



SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

MEMORANDUM

EO-2284

TO: Daniel Elliott, Chairman
Deb Miller, Vice Chairman
Ann Begeman, Commissioner

CC: Rachel Campbell
Director, Office of Proceedings

FROM: Victoria Rutson
Director, Office of Environmental Analysis

DATE: July 11, 2014

SUBJECT: STB Docket No. FD 35724 (Sub-No. 1), California High-Speed Rail Authority – Construction Exemption – in Fresno, Kings, Tulare and Kern Counties, Cal., Review of Environmental Matters

This memorandum summarizes the environmental review process for the California High-Speed Rail Authority's (Authority) proposed construction in the above-mentioned proceeding, sets forth key environmental topics associated with the project, addresses environmental concerns raised during the Board's exemption proceeding, and presents the Office of Environmental Analysis' (OEA) final recommendations to the Board regarding adoption of the Final EIS, the preferred alternative, and environmental mitigation.

1.0 INTRODUCTION

By petition for exemption (Petition) filed on September 26, 2013, the Authority seeks authority to construct a high-speed train (HST) rail line between Fresno and Bakersfield, California (Fresno to Bakersfield HST Section).¹ The Fresno to Bakersfield HST Section is the second of nine segments of the planned California HST System (HST System),² which would, when completed, provide high-speed intercity passenger rail

¹ The Authority's Petition is available on the Board's Web site at www.stb.dot.gov (click on "Filings" under "Quick Links," then search by Docket # "FD" and "35724" and "01").

² The Board authorized construction of the first segment; i.e., the Merced to Fresno HST Section, on June 13, 2013.

service over more than 800 miles of new rail line throughout California. The HST System would be an electric-powered train system with automated train controls and would operate at up to 220 miles per hour over a fully grade-separated and dedicated rail line. The Fresno to Bakersfield HST Section would include passenger stations in the cities of Fresno and Bakersfield (i.e., this section's termini), a Kings/Tulare Regional Station near Hanford (which would be built when travel demand warrants it), approximately 114 miles of double-tracked mainline, and four tracks at the HST stations (i.e., two through tracks and two station tracks to load and unload passengers).

In a decision issued December 4, 2013, the Board instituted a proceeding under 49 U.S.C. § 10502(b) and extended the deadline for comments on the transportation merits of the proposed construction to December 24, 2013. The Board also denied the Authority's request that the Board conditionally grant the construction authority by addressing the transportation aspects of the proposed project before the environmental review has been completed. Thereafter, the Board extended the comment period on the transportation merits by more than seven additional weeks, to February 14, 2014. Finally, because of the Authority's delay in serving its petition on the parties to the Merced to Fresno HST Section proceeding, as directed by the Board, the comment deadline on the transportation merits was extended another three weeks to March 7, 2014.

The Board also received approximately two dozen comment letters noting environmental concerns in this proceeding, including comments filed by BNSF Railway Company (BNSF) and representatives of Mercy Hospital, to which the Authority responded. Summaries of the major environmental and other concerns expressed by these comments and OEA's responses to the comments and the Authority's replies are provided in Section 4.0 below.

2.0 ENVIRONMENTAL REVIEWS

2.1 Environmental Reviews Prior to OEA's Involvement

Before the Authority filed its Petition and OEA became involved in the environmental review process for the Fresno to Bakersfield HST Section, programmatic and project-specific environmental reviews pertaining to the Fresno to Bakersfield HST Section were conducted jointly by the Authority and the Federal Railroad Administration (FRA). During these reviews, the Authority was the lead state agency for compliance with the California Environmental Quality Act (CEQA), and FRA and the Authority were joint leads for compliance with the National Environmental Policy Act (NEPA). These joint reviews produced single environmental review documents titled "environmental impact reports/environmental impact statements" to meet the obligations of both CEQA and NEPA, respectively. The preparation of single environmental review documents, which cover both Federal and state environmental requirements, is consistent with Council on Environmental Quality (CEQ) regulations at 40 C.F.R. § 1506.2. Because this memorandum pertains to OEA's Federal role in the environmental review process and the Board's consideration of potential environmental impacts under Federal environmental laws, each of these single environmental documents will be referred to as an "EIS."

2.1.1 Programmatic EISs

The Authority and FRA began the environmental review process for the California HST System by preparing two programmatic or Tier 1³ EIS documents to facilitate the selection of preferred alignments and station locations across the proposed system. These selections enabled the Authority and FRA to advance to project-level analyses in Tier 2 EISs. For the California HST System, the Authority and FRA are preparing a project-level EIS for each of the nine proposed HST sections.

In 2005, the Authority and FRA finalized the first Tier 1 document: the Final Program EIS for the Proposed HST System (Final Program EIS).⁴ This document provided a programmatic analysis on implementing the HST System across the State, from Sacramento in the north, to San Diego in the south, and the San Francisco Bay Area to the west. The document also enabled the Authority and FRA to select preferred alignments and station locations for most of the California HST System for further analysis in Tier 2 documents.

The Authority and FRA then finalized the second Tier 1 document in 2008: the Bay Area to Central Valley HST Program EIS. However, as a result of two CEQA legal challenges, the document was revised and reissued by the Authority as a Revised Final EIS in 2010 and again as a Partially Revised Final EIS in 2012.⁵

Subsequently, FRA and the Authority issued the Draft and Final Project EISs for the Merced to Fresno HST Section, the first of the nine sections in the HST system. These documents were issued prior to the Board's involvement in the HST system, but the Final Project EIS for the Merced to Fresno HST Section was subsequently adopted by the Board in its June 13, 2013 final decision authorizing construction of the environmentally preferable alternative for that section.

³ CEQ's NEPA regulations at 40 C.F.R. § 1502.20 encourage the use of tiering, which is the preparation of an area-wide or program-level EIS (i.e., Tier 1 document) followed by project-specific EISs (i.e., Tier 2 documents). Tiering eliminates repetitive discussions of the same issues and enables Tier 2 documents to incorporate applicable Tier 1 information by reference and to have focused analyses on issues ripe for decision making. CEQA also encourages tiering (14 California Code of Regulations § 15152).

⁴ This document is available on the on the Authority's Web site at http://www.hsr.ca.gov/Programs/Environmental_Planning/EIR_EIS/Vol1.html.

⁵ These documents are available on the Authority's Web site at http://www.hsr.ca.gov/Programs/Environmental_Planning/bay_area.html.

2.1.2 Fresno to Bakersfield HST Section – Draft Project EIS

For the Fresno to Bakersfield HST Section, the second of the nine sections of the HST system, FRA and the Authority were again joint lead agencies for Federal reviews under NEPA, and the Authority was lead agency for state review under CEQA. The U.S. Army Corps of Engineers (USACE) also served as a cooperating agency in the Federal environmental review of the project. The FRA and the Authority issued the Draft Project EIS for the Fresno to Bakersfield HST Section in August 2011 for a 60-day public comment period (FRA ROD, p. 5), and held four public workshops (in Rosedale, Wasco, Corcoran and Fresno, California) and three formal public hearings (in Bakersfield, Hanford, and Fresno, California) on the document (Final Project EIS, pp. S-34 and S-35). The Draft Project EIS considers seven alternatives, including the no-build alternative and six HST build alternatives (Draft Project EIS, p. S-7).⁶

2.1.3 Fresno to Bakersfield HST Section – Supplemental Draft Project EIS

After reviewing the substantive public comments received on the Draft Project EIS, the FRA and the Authority decided to reintroduce alignment alternatives west of Hanford (Hanford West Bypass 1 and 2 alternatives) that would be consistent with the Preferred Alternative identified in the Final Program EIS and another alignment alternative in Bakersfield (the Bakersfield Hybrid Alternative). Because of these additional alternatives, the FRA determined that it was necessary to prepare a Supplemental Draft EIS (Final Project EIS, pp. S-4 and S-5). The FRA and the Authority issued the Supplemental Draft EIS for the Fresno to Bakersfield HST Section in July 2012 for a 90-day public comment period, and held four public workshops (in Rosedale, Wasco, Corcoran and Fresno, California) and three formal public hearings (in Bakersfield, Hanford and Fresno, California) on the document (Final Project EIS, p. S-35; FRA ROD, p. 6). With the three additions, the document considers ten alternatives, including the no-build alternative and nine HST build alternatives (Supplemental Draft Project EIS, pp. S-7 through S-9).⁷

2.2 Environmental Review with OEA's Participation

Following the Board's decision on April 18, 2013 that it has jurisdiction over the proposed 800-mile long California HST system, the Board requested cooperating agency status for the remaining HST project-level EISs on the basis of jurisdiction by law in a May 2, 2013 letter to FRA. By letter dated August 23, 2013, the FRA granted the Board cooperating agency status for the eight project-level EISs currently being prepared or in the planning stages, including the Final Project EIS for the Fresno to Bakersfield HST Section.

⁶ This document is available on the on the Authority's Web site at http://www.hsr.ca.gov/Programs/Environmental_Planning/draft_fresno_bakersfield.html.

⁷ This document is available on the on the Authority's Web site at http://www.hsr.ca.gov/Programs/Environmental_Planning/revised_draft_fresno_bakersfield.html.

2.2.1 Fresno to Bakersfield HST Section - Final Project EIS

Upon the Board receiving cooperating agency status, OEA requested and was given a field tour of the proposed Fresno to Bakersfield HST Section by the Authority on September 19 and 20, 2013. The tour included all alternative alignments and alternative station and HMF locations carried forward for detailed analysis in the Final Project EIS. OEA also conducted independent reviews of and commented on the Final Project EIS in draft form. FRA issued the Final Project EIS on April 18, 2014 and the U.S. Environmental Protection Agency (USEPA) published its notice of EIS availability in the Federal Register on April 25, 2014.

The Final Project EIS considers twelve alternatives, including the no-build alternative and 11 HST build alternatives (Final Project EIS, p. S-11). The 11 build alternatives include the nine alternatives evaluated in the Supplemental Draft Project EIS and two slight modifications to the Hanford West Bypass alternatives (i.e., the Hanford West Bypass 1 Modified and Hanford West Bypass 2 Modified). Both additions reflect shifts of up to about 600 feet to avoid two properties protected under Section 4(f) of the Department of Transportation Act (49 U.S.C. § 303).

The Final Project EIS identifies a Preferred Alternative that combines portions of the BNSF Alternative, Corcoran Bypass, Allensworth Bypass, and Bakersfield Hybrid. Regarding stations, the Final Project EIS identifies the Fresno Mariposa Street, Kings/Tulare Regional Station-East, and Bakersfield Station-Hybrid locations as preferred (Final Project EIS, p. 7-1).⁸ The BNSF Alternative runs parallel to an existing rail line of BNSF for a significant portion of this alternative's route south of Fresno (thus the "BNSF" moniker). A smaller portion of the BNSF Alternative in Fresno (roughly three miles) also parallels an existing rail line of the Union Pacific Railway Company (Union Pacific) (FRA ROD, p. 14). The Final Project EIS also includes a comprehensive list of proposed mitigation measures (Final Project EIS, pp. S-31 and S-65 through S-92).

The purpose of OEA's reviews was to determine whether the Board could adopt the Final Project EIS under 40 C.F.R. § 1506.3(c), which states that a cooperating agency may adopt, without recirculating, the EIS of a lead agency, when after an independent review of the EIS, the cooperating agency concludes that its comments and suggestions have been satisfied.⁹ Based on its review of the Final Project EIS and its initial drafts, OEA concludes that (1) OEA's substantive comments and suggestions on the drafts of the Final EIS have been satisfied; (2) the Final Project EIS adequately assesses the potential environmental impacts associated with the proposed Fresno to Bakersfield HST Section and meets the standards of CEQ's NEPA regulations and the Board's own

⁸ The Mariposa Street location was selected for the Fresno station as part of the environmental review for the Merced to Fresno HST Section.

⁹ For the Merced to Fresno HST Section, the Board did not have cooperating agency status at the time the Final Project EIS was issued. Thus, after it concluded that the actions covered in the Final Project EIS and the Petition from the Authority to construct the Merced to Fresno HST Section are substantially the same, OEA was required by 40 C.F.R. § 1506.3(b) to recirculate the Final Project EIS.

environmental regulations at 49 C.F.R. Part 1105; and (3) to satisfy its NEPA obligations, the Board could adopt the Final Project EIS in any decision authorizing the Authority's Petition.

The Board must now decide whether to authorize the Authority's proposed construction, and whether it concurs with OEA's recommendations, including OEA's recommendations regarding Final Project EIS adoption, the preferred alternative, and mitigation.

2.2.2 FRA's Record of Decision

FRA issued its Record of Decision (ROD) for the Fresno to Bakersfield HST Section on June 27, 2014.¹⁰ Based on an analysis of potential project impacts and substantive agency and public comments, FRA approved a Preferred Alternative that includes portions of the BNSF Alternative in combination with the Corcoran Bypass, Allensworth Bypass and Bakersfield Hybrid alternatives. The Preferred Alternative also includes two stations: the Kings/Tulare Regional Station-East Alternative and the Bakersfield Station – Hybrid Alternative.¹¹ FRA's ROD also directed the Authority to comply with extensive mitigation conditions.

2.2.3 Memorandum of Agreement for Historic Review Process

Section 106 of the National Historic Preservation Act (NHPA) (16 U.S.C. § 470f) requires Federal agencies to "take into account the effect of" their licensing decisions (in this case, whether to grant the Authority's request for an exemption, also called the "undertaking" under NHPA) on properties included in, or eligible for inclusion in, the National Register of Historic Places (National Register), and prior to the approval of an undertaking, to afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment. Consultations with the State Historic Preservation Officer (SHPO) are also required. If the undertaking would have an adverse effect on historic properties, the agency must continue to consult to possibly mitigate the adverse effects.

As the lead Federal agency, FRA initiated the Section 106 consultation process for the Fresno to Bakersfield HST Section prior to OEA's involvement. During that process, FRA consulted with the California SHPO, ACHP, federally recognized Tribal organizations and other interested parties. The parties executed a Programmatic Agreement setting out a general process for Section 106 compliance for the entire proposed 800-mile HST System on June 11, 2011. The Section 106 consultation process, as well as evaluations conducted during the NEPA review, identified properties that are included in, or eligible for inclusion in, the National Register that would be adversely

¹⁰ FRA's ROD is available on FRA's Web site at <http://www.fra.dot.gov/eLib/details/L05279>.

¹¹ For Fresno, the Downtown Fresno Mariposa Street Station Alternative was a component of the Preferred Build Alternative approved by the Board in its final decision authorizing construction of the Merced to Fresno HST Section.

affected by the Preferred Alternative. Due to access restrictions, surveys for archaeological properties are incomplete; therefore, additional National Register-eligible properties could be present. The regulations implementing Section 106 allow for the development of a Memorandum of Agreement (MOA) when the effects of an undertaking cannot be fully determined prior to approval of an undertaking. When there would be an adverse effect, the MOA can also establish responsibilities for the treatment of historic properties, implementation of mitigation measures, and ongoing consultation efforts. In this case, the FRA, Authority, STB, USACE, SHPO and ACHP executed an MOA on May 14, 2014 that outlines additional surveys, historic property treatment, mitigation measures and other efforts that will take place.¹² Execution of the MOA, its filing with ACHP, and subsequent implementation of its terms, demonstrate and will demonstrate that the FRA, Authority and STB are in compliance with Section 106 (36 C.F.R. § 800.6(c)).

3.0 OVERVIEW OF KEY ENVIRONMENTAL TOPICS

Below, OEA provides an overview of key environmental topics associated with the Fresno to Bakersfield HST Section. Generally speaking, these key topics include (1) resource areas that could experience potentially significant impacts (both adverse and beneficial) from construction and operation of the proposed Fresno to Bakersfield HST Section according to the Final Project EIS and FRA's ROD; (2) topics that were emphasized in public comments summarized in and responded to in the Final Project EIS; or (3) topics that were emphasized in environmental comments (and the Authority's replies) submitted to the Board after it instituted a proceeding in this case.

3.1 Purpose and Need

In determining a project's purpose and need under NEPA, the Board should consider an applicant's goals in light of the relevant provisions of its enabling statute. The construction of rail lines requires prior Board authorization either through an application filed under 49 U.S.C. § 10901 or, as requested here, by granting an exemption under 49 U.S.C. § 10502 from the application procedures of section 10901. Under 49 U.S.C. § 10502, the Board must exempt a proposed rail construction from the detailed application procedures of 49 U.S.C. § 10901 when it finds that: (1) those procedures are not necessary to carry out the rail transportation policy (RTP) of 49 U.S.C. 10101; and (2) either (a) the proposal is of limited scope, or (b) the full application procedures are not necessary to protect shippers from an abuse of market power. Under Section 10901(c), the Board must grant rail line construction proposals "unless" the Board finds the proposal "inconsistent with the public convenience and necessity." Thus, Congress has made a presumption that rail construction projects are in the public interest unless

¹² A copy of the MOA is available on the Board's Web site at [http://www.stb.dot.gov/ect1/ecorrespondence.nsf/PublicIncomingByDocketNumber/CF5344A3D804EE9485257CF20045FDA4/\\$File/EI_20460.pdf?OpenElement](http://www.stb.dot.gov/ect1/ecorrespondence.nsf/PublicIncomingByDocketNumber/CF5344A3D804EE9485257CF20045FDA4/$File/EI_20460.pdf?OpenElement)

shown otherwise. Here, we discuss the purpose and need of the Fresno to Bakersfield HST Section as described in the Petition, Final Project EIS, and FRA's ROD, in the context of the Board's enabling statute.

According to the Petition, Final Project EIS, and FRA's ROD, the Fresno to Bakersfield HST Section would be the second of nine sections of the planned California HST System to be constructed. As a component of the planned 800-mile HST System, the purpose of the Fresno to Bakersfield HST Section is to provide the public with electric-powered, high-speed rail service that provides predictable and consistent travel times between major urban centers with connectivity to airports, mass transit systems, and the highway network in the south San Joaquin Valley, and to connect the northern and southern portions of the HST System (Final Project EIS, pp. 1-5 and 1-6). Once the Fresno to Bakersfield HST Section is constructed (and prior to build-out and operation of the entire HST System), the Authority would make both the Merced to Fresno and Fresno to Bakersfield HST sections available for use by Amtrak's San Joaquin Route (currently operating on nearby BNSF tracks), which could provide improved and faster service for Amtrak's customers (Final Project EIS, p. 2-114). As the Authority currently envisions, this phased-in service scenario could include shifting a portion (but not all) of Amtrak's San Joaquin trains over to the Authority's HST rail line from just south of the Madera Amtrak station to just north of Bakersfield.

FRA's ROD indicates that without the proposed HST System, congestion within the current and future intercity transportation system, including the central part of the San Joaquin Valley, would continue to result in deteriorating air quality, reduced reliability, and increased travel times. The ROD explains that the current transportation system in the San Joaquin Valley region has not kept pace with the increase in population, economic activity, and tourism. The interstate highway system, commercial airports, and conventional passenger rail systems serving the intercity market are operating at or near capacity and would require large public investments for maintenance and expansion to meet existing demand and future growth over the next 25 years or beyond (FRA ROD, p. 12).

The ROD also indicates that the feasibility of expanding many major highways and key airports is uncertain. Some facilities that would require expansion could be impractical or constrained by physical, political and other factors (FRA ROD, p. 12).

3.2 Alternatives

As noted in Section 2.2.1 above, the Final Project EIS considers 11 build alternatives for the Fresno to Bakersfield HST Section including the BNSF Alternative and ten alternative alignments that deviate from the BNSF Alternative for portions of the route (see Figure 1 attached). The BNSF Alternative generally parallels the BNSF rail line corridor from Fresno to Bakersfield. The ten alternative alignments include the Hanford West Bypass 1, Hanford West Bypass 1 Modified, Hanford West Bypass 2, Hanford West Bypass 2 Modified, Corcoran Elevated, Corcoran Bypass, Allensworth Bypass, Wasco-Shafter Bypass, Bakersfield South and Bakersfield Hybrid (Final Project EIS, pp. 2-37 through 2-72).

Regarding HST stations, the Final Project EIS considers two alternative sites for the Kings/Tulare Regional Station (i.e., Kings/Tulare Regional Station – East and Kings/Tulare Regional Station – West) and three alternative sites for the Bakersfield Station (i.e., Bakersfield Station – North, Bakersfield Station – South, and Bakersfield Station Hybrid)(Final Project EIS, pp. 2-72 through 2-87).

Statewide, the HST System would also require one heavy maintenance facility (HMF) to be located somewhere in the Central Valley. The Final Project EIS considers five alternative HMF locations (Final Project EIS, pp. 2-92 through 2-100). Because only one HMF location would be required to support full HST operations, FRA states that it is premature to select an HMF site at this time and that it will decide on an HMF site at later date (FRA ROD, p. 23).

The no project or no-build alternative was also evaluated in the Final Project EIS. This alternative would consist of use of the state’s transportation system, both as it is now and as it would be after implementation of programs or projects that are currently projected in regional transportation plans and that are expected to be funded and in place by 2035 (FRA ROD, p. 14).

3.3 Overview of Potential Impacts of the Preferred Alternative

The Preferred Alternative in the Final Project EIS and FRA’s ROD consists of portions of the BNSF Alternative in combination with the Corcoran Bypass, Allensworth Bypass and Bakersfield Hybrid alternatives. The Preferred Alternative also includes two stations: the Kings/Tulare Regional Station-East Alternative and the Bakersfield Station – Hybrid Alternative (Final Project EIS, p. 7-1; FRA ROD, pp. 24 through 28). OEA’s overview of potential impacts of the Preferred Alternative highlights resource areas that could experience potentially significant impacts and those impacts that were emphasized the most in public comments summarized in and responded to in the Final Project EIS, as well as environmental comments (and replies) received by the Board in this case.

3.3.1 Transportation

The Preferred Alternative is expected to benefit the regional transportation system by diverting intercity trips from the regional roadway system to high-speed rail. These diverted trips would reduce the overall number of vehicle trips on the regional roadway system, improve future levels of service on roadways, and reduce overall vehicle miles traveled (Final Project EIS, p. 3.2-72). The HST System would also reduce demand and substitute for commercial air travel in California. Approximately 23 percent of passengers at the Fresno and Bakersfield airports would be diverted to HST in the San Joaquin Valley (Final Project EIS, p. 3.2-73). Potential interim use of the Fresno to Bakersfield HST Section by a portion of Amtrak’s trains would result in improved and faster service on its San Joaquin Route (operated with conventional speed, diesel trains) (Final Project EIS, p. 2-114).

The Preferred Alternative would be grade-separated at approximately 122 road crossings between Fresno and Bakersfield, which would benefit traffic safety and circulation (Final Project EIS, Appendix 2-A). The proposed grade-separations would

occur on average approximately every 2 miles in rural areas but would be more frequent in urban areas (Final Project EIS, p. 3.2-76). Nevertheless, approximately 53 local roadways would also be permanently closed (Final Project EIS, p. 7-10).

Out of the approximately 122 proposed HST grade separations, approximately 28 would be accomplished in a manner (e.g., passing the road under or over the HST) that would also pass the road under or over existing Union Pacific or BNSF rail lines. In addition, out of the approximately 53 proposed road closures, approximately 11 would occur at existing at-grade crossings of Union Pacific or BNSF rail lines (Final Project EIS, Appendix 2-A). In either case, Union Pacific and BNSF would benefit through reduced risks of grade-crossing collisions and reduced costs for at-grade crossing maintenance, and nearby noise-sensitive receptors would benefit from a reduced frequency in the sounding of locomotive horns at crossings.

Under HST System operation, the Fresno to Bakersfield HST Section would increase traffic congestion at numerous intersections around the three HST stations (Fresno, Kings/Tulare region, and Bakersfield). Mitigation measures imposed by FRA, such as requiring roadway widening, restriping, and installation of traffic signals would address some of these potential adverse impacts (Final Project EIS, p. S-21).

3.3.2 Air Quality and Climate Change

Construction of all the alternatives including the Preferred Alternative would result in substantial emissions of ozone precursors (volatile organic compounds [VOC] and nitrogen oxides [NO_x]) and carbon monoxide (CO). Without mitigation, project construction would also conflict with regional attainment plans. However, implementation of mitigation imposed by FRA would offset construction-related Clean Air Act criteria pollutant emissions to less than significant levels (Final Project EIS, p. S-22, FRA ROD, p. 28).

Operation of the Preferred Alternative would result in a net benefit to air quality because the HST project would result in lower mobile source air toxics, greenhouse gases, VOCs, NO_x, CO and particulate matter emissions by diverting trips from transportation modes with higher emissions (i.e., automobile trips and commercial air flights) to high-speed rail, which has lower emissions (Final Project EIS, p. S-22 and S-23; FRA ROD, p. 28).

3.3.3 Noise and Vibration

Construction activities (particularly pile driving) would have the potential to result in building damage from vibrations if the activity occurs within 25 to 50 feet of existing buildings. Mitigation adopted in FRA's ROD, however, would require preconstruction surveys to document the existing conditions of buildings located within 50 feet of proposed pile-driving activities and the use of alternative methods to install piles near buildings that could be damaged by vibration. After mitigation, FRA anticipates that construction vibration impacts would be less than significant (Final Project EIS, p. S-23; FRA ROD, Appendix C, Mitigation Measures N&V-MM#1 through N&V-MM#6).

During operations, the Preferred Alternative is expected to have severe noise impacts on approximately 1,100 noise-sensitive receptors after proposed mitigation is employed (largely residences, but also a few churches, schools, historic properties and parks) (Final Project EIS, pp. 3.4-28, 3.4-29 and 7-10; FRA ROD, p. 29).

3.3.4 Biological Resources and Wetlands

Construction of the Preferred Alternative would not result in significant impacts to federally protected biological resources or wetlands after mitigation required by FRA is implemented (FRA ROD, pp. 29 and 30). Construction would directly impact approximately nine acres of wetlands and 142 acres of other jurisdictional waters of the U.S. protected under the Clean Water Act (CWA)(33 U.S.C. § 1251 *et seq.*)(Final Project EIS, p. 7-9). However, the USACE and USEPA have concurred that the Preferred Alternative likely contains the Least Environmentally Damaging Practical Alternative (FRA ROD, p. 26) and mitigation imposed by FRA and required by the USACE under the CWA would mitigate these potential impacts. The Preferred Alternative would also permanently remove vegetative cover within the construction footprint, including habitat for species that are rare or protected by federal or state law. Operation of the HST System could spread noxious weed species and would bisect existing habitat that has the potential to support special-status species. With mitigation, construction and operation would not likely jeopardize the continued existence of federally listed threatened and endangered species (FRA ROD, p. 41).

FRA-required mitigation includes weed prevention and control; environmental training; delineating environmentally sensitive locations; implementing a biological resources plan; implementing special-status species protection measures; and restoring, enhancing and preserving jurisdictional waters and riparian habitat. These measures and others are expected to reduce operation impacts to negligible (Final Project EIS, pp. S-24 and S-25).

3.3.5 Water Resources

The Preferred Alternative would cross approximately 10 water bodies (Final Project EIS, p. 3.8-43) and disturb approximately 7,000 acres of land during construction (Final Project EIS, pp. 3.8-43 and 3.8-45). In-water work would be required for the construction of supporting piers at some of the proposed crossings (Final Project EIS, p. 3.8-44). Construction activities could alter existing drainage patterns, redirect stormwater runoff, lead to erosion and sedimentation, result in water quality degradation, and impede or redirect flood flows (Final Project EIS, pp. 3.8-44 through 3.8-50).

Potential water quality impacts of construction would be minimized through compliance with a CWA Section 404 permit, compliance with FRA-imposed mitigation measures, and implementation of appropriate best management practices (BMPs). The crossings would be designed to maintain existing hydraulic capacity and connectivity and comply with a Rivers and Harbors Act Section 408 (33 U.S.C. § 408) permit; therefore, any potential impacts on hydrology and floodplains would not be significant (FRA ROD, pp. 9, 10 and 31).

The Preferred Alternative would convert lands that depend heavily on groundwater (i.e., irrigation-sustained agricultural) to a transportation-based land use that would consume substantially less water. Therefore, the Preferred Alternative would result in a beneficial effect to groundwater supplies in the region (FRA ROD, p. 31).

3.3.6 Residential, Business and Other Displacements

The Preferred Alternative would require the displacement of approximately 405 housing units, 396 businesses, and three religious facilities, and result in the division of several communities (e.g., Ponderosa Road east of Hanford, Newark Avenue northeast of Corcoran, 5th Avenue and Waukena Avenue east of Corcoran, and the community of Chrome between Shafter and Bakersfield)(Final Project EIS, p. 7-10).

The Authority must comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act, as amended (42 U.S.C. Chapter 61)(Uniform Act). The provisions of the Uniform Act, a federally mandated program, would apply to all acquisitions of real property or displacements of persons resulting from this federally assisted project (i.e., funded in part through FRA's grants). The Uniform Act was created to provide for and ensure fair and equitable treatment of all affected persons. Additionally, the Fifth Amendment of the United States Constitution provides that private property may not be taken for a public use without payment of "just compensation." The Uniform Act requires that the owning agency provide notification to all affected property owners of the agency's intent to acquire an interest in their property. This notification includes a written offer letter of just compensation. A right-of-way specialist is assigned to each property owner to assist him or her through the acquisition process. The Uniform Act also provides benefits to displaced individuals to assist them financially and with advisory services related to relocating their residence or business operation. Benefits are available to both owner occupants and tenants of either residential or business properties (Final Project EIS, pp. 3.12-135 and 3.12-136).

3.3.7 Agricultural Lands

The Preferred Alternative would result in the permanent conversion of agricultural land to nonagricultural uses; severance of large agricultural properties; displacement and disruption of irrigation systems including wells, pumps and water distribution systems; and conflicts with farmland protection contracts (Final Project EIS, pp. 3.14-34 through 3.14-47). Approximately 3,472 acres of important farmland, including 1,747 acres of Prime Farmland (designated under the Farmland Protection Policy Act, 7 U.S.C. §§ 4201 *et seq*), would be converted to nonagricultural use (Final Project EIS, p. 7-10). These conversions to nonagricultural uses include severed parcels that would no longer be economically viable to farm because of size and overly complex farming logistics (e.g., access difficulties, loss of connectivity to irrigation systems, aerial spraying complications, etc.) (Final Project EIS, p. 7-10, pp. 3.14-46 through 3.14-60).

Mitigation measures required by FRA would preserve land for agriculture and consolidate remnant parcels so that they can remain in agricultural production. The Authority would be required to enter into a contract with the California Department of

Conservation to provide agricultural land mitigation services including the establishment of permanent conservation easements on land of similar acreage, location, and quantity to that which would be affected by the HST rail line. These measures would prevent future losses of currently unprotected farmland, but would not create new farmland or replace the converted farmland. Therefore, even with the mitigation, the farmland loss that would result from construction of the Preferred Alternative is considered significant (FRA ROD, p. 32).

3.3.8 Parks and Recreation

The Preferred Alternative would impact four recreational areas in Bakersfield: McMurtrey Aquatic Center, Kern River Parkway, Mill Creek Linear Park, and the Amtrak Station playground (FRA ROD, pp. 32 and 33). Project-related construction activities would occur within 100 feet of the Bakersfield's McMurtrey Aquatic Center, and the facility would be exposed to increased noise levels during these activities (Final Project EIS, p. 3.15-36). Because the tracks for the Fresno to Bakersfield HST Section through much of Bakersfield would be placed on a newly constructed viaduct or guideway, the construction and placement of columns supporting the guideway would also result in potential impacts. Noise increases from HST operations would be negligible at the aquatic center because of noise barriers that would be constructed on the guideway (Final Project EIS, p. 4-37).

An existing parking lot used by McMurtrey Aquatic Center visitors would be directly affected by the Preferred Alternative; approximately 423 of 660 parking spaces (64.1 percent) would be removed. However, the Authority would ensure that removed parking is replaced. Parking replacement would be achieved through the utilization of existing vacant lots within proximity to the facility or dedicated shared use of parking spaces constructed as part of the Bakersfield Station (Final Project EIS, p. 3.2-104).

The Kern River Parkway and Mill Creek Linear Park are linear recreational facilities that parallel natural water courses. Existing paths in the parks are used by bikers, pedestrians and others (Final Project EIS, pp. 3.15-14 and 3.15-15). Both facilities would be crossed by the Preferred Alternative via an elevated guideway. Although the guideway would span the parks (including existing bike paths) with a clearance of approximately 65 feet for the Kern River Parkway and 30 feet for the Mill Creek Linear Park, construction of the guideway would require the placement of support columns in each park (Final Project EIS p. 3.15-40; Final Project EIS, Volume III, Section G, Part 2). For safety reasons, column and guideway construction activities would require the closure of a portion of each park for several months. However, temporary detours would be established to maintain connectivity to the unaffected portions of the linear park and typical recreational activities would resume at the conclusion of this construction period (Final Project EIS, p. 3.15-36). The guideways would represent an additional visual intrusive element, but generally would be consistent with the existing urban settings of both parks. For the Kern River Parkway the setting includes existing roadway bridges, and for Mill Creek Linear Park the setting includes at-grade roadway crossings and the BNSF right-of-way. Operation of the Fresno to Bakersfield HST Section would also result in minor increases in noise levels in the parks (Final Project EIS, pp. 3.15-38, 3.15-46 and 3.15-50).

The Bakersfield Amtrak Station playground would be separated from the Preferred Alternative by the existing BNSF and Amtrak rights-of-way. However, construction of the Preferred Alternative would temporarily increase noise exposure to playground users, and once constructed, the HST guideway would degrade the visual character and quality of the playground. However, given the urban setting of the playground, potential impacts are not expected to be significant (Final Project EIS, pp. 3.15-32, 3.15-44 and 3.15-51)

3.3.9 Aesthetics and Visual Resources

The Preferred Alternative would permanently lower the visual quality in both rural and urban areas because of the construction of elevated grade-separated crossings, elevated guideways and sound barriers along the guideway. In rural areas, construction of these structures would require the removal of orchards and fields and the structures would block views and degrade the visual quality beyond the infrastructure of the HST System (Final Project EIS, pp. 3.16-67 through 3.16-146). In urban areas where extensive road networks must be maintained, an elevated guideway would be necessary to ensure that a fully grade-separated HST system is constructed (Final Project EIS, pp. 2-10 through 2-12). The potential visual impacts of the elevated guideways would be particularly evident in the urban core of Bakersfield (from approximately Palm Avenue to Oswell Street) where the elevated guideway would range from roughly 40 feet to 80 feet in height through the City (Final Project EIS, Vol. III, Section G, HST Structure Plans, Part 2 of 2, File 5). Although mitigation measures such as the planting of trees and other vegetation would be required of the Authority as a result of mitigation imposed in FRA's ROD, potential visual impacts would remain significant (Final Project EIS, p. S-30; FRA ROD, p. 33).

3.3.10 Socioeconomics and Environmental Justice

Construction of the Preferred Alternative would displace approximately 396 commercial and industrial businesses and approximately 405 housing units (Final Project EIS, p. 7-10). Approximately 136 agricultural parcels would be split by the Preferred Alternative (Final Project EIS, p. 3.12-94). HST construction activities could lower sales prices of nearby properties and result in lower property tax revenues. Overall however, HST construction would temporarily benefit the regional economy through construction spending, job creation, and increased sales tax revenue (Final Project EIS, p. 3.12-142).

Operation of the Fresno to Bakersfield HST Section would provide economic benefits and facilitate broader economic expansion for the entire region. These economic advantages include user benefits (travel-time savings, cost reductions, reduced accidents) and accessibility improvements for the region's citizens through improved connection of the Central Valley to the rest of California (Final Project EIS, p. 3.12-96). Some agricultural production would be lost but compensation for that loss would be a component of the compensation paid to landowners during the land acquisition process. Compensation also would reflect the value of any existing assets (such as the fruiting trees within an orchard) that have a future value for production. However, it would likely be difficult to relocate some agricultural production areas after compensation.

Additionally, some relocated agricultural production would take time to re-establish itself and return to full production levels (Final Project EIS, p. 3.12-101).

Construction and operation of the Preferred Alternative would result in disproportionately high and adverse effects on minority and low-income populations. These populations are located in Fresno, Wasco, Shafter, Bakersfield and some rural areas such as Newark Avenue, 5th Avenue and Waukena Avenue in Corcoran, and the community of Chrome south of Shafter. Where mitigation measures imposed by FRA would not completely reduce the impacts in areas with minority and low-income populations, disproportionately high and adverse effects on minority and low-income populations would occur. Noise and vibration, community division and/or disruption, land use, parks and recreation, visual, and cumulative impacts would have disproportionately high and adverse effects on minority and low-income populations and FRA has adopted measures to mitigate but not eliminate these potential impacts (Final Project EIS, pp. 3.12-133 and 3.12-134; FRA ROD, pp. 31, 32, 42 and 43).

FRA also considered the potential offsetting benefits of the Fresno to Bakersfield HST Section to the environmental justice communities (FRA ROD, pp. 42 and 43). For example, FRA, the Authority and three other federal agencies have formed an Interagency Partnership and executed a “Memorandum of Understanding for Achieving an Environmentally Sustainable High-Speed Train System in California.” Several of the partnership’s principles would benefit minority and low-income populations including improving access to affordable housing, increasing transportation options, lowering transportation costs, and protecting the environment. The Authority states that it would also continue its outreach activities, such as workshops that have been held in Fresno, to discuss the HST System, collect community input, and provide literature on relocation assistance programs and property rights (Final Project EIS, p. 3.12-134).

To ensure that project-related job opportunities benefit minority and low-income populations, the Authority states it would develop a community benefits policy to support employment of individuals who reside in disadvantaged areas and those designated as disadvantaged workers. This would help to remove potential barriers to small businesses, disadvantaged business enterprises, disabled veteran business enterprises, women-owned businesses, and microbusinesses that want to participate in building the HST System (Final Project EIS, p. 3.12-134).

3.3.11 Cultural and Paleontological Resources

Construction of the Preferred Alternative would not affect any known archaeological resources that are considered eligible for the National Register (Final Project EIS, p. 3.17-101). However, due to access restrictions, surveys for archaeological resources are incomplete and unknown/unrecorded archaeological resources could exist along the Preferred Alternative. Disturbance or removal of these unknown resources during construction could result in adverse effects under Section 106 (Final Project EIS, p. 3.17-103). Project operations would not result in effects on archaeological resources (Final Project EIS, p. 3.17-127)

Construction of the Preferred Alternative would not affect any known paleontological resources. However, geologic formations that are intersected by the Fresno to Bakersfield HST Section are considered highly sensitive for potentially significant, yet unidentified, paleontological resources (Final Project EIS, p. 3.17-102).

Construction of the Preferred Alternative would cause an adverse effect on five historic properties including the South Van Ness Entrance Gate (City of Fresno), Washington Irrigated Colony Rural Historic Landscape (Fresno County), Peoples Ditch (Kings County), Lakeside Cemetery (Kings County), and Stark/Spencer Residence (City of Bakersfield) (MOA, p. 2).

As discussed in Section 2.2.2 above, the PA establishes the framework for the development and implementation of measures to avoid, minimize and mitigate adverse effects on historic properties including archaeological and architectural resources. In compliance with the PA, the Signatories developed mitigation measures for treatment of adverse effects that cannot be avoided, and the MOA for the Fresno to Bakersfield HST Section details the commitments that have been made to implementing these treatments. For archaeological resources, measures in the MOA include completing the inventory, evaluating National Register eligibility, and determining whether preservation in place or data recovery is appropriate. For architectural resources, measures include condition assessments, vibration monitoring, and moving, shoring, stabilizing, monitoring, rehabilitating or restoring buildings (Final Project EIS, p. 3.17-128).

Mitigation measures for potential impacts to paleontological resources include requiring the Authority to retain a paleontological resources specialist, prepare and implement a paleontological resource monitoring and mitigation plan, and halt construction if fossil or fossil-bearing deposits are encountered. These measures are expected to reduce potential cultural and paleontological impacts to negligible levels (Final Project EIS, pp. 3.17-136 and 3.17-138).

3.3.12 Cumulative Impacts

The Preferred Alternative could result in cumulative impacts when considered together with other past, present, and reasonably foreseeable future projects. The Final Project EIS evaluates cumulative impacts for each resource area considered in the Final Project EIS and defines a study area for the potential cumulative effects for each resource area. The Final Project EIS defines reasonably foreseeable future projects as those likely to occur within the Authority's 2035 planning horizon for the HST System including: projects that are a foreseeable future phase of an existing project; construction projects pending with a government agency; and projects included in regional transportation plans, local land use plans, agency budgets, and agency capital improvement programs (Final Project EIS, p. 3.19-2).

According to the Final Project EIS, potential cumulative impacts would be significant in the following areas: noise and vibration during construction and operation of the Fresno to Bakersfield HST Section (Final Project EIS, pp. 3.19-16 and 3.19-17); division or disruption of communities during HST System construction and operation (Final Project EIS, p. 3.19-36); environmental justice during HST System construction

and operation (Final Project EIS, p. 3.19-37); land use during HST System operation (Final Project EIS, pp. 3.19-40 and 3.19-41); agriculture during HST System operation (Final Project EIS, pp. 3.19-42 and 3.19-43); aesthetics and visual quality during HST System construction and operation (Final Project EIS, pp. 3.19-47 and 3.19-48); and cultural resources during HST System construction and operation (Final Project EIS, pp. 3.19-49 and 3.19-50). Compared with the no-action alternative, the Preferred Alternative would be beneficial to regional transit during HST System operations (Final Project EIS, p. 3.19-9); air quality and global climate change during HST System operations (Final Project EIS, pp. 3.19-13 and 3.19-14); and economic development during construction and operation of the HST System (Final Project EIS, p. 3.19-37).

4.0 SUMMARY OF ENVIRONMENTAL COMMENTS RECEIVED BY THE SURFACE TRANSPORTATION BOARD

In its decision served December 4, 2013 instituting a proceeding in this case, the Board specifically notes that replies to the Petition should address the transportation merits of the case, and that the Board was not soliciting additional comments on environmental matters because the public comment periods on the Draft Project EIS and Supplemental Draft Project EIS had already closed. Nevertheless, in response to the Board's December 4, 2013 decision, as well as issuance of the Final Project EIS on April 18, 2014, OEA received approximately two dozen comment letters raising environmental concerns. The letters were submitted by individuals, local governments, local institutions, a citizen's organization, farming interests, a local hospital, and a freight railroad. The Board also received replies from the Authority for comment letters received by the Board from BNSF and attorneys representing Dignity Health, the owner of Mercy Hospital in Bakersfield.¹³ Summaries of the specific and substantive environmental issues raised in the comments received, the replies, and OEA's responses to the comments and replies, are provided below. Many of the environmental comments received by the Board are the same or similar to comments that were also submitted on the Draft Project EIS and Supplemental Draft Project EIS, and OEA believes that FRA and the Authority responded to those comments thoroughly and appropriately in the Final Project EIS (Volumes IV and V), and that no need has been shown here for the preparation of additional environmental documentation.¹⁴

¹³ These comments and replies are available on the Board's Web site (www.stb.dot.gov) at either of two locations: (1) from the Board's home page, click on "Filings" under "Quick Links," then search by Docket # "FD" and "35724" and "01"; and (2) from the Board's home page, place your cursor over "Environmental Matters," select "Environmental Correspondence" from the dropdown menu, select "Incoming by Docket Number," select "Next Page," toggle down until finding "FD_35724_1," and finally click on the blue arrow to open the list of environmental correspondence received at the Board.

¹⁴ BNSF did not provide written comments on either the Draft Project EIS or Supplemental Draft Project EIS.

4.1 Alternatives Carried Forward

Several commenters, including the Kings County Farm Bureau and Carol Bender, state that FRA and the Authority failed to give primary consideration to potential HST System alignments that use existing transportation corridors. The commenters state that the alternatives studied in the Final Project EIS deviate from existing transportation corridors (i.e., Interstate 5 (I-5) and State Route 99 (SR 99)) and the I-5 and SR 99 corridors should have been carried forward as build alternatives in the project EISs. Commenters also state that tunneling or trenching through Hanford should have been given more consideration.

These and similar comments on alternatives were submitted on the Draft Project EIS and Supplemental Draft Project EIS and were responded to by FRA and the Authority (Final Project EIS, pp. 2-20 and 2-21). OEA concurs with these responses, and concludes that the approach used to select alternatives was reasonable and that there is no need to supplement the project EIS. For example, in the Final Project EIS, FRA and the Authority explain that while the alternatives analysis considered multiple criteria, the screening emphasized the use of existing transportation corridors and available rights-of-way (Final Project EIS, pp. 16-8 through 16-24). Accordingly, contrary to the commenter's claims, three build alternatives in the Final Project EIS do in fact follow existing freight transportation corridors of BNSF, to the extent feasible.

FRA and the Authority also explain that the I-5 and SR 99 alignments were carefully considered and reasonably rejected for further study in the 2005 Final Program EIS. Although the I-5 corridor could possibly provide better travel times in some cases, the agencies ultimately concluded that it would not satisfy the project's purpose and need (Final Project EIS, pp. 16-12 through 16-16). For example, the Final Project EIS explains that the I-5 corridor is geographically removed from where the bulk of the Central Valley population resides, and that a HST rail line parallel to I-5 would result in lower ridership, fail to meet current and future intercity travel demands of the Central Valley communities, and fail to maximize intermodal transportation opportunities. The Final Project EIS also properly concludes that use of the I-5 corridor would encourage sprawl development, which is the opposite of what the HST System is intended to achieve. Regarding SR 99, the Final Project EIS reasonably concludes that a SR 99 alignment would not be feasible or practicable because of direct and indirect impacts on numerous industrial facilities, conflicts with airport runway protection zones, the need to reconstruct four interchanges along SR 99 that would not comply with current California Department of Transportation (Caltrans) design standards, and conflicts with existing Union Pacific infrastructure and right-of-way (Final Project EIS, pp. 16-17 and 16-20). OEA concurs that, in these circumstances, it was reasonable to eliminate the I-5 and SR 99 alignments and there is no need to supplement the Final Project EIS to give more consideration of those alignments.

Regarding an alternative through Hanford, the Final Project EIS reasonably explains why two "through-town" alternatives were not carried forward for additional analysis (Final Project EIS, p. 16-9). Although the alternatives through Hanford could reduce the conversion of important farmland from 730 acres down to 382 acres, the Final Project EIS shows that they would result in substantial urban impacts. Those impacts

include the displacement of an additional 27 to 37 residential parcels, 14 to 21 commercial parcels, 21 to 23 industrial parcels, 20 to 24 public parcels, 2 churches, and 2 public parks (Final Project EIS, p. 16-10). The alternatives would displace many residences near the BNSF rail line between W. Grangeville Boulevard and W. Elm Street in Hanford, and displace many of the businesses in downtown Hanford between 11th Avenue and the BNSF Railway south to SR 198. The alternatives through Hanford would also go through the center of the community of Laton in Fresno County (Final Project EIS, p. 16-10). Because of these greater impacts, OEA concurs with FRA that it was reasonable to discard the “through-town” alternatives.

4.2 Potential Project Impacts

4.2.1 General Concerns

Karen Stout states that the concepts of Tier 1 and Tier 2 documents are confusing and not adequately explained in the EISs. In response, OEA notes that the purpose of NEPA is assist public officials in making more informed and better decisions by providing them with an understanding of the potential environmental impacts of a proposed project (40 C.F.R. § 1500.1). For large and complex projects, such as the proposed HST System, tiering assists agencies in adequately identifying, evaluating and disclosing a project’s potential environmental impacts. The first tier (or Tier 1) document addresses the broader environmental impacts of the proposed project as a whole (e.g., the statewide assessment of the proposed HST System) and the second tier (or Tier 2) documents focus on the environmental impacts of narrower topics or smaller components of the larger project (e.g., one Tier 2 document for each of the nine sections of the proposed HST System). OEA believes that the tiering concept and its application to the HST System have been adequately explained in the EIS documents prepared by FRA and the Authority including the Final Program EIS (pp. 1-2 through 1-4), Bay Area to Central Valley HST Final Program EIS (pp. 1-2 through 1-4), and the Fresno to Bakersfield HST Section Final Project EIS (pp. 1-1 through 1-3; and 16-1 through 16-7).

4.2.2 Agriculture

Several commenters, including William Descary, Ross Browning and the City of Bakersfield, raise concerns that the proposed Fresno to Bakersfield HST Section would disrupt farming activities during construction and would permanently divide family farms, make the farms inefficient and costly to operate, and result in lost future income from displaced orchards. Commenters also state that the proposed HST rail line would destroy capital investments in irrigation wells, weirs, piping and other irrigation system components.

The Final Project EIS acknowledges that the Fresno to Bakersfield HST Section would adversely affect individual farms and other agricultural operations. For example, the Final Project EIS acknowledges that construction of the HST System would result in disruption to or removal of existing infrastructure such as buildings, pumps and wells, reservoirs and ponds, irrigation systems, power supplies and access (Final Project EIS, pp. 3.12-92 through 3.12-96; 3.12-101 through 3.12-106; 3.14-42 through 3.14-60; 16-31; 16-56 and 16-57). OEA believes that FRA and the Authority have taken a hard look

at the potential impacts to agriculture and appropriately disclosed those impacts in the project EISs.

Moreover, FRA and the Authority have incorporated special features into the project's design and FRA has imposed mitigation to reduce impacts to agriculture. For example, one of the project's design requirements specifies that important farmland used temporarily for construction staging be returned to as close to its pre-construction condition as possible with a goal of ensuring that each important farmland parcel remains available for long-term agriculture (Final Project EIS, pp. 3.14-60 and 3.14-61). As another design feature, the Authority would purchase at fair market value all farm parcels directly affected by the HST right-of-way, as well as severed agricultural parcels that could no longer be economically farmed by the current owner. The Authority also would attempt to consolidate severed agricultural parcels by selling them to new and adjacent farmland owners (Final Project EIS, pp. 3.14-51; 16-57; 16-122; 16-147 and 148; 16-150 and 151). As the Final Project EIS explains, potential impacts to on-farm infrastructure would be analyzed on a case-by-case basis during the property appraisal process. Irrigation systems would also be permitted to cross the HST right-of-way if the crossing meets specific HST design standards. Individual negotiations with farmers during the right-of-way acquisition process would attempt to resolve redesign and productivity issues, as well as appropriate reimbursement (Final Project EIS, p. 3.12-9; 16-152). Regarding mitigation, the Authority would provide access modifications to affected farmland and participate in the California Farmland Conservancy Program (Final Project EIS, pp. 3.12-140; 3.14-62; FRA ROD, Appendix C, Mitigation Measures AG-MM#1 and AG-AM#1 through AG-AM#4). OEA believes that design features adopted by FRA and the Authority, and the mitigation measures imposed by FRA are reasonable and feasible and would minimize, to the extent practicable, adverse impacts on agriculture.

4.2.3 Air Quality

Several commenters, including Kings County, Karen Stout and Rochelle Andranigian, contend that regional air quality would get worse before it gets better with the Fresno to Bakersfield HST Section. One commenter notes that FRA and the Board cannot approve the Fresno to Bakersfield HST Section unless and until a Voluntary Emission Reduction Agreement (VERA) with the San Joaquin Valley Air Pollution Control District (SJVAPCD) is completed. The Final Project EIS, however, took these concerns into account.

The Final Project EIS and FRA's ROD acknowledge that construction of the Fresno to Bakersfield HST Section would result in temporary air quality impacts and that emissions of VOC and NO_x could cause or contribute substantially to violations of air quality standards in the San Joaquin Valley Air Basin (SJVAB) (Final Project EIS, pp. 3.3-46 through 3.3-51; FRA ROD, p. 28). However, the Authority has proposed and the FRA has imposed mitigation that would offset these impacts (Final Project EIS, p. 3.3-88 and 16-55; FRA ROD, Appendix C, Mitigation Measures AQ-MM#1 through AQ-MM#5 and AQ-AM#1 through AQ-AM#4). The Authority would provide funds to the SJVAPCD's Emission Reduction Incentive Program, which in turn would fund grants for projects that achieve emission reductions thus, offsetting impacts on air quality related to

the Preferred Alternative. The purchase of these offset emissions through a VERA would reduce construction emission impacts to less than significant.

Accordingly, in its ROD, FRA reasonably concludes that project-generated emissions would either be fully offset (for construction phase) or less than zero (for the operational phase). The ROD also concludes that the Fresno to Bakersfield HST Section conforms to California's State Implementation Plan for air quality and would comply with national ambient air quality standards (FRA ROD, p. 40).

4.2.4 Noise and Vibration

William Descary and Ross Browning state that noise from HST operations would adversely impact quality of life and that mitigation proposed in the Final Project EIS is insufficient. Regarding quality of life and noise mitigation, OEA notes that the Final Project EIS and FRA's ROD conclude that mitigation would reduce most potential noise impacts of the project to less than significant levels. However, even with mitigation, including the use of sound barriers, a substantial number of receivers would still be exposed to significant noise impacts because the receivers are located outside of the area where a sound barrier would be fully effective or a sound barrier cannot fully mitigate the effect (Final Project EIS, pp. 3.4-28, 3.4-29 and 7-10; FRA ROD, p. 29).

Attorneys for Dignity Health, owner of Mercy Hospital in Bakersfield (Mercy Hospital), also assert that the noise and vibration analyses in the Final Project EIS are inadequate. For example, Mercy Hospital states that the (1) ambient noise monitoring location near the hospital was inappropriate; (2) methodologies used for noise and vibration calculations were inappropriate; (3) noise and vibration mitigation is lacking; and (4) pile driving activities during project-related construction would adversely impact Mercy Hospital.

The Authority's point-by-point response explains that (1) the selected ambient noise monitoring location best characterizes ambient noise conditions on the south side of Mercy Hospital, which is the side facing the Preferred Alternative; (2) noise and vibration calculations in the project EISs are consistent with FRA and Federal Transit Administration guidance and methodologies; (3) mitigation recommended in the Final Project EIS would minimize any noise and vibration impacts to Mercy Hospital; and (4) drilling and casing would be used to install piles instead of pile driving where necessary to reduce noise and vibration impacts (OEA note: see FRA ROD, Appendix C, Mitigation Measure N&V-MM#1).

Based on its review of the Final Project EIS, comments on the Final Project EIS, the Authority's reply to Mercy Hospital's comments on the Final Project EIS, and the discussion and mitigation in FRA's ROD, OEA concludes that the Final Project EIS took the requisite hard look at the potential noise and vibration impacts of the Preferred Alternative. Therefore, OEA sees no need to supplement the noise and vibration analysis in the Final Project EIS. Additionally, although significant noise impacts would remain after FRA-imposed noise mitigation is implemented, OEA concludes that, with the exception of mitigation for Mercy Hospital (see discussion below), the mitigation proposed in the Final Project EIS and imposed by the FRA in its ROD is reasonable and

appropriate. Indeed, the design features and mitigation required by FRA (particularly the use of grade-separated crossings and noise barriers, respectively) go far beyond what the Board would typically impose for potential noise and vibration impacts in a rail construction case.

OEA, however, is concerned about the potential effects of noise and vibration that could result from the potential use of pile driving in the vicinity of Mercy Hospital during project-related construction. In its reply to Mercy Hospital's comment raising noise and vibration concerns, the Authority acknowledges that, based on a worst-case estimate presented in the Final Project EIS (pp. 3.4-31 through 3.4-33), Mercy Hospital could experience impacts if pile driving is used, but explains that the need for pile driving during project-related construction has not been determined. The Authority's reply also points out that Mitigation Measure N&V-MM#1 in the Final Project EIS (p. 3.4-56), which FRA also imposed in its ROD (FRA ROD, Appendix C, Mitigation Measure N&V-MM#1), would be implemented if pile driving is determined necessary in the vicinity of Mercy Hospital. Specifically, mitigation measure N&V-MM#1 provides that: "... to mitigate noise related to pile driving, the use of an auger to install the piles instead of a pile driver would reduce noise levels substantially. If pile driving is necessary, limit the time of day that the activity can occur." OEA, however, is concerned that the mitigation measure does not specifically require the substitution of pile driving with augering and leaves open the possibility that nighttime restrictions for pile driving could be used rather than substituting augering for drilling. Nighttime restrictions, OEA believes, would not adequately mitigate the potential project-related construction impacts to Mercy Hospital. Mitigation Measure N&V-MM#2 in FRA's ROD merely identifies augering as a potential alternative to pile driving if construction is within 25 to 50 feet of a building (FRA ROD, Appendix C, Mitigation Measure N&V-MM#2). Moreover, Mercy Hospital would be about 191 feet from the centerline of the Preferred Alternative (Authority Reply, Figure 1) and Mitigation Measure N&V-MM#2 does not appear to apply to Mercy Hospital.

Given Mercy Hospital's concerns, the potential for Mercy Hospital to be adversely impacted by project-generated noise and vibration during construction, and the Authority's uncertainty as to whether pile driving would be used in the vicinity of Mercy Hospital, OEA recommends that an additional mitigation measure be imposed by the Board in any decision granting construction authority to further minimize project-related construction noise and vibration impacts on the hospital. That measure would prohibit the Authority's use of pile driving within 300 feet of Mercy Hospital during project-related construction.¹⁵

¹⁵ Vibration is described in terms of vibration decibels (VdB) with 72 VdB being an FRA ground-borne vibration impact criterion for residences and other buildings where people sleep (Final Project EIS, p. 3.4-11). The Authority calculates that the vibration level of 72 VdB would occur at a distance of 291 feet from a typical pile driver (Authority Reply, p. 7). OEA rounded the 291 feet distance up to 300 feet in developing its recommended mitigation measure.

4.2.5 Other Rail Operations

Environmental comments pertaining to potential impacts to Amtrak and freight railroad operations are addressed below.

Amtrak Operations

Several commenters, including the City of Bakersfield, Kings County Water District, Citizens for California High-Speed Rail Accountability, Anil Mehta, and Joyce Cody, raise concerns related to the Authority's plans to move the San Joaquin Amtrak service over to the Fresno to Bakersfield HST Section.¹⁶ Some commenters contend that the analysis of Amtrak operations in the Final Project EIS is inadequate or incomplete. Other commenters note that the Authority has no jurisdiction over Amtrak and any relocation to the HST rail line would be Amtrak's decision, not the Authority's. Some commenters add that the HST rail line would not be suitable for Amtrak service and that the Authority has not made any provisions for Amtrak service on the HST rail line (e.g., interim stations and platforms). Other commenters object to losing Amtrak service to certain stations (including one in Hanford) on the existing BNSF route and the subsequent difficulties they would experience in having to go further to access Amtrak train service.

In its reply to BNSF's comments filed with the Board, the Authority explains that the potential use of the HST tracks by Amtrak's San Joaquin passenger service is not a part of the Authority's proposed project, and that any Amtrak passenger service over the HST tracks would be the purview of the San Joaquin Railroads Joint Power Authority, not the Authority. To accommodate Amtrak service, the Authority notes that crossover tracks would need to be constructed just south of the Madera Amtrak station and north of Bakersfield. The Authority also notes that Appendix 2-F of the Final Project EIS describes the potential interim use scenario and analyzes the potential impacts of interim use. The Authority's analysis assumes that five of the six existing daily roundtrip San Joaquin trains would make the shift to provide the interim service.

The Final Project EIS further explains that the Authority's Revised 2012 Business Plan and the FRA grant agreements with the Authority identify a potential interim use service option that could provide early service benefits to the traveling public by allowing for Amtrak San Joaquin intercity operation using HST infrastructure on an interim basis if HST service is delayed (Final Project EIS, Appendix 2-F, p. 2-F-1). Regarding concerns over loss of Amtrak service at the existing stations on the BNSF line, OEA notes that the analysis in Appendix 2-F assumes that some Amtrak service would be retained on the existing BNSF route; however, the number of trains that would ultimately shift to the HST tracks, if any, would be a decision made by the operator of the Amtrak passenger service at that time, and not the Authority. Finally, the proposed Kings/Tulare

¹⁶ Until the HST System is ready to accommodate HST service, the Authority refers to potential temporary use of the Fresno to Bakersfield HST Section by Amtrak as "interim use."

Regional Station East is located roughly three miles east of the existing Hanford Amtrak station in downtown; and therefore, even with potential interim use, Amtrak rail service to and from Hanford would remain reasonably accessible.

Freight Railroad Operations

BNSF cites a number of environmental concerns in its comments on the Final Project EIS including alleged failure of the Final Project EIS to: (1) identify proposed highway-grade separations; (2) identify where the proposed HST would pass over BNSF property; (3) identify precisely where the Authority proposes to relocate BNSF's existing right-of-way; (4) consistently describe the separation between the proposed HST tracks and BNSF's tracks; and (5) explain what would be done to mitigate potential electromagnetic interference (EMI) with BNSF's rail signals and positive train control (PTC) systems.

In its reply to BNSF's comments, however, the Authority notes that many of these issues are addressed in the EIS. For example, proposed highway-grade separations and existing at-grade road/BNSF crossings that would be eliminated are specified in the Final Project EIS (Volume II, Appendix 2-A; Volume III, Sections C and D), as well as in the Draft Project EIS and Supplemental Draft Project EIS. Information on locations where the Fresno to Bakersfield HST Section would pass over BNSF property is provided in the Final Project EIS (Chapter 2, pp. 2-60 through 2-66; Volume II, Appendix 2-B), and proposed relocations of BNSF track are described in the Final Project EIS (Chapter 2, pp. 2-60 through 2-66; Volume III, Sections A and B). Concerning the minimum separation between BNSF's tracks and the HST's tracks, the Authority's reply clarifies that the Authority has "assumed no encroachment on the BNSF right-of-way would occur" (Final Project EIS, p. 2-61). The Authority explains that it fully considered BNSF's protocol to maintain a 30-foot offset between BNSF's property lines and its closest mainline track (Final Project EIS, Figure 2-32). The Authority further notes that the concept of a shared corridor assumes that an appropriate intrusion protection barrier would be provided (Final Project EIS, p. 2-61); and that in any event, the project's design assumes that there would be no encroachment of the HST right-of-way on the BNSF right-of-way.

The Authority's reply also responds to BNSF's concerns about the potential effects of EMI on BNSF's rail signals and PTC. Noting that it is committed to ensuring that the HST system provides safe and dependable service and minimizes impacts to third-party facilities and systems, the Authority states that it would minimize EMI through proper design and system configurations, simulations and calculations that predict the levels of EMI expected to be produced by the HST system, and design "optimization effects on third-party facilities and systems" (Final Project EIS, pp. 3.5-21).

After considering BNSF's comments, the Authority's replies and the Final Project EIS, OEA is satisfied that the Final Project EIS takes a hard look at potential impacts to freight rail operations during project-related construction and operation and that a supplemental EIS on this topic is not necessary. OEA notes that FRA's ROD imposes mitigation that requires the Authority to work with the freight railroads to prevent EMI (FRA ROD, Appendix C, Mitigation Measure EMI/EMF-AM#1). FRA's ROD also

imposes mitigation that requires the preparation of a Construction Management Plan to reduce temporary land use impacts during project-related construction (FRA ROD, Appendix C, Mitigation Measures SO-AM#1 and LU-AM#2). Nevertheless, because Mitigation Measures SO-AM#1 and LU-AM#2 do not specifically require the Authority's Construction Management Plan to address construction impacts on freight rail operations, OEA recommends that an additional mitigation measure be imposed by the Board in any decision granting construction authority. That measure would require the Authority to address potential project-related construction impacts on freight rail operation in its Construction Management Plan.

4.2.6 Energy and Energy Conservation

Commenter Alan Scott notes that the State does not currently have the capacity to power the electrified HST system and that new power plants would be needed to accommodate the needs of the HST system. Other commenters, including Frank Oliveira and Kings County, state that construction constraints posed by an existing PG&E high-voltage transmission line are not adequately recognized in the Final Project EIS.

However, OEA believes that the HST system's contribution to electricity demands in the state and potential impacts on electricity reserves are adequately and reasonably evaluated in the Final Project EIS (p. 3.6-77). As explained there, the HST System would increase peak electricity demand on the State's generation and transmission infrastructure. The Fresno to Bakersfield HST Section and a completed HST System at completion would require approximately 78 and 480 megawatts (MW) of additional peak capacity, respectively. Summer 2010 electricity reserves in the State were estimated to be between 18,472 and 27,708 MW. Therefore, the projected peak demand of the Fresno to Bakersfield HST Section and the entire HST system would not exceed existing reserve amounts (Final Project EIS, p. 3.6-77).

Regarding construction restrictions posed by a PG&E high-voltage transmission line, the Final Project EIS addresses these potential impacts under "Impact PU&E#5 – Conflicts with Existing Utilities" (pp. 3.6-50 through 3.6-54). As explained there, the Authority would negotiate agreements with utilities including PG&E regarding potential conflicts, and would work with utility owners during final engineering design and construction of the project to avoid, relocate or protect utilities, as appropriate. OEA believes that the Final Project EIS takes a hard look at these potential impacts and that supplementing the Final Project EIS to further consider energy and energy conservation is not needed.

4.2.7 Health, Safety, Terrorists Attacks

Commenters Rochelle Andranigian and Karen Stout question the risks to life and property from the derailment of a high-speed train. Another commenter, Frank Oliveira, states that little information is provided in the project EISs on plans to prevent a truck bomb or IED attack along the HST route. Mercy Hospital notes that a potential increase in the occurrence of valley fever caused by project-related construction has not been adequately mitigated.

In response, OEA notes that the HST System would incorporate design features and operational and maintenance plans to keep trains within the HST System's right-of-way in the unlikely event of a derailment. The design features would include concrete derailment walls, which are tall curb-like structures close to the train's wheels designed to keep the train upright and within the right-of-way. Operational and maintenance plans would also ensure high-quality tracks and vehicle maintenance to reduce the risk of derailment (Final Project EIS, p. 3.11-31). Given the proposed design features and operational and maintenance plans, OEA agrees with the conclusion in the Final Project EIS that the potential for HST derailments would not be significant (Final Project EIS, pp. 3.11-7, 3.11-31 and 3.11-46).

Regarding terrorist attacks, the HST System would include access control and security monitoring systems designed to deter such acts and facilitate early detection. The system features would include sensors on perimeter fencing, closed-circuit television and security lighting, where appropriate. The engineering design and construction phases would also include a threat and vulnerability assessment (Final Project EIS, pp. 3.11-42 and 3.11-43). Accordingly, OEA concurs with the Final Project EIS' conclusion that the probability for terrorist activity in the HST right-of-way would be remote and that appropriate safeguards to minimize terrorism have been taken (Final Project EIS, p. 3.11-47).

Valley fever is a disease endemic to San Joaquin Valley caused by inhaling airborne spores of a soil-dwelling fungus. The commenter's concerns center on fugitive dust caused by project-related construction that could allegedly result in an increase in the number of valley fever cases and a concern that potential impacts have not been appropriately mitigated. However, the project design includes an extensive list of measures that would be implemented by the Authority to minimize fugitive dust emissions during project-related construction (Final Project EIS, pp. 3.3-85 and 3.3-86; FRA ROD, Appendix C, Mitigation Measure AQ-AM#2). Moreover, in response to comments on the Final Project EIS, the Authority and FRA conducted additional consultations with the USEPA and the California Department of Health regarding avoidance and minimization methods for valley fever. These consultations resulted in revised and additional measures being imposed by FRA (FRA ROD, p. 35). OEA is satisfied that the final conditions imposed by FRA are appropriate and reasonable.

4.2.8 Section 6(f) Properties

The City of Bakersfield asserts in its environmental comments that its Kern River Parkway (Parkway) is a Section 6(f) property under the Land and Water Conservation Fund Act (LWCFA) (16 U.S.C. §§ 4601 – 4601-11).¹⁷ The LWCFA states that no

¹⁷ The City of Bakersfield also submitted comments on recreational facilities that are considered Section 4(f) properties under the Department of Transportation Act of 1966 (49 U.S.C. § 303(c)). However, because the Board is an independent agency and not subject to Section 4(f) requirements, OEA defers to FRA on issues involving Section 4(f). The Final Project EIS (Chapter 4) and FRA's ROD have complete discussions of Section 4(f) properties (FRA ROD, pp. 37 through 40).

property acquired or developed with the assistance of the LWCFA can be converted to another use other than public outdoor recreation use without the approval of the Secretary of the U.S. Department of Interior (Secretary). The City also asserts that it has not been consulted with on the specific topic of the Parkway as a 6(f) property, that the potential environmental impacts to the 6(f) property need to be evaluated, that the impact findings need to be circulated via the State Clearinghouse, and that the City needs to review and concur with the findings.

The Parkway is a 1,138-acre linear park along the Kern River in the City of Bakersfield. The Parkway consists of small, developed parks containing amenities such as trails, picnic areas and play fields. A bike path also runs the length of the Parkway. The developed parks are separated by undeveloped land owned by the City and private parties. Yokuts Park is a city-owned parcel within the Parkway that was developed with the assistance of LWCFA funds and is the only component of the Parkway eligible for Section 6(f) protection. However, Yokuts Park would not be directly or indirectly affected by the Preferred Alternative (Memorandum from Michael Kay, Regional Consultant, Fresno to Bakersfield HST Section, to Melissa Dumond, FRA, June 30, 2014, p. 14). Accordingly, OEA concludes that there has been no violation of Section 6(f) here and additional environmental analysis is not warranted.

4.2.9 Land Use and Socioeconomics

Commenter Karen Stout notes that the Preferred Alternative conflicts with King County's and Hanford's land use plans. Other commenters, including William Descary and Ross Browning, state that the project would have devastating economic and social impacts including irreversible damage to homes, churches, schools, businesses and City of Bakersfield facilities including Bakersfield High School and Mercy Hospital.

In OEA's view, these comments fail to show that the Final Project EIS is inadequate or incomplete. The Final Project EIS acknowledges that the Preferred Alternative would conflict with existing Kings County and Hanford land use plans but correctly notes that the proposed project is not required to be consistent with local land use plans and policies (Final Project EIS, pp. 3.13-34 and 3.13-56). The Final Project EIS also thoroughly addresses potential impacts to homes, businesses, schools and other individual land uses (Final Project EIS, pp. 3.12-52 through 3.12-104 and 3.13-35 through 3.13-59), as well as to Mercy Hospital (Final Project EIS, pp. 3.4-31 and 3.4-33). FRA also has imposed an extensive list of design features and mitigation measures to address these impacts (Final Project EIS, pp 3.12-135 through 3.12-141; 3.13-59 and 3.13-61; FRA ROD, Appendix C, Mitigation Measures SO-MM#1 through SO-MM#6, SO-AM#1 and SO-AM#2, and LU-AM#1 and LU-AM#2). NEPA requires no more.

5.0 OEA'S FINAL ENVIRONMENTAL RECOMMENDATIONS

5.1 Final EIS Adoption

OEA conducted an independent review of the Final Project EIS for the purpose of determining whether the Board could adopt it under 40 C.F.R. § 1506.3. Based on its reviews of the Final Project EIS (including drafts), OEA concludes that (1) OEA's

substantive comments and suggestions on the drafts of the Final Project EIS have been satisfied; (2) the Final Project EIS adequately assesses the potential environmental impacts associated with the proposed Fresno to Bakersfield HST Section and meets the standards of CEQ's NEPA regulations and the Board's own environmental regulations at 49 C.F.R. Part 1105; and (3) to satisfy its NEPA obligations, the Board could adopt the Final Project EIS in any decision authorizing the Authority's Petition. Accordingly, OEA recommends that the Board adopt the Final Project EIS (including FRA's Preferred Alternative) in any decision granting the Authority's Petition, and impose the mitigation required by FRA, as well as four additional environmental conditions designed by OEA to further mitigate some potential impacts.

5.2 Preferred Alternative

In its ROD, FRA approved the Preferred Alternative, which includes portions of the BNSF Alternative in combination with the Corcoran Bypass, Allensworth Bypass and Bakersfield Hybrid alternatives. The Preferred Alternative also includes two stations: the Kings/Tulare Regional Station-East Alternative and the Bakersfield Station – Hybrid Alternative. OEA concurs with FRA that the Preferred Alternative is the environmentally preferable build alternative.

As the FRA's ROD explains (pp. 24 through 27), the BNSF Alternative through Hanford with the Kings/Tulare Regional Station – East and the Corcoran Bypass were selected because they are more compatible with the long-range development planning for the City of Hanford and the region as a whole than any other combination of alternative alignments, which would result in more options for regional development, and likely allow the HST System to capture a larger regional share of travelers. In addition, the BNSF and Corcoran Bypass alternatives would result in slightly fewer potential impacts on the natural environment than the other alternatives considered in the Final Project EIS, and the community impacts to Hanford and Corcoran are similar to the impacts of the other potential alignment alternatives. The Allensworth Bypass was selected because it would result in fewer impacts to both the natural environment (e.g., wetlands and special-status species habitat) and communities than the BNSF Alternative in the Allensworth area. The BNSF Alternative through Wasco and Shafter was selected because of the similarities of the impacts to natural resources between the BNSF Alternative and the Wasco-Shafter Bypass Alternative in the Wasco/Shafter area and the possibility to address community impacts through mitigation. Consistency with the long-term development plans in Shafter, and cost uncertainties associated with constructing the HST rail line in an existing and rapidly expanding oil field also reasonably factored into the selection. The Bakersfield Hybrid Alternative with the Bakersfield Station-Hybrid station alternative was selected because they would impact the fewest acres of waters of the U.S. when compared with the BNSF Alternative (Bakersfield North) and because they would result in fewer community impacts, including fewer overall displacements and fewer impacts to religious facilities when compared with both the BNSF Alternative (Bakersfield North) and Bakersfield South Alternative (FRA ROD, pp. 24 and 25).

Regarding potential impacts to waters of the United States, the USACE and USEPA concurred that the Preferred Build Alternative is the Least Environmentally Damaging Practicable Alternative; and therefore, would be consistent with the USACE's

Clean Water Act, Section 404 permitting program and the USEPA's Section 404(b)(1) Guidelines (40 C.F.R. Part 230) (FRA ROD, p. 26).

Finally, to meet the legislative travel time requirements of express trains between San Francisco and Los Angeles, modeling indicates that the travel time between Fresno and Bakersfield should be no more than 37 minutes. The Preferred Alternative would take 34 minutes and 5 seconds to travel between Fresno and Bakersfield (FRA ROD, p. 25). For all these reasons, FRA reasonably decided on a preferred alternative.

5.3 Mitigation

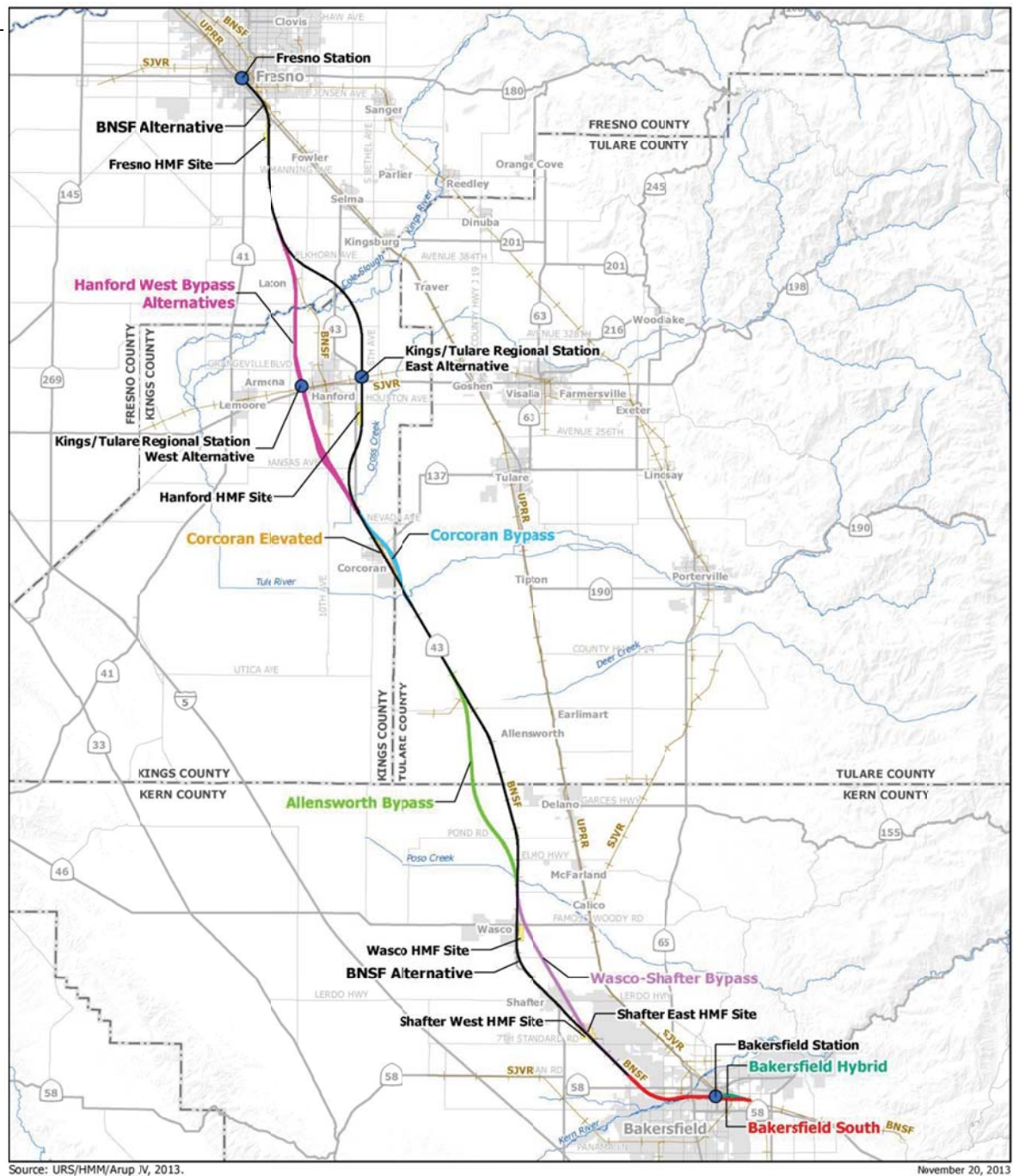
While the Final Project EIS shows that there would be certain unavoidable impacts from the proposed Fresno to Bakersfield HST Section (including road closures, residential and business relocations, noise and vibration impacts and impacts to agriculture lands), FRA adopts an approximately 113-page Mitigation Monitoring and Enforcement Plan (MMEP) in its ROD that specifies means to avoid, minimize or mitigate likely environmental harm caused by the Preferred Alternative, to the extent practicable.¹⁸ FRA developed the measures in consultation with appropriate agencies and input from the public and other interested parties. The MMEP also includes mitigation measures to comply with CEQA. FRA's ROD requires the Authority to comply with all the mitigation measures in the MMEP.

Accordingly, in any decision granting the Authority's construction exemption for the proposed Fresno to Bakersfield HST Section, OEA recommends that the Board adopt the MMEP in its entirety, and impose the following additional conditions for the reasons discussed earlier in this memorandum:

- The California High Speed Rail Authority may construct the alternative, identified as the environmentally preferable alternative by the Federal Railroad Administration (FRA), which consists of portions of the BNSF Alternative, in combination with the Corcoran Bypass, Allensworth Bypass and Bakersfield Hybrid alternatives, the Kings/Tulare Regional Station-East Alternative and the Bakersfield Station – Hybrid Alternative, subject to compliance with all the mitigation measures specified in the Mitigation Monitoring and Enforcement Plan imposed by FRA and provided as Appendix C to FRA's Record of Decision, issued June 27, 2014.
- The California High-Speed Rail Authority shall comply with the Memorandum of Agreement developed through the Section 106 process of the National Historic Preservation Act.

¹⁸ The MMEP is attached to the ROD as Appendix C, and is available on the FRA's Web site at <http://www.fra.dot.gov/eLib/Details/L05276>.

- During project-related construction, the California High-Speed Rail Authority is prohibited from using pile driving within 300 feet of the south side of Mercy Hospital's existing building located at 2215 Truxtun Avenue, Bakersfield, California.
- Prior to initiating project-related construction of the Line, the California High-Speed Rail Authority shall ensure that the Construction Management Plan required by FRA's Mitigation Measures SO-AM#1 and LU-AM#2 construction is expanded to address potential project-related construction impacts to freight railroad operations.



Source: URS/HMM/Arup JV, 2013.

November 20, 2013

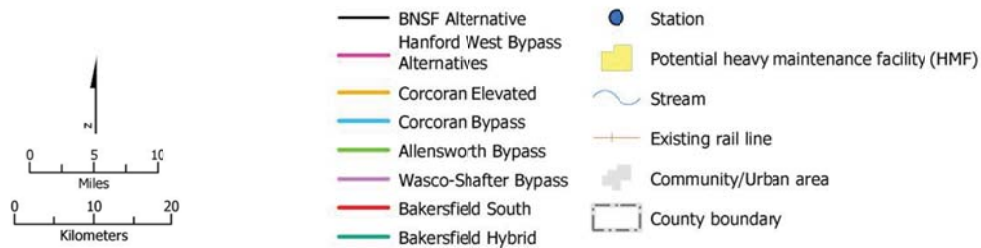


Figure 1
Alternatives Carried Forward for Further Study
Fresno to Bakersfield HST Section
STB Docket No. FD 35724 (Sub-No. 1)