

8 COMPARISON OF ALTERNATIVES AND IDENTIFICATION OF THE PREFERRED ALTERNATIVE

This chapter identifies the California High-Speed Rail Authority (Authority) and Federal Railroad Administration (FRA) Preferred Alternative.

As discussed in Section 1.1.1 of this Draft Supplemental Environmental Impact Report/Environmental Impact Statement (EIR/EIS), the Authority certified the *Fresno to Bakersfield Section California High-Speed Train Final Project EIR/EIS* in May 2014. While the Authority identified a Preferred Alternative and certified the analysis in the Fresno to Bakersfield Section Final EIR/EIS for the entire Fresno to Bakersfield Section (from the Fresno Station to the Bakersfield Station), the Authority's project approval via the Notice of Determination was only for the portion from the southern limit of the Fresno Station to the north side of 7th Standard Road, the city limit of Bakersfield.

Following the Authority's certification of the Final EIR/EIS, the FRA issued a Record of Decision for the 114-mile Fresno to Bakersfield Section of the high-speed rail (HSR). In its Record of Decision, the FRA selected a Preferred Alternative (FRA Decision) for the entire Fresno to Bakersfield Section. The FRA Decision included the Bakersfield Hybrid Alternative (south of 7th Standard Road to Oswell Street) including the Bakersfield Hybrid Station at Truxtun Avenue. The portion of the FRA-approved Project that will be evaluated against the Fresno to Bakersfield Locally Generated Alternative (F-B LGA) in this chapter of the Draft Supplemental EIR/EIS is the portion extending approximately 1,600 feet north of Poplar Avenue north of the city of Shafter to Owell Street in the city of Bakersfield, including the Bakersfield Hybrid Station at Truxtun Avenue. This portion has been called the May 2014 Project throughout this Draft Supplemental EIR/EIS and is the complementary portion of the Preferred Alternative that was identified in the Fresno to Bakersfield Section Final EIR/EIS. That portion consists of the portion of the BNSF Alternative from Poplar Avenue to Hageman Road and the Bakersfield Hybrid from Hageman Road to Owell Street. The F-B LGA and May 2014 Project are shown in Figure 8-1.

The Authority and FRA identified the Preferred Alternative in this Draft Supplemental EIR/EIS based on a balanced consideration of the environmental information presented in the Fresno to Bakersfield Section Draft EIR/EIS (Authority and FRA 2011); Fresno to Bakersfield Revised Draft EIR/Supplemental Draft EIS (Authority and FRA 2012), including the supporting technical reports; Fresno to Bakersfield Section Final EIR/EIS (Authority and FRA 2014); and this Fresno to Bakersfield Section Draft Supplemental EIR/EIS, including the supporting technical reports. The Authority and FRA also considered community input (as further described in Chapter 9 of this Draft Supplemental EIR/EIS) and relative costs (see Chapter 6 of this Draft Supplemental EIR/EIS) when identifying the Preferred Alternative.

The identification of the Preferred Alternative also integrates FRA's Section 4(f) of the Department of Transportation Act (United States Code Title 49, section 303) (Section 4[f]) evaluation, which provides special protection to publicly owned public parks; recreational areas of national, state, or local significance; wildlife or waterfowl refuges; and lands of an historic site of national, state, or local significance. As described in Chapter 4 (Section 4[f]/6[f] Evaluation), Section 4(f) properties can only be used by federally funded transportation projects if there is no feasible and prudent alternative and all possible planning has been taken to minimize harm to any 4(f) property used by the project. For more information on FRA's evaluation under Section 4(f), please see Chapter 4 of this Draft Supplemental EIR/EIS.

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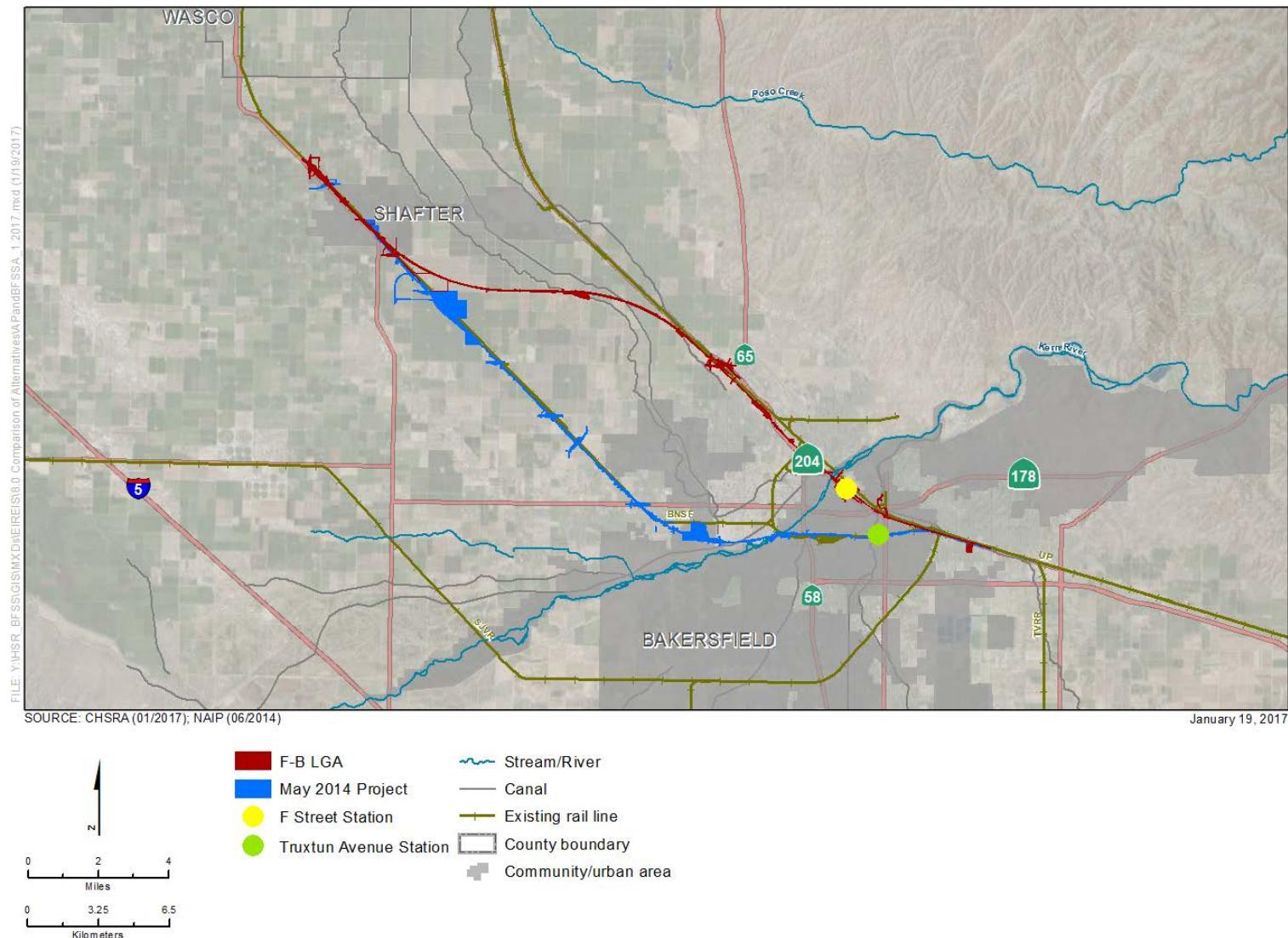


Figure 8-1 F-B LGA and May 2014 Project

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Additionally, the criteria used to identify the Preferred Alternative are consistent with the Section 404(b)(1), Guidelines of the Clean Water Act (Code of Federal Regulations Title 40, Part 230–233), including minimizing impacts on waters of the United States and other sensitive environmental resources. As a result of the analyses incorporated in the Fresno to Bakersfield Section Final EIR/EIS and this Draft Supplemental EIR/EIS, as well as in the biological assessment of ecosystems impacts and cultural and community impacts, the United States Army Corps of Engineers (USACE) and United States Environmental Protection Agency (USEPA) concurred on May 5, 2017 and May 22, 2017, respectively, that the Preferred Alternative contains the least environmentally damaging practicable alternative, which was identified consistent with USACE's permit program (Code of Federal Regulations Title 33, Part 320–331) and USEPA's Section 404(b)(1) Guidelines (Code of Federal Regulations Title 40, 230–233).

8.1 Summary of Comments

Pursuant to the requirements of the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA), the Authority and FRA have conducted an extensive public and agency involvement program as part of the Fresno to Bakersfield Section environmental review process, including the preparation of the August 2011 Draft EIR/EIS, the July 2012 Revised Draft EIR/ Supplemental Draft EIS, the April 2014 Final EIR/EIS, and this Draft Supplemental EIR/EIS. Both public outreach and agency involvement have been emphasized throughout the life of the project, which included local public involvement and outreach through meetings, presentations, and materials, and agency consultations. Refer to Chapter 8 of the Fresno to Bakersfield Section Final EIR/EIS for more detail on the public coordination that occurred through March 2014.

Agency meetings were held starting in 2007 for the Fresno to Bakersfield Section. Public workshops, open houses, and other informational sessions were held, public comments were accepted, and draft documents were widely circulated. Comments received from the general public and the local governments as part of the public outreach associated with the draft environmental documentation for the Fresno to Bakersfield Section generally indicated support for the BNSF Railway (BNSF) Through Wasco-Shafter Alternative, which includes the northernmost segment of the May 2014 Project. Most farmers in the Wasco-Shafter area supported the BNSF alignment because it results in less impact on existing agricultural operations, and the City of Shafter, the Wasco-Shafter Ag Group, and the Kern Council of Governments expressed support for the BNSF alignment through Shafter. However, the City of Shafter commented that grade separations from BNSF at North Shafter Avenue, East Lerdo Highway, and South Beech Avenue/East Los Angeles Street were needed for transportation and public safety. The Authority noted the comment and committed to continue to coordinate with the City of Shafter on the required level of roadway improvements.

Comments received from the general public and local officials in Kern County rejected all alternatives with a station in downtown Bakersfield. The City of Bakersfield noted that the Preferred Alternative alignment identified in the Fresno to Bakersfield Section Final EIR/EIS would severely impact the City's ability to utilize existing City assets including its corporation yard, senior housing, and parking facilities at the Rabobank Arena, Theatre and Convention Center. The City also noted it would render unusable one of the City's premier health facilities and would affect the Bakersfield Commons project, a retail/commercial/residential development. The majority of individual and government official comments preferred an alternative that would bypass Bakersfield and locate a station on the outskirts of the city.

During the development of this Draft Supplemental EIR/EIS for the F-B LGA, the Authority and FRA consulted with federal, state, and local agencies, and held meetings to provide project updates and obtain feedback from the public.

The Authority has hosted various outreach events, including open houses, workshops, and activity centers. (See Chapter 9 of this Draft Supplemental EIR/EIS for additional discussion of public and agency involvement since March 2015.) Some of the most frequently asked questions by outreach event attendees were related to noise generation, property values, right-of-way acquisition, and construction employment opportunities. Project staff addressed these and other

questions, often explaining the environmental analysis underway for this Draft Supplemental EIR/EIS and informing people of upcoming opportunities to provide comments. This Draft Supplemental EIR/EIS addresses comments raised by the public throughout the environmental process. The Authority also assessed the feasibility of other alternatives or changes suggested by individuals and organizations. As described in Section 9.4 of this Draft Supplemental EIR/EIS, a public hearing was scheduled during the 60-day formal comment period for the Draft Supplemental EIR/EIS on December 19, 2017 at the Bakersfield Marriot Hotel from 3:00 p.m. to 8:00 p.m.

A summary of these activities since 2014 through the publication of this Draft Supplemental EIR/EIS is provided below.

8.1.1 Public Information Meetings

The Authority has proactively sought to initiate meaningful dialogue with stakeholders, including resource agencies, landowners, community leaders, the agricultural community, and any interested member of the general public, going above and beyond what is required for outreach activities for CEQA and NEPA to ensure the broadest possible participation. The Authority and FRA held informal and formal public meetings during the Draft Supplemental EIR/EIS preparation process for the F-B LGA, as summarized below.

The Authority held four community open houses between August 25, 2015 and August 25, 2016, in the cities of Bakersfield and Shafter as well as two targeted community meetings for Sumner Street businesses and the Community of Oildale. Oildale was determined to be a prime location for a community outreach meeting because of its proximity to the F-B LGA alignment and its socioeconomic makeup (e.g., 31.9 percent of the community is living below the poverty level). The purpose of these meetings was to provide information to the interested public and agencies about the F-B LGA. These community open houses provided the community an opportunity to ask questions and provide comments about the F-B LGA. A total of 753 community members collectively attended these events. Ninety written comments were received. Of these comments, 33 were in favor of the F-B LGA or the project in general, 10 comments expressed opposition to the alignment and/or the HSR project, and 7 comments expressed a preference for the previously-approved Bakersfield Hybrid Alternative (i.e., Truxtun Avenue station in downtown Bakersfield) or a different alignment. Other comments received were associated with impacts to homes, businesses, and public facilities; construction costs or job creation; station connectivity to other transportation modes; suggestions for alternative alignments or opposition to the project; water storage; electromagnetic field and noise impacts; airport conflicts; and security concerns during operation.

As described in Chapters 5 and 9 of this Draft Supplemental EIR/EIS, the Authority has conducted specific outreach efforts to low-income and minority populations and to communities of concern. As part of the overall public outreach for the F-B LGA, the Authority has conducted numerous one-on-one meetings with stakeholders who are identified, either because of location, clientele, or socioeconomic background, as having minority or low-income status. Additionally, prior to the informational open houses described above, fliers were delivered or emailed to advertise each open house to several community and public spaces serving potentially impacted low-income and minority populations. For additional information about the outreach effort related to environmental justice, please see Chapter 5, Environmental Justice.

The Authority also conducted numerous outreach meetings with affected property owners, businesses, schools, and special districts between 2015 and 2017. See Chapter 9 of this Draft Supplemental EIR/EIS for more information on the public and agency involvement for the F-B LGA.

8.1.2 Federal, State, Regional, and Other Public Agencies

The Authority and FRA consulted with cooperating agencies under NEPA (i.e., USACE and the Surface Transportation Board) and with trustee and responsible agencies under CEQA (e.g., the State Water Resources Control Board and California Department of Fish and Wildlife) regarding specific resource areas associated with these agencies. Interested state, federal, and local agencies were also consulted throughout the process (e.g., USEPA, the United States Fish and Wildlife Service, and United States Bureau of Reclamation). For additional discussion of the agencies meetings conducted during the development of the Fresno to Bakersfield Section EIR/EIS, see Section 8.4 of the Fresno to Bakersfield Section Final EIR/EIS (pages 8-10 through 8-12).

The Authority and FRA conducted two meetings with the USACE and the USEPA (occurring on April 30, 2015 and July 21, 2015) to provide an overview of the conceptual F-B LGA and a summary of the proposed facilities along the F-B LGA and of steps taken to design the alternative in an effort to avoid impacts to specific resources.

Other agency coordination meetings took place on:

- February 17, 2016 (USEPA, USACE, United States Fish and Wildlife Service [USFWS], National Marine Fisheries Service [NMFS], United States Bureau of Reclamation [USBR], California Department of Fish and Wildlife [CDFW], State Water Resources Control Board [SWRCB], State Transportation Board [STB] in attendance)
- March 16, 2016 (USEPA, USACE, USFWS, NMFS, USBR, CDFW, STB, and SWRCB in attendance)
- April 20, 2016 (USEPA, USACE, USFWS, NMFS, USBR, CDFW, STB, and SWRCB in attendance)
- May 18, 2016 (USEPA, USACE, USFWS, NMFS, USBR, CDFW, STB, and SWRCB in attendance)
- June 15, 2016 (USEPA, USACE, USFWS, NMFS, USBR, STB, and CDFW in attendance)
- June 27, 2016 (USEPA, STB, and USACE in attendance)
- September 21, 2016 (USEPA, USACE, USFWS, NMFS, USBR, CDFW, STB, and SWRCB in attendance)
- October 19, 2016 (USEPA, USACE, NMFS, USBR, CDFW, STB, and SWRCB in attendance)
- December 21, 2016 (USEPA, STB, and USACE in attendance)
- January 18, 2017 (USEPA, USACE, USFWS, NMFS, USBR, STB, and CDFW in attendance)
- March 6, 2017 (USEPA, STB, and USACE in attendance)
- April 4, 2017 (USEPA, STB and USACE in attendance)
- April 19, 2017 (USEPA, USACE, USFWS, NMFS, USBR, CDFW, SWRCB, California State Parks, and the STB in attendance)

Each meeting included discussion and updates on project sections, including the Fresno to Bakersfield Section, as well as permitting, implementation, and compliance issues. The Authority, FRA, and collaborating agencies were in attendance and provided progress information and feedback.

8.1.3 Technical Working Group and Agency Coordination

The Authority formed two Technical Working Groups composed of senior staff from the cities of Shafter and Bakersfield, County of Kern, and Kern Council of Governments. The purpose of these groups was to facilitate the exchange of information and ideas during the course of the study. The Technical Working Groups met regularly during the Draft Supplemental EIR/EIS

preparation process to facilitate information exchanges about modifications to alignments and the HSR station, and identification of potential resource impacts and avoidance alternatives. The Technical Working Group meetings helped transfer information needs, express concerns and preferences, and relay important project updates. Seven Technical Working Group meetings occurred in Bakersfield and six Technical Working Group meetings occurred in Shafter since 2015.

8.1.4 Tribal Consultation

On August 12, 2015, consultation letters were sent via email and mail to six Native American tribes and individuals listed by the Native American Heritage Commission as consulting parties for the Fresno to Bakersfield Section. Those contacted were provided maps and information for the F-B LGA, asked for input regarding the presence of cultural resources that may be affected by the F-B LGA, and offered the opportunity to participate in a community open house on August 25, 2015. The consulting party tribes were notified of an Area of Potential Effects expansion for the F-B LGA on July 29, 2016; and again on October 5, 2016. Letters, maps, and information for the F-B LGA modified Area of Potential Effects were provided and input was requested from the tribes regarding any concerns they may have about cultural resources that may be affected.

To date, the Native Americans consulted have either: 1) not identified for the Authority or FRA any traditional cultural properties or other cultural resources that could be affected by the F-B LGA; or 2) not responded. The Authority and FRA will continue to consult with these tribes throughout the environmental process. See Section 3.17, Cultural Resources, for additional details regarding the Native American consultation conducted for the F-B LGA.

8.2 Alternatives Considered

This Draft Supplemental EIR/EIS focuses on the potential environmental impacts of the F-B LGA and compares the impacts of that new alternative to the May 2014 Project (Figure 8-1). The May 2014 Project is the complementary portion of the Preferred Alternative identified in the Fresno to Bakersfield Section Final EIR/EIS for comparison with the F-B LGA. Below is a summary of the May 2014 Project and the F-B LGA, both of which extend approximately 1,600 feet north of Poplar Avenue north of Shafter to Oswell Street in Bakersfield:

- **May 2014 Project.** The May 2014 Project, which consists of alternatives evaluated in the Fresno to Bakersfield Section Final EIR/EIS, includes a 12-mile portion of the BNSF Alternative from Poplar Avenue to Hageman Road and the Bakersfield Hybrid Alternative from Hageman Road to Oswell Street. The description of the May 2014 Project included below is based on detail included in the Fresno to Bakersfield Section Final EIR/EIS (Authority and FRA 2014).

The May 2014 Project alignment runs primarily at-grade as it follows the BNSF corridor and State Route (SR) 43 through Shafter and SR 58 into Bakersfield. It parallels the F-B LGA until approximately Beech Avenue, where it diverges from the F-B LGA, parallels the BNSF right-of-way in a southeasterly direction, and then curves back to the northeast to parallel the BNSF tracks toward Kern Junction. After crossing Truxtun Avenue, the alignment curves to the southeast to rejoin the F-B LGA and parallel the Union Pacific Railroad tracks and Edison Highway to its terminus at Oswell Street. Refer to Section 2.4.2 (pages 2-54 through 2-66) and Section 2.4.3.10 (page 2-72) of the Fresno to Bakersfield Section Final EIR/EIS for more detail associated with the BNSF Alternative and Bakersfield Hybrid, which comprise the May 2014 Project (Authority and FRA 2014).

The May 2014 Project Station would be built at the corner of Truxtun and Union Avenues/SR 204. Refer to Section 2.4.4.3 (page 2-80) of the Fresno to Bakersfield Section Final EIR/EIS for more detail associated with the May 2014 Project Station (Authority and FRA 2014).

Figure 2-43 (page 2-87) of the Fresno to Bakersfield Section Final EIR/EIS depicts the conceptual layout of the May 2014 Project Station (Authority and FRA 2014).

A maintenance of infrastructure facility (MOIF) would be located along the May 2014 Project Alternative just north of the city of Bakersfield and 7th Standard Road. Please refer to

Chapter 2 of the Fresno to Bakersfield Section Final EIR/EIS (pages 2-15 and 2-16) for more detailed information on the MOIF design and requirements (Authority and FRA 2014).¹

The May 2014 Project as approved does not preclude the adjustment of column spacing during final design. If required, the proposed columns can be adjusted to ensure planned future road widenings, and grade separations from BNSF are not precluded.

- **F-B LGA.** The F-B LGA was identified in December 2014 and provides an alternative alignment within the same limits of the May 2014 Project. A summary description of the F-B LGA is provided below; please refer to Chapter 2 of this Draft Supplemental EIR/EIS, including Figures 2-3 through 2-8, for a detailed description of the F-B LGA.

Similar to the May 2014 Project, the alignment would begin north of Shafter and run east of the BNSF corridor, continuing southeasterly until just north of Burbank Street where it would turn east until reaching the Union Pacific Railroad corridor. At this point, the alignment would turn and continue southeasterly, adjacent to and west of, the Union Pacific Railroad corridor. The alignment would continue southeasterly into Bakersfield and would deviate from the Union Pacific Railroad corridor. Southwest of the community of Oildale, the alignment would cross SR 99 and continue southeast. South of Airport Drive, the alignment would cross and run parallel to the east side of SR 204. This route would continue until the SR 178 crossing, where the alignment would turn east and return parallel to the Union Pacific Railroad corridor. The F-B LGA would continue generally east within the Sumner Street and Edison Highway corridors and would terminate near Oswell Street. The F-B LGA station would be located at the intersection of SR 204 and F Street. A MOIF would be located along the F-B LGA in the city of Shafter near Fresno Avenue.

In the city of Shafter, both the HSR and BNSF would be built on retained fill. Grade separations from the BNSF would be provided at Poplar Avenue, Fresno Avenue, Shafter Avenue, Central Avenue, E Lerdo Highway, and Riverside Street.

Chapter 3 of this Draft Supplemental EIR/EIS describes and analyzes the proposed F-B LGA alignment, F Street Station, MOIF, and operational facilities. The purpose of Chapter 8 is to identify the preferred alternative based on a comparison of the impacts associated with the F-B LGA (as presented in Chapters 3, 4, 5, and 6 of this Draft Supplemental EIR/EIS) and the May 2014 Project (as presented in Chapters 3, 4, and 5 of the Fresno to Bakersfield Section Final EIR/EIS).²

8.3 Preliminary Preferred Alternative

At the November 2015 Authority Board of Directors (Board) meeting, the Board discussed the option of identifying a Preliminary Preferred Alternative in this Draft Supplemental EIR/EIS for CEQA review. The advantage of identifying the Preliminary Preferred Alternative for CEQA review in the Draft Supplemental EIR/EIS is to give the public and resource agencies an opportunity to provide comments with the knowledge of the agencies' preliminary preference among alternatives.

¹ In the Fresno to Bakersfield Section Final EIR/EIS, the proposed Shafter MOIF was collocated with the proposed heavy maintenance facility. For the purposes of this Draft Supplemental EIR/EIS, no heavy maintenance facility site has been considered for the F-B LGA; therefore, the acreage of the heavy maintenance facility analyzed in the Fresno to Bakersfield Section Final EIR/EIS has been omitted from the comparative analysis included in the analysis in this chapter and in the analysis of the May 2014 Project in Technical Appendix 8-A of this Draft Supplemental EIR/EIS.

² Chapter 5 of this Supplemental EIR/EIS evaluates the environmental justice impacts that would result from the F-B LGA; whereas, environmental justice impacts associated with the May 2014 Project were evaluated in Section 3.12 of the Fresno to Bakersfield Section Final EIR/EIS. Chapter 5 of the Fresno to Bakersfield Section Final EIR/EIS and Chapter 6 of this Draft Supplemental EIR/EIS describe the project cost estimates.

At the May 2016 Authority Board meeting, staff recommended that the Board identify the F-B LGA as the Preliminary Preferred Alternative for the purpose of preparing the Draft Supplemental EIR/EIS. Staff presented that the F-B LGA would result in fewer residential displacements, impacts to waters of the United States, and agricultural impacts than the May 2014 Project. Additionally, the F-B LGA is supported by the City of Bakersfield. The Authority Board adopted Resolution #16-13, which concurred with staff's recommendation that the F-B LGA be designated as the Preliminary Preferred Alternative in this Draft Supplemental EIR/EIS. The Preferred Alternative will be identified in the Final Supplemental EIR/EIS following the opportunity for public comment during the 60-day public review period.

8.4 Preferred Alternative

The Preferred Alternative for this Supplement EIR/EIS to the Fresno to Bakersfield Section has been identified by the Authority and FRA as the F-B LGA. The Preferred Alternative extends approximately 1,600 feet north of Poplar Avenue, north of Shafter, to Oswell Street in Bakersfield. The station associated with the Preferred Alternative would be located at the intersection of SR 204 and F Street in Bakersfield. The Preferred Alternative is estimated to cost approximately \$2,687.5 million (in 2010 dollars). The Preferred Alternative would have lower capital costs than the May 2014 Project, which is estimated at \$2,893.7 million (2010 dollars). As shown in Table 8-A-65 of Appendix 8-A, Analysis of the Comparable Section (May 2014 Project), the estimated capital cost of the entire Fresno to Bakersfield Section is approximately \$7,746 million (in 2010 dollars).

The project footprint for the Preferred Alternative includes all project components and right-of-way needed to construct and operate the Preferred Alternative. The project footprint components include the proposed HSR right-of-way and associated facilities, such as traction power supply stations and switching and paralleling stations, as described in Chapter 2 of this Draft Supplemental EIR/EIS, F-B LGA Project Description. In selecting the Preferred Alternative, the Authority considered two design options for each of the system sites adjacent to the F-B LGA alignment. Two design options for the following system sites were included in the project footprint for the Preferred Alternative and subsequently evaluated:

- Paralleling Station in Shafter (Stations 6026+00 and 6037+00)
- Switching Station in rural Shafter (Stations 6216+00 and 6258+00)
- Paralleling Station in rural Shafter (Stations 6475+00 and 6480+00)
- Paralleling Station in Kern County (Stations 6724+00 and 6733+00)
- Traction Power Substation in Bakersfield (Stations 6936+00 and 6940+00)

The Authority and FRA have considered the environmental and community impacts associated with each design option and has selected the system sites listed in Table 8-1 for incorporation into the Preferred Alternative.

Table 8-1 F-B LGA Systems Sites

Facility Type	Approximate Station	Selection Criteria
Paralleling Station	Station 6026+00	Paralleling Station 6026+00 would result in fewer impacts to agricultural lands.
Switching Station	Station 6258+00	Although Switching Station 6258+00 would result in 0.29 acre more permanent impact, it would not result in an unusable remnant parcel, whereas Switching Station 6216+00 would.
Paralleling Station	Station 6480+00	Paralleling Station 6480+00 would impact 0.85 acre of agricultural lands, whereas Paralleling Station 6475+00 would impact 0.96 acre of agricultural lands.
Paralleling Station	Station 6724+00	Paralleling Station 6724+00 would minimize conflicts with land uses and property owners when compared to Paralleling Station 6733+00.
Traction Power Substation	Station 6940+00	Traction Power Substation 6940+00 would displace one business, whereas Traction Power Substation 6936+00 would displace three businesses and would result in the loss of approximately \$15 million more in sales.

This section describes how the Authority and FRA identified the F-B LGA as the Preferred Alternative that the agencies both believe would fulfill their statutory missions and responsibilities by giving consideration to economic, environmental, technical, and other factors. FRA and the Authority identified the Preferred Alternative by balancing the adverse and beneficial impacts of the project on the human and natural environment. Taking this holistic approach means that no single issue was the sole factor in identifying the Preferred Alternative in any given geographic area. FRA and the Authority weighed all of the issues including natural resource and community impacts, the input of the communities along the route, the views of federal and state resource agencies, project costs, and constructability, to identify what both agencies believe is the best alternative to achieve the project's purpose and need.

This evaluation provides information on the environmental topics where the May 2014 Project and the F-B LGA are substantively different, and does not focus on resource topics where the potential impacts for the alternatives are similar (e.g., air quality and global climate change, safety and security, electromagnetic fields and interference, station planning, and archaeological resources) or were not significant (e.g., hydrology, public utilities and energy, geology, soils and seismicity, and hazardous materials and waste).

Table 8-2 summarizes the potential impacts on natural resources (i.e., impacts on aquatic resources and special-status species) for easy comparison. Table 8-3 summarizes the potential impacts of the project alternatives on community-based resources, including impacts on farmlands, visual impacts, potential displacements, and environmental justice considerations. A more detailed analysis of the environmental impacts of the May 2014 Project, and a subsequent summary comparison of impacts between the two alternatives is provided in Appendix 8-A, Analysis of the Comparable Section (May 2014 Project).

Table 8-2 Natural Resources Impacts Comparison

Parameter	Alternatives	
	May 2014 Project	F-B LGA
Natural Resources Direct Impacts (acres)¹		
Wetlands Impact (waters of the United States)	0.51	0.00
Other Waters of the United States Impact	19.63	17.14
Total Direct Impacts to Aquatic Resources (waters of the United States)	20.14	17.14
Direct Impacts to Special-Status Plant Communities (Black Willow Thickets)	1.00	1.54
Direct Impacts to Potentially Suitable Special-Status Plant Species Habitat	112.26	62.13
Direct Impacts to Habitats that Support Special-Status Wildlife Species	1,656.41	989.73

¹Impact calculations in this table include project alternatives and station alternatives for the portion of the Fresno to Bakersfield Section between Poplar Avenue, north of Shafter, and Oswell Street in Bakersfield but do not include heavy maintenance facility alternatives.

All impacts were calculated based on preliminary design project footprints.

The shading provided in the table signifies the alternative with the lesser quantity of impact.

F-B LGA = Fresno to Bakersfield Locally Generated Alternative

Table 8-3 Community Resources Impacts Comparison

Parameter	Alternatives	
	May 2014 Project	F-B LGA
Section 4(f) Properties Impacted by Project	2	0
Transportation and traffic (roadway segments operating below standards – Future [Year 2035] with Project Conditions)	0	1
Transportation and traffic (study intersections operating below standards – Future [Year 2035] with Project Conditions)	11	15
Transportation and traffic (permanent road closures)	14	10
Noise-sensitive receptors affected after mitigation	305	152
Vibration Impacts (number of properties affected)	0	18
Important Farmland (acres)	485	372
Williamson Act lands (acres)	47	114
Parks, recreation, open space: before mitigation	2	2
Visual quality in rural areas adversely affected	Yes	Yes
Visual quality in urban areas adversely affected	Yes	Yes
Number of Section 106 properties affected–direct (indirect)	0(1)	0(4)
Oil wells (active wells within 200 feet of centerline)	2	0
PEC Sites within 150 feet of Footprint	2	149
Key community facilities affected	20	15
Displacement of religious facilities	2	0
Disproportionate effects on minority and low-income communities	Yes	Yes
Impacts on the Environmental Justice Community of Crome	Yes	No

Parameter	Alternatives	
	May 2014 Project	F-B LGA
Impacts on the Environmental Justice Community of Oildale	No	Yes
Estimated no. of commercial and industrial businesses displaced	392	377
Estimated no. of housing units displaced	384	86

Impact calculations in this table include project alternatives and station alternatives for the portion of the Fresno to Bakersfield Section between Poplar Avenue, north of Shafter, and Osowell Street in Bakersfield but do not include heavy maintenance facility alternatives.

All impacts were calculated based on the Preliminary Engineering for Project Definition footprint.

The shading provided in the table signifies the alternative with the lesser quantity of impact.

The *Fresno to Bakersfield Section Final EIR/EIS* also considered the following parameters, which are not applicable to the following section: Division of Ponderosa Road/Edna Way community and Division of Newark Avenue and 5th Avenue/Waukena-Corcoran community.

EIR/EIS = Environmental Impact Report/Environmental Impact Statement

F-B LGA = Fresno to Bakersfield Locally Generated Alternative

The F-B LGA reflects the Authority's and FRA's outreach with local stakeholders to refine the HSR project to achieve positive outcomes for affected communities and the natural environment, while still meeting the overall project objectives consistent with the voter-approved Proposition 1A. The Authority and FRA identified the F-B LGA as the Preferred Alternative for the following reasons:

- The F-B LGA, when compared to the May 2014 Project, would reduce the number of residential displacements. The F-B LGA would require 86 residential displacements, while the May 2014 Project would require 384 residential displacements. As shown in Table 8-A-38 of Appendix 8-A, Analysis of the Comparable Section (May 2014 Project), the F-B LGA would result in fewer residential displacements in each of the affected communities (city of Shafter, unincorporated Kern County, and city of Bakersfield) when compared with the May 2014 Project with the exception of the community of Oildale, which is not impacted by the May 2014 Project.
- The F-B LGA, when compared to the May 2014 Project, would result in similar business relocation impacts. The F-B LGA would require 377 business relocations, while the May 2014 Project would require 392 business relocations. As shown in Table 8-A-39 of Appendix 8-A, Analysis of the Comparable Section (May 2014 Project), the F-B LGA would result in greater business relocations in the city of Shafter and community of Oildale when compared to the May 2014 Project. However, the F-B LGA would result in fewer business relocations in the city of Bakersfield and in unincorporated Kern County.
- The F-B LGA, when compared to the May 2014 Project, results in fewer total direct impacts on waters and wildlife habitat. As shown in Table 8-2, the F-B LGA would result in 17.14 acres of total direct impacts on waters, while the May 2014 Project would result in 20.14 acres of total direct impacts on waters. As shown in Table 8-2, the F-B LGA would result in fewer total direct impacts to wildlife habitat than the May 2014 Project.
- With respect to resources protected by Section 4(f), both alternatives would cross the Kern River Parkway, resulting in comparable impacts. The May 2014 Project would cross the Mill Creek Linear Park, while the F-B LGA would cross the northern half of Weill Park. In the *Fresno to Bakersfield Section Final EIR/EIS*, FRA determined the impacts to Mill Creek Linear Park and for the Kern River Parkway would be de minimis but the City of Bakersfield, the official with jurisdiction, did not concur with the determination and therefore FRA instead found a 4(f) use of those resources. For the F-B LGA, FRA has similarly made a preliminary finding that the impacts to the Kern River Parkway and Weill Park will be de minimis, however, in contrast with the May 2014 Project, the City has verbally agreed with that finding (TY Lin 2015). The City's formal written concurrence on the de minimis use determination will be requested by FRA following the public review period of this Draft Supplemental EIR/EIS.
- The F-B LGA, when compared to the May 2014 Project, would result in fewer permanent impacts to Important Farmlands. As shown in Table 8-3, the F-B LGA would permanently

impact 372 acres of Important Farmlands compared to 485 acres under the May 2014 Project.

As reflected above in Table 8-2 and Table 8-3, although the F-B LGA would involve greater impacts associated with special-status plant communities, roadway segment level of service, vibration, Williamson Act lands, and Section 106 properties than the May 2014 Project, the F-B LGA is the Preferred Alternative because it is supported by the local community (e.g., City of Bakersfield); would result in fewer overall agricultural lands, noise, residential displacements, special-status species, aquatic habitats, and key community facilities impacts; and would cost less to construct.

8.5 Environmentally Superior Alternative

The California Environmental Quality Act guidelines (Section 15126.6[e][2]) state that if the environmentally superior alternative is the No Project Alternative, then the EIR must also identify an environmentally superior alternative among the other alternatives. For the reasons described in the Fresno to Bakersfield Final EIR/EIS, the environmentally superior alternative is not the No Project Alternative. This Draft Supplemental EIR/EIS acknowledges the No Project Alternative and that it was eliminated from consideration (see Section 2.2.1, No Project Alternative, of this Draft Supplemental EIR/EIS). Between the May 2014 Project and the Preferred Alternative (F-B LGA), the Preferred Alternative (F-B LGA) is the environmentally superior alternative.

Implementing the HSR project will have adverse environmental impacts regardless of which alternative is selected, but overall, the Preferred Alternative (F-B LGA) provides the environmentally superior alternative by best meeting environmental regulatory requirements and best minimizing impacts on the natural environment, farmland, and communities.

8.6 Environmentally Preferable Alternative

The environmentally preferable alternative is a NEPA term for the alternative that will promote the national environmental policy as expressed in NEPA's Section 101 (United States Code Title 42, Part 4331). Ordinarily, this means the alternative that causes the least damage to the biological and physical environment. This is accomplished by protecting, preserving, and enhancing historic, cultural, and natural resources. As required by the regulations implementing NEPA, the FRA will identify the environmentally preferable alternative if and when it issues a revised Record of Decision associated with this Draft Supplemental EIR/EIS for the Fresno to Bakersfield Section.

8.7 Least Environmentally Damaging Practicable Alternative

The Authority and FRA are working closely with federal, state, and regional agencies to meet regulatory requirements by refining the F-B LGA to avoid and minimize impacts and, where necessary, to reach agreement on mitigation measures for impacts that cannot be avoided. Important processes that integrate many of the applicable regulatory requirements are Section 404 and Section 408 of the Clean Water Act, under the jurisdiction of USACE with oversight from USEPA. The Authority and FRA entered into a NEPA/Section 404/408 Integration Process Memorandum of Understanding with USEPA and USACE (FRA et al. 2010), which outlines three major checkpoints in the integration of the NEPA and Section 404/408 process. Each checkpoint consists of the submittal of technical data and studies by the Authority and FRA to USACE and USEPA for review and consideration before issuing a formal written agency response.

The first of these submittals is Checkpoint A, which involves preparing a project purpose statement that serves both NEPA and Section 404 requirements. USEPA concurred on the Fresno to Bakersfield Section purpose and need on January 20, 2011, and USACE concurred on the purpose and need on February 2, 2011, to satisfy Checkpoint A. The second submittal is Checkpoint B, which is required to screen and reduce the potential alternatives to an appropriate range of "reasonable" and "practicable" alternatives using the best available information. Because the F-B LGA is consistent with the purpose and need of the Fresno to Bakersfield Project, Checkpoint A did not require revision. Given that a reasonable range of alternatives had been considered pursuant to the Checkpoint B process and the F-B LGA represents a single new

alternative that would be evaluated as part of the Checkpoint C process (see below), no revision to Checkpoint B was required. As referenced above in Section 8.1.2, the Authority consulted with the USACE and EPA throughout the development of the Preferred Alternative. The Authority hosted workshops with these agencies on April 30, 2015 and July 21, 2015 to provide an overview of the F-B LGA, on June 27, 2016 and March 6, 2017 to provide detail on the status of the Checkpoint C process, described below, and on April 4, 2017 to discuss comments on the Draft Supplemental Checkpoint C package.

Checkpoint C consists of the assembly and assessment of information contained in the EIR/EIS and associated technical studies for consideration by USACE and USEPA in determining the preliminary Least Environmentally Damaging Practicable Alternative and providing a formal agency response. The documentation includes those analyses completed to meet requirements of NEPA, Sections 401 and 404 of the Clean Water Act, and Section 14 of the Rivers and Harbor Act, which include consideration of compliance with the Federal Endangered Species Act and the National Historic Preservation Act. The Authority submitted Checkpoint C materials to the USACE and USEPA on March 10, 2017 and May 2, 2017, and received concurrence from the agencies that the Preferred Alternative contains the preliminary Least Environmentally Damaging Practicable Alternative on May 5, 2017 (USACE) and May 22, 2017 (USEPA). All materials prepared for the checkpoint are available on the Authority's website.

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