

US EPA ARCHIVE DOCUMENT



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
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October 24, 2005

Mark Yachmetz  
Associate Administrator of Railroad Development  
Federal Railroad Administration  
1120 Vermont Avenue, NW, MS 20  
Washington, D.C. 20590

Subject: California High Speed Train System Final Programmatic Environmental Impact Report/Environmental Impact Statement (CEQ# 20050379)

Dear Mr. Yachmetz:

The Environmental Protection Agency (EPA) has reviewed the Final Programmatic Environmental Impact Report/Environmental Impact Statement (Final PEIS) for the California High Speed Train System. Our review of the Final PEIS is pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act.

We appreciate the close working relationship we have had with the Federal Railroad Administration (FRA) and the California High Speed Rail Authority (CHSRA) as a cooperating agency on this project. EPA supports the concept of a high speed train system in California that can facilitate the movement of people, while minimizing environmental impacts. We look forward to continuing our working relationship with you on subsequent environmental analysis that will follow this document.

While EPA has continuing concerns regarding the Final PEIS, our primary focus is to provide FRA and CHSRA with solid guidance in the development of future environmental analyses following this document. We are providing three sets of recommendations to FRA and CHSRA: 1) Recommendations for the Record of Decision for the Final PEIS, 2) Recommendations for the Bay Area to Central Valley PEIS, and 3) Recommendations for Future Project-level Tier 2 NEPA Analyses. These recommendations are summarized below and further described in the enclosed detailed comments.

*Recommendations for the Record of Decision for the Final PEIS*

The cumulative impact analysis for this statewide project provides an opportunity to identify landscape-level and regional impacts, as well as potential large-scale mitigation measures. However, the Final PEIS does not provide a landscape-level cumulative impact assessment of all sensitive resources, nor is the analysis based upon a comprehensive set of reasonably foreseeable projects. A complete cumulative impacts analysis may have resulted in different conclusions with a different set of mitigation options. EPA encourages FRA and CHSRA to improve the methodology used in the Final PEIS so that a more thorough cumulative impact assessment can contribute to project design and mitigation opportunities.

*Recommendations for the Bay Area to Central Valley PEIS*

EPA supports FRA and CHSRA's commitment to analyze a full range of alternatives connecting the Bay Area to Central Valley in a separate PEIS. This new document, including an Altamont Pass alternative, will ensure that the alignment carried forward for project-level study is most likely to contain the least environmentally damaging practicable alternative (LEDPA). Through our comments on the Draft PEIS and interagency meetings, EPA has identified potential impacts to aquatic resources of national importance (CWA Section 404(q), 33 U.S.C. 1344(q)), wetlands and water quality, wildlife habitat, and endangered species that would result from the previously proposed Diablo Direct and Pacheco Pass alternatives. We indicated that EPA would have difficulty concurring on a Diablo Direct alignment as the LEDPA. EPA is already working with FRA and CHSRA on this document and will continue to coordinate on this important project.

*Recommendations for Future Project-Level Tier 2 NEPA Analyses*

EPA recommends that that FRA and CHSRA follow through with commitments for analysis at the Tier 2 project level, including: (1) avoidance and minimization of aquatic resources; (2) the analysis of an alignment that would avoid impacts to Soledad Canyon and the Santa Clara River; (3) an analysis and comparison of impacts from a high speed train system with and without community bypass loops in the Central Valley; and (4) identification of critical wildlife movement corridors and measures to maintain wildlife movement across the fully grade-separated route.

EPA continues to be supportive of the proposed project, and we look forward to maintaining our working relationship with FRA and CHSRA in the development of an environmentally protective high speed train system. My staff will continue to work with your office as the Bay Area to Central Valley project develops. If you have any questions, please feel free to call me at (415) 972-3843. You can also contact Tim Vendlinski, Wetlands Regulatory Office Supervisor at (415) 972-3464 or Duane James, Environmental Review Office Manager, at (415) 972-3988.

Sincerely,

Enrique Manzanilla, Director  
Communities and Ecosystems Division

Enclosures: EPA's Detailed Comments

cc: Mehdi Morshed, California High Speed Rail Authority  
David Castanon, Los Angeles Army Corps of Engineers  
Wayne White, U.S. Fish and Wildlife Service  
Crawford Tuttle, California Resources Agency  
Alan C. Lloyd, California Environmental Protection Agency  
David Bunn, California Department of Fish and Game  
Rollie Smith, Housing and Urban Development

The Environmental Protection Agency (EPA) has worked with the Federal Railroad Administration (FRA) and the California High Speed Rail Authority (CHSRA) to address the potential environmental impacts of a high speed train system for California as outlined in our April 2003 Interagency Memorandum of Understanding (MOU). The MOU outlines a process for integrating the requirements of the National Environmental Policy Act (NEPA) and Clean Water Act (CWA) Section 404 to streamline the environmental review process. Based on EPA's review of the Final Programmatic Environmental Impact Report/Environmental Impact Statement (Final PEIS), we provide comments for incorporation in the following related documents:

- (I) The Record of Decision (ROD) for the Final PEIS;
- (II) The Bay Area to Central Valley Programmatic Environmental Impact Statement, to be initiated in November 2005; and
- (III) The future project-level Tier 2 environmental reviews that will analyze the impacts of a high speed train system in greater detail.

## **I. Recommendations for the ROD for the Final PEIS**

### **Cumulative Impacts Analysis**

EPA provided extensive comments regarding the cumulative impact analysis completed for the Draft PEIS during multiple interagency meetings. While the Final PEIS includes a revised cumulative impacts analysis associated with a programmatic high speed train system, EPA has continuing concerns related to the analysis parameters and conclusions.

#### *Projects Considered in the Cumulative Impacts Analysis*

Cumulative impacts are defined in the Council on Environmental Quality's (CEQ) NEPA regulations as the impact on the environment that results from the incremental impact of the action when added to the other past, present, and reasonably foreseeable future actions, regardless of what agency (Federal or non-Federal) or person undertakes such actions (40 CFR 1508.7). These actions include both transportation and non-transportation activities. The cumulative impact analysis in the Final PEIS considered only other transportation projects, with a few non-transportation infrastructure projects and a single development project (Appendix 3.17-A). For example, the Sacramento to Bakersfield portion of the proposed project includes only highway improvements, light rail projects, and the construction of the University of Merced in the cumulative impacts analysis. Additional projects, such as large-scale developments and approved urban planning projects that are reasonably foreseeable and are identified within city and county planning documents, were not included in the analysis. These types of projects, identified within and around the proposed high speed train system, should have been included in the cumulative impacts analysis.

EPA disagrees with the Final PEIS's characterization of past actions in the context of the cumulative impacts analysis. The document implies that consideration of past actions is only relevant as they relate to a concise description of identifiable present effects (Page 3.17-2). The

cumulative impact analysis lacks a description of the “identifiable present effects” to various resources attributed to past actions. The purpose of considering past actions is to determine the current health of resources. This information forms the baseline for assessing potential cumulative impacts and can be used to develop cooperative strategies for resources protection (CEQ’s Forty Most Frequently Asked Questions #19). The Final PEIS should have included this baseline information.

### *Cumulative Impacts Conclusions*

The cumulative impact analysis for a project covering approximately 800 miles between San Francisco and San Diego provides an opportunity to identify potential large, landscape-level statewide and regional impacts, as well as potential large-scale mitigation measures. While the cumulative impact analysis references potential construction and design mitigation measures, the analysis does not examine landscape-level impacts to all sensitive resources on a statewide and regional scale. For example, the impacts of a continuously-fenced high speed rail system to wildlife movement, when considered with other past, present, and future project impacts to wildlife movement in California, is potentially significant to a number of species. The cumulative impact analysis should have been more thorough to better guide future project-level analyses and potential avoidance and minimization measures, while focusing design and mitigation efforts.

#### Recommendations:

In the Tier 1 ROD, confirm that the conclusions provided for the cumulative impact analysis would be unchanged if all appropriate past, present, and reasonably foreseeable future activities, including non-transportation activities, were included in the cumulative impacts analysis. FRA and CHSRA should also acknowledge in the Tier 1 ROD that a complete list of reasonably foreseeable projects was not included in the cumulative impact analysis. Update conclusions to the cumulative impact analysis in the ROD if warranted.

EPA recommends that, in the Tier 1 ROD, FRA and CHSRA commit to conducting a thorough cumulative impact assessment during project-level analyses. Future project-level analyses should include a complete list of reasonably foreseeable actions, including non-transportation projects. For future project-level analyses, EPA recommends that FRA and CHSRA use Caltrans recently published cumulative impacts guidance, which is applicable to cumulative impact analyses for non-road projects. This guidance can be found at [[http://www.dot.ca.gov/ser/cumulative\\_guidance/purpose.htm](http://www.dot.ca.gov/ser/cumulative_guidance/purpose.htm)].

### **Relationship to Other Plans**

FRA has proposed a separate network using magnetic levitation technology for high speed train service in southern California. The Final PEIS does not fully discuss the magnetic levitation proposal or the need for both steel-wheel on steel-rail technology proposed for this project and the magnetic levitation technology proposed for a separate high speed train system

in southern California. A full discussion of this issue and potential duplication of efforts and incompatibilities should have been included in the Final PEIS.

Recommendations:

The Tier 1 ROD should clarify the relationship between the need for this project and the need for other proposals by FRA for magnetic levitation high speed train service in southern California. The ROD should also identify the need for, and integration of, both projects.

## **II. Recommendations for the Bay Area to Central Valley PEIS**

Following our review of the Draft PEIS, EPA raised objections to the Diablo Direct and Pacheco Pass alignments because they may cause significant adverse effects to the health of the aquatic ecosystem. In the Diablo Mountain Range, EPA designated the federally regulated waters in Del Puerto Creek, Salado Creek, Crow Creek, and Orestimba Creek watersheds of the Diablo Range, as aquatic resources of national importance under our Memorandum of Agreement (MOA) with the Department of the Army, pursuant to CWA Section 404(q) (33 U.S.C. 1344(q)). EPA also stated that the loss of wetlands associated with Pacheco Pass alignments, as well as the impacts to wildlife corridors and habitat fragmentation, are not consistent with the substantive binding requirements of CWA Section 404(b)(1) Guidelines (40 CFR 230.10 (a) and (c)). Specifically, the magnitude of impacts to special aquatic sites may cause or contribute to significant degradation of waters of the United States (40 CFR 230.10(c)).

In light of the potentially significant impacts that would result from the alternatives analyzed in the Draft PEIS, EPA also recommended consideration of other, potentially less damaging alternatives, including the Altamont Pass alternative. EPA is supportive of FRA and CHSRA's decision to defer designating a preferred alignment connecting the Bay Area to the Central Valley until a subsequent programmatic analysis is completed. We have participated in numerous interagency meetings with FRA and CHSRA to discuss those alignments and reiterate the following recommendations:

Recommendations:

- Include Tier 1 landscape-level data, such as a complete list of water bodies, wetlands, and streams that are mapped on USGS 7.5 minute maps, even if these water ways are not digitized or available electronically, as well as broad "edge-area" analyses, to quantify habitat fragmentation caused by each alternative analyzed.
- Eliminate from further analysis any alternatives that impact the designated aquatic resources of national importance in Del Puerto Creek, Salado Creek, Crow Creek, and Orestimba Creek watersheds of the Diablo Range. EPA will carefully analyze any alternative that decreases the aquatic functions directly through discharges to waters in the Diablo Range, or indirectly through degrading upland resources, in our determination of compliance with the CWA Section 404(b)(1) Guidelines. Considering the high value aquatic resources and the potential for large-scale habitat fragmentation, EPA continues

to believe that the Diablo Direct alignments do not appear to exhibit characteristics of the least environmentally damaging practicable alternative (LEDPA), the only alternative that can be permitted under the binding CWA Section 404 regulations (40 CFR 230.10 (a) and (c)).

- Incorporate significant alignment and design modifications into the proposed Pacheco Pass route to reduce impacts to waters of the United States and wildlife movement corridors.
- Analyze variations of an Altamont Pass alternative, including an alignment without a Bay Crossing providing service to San Jose, San Francisco, and Oakland via high speed rail and existing light-rail.

### **III. Recommendations for Future Project-level, Tier 2 NEPA Analyses**

#### **Water Resources**

The Clean Water Act Section 404(b)(1) Guidelines (Guidelines) at 40 CFR Part 230.10(a) state that “. . .no discharge of dredged or fill material shall be permitted 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.” While EPA has concurred that the high speed train alternative alignments identified in the Final PEIS are “most likely to contain” the LEDPA, FRA and CHSRA will have to demonstrate that potential impacts to waters of the United States have been avoided and minimized to the maximum extent practicable prior to obtaining a CWA Section 404 permit (40 CFR 230.10(a) and 230.10(d)). In future project-level, Tier 2 analyses EPA recommends the following:

#### Recommendations:

- Follow through with commitments made in the Final PEIS, specifically “Avoidance and minimization measures would be incorporated into the development, design, and implementation phases at project-level environmental analysis. In addition, close coordination will occur with the regulatory agencies to develop specific design and construction standards for stream crossings, infrastructure setbacks, monitoring during construction, and other best management practices” (Page 3.17-13).
- Demonstrate that all potential impacts to waters of the United States have been avoided and minimized. If these resources cannot be avoided, the project-level analyses should clearly demonstrate how cost, logistical, or technological constraints preclude avoidance and minimization of impacts.
- Design measures and modifications to avoid and minimize impacts to water resources should be quantified for each alternative studied, for example, number of stream crossings avoided, acres of waters of the United States avoided, etc.

- Identify all protected resources with special designations and all special aquatic sites and waters within state, local, and federal protected lands. Additional steps should be taken to avoid and minimize impacts to these areas.

### **Southern Mountain Crossing**

EPA continues to have concerns that a SR-58/Soledad Canyon route paralleling the Santa Clara River and using cut-and-fill techniques in this sensitive region would cause significant damage to the Soledad Canyon area and this major regional resource for wildlife. Due to the potentially significant impacts that may affect the Santa Clara River and Soledad Canyon resource area, including significant degradation of waters of the United States (40 CFR 230.10(c)), the proposed alignment may not be consistent with the CWA Section 404(b)(1) Guidelines (40 CFR 230.10 (a) and (c)). The Final PEIS indicates that a wider corridor, including a route that would avoid Soledad Canyon and the Santa Clara River, will also be considered at the project level. EPA provides the following recommendations for future project-level, Tier 2 analyses:

#### Recommendations:

- As committed to in the Final PEIS, fully analyze an alternative that will connect Bakersfield to Los Angeles through the Antelope Valley that would avoid impacts to the Santa Clara River and Soledad Canyon habitat corridor and wildlife resources and would not degrade existing and proposed conservation areas.
- Identify avoidance and minimization measures for each alternative analyzed, and quantify the specific resources avoided, for example, acres of habitat avoided, linear feet of stream avoided, number of stream crossings minimized, etc.

### **Express Loops and Bypasses in the Central Valley**

EPA commends the FRA and CHSRA commitment to analyzing Central Valley routes with and without bypasses in the future Tier 2 NEPA process to demonstrate to decision makers the full impact of bypasses and to provide flexibility in determining the best mix of bypass and mainline routes. We understand that several previously proposed bypasses will not be carried forward for further study in Tier 2 analyses. EPA provides the following recommendations for future project-level, Tier 2 analyses:

#### Recommendations:

- For the alternatives in the Central Valley that may include an express loop in addition to a route through a community, provide a comparison chart of environmental impacts associated with each bypass proposed. Separate the reporting of environmental impacts associated with mainline routes only and mainline routes plus bypass express loops.
- Clarify why loop construction, in addition to mainline routes, is warranted in each community in light of additional farmland, noise, and visual impacts.



- Examine additional, less-damaging measures, other than loop configurations that result in farmland and habitat fragmentation, to reduce urban impacts and logistical challenges.
- Specify why, in the Central Valley, alignments incorporate loops and bypasses while in other geographic areas there are no proposed loops and bypasses. The justification for required loops and bypasses should be applied consistently throughout the high speed train system. If similar operational constraints can be addressed without bypasses in southern California, for example, the project-level analysis should clearly identify why they are required in the Central Valley.

### **Tunneling Methodology and Impacts**

The Final PEIS does not disclose an approximate amount of material to be removed per mile of tunnel and where material could be disposed or stored. A discussion of the methodology to be utilized and the corresponding environmental impacts will be required at the Tier 2 stage to ensure that the full scope of environmental impacts associated with tunneling are considered in project design. EPA provides the following recommendations for future project-level, Tier 2 analyses:

#### Recommendations:

- Discuss the methodology proposed for tunneling associated with the high speed train system alternative, including equipment and planned locations for staging tunnel operations and methods for transportation of tunnel equipment.
- Estimate the miles of roads required for operation and access for emergency personnel in tunneled areas and the number of temporary roads required for each mile of tunnel construction. Include proposed methods for removal and revegetation of these roads.
- Quantify the environmental impacts associated with the tunneling and required connected actions, for example amount of material removed per mile tunnel, impacts associated with storage of removed material, road access required, etc.
- Discuss the potential impacts of tunneling on the maintenance of stream flows. Address the potential for tunneling to affect riparian habitat, the direction of lateral movement of water through the soil profile, and the recharge of shallow, unconfined aquifers.

### **Biological Resources**

EPA agrees with the conclusion that “wildlife movement corridors may be affected where the high speed train alignment would not be in an existing rail or highway corridor and would traverse natural area... or where there is habitat use in existing rights-of-way where wildlife movement occurs across roads and rail lines where fences are not obstructing movement” (Page 3.17-13). However, the Final PEIS is inconsistent in addressing biological resource and wildlife movement impacts from the high speed train alternative. For example, another section of the

cumulative impacts analysis concludes that “portions of the high speed train alternative would use existing rail alignments and would therefore not result in direct disturbance of sensitive habitats” (Page 3.17-13). Sensitive habitats do occur adjacent to existing rail alignments, and direct disturbance to these areas will result from the proposed high speed train system.

EPA is supportive of FRA commitments addressing EPA concerns raised following our review of the Draft PEIS, specifically that “project-level studies will identify areas where it is important to maintain connectivity and will ensure that sufficient mitigation is included to maintain movement corridors,” and “wildlife underpasses or overpasses will be added to the (high speed train) at-grade alignments, where appropriate, to reduce the overall effects on wildlife corridors and movements” (Appendix 2, Chapter 9, Standard Response 3.15.9). EPA provides the following recommendations to be implemented by FRA and CHSRA at initiation of Tier 2 analyses. Much of the information identified below is now available for FRA and CHSRA to use in landscape-level analyses, and up-front data compilation and coordination with species experts prior to initiation of project-level planning will contribute to a better understanding of the measures needed to reduce impacts to biological resources.

Recommendations:

- Incorporate information developed for the California Missing Linkages Report. This document, and links to additional information can be found at the following website: [http://scwildlands.org/missinglinks/reports/download\\_missinglinkages.htm](http://scwildlands.org/missinglinks/reports/download_missinglinkages.htm)
- Incorporate data developed for the statewide California Comprehensive Wildlife Conservation Strategy, which will be completed in early 2006. This strategy addresses 800 at-risk species and provides range maps. The range maps for these species are available from the California Department of Fish and Game. Updates regarding this strategy can be found on the following website: [http://www.teaming.com/state\\_cwcs/california\\_cwcs.htm](http://www.teaming.com/state_cwcs/california_cwcs.htm)
- In addition to locating the available data indicating where species ranges may be bisected by the high speed train system, EPA recommends that FRA and CHSRA facilitate a meeting of scientists and local experts to explore the specific locations and design features for wildlife crossings that are needed throughout the high speed train system.
- Identify the connections that would likely remain after construction of the high speed train system and highlight these areas as "connectivity zones" for protection and preservation. Explore opportunities for preservation of these corridors through mitigation and cooperative agreements.
- Disclose how fencing the train route will affect wildlife movement and discuss how fencing for safety purposes will be integrated with proposed wildlife passages, such as culverts, bridges, viaducts, underpasses, and overpasses.