("CEQA
Guidelines") and the National Environmental Policy Act ("NEPA") 42 U.S.C 4321; 40
C.F.R. 1500.1.

The massive California High Speed Rail project has the potential either to significantly
improve the quality of transportation and life in California or to result in major negative
environmental impacts and significant economic and social displacement. Given the
unprecedented statewide scope of this project, CEQA and NEPA mandate that its DEIR/S
must be of the highest quality, including full disclosure of the many significant impacts
that would occur. The DEIR/S should give both the public and decisionmakers a full
opportunity to understand the environmental consequences of the project and propose and
feasible measures and alternatives to mitigate environmental damage. As explained in
detail below, the DEIR/S fails to comply with this mandate.

A summary of the major defects in the DEIR/S includes, but is not limited to, the
following:

- The DEIR/S fails to adequately and completely describe the project
alternatives.
The DEIR/S lacks an adequate summary section.
The DEIR/S fails to clearly characterize the significance of project-related
and cumulative impacts before and after mitigation. Conclusions that are
reached concerning the comparative significance of impacts are in many
cases based on inadequate and misleading information (e.g. growth
inducement, impacts to agricultural land, biological resources, etc.).
The DEIR/S improperly defers analysis of impacts of the HST alternative
until the project-level review; after alignments and station locations are
selected.
To determine level of impact, the Modal and HST Alternatives are
improperly compared with the No Project Alternative instead of baseline
conditions for most environmental topic areas.
Mitigation "strategies" consist of vague and unenforceable suggestions and
for the most part are improperly deferred until the project-level review.
Some of the suggested strategies would actually result in additional
impacts that are not evaluated as indirect or secondary impacts of the
project (e.g. sound walls, additional tunneling, intersection and access
improvements, and the like).
The DEIR/S fails to analyze all feasible alternatives, improperly rejects
feasible alternatives and fails to identify the environmentally superior HST
alignments and station locations. For example, as described in detail in
Attachment A, the DEIR/S fails to include an Altamont Alternative and



**Comment Letter 0049 Continued**

rejected this option based on flawed, misleading and incomplete information.

Given the multiple inadequacies described in this letter, this DEIR/S cannot properly form the basis of a final EIR. CEQA and the CEQA Guidelines require recirculation of a draft EIR where, as here, the document is so fundamentally inadequate in nature that meaningful public review and comment are precluded. See CEQA Guidelines § 15088.5.

**I. THE DEIR/S DOES NOT COMPLY WITH THE CALIFORNIA ENVIRONMENTAL QUALITY ACT**

**A. Use of a Program DEIR/S Does Not Excuse Inadequate Analysis**

As discussed more fully below, the DEIR/S repeatedly fails to adequately describe the project, analyze project impacts, and mitigate its host of associated impacts with specific, enforceable mitigation measures. As apparent justification for the DEIR/S's lack of detail and specificity concerning the project, impacts and mitigation measures, the document repeatedly defers critical analysis and project description on the grounds that the DEIR/S is a program EIR/S. The mere fact that the DEIR/S is a program EIR/S does not provide a carte blanche to omit a discussion of the project as is currently reasonably foreseeable. An agency "must use its best efforts to find out and disclose all that it reasonably can." CEQA Guidelines § 15144. Here, the DEIR/S's failure to describe and analyze the project extends well beyond the exact location alignments and stations. The DEIR/S's vague and noncommittal analysis with respect to numerous project elements precludes a full and proper analysis of project alternative impacts.

Equally flawed, the DEIR/S repeatedly determines that project impacts would not be significant based solely on uncommitted future assumptions. CEQA contemplates consideration of environmental consequences at the "earliest possible stage, even though more detailed environmental review may be necessary later." McQueen v. Board of Directors, 202 Cal.App.3d 1136, 1147 (1988). Similarly, NEPA requires agencies to integrate the NEPA process into their activities at the earliest possible time. 40 C.F.R. 1501.1; 1501.2. Regardless of an intention to undertake site-specific environmental review for future project phases, the use of "tiering" and a program EIR/S is not a device for deferring the identification of significant environmental impacts. Stanislaus Nat'l Heritage Project v. County of Stanislaus, 48 Cal.App.4th 182, 199 (1996).

While the DEIR/S attempts to present a choice between rail and other transportation modes, the proposed project is much more than a modal choice. Here, the project will likely result in the selection of preferred alignments and general station locations. As the DEIR/S mentions, "The Authority expects to identify a preferred system of alignment and station options in the Final Program EIR/EIS, after the public comment period for this Draft EIR/EIS has concluded" (DEIR page S-16). Accordingly, the DEIR/S must include a sufficient level of detail on each feasible alignment alternative and its related impacts and mitigation to support an alignment choice, and a worst-case scenario of the impacts of the related level of development and the specific areas can be forecast and

analyzed. Rather than do so, the DEIR/S provides insufficient details concerning many elements of the proposed project likely to result in significant impacts. The DEIR/S's deferral of project description elements, analysis of impacts and mitigation measures is particularly egregious here because project approvals may include alignment and station locations and commit the Authority to a course of action. See Rio Vista Farm Bureau v. County of Solano, 5 Cal.App.4th at 351, 371 (1992).

As part of its flawed approach, the DEIR/S impermissibly and repeatedly concludes that the majority of all of the HST project's environmental impacts are either less than significant or will be rendered less than significant by mitigation, while at the same time deferring necessary analysis of mitigation measures. Under CEQA, an EIR may conclude that impacts are insignificant only if it provides an adequate analysis of the magnitude of the impacts and the degree to which they will be mitigated. See Sundstrom, 202 Cal.App.3d at 306-07. Thus, if an agency fails to investigate a potential impact, its finding of insignificance simply will not stand. Id. Further, CEQA generally requires that all mitigation measures be adopted simultaneously with, or prior to, project approval. Here the proposed mitigation measures are not measures at all. Rather, they consist of vague strategy suggestions, the details of which are deferred until project-level review. An agency may defer preparation of a plan for mitigation only when the agency commits itself and/or the project proponent to satisfying specified performance standards that will ensure the avoidance of any significant effects. Id. In the present case, the DEIR/S violates CEQA by deferring critical analyses of project impacts and feasible mitigation. The following is a non-exhaustive list of examples of mitigation strategies that are vague, unenforceable and details of which are deferred to a later date:

Transportation: "Consultation and coordination with public transit services in order to encourage the provision of adequate bus feeder routes to serve proposed station areas could mitigate potential transit feeders." DEIR/S page 3.1-24.

Air Quality: "Potential localized impacts could be addressed at the project level by promoting the following measures. Increase use of public transit; increase use of alternative fuel vehicles; increase parking for carpools, bicycles, and other alternatives transportation modes." DEIR/S page 3.3-33.

Air Quality: "Potential construction impacts, which should be analyzed once more detailed project plans are available, can be mitigated by following local and state guidelines." DEIR/S page 3.3-33.

Noise and Vibration: "More detailed mitigation strategies for potential noise and vibration impacts would be developed in the next stage of environmental analysis." DEIR/S page 3.4-23. "This program level analysis has identified areas where future analysis should be given to potential HST-induced vibrations." DEIR/S page 3.4-24.

Energy: "The design particulars would be developed at the project-level of analysis..." DEIR/S page 3.5-22.

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**Comment Letter 0049 Continued**

Land Use: "Local land use plans and ordinances would be further considered in the selection of alignments and station locations..." DEIR/S page 3.7-26.

Agriculture: "Consideration of potential mitigation such as protection or preservation of off-site lands to mitigate conversion of farmlands or acquiring easements, or payment of an in-lieu fee as mitigation mechanisms, would depend on the potentially considerable environmental impacts identified at specific locations, as assessed in a project-level document. DEIR/S page 3.8-18.

Geology and Soils: "Mitigation for potential impacts related to geologic and soils conditions must be developed on a site-specific basis, based on the results of more detailed (design-level) engineering geologic and geotechnical studies." DEIR/S page 3.13-13.

Biological Resources: "Consultation with the appropriate resource agencies to develop site-specific avoidance and minimization strategies would be incorporated in the project-level environmental review." DEIR/S page 3.15-31.

4(f) and 6(f): Possible mitigation measures include sound walls, visual buffers/landscaping, modification of access to the resources. Strategies would be developed during the public input process. DEIR/S page 3.15-13.

Specific mitigation measures, including identified funding for them, must be developed at this time, well before project-level environmental review, and based on complete project information and impact analyses. Project-related and cumulative impacts determined to be significant and unavoidable must also be identified and listed as such. (See Table 7.3-1). These include, but are not limited to the following<sup>1</sup>:

- Traffic and circulation
- Land use compatibility
- Hydrology
- Noise
- Biological impacts related to changes in hydrology and noise
- Biological impacts related to habitat fragmentation and wildlife corridors
- Growth inducement
- Among others

The DEIR/S's failure to adequately identify and analyze the potentially significant effects of the project, and to design proper mitigation measures prior to project approval, renders the document legally inadequate, particularly as it applies to choosing between potential

<sup>1</sup> The DEIR/S is so poorly drafted that it is difficult to determine what impacts are significant before and after mitigation. The individual topic chapters fail to clearly identify significant impacts and demonstrate how mitigation reduces significant impacts to less than significant. The closest the DEIR/S comes to identifying this *required information* is Table 7.3-1, which falls well short of CEQA/NEPA requirements for identification of significant impacts before and after mitigation.

high speed rail alignments. With the DEIR/S in its current form, decision-makers, the public and permitting agencies cannot evaluate the advisability of project approval even at the level of a modal choice. A revised DEIR/S must be completed and circulated which provides adequate information about project alternatives, project-related and cumulative impacts and mitigation measures before decisions are made concerning the HST project.

**B. The DEIR/S Lacks an Adequate Summary Section**

This project is the largest infrastructure project ever contemplated in California history and therefore one of the most complex projects ever considered. As such, it is critical that the document relied on to inform decision-making concerning the proposed project be well organized, clear and readable. Environmental documents are designed for many different readers and often different sections are targeted at different audiences. That makes it very important for the summary section to present information to readers interested in getting a quick understanding of the proposed action and its consequences. Typically, EIR and EIS summary sections include a matrix or table that allows comparison of all alternatives in terms of their respective environmental impacts and includes conclusions regarding the significance of impacts before and after mitigation. Great care should be taken to ensure that after reviewing the summary section, readers have a clear understanding of the proposed project, project alternatives and how they compare to one another. The instant DEIR/S fails to provide a clear, complete and therefore adequate summary section. To the contrary, the comparison table only includes general information concerning the three project "modal" alternatives, fails to characterize as significant or insignificant the impacts of each, and fails altogether to include a table describing the HST alignment and station choices. Moreover, the body of the DEIR/S does not include clear information about the level of significance of project-related impacts. Only Table 7.3-1 indicates the potential significance of HST-related impacts before and after mitigation. This is a major flaw in the DEIR/S, which must be corrected in a recirculated draft.

Once again, this DEIR/S is not only being relied upon for a choice of modes between No Project, Modal Alternative and HST, but, this document is also intended for use in selecting HST alignments and station locations. If the document is to be used for either "level" choice of alternatives, a revised summary table or matrix must be developed that clearly characterizes the significance of impacts before and after mitigation, and presents the information in a manner that allows meaningful comparison of both the modal alternatives and project components (alignments/station locations, etc.), if decisions will be made concerning these components based on the DEIR/S.

**C. The DEIR/S Fails to Adequately Describe the Proposed Project**

The DEIR/S incomplete project description omits critical details of the project, including, but not limited to significant construction activities, engineering and operations aspects of the project. As a result of the DEIR/S's failure to discuss key project components,

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potentially significant environmental impacts are not adequately described, analyzed or addressed.

Under both CEQA and NEPA, the DEIR/S must contain a clear and comprehensive project description. The CEQA Guidelines define "project" as "the whole of an action, which has a potential for resulting in a physical change in the environment, directly or ultimately..." CEQA Guidelines Section 15378. Among other components, an EIR's project description must contain a "general description of the project's technical, economic, and environmental characteristics, considering the principal engineering proposals if any and supporting public service facilities." CEQA Guidelines Section 15124(c). Similarly NEPA provides that the lead agency must ensure that the description of the project action includes "connected actions" that are currently proposed or will be proposed in the foreseeable future. The lead agency must determine the proposed action's full extent, including all components, segments, and future phases. An agency may not divide a proposed action into smaller segments to avoid disclosure and analysis of the full environmental effects. If the EIS excludes arguably related actions, it must include the following:

- A description of the related actions and how they relate to the proposed action;
- A brief discussion of the impacts of the related actions to the extent they are known;
- An explanation of why it is not required or possible to evaluate the actions in detail at this time; and
- An explanation of when, and in what type of NEPA document, the related actions are being or will be evaluated (e.g. a second Tier EIS).

1. The DEIR/S's Description of the Project is Not Adequate

Under both CEQA and NEPA, the DEIR/S must contain a clear and comprehensive project description. Because this DEIR/S may be relied on for both a modal choice and general alignments and station locations for HST, the project description must accurately, completely and clearly describe all of the following:

- Each modal choice (No Project, Modal Alternative and HST);
- All features for each modal alternative (e.g. construction, operations, related facilities, etc.); and
- All features of each proposed alignment, station location and other features of HST.

Instead of providing a clear and comprehensive project description early in the DEIR/S, the reader must "assemble" the project descriptions for each alternative choice (modal as well as alignments/station locations) by sifting through not only the DEIR/S, but all of its appendices and in some cases, related studies. For example, the ridership studies, which provide underlying assumptions concerning both modal alternatives and key components of the HST alternative (alignment and station choices) are found in a separate document

not included in the DEIR/S. This approach contravenes both CEQA and NEPA. All information should be presented in the DEIR/S necessary to accurately and thoroughly describe the proposed project or action – and in this case, actions. A revised draft DEIR/S must be completed which includes all information about the proposed modal alternatives necessary to support informed decision-making.

2. The DEIR/S Fails to Adequately Describe Features of the Project Alternatives

According to the DEIR/S, the Authority and FRA may not only select a modal choice, but as well may select a preferred HST corridor/alignment, station locations, and recommended mitigation strategies based on the DEIR/S. DEIR/S page S-1. The lack of an adequate and complete project description does not support informed decision-making concerning modal choice let alone more detailed decisions such as corridor/alignment and station locations. Specifically, the DEIR/S provides only the most cursory information concerning the description of the modal alternatives and even less information concerning the specifics of the corridor/alignment and station locations. Information that is provided is difficult to verify because the assumptions underlying the information is not provided or is located in documents not readily available or properly summarized in the DEIR/S.

The DEIR/S does provide information about the modal choices, but this information is incomplete. For example, the following information is provided concerning the No Project: proposed interchange improvements, construction related energy consumption (DEIR/S page 3.5-5) for the highway element and square feet of passenger terminals (DEIR/S Table 2.4-2 and Table 2.4-3), new gates (DEIR/S Table 2.4-2 and Table 2.4-3), access lanes (DEIR/S Table 2.4-2 and Table 2.4-3), parking spaces (DEIR/S Table 2.4-2 and Table 2.4-3) and construction-related energy consumption (DEIR/S page 3.5-5) for the aviation element of the no-project alternative. A similar level of detail of the project description is provided concerning the modal and HST alternatives. However, much of the critical information concerning the features of these alternatives is in the appendices to the DEIR/S or in other documents. In addition to the project features that are not described, the lack of transparency about how this information was developed renders it inadequate for meaningful impact analysis. Again, the reader must "assemble" the project description by reviewing hundreds of pages of the DEIR/S and its appendices, but also documents that are not included in the DEIR/S. A complete project description section is not included in the DEIR/S as it must be.

Specific examples of the types of information missing from the project description of the HST option include, but are not limited to the following:

a. The DEIR/S Description of Construction Activities is Incomplete

Construction activities related to the HST (as well as the other modal alternatives) could impose greater impacts on certain resources than the actual operations of the HST.

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Impacts related to construction activities are not necessarily short-term in nature. For example, many of the changes to hydrology and topography necessary to construct the project will be permanent. Also, construction impacts associated with HST construction will differ in nature and magnitude along different alignments due to varying topography, geological and environmental challenges, ease of access, distance from materials and utilities, construction staging areas, required equipment, and other factors. Because the Authority and FRA may select a preferred HST corridor/alignment, station locations, and recommended mitigation strategies based on the DEIR/S, it is not appropriate to defer details concerning construction activities until later.

Construction activities that are not disclosed include, but are not limited to the following: locations of spoils and borrow sites for soils related to grading and tunneling; other construction activities and schedule; extent of cuts and fills and total amount of grading for each alternative alignment and station; water use and dewatering related to tunnels; chemicals or other hazardous agents used for clearing or in construction; the number and type of construction employees; types of equipment and their characteristics; total construction related trips including truck haul routes; and the like. Also, where the alignments are located in remote areas, the DEIR/S should address construction worker housing or temporary housing and the potential impacts associated with actually building the tracks in these areas. Finally, it is clear that construction of HST in remote areas with steep terrain may involve extensive and long-term destruction of the natural landscape, including greater areas of grading, boring and vegetation removal than described in the DEIR/S. In addition, the duration of noisy and invasive construction activities in these areas may severely disrupt species. Without a complete and clear description of what it will actually take to construct HST in these areas, impacts to the landscape (including topography and hydrology) and biological species cannot be meaningfully analyzed.

Individually and collectively, this information about the project alternatives could result in a tipping the selection to a more developed route where fewer collateral impacts will be imposed to build the HST. If this information is not provided early in the decision-making process, a fully informed decision cannot be made. A revised DEIR/S must include this level of detail not only for the HST alignment and station options, but also for each of the three modal alternatives (No Project, Modal Alternative and HST).

**b. The DEIR/S Fails to Describe the Potential Operations on HST**

The DEIR/S fails to accurately and completely describe all likely operational aspects of the HST. Omissions include, but are not limited to number of and type of HST employees, the typical distance riders will travel to reach HST stations, use of trains for freight service, among other operational aspects of HST. For example, according to the DEIR/S: "While the Authority recognizes the potential for overnight medium-weight freight service on the proposed high-speed rail tracks, it has not been included in this analysis. Discussions with potential high speed freight operators could be initiated as part of subsequent project development with appropriate analysis." DEIR/S at 2-25. This is an example of another type of omission in the project description – a likely use of

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HST – which has the potential for increased impacts related to the development of freight carriers (likely trucks) to and from stations to off-haul freight (obviously, the project also could result in overall positive traffic congestion, revenue and air quality benefits depending on the details of the freight service). If the project description omits major features of HST or other modal alternatives, impacts will be underestimated. A revised project description must include all anticipated operational elements and analyze the impacts of these elements.

**c. The DEIR/S Fails to Provide Information About All Related Projects and Project Features to HST**

The DEIR/S fails in numerous respects to fully disclose and describe related projects and features of HST. For example, among other aspects of the project, CEQA requires the DEIR/S to describe all supporting public service facilities. The DEIR/S is silent on the types and locations of needed public service facilities and instead assumes these will be available: "It was not possible as part of this study to identify or quantify the utility improvements expected to occur by 2020. Rather, it is assumed that utility development will occur to meet projected demand and growth characteristics near the alignments of the proposed alternatives." DEIR/S page 3.10-5. The entire section on public utilities is focused on conflicts between HST and these facilities, rather than on project-related public service facilities. The need for new or expanded public services and utilities to serve station locations in remote areas is also excluded from the DEIR/S. All public services and facilities needed for the HST must be included in a revised DEIR/S, including, but not limited to: access roads, water and sewer services, emergency services, and the like. Services and infrastructure needed to serve the stations as well as the trains must be included.

In some cases the DEIR/S refers to related projects to HST, such as connecting transit. However, the DEIR/S is inconsistent in identifying these related projects, including, but not limited to co-use of tracks, future routes and connecting transit. Similarly, the DEIR/S fails to adequately describe key project features such as noise barriers: "While noise barrier walls would not be the only potential mitigation strategy to be considered, they were used to represent mitigation potential in this Program EIR/EIS." DEIR/S page 3.4-5. Such barriers could have devastating impacts on wildlife by further fragmenting habitat areas. Another example is the HST stations. The DEIR/S includes only general information about the total area of stations and their parking facilities. The information that is provided appears to underestimate total area for these key project features. The description fails to include the scale of these stations, their parking facilities and access for each proposed station location. Moreover, the DEIR/S fails to describe the likely related land uses would occur should these stations be built.<sup>2</sup> A revised DEIR/S must

<sup>2</sup> The DEIR establishes several standardized "types" of stations that could be tailored to each station location once stations are chosen. However, the actual suite of stations chosen for a particular alignment and the design of each station will affect the alignments cost, footprint, performance, and environmental impacts. Thus the choice of alignment must depend on an understanding of which stations will be chosen, how they will be designed and integrated into surrounding communities, and specific mitigation measures to mitigate impacts.

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**Comment Letter 0049 Continued**

include much more detailed descriptions of these and other project features, including likely diagrams and renderings of stations, parking facilities, access roads and transit oriented development around stations.

Finally, the DEIR/S fails to consistently describe related transit services, such as the Baby Bullet trains which just premiered in the Bay Area<sup>3</sup>, planned commuter rail service over the Dumbarton bridge, and planned Sacramento light rail service to the Sacramento Airport. This and other related transit services, segments, phases and other related facilities must be included in a revised project description in a revised and recirculated DEIR/S.

If these key project features are not thoroughly described, related impacts cannot be analyzed. These and other omissions in the description of the HST and other modal alternatives must be corrected in a revised DEIR/S and the potential for impacts (or mitigation) of these related projects and features disclosed and analyzed.

**d. The DEIR/S Fails to Disclose all Fundamental Engineering Aspects of the HST Alternative**

All engineering aspects of HST and the other alternatives must be disclosed and described. For example, while there is some information about the extent of tunneling, boring, grading, bridges and overpasses provided for the HST alternatives, the information is neither complete nor consistent. The DEIR/S also alludes to aspects of HST that give this option an advantage over other modal choices, but fails to provide sufficient information about the feature to substantiate claims of superiority. An example of this is that HST would consist of permeable track fill, rather than pavement expansion. DEIR/S page 3.14-11. According to the DEIR/S this results in HST generating less runoff and more infiltration than the modal alternative. Insufficient information is provided to document this conclusion. This is one more example of the type of information that should be fully disclosed in the project description and highlighted as a difference in the project alternatives.

**e. The DEIR/S Fails to Fairly and Completely Disclose the Economic Aspects of the Modal and HST Alignment and Station Choices**

<sup>3</sup> While Baby Bullet service opened to the public during the comment period for this EIR, advent of the service has been well publicized for several years. See, for instance, "Baby Bullet" trains will speed service between S.F., San Jose," November 29, 2000, in the Menlo Almanac or the KCBS Radio stories "Caltrain "Baby Bullet" to make World Series run," October 27, 2002 or "Baby Bullet Train Planned for SF/San Jose Route" June 28, 2002, at <http://groups.yahoo.com/group/BATN/message/8906>.

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A description of the economic feasibility of the various alternatives, modal and HST related, is critical to informed decision-making. Moreover, CEQA requires that the project description must contain a "general description of the project's *technical, economic,* and environmental characteristics, considering the principal engineering proposals if any and supporting public service facilities." CEQA Guidelines Section 15124(c). Disclosure of the costs of the HSR alternatives and the feasibility of funding route acquisition and improvement must be disclosed. All costs and revenues in comparable form for each modal alternative must also be disclosed in a revised DEIR/S.

**f. The DEIR/S Fails to Adequately Describe Project Phasing**

The omission of adequate and accurate project phasing information presents several problems for the document. First, the omission means that the project description may not include the "whole of the project" as required by CEQA or all related project elements as required by both CEQA and NEPA. Second, it renders the document confusing to the public, decision-makers and permitting agencies concerning what the project action really is. Third, it frustrates alignment decisions, since the financial viability, ridership, and environmental impacts will vary among alignments for the initial phase of the project, as well as for the project overall.

Studies performed by the predecessor Intercity High Speed Rail Commission through 1996 separately explained two major phases of this project. The first phase of the project is the portion from LA to the Bay Area, which would be separately financed through an initial statewide bond measure. The second phase includes "extensions" to Sacramento, San Diego, and possibly Oakland. The existence of this two-phase strategy is reflected in the statewide legislative ballot measure passed this year and scheduled for 2006. The ballot measure would provide a portion of the funding for phase I of the project, but not for phase II. Realistically, it may be years or decades between the construction of phase I and phase II. Indeed, the independent financial viability of phase I will affect whether phase II is built. Yet the DEIR/S speaks almost uniformly of the fully-built project.

The incomplete, inaccurate and vague project description points to a fundamental difficulty in the Authority's DEIR/S strategy. The DEIR/S is presented as a "programmatic" study to determine whether to build high speed rail rather than expanding highways and airports. However, the computer modeling, cost analysis, and environmental impacts of the HSR alternative cannot be evaluated without choosing a project alignment. Thus, if this DEIR/S is the basis for decision-making, the Authority/FRA will be making key alignment decisions in advance of the careful analysis needed to support informed decision-making as required by law. Indeed, the first page of the DEIR notes that "In the Final Program EIR/S, which will be prepared after the close of the public comment period on the Draft Program EIR/S, the Authority and the FRA may select a preferred HSR corridor/alignment..."

By reserving the ability to make this choice based on this DEIR/S, the agencies go beyond a programmatic-level DEIR/S. To cure this flaw, the Authority should either

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evaluate each major alignment in this document (including Bay Area access over the Altamont Pass), or explicitly defer all alignment decisions to a future project EIR/S. It is not acceptable to select a preferred HST corridor/alignment in advance of a detailed project DEIR/S which fully discloses all future phases of the HST. It would be particularly objectionable to do so "after the close of the public comment period" (ibid.) which focuses the public on programmatic-level decisions rather than fully vetting project-level decisions about alignment. DEIR/S at S-1.

Without accurate, adequate and complete information about the "whole" project and its major phases, an adequate analysis of project impacts is not possible. A revised and recirculated DEIR/S must be prepared before any decisions are made concerning modal choice, let alone HST alignments and station locations.

D. The DEIR/S Fails to Adequately Analyze and Mitigate the Project's Significant Impacts

The analysis of environmental impacts in the DEIR/S fails to provide the necessary facts and analysis to allow the Authority, the agencies and the public to make an informed decision concerning the project alternatives (modal and HST related) and mitigation measures. CEQA requires that an EIR be detailed, complete, and reflect a good faith effort at full disclosure. CEQA Guidelines section 15151. A fundamental purpose of an EIR is to "inform the public and responsible officials of the environmental consequences of their decisions before they are made." Laurel Heights Improvement Assn. V. Regents of the University of California, 6 Cal.4th 1112, 1123 (1988). To do so, an EIR must contain facts and analysis, not just an agency's conclusions. See Citizens of Goleta Valley v. Board of Supervisors, 52 Cal.3d 553, 568 (1990). Not only does the DEIR/S fail to provide supporting evidence for its conclusions concerning the significant of project-related and cumulative impacts, in most cases, it is not possible to tell from the DEIR/S whether an impact is considered significant, less than significant or reduced to less than significant after mitigation. The discussions simply omit this basic information.

The treatment of mitigation measures in the DEIR/S is similarly deficient. Mitigation measures must be identified and analyzed. This DEIR/S refers to the mitigation measures as mitigation "strategies." The term "mitigation strategy" is not recognized or defined by CEQA or NEPA. In most cases the suggested "strategies" are so vague that it is not possible to determine their efficacy in reducing significant impacts to less than significant. Many of these so called mitigation strategies consist of suggested actions the details of which are deferred until after project actions are taken that commit the Authority to a specific course (e.g. specific HST alignment and station locations). This approach makes it impossible to evaluate the effectiveness of strategies to reduce impacts. In addition, CEQA cautions that "public agencies should not approve projects as proposed if there are...feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects. . ." Pub. Res. Code section 21002. NEPA contains similar requirements. Here the DEIR/S simply fails to identify feasible mitigation measures capable of mitigating the significant environmental impacts of the project alternatives and cumulative impacts.

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This approach does not keep the DEIR/S from concluding that potentially significant impacts can be mitigated. See Table 7.3-1 where numerous significant impacts are rendered less than significant after vague and non-committal mitigation strategies are imposed. This approach violates CEQA and NEPA. A revised DEIR/S must include feasible mitigation measures to address significant project-related and cumulative impacts.

Finally, the DEIR/S improperly bases its analysis of the impacts associated with the Modal and HST Alternatives with the No Project Alternative, rather than with existing baseline conditions. This approach is improper under both CEQA and NEPA, which require the analysis of impacts to be based on existing physical environmental conditions in the affected area at the time the notice of preparation is published. CEQA Guidelines section 15126.2. A revised DEIR/S must include an analysis of the impacts of these alternatives with both the existing environmental conditions (at the time the NOP was issued) and with the No Project alternative.

Examples of inadequate impact analyses include, but are not limited to, the following:

a. The DEIR/S Fails to Analyze Adequately Traffic and Circulation Impacts

After identifying numerous significant impacts of HST on traffic and circulation, the DEIR/S concludes that all potentially significant traffic and circulation impacts of the HST alternative will be reduced to less than significant with mitigation. Mitigation consists of "encouraging" the use of transit and working with transit providers to improve station connections. This, along with other remarkable statements in this section of the DEIR/S underscore the reasons why this document is not adequate to support informed decision-making concerning the modal choices, let alone HST alignments and stations.

The DEIR/S fails to disclose the project's (including all alternatives') impact to the physical environment and in specific to traffic and circulation as required under CEQA and NEPA for a number of reasons including but not limited to the lack of adequate and complete setting information, inadequate analysis of impacts and failure to identify feasible mitigation measures.

First, omitted and inadequate project description information makes it impossible to adequately evaluate project related impacts on traffic and circulation. Examples of omitted or inadequate project description elements that result in an underestimation of traffic impacts include, but are not limited to: construction activities including construction haul routes, construction related trips, current and adequate information about ridership on the different modes, consistent assumptions concerning catchment areas (i.e. the distance people will travel to ride HST), information about all potential uses (e.g. freight) of HST as well as other information.

Second, the description of the affected environment discussion has numerous omissions and inconsistencies that make the section inadequate for choosing a preferred modal

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alternative, let alone HST alignment and station alternatives. The affected environment discussion does not provide an adequate description of the “traffic-sheds” that may be affected by the project. In addition, it appears that the Modal Alternative and HST are compared with the No Project, rather than existing conditions as required by CEQA and NEPA. The DEIR/S describes the existing condition as the transportation infrastructure that exists in 2003 and its associated levels of service. DEIR/S page 3.1-7. The No Project includes the existing infrastructure, plus the implementation of funded and programmed transportation improvements that will be operational by 2020 and the projected level of service of that infrastructure in 2020. DEIR/S page 3.1-7. The comparison of the Modal Alternative and HST with the No Project rather than with existing conditions results in an underestimation of the new impacts associated with these alternatives, because they assume a new baseline condition. See DEIR/S pages 3.1-12 and 3.2-8. A revised traffic analysis must compare the Modal Alternative and HST to both existing baseline conditions and to the “future” No Project conditions. Under the first analysis, those improvements that really are likely to be completed should be added to the Modal and HST Alternatives as part of these projects.<sup>4</sup>

The study area for assessing impacts to traffic and circulation is also insufficient to fully examine project-related impacts. No evidence is provided to support the use of the limited study area. To the contrary, riders of HST are likely to travel great distances as they do for air travel to HST stations. The DEIR/S fails to provide adequate information about this likelihood. The study area should be expanded to include the entire traffic-sheds based on updated and complete ridership information, project description information (e.g. potential freight service)<sup>5</sup>, and the like. This and other incomplete and inconsistent setting information must be provided in a revised DEIR/S. In the absence of adequate, accurate and complete setting information, adequate analyses of project-related and cumulative impacts cannot be completed.

Third, the DEIR/S underestimates impacts to traffic and circulation because the project description omits adequate and complete information about the true extent of project-related impacts and fails to adequately analyze impacts. Specifically, direct impacts are likely to be much greater than described because the project description fails to include all project features that will induce traffic (e.g. freight transport on HST, construction period traffic, etc.).

Fourth, the DEIR/S also does not address the feasibility of mitigating many of the potentially significant impacts identified. Specifically, the DEIR/S defers development of all recommended mitigation “strategies” until the project-level analysis is completed. For example, the DEIR/S includes the following strategy:<sup>6</sup>

<sup>4</sup> The DEIR/S’s approach to analyzing impacts of traffic, noise and air quality all improperly compare the Modal and HST alternatives to the No Project instead of to existing conditions as required by law.

<sup>5</sup> If HST is used for freight service, the traffic-shed should be expanded to include the range of freight delivery and pick-up service to and from HST stations.

<sup>6</sup> Also, the 1990 bond measure that funded a significant portion of HSRA’s work on this project requires bicycle access on rail systems benefiting from the bond. The DEIR should clearly outline provisions for accommodating bicycles on HST cars and at facilities. This analysis should provide an opportunity to highlight plans to maximize bicycle and pedestrian access to stations.

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Transportation: “Consultation and coordination with public transit services in order to encourage the provision of adequate bus feeder routes to serve proposed station areas could mitigate potential transit feeders.” DEIR/S page 3.1-24

This approach to mitigation is simply inadequate for either modal alternative selection or more detailed alignment and station location selection for HST. Feasible mitigation measures must be identified and in the case of more detailed decisions concerning HST alignments and stations, additional details concerning these project descriptions must be provided. It is not appropriate to make an alignment choice based on the possibility significant impacts to traffic and circulation “might” be avoided by as yet undetermined mitigation or that people may be encouraged in greater numbers than ever before choose transit over their single occupancy vehicle.<sup>7</sup>

The DEIR/S fails to reach any conclusions concerning the significance of traffic impacts for any of the alternatives. It is clear that traffic impacts will be significant for all alternatives from reviewing the text. A revised DEIR/S must identify the significant impacts of each alternative before and after mitigation.

Finally, a number of mitigation measures will in turn have significant impacts that are not analyzed in the DEIR/S. For example, major transportation improvements are identified as potential mitigation to alleviate congestion. A revised DEIR/S must analyze the indirect or secondary impacts of these measures. In addition, the feasibility of acquiring rights-of-way to accommodate these improvements must also be addressed.

#### b. The DEIR/S Fails to Analyze Adequately Air Quality Impacts

The DEIR/S fails to adequately and accurately evaluate the potentially significant air quality impacts of HST as a result of construction and operations of the project. In both cases, the DEIR/S leaves analysis of specific impacts for the project-level analysis.

“Potential construction impacts and potential mitigation measures should also be addressed in subsequent analysis. Once an alternative and alignment is established a full construction analysis should be conducted. This analysis should quantify emissions from construction vehicles, excavation, worker trips, and other related construction activities. Mitigation measures, if required, should be detailed and a construction monitoring program, if required should be established.” DEIR/S page 3.3-33.

<sup>7</sup> It is worth noting that the Metropolitan Transportation Commission established a goal of increasing public transit use by 15% in 1982 as a “best management practice” to meet federal Clean Air Act requirements and, over 30 years later, has not met this goal. This failed attempt to promote public transit has been a subject of litigation this year (see [http://www.ocefoundation.org/MTCENB\\_5\\_2.htm](http://www.ocefoundation.org/MTCENB_5_2.htm)). The instant DEIR/S cannot credibly rely on an unformed plan to encourage MTC or other transportation agencies to encourage public transit use, even where such agencies are willing. More substantial required mitigation methods are required.

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“Once alignments are selected, if a decision is made to proceed with the proposed HST system, then local traffic counts could be conducted at access roads serving major station locations. These counts would provide more accurate information for determining potential local air quality hotspot locations.” DEIR/S page 3.3-33

This deferral of impact analysis and mitigation contravenes both CEQA and NEPA. The DEIR/S states that the construction period would last at least 10 years and the miles of corridor under construction at one time would extend across much of the State, rendering these impacts significant. DEIR/S page 7-2. These impacts must be reviewed before a modal choice is selected and prior to selection of alignments and station locations.

Mitigation “strategies” to address air quality impacts are not only deferred until project-level review, they also lack specificity and enforceability. For example:

Air Quality: “Potential localized impacts could be addressed at the project level by promoting the following measures. Increase use of public transit; increase use of alternative fuel vehicles; increase parking for carpools, bicycles, and other alternatives transportation modes.” DEIR/S page 3.3-33.

Air Quality: “Potential construction impacts, which should be analyzed once more detailed project plans are available, can be mitigated by following local and state guidelines.” DEIR/S page 3.3-33.

Feasible mitigation measures to address the potentially significant and unavoidable air quality impacts of all three alternatives must be included in a revised DEIR/S. Such measures include, but are not limited to measures that require cleaner construction vehicles, urban forestry, green building standards, and most importantly, directing these transportation improvements and all state transportation funding to occur in urban areas, rather than in undeveloped areas where they will promote sprawl (as is the case with many of the proposed alignment and station alternatives including, but not limited to, the Pacheco and Diablo routes).

In addition, like the traffic analysis, it appears that the approach to analyzing the air quality impacts of the Modal Alternative and HST was improper. These alternatives are compared with the No Project, rather than existing conditions as required by CEQA and NEPA. The DEIR/S describes the existing condition as the transportation infrastructure that exists in 2003 and its associated levels of service. DEIR/S page 3.1-7. The No Project includes the existing infrastructure, plus the implementation of funded and programmed transportation improvements that will be operational by 2020 and the projected level of service of that infrastructure in 2020. DEIR/S page 3.1-7. The comparison of the Modal Alternative and HST with the No Project rather than with existing conditions results in an underestimation of the new impacts associated with these alternatives, because they assume a new baseline condition. A revised air quality analysis must compare the Modal Alternative and HST to both existing baseline conditions and to

the “future” No Project conditions. Under the first analysis, those improvements that really are likely to be completed should be added to the Modal and HST Alternatives as part of these projects.

As with other areas of analysis, air quality impacts will vary by alignment for both phase I of the project and for the project at full buildout. Key variables include construction-related air quality impacts, operational impacts and induced growth impacts. Different alignments will draw different levels of ridership from autos versus air travel, and have the potential to affect goods movement (i.e. truck traffic) differently if freight service is offered. Also, station selection, location, and placement will affect modal access to the system.

**c. The DEIR/S Fails to Analyze Adequately Agricultural Issues**

The DEIR/S’s approach to analyzing impacts to agricultural land is flawed for a number of reasons. Most notably, in the land use analysis, the DEIR/S calculates only that land directly impacted by the proposed alignments being overlain atop the FMMP farmland GIS shapefile in its analysis section concerning impacts to farmlands. Moreover, differential study areas were used for the modal alternative and HST. For the modal alternative, the study area was determined to extend from the edge of the existing right-of-way to 25 ft (8 m) on both sides of existing right-of-way, including added lanes with shoulders and other required additions. For HST the study area was determined to be 100 feet. According to the DEIR/S, this is a conservative study area, because it would be possible to fit the HST line within a 50 foot right-of-way in constrained areas. DEIR/S page 3.8-3 to 4. This approach grossly underestimates the impacts of these alternatives on agriculture and farmland.

In addition, based on the review of the DEIR/S by the American Farmland Trust, the DEIR/S contains two different sets of figures for the projected consumption of agricultural land as a result of growth induced urbanization. At one point, it concludes that, under the HST alternative, about 478,000 additional acres of Central Valley land will be urbanized by 2035. (DEIR, Table 5.3-6, p. 5-20; CSI Table 5.2, p. 5-3). The DEIR/S also estimates that only 303,200 acres of farmland will be converted in the Valley during the same period. (DEIR, Table 5.4-1, p. 5-28). The only way these figures can be reconciled is if more than one-third of the land expected to be urbanized in the Central Valley will *not* be farmland. Regrettably, there is insufficient information in the DEIR and in the CSI and Parson Brinckerhoff reports on which it is based to explain its confusing conclusions. For purposes of further critique, we use the farmland urbanization figures from Table 5.3-6 and the CSI report.

Even the higher DEIR estimate of growth induced urbanization appears to be much too low. According to American Farmland Trust, it was derived using population density figures that are unrealistically high compared to existing and planned densities in the Central Valley. If an average of 7.4 people per acre (the density of new development from 1990 to 2000) is used, rather than the 8.7 people per acre assumed by the DEIR, to calculate future urbanization, more than 560,000 acres of land in the Central Valley

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would be developed – 18 percent more than the DEIR claims. If the amount of land zoned for rural “ranchettes” is considered, the total loss of farmland to urbanization by the year 2035 could be in the range of 1.2 million acres. Since there are only about 5 million acres of irrigated farmland in the Central Valley, such an impact could be devastating to agriculture. (See AFT Critique of HST DEIR, available at [www.farmland.org/California/policy.htm](http://www.farmland.org/California/policy.htm))

The analysis also fails to analyze impacts to agricultural infrastructure necessary to sustain ongoing agriculture. The analysis only considers potential fragmentation of farmland or loss of farmland acres. DEIR/S at 3.8-1 and 3.8-6. Because the project description is lacking, these discussions fail to disclose the significance of these impacts. Moreover, the DEIR/S overlooks the impacts of the project on grazing. This impact is simply deferred until a later analysis. The DEIR/S ignores the spillover effects of residential development on farming operations. According to the review by the American Farmland Trust, these spillover effects could affect 2 to 3 times as much farmland as is actually converted as a result of new residential uses conflicting with farmland uses.

Mitigation strategies for agricultural impacts are also improperly deferred:

“Consideration of potential mitigation such as protection or preservation of off-site lands to mitigate conversion of farmlands or acquiring easements, or payment of an in-lieu fee as mitigation mechanisms, would depend on the potentially considerable environmental impacts identified at specific locations, as assessed in a project-level document. DEIR/S page 3.8-18.

Specific mitigation measures that must be included in a revised and recirculated DEIR/S include those identified in the Land Use and Planning Section of this letter, such as purchase of agricultural easements to protect farmland before HST is introduced, urban growth boundaries and smart growth zoning in communities served by HST. In addition, a revised DEIR/S must provide evidence that proposed mitigation measures will actually reduce or eliminate the significant conversion of farmland. References to land use patterns that have emerged in other countries, subject to very different land use regulations than in California, should not be the basis for conclusions reached in the DEIR/S concerning the efficacy of proposed mitigation measures. Examples from the U.S. should be sought.

**d. The DEIR/S Fails to Analyze Adequately Biological Resource Issues**

Once the presence of biological resources in a project site have been identified and described, a DEIR/S must then analyze how the direct and indirect impacts of the project and cumulative projects would affect resources. As set forth in the CEQA Guidelines Section 15126(a):

Direct and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both short-term and

long-term effects. The discussion should include relevant specifics of the area, the resources involved, physical changes, alterations to the ecological systems, and . . .

The DEIR/S does not disclose the project’s (including all alternatives) impact to the physical environment and its corresponding effect on biological resources as required under CEQA and NEPA for a number of reasons including, but not limited to the lack of adequate and complete setting information, inadequate analysis of impacts and failure to identify feasible mitigation measures. Our summary of the significant flaws and omissions in the DEIR/S with respect to biological resources follows.<sup>8</sup> A full presentation of the inadequacies of the discussion of biological resources in the DEIR/S is contained Attachment C hereto, Flaws in the DEIR/EIS’s Analysis of Biological Impacts prepared by Defenders of Wildlife.

First, omitted and inadequate project description information makes it impossible to adequately evaluate project related impacts on biological and wetland resources. Examples of omitted or inadequate project description elements that result in an underestimation of biological impacts include, but are not limited to the locations and extent of fencing (including provisions for wildlife passage) and noise walls, the extent of grading and remedial grading, the location and extent of construction staging areas, the location and extent of borrow and spoils sites, the extent of borings, the location and extent of construction-related roads and traffic, the use of water for tunneling and dewatering related to construction, among other facets of the project that are not adequately disclosed or described in the DEIR/S. While the DEIR/S does describe a general methodology for tunneling, it fails to identify impacts of tunneling on wilderness and wildlife. Similarly, the DEIR/S describes noise and vibration generated by the alternatives, but fails to identify or analyze any impacts of this on wildlife, including aquatic species. This failure in part stems from the lack of an adequate project description. We are informed by experts that the overhead cables will be continuously electrified; another key piece of information about the project that has the potential to result in significant impacts including bird mortality and electromagnetic field or interference on wildlife. Because the project description is not complete, these impacts are not addressed in the DEIR/S.

Second, the description of the affected environment discussion has numerous omissions and inconsistencies that make the section inadequate for choosing a preferred modal alternative, let alone HST alignment and station alternatives. The affected environment discussion does not provide an adequate description of the status of habitats and species that may be affected by the project, or the regional context and interrelationships of the resources within and between project regions. In addition, there are many factual and typographic errors that raise questions regarding the validity of the entire analysis. A few examples are discussed below but should not be considered an exhaustive list of inadequacies.

<sup>8</sup> This section was prepared with assistance from Michael White, PhD, lead biologist with the Conservation Biology Institute and Defenders of Wildlife.

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The study area for assessing impacts to biological resources is inadequate. Specifically, the study area for biological resources is 1,000 feet on either side of the alignment centerlines and stations in urban areas; 0.25 miles on either side of alignment centerlines and around stations in undeveloped areas; and 0.50 miles on either side of alignment centerlines around stations in sensitive areas. DEIR/S page 3.15-4. Impacts to biological resources associated with all modal alternatives, including HST, are likely to extend well beyond these limited study areas. For example, where HST will involve extensive earthwork and potentially tunneling, hydrologic regimes that support habitat and species, could be severely affected or destroyed. A much larger study area should be used in a revised analysis of impacts in both undeveloped and sensitive areas. A revised DEIR/S should propose and defend an adequate study area based on the true extent of impacts to biological resources and must include an evaluation of the relative quantity and importance of the habitat to be destroyed on short- and long-term species survival. This information is simply missing in the DEIR/S.

The affected environment section of the DEIR/S is inconsistent in its description of protected areas and other biologically important but unprotected land. For example, several important open space areas (e.g., The Don Edwards San Francisco Bay National Wildlife Refuge, Nature Conservancy's Mount Hamilton Project, South Bay Salt Pond Restoration Project, Henry Coe State Park) are mentioned in the Bay Area to Merced region but the DEIR/S does not mention the numerous other federal, state, local, and privately owned biological open space areas that occur within this and other regions of the project. These open space preserves represent substantial conservation investments by the citizens of California and are critical to the conservation of California's globally significant biodiversity.

In addition, the DEIR/S uses limited information to formulate its affected environment section, which is not likely to be consistent across the project area. For example, California Natural Diversity Database information is only available for areas that have been previously surveyed and only if the survey information were submitted to the state. There are many portions of the study area that have not been surveyed and often survey data are not provided to the state. Alternative sources of information should be included in the development of the affected environment section, including information used to develop and manage open space reserves in California, such as Natural Community Conservation Planning (NCCP) efforts and species recovery planning efforts. In addition, the DEIR/S relies on the National Wetlands Inventory to analyze impacts to wetlands. This database provided only a very coarse and incomplete analysis of wetlands in California. A revised DEIR/S must base its conclusions concerning impacts to important remaining California wetlands on a more thorough assessment of wetlands, including on-the-ground surveys. In addition, the revised analysis must consider the potential impacts of tunneling and other interferences with hydrologic regimes on the short- and long-term existence of these wetlands.

The biological resources and wetlands section merely provides narrative lists of species that may be potentially affected by the project. There is no differentiation between rare, threatened, or endangered species. There is no meaningful discussion of the individual

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species that would allow an assessment of the potential for the project to adversely affect the species via direct, indirect, or cumulative impacts. There are numerous species with designated and proposed critical habitat in the impact area of HST. Yet, the DEIR/S fails to discuss impacts to critical habitat except in the Los Angeles to San Diego technical report. A revised DEIR/S must include this information – information that will be key to obtaining federal permits for the project. See Attachment C, section 5.

The description of wildlife movement/migration corridors provides no information on what areas the corridors are connecting and which species may be using them. The DEIR/S states that it uses the Missing Linkages report (California Wilderness Coalition 2000) to assess potential impacts to wildlife corridors but does not discuss potential impacts to the individual corridors described in the report. In addition, merely identifying where linkages will be cutoff by HST fails to address the significant habitat fragmentation that will occur with the introduction of a rail alignment. There is substantial scientific literature on habitat fragmentation as a result of new roads. See Attachment C. The DEIR/S fails to make full use of this science in analyzing the similar impacts of HST on biological resources. A revised DEIR/S must include an analysis of the direct and indirect impacts of habitat fragmentation including the potential for extinction of species where the shrunken islands are habitat are no longer functional and introduction of exotic species.

Finally, the DEIR/S does not discuss several NCCP planning efforts with preserve areas that may be affected by the project. For example, the Orange County Central Coastal NCCP and the Western Riverside NCCP (both approved), through which project alignments traverse, are not discussed at all in the DEIR/S. The San Diego Multiple Species Conservation Program (MSCP) and North San Diego County MHCP (incorrectly referred to as the "MSHCP") are discussed under the Los Angeles to San Diego via Inland Empire region, but the DEIR/S states that there are "no conservation plans identified" within the Los Angeles to San Diego via Orange County region. This region contains three approved NCCPs and one in preparation (Southern Orange County NCCP). In Kern and Merced counties, where adopted HCPs/NCCPs are in place, the DEIR/S fails to address the potential impact of the HST project on areas protected under these conservation plans. Specifically, the DEIR/S fails to address the likely direct and indirect (growth inducing) impacts on protected and biologically sensitive lands.

This and other incomplete and inconsistent setting information must be provided in a revised DEIR/S. In the absence of adequate, accurate and complete setting information, adequate analyses of project-related and cumulative impacts cannot be completed.

Third, the DEIR/S underestimates impacts to biological resources because the project description omits adequate and complete information about the true extent of biological impacts associated with the project and related projects. Specifically, among the direct impacts of the project are removal of vegetation, interference (blocking and alteration) of hydrologic systems, and wildlife mortality from construction activities and train strikes. Indirect impacts include, but are not limited to: noise, vibrations and lighting, habitat fragmentation, disrupted movement patterns, altered drainage and water flows, invasion

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by exotic species along disturbed areas in the right-of-way and modified fire regimes. Also, the DEIR/S fails to address the potential impacts associated with continuously electrified overhead cables, including species mortality and EMF/EMI effects. In addition, the impact analysis and maps presented in the DEIR/S does not identify the nature of the impact to individual resources in specific geographic areas, thus preventing a complete understanding of the true impacts of the project or the various alternatives.

The DEIR/S appears to completely overlook the fact that the proposed Pacheco Pass Alignment would bisect the Grassland Ecological Area, causing fragmentation and other direct and significant impacts. The Grassland Ecological Area is an irreplaceable, internally significant ecological resource located just north and east of Los Banos. Moreover, the growth-inducing impacts of locating a station in Los Banos will also place significant pressure for development in these sensitive areas. The DEIR/S fails to address the importance of these lands or discuss the extent to which growth pressure from the location of HST in this relatively undeveloped region could impact these sensitive areas. As a result, the impacts to the refuge and other areas of protected open space are not adequately disclosed or analyzed.<sup>9</sup> The DEIR/S also fails to analyze potential project-related noise and vibration impacts on species, and indirect impacts of habitat fragmentation, which could extend well beyond the impact corridor used in the impact analysis.

Fourth, the DEIR/S also does not address the feasibility of mitigating many of the potentially significant impacts identified, many of which appear to be unmitigable (e.g., tens of thousands of acres of sensitive species habitat in the Bay Area to Merced region, dozens of vernal pools in the Los Angeles to San Diego via Inland Empire region). Mitigation “strategies” proposed for biological resource impacts are vague and deferred. For example, the DEIR/S states:

“Potential strategies to mitigate impacts on biological resources would include field verification of sensitive resources and filling data gaps to allow designs to avoid impacts on special-status species and sensitive habitat areas...For example, to avoid or minimize impacts in sensitive areas, alignment plans and profiles could be adjusted or proposed structures could be constructed above grade or in tunnels...Special mitigation needs would be considered in the future with the appropriate authorities that are responsible...” DEIR/S page 3.15-31.

This approach to mitigation is simply inadequate for either modal alternative selection or more detailed alignment and station location selection for HST. Feasible mitigation measures must be identified and in the case of more detailed decisions concerning HST alignments and stations, additional details concerning these project descriptions must be provided. It is not appropriate to make an alignment choice based on the possibility that significant impacts to biological resources “might” be avoided by as yet undetermined

<sup>9</sup> For additional information about the ecological importance of the Grasslands and the significant impacts of the Pacheco Pass Alignment and Los Banos station on these resources please see the letter submitted on behalf of the Grassland Water District, which is hereby incorporated by reference.

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mitigation. Such mitigation (e.g. additional tunneling or above grade construction) may prove to be infeasible.

A revised analysis of project-related and cumulative impacts to biological resources must be completed as part of a revised and recirculated DEIR/S and, at a minimum, must include the following:

- Consistency with local natural resources related planning elements and policies for each jurisdiction the alignment traverses;
- Conflicts with NCCP or HCP plans;
- Conflicts with existing protected areas and parklands;
- Quantification of all direct, indirect, and cumulative impacts to natural resources, both permanent and temporary;
- Assessment of adverse impacts to wildlife movement corridors and opportunities to enhance the function of these corridors;
- Assessment of anticipated mitigation measures and permitting requirements, and the probability of successfully mitigating specific impacts;
- Assessment of any growth inducing impacts to natural resources (see Planning/Land Use Study Terms below).

The DEIR/S contains a lengthy list of subsequent analyses that would be required to “obtain more reliable assessments of potential impacts on biological resources in the study area.” DEIR/S page 3.15-31. The technology exists to complete these analyses before selection of HST and specific alignments and station locations. It is simply not appropriate to make choices concerning HST alignments and stations without this information being developed and circulated for public review and comment in a revised DEIR/S.

**e. The DEIR/S Fails to Adequately Analyze Land Use and Planning Impacts**

The DEIR/S analysis of land use impacts with respect to both modal alternatives and HST alignments and station choices is inadequate and incomplete. Specifically, such an analysis must include analysis of the following aspects of the project:

- Consistency with local plans and policies for each jurisdiction the alignment traverses;
- Consistency with applicable regulations of permitting agencies, where relevant.

The DEIR/S does not disclose the project’s (including all alternatives’) impact to the physical environment and its corresponding effect on land uses as required under CEQA and NEPA for a number of reasons including lack of adequate and complete setting information and study areas, inadequate analysis of impacts and failure to identify feasible mitigation measures.

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First, omitted and inadequate project description information makes it impossible to adequately evaluate project related impacts on land use. Examples of omitted or inadequate project description elements that result in an underestimation of land use impacts include, but are not limited to the scale of the stations and parking facilities, the extent of new and expanded infrastructure and public services needed for HST, general plan and zoning amendments for the stations and related facilities and the like. Absent a description of the whole project, land use impacts cannot be fully disclosed or analyzed.

Second, the description of the affected environment discussion in the Land Use Section has numerous omissions and inconsistencies that make the section inadequate for choosing a preferred modal alternative, let alone HST alignment and station alternatives. For example, the DEIR/S suggests that general plans were considered in economic and growth inducing model by Cambridge Systematics, Inc. However, there is no evidence that general plans and zoning were actually considered. Moreover, the affected environment discussion does not provide an adequate description of the setting for areas affected by the project alternatives. The study area for land use is limited to 0.25 miles on either side of the centerline of the rail and highway corridors included in the alternatives, and the same distance around stations, airports and other HST facilities. For the property impacts analysis, the study area is only 100 feet. These limited study areas result in a gross underestimation of the land use compatibility impacts that could occur as the result of these projects being constructed. The study areas must be expanded to address the true effects of a train going by at 200 miles per hour and the growth inducing impacts of the HST that may completely alter existing neighborhoods. Revised analyses of project-related and cumulative land use impacts must be completed based on a complete description of the project and project setting.

Third, the land use discussion fails to adequately address environmental justice impacts. A revised DEIR/S must fully address these potential impacts in compliance with Order DOT 5610.2 and other applicable guidelines. The discussion of these impacts is largely and inappropriately deferred until project-level review occurs. This approach renders it impossible to redirect alignments or stations based on environmental justice impacts because it will be too late.

Further, the DEIR/S fails to point out a number of project inconsistencies with applicable policies and regulations. For example, two of the proposed Bay Area Alignment Options go through Henry Coe State Park and its Orestimba Wilderness. The DEIR/S fails to discuss the applicability of the California Wilderness Act of 1974 (Public Resources Code 5093.30 through 5093.40) and the legal implications of creating a railroad right of way through the Orestimba Wilderness. The California Wilderness Act specifically prevents the construction of new roads or motorized transport through Wilderness Areas. Thus a new High Speed Rail Right of way would clearly be in violation of the spirit and the letter of the California Wilderness Act. De-classifying large areas of the Orestimba Wilderness as official State Wilderness areas would severely undermine the California Wilderness Act and the protection of thousands of acres of land that are supposedly protected by it.

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The DEIR/S fails to identify feasible mitigation measures for significant land use impacts. Mitigation “strategies” proposed for land use impacts are vague and deferred. For example, the DEIR/S states:

Land Use: “Local land use plans and ordinances would be further considered in the selection of alignments and station locations...” DEIR/S page 3.7-26.

This approach to mitigation is simply inadequate for either modal alternative selection or more detailed alignment and station location selection for HST. Feasible mitigation measures must be identified and in the case of more detailed decisions concerning HST alignments and stations, additional details concerning these project descriptions must be provided. It is not appropriate to make an alignment choice based on the possibility significant impacts to land use and environmental justice “might” be avoided by as yet undetermined mitigation.

For example, with respect to land use impacts, the DEIR/S should have specified mitigation requirements for land use and growth inducing impacts including:

- “Requirements” for agreements with cities/counties the route traverses for “smart growth” policies (e.g. in downtowns around stations specific programming for higher densities, etc.; in rural areas specific policies for farmland protection, etc.). The Metropolitan Transportation Commission is currently developing recommendations for land use policies that must be in place in order to receive certain transportation funding. HST should be conditioned on these same types of policies. If “smart growth” policies are not in place prior to HST being constructed, the sprawl inducing impacts will be significant;
- up-front purchase of conservation and agricultural easements to either side of the tracks;
- fees (such as an ongoing portion of ticket revenues) for additional purchase and stewardship of conservation, recreational and agricultural lands; and
- Limitations on the number of stations.

In addition to identifying feasible alignments and station locations in existing urbanized areas to minimize conversion of agricultural and habitat lands to urban uses, these measures put into place early would further improve the chances that HST would result in beneficial impacts.

Last, it is not clear from the DEIR/S what the significant land use impacts are before and after mitigation. It is clear that the conclusion reached in Table 7.3-1 – potentially significant land use impacts will be potentially less than significant after mitigation – is not supported by evidence in the DEIR/S. A revised and recirculated DEIR/S must include clear statements of significance and demonstrate how mitigation measures will in fact reduce potentially significant impacts to less than significant.

**f. The DEIR/S Fails to Analyze Adequately the**

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**Comment Letter 0049 Continued**

**Growth Inducing Potential of the Alternatives**

The DEIR/S fails to provide any meaningful analysis of the growth inducing potential of the proposed alternatives and in particular HST. Based on inadequate and contradictory information, the DEIR/S concludes that the growth potential with HST is “potentially beneficial” with mitigation strategies. DEIR/S Table 7.3-1. This and other conclusions reached in the DEIR/S are not supported by adequate and transparent analysis or substantial evidence.

CEQA requires that an EIR contain an analysis of a project’s growth inducing impacts. Growth-inducing impacts are those that encourage or facilitate other activities or projects that could significantly affect the environment. The “detailed statement” setting forth the growth inducing aspects of a project must “[d]iscuss the ways in which the proposed project could foster economic growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment.” CEQA Guidelines Section 15126.2(d). It must also discuss how a project may “encourage or facilitate other activities that could significantly affect the environment, either individually or cumulatively” or remove obstacles to population growth. Population growth in turn may impose new burdens on existing or planned community services. Similarly, NEPA requires that agencies consider the indirect effects of a proposed action, such as growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate. 40 CFR 1508(b).

The general analysis of growth inducement that is included in the DEIR/S fails to accurately analyze and document the likely growth that could be induced and erroneously concludes that growth induced by HST will be beneficial after mitigation strategies are imposed. Lead agencies must not assume growth induced in an area is beneficial or of little consequence until it has completed open minded analysis. CEQA Guidelines section 15126.2, subd.(d). Here the DEIR/S conclusions concerning growth inducement are not supported by evidence. The exercise of analyzing growth inducement is technically feasible and must be included in a revised DEIR/S. Major flaws in the DEIR/S approach to growth inducement include but are not limited to the following:

First, the DEIR/S fails to provide any analysis of the growth inducing potential of the proposed alternatives and in particular of the HST alignment and rail stations in specific areas where stations will be located. While the DEIR/S fails to analyze growth inducing impacts on specific alignments and station locations, it does provide general information concerning potential economic and housing growth inducement by region. For example, the DEIR/S concludes that HST would make it possible for people living almost anywhere in the Central Valley to commute to employment centers in Sacramento, the Bay Area and Los Angeles. “Transportation investments can lead to reduced travel time or cost [and] improved accessibility to regions.” DEIR/S page 5-1. The “blackbox” growth model by Cambridge Systematics, Inc., which underlies the DEIR/S analysis, bases its conclusions concerning growth inducement on the number of jobs within a 90-mile radius. Notwithstanding the overwhelming evidence that this approach applied to remote areas like the Pacheco and Diablo alignments will traverse would result in

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tremendous growth pressure, the DEIR/S concludes that HST will make little difference in the future population of the Central Valley. This conclusion is simply not supported by the evidence provided in the DEIR/S. To the contrary, elsewhere in California, recent growth patterns demonstrate that accessibility to major employment centers has triggered tremendous new growth.<sup>10</sup> The introduction of HST to the rural and undeveloped areas along the Pacheco and Diablo routes will make it possible for Bay Area residents to easily commute to and from them affordable suburban and rural housing in and around the Grasslands area and create significant pressure for growth of housing and new services in the area. Additional growth in the rural areas poses significant indirect threats as a result of increased population and pressure on farmlands and open space. The applicable county general plans for these rural areas call for a predominance of low density and rural residential uses. The relative affordability of homes and property in these areas as compared with the Bay Area will be a tremendous draw for Bay Area workers to move to the area. A revised DEIR/S must disclose and analyze the likely growth inducing impact of HST on these rural areas including how introduction of the station is likely to accelerate growth and increase demand for subdivisions and development. Land conversion estimates should be developed for each rural area served by HST.

Second, the DEIR/S conclusions that HST will lead to more efficient use of the land and higher densities are simply not supported by the general plans or by evidence in the DEIR/S. Incredibly, the DEIR/S concludes that the HST Alternative will result in significant land use efficiencies over both the No Project and Modal Alternatives:

- “The efficiency for the HST Alternative is achieved in conjunction with the highest population and employment growth rates of all alternatives and would be 6.3% more efficient than the Modal Alternative.” DEIR/S page 5-22.
- The HST Alternative provides an increments development density that is 4% more efficient than the No Project Alternative, while the Modal Alternative is 2.3% less efficient than the No Project Alternative. DEIR/S page 5-22 and Table 5.3-7.

This result is not likely in areas planned and zoned for very low densities. The DEIR/S fails altogether to analyze the HST’s role in inducing low density suburban and rural residential development. This is among the document’s major flaws. The DEIR/S

<sup>10</sup> Examples include the Auburn corridor as major new employers moved to the Sacramento region and north, the Truckee area which is approximately 1 hour from the major new job growth in the Auburn Corridor and Reno. Historical growth patterns in California clearly demonstrate that the close proximity of a major job center inevitably leads to growth inducement for housing within commute range. HST will render the Grasslands area within close commute range to major job centers in the Bay Area. While the DEIR/S should review relevant studies on growth inducement related to major transportation infrastructure, please see Attachment F for several recent newspaper articles that suggest potential growth-related impacts of this project.

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ignores the “ranchette phenomenon,” which is the worst type of sprawl.<sup>11</sup> Census figures make it possible to separate rural and urban populations. The DEIR/S simply fails to consider the tremendous demand for this type of development and therefore fails to identify and analyze the additional significant impacts related to that growth including increased traffic, increased pollution, increased demand for services and infrastructure, accelerated and increased loss of open space, agricultural and habitat land. New transportation facilities are classic for inducing and accelerating growth particularly in rural and undeveloped areas. A revised DEIR/S must analyze likely new and accelerated growth based on existing general plans, the likelihood that HST will prompt general plan and zoning amendments for additional growth and accelerate both urban and rural development.

Without analysis of facts the DEIR/S concludes that HST will minimize a variety of impacts normally associated with growth due to its inherent incentives for directing urban growth:

“In short, the HST Alternative provides a strong incentive for directing urban growth and minimizing a variety of impacts that are frequently associated with growth. This outcome would be seen in results for resource topics such as farmland, hydrology, and wetlands, where the indirect effects of the HST Alternative are less than the Modal Alternative, and in some cases less than the No Project Alternative, even with more population and employment expected with the HST Alternative.” DEIR/S page 5-34.

“Nonetheless, the results indicate that the HST Alternative would be able to accommodate more population and employment growth on less land than the other alternatives.” DEIR/S page 5-10.

The DEIR/S continues on to conclude that the growth potential with HST is “potentially beneficial” with mitigation strategies. DEIR/S Table 7.3-1. These conclusions are not supported by adequate and transparent analysis or substantial evidence. A revised DEIR/S must indicate the likely increase in subdivisions of rural land and map those privately owned lands that will be subject to growth and development pressures.

Third, the DEIR/S fails to disclose the likely increase in demand in areas served by HST for second homes. For example, the Sierra Foothills along the Central Valley will become very accessible to the major population of L.A, Sacramento and the Bay Area. The spectacular open space setting in the Sierra’s already make it highly attractive for a second home market. With HST bringing these areas within an hour of major population centers, the likely increase in second home demand could be significant. The DEIR/S is silent on this potential growth inducing impact. A revised DEIR/S must include analysis of this potentially significant impact on rural areas proposed to be served by HST.

<sup>11</sup> The analysis completed by the American Farmland Trust (see comment letter submitted by AFT), suggests that 700,000 additional acres of land could be converted to rural ranchettes based on population projections and current ranchette development trends. This trend will accelerate the subdivision of open space lands for ranchette development where HST removes the barrier of accessibility to jobs.

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Fourth, stations proposed for rural areas are likely to require major new infrastructure and services. The DEIR/S fails to reveal the extent of these facilities nor does it analyze the growth inducing impact these new facilities will have in the immediate areas surrounding the stations. A revised analysis must include information about the types of services and infrastructure needed for these stations and analyze how the extension of those facilities will remove an existing barrier to growth in these formerly unserved and relatively remote areas. Specifically, the DEIR/S should describe the current general plan and zoning of each proposed station site and surrounding areas; the existing status of services and infrastructure; services and infrastructure that will be provided to serve each new station; and the likely growth inducing effect of the station and those facilities on adjacent lands.

Fifth, the DEIR/S discussion of economic and growth inducement suggests that the introduction of HST to the Central Valley will change the types of jobs in the region and lead to personal income growth:

- Increased employment opportunities should lead to personal income growth in all regions of the state; this growth might be most pronounced in counties of the Northern Central Valley under the HST Alternative, since that region is projected to experience the largest employment gain. DEIR/S at 5-26.

The DEIR/S fails to analyze the likely results of this dramatic change, including, but not limited to increased demand for larger, high end homes, increased demand for services and overall increased in growth and development to serve the very different demands of higher income individuals and families.

Finally, the mitigation strategies for growth inducement are not sufficient. While increased concentration of development around HST stations in downtown locations has the potential to avoid or minimize some impacts, the opposite is likely to be the case where stations are located in rural areas. The Cambridge Systematic study suggests that “regulatory style efforts to encourage increased density and a mix of land uses near rail stations have been effective.” However, they also acknowledge that an exception to this would be the stations located outside the downtown areas of cities in the Central Valley. Moreover, specific mitigation measures, such as urban growth boundaries, transit oriented development district planning and zoning, housing density and affordability requirements and the like directed at avoiding sprawl must be in place prior to HST development. Such measures include:

- Requirements for agreements with cities/counties the route traverses for “smart growth” policies (e.g. in downtowns around stations specific programming for higher densities, etc.; in rural areas specific policies for farmland protection, etc.)<sup>12</sup>. One mechanism to pursue these agreements

<sup>12</sup> Studies of whether transit stations automatically resulted in higher density, so called “smart growth” development have shown that these benefits are not automatic. Rather, land use and zoning changes must

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- might be allocating funding in return for smart growth provisions in General Plans and zoning; and
- Up-front purchase of conservation and agricultural easements to either side of the tracks and stations where located in undeveloped areas outside of cities.
- Urban growth boundaries;
- Limits on subdivisions outside of urban growth boundaries and the like.

Even with these measures identified in a revised DEIR/S, additional evidence must be provided that they would actually have the desired affect in rural areas. Revised analyses of these likely significant and adverse growth inducing impacts of HST must be completed.

**g. The DEIR/S Fails to Analyze Adequately Hydrology and Water Resources Issues**

The DEIR/S does not disclose the project’s (including all alternatives’) impact to the physical environment and in specific to hydrology and water resources as required under CEQA and NEPA for a number of reasons including lack of adequate and complete setting information, inadequate analysis of impacts and failure to identify feasible mitigation measures.

First, omitted and inadequate project description information makes it impossible to adequately evaluate project related impacts on hydrology and water quality resources. Examples of omitted or inadequate project description elements that result in an underestimation of these impacts include, but are not limited to the total extent of grading and remedial grading, location and extent of staging areas, location and extent of borrow and spoils sites, extent of borings, location and extent of construction roads and traffic and the like. While the DEIR/S does describe tunneling, it fails to adequately analyze and characterize the potentially significant impacts of tunneling on hydrology and water quality.<sup>13</sup> The DEIR/S assumes that tunnels will be lined and made waterproof and oil and gas proof. However, the disruption of tunnels to hydrologic features during and after construction could be significant and long-term.

Second, the description of the affected environment discussion has numerous omissions and inconsistencies that make the section inadequate for choosing a preferred modal alternative, let alone HST alignment and station alternatives. The affected environment discussion does not provide an adequate description of the hydrologic and water quality environments that may be affected by the project. A few examples are discussed below but should not be considered an exhaustive list of inadequacies.

be put in place in order to achieve these outcomes. The Metropolitan Transportation Commission has launched a study to better ascertain the relationship of stations, land use and ridership. See Attachment E. A revised DEIR/S should consider this and other studies when formulating effective mitigation measures to ensure a beneficial land use outcome of HST.

<sup>13</sup> Please see our Attachment D for more on potential geological and hydrological effects of tunneling.

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The DEIR/S improperly compares the impacts to hydrology and water quality of the Modal Alternative and HST with the No Project, rather than existing conditions as required by CEQA and NEPA. The DEIR/S describes the existing condition as the transportation infrastructure that exists in 2003 and its associated levels of service. DEIR/S page 3.1-7. The No Project includes the existing infrastructure, plus the implementation of funded and programmed transportation improvements that will be operational by 2020 and the projected level of service of that infrastructure in 2020. DEIR/S page 3.1-7. The comparison of the Modal Alternative and HST with the No Project rather than with existing conditions results in an underestimation of the new impacts associated with these alternatives, because they assume a new baseline condition. See DEIR/S page 3.13-7. A revised analysis must compare the Modal Alternative and HST to both existing baseline conditions and to the “future” No Project conditions. Under the first analysis, those improvements that really are likely to be completed should be added to the Modal and HST Alternatives as part of these projects.<sup>14</sup>

The study area for assessing impacts to these resources is inadequate. Specifically, the study area for assessment impacts associated with hydrology and water quality is the area within 100 feet of the centerline for the HST project and within 100 feet of the direct footprint from proposed new stations; and the area within 100 feet of the Modal Alternative direct corridor footprint and direct footprint of facilities. This study area is insufficient to address the potentially permanent impacts to ground and surface waters that could be impeded or altered by the construction of the HST and other modal alternatives. Study areas which include the entirety of affected watersheds should be used in undeveloped and sensitive areas. A revised DEIR/S should propose and defend the adequacy of these expanded study areas based on sound science.

In addition, the DEIR/S uses limited information to formulate its affected environment section, which is not likely to be consistent across the project area. The DEIR/S states that more detailed analysis, including field studies and modeling, would be required at the project level. DEIR/S page 3.14-19-20. This information must be provided in a revised and recirculated DEIR/S prior to any decisions on HST alignments or station locations.

This and other incomplete and inconsistent setting information must be provided in a revised DEIR/S. In the absence of adequate, accurate and complete setting information, adequate analyses of project-related and cumulative impacts cannot be completed.

Third, the DEIR/S underestimates impacts to hydrology and water quality because the project description omits adequate and complete information about the true extent of project-related impacts and fails to adequately analyze impacts. Specifically, direct impacts are likely to be much greater than described because the project description fails to include the true extent of grading and disruption of hydrologic regimes associated with the project. In addition, the DEIR/S fails to provide adequate information concerning impacts. For example, the DEIR/S estimates runoff and sedimentation rates

<sup>14</sup> The DEIR/S’s approach to analyzing impacts of traffic, noise and air quality all improperly compare the Modal and HST alternatives to the No Project instead of to existing conditions as required by law.

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qualitatively. DEIR/S page 3.14-2. Additional analytical analysis would ultimately be needed. Moreover, the DEIR/S provides vague statements concerning water quality impacts, but fails to provide any analysis or quantification of those impacts. For example, the DEIR/S states: "Pollutant sources in urban areas include parking lots and streets, rooftops, exposed earth at construction sites, and landscaped areas. Pollutant sources in rural/agricultural areas primarily include agricultural fields and operations." DEIR/S page 3.14-5. Yet, there is no further analysis of these impacts.

With respect to hydrologic and water quality impacts to biological resources, the DEIR/S is particularly inadequate. The DEIR/S states:

"The impacts of nonpoint-source pollutants on aquatic systems are many and varied. Polluted runoff waters can result in impacts on aquatic ecosystems, public use, and human health from ground and surface water contamination, damage to and destruction of wildlife habitat, decline in fisheries, and loss of recreational opportunities. Small soil particles washed into streams can smother spawning grounds and marsh habitat. Suspended small soil particles can restrict light penetration into water and limit photosynthesis of aquatic biota. Metals and petroleum hydrocarbons washed off roadways and parking lots, and fertilizers, pesticides, and herbicides from landscaped areas, may cause toxic responses (acute or long-term) in aquatic life, or may harm supply sources such as reservoirs or aquifers."

No further information or analysis is provided in this or the biological section of the DEIR/S concerning these potentially significant and irreversible impacts to biological species and their habitats.

Fourth, the DEIR/S also does not address the feasibility of mitigating many of the potentially significant impacts identified. Specifically, the DEIR/S defers development of all recommended mitigation "strategies" until the project-level analysis is completed. See DEIR/S pages 4.14-18-19. This approach to mitigation is simply inadequate for either modal alternative selection or more detailed alignment and station location selection for HST. Feasible mitigation measures must be identified and in the case of more detailed decisions concerning HST alignments and stations, additional details concerning these project descriptions must be provided. It is not appropriate to make an alignment choice based on the possibility significant impacts to hydrology and water quality "might" be avoided by as yet undetermined mitigation.

Finally, the DEIR/S concludes that "some" potentially significant impacts related hydrology and water quality for the HST project would be potentially less than significant after mitigation. DEIR/S page 7-11. This conclusion is not supported by evidence in the record. As with other environmental impacts, the DEIR/S fails to disclose which potentially significant hydrologic and water quality impacts will be reduced with mitigation and fails to adequately characterize the disposition of water quality and hydrology impacts for the modal alternatives as well as the HST project.

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**h. The DEIR/S Fails to Analyze Adequately Geology and Soils Issues**

The DEIR/S does not disclose the project's (including all alternatives') impact to the physical environment in specific on geology and soils as required under CEQA and NEPA for a number of reasons including lack of adequate and complete setting information, lack of adequate project description, inadequate analysis of impacts and failure to identify feasible mitigation measures. Our attachment D explores these issues in more depth.

First, omitted and inadequate project description information makes it impossible to adequately evaluate project related impacts on geologic and soils resources. Examples of omitted or inadequate project description elements that result in an underestimation of these impacts include, but are not limited to the extent and type of fencing/noise walls, the total extent of grading and remedial grading, location and extent of staging areas, location and extent of borrow and spoils sites, extent of borings, location and extent of construction roads and traffic and the like. While the DEIR/S does describe tunneling, it fails to adequately identify the potentially irreversible and significant geologic, hydrologic and soils impacts of tunneling.

Second, the description of the affected environment discussion has numerous omissions and inconsistencies that make the section inadequate for choosing a preferred modal alternative, let alone HST alignment and station alternatives. The affected environment discussion does not provide an adequate description of the geologic and soils conditions that may be affected by the project. In addition, there are many errors that raise questions regarding the validity of the entire analysis. A few examples are discussed below but should not be considered an exhaustive list of inadequacies.

The study area for assessing impacts to geologic and soils resources is inadequate. Specifically, the study area for geology and soils is limited to the corridor extending 200 feet on each side of the alignment centerlines and a 200 foot radius around each station or airport site. According to the DEIR/S, this distance incorporates all cross-sections *with the exception of deep cuts and fills, and broadening the study area to include the entire width of deep cut-and-fill sections would not change the results of the comparison.* DEIR/S page 3.13-4. To the contrary, areas of deep cuts and fills could involve corridors extending well beyond the 200 foot radius where impacts could occur.

In addition, the DEIR/S uses limited information to formulate its affected environment section, which is not likely to be consistent across the project area.

"...this analysis was performed generally on the basis of existing data available in GIS format. The data provided in this section are intended for planning purposes, are not meant to be definitive for specific sites, and have not been independently confirmed. More detailed geologic studies would be required at the project level, and would likely include subsurface exploration, laboratory testing, and engineering analysis to support detailed alignment design and

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mitigation of potential impacts associated with geologic and soils conditions, including seismic hazards.” DEIR/S page 3.13-14.

The DEIR/S states that “...slope instability can generally be addressed with planning and design.” Based on this, the DEIR/S concludes that HST impacts related to geology and soils can be mitigated to less than significant. See Table 7.3-1.

This and other incomplete and inconsistent setting information must be provided in a revised DEIR/S. In the absence of adequate, accurate and complete setting information, adequate analyses of project-related and cumulative impacts cannot be completed.

Third, the DEIR/S underestimates impacts to geology and soils because the project description omits adequate and complete information about the true extent of project-related impacts. Specifically, direct impacts are likely to be much greater than described because the project description fails to include the true extent of grading associated with the project and in particular grading needed to remediate landslides and poor soils, and grading associated with facilities related to HST (e.g. stations, parking lots, access roads etc.).

Fourth, the DEIR/S also does not address the feasibility of mitigating many of the potentially significant impacts identified. To the contrary, mitigation strategies consist of developing specific mitigation measures during project-level review:

“Mitigation for potential impacts related to geologic and soils conditions must be developed on a site-specific basis, based on the results of more detailed (design-level) engineering geologic and geotechnical studies.” DEIR/S page 3.13-13.

This approach to mitigation is simply inadequate for either modal alternative selection or more detailed alignment and station location selection for HST. The DEIR/S must identify specific measures that could reduce project-related impacts. Such measures include recommending against certain alignments or station locations to reduce or eliminate significant or potentially significant impacts. This DEIR/S simply fails to provide such guidance.

Feasible mitigation measures must be identified and in the case of more detailed decisions concerning HST alignments and stations, additional details concerning these project descriptions must be provided. It is not appropriate to make alignment choice based on the possibility significant impacts to geology and soils resources “might” be avoided by as yet undetermined mitigation.

The DEIR/S contains a lengthy list of subsequent analyses that would be required to “obtain more reliable assessments of potential impacts on geology and soils in the study area.” DEIR/S page 3.15-31. The technology exists to complete these analyses before selection of HST and specific alignments and station locations. It is simply not appropriate to make choices concerning HST alignments and stations without this

information being developed and circulated for public review and comment in a revised DEIR/S.

Finally, the DEIR/S concludes that potentially significant impacts related to geology and soils for the HST project would be potentially less than significant after mitigation. DEIR/S page 7-13. This conclusion is not supported by evidence in the record.

**i. The DEIR/S Fails to Analyze Adequately Public Services and Utilities**

The DEIR/S’s approach to analysis of potential impacts related to public services and utilities is completely inadequate. Once a project is defined, a DEIR/S must then analyze how the direct and indirect impacts of the project and cumulative projects would affect both public services and utilities. As set forth in the CEQA Guidelines Appendix G, such impacts may include adverse physical impacts associated with:

- provision of new or physically altered government facilities for public services;
- construction of new water, wastewater, storm drainage or other utilities.

Here, the DEIR/S focuses only on potential conflicts between the project and *existing public utilities*. The DEIR/S is silent on any impacts associated with providing public services and utilities to HST. Moreover, the DEIR/S fails to address potential impacts as a result of damage to services that could occur for example by damage or disruption to services as a result of project construction, operations or accidents. The only utilities addressed are electricity, natural gas and wastewater. Other services and utilities are simply excluded from the discussion and analysis. Analysis of potential impacts to other services and utilities is deferred until project-level analysis. DEIR/S pages 3.10-11 and 12. Moreover, the DEIR/S concludes that all potentially significant impacts to these facilities will be reduced to less than significant with mitigation – a conclusion that is not supported by evidence or analysis in the DEIR/S.

The project description and setting fail to provide even the most basic information about project demand for services and utilities and existing service/utility capacity. In fact, the DEIR/S states: “It was not possible as part of this study to identify or quantify the utility improvements expected to occur by 2020. Rather, it is assumed that utility development will occur to meet projected demand and growth characteristics near the alignments of the proposed alternatives.” DEIR/S page 3.10-5. The omission of this information is simply not appropriate. This information exists since the providers of these services must have long-term plans. As such, it is essential that this information be provided in a revised and recirculated DEIR/S. This information will be an important indicator of where alignments and stations are planned that have inadequate services and utilities and where there are no plans to provide these facilities. This in turn will assist in determining where HST could be a growth inducer.

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A revised and recirculated DEIR/S must include information concerning all potential conflicts with all public services and utilities, as well as disclose potential impacts associated with new and expanded services for the HST stations and induced growth. Such information must include any areas where services and utilities are currently inadequate to serve the HST and/or induced development as a result of this alternative being selected. If provision of any services or utilities to HST will reduce these services to existing customers, that must also be disclosed.

**J. The DEIR/S Fails to Analyze Adequately Section 4(f) and 6(f) Issues**

The DEIR discussion of the issue of parks, open space, wildlife refuges and otherwise “protected” areas, is inadequate for numerous reasons including lack of adequate information about the proposed project alternatives, lack of setting information, inadequate impacts analysis and failure to identify feasible mitigation measures.

First, the DEIR/S fails to adequately characterize the project setting with respect to 4(f) and 6(f) resources. In enacting 4(f) the Department of Transportation Act of 1996, Congress declared that “special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands.” 49 U.S.C. Section 303. As a means of implementing these goals, Congress specified two fundamental mandates: 1) prohibiting federal agencies from approving transportation projects that require use of a public park or recreation area unless there is no feasible and prudent alternative to using the parkland; and 2) requiring transportation projects which use a public park or recreation area to include all possible planning to minimize harm to the parkland. U.S.C. Section 303e. Authoritative interpretation of federal agencies’ duties under this provision was established and continues to be provided by the 1917 Supreme Court decision in Citizens to Preserve Overton Park, Inc. v. Volpe, 401 U.S. 402. In that case, the Supreme Court overturned the Secretary of Transportation’s approval of a six-lane highway through a park in Memphis. In reaching its decision, the court held that “only the most unusual situations are exempted” from the 4(f) mandate. The court further clarified that such situations would include only “unique problems” such as extreme financial costs or community disruption of “extraordinary magnitudes.” Id. at 411, 413.

Based on this and other cases, it is clear that choosing a siting alternative that requires use of a public park or recreation area simply because it is the least expensive or most efficient choice does not meet the mandate of the 4(f) rule. In the case of HST, there appear to be feasible alternatives to simply avoid impacting public parks, recreation areas nature preserves and refuges. Our summary of flaws in the DEIR/S analysis of these impacts is as follows<sup>15</sup>:

Section 3.16, specifically dealing with protected places, was titled “Section 4(f) and 6(f) Resources.” This title is unclear to the general public and only clear to those very familiar with Land Water Conservation Fund terminology; many park advocates entirely missed the section because of its title. Further, names of the specific parks that would be

<sup>15</sup> See also letters submitted by the California State Parks Foundation, Defense of Place and the Natural Resources Defense Council.

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highly impacted by the high-speed rail, other than a small number of “signature” parks, were absent in the main body of the DEIR/S and could only be found buried in the technical reports of the regional studies. This does not comply with CEQA and NEPA requirements that all information needed to make an informed decision should be included in the EIR/S.

In fact, it appears that the HST alternative would impact over state 22 parks and recreation areas including, but not necessarily limited to:

- Cardiff State Beach
- Carlsbad State Beach
- Castaic State Recreation Area
- Colonel Allensworth State Historic Park
- Cornfields State Park
- Doheny State Beach
- Fort Tejon State Historical Park
- Henry W. Coe State Park
- Hungry Valley State Vehicular Recreation Area
- Leucada State Park
- McConnell State Recreation Area
- Moonlight State Beach
- Old Town San Diego State Recreation Area
- Pacheco State Park
- San Clemente State Beach
- San Eljio State Beach
- San Luis Reservoir State Recreation Area
- San Onofre State Beach
- South Carlsbad State Beach
- Torrey Pines State Beach
- Torrey Pines State Reserve
- Taylor Yards State Park

The DEIR/S fails to provide a comprehensive list of impacted parks and recreation areas and thus fails to inform the public of the impacts of HST as well as potentially other modal choices. Overall, HST would impact 55-89 parks, protected open space areas, nature preserves and wildlife refuges in California. The DEIR/S simply fails to identify all of these areas and assess the impacts of HST on them.

Second, the DEIR/S improperly defers analysis of impacts to these resources. The DEIR/S lists a number of issues for future analysis related to these impacts. Because protected areas are such a high priority for Californians, simply deferring discussion and analysis on the specific impacts to Section 4(f) and 6(f) resources to the project level EIR is insufficient. These resources provide amenities such as: important recreation opportunities, barriers and buffers from urban sprawl, an experience of areas with unique qualities, wildlife habitat and migration corridors, an escape from urban environments and many other important amenities to both humans and wildlife. These amenities are

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the reason why Section 4(f) and 6(f) resources are set aside for future generations. The negative impacts on both the Section 4(f) and 6(f) resources themselves and the amenities they provided should have been considered in the DEIR/S. Indeed, the DEIR/S approach to these resource impacts fails to reflect the “special effort” or assessment of “prudent and feasible alternatives” that Section 4(f) requires. Section 4(f) is clear that preservation of parkland is of paramount importance, more so than costs, directness of route, and community disruption. See *Citizens to Preserve Overton Park v. Volpe* (1971) 401 U.S. 402, 412-13. A revised and recirculated DEIR/S must include a thorough analysis of these impacts.

Section 3.16 of the DEIR compared the number of Section 4(f) and 6(f) resources that would be impacted by the HSR versus the modal and no action alternatives with brief mention of the impacts to the parks in the various regions of the HSR study. A simple tally of the impacts on Section 4(f) and 6(f) resources between the different transportation alternatives deprives the DEIR of any meaningful information about the nature of the extremely large number of impacts to these resources.

Parks, open space, wilderness, and wildlife refuges are clearly spending priorities for Californians based on the billions of dollars that have been allocated for acquisition of such places in voter approval of several recent ballot initiatives. Extensive discussion of the HSR impact on these protected areas should have been a higher priority in the DEIR/S. A revised DEIR/S must quantify the potential impacts to significant public investments made to both publicly owned and privately owned conservation areas<sup>16</sup>.

Third, as in other environmental impact sections of the DEIR/S, the mitigation strategies for 4(f) and 6(f) issues are vague and improperly deferred. Yet, based on these strategies, a number of potentially significant impacts to these resources are concluded to be potentially less than significant after mitigation. See Table 7.3-1. A revised DEIR/S must not only include the required analysis of these issues, but identify feasible mitigation measures including annual operation and maintenance costs that are automatically incurred with a project of this scope. A revised DEIR/S must document how each measure actually reduces potentially significant impact to less than significant.

Section 4(f) requires analysis of alternatives be conducted and specific mitigation measures identified before an alignment choice is made. A revised and recirculated DEIR/S must include this information. Avoiding the impacts on Section 4(f) and 6(f) resources should be a major priority for evaluating all possible routes of the California High Speed Rail in the revised environmental document. If these areas are ultimately to be impacted, a revised evaluation must demonstrate that there was no other option and meet the high bar set by the courts for impacting these precious resources.

**D. The DEIR/S Fails to Adequately Analyze Cumulative Analyses**

<sup>16</sup> See, for instance, the comment letter submitted by the The Nature Conservancy concerning significant properties that were purchased with public funding and whose biodiversity will be impacted by HST.

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CEQA and NEPA require that cumulative impacts be analyzed. The CEQA Guidelines define cumulative impacts as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.” CEQA Guidelines Section 15355(a). “[I]ndividual effects may be changes resulting from a single project or a number of separate projects.” *Id.* Federal Regulations implementing the National Environmental Policy Act (NEPA) also require that the cumulative impacts of the proposed action be assessed. Cumulative impact is defined by the Council on Environmental Quality as an “impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions.” 40 CFR 1508.7.

A legally adequate cumulative impacts analysis views a particular project over time and must consider the impacts of the project combined with other projects causing related impacts, including past, present, and probable future projects. CEQA Guidelines 15130(b)(1). Projects currently under environmental review unequivocally qualify as reasonably probable future projects to be considered in a cumulative impacts analysis. See *San Franciscans’ for Reasonable Growth v. City and County of San Francisco*, 151 Cal.App.3d 61, 74 & n. 13 (1984). In addition, projects anticipated beyond the near future should be analyzed for their cumulative effect if they are reasonably foreseeable. See *Bozong v. Local Agency Formation Comm’n*, 13 Cal3d 263, 284 (1975). Alternatively, an EIR may utilize:

A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or areawide conditions contributing to the cumulative impact.

CEQA Guidelines Section 15130(b)(1)(B). Any such planning document shall be referenced and made available to the public at a location specified by the lead agency. *Id.*

The discussion of cumulative impacts must include a summary of the expected environmental effects to be produced by those projects, a reasonable analysis of the cumulative impacts, and full consideration of all feasible mitigation measures that could reduce or avoid any significant cumulative effects of a proposed project. See CEQA Guidelines Sections 15126.4(a)(1) and 15130(b)(3).

This DEIS/R fails altogether to meet these requirements and instead only discusses present and future projects within the area that the HST would traverse. DEIR/S Appendix 3.17-A. Key transportation and other projects are omitted from the discussion and analysis (e.g. Expansion of LAX). As a result of this approach, the cumulative analysis is improperly narrow in scope and therefore underestimates and omits cumulative impacts.

The cumulative analysis also fails to specify mitigation measures for cumulative impacts, as required under CEQA and NEPA.

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**E. The DEIR/S Fails to Identify Feasible Mitigation Measures**

Both CEQA and NEPA require that mitigation measures be identified and analyzed. The Supreme Court has described the mitigation and alternatives sections of the EIR as the “core” of the document. *Citizens of Goleta Valley v. Board of Supervisors*, 52 CAL.3d 553 (1990). As explained below, the DEIR/S identification and analysis of mitigation measures, like its analysis throughout, is thoroughly inadequate.

An EIR is inadequate if it fails to suggest mitigation measures, or if its suggested mitigation measures are so undefined that it is impossible to evaluate their effectiveness. In the instant case, the DEIR/S defers the description of all meaningful mitigation and relies on vague and “future” mitigation to suggest that potentially significant impacts will be reduced to less than significant. Improperly deferred details of mitigation measures include, but are not limited to the following (see DEIR/S text and Table 7.3-1):

- **Traffic and Circulation:** Encourage use of transit to stations. Work with transit providers to improve station connections. Note that the feasibility of this mitigation is dramatically affected by alignment choice, yet the DEIR/S does not take this into account.
- **Energy Use:** “Develop and implement energy conservation plan for construction.” Note that the amount of energy consumed for construction (and operation) varies dramatically. Alternative: The tunneling report suggests that energy use can vary significantly based on the gradient and overall altitude gain involved in a particular alignment.] by alignment choice (due to substantially different topography), meaning the feasibility of this mitigation is highly dependent on alignment choice. The DEIR/S does not take this into account.
- **Land Use:** “Continued coordination with local agencies. Explore opportunities for joint and mixed-use development at stations. Relocation assistance during future project-level review.” Note that alignment choice and station locations would have a large impact on the feasibility of this proposed mitigation.
- **Geology:** “Use of ground motion data and instruments; routine maintenance of tracks; slope reinforcement.”
- **Growth Potential:** “Work with local communities to encourage higher density development around stations.” Note that the potential for higher density development around stations is quite different depending on alignment and station location.

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- **Hydrology and Water Resources:** “Avoid or minimize footprint in floodplains; conduct project-level analysis of surface hydrology and coastal lagoons; Best Management Practices...”
- **Section 4(f) and 6(f):** “Consider design options to avoid parkland and wildlife refuges; identify site specific mitigation measures.” Note that once an alignment through a park or refuge has been chosen, the ability of alternative designs to mitigate impacts is vastly reduced.

All of these recommended mitigation “strategies” adhere to a backward standard that equates to closing the barn door after the cows have escaped. By deferring the need for mitigation until project-level environmental review, the DEIR/S ignores critical mitigation issues that must be addressed before alignment decisions are made and before growth-induced ongoing impacts occur.

Moreover, as described in detail above, the DEIR/S includes inappropriate assumptions concerning the cost of mitigation measures for the alternatives. In fact, it appears that the DEIR/S improperly applied a standard 3% mitigation cost of all segments (except Dumbarton) rather than using detailed mitigation figures developed in background reports. For example, the 1995 Corridor Evaluation and Environmental Constraints Analysis suggested that mitigation costs vary significantly by project alignment segments. The analysis states that mitigation costs are higher in urbanized areas and where high value habitats would require mitigation. The use of a standard mitigation cost obscures and misrepresents key advantages of many of the alternatives and implies that some of the most environmentally sound routes are infeasible due to their mitigation costs.

Again, a revised DEIR/S must include adequate and feasible mitigation measures to address both project-related and cumulative impacts based on the “whole” project and a complete list of cumulative projects. Mitigation measures must be accurately presented in terms of their feasibility, including costs.

Funding solutions for mitigation costs should include a single fee-based environmental bank for projects to offset HST impacts that result in degradation of air and water quality, and agricultural, biological and recreational resources. Projects to be funded would include, but not be limited to, acquisition, easement or enhancement of resource lands, urban forestry, acquisition and maintenance for the State’s protected recreational resources, and related conservation projects that mitigate the loss of, or detriment to, impacted natural areas. A revised DEIR/S must include such feasible measures and funding solutions.

**F. The DEIR/S Fails to Analyze Alternatives Adequately**

The DEIR/S fails to adequately analyze alternatives that have been included and fails to analyze a reasonable range of alternatives to the project. Although the DEIR/S analyzes a number of alternatives at an “equal” level of detail, the respective alternatives analyses

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**Comment Letter 0049 Continued**

fall short of the standards set by CEQA and NEPA. Under CEQA, an EIR must analyze a reasonable range of alternatives to the project, or to the location of the project, that would feasibly attain most of the basic objectives while avoiding or substantially lessening the project’s significant impacts. See Pub. Res. Code Section 21100(b)(4); CEQA Guidelines Section 15126.6(a); Citizens for Quality Growth v. City of Mount Shasta, 198 Cal.App.3d 433, 443-45 (1988). Similarly, under NEPA a reasonable range of alternatives that satisfy the statement of purpose and need must be analyzed. See above argument that the statement of purpose and need is improperly constrained, and therefore, the range of alternatives is also improperly constrained.

The DEIR/S fails to include an adequate analysis of alternatives for a number of reasons:

- The DEIR/S fails to include a reasonable range of feasible alternatives.
- Feasible alternatives are rejected without evidence.

In addition to its failure to adequately identify and analyze alternatives to the HST alignments and stations, the DEIR/S fails to identify the environmentally superior HST alignments and station location alternatives. The document does identify the HST alternatives the environmentally superior alternative:

“Based on the evaluations documented in Chapter 3 of this Program EIR/EIS, the HST Alternative has been identified as the environmentally superior alternative.” DEIR/S page 7-5; See also DEIR/S S-8 – HST is the preferred system .

However, when it comes to alignments and station locations choices – choices which may be made relying on this DEIR/S, the document states:

“The Authority and the FRA continue to consider HST alignment and station options and have not identified a preference among those presented in the Draft Program EIR/EIS.” DEIR/S page S-8.

A revised and recirculated DEIR/S must identify the environmentally superior alignments and station locations as required by law.

Our specific comments on the defects with the alternatives analyses follow.

**I. The DEIR/S fails to include a reasonable range of feasible alternatives**

The DEIR/S fails to include reasonable range of alternative alignments. For example, in the Bay Area, the DEIR/S fails to include the Altamont alternative.<sup>17</sup> Elsewhere, the

<sup>17</sup> Our detailed comments concerning the improper omission of an Altamont Alternative in the DEIR/S’s analysis of alternatives can be found in Attachment A. For other information relevant to the impermissible elimination of the Altamont Pass alignment alternative, please also see Attachment B on ridership and Attachment C on biology.

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DEIR/S fails to include alignments and station locations that would avoid 4(f) and 6(f) resources.

Under CEQA, an EIR must analyze a reasonable range of alternatives to the project, or to the location of the project, that would feasibly attain most of the basic objectives while avoiding or substantially lessening the project’s significant impacts. See Pub. Res. Code Section 21100(b)(4); CEQA Guidelines Section 15126.6(a); Citizens for Quality Growth v. City of Mount Shasta, 198 Cal.App.3d 433, 443-45 (1988). Similarly, under NEPA a reasonable range of alternatives that satisfy the statement of purpose and need must be analyzed. A revised DEIR/S must include a reasonable range of alternatives that would feasibly attain project objectives with fewer impacts.

Among the most glaring omissions is the omission of an Altamont alternative in the Bay Area.<sup>18</sup> There is significant evidence that an Altamont Alternative will actually result in the fewest environmental impacts and superior ridership and costs.<sup>19</sup> Based on the 10 criteria used for screening alternatives (DEIR/S at S-2), an Altamont alternative, there is evidence in the record that Altamont is the superior Bay Area option with respect to at least the following:

- maximizing ridership and revenue potential;
- minimizing travel time to be competitive with other modes of travel;
- minimizing impacts on natural resources;
- minimizing adverse social and economic impacts (e.g. growth inducement);
- minimizing impacts on parks and cultural resources.

For example, with respect to ridership, revenue, and environmental impacts, numerous documents in the record “find” or suggest that Altamont superior to other alternatives.<sup>20</sup> It is worth noting that the DEIR/S’s basic summary of background studies is misleading

<sup>18</sup> See Attachment A.

<sup>19</sup> Evidence of this includes, but is not limited to the following examples from the DEIR: DEIR Appendix 2-H-4e compares Bay Area-to-Merced alignments. It shows a Pacheco alignment requiring either 10 or 12 miles of tunneling (see also DEIR page 6-10, with Diablo alignment tunneling lengths ranging from 16-20 miles). Under this scenario, Altamont is the alignment with the least amount of tunneling (8.9 miles). Also according to Appendix 2-H, page 2-H-3 under wetlands, Altamont impacts approximately 27 acres of wetlands as compared with Pacheco which impacts approximately 290 acres of wetlands. Moreover, a new bay crossing appears to impact only 6.7 acres of wetlands (are we sure of this number?) as compared with Mulford Line between San Jose and Oakland which would impacts nearly 50 acres in the National Wildlife Refuge or 8Xs the impact of the project. In summary, a route along the existing Altamont pass commuter corridor would appear to serve more people, cost less to operate, and avoid massive construction and development in rural and wilderness areas than either the Pacheco or Mt. Hamilton alternatives. Yet, the DEIR/S fails to provide this information about comparative impacts.

<sup>20</sup> Among these: 1996 summary ridership study, 1996 Summary Report and Action Plan, a 1998 briefings to the HSRRA board, portions of the 1999 Corridor Evaluation and the 2000 Environmental Summary Report.

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in its treatment of northern mountain crossings. Chapter 2 of the DEIR/S begins with a “background” summary of three major sets of studies justifying its decisions: a 1994 LA-Bakersfield study, a 1996 Corridor Evaluation, and the 1999 Corridor Evaluation. The DEIR/S then directs the reader to Figure 2.3-1, summarizing the recommendation of the 1996 corridor evaluation as “recommended network of corridor alternatives.” The corridor alternatives shown on Figure 2.3-1 include Panoche, Pacheco, and Altamont northern mountain crossings, giving the impression that the Commission suggested all three for continued evaluation. Actually, the Commission issued a 1996 “Summary Report and Action Plan, summarizing its environmental, ridership, and other analyses. This summary report specifically recommended the Altamont alignment in the following language:

“Of the three northern mountain pass options (from south to north: the Panoche, the Pacheco and the Altamont), the Commission recommends the Altamont for linking the Central Valley to the greater San Francisco Bay Area. This option generates higher ridership and revenue for the system, and is less costly to construct than the two other mountain passes considered.” (Summary Report and Action Plan, 1996 page ES-7).

A revised DEIR/S should clearly acknowledge that a major body of taxpayer-funded study culminated in an Altamont recommendation, which the Authority discarded soon after it began to meet and chose to exclude from the DEIR/S.

Since an Altamont Alternative is feasible and likely superior with respect to environmental impacts, costs and ridership than other Bay Area routes, a revised DEIR/S must include analysis of an Altamont Alternative or Alternatives at an equal level of detail of the other alternatives studied.

**2. Feasible alternatives are rejected without Evidence**

Finally, the Authority rejected further consideration of the Altamont Alternative based on incomplete and faulty reasoning. Specific reasons for rejecting this alternative included:

- First, the Authority concluded it would be impractical from an operational perspective to serve San Francisco, Oakland and San Jose utilizing the Altamont Pass, because the HSR system would need to split in three different directions at Newark/Fremont to serve San Jose, San Francisco, and Oakland. In the Authority’s view, this would greatly reduce frequency of service to each of these locations.
- Second, the Altamont pass option includes a new Bay crossing to access San Francisco, which the Authority asserted would have more significant impacts on sensitive wetlands, salt water marshes, aquatic habitat, and sensitive species within an surrounding the Don Edwards San Francisco Bay National Wildlife Refuge than the other alternatives. DEIR/S page S-5. Also, see Screening Report Appendix A, page 2 “Confirmation of

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Previous Decisions.” Oddly, while the concern about the need to avoid running the train through the Refuge was used to justify deleting the Altamont alternative, this concern was not applied to the proposed service between San Jose and Oakland; the DEIR/S recommends carrying forward for further consideration rebuilding the Mulford Line, which also runs through the Refuge.

Neither basis for rejecting the Altamont Pass alternative was adequately researched or documented. To the contrary, as described in detail in Attachment A hereto, evidence concerning comparative impacts, ridership and project costs suggest that a full analysis of Altamont is warranted.

**II. THE DEIR/S SHOULD BE REDRAFTED AND RECIRCULATED**

The serious inadequacies of the DEIR are symptomatic of fundamental deficiencies in the conception of the project itself. The Authority may not approve the project unless the DEIR is again revised and recirculated to fully disclose and analyze the project’s impacts and a proper range of alternatives. Given the multiple inadequacies discussed above, this DEIR/S cannot properly form the basis of a final EIR. CEQA and the CEQA Guidelines require recirculation of a draft EIR where, as here, the document is so fundamentally inadequate in nature that meaningful public review and comment are precluded. See CEQA Guidelines § 15088.5.

**CONCLUDING COMMENTS**

Again, all of the groups listed below appreciate the opportunity to comment on the DEIR/S. Please keep the individuals listed below informed of any and all upcoming matters related to the HSR project.

Sincerely,

Fred Keeley  
Executive Director  
Planning and Conservation League  
Planning and Conservation League Foundation

(on behalf of Bay Area Open Space Council, California Native Plant Society, Center for Law in the Public Interest, Defenders of Wildlife, Defense of Place, Greenbelt Alliance, Golden Gate Audubon Society, Mountain Lion Foundation, Natural Resources Defense Council, and Planning and Conservation League Foundation)

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ATTACHMENTS:

- A: Supplementary Altamont Specific Comments
- B: Supplementary Ridership Comments
- C: Supplementary Biology Comments
- D: Supplementary Geology Comments
- E: MTC Study Materials
- F: Newspaper Articles

**ATTACHMENT A:**

**ALTAMONT PASS ALIGNMENT ISSUES**

Possibly the most glaring omission in the DEIR is its failure to include an Altamont Pass alignment alternative to link the Central Valley and the Bay Area. The Altamont Pass was identified by the High Speed Rail Commission in 1996 as the preferred option for connecting the Bay Area to the Central Valley. As the Commission wrote:

“Of the three northern mountain pass options (from south to north: the Panache, the Pacheco, and the Altamont) the Commission recommends the Altamont Pass for linking the Central Valley to the San Francisco Bay Area. This option generates higher ridership and revenue for the system, and is less costly to construct than the other mountain passes considered.” (Summary Report and Action Plan, page ES-7, December 1996).

Nevertheless, HSRA dropped the Altamont Pass alternative from further consideration in 1999 in favor of the Pacheco Pass alternative *before* the environmental review process was initiated.<sup>1</sup> Specifically, Altamont Pass effectively was eliminated in 1999 during development of the business plan and then officially “screened” out during a 2001 screening process (the late 1998 design of alignment studies that emerged in 1999 probably effectively determined this outcome even earlier). Yet, numerous documents in the record suggest that it is superior to the other Bay Area alternatives in terms of environmental impacts, transportation service (including ridership), cost and other key decisionmaking factors.

Federal agencies with jurisdiction over particular HSR environmental impacts have echoed our observation that this elimination of Altamont was premature. The U.S. Army Corps of Engineers writes in its letter of January 21, 2004 on the Alternatives Report, Chapter 2:

“What remains of concern to the Corps are the elimination of three regional segments, or portions thereof, from further analysis. The first area of concern is the Altamont Pass option in the Bay Area to Merced segment... The elimination of these corridor alignment options from the Program DEIR/Tier 1 DEIS brings into question the Project’s compliance with the Guidelines as promulgated until 40 CFR 230, in part because sufficient documentation has not yet been provided to justify their elimination based on practicability constraints and/or unacceptable environmental impacts. Attachment X, page 2.

<sup>1</sup> Further, DEIR page 2-2 says that three major previous alignment studies “culminated” in the 2000 business plan. Actually, the majority of northern mountain crossing routes were added after the business plan without benefit of these alignment studies. The three Diablo route alternatives were not considered before the 2000 business plan.

## Comment Letter 0049 Continued

The U.S. Environmental Protection Agency also expressed concern in its February 27, 2004 letter on the Tier 1 Draft EIR/S the Altamont was prematurely rejected:

“Based on our review, the Altamont Pass (Altamont) alternative appears to have been prematurely eliminated, and, because of the severity of their environmental impacts, Diablo Range Direct (Diablo) alternatives and the Pacheco Pass (Pacheco) alternatives face significant permitting obstacles and would need to be substantially modified to avoid anticipated environmental impacts.” Attachment X, page 1.

The first step in establishing the feasibility and potential superiority of the Altamont alignment is pointing out the weakness of the following two key arguments raised by the DEIR/S against its feasibility:

First, HSRA *concludes* that Altamont would be operationally infeasible because trainsets would be split in three different directions at Newark/Fremont to serve San Francisco, Oakland and San Jose. The Phase II extension of service to Oakland is the key difficulty here, since all alignments assume service to San Francisco and San Jose during Phase I. In the Authority’s view, adding Oakland service in Phase II would necessarily greatly reduce frequency of service to each of these locations. Second, HSRA claims that the required San Francisco Bay crossing at Dumbarton creates insurmountable environmental and cost problems due to significant impacts on sensitive wetlands, salt water marshes, aquatic habitat, and sensitive species within an surrounding the Don Edwards San Francisco Bay National Wildlife Refuge (DEIR/S page S-5. See also, Screening Report Appendix A, page 2 “Confirmation of Previous Decisions.”)

Neither basis for rejecting an Altamont Pass alternative was adequately researched or documented. To the contrary, information included in the record appears to support the superiority in both respects of an Altamont Alternative.

### A. An Altamont Alternative Appears to be Operationally Feasible

The most fundamental of the DEIR/S’s two arguments for the prior elimination of the Altamont alignment is the operational objection that Altamont requires a three-way split to serve the Bay Area, ostensibly to ensure direct service to Oakland. This argument was recently dismissed by Oakland Mayor Jerry Brown. Mayor Brown’s April 20, 2004 letter to HSRA Chair Joseph Petrillo notes that:

“A prime argument made by the Authority against the Altamont Pass alignment is that it would require an awkward splitting of service between San Jose, San Francisco and Oakland. However, Oakland does not get direct service in Phase One. In fact, considering the other extensions of the rail system which are also not included in Phase One--San Diego, Sacramento and numerous feeder services—it seems highly unlikely that an Oakland extension will happen any

time in our lives. The argument about a three-way split is specious.” (see Attachment X)

The Mayor points out that only an Altamont alignment would serve Oakland during Phase I of the project. This service could be improved “if a small amount of funding were used to upgrade the BART system with passing tracks so that express service between Oakland, Fremont and Pleasanton could be instituted.” Thus, Oakland service could be provided through coordination with other transit services (a supposed goal of the project), avoiding the cost of building a special Oakland HSR line. By contrast Oakland might never receive service under HSRA’s favored alignments, which would reach Oakland only in Phase II under a scenario of dubious cost effectiveness.

### B. The Record Does Not Support Rejection of an Altamont Alternative Based on Environmental Feasibility and Cost Concerns

The second main argument presented in the DEIR against Altamont is that the required Bay Crossing at Dumbarton is environmentally infeasible and carries a high, unpredictable cost.

At the time that Altamont was dropped, its required bay crossing was a secondary reason for its elimination. A June/July 1999 memo recommending Pacheco rather than Altamont, which was adopted by the Board, devoted only these two sentences to the subject:

“An added benefit of the Pacheco Pass is that a Bay Crossing is not required to service the San Francisco Peninsula. This should not be overlooked considering the environmental uncertainties of new construction across the San Francisco Bay.” (Memorandum page 12).

No further data were presented at that time to compare Pacheco and Altamont routes on any environmental basis (the Diablo alignments had not yet been proposed). There was no cost estimate for Dumbarton Bridge environmental mitigation, no discussion in the record of Pacheco and Altamont impacts to wetlands and stream crossings (all study to date had found Altamont to be superior in terms of wetlands impacts), no comparison of impacts to protected lands, no exploration of construction impacts or growth inducement. While the DEIR/S suggests that Bay Conservation and Development Commission permitting and a \$1 billion-plus mitigation estimate justify omitting an Altamont alignment from consideration, in actuality it appears that these reasons were introduced long after the alignment was dropped primarily for the operational reasons addressed above.

Nevertheless, the DEIR provides particularly insufficient analysis and information regarding the Bay Crossing and the comparability of its environmental impacts with those caused by other alignments.<sup>2</sup> For instance, according to Appendix 2-H, page 2-H-3 under

<sup>2</sup> For example, the DEIR/S states with respect to the Altamont alternative and need for a Bay crossing that “The Bay Conservation and Development Commission (BCDC) has discouraged any new or expanded use

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"wetlands," an Altamont alignment would impact approximately 27 acres of wetlands as compared with Pacheco which impacts approximately 290 acres of wetlands. The Altamont bay crossing appears to impact only 6.7 acres of wetlands as compared with the project's Milford Line between San Jose and Oakland which would impact nearly 50 acres in the National Wildlife Refuge, or eight times the impact of the project.<sup>3</sup>

Doubtless, a Dumbarton crossing would entail environmental impacts that should be fully explored in a new, recirculated EIR. These impacts must be carefully compared to the impacts resulting from other alignments. Also, given the operational promise of an Altamont alignment and its avoidance of some of the major environmental impacts along competing alignments, HSRA should explore variations in bridge structure, operational plans, and bridge siting to see if Dumbarton-related environmental impacts may be mitigated. HSRA's vigorous pursuit of alignment variations along the Diablo and Pacheco alignments (including developing at least four versions of the Diablo route and at least three Pacheco alignments, and holding a "tunneling summit" and hiring consultants to minimize costs and help skirt Coe Park boundaries) should be a model for the creative energy that could be brought to exploring the formerly-preferred Altamont alignment.

The DEIR/S asserts that not only the environmental impacts of a Dumbarton crossing, but particularly the costs of related mitigation are a major factor in avoiding Altamont. The DEIR suggests that mitigation costs for the crossing could reach \$1 billion, based on a cursory comparison to the San Francisco International Airport (SFO) runway extension. This assertion appears to be without merit (the cost estimate for construction of the bridge itself, rather than the mitigation, is addressed later in this letter). The full extent of background material presented in DEIR/S Appendix 2-J to support this assertion is as follows:

Costs do not include environmental mitigations (e.g. wetland replacement). Based on the mitigation costs estimated for current projects affecting the Bay (San Francisco Airport [SFO] runway extension), the mitigation costs could reach as high as \$1 billion, nearly doubling the cost of the infrastructure. DEIR/S Appendix 2-J, page 2-J-2.

The DEIR/S gives no reference supporting the reported \$1 billion mitigation cost in relationship to the SFO project. It also fails to present any methodology for translating supposed SFO mitigation costs to a high speed rail project. Two points are particularly salient: (1) The Dumbarton crossing likely is not equivalent in environmental impact to the proposed SFO runway expansion into the Bay and (2) The \$1 billion figure suggested

of Bay waters or shoreline habitat important to sensitive species." DEIR/S at page 2-37. This general comment is not specific to the HSR project. Has specific information been submitted by BCDC to the Authority that such a crossing would be infeasible? Was this statement based on information on the proposed Altamont Alternative from BCDC?

<sup>3</sup>The Bay Conservation and Development Commission has apparently not been consulted with respect to either the feasibility of a Dumbarton Bay crossing or the comparative impacts of these alternatives. Such a consultation should occur, with the results included in a revised DEIR/S.

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for SFO runway mitigation is totally unsupported as applied to either the runway expansion or the Dumbarton crossing.<sup>4</sup>

With regard to the comparability of the projects, the SFO runway expansion sought to "pave over twice as much of the Bay's surface as all other BCDC-permitted projects combined" over 35 years. It would have eliminated up to 808 acres of the Bay's surface, with over 1,200 acres of additional dredging. The project would dump "an additional 45 million cubic yards of fill material in the Bay" an amount greatly in excess of the "less than 1 million cubic yards of dredged material per year" suggested by current guidelines.<sup>5</sup>

By contrast, Coastal Commission Executive Director Sam Schuchat indicated in an April 7, 2004 meeting with HSRC Chair Joe Petrillo that a Dumbarton crossing might be coordinated with a major salt pond restoration project to remove fill from the Bay, rather than increasing Bay fill. Far from causing similar damage to a runway expansion, BCDC Executive Director William Travis indicated in the same meeting that a Dumbarton rail crossing might be permitted particularly because it would help reduce pressure to expand airport runways into the Bay. The DEIR/S errs when it asserts unsupported information concerning the SFO runway expansion as a surrogate for mitigation costs of this potential segment of the high speed rail project, rather than providing detailed project-specific information developed in coordination with the relevant regulatory agencies.

The DEIR/S also treats mitigation costs for the Dumbarton crossing in an inconsistent and unique manner compared to all other mitigation costs for the project. According to DEIR Appendix 4C-10:

The total cost of environmental mitigation was estimated to be 3% of the line construction costs (i.e., track, earthwork, structures, etc.) for *each* segment, based on other recently implemented transportation corridors in California. This factor is based on the average to estimate a total cost of mitigation [our emphasis].

Clearly, the DEIR cost estimate for Dumbarton mitigation approaches 100% of "line construction costs," not "3%." A revised detailed analysis of the actual impacts and costs of a Dumbarton crossing must be included in a revised DEIR/S. By implication, the DEIR/S also should provide detailed analysis of actual impacts and costs for mitigation of other portions of the proposed project (such as constructing major tunnels through

<sup>4</sup> The Dumbarton crossing cost issue was further muddled by HSRA board member Rod Diridon's editorial published on May 24, 2004 in the San Jose Mercury News. Mr. Diridon claims that, for an Altamont alignment, "A new, high bridge is required at a cost of \$1.4 to \$4 billion." In addition, with regard to mitigation costs, one published account suggests an unconfirmed, but much smaller figure than \$1 billion: "Airport Director, John Martin has offered to provide up to \$200 million in funds for environmental mitigation, potentially restoring 15 acres of wetlands for every 1-acre of fill." ("Environment Mitigation Opportunity" by Doug Perry in "Organized Labor" /www.sfbctc.org/70802-airport.htm).

<sup>5</sup> Summary of technical report on Bay impacts prepared for the FAA and City of SF: [www.savesfbay.org/docUploads/sfocsheet%2Epdf](http://www.savesfbay.org/docUploads/sfocsheet%2Epdf)

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wilderness areas), since it has diverged from the “3% of construction costs” rule only in the case of the Bay Crossing.

Beyond the weakness of the DEIR’s two main arguments against the feasibility of Altamont, the record suggests that an Altamont alignment would serve more people and cost less to operate than either the Pacheco or Mt. Hamilton alternatives, and avoid massive construction and development in rural and wilderness areas. These points supporting the feasibility of an Altamont alignment are fleshed out in more detail below.

**Omitted Altamont Alignment Appears to be Favorable under the DEIR/S’s Ten Alignment Criteria**

While HRSA’s two main reasons for omitting Altamont from the EIR are questioned above, the DEIR/S offers a more detailed rubric to justify alignment decisions. Unfortunately, the DEIR/S does not apply these criteria in an evenhanded or rigorous fashion. Indeed, it appears that, had an Altamont alignment been included in the DEIR/S, it would have outperformed HRSA’s chosen alignments based on these criteria.

The 10 key criteria set out in the DEIR/S Executive Summary for screening and evaluating alignment alternatives are as follows:

- maximize ridership and revenue potential
- maximize intermodal connections
- maximize compatibility with existing and planned land uses
- minimize travel time to be competitive with other modes of travel
- minimize operating and capital costs
- minimize impacts on natural resources (wetlands, wildlife corridors, habitat for TES, floodplains) and farmlands)
- minimize adverse social and economic impacts
- minimize impacts on parks and cultural resources
- avoid areas with geologic/seismic soils constraints
- avoid areas with potential hazardous materials (DEIR/S at S-2)<sup>6</sup>

<sup>6</sup> While the DEIR/S Executive Summary indicates that these ten factors were used to screen alternatives, other portions of the DEIR/S modify this list in ways that conflate these factors or add other factors. For instance, Table 2-H-4e, which provides the basic summary of alignment comparisons, organizes information under seven headings, rather than the ten factors. “Maximize Ridership/Revenue Potential” is the first heading. Under the “Bay Area to Merced,” segment, this heading includes no ridership or revenue data. Rather, it includes travel time from Merced to San Jose and the length of the segments. The time travel data give no indication of how they compete with other modes along this alignment segment, and in any case the time competitiveness between Merced and San Jose is not the real issue—competitiveness with other modes for destinations such as Sacramento to San Francisco are more pertinent because they are sharply affected by this segment and involve greater ridership. By grouping travel time and segment length under “Maximize Ridership and Revenue Potential,” the DEIR/S improperly substitutes a very limited analysis of these elements for a true ridership/revenue analysis. If the ten categories are really the basis of analysis, a clear presentation of findings for each category should be provided.

Substantial evidence in the record suggests that an Altamont alternative is superior with respect to at least nine of the ten criteria, as demonstrated below:

**Criterion 1:** “Maximizing ridership and revenue potential” (for a more complete discussion of modeling issues related to this point, please see our attachment on ridership:

Several documents in the record “find” Altamont superior to other alternatives. As summarized in our attachment on ridership, the DEIR/S’s basic 1996 ridership study (partially updated in 2000) finds that an Altamont alignment would carry the most riders and generate the most revenue, particularly when service to San Jose is included. These results became part of the basis for the Intercity High Speed Rail Commission’s endorsement of an Altamont alignment in its “Summary Report and Action Plan.”

Also, as Loma Prieta Sierra Club has pointed out, the DEIR/S does not incorporate likely coordinated local commuter public transit service into its ridership estimates. However, there is evidence in the record that the Stockton to San Francisco commuter corridor that would be served by an Altamont alignment has better potential for commuter ridership than the Diablo/Pacheco alignments, either on HSRA-operated service or on a service using the same tracks, but operated by another entity. The table below from the 1996 Summary Report and Action plan indicates that a Phase I HSR system on an Altamont alignment could capture 33% of the commuter market share in this corridor (since that time, upgraded Baby Bullet Caltrain service has likely provided much of the benefit estimated for the Gilroy to San Francisco corridor, making the Altamont commuter advantage over the Pacheco route more pronounced):

**Table 4.13 Commute Patronage Potential, Year 2015**

|   | Annual Ridership (millions) | Annual Revenue (\$millions) | Revenue Per Rider | Inbound End-to-End Market Share |
|---|-----------------------------|-----------------------------|-------------------|---------------------------------|
| 1. Bakersfield to Los Angeles via I-5   | 2.7                         | \$15                        | \$5.56            | 69%                             |
| 2. Bakersfield to Los Angeles via SR 14 | 3.7                         | \$23                        | \$6.13            | 61%                             |
| 3. Gilroy to San Francisco              | 2.8                         | \$11                        | \$3.74            | 24%                             |
| 4. Stockton to San Francisco CBD        | 3.0                         | \$13                        | \$4.20            | 33%                             |

Source: Dowling Associates

This same report takes care to point out that “The commute corridor from Gilroy to San Francisco has the lowest annual revenue potential of the corridors, mainly due to its shorter end-to-end distance and the presence of more stations closer to endpoints (Summary Report and Action Plan, 4-31)”.

**Criterion 2:** “Maximize intermodal connections with other transportation facilities.”<sup>17</sup> Altamont HSR service could augment, rather than compete with, Caltrain Baby Bullet

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and regular service, and could readily serve the East Bay through East Bay HSR stations and intermodal connections with California's largest passenger rail system, BART. East Bay service would also link to Capitol Corridor trains. Also, the existing network of freeways and roads would help provide access to stations along an Altamont alignment between Stockton and Fremont (this is an issue of public safety during emergencies, as well as ridership). By contrast Pacheco and Diablo alignments traverse unpopulated or sparsely populated areas between San Jose and Merced with significantly less road and transit access.

**Criterion 3:** "Minimizing travel time to be competitive with other modes of travel;"<sup>7</sup> The major missing point in the travel time comparison for the Bay Area to Merced segment is that the omitted Altamont route has by far the fastest travel time in California's second largest intercity travel market: Sacramento to San Francisco. The Diablo and Pacheco alignments provide travel times for this market that are totally uncompetitive with automobiles, which are the dominant mode of travel in this market. Furthermore, one again must consider the impact of Phase I of the project versus the less certain Phase II. For East Bay, Stockton, and Modesto residents, Phase I of an Altamont alignment provides more competitive travel times to Southern California (and vice versa) than Diablo or Pacheco alignments. The DEIR/S provides only the most cursory exploration of travel time and its implications for different alignments. This analysis is not an adequate basis for choosing an alignment.

**Criterion 4:** "Minimize operating and capital costs:"

(a) Capital costs: Capital costs are clearly lower for Altamont when last-minute, non-comparable inflation of Bay Crossing costs is accounted for. The 1999 Corridor Evaluation found that:

In addition, this [Altamont] alternative is 58 miles shorter in terms of joining the Central Valley alignment with the Bay Area. Since it is shorter and has fewer tunnels, the Altamont Pass is less costly than the Pacheco Pass (Final Corridor Evaluation, p. 3-31).

Lower cost was a key component of the Intercity High Speed Rail Commission's 1996 Altamont recommendation: "The Altamont Pass is the least costly of the three passes in total. The Pacheco Pass is \$719-\$733 million more costly than Altamont Pass in total, and is 37-45 percent higher on a per mile basis." (1996 Summary Report and Action Plan, page 3-30). If the sharp escalation of published Altamont costs that occurred after HSRRA decided to eliminate this route prior to the EIR/S process includes valid elements, then each considered alignment should undergo a comparable new cost estimate, with

<sup>7</sup> The DEIR/S Appendix comparison charts for alignment alternatives combine the first two criteria into one encompassing ridership, revenue, and travel time competitiveness. As suggested in our ridership analysis, these elements, while related, are not the same. For instance, an alignment that maximizes travel time competitiveness with automobiles may not maximize revenue (but it may produce significant environmental benefits and impacts). However, an alignment that maximizes revenue likely does not maximize ridership. These are exactly the kinds of distinctions a thorough EIR/S analysis should elucidate.

careful attention to the specific construction and mitigation costs of elements such as tunneling in remote and geologically unstable areas, aerial structures, and construction through wetlands.

Also, recent cost overruns at the much larger and more complex Bay Bridge project argue for a careful analysis of specific proposed Dumbarton crossing structures, rather than the DEIR/S's rough estimate based on a different structure that has a greater high channel clearance and span (the San Mateo Bridge). This analysis must fully explore options to reduce expenditures through lower structures, coordination with the planned upgrade of the existing Dumbarton rail bridge and related mitigation, and potential coordination with ongoing salt pond restoration projects in the area. It should also consider the experience of the Dumbarton highway bridge, which was considerably less expensive, in inflation-adjusted terms, than the estimate provided in the DEIR/S. Finally, as suggested above, the DEIR/S's doubling of Dumbarton bridge costs based on an approximately 100% mitigation cost is out of step with every other cost estimate in the DEIR/S.

(b) Operating and Maintenance (O&M) Costs: The operating cost model is based on total system mileage and should show Altamont with the lowest costs on this basis. Indeed, DEIR/S Appendix Table 2- H-3 rates Altamont "most favorable" for capital and operating costs combined. This finding agrees with the 1999 Corridor Evaluation, Exhibit 3-35, which estimates operating costs for the Bay Area HSR segment at \$122 million per year for an Altamont alignment and \$177 million per year for a Pacheco alignment (as noted elsewhere, this comparison was done before the Diablo alignments were considered and no "apples-to-apples" comparison of operating costs for the three routes is presented in the DEIR/S). While "operating and capital costs" are one of the ten criteria supposedly used to screen alternatives, this "most favorable" rating for an Altamont alignment is not reported in the body of the DEIR/S.

Instead, the DEIR/S provides the following language, implying that Pacheco alignment O&M costs are most favorable:

"...fewer daily train sets (complete assembly of engines and cars) would be required for the Pacheco Pass option, and this could result in reduced initial capital costs (fleet procurement) and lower operating (less on-board train personnel) and maintenance (fleet size, non-revenue train miles, etc.) costs. It would be practical and cost effective to operate train service to the Bay Area via the Pacheco Pass (DEIR/S at 2-36).

The Appendix adds elsewhere that Pacheco has "potentially lower operating and maintenance costs."

While O&M cost estimates related to particular segments of the HSR system along different alignments are available in earlier studies, the DEIR/S fails to report actual estimates of O&M costs for any route. Clearly, an Altamont alignment should not be eliminated based on conjecture about "potential" O&M savings that "could" result, particularly if all quantitative evidence on the record suggests that the eliminated route is

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least expensive. If O&M costs are important, they deserve thorough, straightforward treatment. A revised DEIR/S should clearly present its exact dollar estimates of O&M costs for each alignment, based on the same ridership and economic assumptions and data.

This analysis should be careful to take into account variations in bond payment costs based on different capital costs—apparently even the greater revenue claimed for the Pacheco alignment is insufficient to cover the increased bond payments resulting from higher initial capital costs. Finally, the tunneling conference report suggested that energy requirements will vary significantly depending upon the steepness and height of mountain passes. The Altamont alignment involves considerably less climbing than the Pacheco and Diablo alignments. Yet the energy factor in the O&M cost analysis is a constant over the whole system. The DEIR/S should explain the energy and cost effects of different mountain pass alignments, including any capital and operational cost effects associated with related ventilation or maintenance issues.

**Criterion 5:** “Minimizing impacts on natural resources.” While we are deeply concerned that the DEIR/S fails to include many elements of an adequate environmental impact analysis, the record includes numerous suggestions that an Altamont Pass alignment would result in fewer impacts on natural resources (extensive comments by the Loma Prieta Chapter of the Sierra Club, The Nature Conservancy, Advocates for Coe Park, the California Department of Parks and Recreation, and others expand upon this point) than the alignments carried forward in the DEIR/S. For instance, the Intercity High Speed Rail Commission decided, based on several previous studies, that “The Panoche and Pacheco Passes would have higher impacts than the Altamont Pass, particularly to wetlands and habitat for threatened and endangered species” (1996 Summary Report and Action Plan, page 4-31). Later, HSRA found in its 2000 Environmental Summary Report that “Overall, the Pacheco Pass Corridor would have a higher potential for more adverse environmental impacts as compared to Altamont Pass option” (p. 52).<sup>8</sup>

Our Attachment C on biological impacts goes into more depth on this subject, but several examples will suggest the DEIR/S’s deficiencies in this area, particularly with regard to constructing and operating the project through wilderness and undeveloped land.

<sup>8</sup> Other examples: DEIR Appendix 2-H-4e compares Bay Area-to-Merced alignments. It shows a Pacheco alignment requiring either 10 or 12 miles of tunneling (see also DEIR page 6-10, with Diablo alignment tunneling lengths ranging from 16-20 miles). Under this scenario, Altamont is the alignment with the least amount of tunneling (8.9 miles), an activity with potentially severe construction impacts on the environment. Also according to Appendix 2-H, page 2-H-3 under wetlands, Altamont impacts approximately 27 acres of wetlands as compared with Pacheco which impacts approximately 290 acres of wetlands. Moreover, a new bay crossing appears to impact only 6.7 acres of wetlands as compared with Mulford Line between San Jose and Oakland which would impact nearly 50 acres in the National Wildlife Refuge or 8 times the impact of the project. The DEIR/S appears to overlook the fact that the proposed Los Banos station would be immediately adjacent to lands considered part of the Grassland Ecological Area. The train itself would run through the Grassland Ecological Area, fragmenting a critical southern spur of the Grassland Ecological area from the rest of the contiguous wetlands.

For instance, construction impacts are ignored in the DEIR. In a largely undeveloped area like the Diablo Range, construction impacts can be significant and permanent. Access roads for equipment and hauling, for example, once built, will remain indefinitely, and inevitably facilitate future development. Authority staff have verbally downplayed this impact by stating construction access roads could be avoided by constructing the route off the end of the track as it is extended. However, this technique would raise costs considerably, yet the cost implications have not been considered when comparing alignment choices. This is just one example why it is important to analyze alignment, design, impact, mitigation and cost consistently and concurrently.

Also, fire is a critical element for maintaining the ecological health of the Oak woodlands, grasslands and chaparral plant communities found in the Diablo Range. The presence of high speed rail in the heart of the Diablo Range wildlands would dramatically change fire management protocols, including the need for extensive fire breaks, vigorous suppression of wildfires, and much more stringent limitations on controlled burns. The resulting impacts to the ecology of the area are probably unmitigatable, but have not been considered by the DEIR. By contrast, the Altamont alignment, which follows already developed corridors, would probably not require major changes to current fire management regimes. This is an example of why environmental impacts need to be fully understood and evaluated before alignment decisions are made.

Furthermore, even the DEIR/S’s efforts to avoid obvious major impacts through Diablo alternatives will likely result in major unmitigatable impacts. For example, the Diablo Direct North alignment, which was introduced as an option to avoid Henry Coe State Park, would traverse the biologically valuable Isabel and San Antonio Valleys. These valleys contain extensive mountain meadows that support sensitive species (Tule Elk and Antelope) that depend on open grasslands with unimpeded ability to roam. The high speed rail alignment is proposed to cross through the center of these meadows at grade. Both the noise and physical impediments posed by this design would cause significant harm. Raising the rail on trestles could potentially reduce impediments to movement, but exacerbate noise impacts. Lowering the rail into covered trenches could potentially eliminate both of these impacts, but in turn destroy the springs which feed the meadows and support all forms of wildlife through the hot and dry summer months.

Also, Diablo and Pacheco alignments each impact the Don Edwards National Wildlife Refuge along the proposed San Jose-Oakland connection—and arguably more severely than an Altamont alignment. Impact to this Refuge supposedly accounts for elimination of the Altamont alignment. A thorough exploration of the differential impacts of these alignment sections is required before choosing an alignment.

**Criterion 6:** “Minimizing adverse social and economic impacts (e.g. growth inducement).” The growth-inducing analyses says the Hamilton/Pacheco alignments have “low” potential impacts (DEIR/S at 6-16). The DEIR/S totally ignores the effect of introducing infrastructure (eg. water, power, access roads, stations, plus police and fire services) into an area that has almost no human infrastructure. The DEIR/S’s summary of its alignment consideration process claims that “[m]ost of the corridors considered

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follow existing highways or railroad lines, particularly in urban areas to avoid or minimize environmental impacts (DEIR/S at 2-2).” However, “most” of the DEIR corridors connecting the Central Valley to the Bay Area do not follow this rule. The three Diablo routes carried forward in this DEIR cut an entirely new path through rugged, unspoiled mountain wilderness terrain. The two Pacheco alignments carried forward parallel *rural* highway 152. Also, as one background study noted “While State Route 152 extends through the length of this pass, it is not possible to follow the existing roadway alignment along most of the pass.” (Summary Report and Action Plan, page 3-14).<sup>9</sup> The likelihood that these alignments traversing rural and undeveloped areas will increase significant growth and more intensive development is extremely high. It is frankly misleading and defies common sense to characterize them as “low.” Yet, the DEIR/S fails to adequately characterize these potentially significant impacts.

Also, as comments by the Grasslands Water District suggest, growth inducement in this internationally-important biological resource area also is estimated to negatively impact the local economy. By contrast, high speed rail service to Northern Central Valley Communities under Phase I of an Altamont alignment, with appropriate “smart growth” constraints, could create positive social and economic benefits for those communities decades in advance of potential Phase II service along other alignments.

For the Diablo and Pacheco alternatives, a revised DEIR/S must describe the likely growth scenarios with and without the project including housing development in areas previously less accessible; new job creation; new roads and services for the project and as a result of indirect growth. The section should discuss how the introduction of HSR could change (including accelerate) the timing, type and location of growth within adequate areas of influence. Maps should be used to identify areas where land may convert from agricultural or open space to suburban or urban uses. Tables should be used to indicate how land use may change before and after the project, including housing densities; total population with/without the project; total jobs with/without the project; land conversions from open space and agriculture to urban/suburban uses; rural subdivision activity and the like. A similar analysis must be included on the Altamont alignment using comparable terms and assumptions. This exercise is technically feasible and must be included in a revised DEIR/S.

**Criterion 7:** “Maximize compatibility with existing and planned land uses.” In the broadest sense, an Altamont alignment would use a major developed commuter corridor while Diablo and Pacheco alignments would rely much more heavily on wilderness or undeveloped areas.

**Criterion 8:** “Minimizing impacts on parks and cultural resources.” Out of concern that the DEIR/S did not adequately study alignment alternatives that would avoid serious impacts to state parks, the California Department of Parks and Recreation has provided the following comment to HSR/A:

<sup>9</sup> By contrast, the Altamont alignment excluded from the DEIR 2000 follows major US Interstate Highways I-580 and I-680 and could use freeway medians for a portion of the route.

The California Department of Parks and Recreation encourages the California High-Speed Rail Authority and the Federal Railroad Administration to consider only rail corridor alternatives which avoid either direct or indirect impacts to units of the California State Park System and other critical publicly and privately protected conservation lands in order to avoid habitat fragmentation and degradation of publicly held natural resource values. For example, we suggest reconsideration of the northernmost crossing of the Diablo Range (the so-called Altamont Pass alignment). This choice will avoid direct and indirect impacts to Henry W. Coe State Park and to the San Luis Reservoir State Recreation Area. (Aug 19, 2004 correspondence from State Parks director Ruth Coleman to HSR/A and FRA).

**Criterion 9:** “Avoid areas with geologic/seismic soils constraints.” In general, this DEIR/S does not provide adequate data and analysis to reveal significant differences that likely exist between Northern Mountain Crossing Alignments. However, new exploration, construction, and access-related issues likely favor an Altamont alignment over Pacheco and Diablo alignments due to risk, costs, public safety and environmental damage. For instance, a major reason why the mountain valleys east of Mount Hamilton are so rich in wildlife is that, despite a generally very arid climate, there are numerous year-round springs. These springs are likely fed from groundwater aquifers whose water originates in the Sierra Nevada mountains, crosses the Central Valley following subterranean strata and emerge in the Hamilton range where the strata layers are uplifted and exposed. Extensive tunneling, as proposed by the Diablo and Pacheco routes could have significant and devastating impacts on wildlife, yet this potential impact is not even mentioned, much less analyzed. For further comments on geology and seismic issues, please see the attached expert analysis by Slosson and Associates.

**Criterion 10.** The remaining alignment criterion—hazardous materials constraints—is not found by the DEIR/S to disfavor Altamont.

In summary, a review of the ten criteria offered by the DEIR/S to assess alignments suggests that an Altamont alignment would have been a strong contender if it had been included as an alternative in the DEIR/S. Altamont’s potential to maximize ridership and revenue, maximize connections with other modes such as BART, produce competitive travel times, minimize impacts on natural resources, reduce growth inducement, and avoid parks and incompatible land use (such as planned flood control and conservation easement acquisition) is documented throughout this letter and suggested frequently in the record.

In order to meet CEQA/NEPA requirements and for internal consistency, the DEIR/S must thoroughly and consistently apply any analysis to all alignment alternatives in advance of choosing an alignment. Unfortunately, the instant DEIR/S has not done so.

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Beyond the DEIR/S's inconsistent use of ten criteria to analyze Northern Mountain Crossing alignments, examples of numerous further gaps and inconsistencies in the analysis of these alignments are detailed below.

### DEIR/S PANOCHÉ ANALYSIS PROVIDES ANOTHER EXAMPLE OF UNEVEN ALIGNMENT COMPARISON

It is worth noting that the DEIR/S's basic summary of background studies is misleading in its treatment of northern mountain crossings. Chapter 2 of the DEIR/S begins with a "background" summary of three major sets of studies justifying its decisions: a 1994 L.A.-Bakersfield study, a 1996 Corridor Evaluation, and the 1999 Corridor Evaluation. The DEIR/S then directs the reader to Figure 2.3-1, which vaguely summarizes the recommendation of the 1996 corridor evaluation as follows: "recommended network of corridor alternatives." Figure 2.3-1 includes Panoche, Pacheco, and Altamont northern mountain crossings, giving the impression that the Commission suggested all three for continued evaluation.

Actually, the Commission issued a 1996 "Summary Report and Action Plan." While this report was the culmination of the predecessor agency's analysis it is not mentioned in the Chapter 2 summary of previous studies. As noted before, this summary report specifically recommended the Altamont alignment in the following language: "Of the three northern mountain pass options (from south to north: the Panoche, the Pacheco and the Altamont), the Commission recommends the Altamont for linking the Central Valley to the greater San Francisco Bay Area. This option generates higher ridership and revenue for the system, and is less costly to construct than the two other mountain passes considered." (Summary Report and Action Plan, 1996 page ES-7). A revised DEIR/S should clearly acknowledge that a major body of taxpayer-funded study culminated in an Altamont recommendation, which the Authority discarded soon after it began to meet and chose to exclude from the DEIR/S.

While the DEIR/S discards the major results of the prior Commission's work supporting an Altamont alignment, it often relies upon aspects of that work that do not conflict with favored Pacheco and Diablo alignments. For example, the DEIR/S's treatment of the Panoche pass alternative relies upon pre-1997 ridership and environmental studies, providing a window into the kind of reasoning the HSRA could use in a recirculated DEIR/S, for purposes of consistency, to justify including an Altamont alignment.

The DEIR/S first notes that Panoche was dropped due to "low ridership and revenue..." (DEIR/S at 2-35). The "low ridership" referenced for Panoche is only 0.4% lower than Pacheco pass ridership in the same study<sup>10</sup>—doubtless within the margin of error. Panoche revenue was found to follow a similar pattern—almost indistinguishably below that for Pacheco. Altamont ridership and revenue was superior to both. To our knowledge, no subsequent Panoche Pass ridership and revenue studies have provided any further basis for comparison between Panoche, Pacheco, and Altamont alignments. If

<sup>10</sup> Independent Ridership and Passenger Revenue Projections for High Speed Rail Alternatives in California, 1996, Table 6-12, page 6-45.

this early study finding that Panoche has very slightly lower revenue and ridership than Pacheco is good enough to dismiss the Panoche alignment based on ridership and revenue, then it also should justify further study of Altamont.

Each further reason cited by the DEIR/S to drop Panoche argues by implication that Altamont is superior to Pacheco. The DEIR/S notes that "...a Panoche Pass alignment was estimated to cost \$500 million more than a Pacheco Pass alignment." However, the same study found Altamont to be up to \$2 billion less expensive than Pacheco. The DEIR/S touts Pacheco's "higher intercity ridership for the San Francisco to Los Angeles section than the Panoche Pass option because it would serve a greater portion of the Central Valley population and would provide slightly faster travel times between the major markets." DEIR/S at 2-35. However, the same 1996 studies found that Altamont bested Pacheco on exactly this point: carrying higher intercity ridership than Pacheco due to better northern Central Valley service and "slightly faster" service in the basic L.A.-SF market.

The DEIR/S continues in its Panoche analysis:

the Pacheco Pass would provide a superior link to Sacramento and the northern San Joaquin Valley since it is 35 to 40 mi (56 to 64 km) north of the Panoche Pass. Ridership for the Pacheco Pass would be much higher than the Panoche Pass since trips from Sacramento/northern San Joaquin Valley to the Bay Area would take substantially longer via the Panoche Pass. ..Costs would also be substantially higher since the network (in total) would be more than 30 mi (48 km) longer using the Panoche Pass.

If these reasons have any general importance in the DEIR/S, they should be applied equally to an analysis of the Pacheco and Altamont alignments. Altamont would provide a much superior link to Sacramento and the northern San Joaquin valley, since it turns towards the Bay Area 78 miles further northeast on I-99 than Pacheco. Sacramento and northern Valley trips would take substantially longer on Pacheco than Altamont. Costs based on operations over the total network length will be more on Pacheco than Altamont, since overall Pacheco system length is around 70 miles (10%) longer. These same arguments also mitigate against the Diablo alignments, relative to Altamont.

While the DEIR/S's dismissal of the Panoche Pass is based on reasons that are given little or no weight in analyzing other alignments, it provides an interesting window into the type of analysis that could be applied to Pacheco, Diablo, and Altamont alignments.

### Unstable Descriptions of the Proposed Project Alternatives

Instability in the project description frustrates comparison of the eliminated Altamont alignment with alignments retained in the DEIR/S. It appears that, as the project has changed over time, important studies and reports relied on to prepare the DEIR/S have not been updated to reflect a consistent and adequate description and comparison between alternative alignments.

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The following timeline is useful to illustrate how major changes in the basic project definition over time have frustrated a thorough comparative analysis of a full range of alternatives and have created an unstable definition of the project throughout the DEIR/S:

- 1994-96: Ridership studies and environmental studies suggest that Altamont is preferable to Pacheco and Panoche alignments.
- 1996: CA Intercity High Speed Rail Commission chooses Altamont as the preferred alignment and suggests creation of the High Speed Rail Authority to implement the project.
- Summer 1999: HSRA drops Altamont in favor of Pacheco in preparation for the Business Plan.<sup>11</sup> From this point until introduction of Diablo alignments in 2001, only the Pacheco alignments were actively considered.
- January 2000: Second major ridership study published, including only the Pacheco alignment.
- January 2000: Business Plan published using only the Pacheco alignment in Northern California. Today, this Business Plan alignment remains the basis for the statewide legislative bond measure drafted with HSRA's assistance and placed on the ballot in 2006. The Business Plan alignment and related ridership modeling provide the cost justification for the project in the DEIR.
- April 2000: The "California High Speed Rail Environmental Summary Report," states that "Two main options were considered for joining the Central Valley alignments with the Bay Area"—the Altamont and the Pacheco alignments (pages 19-21).
- In mid-to-late 2001, several Diablo routes were added for consideration as the possible alternative to Pacheco for purposes of the DEIR/S.
- December 2001 tunneling conference and consulting work leads to modifications in proposed Pacheco and Diablo routes.

<sup>11</sup> The DEIR/S notes that Authority was legislatively mandated to "move forward in a manner that was consistent with and continued the work of the Commission" (DEIR/S at 2-4). In actuality, it appears that HSRA quickly dropped the Altamont alignment that was the culmination of the Commission's ridership and environmental studies, and began vigorously working to make other previously disfavored or unforeseen alignments more plausible. Also, staff memos informed the Board in 1999 that, only after the Board adopted the alignment recommendation would a Business Plan be prepared. After that, "...the next phase of the project is the preparation and adoption of program environmental studies and documents." (July 14 memo). Thus, the Board arguably focused on a single preferred alignment prior to initiating the EIR/S needed to choose alignments.

- January 2004 Biological Resources Bay Area to Merced Technical Evaluation compares only Pacheco and Diablo alignments.

Since early studies compared Altamont, Pacheco, and Panoche, but later studies compared Pacheco and Diablo, no single body of studies compares Altamont, Pacheco, and Diablo alignments on the same basis. Thus, Diablo alignments were not included in the environmental and technical decisions used to choose the business plan, which forms the basis for many aspects of the DEIR/S's comparison of the project with no project and with a modal alternative.

One example of the results of this progression of "projects" and analyses is the unclear picture of tunneling—a major portion of overall project capitol costs—along the Pacheco alignment. Chapter 2 of the DEIR claims that a Pacheco alignment could involve "as little as five miles" of tunneling (page 2-54). Chapter 6 of the DEIR (page 6-10) claims Pacheco requires either 10 miles or 12 miles of tunnel, depending on which alignment is used. However, the map provided in Chapter 6, figure 6.2-3 suggests closer to 15 miles of Pacheco tunneling for the Northernmost Pacheco option near Gilroy.

References to shorter Pacheco tunneling apparently arose in the record after the completion of the December 1999 Corridor Evaluation that summarizes much of the data used to compare alternative alignments. The Corridor Evaluation reports that Pacheco requires "12.3 miles" of tunneling" (Corridor Evaluation, page III-31).

The later 2002 Screening Report estimates "a total as little as about 5-miles" of tunneling (Screening Report, I-12). However, the Screening Report notes that the shorter tunneling option "would have the most impacts on natural resources and social and economic resources" (Screening Report, I-14). Cost estimates in the Screening Report (which was used to determine which alignments to carry forward for the DEIR/S process), used yet another Pacheco tunneling scenario, which is worth quoting at length because it suggests the types of issues involved in achieving one, stable description of tunneling for the project:

...for this screening, an alignment was identified that was lower in profile, allowing for an evaluation of reduced levels of disturbance on the surface, but resulting in approximately 18 miles of tunnel. While this would minimize environmental impacts, it increases the length of tunneling. Vertical alignments (depths) for the Pacheco Pass alignments need to be further evaluated, given the potential **major cost differences** in higher versus lower profiles, in more short tunnels versus fewer longer tunnels, and in **potential environmental impacts of surface construction across sensitive natural areas [our emphasis]**. It is clear that different assumptions for tunneling unit costs and the vertical profile for the Pacheco Pass alternatives could potentially lead to an even greater disparity of costs between the Direct Tunnel and Pacheco Pass alignments. Additional analysis is necessary to gain a better understanding of and more confidence in the appropriate tunneling approach (e.g., use of tunnel boring machine versus drill and blast techniques) and associated cost estimates. [Our emphasis]

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This situation leaves several questions that should be clearly resolved in a recirculated Draft EIR: How many miles of tunneling will a Pacheco alignment require and precisely where will tunneling occur? Are costs for this tunneling actually \$885 million (as in Corridor Evaluation, Appendix E)? Is \$885 million for 5 miles, 10 miles, 12 miles, or 12.3 miles of tunneling? What alternative construction techniques (elevated structures?) will be needed to mitigate the “most impacts” for the “as little as 5 miles” tunneling option? Is the 5-mile tunneling option realistic given admittedly greater impacts on natural resources? What mitigation costs will greater natural resource impacts entail?

Another example of unclear and unstable project description concerns ridership modeling. For instance, Diablo alignments were added after completion of the two major ridership studies in 1996 and 2000 and the ridership runs prepared in 1999 for the 2000 Business Plan. As a result, the DEIR/S does not include Diablo alignment ridership data (apparently, unpublished runs were performed for HSRA in early 2003) and therefore fails to provide information necessary to meaningfully compare alternatives. For instance, two sheets of data from the unpublished Diablo runs obtained by PCL suggest that the number of passengers boarding and alighting in Merced under the Diablo alignment would be 46% less than under the Pacheco alignment. This kind of basic information, replicated for each station and alignment, would be of great interest to communities throughout the state, but is unavailable in this DEIR/S.

Aside from describing how the system will operate, the ridership modeling underpins the DEIR/S’s air quality and cost benefit analysis. These analyses in the DEIR/S are based only on one Pacheco alignment scenario. Our attachment on ridership modeling discusses in more detail how these analyses could in fact differ based on alignment.

Presentation of Oakland and San Jose ridership data in background materials provides another indication of a changing project with unequal analyses. While the DEIR/S emphasizes travel times between Sacramento and San Jose, background materials generally omit station alighting and boarding (and related) data for San Jose and Oakland, presumably because service and alignment plans to reach these cities changed over the period during which the project was planned. For the Business Plan version of the Pacheco alignment, some of this data can be inferred from the parking analysis. This is not the standard of transparency HSRA should present for a \$36 billion project that is already on the statewide ballot. Thorough and comparable data should be available for each destination along each alignment for each phase of the project, which is not currently the case.

A third example of the way in which changing project descriptions have yielded uneven analysis concerns Dumbarton Bridge cost estimates. Between earlier and recent cost estimates, Dumbarton bridge costs escalated from around \$300 million (counting mitigation) to over \$1 billion for construction plus \$1 billion in mitigation. This 700% increase reflected changed methodology in estimating the cost of the bridge, and separately, the mitigation. As mentioned above, for every segment of the project statewide except the Dumbarton Bridge, mitigation is assumed to be 3% of construction

costs. This inconsistent treatment of the bridge and related mitigation render the information meaningless for comparative purposes.<sup>12</sup>

Consistent and complete information about all project alternatives must be included in a revised DEIR/S. Such information must include, but not be limited to all information necessary to analyze and compare project alternatives, develop feasible mitigation measures and other alternatives as warranted.

### Incomplete Project Description

Meaningful Bay Area alignment comparisons are also frustrated by incomplete information about the whole project, including project phasing and related projects.

As mentioned in the main body of our comments, the DEIR/S fails to mention Caltrain Baby Bullet service, the advent of which has been announced in the press at least since 2000, and which has been the subject of high-profile state legislation during the period when the HST project has been studied. Nor are the Caltrain Baby bullets included in the ridership study (this omission alone should require a revised/re-circulated DEIR/S). To the degree that San Jose-San Francisco HSR service duplicates Baby Bullet service, it will be beneficial to both projects for HSR to take an alternative alignment. HSRA should take every opportunity to explore coordinated service that maximizes ridership for each service and for both taken together. This analysis is likely to find significant differences between Pacheco/Diablo and Altamont alignments. Similarly, the ridership model and service plan analyses should explain coordination and impacts related to other Caltrain, BART, AC Transit, Sacramento RT, and other transit systems.

The DEIR/S also omits fundamental engineering aspects of the proposed project, which are needed to adequately compare alignments. Examples include: 1) the need for and provisions for wildlife crossings over or under fencing 2) extent of geologic work such as borings and related roads, staging areas,<sup>13</sup> and 3) construction activities, including staging, onsite structures and activities in remote areas, access and emergency provisions for heavy machinery and personnel; (4) likely mitigation measures, which could either result in indirect impacts or reduce project related impacts including, but not limited to undergrounding, aerial structures to allow animal passage, tunneling to avoid surface impacts, among others need to be identified, and their costs factored into the comparison of alternatives.

Also, the DEIR/S lacks a clear description of Bay Area-Merced stations. The DEIR/S’s parking analysis begins to give a picture of daily station operations at some stations, assumed to be along the Pacheco alignment. A thorough comparison of station

<sup>12</sup> Furthermore, the bridge description is inadequate. Costs are based on a different, non-comparable bridge, and no study is presented of the particular Dumbarton bridge.

<sup>13</sup> The January 2004 Tunneling Issues Report notes that “Considerable geologic exploration is required prior to construction,” suggesting that (a) such exploration could entail environmental impacts and (b) exploration could result in findings that inform the decision of which alignment to build through. Since this level of geologic exploration has not been done, it should be performed on all feasible alignments, including Altamont, prior to choosing an alignment.

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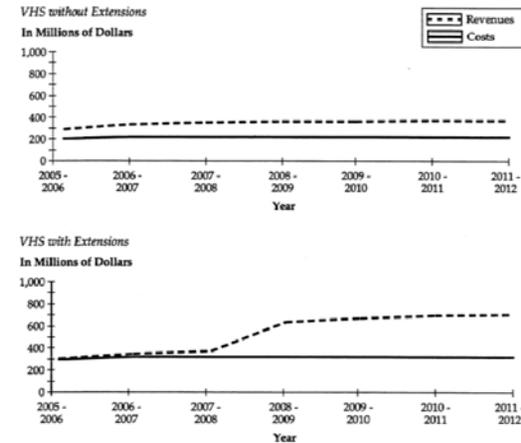
footprints, modal passenger access patterns, structures, traffic impacts at the station and on surrounding areas, parking requirements (with and without planned mitigation) is needed *in advance* of choosing an alignment. It is particularly important for this analysis to clearly present Phase I alignment opportunities separately from Phase II or the full system, so that communities are aware of what is feasible in the foreseeable future.

The DEIR/S lacks an adequate description of the economic feasibility of the various Bay Area-to-Merced HSR alternatives. As suggested by comments above on station and tunneling issues, a clear description of the costs of the HSR alternatives and the feasibility of funding route acquisition and improvement must be disclosed. Particularly, this information must assess the economic viability of different alignments for Phase I of the project.

As suggested above, omission of project phasing information is a major failing of this DEIR/S (more on this below). Ridership and environmental studies performed by the predecessor Intercity High Speed Rail Commission through 1996 separately explained two major phases of this project. The first phase of the project is the portion from L.A. to the Bay Area, which would be separately financed partially through an initial statewide bond measure. The second phase includes “extensions” to Sacramento, San Diego, and possible Oakland that presumably would depend in part upon the financial success of the first phase of the project.

The graph below, borrowed from IHSRC’s 1996 Summary Report and Action Plan, suggests the kind of understanding that can be gleaned from analyzing each phase of the project:

**Figure 5.2 Operating Revenue and Costs**



(page 5-11 SRAP)

This chart suggests that the Phase I along an Altamont alignment (favored at the time this document was prepared) will be financially self-sufficient, and furthermore that added extensions will increase revenue much more than operating costs. Apparently, the record does not include similar charts for other alignments. This is the kind of exploration of financial feasibility for each Phase that could be essential to choosing an alignment and to informing the public generally about the project.

**Consistent and Current Ridership Studies**

In CEQA/NEPA terms, ridership modeling contains aspects of project description and project setting, each of which must be adequately presented in order to allow informed alignment decisions. Unfortunately, DEIR/S modeling falls well short of this requirement.

While Attachment B to our main letter provides more in depth comments regarding ridership modeling in the DEIR, particularly as it applies to the elimination of the

## Comment Letter 0049 Continued

Altamont alternative, the modeling suffers from the following inconsistencies and inadequacies with respect Bay Area alignments:

- It is inconsistent across the Altamont, Diablo, and Pacheco alignments (and Diablo ridership data are unavailable in the record).
- It does not incorporate access to stations other than highway access. Yet other portions of the DEIR assert that, for the largest station on the system (San Francisco), major shares of passenger access will be through non-highway means. Service to and use of this and other Bay Area stations will be strongly affected by alignment.
- Modeling runs are skewed against an Altamont alignment due to an unsupportable and arbitrary assumption that 50% of trains will go to San Francisco and 50% to San Jose, rather than seeking the proper split to maximize overall ridership. The Authority's consultant that prepared the main ridership studies readily acknowledges the importance of this assumption in determining results:
 

“The reason ridership and revenue on the Altamont Pass alternatives is somewhat lower than the Pacheco Pass alternatives is because of the split at Newark causes the frequency of service to be cut in half to all areas west and south of the Bay. This is the same reason why Pacheco Pass alternatives are more attractive to intercity riders than the Altamont Pass alternatives, namely they have the same trains operating at the same frequencies serving both San Jose and San Francisco.  
(Ridership and Revenue Analysis for High Speed Ground Transportation in California Task 6 Report: Charles Rivers Associates, June 1999, Page 22)
- The DEIR does not consistently display essential, basic ridership data for each alignment, including ridership at each station, station mode access data, origin/destination pairs, travel times between stations. These data and related revenue data must be separately displayed on each alignment for Phase I and Phase II of the project.
- Ridership modeling should explore and clearly display various alternatives for serving Oakland through BART or other connecting service.
- Assumptions underlying ridership modeling must be updated so that auto, air, and rail data stem from the same period and represent the latest available data. Admitted strong travel demand growth in the Bay Area and Sacramento suggest that this could affect alignment decisions.
- Related cost-benefit and air quality analyses must be re-calculated based on the corrected approach suggested above, and should be presented for each alignment.
- In order to maximize cost-benefit and air quality benefits, the DEIR should explore different pricing options and display resulting data for each alignment in Phase I of the project and for the project overall.

### Elements of an Adequate Analysis of an Altamont Alternative for Inclusion in a Revised DEIR/S

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We have suggested numerous legal inadequacies in the DEIR/S based on the elimination of an Altamont alignment prior to the DEIR/S process and on methodological omissions and inconsistencies. Below, we provide one suggested roadmap to begin to cure these deficiencies:

At a minimum, an analysis of an Altamont Alternative or Alternatives should include the following elements:

- An Altamont crossing with stations initially at least at Fremont and Tracy.
- Realistic mitigations and cost estimates for environmental effects of Altamont, Pacheco, and Diablo. Impacts should include, but not be limited to noise, wilderness, habitat fragmentation and wildlife corridor impairment, construction, hydrology, growth inducement and cumulative impacts.
- Altamont, Pacheco, and Diablo should be thoroughly compared using the same planning and transportation metrics (such as the number of boardings at each station, ridership on each route by origin/destination pair, new riders generated per dollar invested, etc). The modeling should include a mix of express and local service to maximize ridership consistent with the primary goal of serving long distance travelers. Since air quality and cost-benefits analysis are presented as major justifications for the project, modeling should explore the affect of different alignments, stations and operational plans on air quality and cost benefit.
- Comparative analysis shall include land use and smart growth considerations, including effective proposals to ensure that land use/smart growth goals are met, rather than simply suggested as desirable to local jurisdictions.
- San Francisco and San Jose would be served with service design and schedules being allocated between the two cities to maximize ridership.
- San Jose International Airport service should be considered in a Phase I Altamont alignment alternative.
- Ridership should be modeled to include connectivity with BART in the E Bay at least Fremont to serve Oakland. (Pleasanton could be phased in).
- A careful marine survey should determine the most appropriate type/size of Dumbarton bridge crossing. One option should include accommodating future Dumbarton commute service in a way (for instance, express bus service) that requires only 2 tracks on the bridge for rail service.
- The entire Caltrain line should be upgraded regardless of alignment choice.
- The study should consider a phased roll-out of the initial \$9 billion bond showing potential benefits of initial segments in case funding runs short.
- The study should be subject to review during development by a policy advisory committee, including environmental, regional transportation planning and state government representatives (including northern central valley representation). It should also be informed by a technical committee of affected transit agencies and local governments. In any EIR of this type,

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significant details often vary after the study starts, so the advisory committee is absolutely important to allow input as new issues arise.

Because HSRA officially ceased pursuing an Altamont alignment option by at least mid-1999 and probably as early as late 1998, many questions were left unanswered in the 1999 Corridor Evaluation that should be answered in a new EIR. The course of study outlined above, combined with close public oversight and involvement, will begin to answer these questions, potentially greatly improving the High Speed Rail project.

**ATTACHMENT B****DEIR RIDERSHIP MODELING: ITS INADEQUACIES FOR ALIGNMENT DECISIONMAKING, FINANCIAL AND ENVIRONMENTAL ANALYSIS**

While this attachment concentrates on the inadequacy of DEIR/S modeling to justify decisions on a Northern Mountain Crossing alignment, any new modeling on that portion of the project (involving several of the highest-passenger-volume stations) will affect ridership and related analyses for the whole project. A new, thorough comparison with updated travel market data, new coding of station access modes, and exploration of coordinated service options and alternative cost-benefit and air quality options is needed in order to show what tradeoffs will be made in Bay-Area-to-Merced alignment decisions and in decisions about the overall project.

According to the DEIR/S, the first of ten “Key criteria” for evaluating HSR alignments is “maximize ridership and revenue potential by serving key population centers.” (DEIR/S page S-2). However, there is no single document that compares the full array of basic, necessary ridership data based on equivalent assumptions between each DEIR/S alignment.<sup>1</sup> Furthermore, there is no similar data presentation comparing DEIR/S alignments and major alignments that were eliminated before the DEIR/S (indeed, it is not clear what ridership modeling output data exist for the Diablo alignments or how this alignment was incorporated into the model several years after Pacheco and Altamont modeling was performed).

Two major ridership studies were performed by Charles Rivers and Associates to assess the viability of HSR service along different alignments. The first “Independent Ridership and Passenger Revenue Projections for High Speed Rail Alternatives in California” was completed in 1996 and underpinned the California Intercity High Speed Rail Commission’s (CIHSRC’s) finding that the Altamont Pass alternative produced the strongest ridership and revenue. It estimated ridership on an Altamont alignment to San Francisco, with a “spur” to San Jose, at 22.031 million riders per year in 2015. This study determined that a Pacheco alignment would carry 19.940 million riders per year. Pacheco would carry fewer riders primarily because “...it does not provide service to the upper Valley cities of Modesto and Stockton.” (pp. 6-43 through 6-45).

While the authority apparently rejected the service plan implied in this 1996 Altamont “spur to San Jose” run (splitting individual trains at Newark),<sup>2</sup> it is interesting to note that

<sup>1</sup> By contrast with the DEIR/S’s scattered analysis of ridership, the Intercity High Speed Rail Commission’s “1996 Summary Report and Action Plan” devotes a consolidated chapter to “Ridership and Revenue.” Several charts display ridership and revenue figures for different alignments under Phase I of the project and “with extensions” to Sacramento and San Diego. This type of clear presentation, with detailed background information also available, would greatly enhance the DEIR/S.

<sup>2</sup> As mentioned by Loma Prieta Sierra Club, the DEIR/S’s rejection of trainsplitting should be re-evaluated in light of other high speed rail services that use this option.

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an Altamont alignment was projected to increase ridership by more than 2 million people above the Pacheco runs, apparently even accounting for delays to all mainline passengers caused by the time needed to split trains at Newark. These modeling runs predicted almost 1 million more riders over Altamont than the Pacheco Pass runs featured in the Corridor Evaluation (22.031 million vs. 21.10 million), despite the fact that the later Pacheco runs included updated travel data reflecting an increased projected travel market. Even a "base" Altamont alignment using 1996 data with no service to San Jose showed greater ridership (21.206 million, page 6-44) than the Pacheco pass alignment serving San Jose and San Francisco that was carried forward in the DEIR/S.

The 1996 study displayed some essential data needed to assess different routes, which HSRRA should have requested and displayed for all routes considered in this and later studies. It showed the number of people getting on and off at each station and the number of riders to and from each origin/destination pair for a "base alignment." It revealed ridership on Phase I of the system, separately from the projected system ridership at full build-out. However, it did not provide station alighting and O/D pairs for the fully built-out project. This means, for instance, that we do not have access to data showing how many people would get on and off at each station under an Altamont Pass alignment when the full system is built-out. Scrutiny of these data is essential to make clear why overall ridership figures change under different alignments (more on that below). Unfortunately, no study, including the second major ridership study, which was performed for CIHSRC's successor agency, the High Speed Rail Authority, has provided them.

The second major study is "Independent Ridership and Passenger Revenue Projections for High Speed Rail Alternatives in California, January 2000." One major purpose of this study was to update some of the air, auto, and rail travel market data used to project how many people might wish to ride an HSR system in 2020. Since travel projections had increased significantly from the 1996 study, HSR trips modeled in the January 2000 study rose significantly. However, this study included only Pacheco Pass alignments. Thus, it found that Pacheco could carry 30.3 million riders in 2020, or 32.0 million riders, depending on the length of the southern California alignment (page 59). Interestingly, these ridership figures are not cited in the DEIR alignment discussion. Possibly, comparable data are not available for the Altamont, Pacheco, and Diablo routes because the January 2000 study included only Pacheco alignments.

Also, certain ridership data were updated for the 2000 ridership study. Air carrier data, in particular were updated, but a basic 1994 automobile ridership survey was not updated. Automobile riders are the source of about half of the ridership for the project. Equivalent, updated automobile ridership data should be applied in a thorough and consistent fashion to an analysis of all alignments. Furthermore, air carrier travel times have changed in the aftermath of the September 11, 2001 terrorist attacks, and should be adjusted to ensure accurate projections.

The 1996 and 2000 studies are the only basic background in the record on ridership modeling, so the public must take at face value a third set of ridership data: charts

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published in the December 1999 Corridor Evaluation, which draw from 1999 runs presented to the HSRRA board and acquired by PCL through a Public Records Act request. These runs show Altamont attracting 20.02 million riders in 2015, and Pacheco attracting 21.12 million.<sup>3</sup>

Several factors improperly skew the available modeling against an Altamont alignment and in favor of a Pacheco alignment:

(1) The Altamont ridership modeling assumes that half of all trains proceed north from Newark to San Francisco, and the other half proceed south to San Jose. This arbitrary 50/50 split is unlikely maximize overall ridership and other system benefits. The DEIR should present overall ridership, station alighting, origin/destination pair, and Phase I/Phase II data for an Altamont alignment, using the apportionment of trains between San Francisco and San Jose that produces the maximum system ridership.

(2) The computer model computes access to HSR stations is based only on highway travel times to stations. Separate DEIR/S parking studies conflict notably with this assumption. For example, the parking studies estimate that 25% of intercity passengers walk to the SF station (the busiest station) and 20% walk to the Oakland station; 30% of SF passengers are estimated to access HSR by a rail connection and only 20% arrive by private automobile. Clearly, some alignments and station locations provide significant opportunities for non-highway access to HSR. Particularly, ridership due to BART access to the Newark, Pleasanton and San Francisco stations along an Altamont alignment should be encoded as a basic part of the ridership model. Special consideration should be given to ensuring that a proposed Altamont alignment meshes physically and through operational coordination with BART and other major modes of station access.

(3) The DEIR/S errs by not considering feasible and preferable alternatives for serving Oakland. The DEIR/S does not consider that Oakland could be served either by direct BART connections in the Livermore Valley and at Fremont or by a shuttle train between Fremont and Oakland, thus not requiring that there be a three-way split of trains using the Altamont alternative. As part of the "BART" option for serving Oakland, "Express" BART service through new sidings should be modeled as a means of better serving Oakland without a direct HSR connection. Alternatively, a dedicated shuttle HSR train could operate non-stop between Fremont and Oakland, providing considerably faster travel time than BART over the same distance. Under this option, the shuttle train could operate straight through Fremont for all the Sacramento services, thus giving the best benefit of any HST service to Oakland. Further, shuttles could operate to provide connecting service to every eastbound and westbound train at Fremont. This would provide more HST service into Oakland than the service plan proposed by HSRRA.

<sup>3</sup> The Corridor Evaluation's ridership data on the Altamont alignment is unclear about whether it includes service to both San Francisco and San Jose. On page III-30, Exhibit 3-35 shows Altamont ridership at 20.02 million riders. It implies that San Francisco and San Jose are served, since it shows travel times to each of these cities from the Central Valley. On page III-33, Exhibit 3-40 again shows Altamont ridership at 20.02 million, but it includes this footnote: "Alternatives from Newark to San Francisco or Oakland. Does not include Newark to San Jose."

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Indeed, HST service to Oakland would exceed that to either San Francisco or San Jose since it would meet all trains.

A further note on Oakland: the DEIR/S presents the need to serve Oakland as a key reason to reject the Altamont alignment. However, ridership modeling presented to the Board in May of 1999 as part of the Corridor Evaluation showed that, under a Pacheco alignment, building the Phase Two line to Oakland would actually cause total HSR system ridership to decline. This modeling projected that the Phase One alignment from LA to SF would attract 21.116 million riders. Adding a line to Oakland reduces overall system ridership to 21.100 million riders. (Ridership and Revenue Analysis for High Speed Ground Transportation in California: Task 3 Report on Forecasts for Northern California Route Options, Background Material for the California High Speed Rail Authority, May 19, 1999, Charles River Associates). Since it would be hard to justify spending hundreds of millions of dollars to build the Oakland line if it reduces overall ridership, this data brings into question how seriously the DEIR has considered the question of serving Oakland. Add to this the fact that many tables in the studies underlying the DEIR simply show no data for Oakland, and the need for a more complete analysis of service to Oakland is clear.

Service to Sacramento is another area where ridership modeling and other analyses is totally inadequate. The differences between alignments for Sacramento will be stark. As the DEIR/S notes:

“An express train traveling between Sacramento and San Jose would take only 47 Minutes via the Altamont Pass, whereas it would take 1 hour 12 minutes via the Pacheco Pass. Between Sacramento and San Francisco, the Altamont Pass express time would be 59 min, whereas the same trip via the Pacheco Pass would require 1 hr and 40 min.” DEIR/S at 2-38.

The time advantage for travel to and from Sacramento—41% faster for San Francisco and 35% faster for San Jose—results from Altamont’s much shorter, more efficient route. For instance, it is 147 miles from San Francisco to Sacramento over the Altamont Pass, and 262 miles over the Pacheco Pass. This dramatic difference should yield specific, increased Sacramento-Bay Area ridership figures, which are nowhere in evidence in the DEIR/S or its supporting materials.

The DEIR/S’s treatment of Sacramento-Bay Area travel also could be enhanced by further explanation of its estimate of competing Sacramento-Bay Area auto travel times. As a weighted average, the 2000 CRA study estimates that drivers will need 1 hour and 43 minutes (103 minutes, 2000 CRA page 50) to travel between Sacramento and San Francisco in 2015 (the same estimate applies to driving between San Francisco and Stockton). Of course, particularly business travelers returning from San Francisco to Sacramento in the evenings currently experience much longer trips and very uncertain travel times. Presumably, peak travel times already incorporated in the model for this market are longer, but it would be helpful to know how long peak-period drivers are estimated to need, versus HSR travel times, in this major market under different

alignments. The combination of long, uncertain auto travel times at peak periods and swift train service may produce significant HSR ridership, which should vary considerably under different alignments.

Also, the ridership model assumes that certain freeways will be widened, making it easier to drive, particularly between northern Central Valley destinations. Less congested driving conditions due to the predicted freeway construction likely reduces predicted HSR ridership in this region. Particularly, the model assumes that in 2015, I-580 will be widened by one lane in each direction “between Stockton and Sacramento” (2000 CRA page B-3). Of course, I-580 does not lie between Stockton and Sacramento. But whether I-580 is widened east of Tracy, or whether I-5 is widened between Stockton and Sacramento, ridership on HSR from the Bay Area to Merced (and systemwide) is affected. A revised DEIR/S must specify what effect this assumed lane-widening has. Since the cost benefits of the system are estimated starting in 2016—one year after the assumed widening of I-580—the lane-widenings in 2015 essentially affect the cost/benefit of the HSR project from its inception (see below for more on cost-benefit). If they are not significant, then they are extraneous to the DEIR/S. If they are significant, policymakers should know how much HSR ridership would be reduced by freeway lane-widening, and how this lane-widening plays out under Pacheco and Altamont alignments.

Even though Sacramento will not be served until Phase II of the project is built, the relationship between travel times, distance and ridership highlights Sacramento’s stake in a clear presentation of project phasing information. The extension needed to reach Sacramento in Phase II of the project under an Altamont alignment is much shorter and probably less expensive to build than under a Pacheco alignment. A revised DEIR/S should clearly present and compare how much it will cost to extend Phase II to Sacramento under the Altamont, Diablo, and Pacheco routes. Similarly, this analysis should compare the revenue available from the Phase I project (not simply the full build-out revenue), since this revenue is supposed to help finance the Phase II extension. The statewide project benefits claimed in the DEIR/S will never occur if Phase I is not strong enough in ridership and revenue to adequately help finance the extension to Sacramento and other Phase II cities.

HSRA staff public remarks have at times downplayed the importance of the Sacramento-Bay Area market because the HSR plan has been focused around longer distance travel markets—particularly LA-Bay Area trips. But this and other shorter-distance markets cannot be ignored, in part because they are so large. As the Charles Rivers studies point out the LA-SF market around which the proposed HSR system is designed is California’s **third** largest intercity travel market, at 26.2 million trips in 2020 (12.5%). Sacramento-SF is the second largest market at 28.1 million trips, and LA-San Diego is first at 46.9 million trips.

Furthermore, the 2000 update of travel data from the 1996 study, which presumably is the basis for modeling in the DEIR/S, notes that

The largest changes occur for the Sacramento-San Francisco market, consistent

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with the fact that these cities show the largest upward revisions in projected real income..... The large jump of 13 percent in the Sacramento-San Francisco market results in nearly three million additional auto trips being forecast for this city pair.” (CRA 2000, pp. 42-43)

The leading growth in this particular market argue, again, that detailed O/D trip tables and station alighting data showing what happens in the Bay Area Francisco-Sacramento market under Altamont and other alignments for Phase I and Phase II of the project are necessary before any alignment decision is made.

DEIR/S parking analysis, which draws on Business Plan (Pacheco alignment) ridership data reinforces the need for more transparency regarding the effect of different alignments on the Bay Area-Sacramento market (and the Sacramento-Southern California market). This analysis, intended to allow regional DEIR/S teams to estimate parking needs at stations, provides some of the more detailed ridership-related data in the DEIR/S. It shows that, even under a Pacheco alignment, San Francisco is the busiest station in the system in terms of total daily boardings. LA is second, and Sacramento is third. San Jose is sixth, with boardings 15% below that of Sacramento. These estimates include separate studies of commuter ridership for select cities that account for 15% of daily boarding in San Francisco and San Jose, but include no estimate for commuters into Sacramento.<sup>4</sup>

The fact that the shorter-distance markets are dominated by auto travel has implications for air quality analysis in the DEIR/S. For instance, DEIR background documents allude to the fact that ridership on an Altamont Pass alignment will draw more riders from the northern Central Valley in Phase I of the project than the Pacheco alignment. Since air carrier service is almost non-existent in this market, these northern Central Valley riders are diverted from cars. This means that the air quality impacts of an Altamont alignment for at least the Phase I project will be different from those of a Phase I Pacheco alignment project, since a large share of the projected air quality benefits claimed for the in the DEIR/S come from reduced auto emissions. This is a particular issue in the San Joaquin Valley, where the DEIR/S claims that HSR delivers almost triple the air emission benefits of other regions. A revised DEIR/S must explore whether an Altamont alignment could deliver even more benefits, especially in the Central Valley and Sacramento areas, potentially decades sooner (i.e., when Phase I is constructed, not at the potentially distant Phase II).<sup>5</sup>

<sup>4</sup> This parking analysis suggests the potential benefits of carefully planning HSR connectivity to public transit, walking, and bicycling, and for smart growth around stations. For instance, the busiest station, San Francisco, requires less than 1/10<sup>th</sup> the parking of the East San Gabriel station, which has only about half of San Francisco’s daily boardings. This difference is due to estimated pedestrian, rail, bus, and taxi access to the San Francisco station, rather than private vehicles needing parking.

<sup>5</sup> This analysis should incorporate scenarios for HSR freight service. Such service is briefly mentioned in the DEIR and dropped for purposes of analysis. More information is available in the 2000 Corridor Evaluation. To the degree that freight service could reduce truck traffic on parallel corridors, it represents an opportunity for traffic congestion reduction (a major factor in the DEIR/S’s cost benefit analysis), reduced diesel emissions, and enhanced revenues.

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The DEIR/S’s ridership analysis also underpins its cost-benefit analysis. The DEIR/S predicts that HSR will draw riders from primarily from auto and air modes, relieving congestion and producing value for drivers and air passengers not riding HSR. These “non-user benefits” (calculated directly from the ridership studies) are assigned a dollar value and provide far and away the largest financial justification for the project. Of \$44 billion in total estimated project benefits, \$25.7 are non-user benefits, \$8.8 billion are user benefits, and \$9.7 billion are in the form of passenger revenue (“Independent Ridership and Passenger Revenue Projections for High Speed Rail Alternatives in California, January 2000” page 102). The largest share of the non-user benefits derive from avoided accidents, time delays and air pollution related to attracting riders away from driving on highways: Under the Pacheco alignment presumably used for this study, Californians living near highways and using highways will breathe cleaner air, avoid highway accidents, and experience reduced highway congestion worth an estimated \$13.6 billion, as compared to approximately \$12 billion in saved time for air travelers and aircraft operating delays due to reduced airport congestion (this despite the fact that the model assigns a much higher monetary value to the time of air passengers than drivers). An Altamont alignment would likely yield a different result and possibly greater overall non-user economic benefits. More importantly, these different economic benefits would reflect a different situation on the ground: possibly cleaner air, less traffic congestion, and fewer deaths and injuries on the road. Thus, a more complete display of results from existing modeling runs and new runs comparing the Altamont and Pacheco is needed not only to see which alignment maximizes “ridership and revenue,” but also to explore the best decision economically for the state and in the daily lives of all Californians. As mentioned before, this analysis should separately consider Phase I of the project separately from the full Phase II project.

Ticket price is another key variable in the ridership modeling. One special emphasis of Charles Rivers Associates’ work is that the general public might benefit if HSR is operated with somewhat lower fares than those that would provide maximum revenue (thus the DEIR/S’s stated goal of maximizing “ridership and revenue potential” involves two related, but separate goals, highlighting the need for a complete record of data to reveal tradeoffs). For instance, the project can produce almost as much revenue by charging a little less in the Central Valley and carrying many more riders, as it can by charging more and carrying fewer passengers. As mentioned above, the non-passenger statewide benefits of traffic congestion reduction and fewer accidents associated with such a strategy could be significant—possibly far outweighing lost revenue. The flexibility for lower fares to gain ridership is particularly pertinent in the shorter-distance, non-endpoint markets such as Sacramento and Central Valley access to the Bay Area. Furthermore, this price variable should interact with alignment choice: Attracting more Central Valley riders through lower fares would likely be more effective under an alignment that serves more Central Valley cities in Phase I, such as the Altamont alignment. This is yet another reason why separate Phase I and Phase II analysis should be presented, including station and O/D-specific data, and preferably with two or more pricing options.

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Finally, the assumed catchment areas for ridership were assumed to be much wider in the Bay Area (all nine counties) than elsewhere, yet no evidence was provided to substantiate this claim. The HSR Screening Evaluation notes the catchment area for employees and population in the Year 2020 was assumed to be equal to the airport catchment area, rather than the 10 mile radius used elsewhere (Bay Area to Merced HSR Screening Evaluation, page 52). If a larger area is valid for the Bay Area, why not for the entire system? Furthermore, the catchment area for ridership—often a county—is broader than the catchment area for environmental impacts. If the project is going to gather drivers from a county-wide (or nine-county-wide, in the Bay Area) area, then arguably it will have environmental impacts over this full ridership catchment area.

Again, the DEIR/S identifies “maximizing ridership and revenue” as the first key criteria for deciding where to build HSR. But data to support this decision are insufficient, inconsistent, and inadequately displayed. Indeed, at times the DEIR/S seems to abandon ridership modeling and to use travel times over segments of alignments and segment lengths as a proxy for the needed analysis to “maximize ridership.” A thorough display of ridership modeling data on each phase of the project under different alignment options, which includes the range of Altamont service options, could make the difference in serving millions of people for decades to come, and in enhancing cost-effectiveness by hundreds of millions of dollars, if not billions. New coding and new runs will be needed, but much of this work involves simply processing and presenting model outputs. This is basic work that is absolutely necessary before the environmental document can be certified as legally adequate and the state decides to build a multi-billion dollar project with a 100-year or more service life.

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**Attachment C:****Flaws in the DEIR/EIS’s Analysis of Biological Impacts**

Overall, the Draft EIS/EIR lists the biological resources that could be affected, their general location, and general descriptions of their habitat associations. The technical documents give an overall tally of how much habitat for each species would be directly impacted within a narrow impact zone (between 1000ft and 0.5 mile depending on amount of current development) and report whether there is a low, medium, or high level of impact. However, the documents do not discuss the relative quality and importance of the habitat to be destroyed to the species overall survival. This failing and others render the DEIR/S inadequate for informing alignment decisions because alignment choices will sharply affect most, if not all, of the biological impacts listed below. Further analysis, as suggested below, is necessary prior to any alignment decision.

**A. Inadequate Data/Information:**

A major flaw in this already inadequate analysis is that the habitat and occurrence data used to develop the estimate of the impact are based on occurrences in the California Natural Diversity Database. These occurrences are not comprehensive and only cover areas that have been surveyed. Large amounts of unsurveyed land (often private lands) may have higher densities of species, but since no surveys have been conducted, the quality of this habitat is unknown. However, the DEIS/EIR would score this as low to zero habitat value. It is unacceptable to make decisions regarding the relative impact of the various route alternatives (and indeed impossible to identify the least environmentally damaging alternative) without on-the-ground data that reflect the real biological condition. Indeed, the draft document acknowledges that “the lack of identification of an impact does not necessarily mean that this portion of the proposed alternative would not result in potential impacts on biological resources, only that location-specific data would be required to make a more precise determination.” (DEIS/R).

In addition, the DEIR/EIS relies on the National Wetlands Inventory to analyze impacts to wetlands. This database provides only a very coarse and incomplete analysis of wetlands in California. The database is compiled by aerial photographs of landscapes in which many smaller wetlands are not readily distinguishable. In addition, many areas in California have not been photographed. In order to ascertain a more complete picture of wetlands impacts, the environmental documents need to conduct a more thorough review of potential wetlands impacts, including on-the-ground surveying efforts.

**B. Inadequate Analysis of General Impacts to Biological Resources:**

Roads are one of the top causes of species imperilment in California (National Wildlife Federation 2001) and the impacts of railroads as linear transportation features are assumed to be similar. Specific ecological effects of roads have been thoroughly documented (Forman and Alexander 1998, Trombulak and Frissell 2000, Natural Resource Defense Council 1999). The key impacts are mortality from project

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construction, road kill, habitat fragmentation, alteration of movement and behavior, spread of exotic species, spread of human activity, reduction of environmental quality, and facilitation of urban sprawl. All of these are major impacts to wildlife that must be discussed in an improved DEIS/EIR.

### 1. The DEIR/EIS fails to analyze the environmental advantages of Rail Corridors over Highways

The DEIS/R must explicitly list and discuss the following advantages of railway corridors over highways (from DeSanto and Smith 1993):

1. Water drains away from the railbed, maintaining a dry environment that prevents unwanted vegetation from establishing.
2. The bed and banks have a porous, stable ballast that prevents runoff from concentrating, keeps slope erosion to a minimum, and filters out particulates and chemical pollutants.
3. A service road or other narrow strip running alongside the rail prevents ballast spoils from shifting beyond the toe of the roadway slope.
4. Drainage ditches parallel to the rail prevent uncontrolled erosion, act as sediment traps, filter railway runoff, and insulate adjoining land from uncontrolled channel flow.
5. High Speed Rail (HSR) construction usually leaves a significantly smaller footprint than road construction, so it has smaller short-term impacts.
6. HSR corridors are narrower than roads, so animals are more willing to cross under them. This is a significant advantage.
7. It is more feasible to elevate an HSR system on pile-supported structures than to elevate a road. "Elevated corridors on bridges or viaducts undoubtedly have the least disruptive impact on wildlife movement and migration passageways."

The DEIR/EIS fails to include any discussion of these issues.

### 2. The DEIR/EIS fails to adequately analyze the impacts of habitat fragmentation

Expanding networks of roads force wildlife to live on ever-shrinking islands of habitat, where it is more difficult for them to find food, water, shelter, mates, and protection from predators. Genetic problems such as inbreeding appear, and populations become more susceptible to catastrophic events such as wildfire. The resulting fragmented habitat inevitably leads to smaller populations of wildlife, and extinction of populations or species becomes more likely.

Fragmentation also increases the ratio of edge habitat to interior habitat, which is harmful to those species that need interior habitat. The concept has been best documented in forest-dwelling birds. The inside of a habitat has a different climate and supports different and usually more sensitive species than do the edges. In forested areas, edges associated with roads are a source of nest predators and brood parasites. Aggressive species such as

brown-headed cowbirds and blue jays thrive in edge habitats (e.g. Baker and Lacki 1997). Snakes, raccoons, and other predators hunt along the edge. Species that occur only within the interior of forests, such as the ovenbird, scarlet tanager, hooded warbler and a number of other migratory songbirds, can't withstand the predation or can't compete against the more aggressive edge species, and they die out, reducing the biodiversity of an area (Pomeluzi and Faaborg 1999, Rosenberg et al. 1999, Robinson et al. 1995). DeSanto and Smith (1993) discuss the habitat fragmentation consequences specific to HSR systems. They conclude that the long-term impacts of habitat fragmentation are directly related to the area and type of habitats replaced and discuss. A European Commission Report (COST 2000) discusses the habitat fragmentation effect of railways.

The HSR DEIS/EIR does mention that the rail will fragment habitat, but the extent to which this will harm specific species is not detailed. In fact, the details of the fragmentation impact are embedded in the technical reports. Again, the environmental document itself is lacking specification, only revealing that "Segments that would be placed at grade (cut and fill) would require fencing the HST alignment for the safety of humans, as well as protection from train-wildlife collisions, and would have the potential to interfere with wildlife movement." (p. 3-15-22). Depending on the design of the fencing, this impact would be significant. In fact, in the technical documents under "Alignment Design Parameters: Grade Separation" we find that exclusion of wildlife is a goal of the fencing: "...the right of way would be fully access controlled (fenced) in areas of high-speed operation to avoid intrusion by pedestrians, *wildlife* and livestock (Engineering Criteria, Task 1.11, p. 11, emphasis added)." The impacts of this fencing is never analyzed in the DEIS/R. In order to even identify the dimensions of the planned fencing, one must know to look in Appendix 4 C (page 4C-10). This is a major example of the failure of the DEIS/R to effectively present and analyze the impact of the proposed project on biological resources.

The Missing Linkages report and associated GIS overlays identify major areas of movement throughout the state. However, identifying areas where these linkages will be cut off by the HSR route does not adequately address the significant habitat fragmentation impacts that the alignment will have. Every one of the 700 proposed miles will fragment habitat of species and have impacts on ecological functioning. A revised DEIS/EIR must present the significant fragmentation impacts of the various alignments to wildlife species of concern, not only species that are currently threatened and endangered.

Particularly lacking in the DEIR/EIS is an analysis of impacts to wide-ranging species such as mountain lions, coyotes, bobcats, and bears. By virtue of their need to access large areas of habitat, these species would be significantly impacted even if they are not currently identified as "sensitive." Much work has been done looking at the movement needs and impacts of roads on these species (e.g. black bears – Brody and Pelton, 1989, mule deer and elk – Rost and Bailey 1979) and even their needs in terms of wildlife crossing to avoid and mitigate impacts from transportation infrastructure (e.g. Evink 1990, Leeson 1996). Specifically for mountain lions, a 9 to 12 foot fence, with a 12-48 inch foot overhang with barbed/predator or electric wire at the top to stymie a cat from

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climbing over are recommended. Florida uses a 10 foot fence with 3 barbed wires for an overhang to keep lions off highways and channel them into culvert underpasses. A noted above the HSR proposes to use security fencing that is only 8.2 ft high. The insufficient height and design could potentially lead to mountain lions on the track, obviously a threat to wildlife survival and human safety.

Habitat fragmentation can present significant problems for the normal functioning of ecological processes. For example, pollination is a major ecological process that will be impacted by the proposed HSR project. Bhattacharya et. Al (2003) found that while bumblebees have the ability to cross a road and a railroad, these structures may restrict bumblebee movement and act to fragment plant populations because of their site fidelity when foraging. The bumblebees they studies rarely crossed railroads even when suitable habitat was only 30-40 m away on the other side. This signifies that High Speed Rail may have significant and unquantifiable impacts on plant species which depend on these pollinators for their reproduction, genetic flow and ultimate survival. Additionally, the rail will fragment bumblebee (and presumably that of other insect) habitat, with the associated lower survival and reproduction. The ability of an ecosystem to survive a natural disaster (such as fire, earthquake, windstorm, disease outbreak) is decreased as habitat is fragmented. Fragmentation also limits the ability of species and ecological communities to respond and adapt to global climate change. The DEIS/R completely fails to address the impacts on all such ecological processes.

**3. The DEIR/EIS fails to analyze impacts from the invasion of non-native species alongside rail alignments.**

Roads spread exotic species of plants and animals, which then compete with native species. Exotic plants tend to favor disturbed habitats, so they thrive along the side of new roads. They also tend to grow and use resources very fast, depriving native vegetation of important resources. In the past, exotic species sometimes have been introduced to roadsides to control erosion, with severe ecological consequences. Along a California pipeline, exotic species invaded adjacent grassland, coastal sage, and oak woodland habitats (Zink et al. 1995). In the Mojave desert, the plant *Brassica tournefortii* has spread along roads and since 1995 has been encroaching beyond roadsides into pristine habitat. Similarly, *Hirschfeldia incana* [*Brassica geniculata*], *Descurania sophia*, *Sisymbrium irio*, *Sisymbrium altissimum*, and *Salsola* spp. are also found locally along roadsides in the Mojave (Brooks and DeFalco 1999). The ecological changes associated with these exotic plants directly degrade habitat for the threatened desert tortoise. Gelbard and Harrison (2003) found significantly more invasive species at distances closer to roads in Central Valley grassland communities. A review of literature regarding the impacts of railroads on wildlife (van der Grift 2001) indicates that trains introduce exotic plant species through the spread of seeds. The DEIS/R must discuss the potential impacts to native species posed by the resultant spread of invasive species and present appropriate mitigation.

**4. The DEIR/EIS fails to adequately analyze impacts to wildlife from noise, vibration, lighting, and electromagnetic fields (EMF) and electromagnetic interference (EMI)**

The construction and operation impacts of the proposed HSR will have major impacts on wildlife. The ecological impacts due to noise, vibration, lighting, electromagnetic fields (EMF) and electromagnetic interference (EMI) are not analyzed in the DEIS/R.

Noise, vibration and lighting all lead to avoidance by wildlife species and contribute to habitat fragmentation (DeSanto and Smith 1993). Many animals use sound to communicate, navigate, avoid dangers, and find food (Bowles 1997). Thus, Bowles finds that negative impacts of noise are reduced health, altered reproduction, survivorship, habitat use, distribution, abundance, or genetic composition, and harassment. For example, recordings of dune buggy sounds played intermittently for less than ten minutes at a lower intensity than normal caused hearing loss in sand lizards and kangaroo rates, rendering them unable to respond to recorded predator sounds (Andrews 1990). The impacts of sound vary by pitch, duration, loudness, and species. In general, mammals hear from below 10 hertz (Hz) to over 150,000 (Hz) (Bowles 1997, Fay 1988), birds from 100 Hz to about 10,000 Hz (Fay 1988, Kreithen and Quine 1979), reptiles between about 50 and 2000 Hz (although snakes and turtles hear quite poorly – Forman et al. 2003), and amphibians between 100 and 2000 Hz (Forman et al. 2003).

Vibrations from low-frequency noise are readily detectible by some animals, especially birds and reptiles (Bowles 1997, Shen 1983). Detection of vibration is particularly important in the detection of predators, probably especially for reptiles because of their poor hearing. The impacts of noise and vibration will depend on the frequency of train passage, the type of construction, the surrounding habitat (e.g. noise will travel further in an open field than in a forest) and the speed of the train itself. Forman et al. (2003) report that noise impacts from a Dutch highway with 50,000 vehicles per day and a traffic speed of 120 km per hour reach beyond 800 m (approximately a half mile).

Mountain lions are known to avoid crossing areas that are lit at night (Beier 1995). This behavior is expected to be true of other nocturnal species.

Although it was not readily apparent in the DEIR/S, we were able to ascertain through communication with an engineer from the Train Riders Association of California (D. MacNamara, personal communication) that the overhead cables will be continuously electrified. A state of the art European Commission Report (COST 2000) indicates that railways cause bird mortalities through collision with trains, overhead cables, and electrocution. Winter season has the highest number of casualties with one summer study on the North TGV line reporting 3.4 dead birds per kilometer per month. This would lead to over 3800 dead birds in the summer months on the proposed HSR 700 mile length, with yearly estimates expected to be over 7500 as more birds were killed in the winter. Birds of prey were the most vulnerable. Overhead cables are dangerous mostly for low-flying birds and birds of prey that hunt by skimming the ground. This impact can be reduced when: 1) cables form dense, continuous networks (especially near stations and

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railway junctions); 2) There is vegetation along the track at least as high as the cables; and 3) when the cables are in trench tracks which are avoided by birds. In the COST study, electrocution accounted for a small percentage of the birds killed on railways. It is suggested that in order to reduce this threat, the catenary suspension wire should be insulated, a platform should be installed over the support, or the insulator should be oversized to discourage perching. We have summarized suggestions for fencing and wildlife crossings that would reduce the mortality from collisions in our comments regarding mitigation.

Finally, the DEIS/R does not discuss the potential impacts of Electromagnetic Fields (EMF) or Electromagnetic Interference (EMI) on wildlife. Possible impacts could include changes in orientation, for both short and long-distance movements, avoidance of habitat, and disturbance of daily activities, all of which are likely to be significant. These impacts must be analyzed in an updated DEIS/R.

### 5. The DEIR/EIS Fails to adequately analyze impacts to proposed and final federally designated critical habitat

The federal Endangered Species Act prohibits the destruction or modification of listed species' critical habitat. See 16 U.S.C. § 1536(a)(2). Section 7 of the ESA requires that federal agencies consult with the US Fish and Wildlife Service to determine if a project will "adversely modify" critical habitat. *Id.* Recent court rulings clearly emphasize that critical habitat is designated to provide for the survival and recovery of a species. (Center for Biological Diversity vs. Bureau of Land Management, Northern California District Court 2004; Gifford Pinchot Task Force v. U.S. Fish and Wildlife Service, 9th Circuit 2004) Modification that decreases the likelihood of survival or the likelihood of recovery is unlawful. There are numerous species with designated and proposed critical habitat within the impact area of the HSR project. The DEIR/EIS should consider impact in even those areas in which critical habitat is only proposed as potentially significant impacts because by the time the environmental documents for this project are finalized, most of the proposed designations will have become final.

Critical habitat is comprised of land officially designated by the USFWS to contain the primary constituent elements for a listed species. This habitat cannot be "adversely modified" in any way that would impact the survival or recovery potential of the species. Clearly running a HSR track and fencing the entirety of the alignment within critical habitat would constitute adverse modification.

Here, the DEIS/R fails completely to discuss impacts to critical habitat except in the Los Angeles to San Diego via Inland Empire Biological Resources technical report. This report maps the overlap between the proposed HSR route and critical habitat for the arroyo toad, California gnatcatcher, California red-legged frog, Least Bell's vireo, Quino checkerspot butterfly, Riverside fairy shrimp, San Bernardino kangaroo rat, southwestern willow flycatcher, and vernal pools. However, the document fails to analyze the results of this map. From initial inspection, it would appear that this route would impact the critical habitat of several of these species.

In the discussion below regarding specific alignments, we have highlighted overlap between species critical habitat beyond the 0.5 m level addressed in the DEIS/R. Forman and Alexander (1998) and Forman et al. (2003) clearly indicate that the road effect zone can be well beyond 1000m. Of additional concern are overlaps with critical habitat of vernal pool species (11 plants and 4 invertebrates), California tiger salamander, California red-legged frog, and Alameda whipsnake (currently remanded). We did not investigate -- but the next DEIS/S must investigate -- the overlap between critical habitat of the Valley elderberry longhorn beetle, Central California coast coho salmon, Central Valley steelhead, Central California coast steelhead, southern steelhead, Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, Central Valley fall/ late fall-run Chinook salmon, delta smelt, and tidewater goby.

### 6. The DEIR/EIS fails to assess consistency with federal threatened and endangered recovery plan goals

The federal ESA also requires the development of a recovery plan for species that are listed as threatened or endangered. The purpose of the ESA is to provide for the ultimate recovery of at-risk species, thus the goal of every recovery plan is to reach a level of conservation to ensure survival of the species and thus allow it to be removed from the ESA list. Recovery plan are often state of the science documents that have been developed by the experts of the relevant species. These plans are excellent road maps, including the identification of core recovery units that provide the necessary context within which to analyze the impacts of particular projects on a listed species. As such, these plans should be consulted and the DEIS/R must analyze consistency of the proposed project with these plans and the ultimate choice of alignment must not conflict with these plans. Currently there are recovery plans in place for the San Joaquin kit fox, desert tortoise, Bay checkerspot butterfly, delta smelt, California red-legged frog, blunt-nosed leopard lizard, California condor, marbled murrelet, giant kangaroo rat, Fresno kangaroo rat, short-nosed kangaroo rat, Tipton kangaroo rat, San Joaquin Valley riparian woodrat, arroyo toad, Pacific pocket mouse, Riverside fairy shrimp, and San Diego fairy shrimp. Recovery plans are being developed for 15 vernal pool species, the giant garter snake, Alameda whipsnake, and western snowy plover and these should be incorporated into the DEIS/R analysis if they have become available by the time of the next draft. To the extent possible, input should be solicited from the US Fish and Wildlife Service to receive any draft recovery goals or input for these species.

### 7. Scientific literature not noted

A vast amount of literature exists about the impact of roads on ecological systems, much of which is equally applicable to high speed rail. Notable summaries are covered in Forman et al. 2003, NRDC 1999, Evink 2002, and White and Ernst 2003. We request that an in-depth literature review be conducted on the impacts of high-speed rail on biological resources and be presented as part of an updated DEIS/R. We specifically request that Rodriguez et al. (1997), Andrews (1990), Yanes et al. (1995), DeSanto and Smith (1993) be included in this review.

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**8. The DEIR/EIS fails to adequately assess impacts to conservation lands and planning areas**

The proposed project traverses several areas that are currently ecological reserves, or are part of regional conservation planning efforts. While the DEIS/EIR mentions some of these, a more complete analyses of all such impacts is required. Included amongst these are state parks, state ecological reserves managed by the California Department of Fish and Game, University of California preserves, National Forests, Griffith Park in Los Angeles, the Pixley National Wildlife Refuge in Tulare County, Don Edwards San Francisco Bay National Wildlife Refuge, the San Luis National Wildlife Refuge, the Grasslands Ecological Area of northern San Joaquin Valley, Henry Coe State Park, as well as several U.S. Department of Defense lands and Bureau of Land Management lands. Regional conservation planning efforts potentially impacted by the HSR project include the San Bruno Mountain HCP, Santa Clara County HCP, San Benito County HCP, South Sacramento County HCP, San Joaquin County HCP, Eastern Merced County HCP/NCCP, Kern Valley Floor HCP, Western Mojave Desert Coordinated Management HCP, West Riverside NCCP, Coachella Valley MSHCP, Orange County Central NCCP Coastal NCCP, Southern Orange County NCCP and the San Diego County Multiple Habitat Conservation Plan. Even those regional conservation plans that are currently in scoping or planning phases must be considered and discussed as impacts from HSR could significantly change their reserve design capabilities. Regional conservation plans and County General plans are both designed to direct development into certain regions based on stated priorities. The addition of HSR service and associated stations will have an enormous impact on growth of this development. The impact of the HSR alignment options must be analyzed for consistency with regional conservation plans and County General Plans. The DEIS/EIR must discuss the impact of the proposed project on all ecological reserves and regional conservation planning efforts.

**9. The DEIR/EIS fails to assess economic costs of wildlife impacts**

In France, there are 16,500 km of railway lines: 1500 km of TGV lines (existing and under construction) and 15,000 km of main lines (in service and electrified; electrification is used as a criterion of heavy traffic). The cost of direct collisions with wildlife is considerable. In 1992, on the high speed South East line (Paris-Lyon) 21 collisions incurred an expense of 1.26 million Francs (192,000 euros), due to delays and equipment repair costs (COST 2000).

**10. The DEIR/EIS fails to adequately analyze the disruption of wildlife movement corridors**

While the DEIS/R analysis identifies alignments that have impacts on the wildlife corridors identified in the Missing Linkages Report, it lacks adequate analysis regarding which species are affected. Additionally, there is no analysis of the level of the impact on these species in terms of the significance of the disruption of their movement corridors on

their ability to survive. For instance, a fence that was erected to keep foot and mouth disease from spreading into South Africa caused the death of hundreds of thousands of wildebeest because it prevented them from moving north (Andrews 1990). Impacts that must be discussed include entanglement in fences, restriction of access to needed water supplies, prevention of movement into good habitat, disruption of seasonal movement, limited dispersal which causes local overpopulations, and inbreeding due to genetic isolation. These impacts go well beyond the 1000 ft. to 0.5 mile zone considered in the DEIS/R (Forman and Deblinger 2000). Below in our alignment specific analysis we have identified the species whose movement corridors will be impacted by the HSR proposed project. A revised DEIS/R must include identification of the species, the specific corridors that would be disrupted, and what this disruption means for the species' conservation. For example, it should be noted that Santa Nella is a major choke point for north-south movement of the San Joaquin kit fox. Disruption of this movement corridor would significantly impact the ability of that species to survive and recover.

**11. The DEIR/EIS fails to include an adequate analysis of impacts to vernal pools/wetlands**

The analysis of the vernal pool and wetlands impacts is based on overlap of the alignments with the National Wetlands Inventory. This inventory is incomplete in California and, similar to the reliance on the CNDDDB for species occurrences, is biased towards areas that have been surveyed opportunistically. A complete analysis of wetlands impacts requires on-the-ground surveys to document presence. Additionally, wetlands are impacted far beyond the project footprint, with any changes in watershed hydrology potentially altering wetland functions anywhere within that watershed. For vernal pools, initial proposed critical habitat (67 FR 59883 59932; September 24, 2002) should be used to determine impacts to the 15 listed vernal pool species critical habitat. The final vernal pool critical habitat is currently under litigation due to the exclusion of nearly 1 million acres based on faulty calculations by the US Fish and Wildlife Service. Until an acceptable new designation is released, the original proposal must be used to assess the impacts. In the following analysis of impacts, we have used the GIS coverages for this proposed critical habitat designation to determine overlap with the proposed alignments and the potential impacts from this overlap.

**12. The DEIR/EIS fails to adequately analyze impacts of loss of habitat**

As stated previously, the DEIS/R does not adequately analyze the impact of habitat loss on the ability of specific species or plant community types to survive and recover. Noticeably absent is an analysis of the relative quality and importance of any lost habitat. There is simply an accounting of how much habitat falls within a relatively narrow zone. Also, the impact zone must be much larger than the 1000ft. to .5 mile range used in the DEIR/EIS. Forman et al. (2003) indicate that several biological effects of roads (including stream sediment, noise, vibration and light, habitat fragmentation/isolation, disruption of wildlife movement corridors, invasion by non-native species, and increased human access) go well beyond 1000 m.

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### C. Species and habitat concerns that appear in several alignments

#### 1. Impacts to Grasslands

Central Valley grasslands are a highly threatened ecosystem, with over 95% of the native habitat overrun with invasive, annual grasses. The remainder is under imminent threat from urban and suburban development and changing agricultural practices. Special status birds (including federally and state listed threatened and endangered or special concern) number seventeen and include: Swainson's hawk, California burrowing owl, loggerhead shrike, horned lark, grasshopper sparrow, northern harrier, white-tailed kite, white-faced ibis, tri-colored blackbird, sandhill crane, ferruginous hawk, prairie falcon, short-eared owl, golden eagle, mountain plover, long-billed curlew, and Merlin. Additionally, Central Valley grasslands attract the highest density and diversity of wintering raptors anywhere in the world. This habitat also supports several endemic or near-endemic species or subspecies of reptile and amphibians including the San Joaquin whipsnake, the blunt-nosed leopard lizard, Gilbert's skink, and the giant garter snake. The Delta green ground beetle and Valley elderberry longhorn beetle are federally listed insects that occur in grassland habitats. Grasslands historically supported several large mammals including pronghorn antelope, elk, (including Tule Elk), mule deer, grizzly bear, gray wolf, coyote, mountain lion, ringtail, bobcat, and San Joaquin kit fox, many of which still roam the less developed remnants.

The DEIS/R mentions potential impacts to grassland habitats, but does not adequately analyze the impacts in terms of quality of habitat that will be impacted and how this affects the ability of species to survive as well as use this habitat as part of the Pacific Flyway. Of particular concern is the Grasslands Ecological Area of the northern San Joaquin Valley. This is a 160,000-acre area in Merced County located between the towns of Dos Palos, Los Banos, Gustine and Merced. The Grasslands includes seasonally flooded wetlands, semi-permanent marsh, woody riparian habitat, wet meadows, vernal pools, native uplands, grasslands, and native brush land. This collection of diverse habitats is important for a wide variety of wetland species and hundreds of thousands of shorebirds migrate through the area. It has been recognized by the Western Hemisphere Shorebird Reserve Networks one of fifteen internationally significant shorebird habitats, by the American Bird Conservancy as a Globally Important Bird Area, and is currently nominated as a Wetland of International Importance under the Ramsar Convention. All three of the prestigious titles recognize the importance of the grasslands to a variety of wildlife, including several rare and endangered species, its critical role as wintering habitat for Pacific Flyway waterfowl, and its status as the largest remaining block of wetlands in what was once a vast Central Valley ecosystem. Although Grasslands provides wintering habitat for twenty percent of the Pacific Flyway waterfowl populations, encompasses one of the largest remaining vernal pool complexes, and supports several federally listed or proposed threatened and endangered species including the San Joaquin kit fox, Aleutian Canada goose, Swainson's hawk, and tri-colored blackbird, this area is not even mentioned in the DEIS/R.

In addition, the growth-inducing impacts of stations in Los Banos, Merced, and Gilroy will be enormous for the Grasslands Ecological Area and must be analyzed. We predict that these impacts will be too significant to mitigate. As a result, we recommend no stations be built in these locations. The final alignment may need to avoid this area altogether due to the ecological impacts. Ultimately the goal of the HSR project should be to connect the larger metropolitan centers in the state, not to create more in ecologically sensitive areas.

#### 2. California Burrowing Owl

The California burrowing owl is a California state species of special concern. This species is known to occur (CNDDDB) throughout the entire alignment of the HSR proposal. Records indicate that California burrowing owls have been found within 1800 ft of the following proposed alignments: Sacramento to Stockton (Alignments UP1, UP2, BNC1, BN1, UP5, UP6, BNC2), San Jose to Oakland (west and east alignments), San Jose to Merced (Southern route alignments), Tulare to Bakersfield, LA to Bakersfield (1-5 and UPRR alignments), LA to March ARB (UP/ Colton 1, UP/Riverside line, UP/Colton 2, and UP/Colton 3 alignments), LA to Anaheim, Union Station to LAX, March ARB to Miramar, Oceanside to San Diego, and Miramar to San Diego. Considering the incomplete database that this cursory analysis is based on, it is apparent that the entire alignment must be surveyed for burrowing owls and the potential impacts analyzed.

An example of how lacking the DEIR/EIS analysis is with respect to burrowing owl, the Sacramento to Bakersfield technical evaluation does not even mention impacts to this species, despite the fact that burrowing owls exist in this area. While the Bay Area to Merced technical evaluation does calculate an overlap between the HSR proposal and California burrowing owl occurrences, again no detailed analysis of the quality of this habitat and its importance to the species is presented. Nor is a description of the species biology and behavior presented. This is but one detailed example of the DEIS/R's inadequate analysis of the impacts to species of special concern.

Of particular concern is that burrowing owl often prefers to nest near roads and artificially raised areas (such as berms and levees). Clearly, nesting near the HSR alignments could pose a problem in terms of survival including collision mortality, increased predation risk, and decreased habitat connectivity. We expect a revised DEIS/R to include information on all impacted species such as the following example for burrowing owl:

- Species description
- Distribution
- Seasonal activity
- Substrate Affinities and Burrow use (or equivalent special habitat needs)
- Home range
- Reproduction
- Dispersal
- Habitat characteristics

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- Population status
- Threats
- Conservation status
- Impact of proposed project
- Mitigation
- Justification that mitigation reduces the impacts to a non-significant level

### 3. Western Mojave Omissions – Desert tortoise

Conspicuously absent from the discussion of impacts to biological resources in the eastern Bakersfield to L.A. Alignment is any discussion of the impact to the Western Mojave Desert HCP planning effort. This HCP is in the final stages of approval and should be released in the fall of 2004. Most egregiously, the desert tortoise is not listed among the imperiled species that would be impacted by the proposed HSR project. The Mojave Desert population of the desert tortoise has been listed as threatened since 1990 and is at risk due to a combination of several threats which include transportation infrastructure. Clearly, the omission of any discussion of this high profile federally and state threatened species indicates that the DEIS/R is vastly inadequate. The HSR proposes to traverse the Alkali mariposa lily Conservation Area and Bat Conservation Area (for Townsend's big-eared bat, long-legged myotis, California leaf-nosed bat, pallid bat, and Western mastiff bat). The proposed alignment would cross the largest roost known for all six target species – the roost under the Interstate 15 bridge at the Mojave River crossing contains over 10,000 bats. The proposed station in Palmdale would only exacerbate conservation problems and the declining status of species such as the Mohave ground squirrel and the desert tortoise.

Located in an ecotone between the Sierra Nevada range, the Central Valley, and the Mojave Desert, the Tehachapi area is extremely important ecologically. Many species converge here and the impacts of a proposed HSR system here are likely too enormous to allow sufficient mitigation. This is an important area for the recovery of California Condors, an icon for the Endangered Species Act. The eastern alignment through Tehachapi from Merced to L.A. additionally fails to discuss the impacts on the pronghorn antelope. Habitat fragmentation throughout the West has had a demonstrated negative impact on migratory behavior of pronghorn (Buechner 1950, O'Gara and Yoakum 1992; van Riper and Ockenfels 1998). Van Ripper et al. (2001) found that a fenced railroad right-of-way in Arizona isolated pronghorn into discrete populations. White (1969) reported that fenced highways blocked the movement of pronghorn and resulted in as much as 80% herd mortality. The pronghorn population traversed by the Tehachapi alignment is one of the only known remaining pronghorn herds in the state, and as a wide-ranging species, this population is clearly vulnerable to impacts from the proposed HSR and these impacts must be described and addressed.

#### D. Impacts to specific areas by specific alignments

For all the species and habitat impacts, the furthest impacts reported in the DEIS/R are within 0.5 miles of each alignment. This spatial area of analysis is insufficient for all impacts, especially fragmentation and wildlife movement corridor impacts. A biologically defensible impact zone must be determined and analyzed in an improved DEIS/R. In our GIS analysis, we buffered the proposed HSR alignments by 1800 meters on each side, as Forman et al. (2003) indicate that several biological effects of roads (including stream sediment, noise, vibration and light, habitat fragmentation/isolation, disruption of wildlife movement corridors, invasion by non-native species, and increased human access) go well beyond 1000 m.

For the discussion below, we organized our comments to first reflect general issues of concern for each alignment followed by citations to specific wildlife corridors impacted by specific alignments and why each of these corridors is biologically important. The wildlife corridors noted are found in the California Wilderness Coalitions' "Missing Linkages" report. The impacts to these corridors come from the placement of the alignments into these corridors or crossing these corridors. As noted, the alignments will disrupt these areas from construction impacts as well as operational impacts, particularly where the alignment is constructed at grade with fencing. Finally, we also provide an analysis of specific areas of federally designated critical habitat impacted by specific alignments. All of these issues raised reflect issues that were either inadequately discussed in the DEIR/EIS or not discussed at all.

##### 1. Bay Area to Merced Route:

The following comments are in addition to the detailed comments presented by the Loma Prieta Chapter of the Sierra Club:

##### San Joaquin Kit Fox (SJKF)

The Bay Area to Merced Biological Resources Technical Evaluation acknowledges that SJKF habitat will be impacted, but does not include essential elements of its biology, especially pertaining to movement needs, which make it particularly susceptible to negative impacts from the proposed high speed rail project. Without knowing the characteristics of this impact, it is difficult to impossible to plan to avoid and mitigate them. The revised document must include information such as the dispersal requirements and discuss wildlife crossing structures and how they can best be designed for this species. In particular, we request that information from previous crossings developed in consultation with the US Fish and Wildlife Service and the San Joaquin Kit Fox Planning and Conservation Team be consulted. HSR alignments in San Joaquin kit fox habitat should be equipped with directional fencing, frequent underpasses, and escape dens to prevent high levels of predation by coyotes.

All north and south alignments from Merced to San Jose cross through areas within Stanislaus and/or Merced Counties that are identified as high priority recovery efforts by the US Fish and Wildlife Service Recovery Plan for the San Joaquin Kit Fox. These proposals will directly impact between 2019 and 3122 acres of this species habitat and

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fence off a major wildlife corridor for this species. The resultant habitat loss and fragmentation can cause decreases in fox abundance through changes in social ecology, productivity, spatial use, dispersal, and survival (Bjurlin 2003). San Joaquin kit foxes may range up to 20 miles at night during the breeding season (Girard 2001) and up to 6 miles during the pup-rearing season. Because they move at night, any lights associated with the high-speed rail project will have a negative impact on the ability to survive in the vicinity.

### a. SJ to Bay Area Route

#### i. SJ to SF Alignment

##### **Wildlife movement corridors impacted:**

- BA 107: This corridor contains riparian areas as well as bay wetlands. It also provides a linkage for waterfowl, shorebirds, and the harvest mouse.

#### ii. SJ to Oakland Alignment

##### **Critical habitat impacted:**

- California tiger salamander critical habitat is impacted by the west route, Union City to SJ via coastline alignment.  
- Vernal pool species critical habitat is impacted by the west route, Union City to SJ via coastline alignment.

##### **Wildlife movement corridors impacted:**

- BA 103: This corridor includes the Alameda Creek Watershed, which is a key linkage and choke point for steelhead, western pond turtle, CA red-legged frog and foothill yellow-legged frog.

- BA 104: This corridor contains Coyote Creek, which is a linkage and choke-point for salmon.

- BA 107: The HSR alignment crosses this corridor twice on the west route. This corridor contains riparian areas and bay wetlands which serve as linkages and stepping stones for waterfowl, shorebirds, and the harvest mouse.

### b. SJ to Merced Alignment:

##### **Critical habitat impacted:**

- California tiger salamander
- Vernal pool species (South lines alignment)
- 

##### **Wildlife movement corridors impacted:**

- BA 104: This corridor contains Coyote Creek, which is a linkage and choke-point for salmon.

#### i. North Lines – The Diablo Alignment

##### **Wildlife movement corridors impacted:**

- CV 8: This corridor is important for San Joaquin kit fox, giant kangaroo rat, blunt-nosed leopard lizard, short-nosed kangaroo rat, and LeConte's thrasher.

- CV 19: This corridor is important for Riparian brush rabbit, wood rat, W. yellow-billed cuckoo, neotropical migrants, ringtail (riparian habitat major). There is a need to maintain riparian species refugia above flood levels as part of the Recovery Plan for Upland Species of the San Joaquin Valley, USFWS 1998.

- BA 103: This corridor contains the Alameda Creek Watershed, which is a linkage and choke point for steelhead, western pond turtle, CA red-legged frog and foothill yellow-legged frog. This corridor is impacted by the North Tunnel Alignment Option.

- BA 104: This corridor contains Coyote Creek, which is a linkage and choke-point for salmon (Minimize Tunnel Option and Tunnel under Henry Coe Option).

#### ii. South Lines – Pacheco Alignment:

- BA 10: This is the Santa Cruz Mountain – Mt. Hamilton Mountain corridor which is a choke point for mountain lion, bobcat, and coyote.

- CC 19: This corridor is a population recovery "stepping stone" and/or "migratory stopover" habitat for neotropical migratory bird species. It also provides connectivity for steelhead with headwaters spawning and rearing habitats, as well as a movement linkage for large and small mammals. Least bell's vireo was recorded here in 1997. This corridor is crossed a second time on Gilroy Bypass Option.

- CC 22: This is an important corridor for medium/ large-sized carnivores, including mountain lion.

- CV 18 (two different corridors with similar impacts): The species impacted by the disruption of this corridor include San Joaquin kit fox, blunt-nosed leopard lizard, kangaroo rat. The important habitats in this corridor include Grassland, Alkali scrub, Alkali sink scrub, and marshland. This area is noted as important to the San Joaquin Recovery Plan.

## 2. Sacramento to Bakersfield

### a. Sacramento to Stockton Corridor

##### **Critical Habitat impacted:**

- Significant impact to vernal pool species critical habitat from the BN4 Alignment.

##### **Wildlife movement corridors impacted:**

- CV 25: This is a riparian corridor important to birds and Tule Elk. It provides an important linkage to the Sierra Nevada ecoregion.

### b. Stockton to Modesto Corridor

##### **Wildlife movement corridors impacted:**

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-CV 19 (two different corridors with same function): Riparian brush rabbit, wood rat, western yellow-billed cuckoo, neotropical migrants, and ringtail are species found in this area.

### c. Modesto to Merced Corridor

#### Critical Habitat impacted:

- Significant impacts to vernal pool species from BNC3 alignment.

#### Wildlife movement corridors impacted:

-CV 19: This corridor is important for riparian brush rabbit, wood rat, western yellow-billed cuckoo, neotropical migrants, and ringtail.

-CV 18: This corridor is used by San Joaquin kit fox, blunt-nosed leopard lizard, and kangaroo rat.

### d. Merced to Fresno Route:

Within the Fresno River and San Joaquin River areas, major issues of concern are impacts to vernal pools and riparian habitat. Public or protected lands in this section include the San Joaquin Valley Ecological Reserve. Construction and operational impacts would likely affect water quality, riparian habitat, and aquatic habitat. Part of the fall-run Chinook salmon Evolutionary Significant Unit is downstream of the San Joaquin River crossing.

#### Critical Habitat impacted:

- There will be significant impacts to vernal pool species from the UP13, BN15, and BN14 alignments.

#### Wildlife movement corridors impacted:

-CV 18: This is the Madera-Merced Linkage, which is important to SJKF, blunt-nosed leopard lizard, and kangaroo rat (crosses subsection UP13).

### e. Fresno to Tulare Route:

Numerous biodiversity elements are associated with this area, including vernal pools, riparian corridors, and sensitive species. Linkages through this section are riparian linkages and any change in riparian cover or vegetation would be considered a significant impact.

#### Critical habitat impacted:

- California tiger salamander critical habitat will be impacted from this route.

#### Wildlife movement corridors impacted:

- CV 12: This is the Kings River corridor which serves as a choke-point for neotropical migratory birds and the Fresno kangaroo rat. This corridor is crossed by subsection UP18 and subsection BN20.

- CV 14: This is the St Johns River corridor which is important for kangaroo rat, SJKF, and neotropical migratory birds. This alignment crosses the corridor at subsection UP18).

### f. Tulare to Bakersfield Route:

Major issues of concern in this section include impacts to riparian habitat, linkages, vernal pools, wetlands, and threatened and endangered species. Allensworth Ecological Reserve and Pixley National Wildlife Refuge provide habitat for numerous threatened and endangered species, such as San Joaquin kit fox and vernal pool fairy shrimp. Deer Creek linkage is a riparian linkage that would be impaired by changes in vegetation composition and structure. Poso Creek drains into the Kern National Wildlife Refuge and other wetlands, which may be affected by changes in water quality and surface and groundwater flow due to project construction and operation.

Proposed alignments on existing tracks through this area will limit construction to upgrading of the tracks; however, noise impacts and changes to local habitat due to the speed of the trains will likely occur.

#### Critical Habitat impacted:

- There will be impacts to vernal pool species from the BN22 alignment.

#### Wildlife movement corridors impacted: [CYNTHIA – CAN YOU PUT THIS AND THE REST OF THE CORRIDOR SECTIONS REMAINING IN THE COMMENTS INTO SENTENCE FORM]

- CV 5: Highway 43/ Garces Highway is a barrier that fragments habitat for the San Joaquin kit fox, blunt-nosed leopard lizard, Tipton kangaroo rat (crosses subsection BN22 twice).
- CV 6: This is the Deer Creek/ Sand Ridge corridor that is a missing linkage and choke-point for many T&E species, Tulare lake marsh colonial birds as well as neotropical migratory birds. The alignment crosses this corridor at subsection BN22 and subsection UP21.
- CV 10: This as the Tule River corridor that is a landscape linkage and choke-point for pond turtles, neotropical migratory birds, and rare plants. The alignment crosses this corridor at subsection UP21.
- CV 4: This is the Pozo Creek corridor that is a missing linkage for the San Joaquin kit fox. The alignment crosses this corridor subsection BN22 and at subsection UP22.
- CV 1: This is the Kern River corridor that is a choke-point for the San Joaquin kit fox, Tipton kangaroo rat, and Buena Vista lake shrew. The alignment crosses this corridor as subsection UP25 and subsection BN25.

### 3. Bakersfield to LA Route:

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### a. Bakersfield to Sylmar (Tehachapi/ Antelope Valley)

Wilderness areas in and adjacent to this section of the alignment include Sierra and Angeles National Forests, as well as Magic Mountain and Pacifico Potential Wilderness areas. Concerns through this section include impacts to linkages, roadless areas, potential wilderness areas, wetlands, and threatened and endangered species. For wide-ranging species such as black bear, mountain lion, deer, and bobcat, habitat fragmentation and death due to train strikes is a major concern in this section. In the Santa Clara River area of the proposed alignment, the Southern California Evolutionary Significant Unit for steelhead is intersected and thus impacted.

#### Wildlife movement corridors impacted:

- CV 2: The South End San Joaquin Valley corridor is a landscape linkage for the San Joaquin kit fox, blunt-nosed leopard lizard, short-nosed kangaroo rat, and LeConte's thrasher. The alignment crosses this corridor at the SR-58 corridor and I-5 Tehachapi corridor subsections.
- SN 10: The Southern Sierra Checkerboard corridor is a landscape linkage for deer, bear, mountain lion, and bobcat. The alignment crosses this corridor along the SR-58 corridor subsection in two locations.
- DE 12: The San Gabriels/Tehachapi corridor is a missing linkage for movement of desert wildlife in general. The alignment crosses this corridor along the SR-58 corridor subsection.
- SC 113: The Soledad Canyon/ Mint Canyon corridor is a choke-point for the movement of large mammals, three-spine stickleback, southwest willow flycatcher, and western spadefoot toad. The alignment crosses this corridor at the Soledad Canyon corridor subsection in three locations.
- SC 111: The Highway 5/Newhall Pass corridor is a landscape linkage and choke-point for the movement of mammals in general. The alignment crosses this corridor at the I-5 Tehachapi corridor and Soledad Canyon Corridor subsections.

### b. Bakersfield to Sylmar (I-5 route) route:

Wilderness areas in or adjacent to this section of alignment include Los Padres and Angeles National Forests, and Sespe Wilderness. Potential wilderness areas include Antimony, Redrock Mountain, Salt Creek, San Francisquito, Magic Mountain, and Tule. Other undeveloped areas in the vicinity include Wind Wolves Preserve (owned by Wildlands Conservancy) and Tejon Ranch. Major concerns in this section are impacts to linkages and habitat fragmentation. Wide-ranging animals may be affected by fragmentation of habitat and train strikes.

#### Wildlife movement corridors impacted:

- CV 2: The South End San Joaquin Valley corridor is a landscape linkage for the San Joaquin kit fox, blunt-nosed leopard lizard, short-nosed kangaroo rat, and

LeConte's thrasher. The alignment crosses this corridor at the SR-58 corridor and I-5 Tehachapi corridor subsections.

- SN 17: The Southern Sierra corridor is a choke-point for the movement of deer, bear, and mountain lion.
- SC 12: The Castaic Highway 5 corridor undercrossing addresses a choke-point for mammals. The alignment crosses this corridor at the I-5 Tehachapi corridor subsection.
- SC 60: The Santa Clara River corridor is a landscape linkage for fish and birds. The alignment crosses this corridor at the I-5 Tehachapi corridor subsection.
- SC 111: The Highway 5/Newhall Pass corridor is a landscape linkage and choke-point for the movement of mammals in general. The alignment crosses this corridor at the I-5 Tehachapi corridor and Soledad Canyon Corridor subsections.

### c. Sylmar to LA Route:

#### Wildlife movement corridors impacted:

- SC 115: The Griffith Park/Verdugo Hills corridor is a missing linkage for large mammals. The alignment crosses this corridor at the Metrolink/UPRR: Burbank Downtown Si and I-5: Glendale subsections.

### 4. LA to San Diego Route:

Major concerns through this section of the state include impacts to linkages, threatened and endangered species, vernal pools, and coastal streams and lagoons. Roadless or wilderness areas include Penasquitos Canyon and Carmel Mountain Preserve. Public or protected lands include state beaches (Doheny, San Clemente, San Onofre) and San Diego National Wildlife Refuge. Within the UC Riverside area, there may be a loss of local open space and impacts to species such as Stephens' kangaroo rat and Santa Ana sucker. Extensive consultation with CDFG and FWS would likely be necessary for impacts through this area. In southern Orange County, creek crossings along this alignment could result in impacts to steelhead migration. Construction could affect vernal pools on Camp Pendleton. Within the Inland San Diego County section, there are extensive vernal pool complexes adjacent to I-15 and SR-52 corridors that could be impacted by construction.

Within the coastal San Diego County section the alignments have a high potential to impact all coastal lagoons in the area. In addition, it is important to maintain connectivity between these coastal lagoons and inland open space for predators. Rare southern maritime chaparral communities (e.g., Del Mar manzanita and wart-stemmed ceanothus) are found on sandstone bluffs in this area and could be impacted by the proposed project.

### a. LA Union Station to March ARB Alignment

#### Critical habitat impacted:

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- San Bernardino Kangaroo Rat critical habitat will be most impacted by Subsegment 1C1.
- California gnatcatcher critical habitat will be impacted by Segment 1B1 > 1A1.

**Wildlife migration corridors impacted:**

- SC 201: The San Gabriel River corridor is a missing linkage for the river channel. The alignment crosses this corridor at the UP/Colton 1 and UP/Riverside line subsections.
- SC 203: The Puente/San Jose/San Gabriel corridor is a missing linkage and choke-point for large carnivores, raptors, songbirds, and other furbearers. The alignment crosses this corridor at the UP/Colton 1 and UP/Riverside line subsections.
- SC 206: The Lytle Creek Drainage corridor is a landscape linkage and choke-point for the river channel. The crosses the corridor at the UP/Colton line to San Bernardino subsection.
- SC 207: The Santa Ana River corridor is a landscape linkage for the Santa Ana sucker, least Bell's vireo, southwest willow flycatcher, and San Bernardino kangaroo rat. The alignment crosses this corridor at the UP/Colton 3 and UP/Colton line to San Bernardino subsections.

## b. March ARB to Mira Mesa Alignment:

**Critical habitat impacted:**

The alignment will impact critical habitat for the following species: Arroyo toad, California gnatcatcher, Quino checkerspot butterfly, Southwestern willow flycatcher, and vernal pool species. These impacts must be analyzed.

**Wildlife migration corridors impacted:**

- SC 225: The San Jacinto River corridor is a landscape linkage for coyote and rare plants. The alignment crosses this corridor at the San Jacinto to I-5 subsection.
- SC 230: The Tualota Creek corridor is a choke-point for the movement of coastal California gnatcatcher and Los Angeles pocket mouse. The alignment crosses this corridor at the San Jacinto to I-5 subsection.
- SC 228: The Pechanga Corridor is a landscape linkage for mountain lion, deer, and bobcat. The alignment crosses this corridor at the San Jacinto to I-5 subsection.
- SC 4: The San Luis Rey corridor is a choke-point for the movement of large carnivores, deer, and steelhead. The alignment crosses this corridor at the San Jacinto to I-5 subsection.
- SC 3: The San Dieguito River corridor is a choke-point and main corridor for large carnivores and deer. The alignment crosses this corridor at the San Jacinto to I-5 subsection.
- SC 1: The Penasquitos Canyon and Carmel Mountain Preserve corridor is a choke-point for the movement of large carnivores and deer. The alignment crosses this corridor at the San Jacinto to I-5 subsection.

## c. Mira Mesa to San Diego Alignment:

**Critical habitat impacted:**

- Riverside fairy shrimp critical habitat will be impacted by the Mira Mesa to Qualcomm stadium alignment.

**Wildlife migration corridors impacted:**

## Miramar Road to San Diego

- SC 2: The San Diego River corridor is a choke-point for the movement of large carnivores, deer, and steelhead. The alignment crosses this corridor at the SR-52 to Santa Fe Depot subsection.

## Anaheim to Irvine

- SC 220: The El Toro Linkage corridor is a missing linkage for coyote. The alignment crosses this corridor at the Fullerton to Irvine subsection.

## Irvine to Oceanside

- SC 222: The Oso Creek corridor is a choke-point for bobcat, coyote, and songbirds. The alignment crosses this corridor at the San Juan Cap Trench and San Juan Cap I-5 subsections.

## Oceanside to San Diego

- SC 3: The Dieguito River corridor is a choke-point and main corridor for the movement of large carnivores and deer. The alignment crosses this corridor at the Encinitas to Solana Beach subsection.
- SC 1: The Penasquitos Canyon and Carmel Mountain Preserve corridor is a choke-point for the movement of large carnivores and deer. The alignment crosses this corridor at the I-5/I-805 split to SR-52 and Miramar Hill Tunnel subsections.
- SC 2: The San Diego River corridor is a choke-point for the movement of large carnivores, deer, and steelhead. The alignment crosses this corridor at the SR-52 to Santa Fe Depot subsection.

## II. Adequacy of mitigation measures

- A. The DEIR/EIS fails to adequately discuss the adequacy of overpasses and underpasses to facilitate species movement.

Yanes et al. (1995) studied vertebrate movement through 17 culverts under roads and railroads in Central Spain. The results of this study indicate that animal movement was dependent on culvert dimensions, road width, height of boundary fence, the complexity of the vegetation along the route, and the presence of detritus pits at the entrance of culverts. The construction of underpasses and overpasses is a nascent effort. The

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DEIR/EIS contains only a fleeting discussion of this issue without any citation to scientific literature. This section needs significant expansion and detailed discussion of the issues involved in the siting and construction of overpasses and underpasses.

The following are some additional underpass/overpass issues that should be incorporated in the mitigation discussion:

- To reduce collision, fences should be checked, repaired, and built high enough, and vegetation should be kept down so that wildlife is not attracted to the railway.
- Wildlife crossings should be installed at a frequency of one every 1-3 km in areas where there are large animals, regardless of how many large animals are observed, and one every 5-10 km where there are no large animals but the habitat is favorable for them. Because these animals follow traditional routes, success depends greatly on the location of the passage. The crossing should be built on the exact site of the interrupted path if it is to be really effective. The restoration level should be as near as possible to the natural ground level; however, connecting gradients does not make the structure ineffective.
- Underpasses are effective only if they are large enough and properly landscaped.
- Planting trees along the lines, the tops of which would be at least the same level as the top of the pylons, can reduce the risk of collision for some bird species.
- For amphibians, some of the compacted ballast under the rails should be removed, and prefabricated corridors should be installed under the rails. For tortoises, netting should be buried 10 cm deep alongside a rail to direct them to a passageway.
- Vegetation in edge zones that is attractive to ungulates should be removed. Elimination of vegetation from railway verges makes it easier to see animals alongside the railway and limits their presence by not attracting them.
- Reflective mirrors, repellents, ultrasound, and road lighting are not effective in reducing collisions.

See COST – European Co-operation in the Field of Scientific and Technical Research. 2000. Habitat fragmentation due to transportation infrastructure. COST 341, French state of the art report

### 1. San Joaquin Kit Fox:

Underpasses are the preferred crossing structure for SJKF and should be at least 0.5m high and 0.5m wide. Also, in order to maintain normal daily movement patterns, underpasses should be placed every 0.5km. Exclusionary fences should be used to encourage foxes to use the crossing structures (Bjurlin 2003). Fencing should be buried in the ground deep enough that coyotes, foxes, and other digging animals cannot dig under them and enter the tracks. Artificial dens and dens to escape predators should also be incorporated alongside the tracks in San Joaquin kit fox habitat.

B. Numerous reasonable mitigation measures were not even discussed in the DEIR/EIS.

The DEIR/EIS discussion of mitigation was so cursory that it failed to include the following potential mitigation strategies:

- ii. Speed of operation
- iii. The preference to construct rail lines along existing roads only
- iv. The installation of wildlife warning devices
- v. Reduced train speed in wildlife areas or during times in which wildlife are active (e.g., May for bears).
- vi. Carcass removal to decrease attraction for carnivores and scavengers.
- vii. Clean up of any spilled grain or food attractants.
- viii. Reduce vegetation that is attractive to wildlife
- ix. Minimizing fragmentation and/or maximizing the ration of areas of fragments.
- x. Narrowing travel corridors.
- xi. Insulation of catenary suspension wire.
- xii. Oversizing of insulators to discourage perching by birds.

These are just a few of the mitigation options that should be discussed in the DEIR/EIS.

Again, biological impacts of the high speed train will vary considerably based on alignment. Yet, the DEIR/S does not provide the information necessary to evaluate these differences. The analyses suggested above, which are technically feasible, must be performed in advance of alignment decisions.

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vertebrates: the importance of culverts. *Biological Conservation*. 71: 217-222.

**Attachment D**

## Comment Letter 0049 Continued

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**SLOSSON AND ASSOCIATES**  
CONSULTING GEOLOGISTS  
15500 Erwin Street, Suite 1123  
Van Nuys, California 91411  
(818) 376-6540 • (818) 785-0835  
FAX (818) 376-6543

August 31, 2004  
S&A #041013

TO: Eddy Moore  
Senior Project Manager  
Planning and Conservation League Foundation  
926 J Street, Suite 612  
Sacramento, California 95814

SUBJECT: Engineering Geology Review of "Draft Program Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Proposed California High-Speed Train System" prepared by the California High-Speed Rail Authority and the Federal Railroad Administration

This office has reviewed the Geology and Soils section of the Draft EIR/EIS (Section 3.13) as well as the Hydrology and Water Resources section (Section 3.14), and any of the attached figures, as well as the reference list for these items (Sections 12.15-12.16). Additionally, this office also reviewed the following document titled "Bay Area to Merced, Geology & Soils Technical Evaluation" prepared by Parsons and Geotechnical Consultants, Inc, dated January 2004:

Based on the review of these documents, knowledge of the overall geology, and having been in projects that involved tunneling, preliminary investigations, actual grading experience, groundwater (both regional and local) and bedrock fracturing, faulting and joints, the following comments are provided for your consideration. While the Draft EIR/EIS is done on a preliminary basis, or overview, the items below need to be addressed "prior to the selection of high speed rail alignments" because, depending on alignment selection, they will have differing impacts on the environment, as well as on the design, construction, and cost of the proposed railway.

- Nowhere in the Draft EIR/EIS does it discuss the environmental impacts that would occur as a result of the geological and geotechnical preliminary investigations that would be needed to further refine any of the proposed routes through the Pacheco Pass, Northern Tunnel, Under Park Tunnel, and Minimize Tunnel. The proposed routes through the Diablo Ranges are in wilderness areas or in steep and remote areas with very limited access. In order to properly understand the complex geology that occurs in these areas, extensive subsurface exploration will be needed. Without a proper understanding of the subsurface

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Review of Draft EIR/EIS

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conditions there is a very high potential for life safety and construction hazards to occur during construction, as well as not allowing for the proper engineering due to lack of data. The hazards could include caving, weak and highly faulted areas that could be quite wide, as well as high local groundwater caused by the offsets of fracturing, faulting and secondary permeability and porosity which will be higher than the primary permeability and porosity. There could also be gases and other hazards. In order to verify these subsurface conditions, there would be an extensive array of borings, especially in the wide faulted areas. The need for this subsurface exploration would mean that there would need to be access roads cut in these steep, remote inaccessible locations, and deep borings with side cast materials piled in the area of the borings. There should also be geophysical lines run across these areas to further verify the unknown and very complex geologic conditions.

It should be understood that in order to perform the necessary subsurface explorations, access roads will need to be cut by track-mounted bulldozers along the proposed routes so that boring equipment of varying sizes can have access to the route to perform the subsurface exploration. The only other option would be to helicopter in any of the drilling rigs, but this can be a very costly, hazardous endeavor. In either case, drill rigs would still be adversely impacting the environment where the drilling takes place.

- The Los Angeles subway project encountered many unexpected problems due to a lack of proper subsurface investigation data. The work done by the Independent Technical Review Committee for the Los Angeles Metro Rail Project documented many of these problems. The Independent Technical Review Committee was established and appointed by Congressman Henry Waxman and Congresswoman Bobbi Fiedler to study the Metro Rail Project and report its findings in 1984. The study was finalized by the Committee under the chairmanship of George W. Housner, Professor Emeritus, Caltech. The Committee was very critical of the work completed by the consultants for Metro Rail. Dr. James E. Slosson was a member of the Congressional Committee that penned the document. One of the many problems was the effect on local groundwater and dewatering of the tunnels.
- It is unclear why the Altamont Pass route has not been considered further from a geological and geotechnical viewpoint. This route has existing roads, pipelines and other features. The fact that there are roads, pipelines and other structures would indicate that a certain knowledge of the surface and surface geology of the area is available. Additionally, there are existing access roads for any equipment needed to perform the subsurface exploration. This would greatly minimize the environmental impact to the area as compared to the investigations into the steep, rugged, non-accessible areas of the other proposed routes, including the Henry Coe State Park. The Altamont Pass route, per Appendix 2-H-3 of the report, indicates that it has the same "maximize Avoidance of Areas with geologic and

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Soils Constraints" as do the Pacheco Pass and the Panocho Pass routes (a rating of 3 for all of the routes). It is unclear if the rating of 3 should be given to all routes when there is no data. It is possible that the Altamont route might have a better rating geologically and the other routes may have a poorer rating when all the data is collected.

- Currently, there is not enough data to correctly establish what the environmental impact may be on the local groundwater of the proposed routes. On Page 3.14-5, under the heading of Groundwater, it states "Shallow groundwater is subject to potential impacts from dewatering during construction." Based on past experiences of this office, and other tunneling projects, there can be a very noticeable and negative impact on the local groundwater, springs, seeps and quality of water. Based on the fault zones or faulted areas that the routes will be crossing or going through, there is a definite potential for impacts on the groundwater. The faults can act as groundwater barriers with water higher on one side of the fault as compared to the other. The fractures and joints, or higher secondary porosity and permeability of the bedrock, will allow water to move quickly through these broken and sheared materials. Without water and groundwater data collected during field and subsurface exploration (as discussed above) there is no way to correctly and adequately understand the local groundwater and what adverse environmental impact any tunneling will have on the local groundwater. It is possible that the drawdown of water during or as a result of construction will have a long-term effect on the local groundwater levels, springs, seeps and water quality, which has not been addressed. There have been recorded adverse effects caused by dewatering as well as changes of seepage forces.
- The DEIR/S does not discuss potential environmental impacts related to disposal of any groundwater which is encountered during any proposed tunneling. There will be a need to dewater portions of the excavations to maintain safety for the workers, as well as post construction to maintain safety of the tunnels. There needs to be consideration of the potential for localized and currently unknown adverse seepage forces affecting the tunnel walls. While the exact amount and location of the groundwater is unknown, as indicated above, the dewatering will have some impact on the environment. The water from the dewatering may well have sediment and a different water quality than the surface waters. Any mixing of these waters will impact the environment. This impact needs to be discussed.
- The Draft EIR/EIS indicates that the proposed routes through the Diablo Mountains will intersect two active faults. It should be understood that these "active faults" are typically a zone of faulting with many splays and subplays of the main fault. These zones can be very wide and have a direct impact on the tunnel construction, slope and tunnel stability, and local groundwater. Additionally, the geologic maps for the area, from the State fault map and the

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State geologic map, the Santa Cruz Sheet, Geologic Map of California, and the San Jose Sheet of the Geologic Map of California all show multiple faults which would intersect the proposed alignments or routes. The Draft EIR/EIS primarily only focuses on the active and potentially active faults. It does not include all of the "nonactive" faults the alignments cross. Will these faults have potential hazards of focusing energy from other earthquake faults, water, cracks, highly-sheared materials, etc. All of these faults need to be addressed as far as hazards in construction, post-construction, etc. Currently, they are not addressed in the Draft EIR/EIS. These multiple faults can have an impact on the construction of the alignments, be it tunneling, cuts at grade, fills, or other construction. Any impacts on the construction for the alignments will impact the environment somehow, especially if the conditions are unknown as discussed in the items above. If these faults are not considered and investigated there will be problems with the design and construction. Any problems with the design and construction will lead to time delays, cost overruns, hazards and impacts on the environment.

- It appears from the maps that the Hayward fault, the Silver Creek and the Calaveras fault all blend together in the area of the proposed alignments for Pacheco Pass, Northern Tunnel, Under Park Tunnel, and Minimize Tunnel options and, as such, the zone of faulting is probably quite wide in this area. Again, the Draft EIR/EIS is not complete in this regard as it indicates that the alignments cross only two active faults, the Calaveras fault and the Ortigalita fault. The extensive shearing will create adverse conditions that will impact the construction and the environment.
- Another item is the potential for explosive or hazardous gases in the area of the multiple fault zones. The multiple faults may very well have the potential for explosive and toxic gases along them. If this is not investigated completely it may well have a very adverse impact on life safety for construction as well as during the life of the project, which will have an adverse environmental impact. Again, this points to the need for extensive subsurface exploration and testing along the alignment routes. This exploration will have a very definite impact on the environment and has not been discussed.
- From a review of the State of California Seismic Hazard Mapping Program as conducted by the State Geologist's office, it does not appear that much of the area for the tunnel routes for Pacheco Pass, Northern Tunnel, Under Park Tunnel and Minimize Tunnel through the mountains is adequately mapped by the State. This does not mean that there are no seismic/geologic/hydrologic and possible existence of natural gases, only that the hazards have not been mapped and identified by the State. The firm of Slosson & Associates has been involved in studies of the Tehachapi earthquake and the damages incurred on the Tehachapi rail tunnel from the 1952 Kern County earthquake which severely damaged the tunnel and destroyed the track, the 1971 Sylmar tunnel explosion which was caused by



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natural gas leaking into the tunnel excavation killing 17 workmen, the problems related to construction of the Sepulveda Metropolitan Water District Water Tunnel, and other construction difficulties related to construction of water tunnels. Based on a knowledge of the area, there are many seismic hazards in the region.

Consideration should be given to utilizing the current edition of "Department of Transportation California Seismic Hazard map 1996 Based on Maximum Credible Earthquakes" Prepared by Caltrans Office of Earthquake Engineering and Design Support by Lalliana Mualchin, Engineering Seismologist. The most recent revised version of this map is shown to be Plot Modified July 2004. This map should be utilized for the magnitude and acceleration for each of the active and mapped faults and the impact it may have on the design and construction. Additionally, as indicated above, the other numerous faults that are not active and are not discussed in the Draft EIR/EIS will have definite impacts on the routes and will act as local controls for any seismic distress in the area from any earthquake. As was seen in the 1994 Northridge earthquake, other existing nonactive faults and active faults can focus energy along them leading to increased localized damage and distress within those fault zones.

These items need to be considered and addressed prior to approval of the Draft EIR/EIS as they will have a definite impact on the environment, construction and design of the proposed routes.

*James E. Slosson*  
James E. Slosson  
Chief Engineering Geologist  
R.G. #46, C.E.G. #22, G.P. #829

*Thomas L. Slosson*  
Thomas L. Slosson  
Supervising Engineering Geologist  
R.G. #4204, C.E.G. #1327

JES:TLS:cg  
Ref:cgip.EIR/EIS

**JAMES EDWARD SLOSSON**

EDUCATION

|           |   |
|-----------|---|
| 1949      | AB, Geology, University of Southern California  |
| 1950      | MS, Geology, University of Southern California  |
| 1958      | Ph.D., Geology, University of Southern California (Equivalency of minors in Geography, Engineering, Physical Science, and Social Science) |
| 1957      | Certificate of Completion, University of Illinois/National Science Foundation Grant   |
| 1959-1968 | Post-Ph.D. studies, University of Southern California   |

PROFESSIONAL REGISTRATION

|                |   |
|----------------|---|
| California     | Registered Geologist No. 46<br>Certified Engineering Geologist No. 22<br>Registered Geophysicist No. 829<br>Registered Environmental Assessor No. REA-01849 |
| Alaska         | Registered Geologist No. 223  |
| Arizona        | Registered Geologist No. 8711   |
| Arkansas       | Registered Geologist No. 332  |
| Delaware       | Registered Geologist No. 134  |
| Georgia        | Registered Geologist No. 198  |
| Idaho          | Registered Geologist No. 104  |
| North Carolina | Registered Geologist No. 332  |
| Oregon         | Registered Geologist No. G102   |
| Oregon         | Registered Engineering Geologist No. E102   |
| Tennessee      | Registered Engineering Geologist No. TN0633   |
| Washington     | Registered Engineering Geologist No. 971  |
| Wyoming        | Professional Geologist No. 733  |
| Certified      | Professional Hydrogeologist No. 933<br>American Institute of Hydrology  |

Chief Administrative Officer Credential, Community Colleges, State of California

Professor Emeritus, Los Angeles Valley Community College



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James E. Slosson

[2]

**CIVIL SERVICE RATINGS ACHIEVED**

1949 State Park Ranger, California  
 1949 Soil Scientist, U.S., GS-5  
 1950 Minerals Analyst, U.S., GS-7  
 1950 Oceanographer, U.S., GS-7  
 1951 Military Intelligence Research Specialist, GS-7  
 1952 Assistant Engineering Geologist, California  
 1956 Geologist, U.S.G.S., GS-9  
 1956 Geophysicist (Seismology) GS-9  
 1957 Geologist, Federal Power Commission, GS-9  
 1958 Associate Engineering Geologist, California  
 1958 Geologist, Fuels U.S.G.S., GS-11  
 1959 Geologist, Fuels U.S.G.S., GS-12  
 1966 Engineering Geologist, U.S.G.S., GS-14  
 1973 Deputy State Geologist, California  
 1973 State Geologist, California

**PROFESSIONAL BACKGROUND AND EXPERIENCE**

1975-present Slosson and Associates  
 15500 Erwin Street, Suite 1123  
 Van Nuys, CA 91411  
 (818) 376-6540

**Chief Engineering Geologist:** Involved in engineering geology, seismic studies, forensic geology, groundwater, mineral resource search, energy resource investigation, data interpretation, geology/medicine, hazard mitigation and prevention, soil erosion abatement, legislative analysis and preparation.

1984-present **Professor Emeritus:** Los Angeles Valley College

1975-1984 **Professor of Geology:** Los Angeles Valley College

**Chairman:** Earth Science Department (1950-1965)

Rank of Full Professor of Geology (on leave for State service 1973-1975)

1974-1983 **Lecturer:** University of Southern California, School of Public Administration, Environmental Management Institute

James E. Slosson

[3]

1974-present **Guest Lecturer:** Many colleges and universities including University of California at Los Angeles, Berkeley, Davis, Riverside, Irvine; California Institute of Technology; California State University at Los Angeles, Northridge, Fullerton, Long Beach; Occidental College; University of Arizona; Portland State University; Texas A&M; University of Wisconsin; and others

1973-1975 **State Geologist/Chief of Division of Mines and Geology,** State of California

1973 **Chief Deputy State Geologist,** State of California

1970-1977 **Lecturer:** Harvard University, Graduate School of Design, summer short courses in land-use and terrain analysis

1969 **Instructor:** University of California at Los Angeles, Extension Division, visiting instructor

1964 **Assistant Professor of Geology:** University of Southern California, Department of Geological Sciences, visiting instructor, summer program

1958-1973 **Consulting Geologist:** Over 3,000 professional projects utilizing multi-disciplines within geologic technology

1957 **National Science Foundation Grant:** University of Illinois, Program in Mineralogy and Geology, summer program

1952-1956 **Research Geologist:** Gulf Oil Corporation (summers and 50% workload during academic year); research utilized for dissertation

1951, 1958 and 1959 (summers) **Engineering Geologist:** Department of Water and Resources, State of California

1950-1973 **Professor of Geology:** Los Angeles Valley College

1949-1950 **Geologist:** United States Geological Survey (rating of GS-14 as of 1966), (W.A.E. for Master's Thesis)

1948-1949 **Laboratory Instructor:** University of Southern California, Geology Department

1943-1945 **Second Lieutenant:** United States Army, Athletic Instructor, Infantry Platoon Leader, and Aerial Observer

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**Comment Letter 0049 Continued**


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James E. Slosson

[4]

**PROFESSIONAL ORGANIZATIONS**

American Association of Petroleum Geologists  
 American Geological Institute  
 American Geophysical Union (Recipient, silver award)  
 American Institute of Professional Geologists, Certificate #1109  
 American Society of Civil Engineers (Life Member)  
 Association of Engineering Geologists (Honorary Member)  
 Association of State Floodplain Managers  
 Earthquake Engineering Research Institute (Fellow)  
 Geological Society of America (Fellow)  
 National Association of Geology Teachers (Emeritus)  
 Seismological Society of America  
 Sigma Gamma Epsilon  
 Sigma Xi  
 Society of Economic Paleontologists and Mineralogists (Emeritus)  
 Structural Engineers Association of Southern California

**PROFESSIONAL AWARDS**

American Institute of Professional Geologists, John T. Gayley, Sr. Memorial Public Service Award, 1997

Geological Society of America, E.B. Burwell, Jr., Award for the Publication of *Forensic Engineering*, 1996

Geological Society of America, Roy Shlemon Applied Geology Mentor (Initial Awardee), 1996

Association of Engineering Geologists, Honorary Member Award, 1995

Geological Society of America Distinguished Practice Award, 1992

American Society of Civil Engineers, Life Member, 1991

Geological Society of America, Richard H. Jahns Distinguished Lecturer in Engineering Geology, 1989 University Lecture Series

Outstanding Educators of America Award, 1970

American Geophysical Union, Silver Award

James E. Slosson

[5]

**PROFESSIONAL ACTIVITIES**

Geologist: County of Modoc, 2000

Participant: USGS Landslide Section, FY 1993-1994, Landslide Program Planning, Golden, Colorado

Subcontractor: FEMA Disaster Response Team, 1992

Consultant: Superior Court, County of Los Angeles, assigned to Judge Philip F. Jones, Advisor for Remedial Work, CRA Project, Monterey Hills, 1991-present

Commissioner: California Seismic Safety Commission, representing engineering geology, appointed by Governor Pete Wilson, 1991-1999

City Geologist: City of Moorpark, 1991-1996

City Geologist: City of Calabasas, 1991-1993

City Geologist: City of Corona, 1991-1993

Member: National Academy of Sciences, Advisory Committee on Hazards and Municipal Liability, 1990

Chairman: Superior Court, County of Los Angeles, assigned to Abalone Cove Landslide Abatement District, City of Rancho Palos Verdes, 1988-1994

Member: Task Committee on Flood Hazard Analysis on Alluvial Fans, ASCE, 1989

Member: National Research Council, Committee on Ground Failure Hazards, 1986- 1992

Guest Instructor: Slope Stability and Landslides at 7th National Technical Course, College of Engineering, University of Wisconsin - Madison, 1987

Member: Workshop on the "Use of Natural Hazards Research Results" at George Washington University, National Science Foundation, June 1 and 2, 1987

Technical Consultant: Expert Witness, City Attorney's Office, City of San Diego, 1987-present



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James E. Slosson [6]

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Chairman: FEMA/Colorado Department of Public Safety Advisory Committee, Landslide Hazard Mitigation Project, 1986-1989

Member: AAPG Ad Hoc Committee on Opportunities in Water Resources and Water Management, 1986-1988

City Geologist: City of Monterey Park, 1986-1991

Session Chairman: ASCE, Hydrology Annual Conference, "World Water Issues in Evolution" at Long Beach, 1986

Member: Fairfax-Wilshire Task Force Committee, 1985 (Appointed by the Los Angeles City Council)

Member: Independent Technical Review Committee for the Los Angeles Metro Rail Project -- Congressional Select Review Committee, 1985 (Appointed by Congressman Waxman and Congresswoman Fiedler)

Session Chairman: University of Southern California Conference and Workshop on "Seismic Mitigation Management for Seaports," May 1985

Coordinator: ASCE/OES Disaster Preparedness Committee; 1983-1987

Member: California Radioactive Materials Management Forum, Public Education Committee, 1983

Member: County of Los Angeles, Engineering Geology and Soils Review and Appeals Board, 1981-2000

City Geologist: City of Agoura Hills, 1984-1998

Consultant: American Indian Tribes (Council of Energy Resource Tribes), Mineral and Petroleum Resources, 1979-1985

Consultant: California Public Utilities Commission for the proposed LNG facilities Pt. Conception California, 1978-1982

Consultant: County of Ventura, County Engineer, 1978-present

Member: City of Los Angeles, Earthquake Prediction Task Force, 1976-1983

Member: State of California Earthquake Prediction Evaluation Council, 1975-1983

Technical Consultant: Expert Witness, State of California, CalTrans, 1993-present

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Member: City of Los Angeles, Hazardous Buildings Code Development Committee, Building and Safety Committee (URM/Seismic Safety), 1971-1973, 1976-1980

Member: State of California Board of Registration for Geologists and Geophysicists, 1978-1985 (President 1978-1982)

Commissioner: State of California Seismic Safety Commission, 1975-1978, 1991-1999

Member: State of California Citizens Committee on U.S. Forest Service Management Practice for Roadless Areas, 1978-1979

Member: American Society of Civil Engineers, Geotechnical Engineering Division, Rock Mechanics Committee, 1976-1980

Member: Engineering Geology Advisory Committee, City of Los Angeles, Department of Building and Safety, 1975-1990

Member: Advisory Committee for Socio-economic and Political Consequences of Earthquake Prediction, University of Colorado, National Science Foundation Study, 1975-1976

Member: Oversight Committee on the Technology Assessment of Earthquake Prediction, Stanford Research Committee (FEMA), 1975-1976

Geologic Consultant: State of California, Department of Transportation, 1993-present

Geologic Consultant: County of Los Angeles, County Counsel, 1970, 1976-1996

Geologic Consultant: State of California, Public Utilities Commission, 1976-1982

Geologic Consultant: City of Thousand Oaks, Department of Public Works and Building and Safety, 1972-1973

Geologic Consultant: Division of Forestry, State of California, 1975

Member: Governor's Earthquake Council, State of California, 1973-1974

Executive Secretary: Geothermal Resources Board, State of California, 1973-1975

Member: Hospital Building and Safety Board, State of California, 1973-1975

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Member: Land-Use Study Committee, Office of Planning and Research, State of California, 1973-1975

Member: Ex-Officio, Solid Waste Management Board, State of California, 1973-1975

Member: Strong Motion Instrumentation Program Advisory Board, State of California, 1973-1975

Member: Meinzer Awards Committee of Hydrogeology, Geological Society of America, 1973-1976

Member: State of California Interdepartmental Research Board, 1974-1975

Executive Secretary: Mines and Geology Board, State of California, 1974-1975

Member: Geotechnical Committee, Building and Safety Board, State of California, 1973-1980

Executive Secretary: Governor's Earthquake Prediction Evaluation Committee, State of California, 1974-1975

Member: National Academy of Science Panel on Mudslides, 1974

Member: Association of American State Geologists, 1974-1975

Member: Earthquake Engineering Research Institute, Scientific Panel for the preparation of the publication "Development of a Plan to Maximize the Learnings from Destructive Earthquakes," 1974-1975

President: California Section, American Institute of Professional Geologists, 1973-1974

Member: City of Los Angeles Earthquake Technical Advisory Board (to the Department of Building and Safety, City of Los Angeles), 1971-1972

Member: Earthquake Engineering Research Institute, Geologic Subcommittee Study for the Sylmar Earthquake, February 9, 1971

Participant and Contributor: National Bureau of Standards Conference on Disaster Mitigation, Earthquake Disaster, Boulder, Colorado, 1972

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Participant: International Conference on Microzonation, Seattle, Washington; presentation entitled "Urban Planning and Governmental Responsibility," 1972

Geologic Consultant: City of Long Beach, Department of Building and Safety, 1972-1973

Geologic Consultant: Division of Industrial Safety, State of California, Sylmar Tunnel Litigation, 1972-1973

Geologic Consultant and Expert Witness: City of Los Angeles, Office of the City Attorney, 1969-1973

Geologic Consultant: State of California, Office of the Attorney General, 1972-1973

Associate Director: West Los Angeles County Resource Conservation District, 1972-1978

Chairman: National Legislation Committee: Association of Engineering Geologists, 1972-1973

Member: City of Los Angeles, Department of Building and Safety Grading Appeals Board, 1963-1969

Member: University of California at Los Angeles Earthquake Conference, June of 1971, Planning Committee

Member: Structural Engineers of Southern California Ad Hoc Committee on Olive View Hospital, 1971

Member: Ex-Officio, Association of Engineering Geologists, Los Angeles Section, Earthquake Study Committee, 1971

Member: Select Committee on Seismic Design, City of Los Angeles, Department of Building and Safety, 1971-1972

Panel Member: Earthquake Engineering Research Institute, National Conference of Earthquake Engineering, "Investigation of the San Fernando Earthquake," 1971

Chairman: Southern California Section, Association of Engineering Geologists, 1970-1971

Member: Committees on Education and Building Codes, Association of Engineering Geologists, 1965-1968

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Chairman: Committees on Legislation and Public Information/Professional Relations, Grading Codes Advisory Board, Southern California Section, Association of Engineering Geologists, 1963-1968

Member: Committees in Engineering Technician Training and Education, American Society of Civil Engineers, 1967

Member: Open Space Ordinance Committee, City of Los Angeles, 1966-1967

Chairman: Southern California Section, Association of Engineering Geologists Building and Grading Codes Committee, 1967-1968

Member: Geology and Grading Appeals Board, County of Ventura, 1967-present

Member: Geology and Grading Appeals Board, County of Los Angeles, 1967-1976 (Chairman: 1972-1973)

Member: American Institute of Professional Geologists, Geologic Hazards Committee, 1966-1969

Chairman: Association of Engineering Geologists, Building Codes Committee, 1963; AEG co-sponsors of Chapter 70 of the Uniform Building Codes, 1963; co-author of chapter on Grading Codes

Member: Stocker-LaBrea Study Group, Baldwin Hills Tectonic Fault Study, City of Los Angeles, 1962-1963

Member: Hillside Planting Committee, Department of Building and Safety, City of Los Angeles, 1961-1968

Member: Engineering Geologists Qualification Board, County of Los Angeles, 1966-1969 (Chairman, 1969)

Member: Engineering Geologists Qualification Board, City of Los Angeles, 1961-1969

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**PUBLICATIONS, ABSTRACTS, AND PRESENTATIONS**

"A Review of the Literature on Site Effects and Structural Focusing in the Los Angeles Basin and the San Fernando Valley from the January 17, 1994 Northridge Earthquake in the Los Angeles Region, California" by James E. Slosson and Frank Denison, GSA Annual Meeting and Exposition, Seattle, WA, November 2003

"Reply to 'Comment on "Faulting Apparently Related to the 1994 Northridge, California, Earthquake and possible Co-seismic Origin of Surface Cracks in Potrero Canyon, Los Angeles County, California," by R.D. Catchings, M.R. Goldman, W.H.K. Lee, M.J. Rymer, and D.J. Ponti,' by Brian J. Swanson, Allan E. Seward, Perry L. Ehlig, and James E. Slosson. BSSA, Vol. 92, No. 6, pp 2539, August 2002

"Northridge Earthquake, Turning Loss to Gain," Report to the Governor, Governor's Executive Order W-78-94, SSC Report No. 95-01, Sacramento, California, 1995

"Slope Failures in Southern California: Rainfall Threshold, Prediction, and Human Causes," co-authored with R. A. Larson *in* Winter, 1995, Environmental & Engineering Geoscience

"Reflections on the Geoscience Observations, Northridge Earthquake," co-authored with T.L. Slosson, J.A. Johnson, R.J. Shlemon, and R.J. McCarthy *in* Proceedings of the AEG Annual Meeting, Sacramento, California, October 1995

"Permanent Ground Deformation, San Fernando Valley Area, 17 January 1994 Northridge, California Earthquake," co-authored with J.A. Johnson, R.J. Shlemon, and T.L. Slosson, *in* Proceedings of the AEG Annual Meeting, Sacramento, California, October 1995

"The Use of Seismic Hazard Maps for Improved Earthquake Risk Reduction," co-authored with R.J. McCarthy and J.A. Johnson *in* Proceedings of the AEG Annual Meeting, Sacramento, California, October 1995

"Geomorphic Indicators of Neotectonism, Northern San Fernando Valley, California," co-authored with R.J. Shlemon and J.A. Johnson *in* Proceedings of the AEG Annual Meeting, Sacramento, California, October 1995

"The Use of Seismic Hazard Maps for Improved Earthquake Risk Reduction," co-authored with R.J. McCarthy, presented to U.S./Japan Earthquake Conference, Tokyo, May 18, 1995

"Public Safety Issues from the Northridge Earthquake of January 17, 1994," a Compendium of Issue Statements by the Commissioners of the Seismic Safety Commission, SSC 95-03, March, 1995

"Offshore Seismic Survey Relates Faulting and Landslides to Instability in the Castellammare Area of Northern Santa Monica, CA," co-authored with Robert F. Dill *in* Proceedings of the 1994 GSA Cordilleran Section Meeting, San Bernardino, California, March 1994

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- "Fault-Rupture Hazards, the Alquist-Priolo Fault Hazard Act, and Siting Decisions in California," co-authored with Jeffrey R. Keaton and Jeffrey A. Johnson *in* Bulletin of the Association of Engineering Geologists, Vol. XXXI, No. 2, 1994, pp. 183-189
- "Lessons To Be Learned from the 1993 Southern California Landslides," co-authored with Robert A. Larson *in* Proceedings of the 36th Annual AEG meeting, San Antonio, Texas, October 1993
- "Ethical Considerations in Conducting Regulatory Review of Geology Reports," co-authored with Robert A. Larson *in* Proceedings of the 36th Annual AEG meeting, San Antonio, Texas, October 1993
- "Current Legal Issues in Sedimentation," co-authored with G. Shuirman, presented at ASCE Hydraulics Conference, San Francisco, July 1993
- "The Importance of Secondary Faulting, Active Strike-Slip Fault Zones of Southern California," co-authored with J.A. Johnson and C.H. Gray, Jr. *in* Proceedings of the AAPG Pacific Section 68th Annual Meeting, Long Beach, California, May 1993
- "The South San Fernando Valley Fault, Los Angeles, California: Myth or Reality?," co-authored with S.L. Werner and M.B. Phipps *in* Proceedings of the GSA Cordilleran Section 89th Annual Meeting, Reno, Nevada, May 1993
- "Storm-Induced Geologic Hazards: Case Histories from the 1992-1993 Winter in Southern California and Arizona," Edited by R.A. Larson and J.E. Slosson, GSA, Reviews in Engineering Geology, Volume XI
- "Landslides/Landslide Mitigation," co-edited with A.G. Keene and J.A. Johnson, Geological Society of America Reviews in Engineering Geology, Volume IX, 1992
- "Standard Practice Equates to an Ever-Evolving Number of Failures," co-authored with R.J. Shlemon and T.L. Slosson *in* Proceedings of the 35th Annual AEG meeting, Long Beach, California, 1992
- "Forensic Engineering: Environmental Case Histories for Civil Engineers and Geologists," co-authored with G. Shuirman, Academic Press, 1992
- "Standard Practice Equals Continuing Losses," co-authored with T.L. Slosson *in* Landslides, Volume I, Proceedings of the 6th International Symposium, Christchurch, New Zealand, D.H. Bell (editor), A.A. Balkema: Rotterdam, 1992
- "Modulation of Engineering Geology Standard of Practice 1928 - 1992," co-authored with R.J. Shlemon and T.L. Slosson *in* Proceedings of the 35th Annual AEG meeting, Long Beach, California, October 1992

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- "The Application of Ground-Water Flow Models as Predictive Tools -- A Review of Two Ground-Water Models of Eastern Honey Lake Valley, California-Nevada," co-authored with A.L. Mayo *in* Bulletin of the Association of Engineering Geologists, Vol. XXIX, No. 2, 1992, pp. 151-163
- "The Role of Seismic Hazard Evaluation in Engineering Geology Reports," co-authored with R.A. Larson *in* Engineering Geology Practice in Southern California, AEG Special Publication No. 4, Southern California Section, 1992
- "California at Risk, Reducing Earthquake Hazards 1992-1996," Report No. SSC 91-08, December 31, 1991, Sacramento, California
- "Method of Multiple Working Hypotheses: A Chimera or a Necessity for Ethical Practices in Engineering Geosciences?," co-authored with T.L. Slosson and V.C. Cronin *in* Proceedings of the AEG Annual Meeting, Chicago, Illinois, October 1991
- "A Re-evaluation of Earthquake Hazards Within the California Coastal Zone: Lessons Learned from the Loma Prieta Earthquake," co-authored with R.J. McCarthy and R.G. Bea *in* Proceedings of the 7th Symposium on Coastal and Ocean Management, Long Beach, California, July 1991
- "An Example of Sequential Land Use Necessitating Mitigation: Well Abandonment in the Kraemer Oil Field, Yorba Linda, California," co-authored with E.C. Sprotte and M. Phipps *in* Proceedings of the AEG Annual Meeting, Chicago, Illinois, 1991
- "Use of Multiple Working Hypotheses and Multiple Geologic/Geophysical Technologies to Analyze a Complex Landslide," co-authored with D.D. Crowther, T.L. Slosson and M. Phipps *in* Proceedings of the 27th Symposium on Engineering Geology and Geotechnical Engineering, Logan, Utah, 1991
- "Olancho Debris Flow: An Example of an Isolated Damaging Event," co-authored with T.L. Slosson *in* Proceedings of the 1990 ASCE National Conference on Hydraulic Engineering and the International Symposium on the Hydraulics/Hydrology of Arid Lands, San Diego, California, October 1990
- "Fault Hazards, The Alquist-Priolo Fault Hazard Act and Siting Decisions in California and Elsewhere," presented at the 33rd Annual AEG meeting, Pittsburgh, Pennsylvania, 1990
- "Successful Use of Horizontal Drains -- Pure Luck or Good Use of Science and Technology," presented at GSA Cordilleran 86th Annual Meeting, Tucson, Arizona, March 1990
- "Deadly Debris Flows on I-5 Near Grapevine, CA," *in* French, R.H., [editor], Proceedings of the International Symposium on the Hydraulics/Hydrology of Arid Lands (H2AL); New York, American Society of Civil Engineers, 1990, pp. 78-83

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- "Turning Points in Forensic Geology," presented at Texas A&M University, May, 1989, published *in* *Avoiding Public Liability in Floodplain Management*, 1989, Association of State Floodplain Managers, J.A. Kusler, editor
- "Current and Future Difficulties in the Practice of Engineering Geology," co-authored with J.W. Williams and V.C. Cronin, presented at the 28th International Geological Congress, Washington, D.C., 1991
- "Why is the Gap Between 'Standard Practice' and 'State-of-the-Art' Widening?," co-authored with W.J. Petak *in* *AEG News*, Vol. 32, No. 2, 1989
- "Agency Controls and Damage Reduction" *in* *Landslides in a Semi-arid Environment: Studies from the Inland Valleys of Southern California*, co-authored with N.J. Slosson, (edited by P.M. Sadler and D.M. Morton), Publications of the Inland Geological Society, Volume 2, 1989
- "Harrison Canyon Debris Flows of 1980," co-authored with G.W. Havens, G. Shuirman, and T.L. Slosson *in* *Landslides in a Semi-arid Environment: Studies from the Inland Valleys of Southern California* (edited by P.M. Sadler and D.M. Morton), Publications of the Inland Geological Society, Volume 2, 1989
- "Geologic Consequences of the 1983 Wet Year in Utah," co-authored with B.N. Kaliser, Utah Geological and Mineral Survey Miscellaneous Publication 88-3, 1988
- "Litigation Support Investigations Involving Complex Flood Plains," co-authored with R.C. MacArthur and D.L. Hamilton *in* *Proceedings of the 1988 National Conference of Hydraulics Division of ASCE*, Colorado Springs, Colorado, 1988
- "Pinto Wash Alluvial Fan Litigation," co-authored with T.L. Slosson *in* *Proceedings of the 1988 National Conference of Hydraulics Division of ASCE*, Colorado Springs, Colorado, 1988
- "Snow-Melt Triggered Debris Flows Affecting Utah's Megalopolis," co-authored with B.N. Kaliser *in* *Proceedings of the 1988 National Conference of Hydraulics Division of ASCE*, Colorado Springs, Colorado, 1988
- "Important Legal Decisions Related to Flooding, Land Use Planning, and Geologic Hazards," co-authored with G. Havens *in* *Proceedings of the Conference on Arid West Floodplain Management Issues*, Las Vegas, Nevada, October 19-21, 1988, Association of State Flood Plain Managers
- "Responsibility and Liability of State and Local Government," presented at Geological Society of America, Rocky Mountain Section Meeting, Sun Valley, Idaho, May 1988
- "On the Reduction of Losses Due to Slope Instability in Hillside Developments," co-authored with V.S. Cronin, presented at American Geophysical Union Fall/Winter Meeting, San Francisco, California, December, 1987

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- "Where are the Basics?," presented at the 30th Annual AEG meeting, Symposium on Education in Engineering Geology and Geological Engineering, Atlanta, Georgia, October 1987
- "Legal Misuse of Urban Hydrology Concepts and Regulations for Rural Areas," co-authored with R. MacArthur and G. Shuirman, for presentation at the ASCE Water Forum, '87, Conference Proceedings on Engineering Hydrology, Williamsburg, Virginia, 1987
- "Application of Oil Well Technology and Continuous Coring to Landslide Investigation," co-authored with A.B. Esmilla and M.B. Phipps *in* *AAPG Field Trip Guidebook*, 1987
- "Application of Oil Well Technology and Continuous Coring to Landslide Investigation," co-authored with A.B. Esmilla and J.E. Slosson *in* *Geology of the Palos Verdes Peninsula and San Pedro Bay*, Volume and Guidebook, Pacific Section SEPM and AAPG, 1987
- "Landslides and Other Ground Failure Hazards: Where Have We Failed?," presented at 83rd Annual Meeting of Cordilleran Section of the Geological Society of America, Hilo, Hawaii, May 1987
- "Should Academia Aid in Solving the Problems Related to Geologic Hazards?," presented at 83rd Annual Meeting of Cordilleran Section of the Geological Society of America, Hilo, Hawaii, May 1987
- "Mitigation Rather Than Litigation of the Abalone Cove Landslide," co-authored with G.W. Havens, *in* *American Association of Petroleum Geologists Field Trip Guidebook*, 1987
- "Feasibility of Stabilizing Abalone Cove Landslide," co-authored with members of Technical Panel for Abalone Cove Landslide Abatement District, 1986
- "Early Identification of Geologic Hazards and Their Impact on Location of Offshore California Oil Development," co-authored with R. McCarthy, presented at the 1986 Annual AEG meeting, San Francisco, California, October 1986
- "Responsibility/Liability related to Mudflows," co-authored with G. Shuirman and D. Yoakum, presented at ASCE, Water Forum '86, Long Beach, California, August 1986
- "Legal Issues Related to Hazard Mitigation Policies" *in* *Proceedings for the USGS/UGMS "Assessment of Regional Earthquake Hazards and Risk Along the Wasatch Front*, Utah, July 1986
- "Cost Benefits and Mitigation," presented at the National Association of Environmental Professionals, Annual Conference, San Francisco, California, April 1986
- "Thistle Landslide: Was Mitigation Possible?," co-authored with D. Yoakum and G. Shuirman, presented at Cordilleran Section, GSA 82nd Annual Meeting, Los Angeles, California, March 1986

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- "Avoiding Liability and Other Legal Problems," presented at Association of State Floodplain Managers Symposium on Western State High Risk Flood Areas, Las Vegas, Nevada, March 1986
- "Preparing to be an Expert Witness," co-authored with G. Shuirman, presented at Association of State Floodplain Managers Symposium on Western State High Risk Flood Areas, Las Vegas, Nevada, March 1986
- "Thistle, Utah Landslide: Could It Have Been Prevented?," co-authored with D. Yoakum and G. Shuirman, presented at 1986 Annual Symposium on Engineering Geology and Soils Engineering, Boise, Idaho, February 1986
- "Preparing and Conducting Litigation Dealing with Arid Flood Problems," presented at Association of State Floodplain Managers Symposium on Western State High Risk Flood Areas, Las Vegas, Nevada, March 1986
- "Tectonic and Seismic Implications of Historical Domicl Uplift and Subsidence, Santa Monica Fault, Los Angeles, California," co-authored with J.L. Anderson, presented at American Geophysical Union 1985 Fall Meeting, San Francisco, California, December 1985
- "Evaluating Earthquake and Surface Faulting Potential" *in* Proceedings of Future Directions in Evaluating Earthquake Hazards of Southern California, co-sponsored by the USGS, et al., at the University of Southern California, Los Angeles, California, November 1985
- "Encouraging Government Mitigation: The Forensic Geologist/Expert Witness Perspective," presented at the American Bar Association International Symposium, Miami, Florida, October 1985
- "Liabilities related to the Natural Hazards of Coastal California," co-authored with V.S. Cronin and G.W. Havens, presented at the 28th Annual AEG meeting, Winston Salem, North Carolina, October 1985
- "Government Appears to be Failing in Enforcement," co-authored with G. W. Havens, presented at the Natural Hazards Research Workshop, University of Colorado, Boulder, Colorado, July 1985
- "Perspective of Legal Liability Related to the Natural Hazards of Coastal California," presented at the California Coastal Commission Conference on "California's Battered Coast," San Diego, California, February 1985
- "Development of Geologic/Seismic Regulations and Criteria" *in* Bulletin of the Association of Engineering Geologists, Vol. XXII, No. 3, 1985, pp. 11-23
- "Legal Issues Related to Hazard Mitigation Policies" *in* Proceedings of USGS Conference XXVI on Evaluation of Regional and Urban Earthquake Hazards and Risk in Utah, Salt Lake City, Utah, 1984, pp. 665-668

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- "Is Legal Liability an Incentive for Mitigation?," co-authored with G.W. Havens, presented at the Natural Hazards Research Workshop, University of Colorado, Boulder, Colorado, July 1984
- "Genesis and Evolution of Guidelines for Geologic Reports" *in* Bulletin of the Association of Engineering Geologists, Vol. XXI, No. 3, 1984, pp. 295-316
- "Registration of the Engineering Geologist" *in* AEG Bulletin Vol. XXI, No. 2, 1984, pp. 159-161
- "Relationship of Fire/Flood to Debris Flows," co-authored with G. Shuirman and D. Yoakum, presented at the Utah State University Specialty Conference, Logan, Utah, June 1984
- "Liability Related to Water, Flooding and Landslides," presented at a seminar sponsored by VanCott, Bagley, Cornwall, and McCarthy, Salt Lake City, Utah, 1984
- "Forensic Geology, Government, and Applied Engineering Geology," presented at the Association of State Floodplain Managers Conference, Palm Springs, California, February 1984
- "The Cost of Prevention vs. The Cost of Geologic Failures -- The California Experience" *in* Proceedings of Legal and Legislative Approaches to Western States Geologic Hazards, Utah State Bar, Salt Lake City, Utah, 1983
- "Flood Plain Management/Landslides and Mudslides," presented at the 1983 National Flood Insurance Program and Multi-Hazard Conference, Federal Emergency Management Agency, Washington, D.C., 1983
- "Can Those Oil Fields be Used as Prime-Grade Industrial/Residential Property?," co-authored with B. Barron, D. Hallinger, and E. Wilkinson *in* Proceedings for the AEG Annual Meeting, San Diego, California, 1983
- "Earthquake-Induced Landslide Hazard Mapping," co-authored with M. Legg and R. Eguchi *in* Proceedings for the AEG Annual Meeting, San Diego, California, 1983
- "Photographic Evidence in Forensic Engineering and Geology," co-authored with P. McClay *in* Proceedings for the AEG Annual Meeting, San Diego, California, 1983
- "Hidden Springs Flood, 1978, Southern California," co-authored with A. Graham, G. Shuirman, and D. Yoakum *in* Proceedings for the D.B. Simons Symposium on Erosion and Sedimentation, Colorado State University, Fort Collins, Colorado, 1983

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- "Sprecher vs. Adamson Companies - A Critique of the Supreme Court Decision," presented at the Beverly Hills Bar Association, Joint Meeting of Real Estate and Environmental Law Committees, 1982
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- "Geologic Hazards and Hillside Properties," co-authored with T. Hague and P. McClay *in* Advanced Real Property Series -- Earth Movement, California Continuing Education of the Bar, 1982
- "Seismic Safety Elements," co-authored with P. McClay, presented at the Geology Workshop, U.S. Department of Agriculture, Forest Service, 1982
- "Failures That Can be Avoided," presented at the Soil and Foundation Engineers Association, Geotechnical Construction, Loss Prevention Seminar, 1982, published in 1988 by California Geotechnical Engineers Association: Geotechnical Technicians Reference Manual
- "Earthquake Vulnerability of Water Supply Systems," co-authored with R. Eguchi, L. Philipson, M. Legg, and J. Wiggins *in* Lifeline Earthquake Engineering: The Current State of Knowledge 1981, D.J. Smith (editor), American Society of Civil Engineering, New York, pp. 277-292
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- "Recognition of Landslides" *in* Geomorphic Applications in Engineering Geology -- A State-of-the-Art Short Course, presented by the Office of Continuing Education, California State University at Los Angeles, November 1979
- "Geologic/Seismic Criteria," Portion of Liquefied Natural Gas Safety Standards, General Orders Number 112-D, Public Utilities Commission of the State of California (adopted June 5, 1979)
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