

Merced to Fresno Section of the California High-Speed Train System

Highlights of Final Environmental Impact Report/Statement

Introduction and Background

This Merced to Fresno Section Final Environmental Impact Report/Environmental Impact Statement (EIR/EIS) presents the first project-level environmental impact document for the California High-Speed Train (HST) System. The California HST System is the nation's first high-speed rail project with a speed of over 200 miles per hour. It kicks off the ultimate path of California's HST in the Central Valley.

In 2008, when California voters passed Proposition 1A to provide state funding for the California HST, they acknowledged that the state's roads and airports can no longer keep up with its growing population and that, with its speed, capacity, and connectivity, the HST System would provide travelers with a viable alternative to traditional modes of travel.

California's HST System would provide intercity, high-speed service on more than 800 miles of track, connecting the major population centers of Sacramento, the San Francisco Bay Area, the Central Valley, Los Angeles, the Inland Empire, Orange County, and San Diego. It would use state-of-the-art, electrically powered, steel-wheel-on-steel-rail technology to operate HST trains over a fully grade-separated, dedicated track, using advanced safety, signaling, and automated train control systems. It would provide predictable and consistent travel times, work well with existing transportation systems, relieve capacity struggles, and remain sensitive to California's unique natural resources.

California's current intercity transportation system, including in the Central Valley, cannot meet existing and future travel demands. Without the proposed project, transportation system congestion will lead to deteriorating air quality, reduced reliability of all modes of travel, and increased travel times. The interstate highway system, commercial airports, and conventional passenger rail serving the intercity travel market are operating at or near capacity and will require large public investments for maintenance and expansion to meet existing demand and future growth. The feasibility of expanding many major highways and key airports is uncertain, and some needed expansions might be constrained by physical, political, or other factors.

Statewide, over the next two decades, California's HST System would alleviate the need to spend more than \$100 billion¹ to build 3,000 miles of new freeway, 5 airport runways, and 90 departure gates to meet the transportation needs of a growing population. In fact, the San Joaquin Valley is projected to grow at a rate higher than any other region in California. Three counties—Merced, Madera, and Fresno—are projected to grow by 60% by 2035.²

The Merced to Fresno Section, which includes two HST stations, plays a critical role in forming the "backbone" of a statewide system. Since work began on this section, the California High-Speed Rail Authority (Authority) has held nearly 150 local meetings and 44 additional public and technical working group meetings. These meetings included public informational meetings; meetings with elected officials, agencies, community organizations, and stakeholders; special meetings with agricultural groups, tribal leaders, and other groups; and transportation/planning agency working groups.

This Merced to Fresno Section Project EIR/EIS builds upon work completed earlier in a broader, statewide environmental impact analysis. That first analysis provided the Authority and the Federal Railroad Administration (FRA) with the means to evaluate the overall HST System and make broad decisions about general alignments and station locations for further study. This EIR/EIS is a more-detailed look at the section from Merced to Fresno, one of nine sections of the total HST System.

¹ *California High Speed Train Program Environmental Impact Report/Environmental Impact Statement Capital and Operation and Maintenance Costs*, prepared for the California High Speed Rail Authority and the U.S. Department of Transportation, Federal Railroad Administration. January 2004. pp 4-5, and Appendices A through D. *The Engineering News-Record* cost indices of August 2004, 2010, and 2011 were used to update the 2003 estimates to 2011.

² California Department of Finance (CDOF). 2010a. *E-5 Population and Housing Estimates for Cities, Counties and the State, 2001-2010, with 2000 Benchmark*. Sacramento, CA.

The Authority and FRA circulated the Merced to Fresno Section Draft Project EIR/EIS to affected local jurisdictions, state and federal agencies, tribes, community organizations, other interest groups, interested individuals, and the public on August 9, 2011. The document was also made available at the Authority offices, public libraries in the study area, and on the Authority's website (www.cahighspeedrail.ca.gov). The review period for the Draft EIR/EIS was extended from the originally planned 45-day comment period to a 60-day comment period, which began August 15, 2011, and closed on October 13, 2011. The comment period included public information meetings and public hearings.

During the comment period, 895 comments were submitted on the Merced to Fresno Section Draft EIR/EIS. The comments covered a wide range of issues and represented viewpoints from government agencies, organizations, business groups, businesses, residents, and property owners. Many expressed support of or opposition to the project or its alternatives. Of the 895 submittals, approximately 107 generally supported and 127 generally opposed the project. Most comments came from people living, working, or with property interests in the project study area. Among the comments received from the general public, the effects on community resources, farmland, and private property were the top concerns. Affected jurisdictions, such as cities and counties, generally listed their preference for specific alternatives, design options, or other project components. Businesses generally commented on specific property impacts. Comments were received from 43 special interest or community organizations representing their environmental or farming interests. Some groups, such as the Madera Friends of High-Speed Rail, organized to support this project and provided comments during the public comment period.

The scoping meetings and public outreach efforts that were held during the environmental review process revealed the following areas of controversy:

- Selection of the Heavy Maintenance Facility (HMF) site
- Selection of the HST alignment connecting the Merced to Fresno Section to the west (the "wye" connection)
- Impacts on wildlife habitat preserves along the BNSF Alternative
- Impacts such as noise, visual quality, loss of community character and cohesion, and right-of-way acquisition on communities in the project corridor
- Impacts on farmlands, such as loss of productive farmland and agricultural enterprises
- Trade-offs between community impacts related to design options that would have elevated the HST guideway through Chowchilla or use of an at-grade guideway around Chowchilla

In the period between publication of the Draft and Final EIR/EIS, FRA concluded that project impacts on Camp Pashayan in Fresno, which is a Section 4(f) resource,³ would be *de minimis*. Measures to minimize harm, mitigate, or enhance this resource would be incorporated into the project design. With these measures, the Authority and FRA have concluded that the project would not adversely affect the activities, features, or attributes of this resource. Analysis shows that the Hybrid Alternative would have the least harm under Section 4(f).

Also between the Draft and Final EIR/EIS, the U.S. Environmental Protection Agency and U.S. Army Corps of Engineers issued letters identifying the Hybrid Alternative as the preliminary Least Environmentally Damaging Practicable Alternative (March 23, 2012, and March 26, 2012, respectively). Additionally, the State Historic Preservation Office issued letters of concurrence with the Historic Properties Survey Report (Authority and FRA 2012a), Historic Architectural Survey Report (Authority and FRA 2012b) (both March 13, 2012), and the Archaeology Survey Report (Authority and FRA 2012c) (March 21, 2012). These findings and concurrences are all key steps in the environmental process.

An Air Quality General Conformity Determination is required before project construction begins. The draft Conformity Determination accompanies this Final EIR/EIS. FRA concluded in the draft Conformity Determination that the proposed project, as designed, conforms to the purpose of the approved State Implementation Plan and is consistent with all applicable requirements. The 30-day review period on the draft Conformity Determination will be from April 20 to May 21, 2012.

In April 2012, the Authority released the Revised 2012 Business Plan for the California HST System. This plan updated the Draft 2012 Business Plan released for public review in November 2011. The Business Plan outlines the

³ A Section 4(f) resource is a publicly owned land, such as a park, recreational area, wildlife or waterfowl refuge, or historical site, having national, statewide, or local significance. Section 4(f) resources have special protections under the Department of Transportation Act (49 U.S.C. 303(c)).

type of high-speed rail service the Authority plans to develop; describes the primary benefits of the system; and forecasts patronage, project funding, construction phasing, and project risks. The plan describes in detail the anticipated phasing of implementation for each individual section of the HST System, including the order of priority for construction, with the Merced to Fresno Section described in this EIR/EIS being the first to break ground. This will make the Central Valley the birthplace of California's HST System.

Changes to finalize this EIR/EIS were made following the comment period and were primarily in response to public comments on the Draft EIR/EIS. Some changes were the result of advancing the design engineering south of the San Joaquin River from 15% to 30%, as well as ongoing coordination with local jurisdictions and regulatory agencies. In addition, the Bureau of Reclamation was added as a cooperating agency under the National Environmental Policy Act (NEPA). Generally, the design and mitigation measures have been refined to minimize and avoid impacts. Additionally, a discussion of the Preferred Alternative and a summary of comments received and responses to common comments is presented.

Alternatives

The Merced to Fresno Section EIR/EIS evaluates three basic HST alignment alternatives: the UPRR/SR 99 Alternative, BNSF Alternative, and Hybrid Alternative (which combines elements of the other two alternatives). As shown in Figure 1, these alternatives would extend between and include the proposed stations in Downtown Merced and Downtown Fresno.

The environmental studies also analyze a "No Project Alternative" for comparison, as required by law. The No Project Alternative represents the state's transportation system (highway, air, bus, conventional rail) as it is currently and would be after implementation of programs or projects, which are projected in regional transportation plans (RTPs) that have identified funds for implementation and are expected to be in place by 2035, as well as major planned land use changes. It does not include high-speed rail.

This EIR/EIS also evaluates five heavy maintenance facility (HMF) site alternatives: Castle Commerce Center, Harris-DeJager, Fagundes, Gordon-Shaw, and Kojima Development. Figure 1 shows the HMF sites.

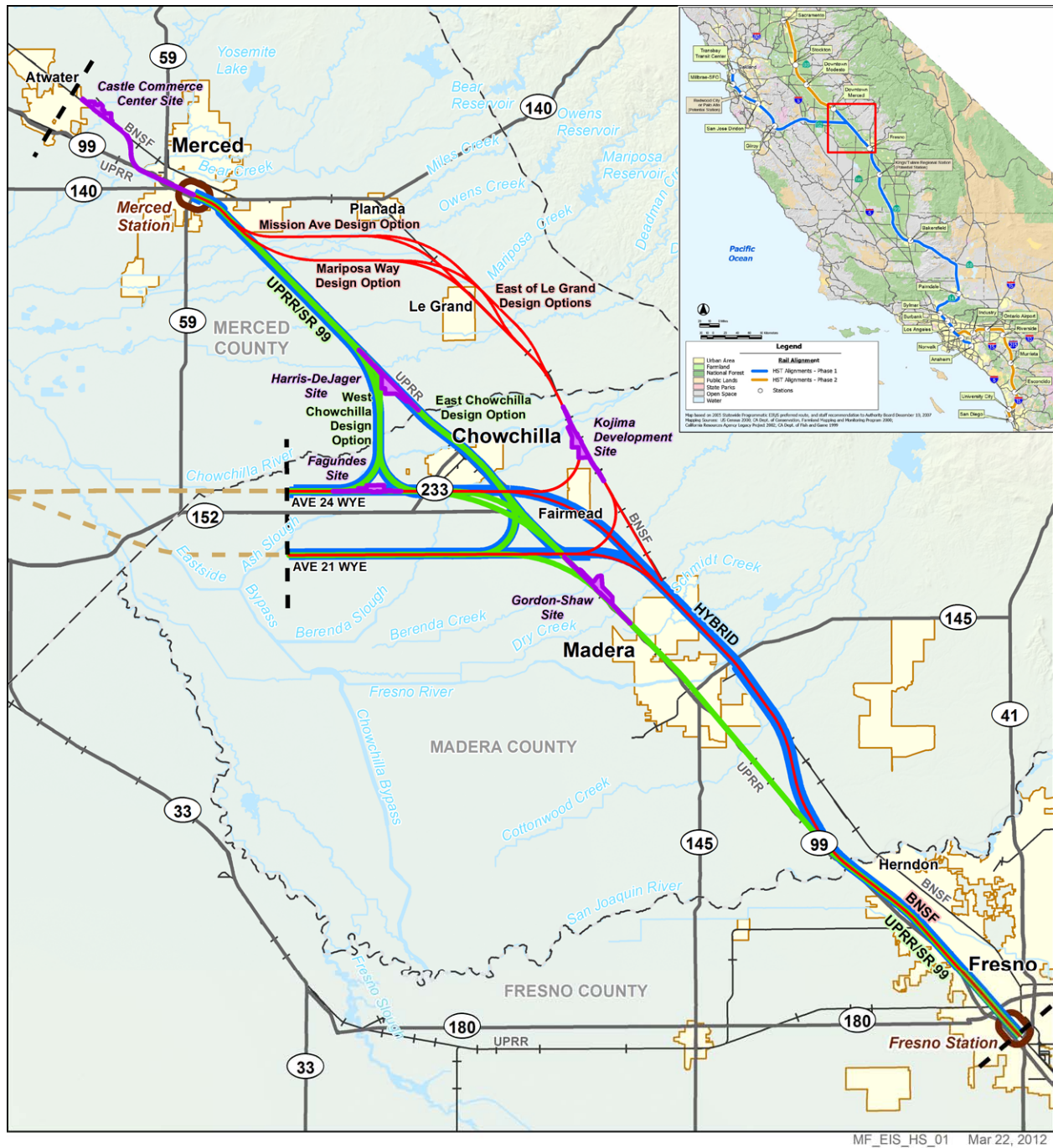
Projected population growth and conversion of land to urbanized uses between 2010 and 2035 are anticipated to have a much greater environmental effect than the HST Project in the study area. Under the No Project Alternative, the total population of the three-county area is expected to grow to approximately 2.3 million, which is an increase of about 60%, or more than 930,000 new residents, and 91,000 acres of land development. This is larger than the geographic size of the City of Fresno, which is about 72,000 acres, and about 1/14th the size of Merced County. Additionally, this development is anticipated to follow current patterns dispersed along the edges of city growth boundaries and into unincorporated areas along highways.

The annual vehicle-miles traveled in the three-county region is projected to increase from 35 million to almost 50 million by 2035, a more than 40% increase in travel that would require the use of an estimated 1 billion gallons of petroleum in the Merced to Fresno region alone.⁴ Demand for other types of energy, such as electricity, would also increase at a level commensurate with population growth under the No Project Alternative, which would require additional generation and transmission capacity.

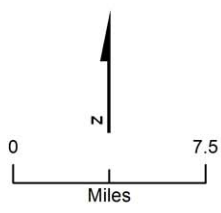
HST Alternatives Evaluation

The HST Project would reduce daily automobile travel and would, therefore, reduce fuel consumption, congestion, and air pollution and lead to better travel times. The HST also would provide an alternative to commercial air travel within California, reducing air travel miles and related fuel consumption and pollution. The HST Project would increase electricity consumption compared to the No Project Alternative. However, because the HST System would provide a more energy-efficient mode than automobile and air transportation, it would result in a relative decrease in energy consumption. Furthermore, the Authority has adopted a policy goal of using 100% renewable energy to power the HST vehicles. The HST stations would have the benefit of encouraging high-density, transit-oriented development in Merced and Fresno, revitalizing the downtown areas of these cities, and discouraging the urban sprawl that, among other things, consumes large amounts of agricultural land.

⁴ Bureau of Transportation Statistics. 2010. *The Nation's Freight*. Available at http://www.bts.gov/publications/freight_in_america/html/nations_freight.html. Research and Innovative Technology Administration, Bureau of Transportation Statistics. Accessed October 22, 2010. Washington, DC. 2010. Based on the 2007 national average fuel economy for passenger and other two-axle, four-tire vehicles.



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- BNSF Alternative
- UPRR/SR 99 Alternative
- Hybrid Alternative
- Project Limit
- Connection to Other Section
- Station Study Area
- Potential Heavy Maintenance Facility
- City Limit
- County Boundary
- Railroad
- State / US Highway

Figure 1
Merced to Fresno Section Alternatives and Design Options

Comparison of HST Alternatives

Each of the HST alternatives could have significant and unavoidable impacts on the following resources: air quality, noise and vibration levels, communities, farmland, parks, aesthetics and visual resources, and cultural resources. Some mitigation measures, such as those for impacts on noise and vibration, visual resources, and parks, will be decided upon in coordination with local communities, whose input can influence the mitigation. For example, if a community decides against a sound barrier, the noise effect would remain significant.

Specifically, the following impacts would remain significant to varying degrees after mitigation is applied, depending on the alternative.

- Air quality could be affected during operation of the HMF.
- Noise and vibration from HST operation could affect properties in some locations.
- The Castle Commerce Center HMF would displace a mobile home community in Merced.
- Farmland would be converted to nonagricultural use.
- Parks in Merced County, Madera, and Fresno would be affected.
- Visual quality could be degraded in some areas of Le Grand, Chowchilla, Fairmead, Downtown Madera, Madera Acres, and Fresno, depending on the alternative. Sound barriers and retaining walls could block views in various locations.
- Historically significant built-environment resources would be affected, including resources listed on or potentially eligible for listing on the National Register of Historic Places.

Capital costs and some key areas with potentially significant project impacts before mitigation that differentiate among the HST alternatives are summarized below. For more information and details, please refer to the Merced to Fresno Section Final Project EIR/EIS at the Authority website (www.cahighspeedrail.ca.gov).

Capital Costs: Generally, the UPRR/SR 99 Alternative would have considerably more elevated structures and urban area construction and, therefore, would be the most expensive to build. The Hybrid Alternative would present the fewest constructability issues, which is also reflected in it being the lowest-cost alternative, at approximately \$450 million less than the BNSF Alternative and more than \$1 billion less than the UPRR/SR 99 Alternative.

Agricultural Lands: The UPRR/SR 99 Alternative would affect the fewest acres of Important Farmland and Williamson Act land, but it falls between the Hybrid Alternative and BNSF Alternative for acres of affected Farmland Security Zone land. The Hybrid Alternative with the Ave 24 Wye would affect the most Farmland Security Zone land. The UPRR/SR 99 Alternative would cause the least severance of farmlands of all the HST alternatives. The BNSF Alternative would affect the most acres of Important Farmland and Williamson Act land, but would affect the fewest acres of Farmland Security Zone land. Of all alternatives, the BNSF Alternative would cause the greatest severance of farmlands because more of the track would diverge from existing major transportation corridors.

Noise: The UPRR/SR 99 Alternative would have the greatest potential noise impacts, potentially having significant impacts on more than twice the number of residences than the Hybrid Alternative would affect. The Hybrid Alternative would have the least potential noise impacts and affect the fewest residences.

Parks and Section 4(f): A Section 4(f) resource is a publicly owned land, such as a park, recreational area, wildlife or waterfowl refuge, or historical site, having national, statewide, or local significance. Section 4(f) resources have special protections. Parks impacts would be greater for the UPRR/SR 99 Alternative than for the BNSF and Hybrid alternatives and, during construction, would include the full closure of 3-4 park/recreation resources and the partial closure of one park. The UPRR/SR 99 Alternative would result in a Section 4(f) use at seven resources (three parks and four historic properties), whereas the BNSF and Hybrid alternatives would each result in a Section 4(f) use at only three resources. For all three HST alternatives, a *de minimis* determination finding was made regarding impacts on Camp Pashayan. The Section 4(f) least-harm analysis indicates that the Hybrid Alternative would cause the least harm of all the HST alternatives per the Section 4(f) statute's preservation purpose.

Cultural and Paleontological: The UPRR/SR 99 Alternative could affect the most archaeological and historically significant built-environment resources (such as buildings) during construction. The BNSF Alternative could affect the fewest archaeological resources. Historically significant built-environment resources affected would be similar for BNSF Alternative and the Hybrid Alternative.

Biological Resources and Wetlands: The BNSF Alternative is the only alternative that would affect the Great Valley Conservation Bank (a mitigation bank) and federally designated critical habitat for five species associated with vernal pools. Most of the BNSF Alternative's design options would have greater permanent effects on waters under U.S. Army Corps of Engineers' jurisdiction than the UPRR/SR 99 Alternative or the Hybrid Alternative. The BNSF Alternative would permanently affect more than eight times as many acres of vernal pools and seasonal wetlands than the Hybrid Alternative or UPRR/SR 99 Alternative would. The extent of impacts related to the Hybrid Alternative generally would be lower than for the BNSF Alternative and either greater than or similar to impacts associated with the UPRR/SR 99 Alternative.

Preferred Alternative

After careful consideration of data in the Draft EIR/EIS and public and agency comments, the Authority and FRA identified the Hybrid Alternative as the preferred north-south alignment alternative. The Hybrid Alternative would have natural resource impacts generally similar to the UPRR/SR 99 Alternative and fewer impacts than the BNSF Alternative. The Hybrid Alternative would result in fewer effects on community resources than either of the other two alternatives and substantially less than the UPRR/SR 99 Alternative, particularly construction impacts such as increased noise, dust generation, reduced air quality, and reduced access to parks and businesses. Overall, in balancing the effects on natural and community resources, the Hybrid Alternative would minimize environmental impacts the most. The Hybrid Alternative would present the fewest constructability issues, which is also reflected in it being the lowest-cost alternative, at approximately \$450 million less than the BNSF Alternative and more than \$1 billion less than the UPRR/SR 99 Alternative. This is because the Hybrid Alternative is shorter than the BNSF Alternative and has less elevated guideway and fewer impacts on adjacent infrastructure than the UPRR/SR 99 Alternative. The Hybrid Alternative offers the second-best travel time, taking only 30 seconds longer for travel between San Francisco and Los Angeles, a minute more between Merced and Fresno, and the same amount of time between San Francisco and Merced as the UPRR/SR 99 Alternative. The BNSF Alternative would have the same travel time as the Hybrid Alternative between San Francisco and Los Angeles, but overall would take as much as 4 minutes longer than the other two alternatives. Overall, the Hybrid Alternative best meets the regulatory requirements and wishes of the majority of the public by minimizing impacts on the environment, farmland, and communities. It would avoid the greater impacts on the environment and rural communities in Merced County that would occur with the BNSF Alternative, and would avoid the greater impacts on more urban areas along the UPRR/SR 99 Alternative, such as in the City of Madera.

The Authority and FRA anticipate identifying a preferred HMF site from among the HMF alternatives examined in this EIR/EIS. The Authority and FRA are also considering HMF alternatives as part of the Fresno to Bakersfield Section EIR/EIS and anticipate identifying a preferred HMF facility from among the alternatives in that EIR/EIS as well. A final decision on the HMF facility is anticipated to occur at a date later than the decisions on the north-south alignments and stations, and potentially after release of the San Jose to Merced Section EIR/EIS.⁵

Next Steps in the Environmental Process and Project Implementation

Notices of availability of this Final EIR/EIS were published and the document was distributed and made available to agencies and the public on April 20, 2012. Before the Authority and FRA make decisions regarding the project, the California Environmental Quality Act (CEQA) and NEPA require that each lead agency make specific findings and determinations regarding the project alternatives, potential impacts, mitigation measures, and conformance with specific environmental laws. Using these findings and determinations, and considering the entire Administrative Record, which includes comments received on this Final EIR/EIS, the Authority and FRA will prepare CEQA and NEPA decision documents approving the completion of the environmental review process and selecting the project alternative to be implemented. Following publication of these decision documents, the Authority will begin implementation of the selected alternative by preparing the final design, obtaining necessary environmental permits, and beginning the process of acquiring property for the project. The anticipated timing of the next environmental steps are:

- Authority Board Certification of the Final Project EIR/EIS and Notice of Determination: May 2012
- Record of Decision by FRA: June 2012
- Final design and permitting: 2012/2013
- Property acquisition begins: Late 2012

⁵ The Harris-DeJager HMF site sponsor withdrew the proposal for a potential HMF site in October 2011; however, to remain consistent with previous analysis and provide a basis of comparison among the HMFs, the analysis of this potential HMF site continues to be evaluated in this Merced to Fresno Section Final Project EIR/EIS.