

# CALIFORNIA HIGH-SPEED TRAIN

Project Environmental Impact Report /  
Environmental Impact Statement

## FINAL

### Merced to Fresno Section Project EIR/EIS

### VOLUME I: REPORT

April 2012





**CALIFORNIA HIGH-SPEED TRAIN PROJECT EIR/EIS**

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FINAL

California High-Speed Train Project  
Environmental Impact Report/Environmental  
Impact Statement

and

Final Section 4(f) Statement  
and

Draft General Conformity Determination

Merced to Fresno Section

**VOLUME I:  
REPORT**

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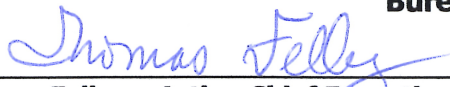
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**California High-Speed Train: Merced to Fresno Section**  
**Final Project Environmental Impact Report/  
Environmental Impact Statement**  
**and**  
**Final Section 4(f) Statement**  
**and**  
**Draft General Conformity Determination**

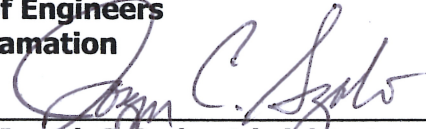
Pursuant to:  
California Environmental Quality Act, P.R.C. 21000 et seq.; State of California CEQA Guidelines, California  
Administrative Code, 15000 et seq.; and National Environmental Policy Act (42 U.S.C. 4332 et seq.)  
40 C.F.R. Part 1500 and 64 Fed. Reg. 28545

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**Abstract:** This document considers, describes and summarizes the environmental impacts of the Merced to Fresno Section High-Speed Train (HST) Project, an approximately 80-mile portion of a larger HST system which is intended to connect to sections traveling west to San Francisco, south to Los Angeles and later, north to Sacramento. The project is designed as a steel-wheel-on-steel-railway completely grade separated from other modes. The need for this project is directly related to the population growth and increased intercity travel demand over the next 20 years and beyond and the increased travel delays and congestion that would result on California's highways and airports. Additionally, the Merced, Madera, and Fresno Counties have limited connectivity with the state's larger urban metropolitan areas. Four alternatives are considered in this Final EIR/EIS, the No Project Alternative and the three HST alternatives: the UPRR/SR 99, BNSF, and the Hybrid alternatives. Each contains one station in Merced and one in Fresno. The HST in this section has the ability to travel up to 220 mph along the alignment. The Hybrid Alternative has been identified by the FRA and the Authority as the Preferred Alternative. Potential environmental impacts of the alternatives include displacement of commercial, residential and agricultural properties; community and neighborhood disruption; increase in noise; increase in traffic at each of the stations; impacts on historic and archaeological sites; impacts on parks and recreational resources; visual impacts; impacts on sensitive biological resources and wetlands; and use of energy. Mitigation measures are described to address impacts identified in the Final Project EIR/EIS.

This California High-Speed Train (HST) Project Environmental Impact Report/Environmental Impact Statement (EIR/EIS) is being made available to the public in accordance with the California Environmental Quality Act and the National Environmental Policy Act.

Visit the California High-Speed Rail Authority Web Site ([www.cahighspeedrail.ca.gov](http://www.cahighspeedrail.ca.gov)), where you can:

- View and download the Final EIR/EIS.
- Request a CD-ROM of the Final EIR/EIS.
- Locate a library near you to review a hardcopy of the Final EIR/EIS.

Printed copies have been placed in the main public libraries in the following cities and communities: Merced, Chowchilla, Madera, Fresno, Atwater, Le Grand, and Los Banos.



## Fact Sheet

### Project Name

California High-Speed Train Project, Merced to Fresno Section

### Project Description

The California High-Speed Train Project, Merced to Fresno Section, proposes to build and operate an 80-mile portion of a larger high-speed train (HST) system, which is intended to connect to sections traveling west to San Francisco, south to Los Angeles, and later north to Sacramento. The project is designed as a steel-wheel-on-steel-railway completely grade-separated from other modes. The need for this project is directly related to the population growth and increased intercity travel demand projected over the next 20 years and beyond and the increased travel delays and congestion that would result on California's highways and at airports. Additionally, Merced, Madera, and Fresno counties currently have limited connectivity with the state's larger urban metropolitan areas.

This Final Project Environmental Impact Report/Environmental Impact Statement (EIR/EIS) considers four alternatives, including the No Project Alternative and the three HST alternatives: the UPRR/SR 99, BNSF, and the Hybrid alternatives. Each contains one HST station in Merced and one in Fresno. The HST in this section would have the ability to travel up to 220 miles per hour along the alignment. The FRA and the Authority have identified the Hybrid Alternative as the Preferred Alternative. Potential environmental impacts of the alternatives include displacement of commercial, residential, and agricultural properties; community and neighborhood disruption; increase in noise; increase in traffic at each of the stations; impacts on historic and archaeological sites; impacts on parks and recreational resources; visual impacts; impacts on sensitive biological resources and wetlands; and use of energy. Mitigation measures are described to address impacts identified in the Final Project EIR/EIS.

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### California Environmental Quality Act (CEQA) Lead Agency

The California High-Speed Rail Authority is the lead agency for CEQA.

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### Document Availability

The Final EIR/EIS is available online at:  
<http://www.cahighspeedrail.ca.gov/>

Printed copies of the Final EIR/EIS, as well as related appendices and technical reports, are available at the California High-Speed Rail Authority, public libraries, and community centers (see List of Recipients beginning on page 9-1).



## Contact Information

To obtain a copy of the environmental documents, contact:

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## Permits, Approvals, and Consultations

### Federal

- **U.S. Army Corps of Engineers** – Section 404 Permit for Discharge of Dredge or Fill Materials into Waters of the U.S., including wetlands. Also, Section 10 Permit for construction of any structure in or over any Navigable Water of the U.S.
- **U.S. Environmental Protection Agency** – review of Environmental Justice conclusions; General Conformity Determination.
- **National Marine Fisheries Service and US. Fish and Wildlife Service** – Section 7 Endangered Species Act (ESA) Consultation and Marine Mammal Protection Act Consultation.
- **Federal Railroad Administration, in consultation with the California Office of Historic Preservation** and the **Advisory Council on Historic Preservation** – National Historic Preservation Act, Section 106 Consultation.
- **U.S. Department of Transportation** – Section 4(f) Evaluation.

### State

- **California Department of Fish and Game – California Endangered Species Act (CESA)** permits; Section 1602 Lake and Streambed Alteration Agreement; use of Title 14 lands along the San Joaquin River (Camp Pashayan).

- **California Department of Transportation** – Encroachment permits.
- **California Public Utilities Commission** – approval for construction and operation of railroad crossing of public roads and for construction of new transmission lines and substations.
- **California State Lands Commission** – lease for crossing state sovereign lands.

### Regional

- **San Joaquin Valley Air Pollution Control District** – Permits under Rule 201, General Permit Requirements; Rule 403, Fugitive Dust; Rule 442 Architectural Coatings; Rule 902 Asbestos.
- **Regional Water Quality Control Board – Permits** under Clean Water Act Section 401 Water Quality Certification; Section 402 National Pollutant Discharge Elimination System (NPDES) Water Discharge Permit; Dewatering Permit (Order No. 98-67); Spill Prevention, Control, and Countermeasures (SPCC) Plan (part of Section 402 process); Stormwater Construction and Operation Permit.
- **Central Valley Flood Protection Board** – The Board enforces standards for the construction, maintenance, and protection of adopted flood control plans that will protect public lands from floods. The jurisdiction of the Board includes the Central Valley, including all tributaries and distributaries of the Sacramento River, the San Joaquin River, and designated floodways (Title 23 California Code of Regulations, Section 2). The Board has all the responsibilities and authorities necessary to oversee future modifications as approved by the U.S. Army Corps of Engineers (USACE) pursuant to assurance agreements with the USACE and the USACE Operations and Maintenance Manuals under Title 33 Code of Federal Regulations, Section 208.10 and Title 33 Code of Federal Regulations, Section 208.10, and Title 33 United States Code, Section 408.





## **Authors and Principal Contributors**

Please see List of Preparers in Chapter 10 of the Final EIR/EIS.

## **Date Issued**

April 2012

## **Subsequent Steps**

The California High-Speed Rail Authority Board will make a final decision on the project alternative to be implemented after the Final Project EIR/EIS is issued. Following completion of the Final EIR/EIS, the Board will consider certifying the Final EIR/EIS for compliance with CEQA and making a final decision on the project. If the Board certifies the Final EIR/EIS and makes a project decision, it will file a notice of determination with the State Clearinghouse. FRA's decision under NEPA is not final until it certifies the ROD on the Final EIR/EIS. Certification of the ROD is expected in summer 2012.

## Preface

### What Is This Document?

The California High-Speed Rail Authority (Authority) proposes to construct, operate, and maintain an electric-powered high-speed train (HST) system in California. When completed, the nearly 800-mile HST system will provide new passenger rail service to California's major metropolitan areas and through the counties that are home to more than 90% of the state's population. The Merced to Fresno Section of the California HST System is a critical link connecting the Bay Area HST sections north and south to the rest of the system.

This Project Environmental Impact Report/Environmental Impact Statement (EIR/EIS) is the next step in the environmental process after the development and certification of the 2005 *Final Program Environmental Impact Report/Environmental Impact Statement for the Proposed California High-Speed Train System* (referred to hereafter as the Statewide Program EIR/EIS), the 2008 *Bay Area to Central Valley High-Speed Train Final Program Environmental Impact Report/Environmental Impact Statement* (referred to hereafter as the Bay Area to Central Valley Program EIR/EIS), the 2010 *Bay Area to Central Valley High-Speed Train Revised Final Program Environmental Impact Report*, and the 2012 *Bay Area to Central Valley High-Speed Train Partially Revised Draft Program Environmental Impact Report* (referred to as Program EIR/EIS documents). The Authority and the Federal Railroad Administration (FRA) have prepared this Project EIR/EIS for the Merced to Fresno Section of the California HST System in compliance with the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA). Because of the highly technical and complex nature of the proposed Merced to Fresno Section of the HST Project, this EIR/EIS contains more information than is mandated by either the federal or state statutory and regulatory requirements.

This Project EIR/EIS does the following:

- Describes the HST alternatives and their potential impacts.
- Provides environmental information to assist decision-makers in selecting the project to be built.
- Identifies measures to avoid and minimize impacts, and, when necessary, compensate for adverse impacts.
- Considers cumulative impacts as part of the environmental review process.

The Authority and FRA widely circulated the Draft EIR/EIS to affected local jurisdictions, state and federal agencies, tribes, community organizations, other interest groups, and interested individuals. The document was also available at Authority offices, public libraries, and community centers. The 60-day public comment period closed on October 13, 2011. During this period, public hearings were held to receive oral testimony on the HST Project and Draft EIR/EIS. The Final EIR/EIS addresses the comments received during the public comment period. Where text from the Draft EIR/EIS has been changed in the Final EIR/EIS, paragraphs or parts of paragraphs with insertions are indicated by gray highlighted text as well as by a vertical line in the left margin. When text has been deleted from a paragraph, the location of deleted text is indicated only by the vertical line in the left margin. Where new chapters or appendices have been added in entirety, such as Chapter 7, Preferred Alternative and Stations, and several technical appendices as identified by asterisk in the table of contents of Volume II, the text is not marked as changed.

### How Do I Use This Document?

The purpose of environmental documents prepared under NEPA and CEQA is to disclose information to decision makers and the public. While the science and analysis that supports this Project EIR/EIS is complex, this document is intended for the general public. Every attempt has been made to limit

technical terms and the use of acronyms. Where this cannot be avoided, the terms and acronyms are defined the first time they are used.

Volume I of this Project EIR/EIS is organized into 14 chapters and a Summary. Volume II contains technical appendices, and Volume III provides plans and other relevant engineering drawings. For a reader with a limited time to devote to this document, the **Summary** is the place to start. It provides an overview of all of the substantive chapters in this document and includes a table listing the potential environmental impacts at the project level for each environmental resource topic. If the reader begins here but wants more information, the Summary directs the reader where to get details elsewhere in the document.

**Chapter 1.0, Project Purpose, Need, and Objectives**, explains why the project is proposed and provides a history of the planning process. **Chapter 2.0, Alternatives**, describes the proposed Merced to Fresno Section HST alignment alternatives and design options, HST station alternatives, connections to the Bay Area sections, and heavy maintenance facility alternatives, as well as the No Project Alternative used for purposes of comparison. It contains illustrations and maps and provides a review of construction activities. These first two chapters help the reader understand what is being analyzed in the remainder of the document.

**Chapter 3.0, Affected Environment, Environmental Consequences, and Mitigation Measures** is where the reader can find information about the existing transportation, environmental, and social conditions in the area of the proposed project. This chapter provides the findings of the analysis of potential environmental impacts, along with methods to reduce these impacts (called mitigation strategies). Chapter 3 is divided into subsections discussing various environmental resource topics:

- Transportation
- Air Quality and Global Climate Change
- Noise and Vibration
- Electromagnetic Fields and Electromagnetic Interference
- Public Utilities and Energy
- Biological Resources and Wetlands
- Hydrology and Water Resources
- Geology, Soils, and Seismicity
- Hazardous Materials and Waste
- Safety and Security
- Socioeconomics, Communities, and Environmental Justice
- Station Planning, Land Use, and Development
- Agricultural Lands
- Parks, Recreation, and Open Space
- Aesthetics and Visual Quality
- Cultural Resources and Paleontological Resources
- Regional Growth
- Cumulative Impacts

**Chapter 4.0, Section 4(f)/Section 6(f) Evaluation** summarizes parks, wildlife refuges, and historic properties in accordance with Section 4(f) of the Department of Transportation Act of 1966 and Section 6(f) of the Land and Water Conservation Funds Act. It describes avoidance alternatives and measures to minimize harm to these resources.

**Chapter 5.0, Project Costs and Operations**, summarizes the estimated capital and operations and maintenance costs for each Merced to Fresno Section alternative evaluated in this Project EIR/EIS, including funding and financial risk.

**Chapter 6.0, CEQA/NEPA Decision Process and Other Considerations**, summarizes the project's significant adverse environmental effects, the significant adverse environmental effects that cannot be avoided if the project is implemented, and the significant irreversible environmental changes that would

occur as a result of the project or irretrievable commitments of resources or foreclosure of future options. Chapter 6 also provides information about identification of the preferred alternative and the least environmentally damaging practicable alternative.

**Chapter 7.0, Preferred Alternative and Stations**, describes the Preferred Alternatives and basis for identifying the Preferred Alternatives.

**Chapter 8.0, Public and Agency Involvement**, contains summaries of coordination and outreach activities with agencies and the general public, as well as a summary of comments received during the Draft EIR/EIS public review period. In addition, this chapter contains a list of common comments and the responses to this subset of comments. All comments are individually addressed in the appendix to Chapter 8 found in Volume IV. **Chapter 9.0, EIR/EIS Distribution**, identifies individuals and organizations informed of the availability of the Project EIR/EIS. **Chapter 10.0, List of Preparers**, provides the names and responsibilities of the authors of the Project EIR/EIS. **Chapter 11.0, References/Sources Used in Document Preparation**, cites the references and contacts used in writing this document. **Chapter 12.0, Glossary of Terms**, provides a definition of certain terms used in the Project EIR/EIS. **Chapter 13.0, Index**, provides a tool to cross-reference major topics used in the Project EIR/EIS. Finally, **Chapter 14.0, Acronyms and Abbreviations**, defines the acronyms and abbreviations used in this document.

**Appendices and Technical Reports** provide additional details on the HST Project and EIR/EIS process. Technical appendices, included in Volume II, are primarily related to the affected environment and environmental consequences analyses. These appendices are numbered to match their corresponding environmental elements in Chapter 3, as well as Chapter 2, of the Project EIR/EIS. Detailed technical reports prepared for transportation; air quality and global climate change; noise and vibration; biological resources and wetlands; hydrology and water resources; geology, soils, and seismicity; hazardous wastes/materials; acquisitions and relocations; socioeconomics; aesthetics and visual quality; cultural resources; and paleontological resources; as well as other sections as identified in the Final EIR/EIS, are available on CD. Volume III, Alignments and Other Plans, also available on CD, presents the design drawings, including trackway and roadway crossing design. These documents are also available at [www.cahighspeedrail.ca.gov](http://www.cahighspeedrail.ca.gov) and at locations identified on Chapter 9, EIR/EIS Distribution. Volume IV includes all comments submitted during the Draft EIR/EIS comment period.

## What Happens Next?

On December 13, 2011, the Authority Board accepted the Authority staff's recommendation to select the Hybrid Alternative as the Preferred Alternative. Pursuant to Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency determined (letters dated March 23 and March 26, 2012, respectively) that the Hybrid Alternative is the least environmentally damaging practicable alternative. The California High-Speed Rail Authority Board will make a final decision on the project alternative to be implemented after the Final Project EIR/EIS is issued.

Following completion of the Final EIR/EIS, the Board will consider certifying the Final EIR/EIS for compliance with CEQA and making a final decision on the project. If the Board certifies the Final EIR/EIS and makes a project decision, it will file a notice of determination with the State Clearinghouse.

## Federal Approval

The Hybrid Alternative is called a "preferred alternative" by FRA to make clear that the federal government has not made a decision until it issues a Record of Decision (ROD) after completion of the Final EIR/EIS. FRA will issue a decision document referred to as the federal ROD. The ROD states FRA's decision on the project, identifies the alternatives considered by the FRA in reaching its decision, and itemizes the Authority's commitments to mitigate project impacts. Issuance of the ROD is a prerequisite for any federal funding.

## Merced to Fresno HST Milestone Schedule

April 2012	Final EIR/EIS published
May 2012	Notice of Determination
June 2012	Record of Decision
2012 through 2013	Final design/permitting
December 2012	Property acquisition begins
Spring 2013	Construction begins
2019	Operation begins (Testing)

The schedule for final design, construction, and operation will be refined as the project moves closer to the end of the environmental review and preliminary design phase. The Authority envisions that revenue service would be provided between Merced and Fresno by 2020.

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