

CALIFORNIA HIGH-SPEED TRAIN

Project Environmental Impact Report /
Environmental Impact Statement

DRAFT

Fresno to Bakersfield

Aesthetics and Visual Resources Technical Report

July 2012



Fresno to Bakersfield

**Aesthetics and Visual Resources
Technical Report**

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Acronyms and Abbreviations

APE	area of potential effects
ARRA	American Recovery and Reinvestment Act
Authority	California High-Speed Rail Authority
BNSF	BNSF Railway
Caltrans	California Department of Transportation
C	Corcoran
CBD	Central Business District
CEQA	California Environmental Quality Act
CT	Chinatown
DEM	Digital elevation map (ping)
DOT	Department of Transportation
E.	East
EIR	environmental impact report
EIS	environmental impact study
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FOE	Finding of Effect
FRA	Federal Railroad Administration
GIS	geographic information system
HMF	heavy maintenance facility
HPSR	Historic Property Survey Report
HST	high-speed train
HW	Highway
Mt.	Mount
N.	North
NEPA	National Environmental Policy Act
OCS	overhead contact system
RI	Railyard Industrial

ROD	Record of Decision
RTP	regional transportation plan
SER	Standard Environmental Reference
SJVR	San Joaquin Valley Railroad
SR	State Route
STIP	State Transportation Improvement Program
TPDS	traction power distribution station
UPRR	Union Pacific Railroad
USDI	U.S. Department of Interior
VIA	visual impact assessment
VR	valley riparian
W.	West

Chapter 1.0

Introduction

1.0 Introduction

The California High-Speed Rail Authority (Authority) proposes to construct, operate, and maintain an electric-powered high-speed train (HST) system in California. When completed, the nearly 800-mile train system would provide new passenger rail service to more than 90% of the state's population. More than 200 weekday trains would serve the statewide intercity travel market. The HST would be capable of operating at speeds of up to 220 miles per hour, with state-of-the-art safety, signaling, and automated train control systems. The system would connect and serve the major metropolitan areas of California, extending from San Francisco and Sacramento in the north to San Diego in the south.

In 2005, the Authority and the Federal Railroad Administration (FRA) prepared a Program Environmental Impact Report/Environmental Impact Statement (Statewide Program EIR/EIS) evaluating HST's ability to meet the existing and future capacity demands on California's intercity transportation system (Authority and FRA 2005). This was the first phase of a tiered environmental review process (Tier 1) for the proposed statewide HST System. The Authority and the FRA completed a second Program EIR/EIS in July 2008 to identify a preferred alignment for the Bay Area to Central Valley Section (Authority and FRA [2008] 2010).

The Authority and FRA are now undertaking second-tier, project environmental evaluations for sections of the statewide HST System. This Aesthetics and Visual Resources Technical Report is for the Fresno to Bakersfield Section. The Fresno to Bakersfield Section begins at the proposed Fresno HST station in downtown Fresno and ends at the proposed Bakersfield HST station in downtown Bakersfield. Because the alternatives under consideration in Bakersfield do not merge until Oswell Street, which is approximately 1 mile farther east of the Bakersfield station sites, the environmental analysis has been carried to Oswell Street. Information from this report is summarized in the project EIR/EIS for the Fresno to Bakersfield Section and will be part of the administrative record supporting the environmental review of the proposed project.

For the HST System, including the Fresno to Bakersfield Section, the FRA is the lead federal agency for compliance with the National Environmental Policy Act (NEPA) and other federal laws. The Authority is serving as a joint-lead agency under NEPA and is the lead agency for compliance with the California Environmental Quality Act (CEQA). The U.S. Army Corps of Engineers is serving as a cooperating agency under NEPA for the Fresno to Bakersfield Section.

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Chapter 2.0

Project Description

2.0 Project Description

2.1 Project Introduction

The Fresno to Bakersfield Section of the HST project would be approximately 114 miles long, varying in length by only a few miles depending on the route alternatives selected. To comply with the Authority's guidance to use existing transportation corridors when feasible, the Fresno to Bakersfield HST Section would primarily be located adjacent to the existing BNSF Railway right-of-way. Alternative alignments are being considered where engineering constraints require deviation from the existing railroad corridor, and where necessary to avoid environmental impacts.

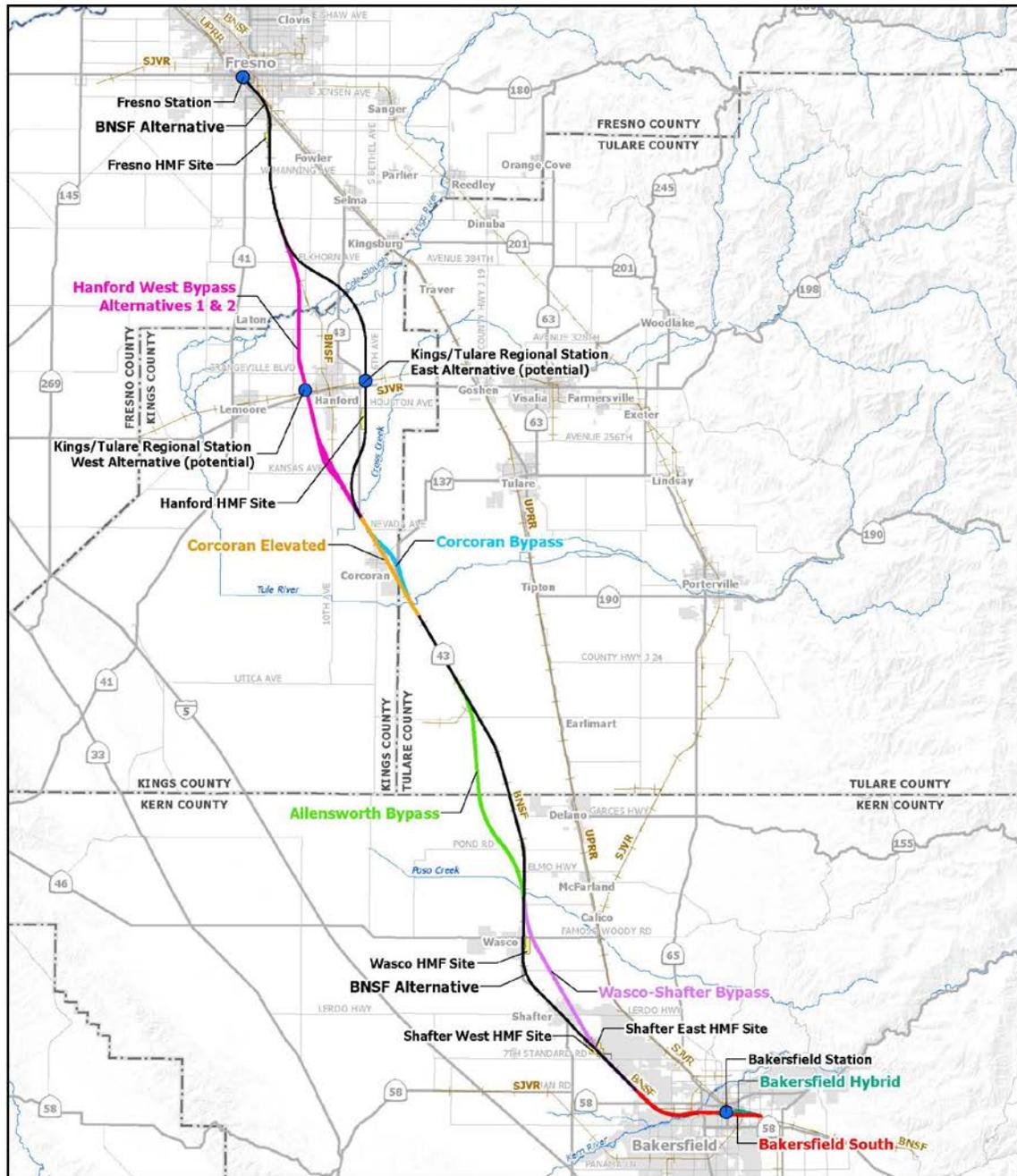
The Fresno to Bakersfield HST Section would cross both urban and rural lands and include a station in both Fresno and Bakersfield, a potential Kings/Tulare Regional Station in the vicinity of Hanford, a potential heavy maintenance facility (HMF), and power distribution stations along the alignment. The HST alignment would be entirely grade-separated, meaning that crossings with roads, railroads, and other transport facilities would be located at different heights (overpasses or underpasses) so that the HST would not interrupt nor interface with other modes of transport. The HST right-of-way would also be fenced to prohibit public or vehicle access. The project footprint would primarily consist of the train right-of-way, which would include both a northbound and southbound track in an area typically 120 feet wide. Additional right-of-way would be required to accommodate stations, multiple track at stations, maintenance facilities, and power distribution stations.

The Fresno to Bakersfield Section would include at-grade, below-grade, and elevated track segments. The at-grade track would be laid on an earthen rail bed topped with rock ballast approximately 6 feet off the ground; fill and ballast for the rail bed would be obtained from permitted borrow sites and quarries. Below-grade track would be laid in an open or covered trench at a depth that would allow roadway and other grade-level uses above the track. Elevated track segments would span long sections of urban development or aerial roadway structures and consist of steel truss aerial structures with cast-in-place reinforced-concrete columns supporting the box girders and platforms. The height of elevated track sections would depend on the height of existing structures below, and would range from 40 to 80 feet. Columns would be spaced 60 to 120 feet apart.

2.2 Project Alternatives

2.2.1 Alignment Alternatives

This section describes the Fresno to Bakersfield HST Section project alternatives, including the No Project Alternative. The Project EIR/EIS for the Fresno to Bakersfield HST Section examines alternative alignments, stations, and HMF sites within the general BNSF Railway corridor. Discussion of the HST project alternatives begins with a single continuous alignment (the BNSF Alternative) from Fresno to Bakersfield. This alternative most closely aligns with the preferred alignment identified in the Record of Decision (ROD) for the Statewide Program EIR/EIS. Descriptions of the additional eight alternative alignments that deviate from the BNSF Alternative for portions of the route then follow. The alternative alignments that deviate from the BNSF Alternative were selected to avoid environmental, land use, or community issues identified for portions of the BNSF Alternative (Figure 2-1).



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED
 Source: URS, 2012

April 13, 2012

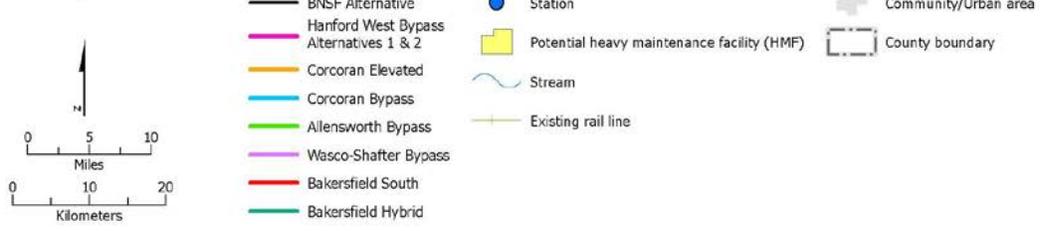


Figure 2-1
 Fresno to Bakersfield HST alignments

2.2.1.1 No Project Alternative

Under the No Project Alternative, the HST System would not be built. The No Project Alternative represents the condition of the Fresno to Bakersfield Section as it existed in 2009 (when the Notice of Preparation was issued), and as it would exist without the HST project at the planning horizon (2035). In assessing future conditions, it was assumed that all currently known programmed and funded improvements to the intercity transportation system (highway, rail, and transit), and reasonably foreseeable local development projects (with funding sources identified), would be developed by 2035. The No Project Alternative is based on a review of regional transportation plans (RTPs) for all modes of travel, the State of California Office of Planning and Research CEQAnet Database, the Federal Aviation Administration Air Carrier Activity Information System and Airport Improvement Plan grant data, the State Transportation Improvement Program, airport master plans and interviews with airport officials, intercity passenger rail plans, and city and county general plans and interviews with planning officials.

2.2.1.2 BNSF Alternative

The BNSF Alternative's cross sections include provisions for a 102-foot separation of the HST track centerline from the BNSF Railway track centerline, as well as separations that include swale or berm protection, or an intrusion protection barrier (wall) where the HST tracks are closer. A 102-foot separation between the centerlines of BNSF Railway and HST tracks is provided wherever feasible and appropriate. In urban areas where a 102-foot separation could result in substantial displacement of businesses, homes, and infrastructure, the separation between the BNSF Railway and HST was reduced. The areas with reduced separation require protection to prevent encroachment on the HST right-of-way in the event of a freight rail derailment. The use of a swale, berm, or wall protection would depend on the separation distance.

The BNSF Alternative would extend approximately 114 miles from Fresno to Bakersfield and would lie adjacent to the BNSF Railway route to the extent feasible (Figure 2-1). Minor deviations from the BNSF Railway corridor would be necessary to accommodate engineering constraints, namely wider curves necessary to accommodate the HST (as compared with the existing lower-speed freight line track alignment). The largest of these deviations occurs between approximately Elk Avenue in Fresno County and Nevada Avenue in Kings County. This segment of the BNSF Alternative would depart from BNSF Railway corridor and instead curve to the east on the northern side of the Kings River and away from Hanford, and would rejoin the BNSF Railway corridor north of Corcoran.

Although the majority of the alignment would be at-grade, the BNSF Alternative would include aerial structures in all of the four counties through which it travels. In Fresno County, an aerial structure would carry the alignment over Golden State Boulevard and SR 99, and a second would cross over the BNSF Railway tracks in the vicinity of East Conejo Avenue. The alignment would be at-grade with bridges where it crosses Cole Slough and the Kings River into Kings County.

In Kings County, the BNSF Alternative would be elevated east of Hanford where the alignment would pass over the San Joaquin Valley Railroad (SJVR) and SR 198. The alignment would also be elevated over Cross Creek, and again in the city of Corcoran to avoid a BNSF Railway spur and agricultural facilities located at the southern end of the city. In Tulare County, the BNSF Alternative would be elevated at the Tule River crossing and over Deer Creek and the Stoil railroad spur that runs west from the BNSF Railway mainline. In Kern County, the BNSF Alternative would be elevated through the cities of Wasco, Shafter, and Bakersfield. The BNSF Alternative would be at-grade through the rural areas between these cities.

The BNSF Alternative would provide wildlife crossing opportunities by means of a variety of engineered structures. Dedicated wildlife crossing structures would be provided from

approximately Cross Creek (Kings County) south to Poso Creek (Kern County) in at-grade portions of the railroad embankment at approximately 0.3-mile intervals. In addition to those structures, wildlife crossing opportunities would be available at elevated portions of the alignment, at bridges over riparian corridors, at road overcrossings and undercrossings, and at drainage facilities (i.e., large-diameter [60 to 120 inches] culverts and paired 30-inch culverts). Where bridges, aerial structures, and road crossings coincide with proposed dedicated wildlife crossing structures, such features would serve the function of, and supersede the need for, dedicated wildlife crossing structures.

The preliminary wildlife crossing structure design consists of a modified culvert in the embankment that would support the HST tracks. The typical culvert would be 73 feet long from end to end (crossing structure distance), would span a width of approximately 10 feet (crossing structure width), and would provide 3 feet of vertical clearance (crossing structure height). Additional wildlife crossing structure designs could include circular or elliptical pipe culverts, and larger (longer) culverts with crossing structure distances of up to 100 feet. The design of the wildlife crossing structures may change depending on site-specific conditions and engineering considerations.

2.2.1.3 Hanford West Bypass 1 Alternative

The Hanford West Bypass 1 Alternative would parallel the BNSF Alternative from East Kamm Avenue to approximately East Elkhorn Avenue in Fresno County. At East Conejo Avenue where the BNSF Alternative crosses to the eastern side of the BNSF Railway tracks to pass the city of Hanford to the east, the Hanford West Bypass 1 Alternative continues south on the western side of the BNSF Railway tracks. The Hanford West Bypass 1 would diverge from the BNSF Railway corridor just south of East Elkhorn Avenue and ascend onto an elevated structure just south of East Harlan Avenue, crossing over the Kings River complex and Murphy Slough, and passing the community of Laton to the west. The Hanford West Bypass 1 Alternative would return to grade just north of Dover Avenue. The alignment would continue at-grade and would travel between the community of Armona to the west and the city of Hanford to the east on a southeasterly route toward the BNSF Railway corridor. In order to avoid a large dairy located at the intersection of Kent and 11th avenues, the Hanford West Bypass 1 Alternative must travel to its west and deviate from the BNSF Railway corridor in the area of Kansas Avenue. The alignment would pass to the west of a large complex of BNSF Railway serviced grain silos and loading bays before it rejoins the BNSF Railway corridor adjacent to its western side at about Lansing Avenue. The alignment would continue on the western side of the BNSF Railway corridor and ascend onto another elevated structure, traveling over Cross Creek and special aquatic features that exist north of Corcoran. This alignment would return to grade just north of Nevada Avenue and would connect to the BNSF Alternative traveling through Corcoran at-grade, maintaining an alignment on the western side of the BNSF Railway corridor. The total length of the Hanford West Bypass 1 Alternative would be approximately 28 miles.

The Hanford West Bypass 1 Alternative includes a design option where the alignment would be below-grade between Grangeville Boulevard and Houston Avenue. The alignment would travel below-grade in an open cut with side slopes as it transitions to a retained-cut profile. As the alignment transitions back to grade just north of Houston Avenue, the open-cut profile would be used once more. The alignment would cross SR 198 and several local roads. South Peach Avenue, East Clarkson Avenue, East Barrett Avenue, Elder Avenue, and South Tenth Avenue would be closed at the HST right-of-way, while the other roads would be realigned and/or grade-separated from the HST with overcrossings/undercrossings. Grade separations at Grangeville Boulevard, Thirteenth Avenue, and West Lacey Boulevard would be determined based on the alignment design option selected (at-grade or below-grade).

The potential Kings/Tulare Regional Station–West Alternative would be located along this alignment, east of Thirteenth Avenue between Lacey Boulevard and the SJVR railroad spur. This potential station includes an at-grade and below-grade design option as well.

2.2.1.4 Hanford West Bypass 2 Alternative

The Hanford West Bypass 2 Alternative would be the same as the Hanford West Bypass 1 Alternative from East Kamm Avenue to just north of Jackson Avenue. The Hanford West Bypass 2 Alternative would then curve away from the Hanford West Bypass 1 Alternative to travel to the east of the dairy located at the intersection of Kent and 11th avenues toward the BNSF Railway corridor, approximately 0.3 mile east of the Hanford West Bypass 1 route. The Hanford West Bypass 2 Alternative would ascend over Kent Avenue and then cross over the BNSF Railway right-of-way to the northeast of the large complex of grain silos and loading bays located north of Kansas Avenue. The alignment would remain elevated for approximately 1.5 miles and parallel the BNSF Railway to the east, then cross over Kansas Avenue. The alignment would return to grade north of Lansing Avenue and continue along the BNSF Railway corridor on its eastern side. Similar to the Hanford West Bypass 1 Alternative, the Hanford West Bypass 2 Alternative would travel over Cross Creek and the special aquatic features located north of Corcoran and return to grade north of Nevada Avenue; however, the Hanford West Bypass 2 would be located on the eastern side of the BNSF Railway tracks in order to connect to either of the two Corcoran alternatives that would travel on the eastern side of the BNSF Railway corridor, the Corcoran Elevated Alternative or the Corcoran Bypass Alternative, described below. Like the Hanford West Bypass 1 Alternative, the total length of the Hanford West Bypass 2 Alternative would be approximately 28 miles.

The Hanford West Bypass 2 Alternative includes the same below-grade design option between Grangeville Boulevard and Houston Avenue as the Hanford West Bypass 1 Alternative, as well as either the at-grade or below-grade potential Kings/Tulare Regional Station–West Alternative. Similar to the Hanford West Bypass 1 Alternative, Hanford West Bypass 2 would cross SR 198 and several local roads. Road closures would be the same as those for the Hanford West Bypass 1, and roadway modifications at Grangeville Boulevard, Thirteenth Avenue, and West Lacey Boulevard would depend on the alignment design option selected.

2.2.1.5 Corcoran Elevated Alternative

The Corcoran Elevated Alternative would be the same as the corresponding section of the BNSF Alternative from approximately Nevada Avenue to Avenue 136, except that it would pass through the city of Corcoran on the eastern side of the BNSF Railway right-of-way on an aerial structure. The aerial structure would begin at Niles Avenue and return to grade south of Fourth Avenue. The total length of the Corcoran Elevated Alternative would be approximately 10 miles. Dedicated wildlife crossing structures would be provided from approximately Cross Creek south to Avenue 136 in at-grade portions of the railroad embankment at intervals of approximately 0.3 mile. Dedicated wildlife crossing structures would also be placed between 100 and 500 feet to the north and south of both the Cross Creek and Tule River crossings.

This alternative alignment would pass over several local roads on an aerial structure. Santa Fe Avenue and Avenue 136 would be closed at the HST right-of-way.

2.2.1.6 Corcoran Bypass Alternative

The Corcoran Bypass Alternative would diverge from the BNSF Alternative at Nevada Avenue and swing east of Corcoran, rejoining the BNSF Railway route at Avenue 136. The total length of the Corcoran Bypass would be approximately 10 miles. Similar to the corresponding section of the BNSF Alternative, most of the Corcoran Bypass Alternative would be at-grade. However, one elevated structure would carry the HST over SR 43, the BNSF Railway, and the Tule River.

Dedicated wildlife crossing structures would be provided from approximately Cross Creek south to Avenue 136 in at-grade portions of the railroad embankment at intervals of approximately 0.3 mile. Dedicated wildlife crossing structures would also be placed between 100 and 500 feet to the north and south of each of the Cross Creek and Tule River crossings.

This alternative alignment would cross SR 43, Whitley Avenue/SR 137, and several local roads. SR 43, Waukena Avenue, and Whitley Avenue would be grade-separated from the HST with an overcrossing/undercrossing; other roads would be closed at the HST right-of-way.

2.2.1.7 Allensworth Bypass Alternative

The Allensworth Bypass Alternative would pass west of the BNSF Alternative, avoiding Allensworth Ecological Reserve and the Allensworth State Historic Park. This alignment was refined over the course of environmental studies to reduce impacts on wetlands and orchards. The total length of the Allensworth Bypass Alternative would be approximately 21 miles, beginning at Avenue 84 and rejoining the BNSF Alternative at Elmo Highway. The Allensworth Bypass Alternative would be constructed on an elevated structure only where the alignment crosses Deer Creek and the Stoil railroad spur. The majority of the alignment would pass through Tulare County at-grade. Dedicated wildlife crossing structures would be provided from approximately Avenue 84 to Poso Creek at intervals of approximately 0.3 mile. Dedicated wildlife crossing structures would also be placed between 100 and 500 feet to the north and south of both the Deer Creek and Poso Creek crossings.

The Allensworth Bypass would cross several roads including County Road J22, Avenue 24, Garces Highway, Woollomes Avenue, Magnolia Avenue, Pond Road, and Elmo Highway. Avenue 24, Woollomes Avenue, and Elmo Highway would be closed at the HST right-of-way, while the other roads would be realigned and/or grade-separated from the HST with overcrossings.

2.2.1.8 Wasco-Shafter Bypass Alternative

The Wasco-Shafter Bypass Alternative would diverge from the BNSF Alternative between Taussig Avenue and Zachary Avenue, crossing over to the eastern side of the BNSF Railway tracks and bypassing Wasco and Shafter to the east. The Wasco-Shafter Bypass Alternative would be at-grade except where it travels over 7th Standard Road and the BNSF Railway to rejoin the BNSF Alternative. The total length of the Wasco-Shafter Bypass Alternative would be approximately 21 miles.

The Wasco-Shafter Bypass was refined to avoid the Occidental Petroleum tank farm as well as a historic property potentially eligible for listing on the National Register of Historic Places. The Wasco-Shafter Bypass would cross SR 43, SR 46, East Lerdo Highway, and several local roads. Roads, including SR 46, Kimberlina Road, Shafter Avenue, Beech Avenue, Cherry Avenue, and Kratzmeyer Road, would be grade-separated from the HST with overcrossings/undercrossings; other roads would be closed at the HST right-of-way.

2.2.1.9 Bakersfield South Alternative

From the Rosedale Highway (SR 58) in Bakersfield, the Bakersfield South Alternative would parallel the BNSF Alternative at varying distances to the north. At Chester Avenue, the Bakersfield South Alternative would curve south and run parallel to California Avenue. As with the BNSF Alternative, the Bakersfield South Alternative would begin at-grade and become elevated starting at Country Breeze Place through Bakersfield to its terminus at Oswell Street. Dedicated wildlife crossing structures would not be required because this alternative would be elevated to the north and south of the Kern River.

The Bakersfield South Alternative would be approximately 12 miles long and would cross many of the same roads as the BNSF Alternative. This alternative includes the Bakersfield Station–South Alternative.

2.2.1.10 Bakersfield Hybrid Alternative

From Rosedale Highway (SR 58) in Bakersfield, the Bakersfield Hybrid Alternative would follow the Bakersfield South Alternative and parallel the BNSF Alternative at varying distances to the north. At approximately A Street, the Bakersfield Hybrid Alternative would diverge from the Bakersfield South Alternative, cross over Chester Avenue and the BNSF right-of-way in a southeasterly direction, then curve back to the northeast to parallel the BNSF Railway tracks towards Kern Junction. After crossing Truxtun Avenue, the alignment would curve to the southeast to parallel the UPRR tracks to its terminus at Oswell Street. As with the BNSF and Bakersfield South alternatives, the Bakersfield Hybrid Alternative would begin at-grade and become elevated starting at Country Breeze Place through Bakersfield to Oswell Street. Dedicated wildlife crossing structures would not be required because this alternative would be elevated to the north and south of the Kern River.

The Bakersfield Hybrid Alternative would be approximately 12 miles long and would cross many of the same roads as the BNSF and Bakersfield South alternatives. This alternative includes the Bakersfield Station–Hybrid Alternative.

2.2.2 Station Alternatives

The Fresno to Bakersfield HST Section would include a new station in Fresno and a new station in Bakersfield. A potential third station, the Kings/Tulare Regional Station, is under consideration.

Stations would be designed to address the purpose of the HST, particularly to allow for intercity travel and connection to local transit, airports, and highways. Stations would include the station platforms, a station building, and associated access structure, as well as lengths of bypass tracks to accommodate local and express service at the stations. All stations would contain the following elements:

- Passenger boarding and alighting platforms.
- Station head house with ticketing, waiting areas, passenger amenities, vertical circulation, administration and employee areas, and baggage and freight-handling service.
- Vehicle parking (short-term and long-term) and “kiss-and-ride.”¹
- Motorcycle/scooter parking.
- Bicycle parking.
- Waiting areas and queuing space for taxis and shuttle buses.
- Pedestrian walkway connections.

2.2.2.1 Fresno Station Alternatives

Two alternative sites are under consideration for the Fresno Station.

Fresno Station–Mariposa Alternative

The Fresno Station–Mariposa Alternative would be located in Downtown Fresno, less than 0.5 mile east of SR 99 on the BNSF Alternative. The station would be centered on Mariposa Street and bordered by Fresno Street on the north, Tulare Street on the south, H Street on the east,

¹ “Kiss-and-ride” refers to the station area where riders may be dropped off or picked up before or after riding the HST.

and G Street on the west. The station building would be approximately 75,000 square feet, with a maximum height of approximately 64 feet.

The two-level station would be at-grade; with passenger access provided both east and west of the HST guideway and the UPRR tracks, which would run parallel to one another next to the station. The first level would contain the public concourse, passenger service areas, and station and operation offices. The second level would include a mezzanine, a pedestrian overcrossing above the HST guideway and the UPRR tracks, and an additional public concourse area. Entrances would be located at both G and H streets. A conceptual site plan of the Fresno Station–Mariposa Alternative is provided in Figure 2-2.

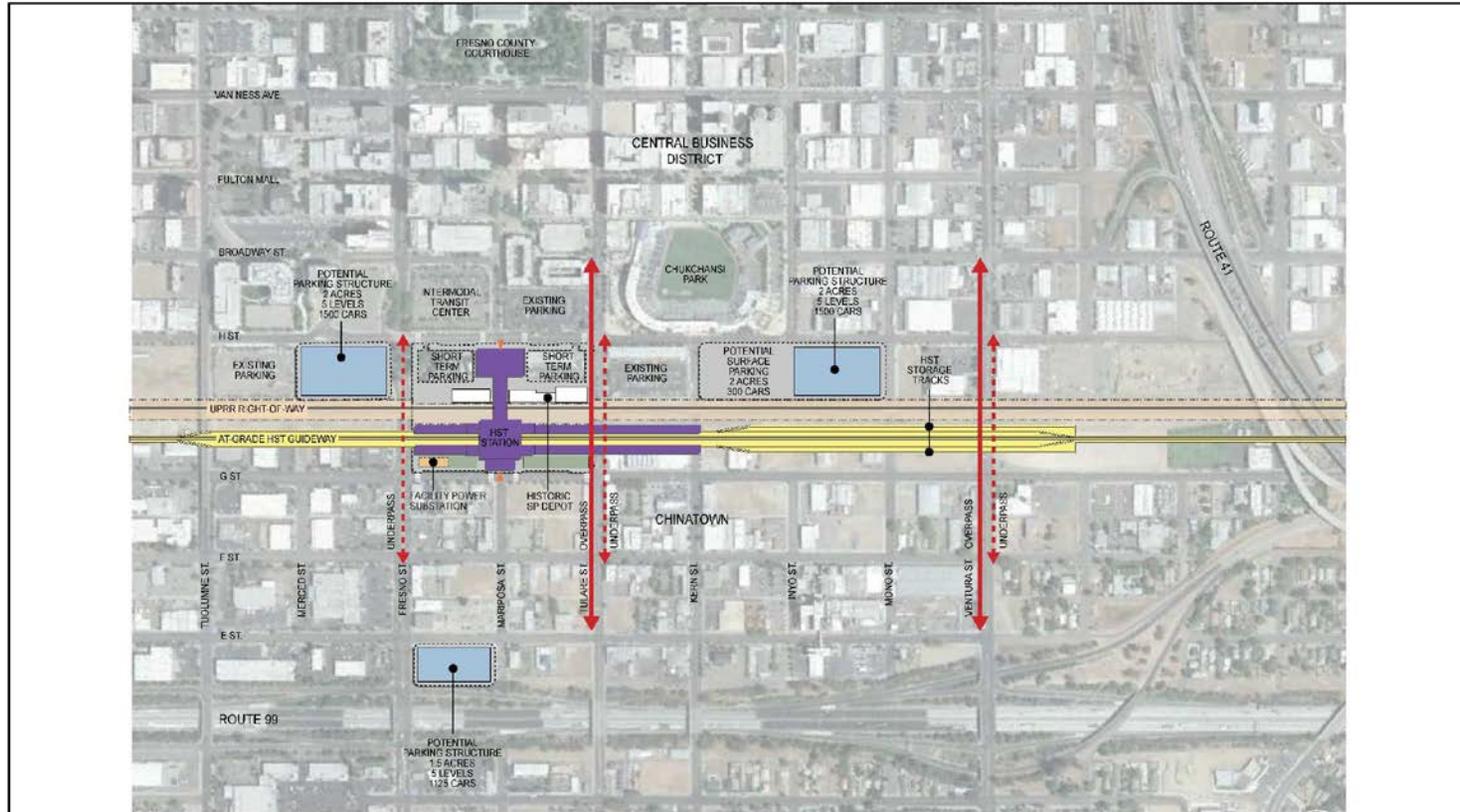
The majority of station facilities would be east of the UPRR tracks. The station and associated facilities would occupy approximately 20.5 acres, including 13 acres dedicated to the station, short-term parking, and kiss-and-ride accommodations. A new intermodal facility, not a part of this proposed undertaking, would be located on the parcel bordered by Fresno Street to the north, Mariposa Street to the south, Broadway Street to the east, and H Street to the west (designated “Intermodal Transit Center” in Figure 2-2). Among other uses, the intermodal facility would accommodate the Greyhound facilities and services that would be relocated from the northwestern corner of Tulare and H streets.

The site proposal includes the potential for up to three parking structures that would occupy a total of approximately 5.5 acres. Two of the three potential parking structures would each sit on 2 acres, and each would have a capacity of approximately 1,500 cars. The third parking structure would be slightly smaller in footprint (1.5 acres), with five levels and a capacity of approximately 1,100 cars. An additional 2-acre surface parking lot would provide approximately 300 parking spaces.

Under this alternative, the historic Southern Pacific Railroad depot and associated Pullman Sheds would remain intact. While these structures could be used for station-related purposes, they are assumed not to be functionally required for the HST project, and are therefore not proposed to be physically altered as part of the project. The Mariposa station building footprint has been configured to preserve views of the historic railroad depot and associated sheds.

Fresno Station–Kern Alternative

The Fresno Station–Kern Alternative would be similarly situated in Downtown Fresno and would be located on the BNSF Alternative, centered on Kern Street between Tulare Street and Inyo Street (Figure 2-3). This station would include the same components as the Fresno Station–Mariposa Alternative, but under this alternative, no station facilities would be located adjacent to the historic Southern Pacific Railroad depot and relocation of existing Greyhound facilities would not be required.

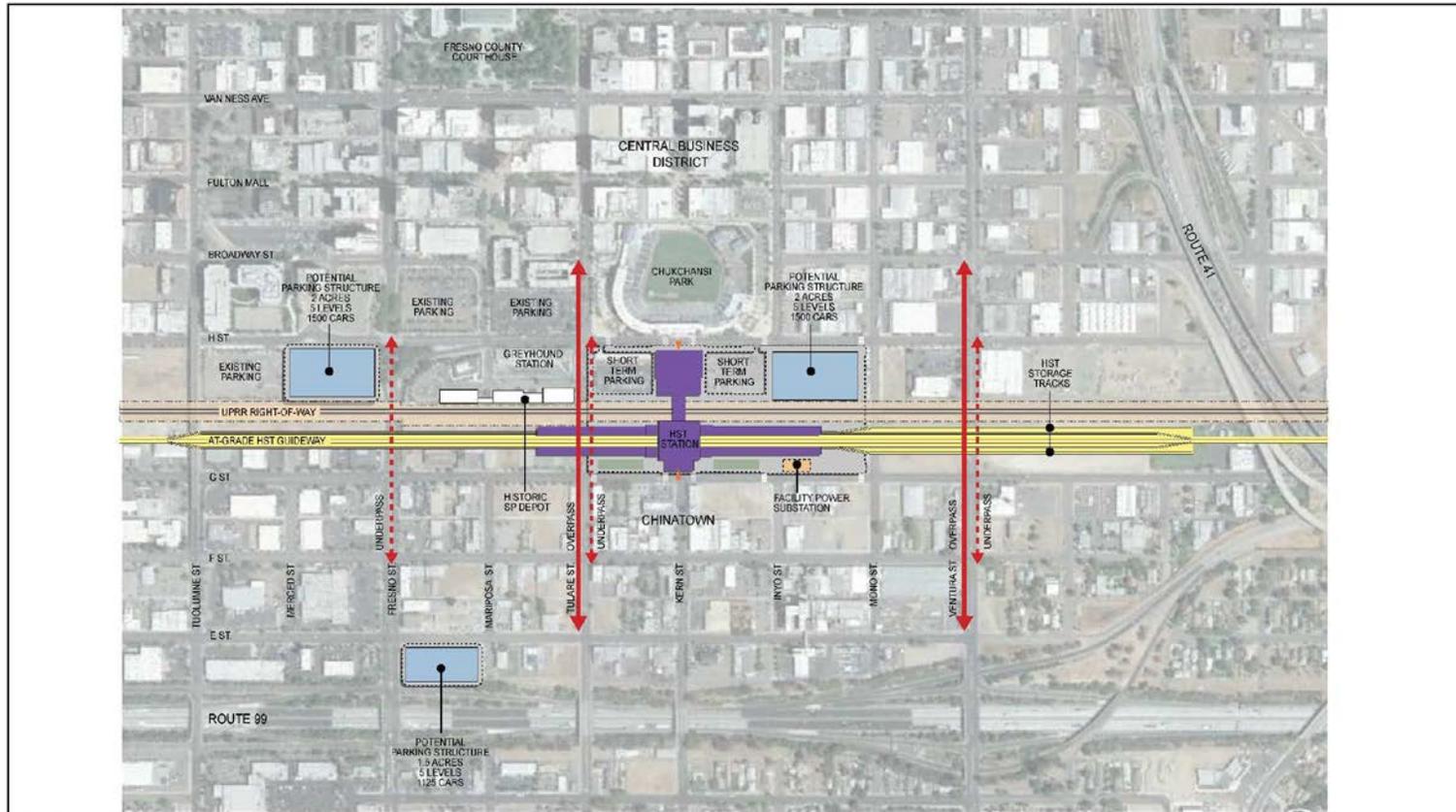


PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

May 30, 2012

NOT TO SCALE

Figure 2-2
 Fresno Station-Mariposa Alternative



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

May 30, 2012

NOT TO SCALE

- STATION ENTRANCE
- KEY PEDESTRIAN LINKAGE
- OPEN SPACE
- STATION CAMPUS BOUNDARY
- RIGHT-OF-WAY BOUNDARY
- ROADWAY MODIFICATION

Figure 2-3
 Fresno Station–Kern Alternative

The station building would be approximately 75,000 square feet, with a maximum height of approximately 64 feet. The station building would have two levels and house the same facilities as the Fresno Station–Mariposa Alternative (UPRR tracks, HST tracks, mezzanine, and station office). The approximately 18.5-acre site would include 13 acres dedicated to the station, bus transit center, short-term parking, and kiss-and-ride accommodations.

Two of the three potential parking structures would each sit on 2 acres, and each would have a capacity of approximately 1,500 cars. The third structure would be slightly smaller in footprint (1.5 acres) and have a capacity of approximately 1,100 cars. Surface parking lots would provide approximately 600 additional parking spaces. Like the Fresno Station–Mariposa Alternative, the majority of station facilities under the Kern Alternative would be sited east of the HST tracks.

2.2.2.2 Kings/Tulare Regional Station

Two alternative sites are under consideration for the potential Kings/Tulare Regional Station.

Kings/Tulare Regional Station–East Alternative

The potential Kings/Tulare Regional Station would be located east of SR 43 (Avenue 8) and north of the SJVR on the BNSF Alternative (Figure 2-4). The station building would be approximately 40,000 square feet with a maximum height of approximately 75 feet. The entire site would be approximately 25 acres, including 8 acres designated for the station, bus transit center, short-term parking, and kiss-and-ride. An additional approximately 17.25 acres would support a surface parking lot with approximately 2,280 spaces.

Kings/Tulare Regional Station–West Alternative

The potential Kings/Tulare Regional Station–West Alternative would be located east of Thirteenth Avenue and north of the SJVR on the Hanford West Bypass 1 and 2 alternatives. The station would be located either at-grade or below-grade depending on which Hanford West Bypass alignment design option is chosen.

The at-grade Kings/Tulare Regional Station–West Alternative would include a station building of approximately 100,000 square feet with a maximum height of approximately 36 feet. The entire site would be approximately 48 acres, including 6 acres designated for the station, bus bays, short-term parking, and kiss-and-ride areas. Approximately 5 acres would support a surface parking lot with approximately 700 spaces. An additional 3.5 acres would support two parking structures with a combined parking capacity of 2,100 spaces (Figure 2-5).

The below-grade Kings/Tulare Regional Station–West Alternative would include a station building of approximately the same size and height. The below-grade station site would include the same components as the at-grade station option on the same number of acres; however, the station platform would be located below-grade instead of at ground level. Approximately 4 acres would support a surface parking lot with approximately 600 spaces and an additional 4 acres would support two parking structures with a combined parking capacity of 2,200 spaces (Figure 2-6).



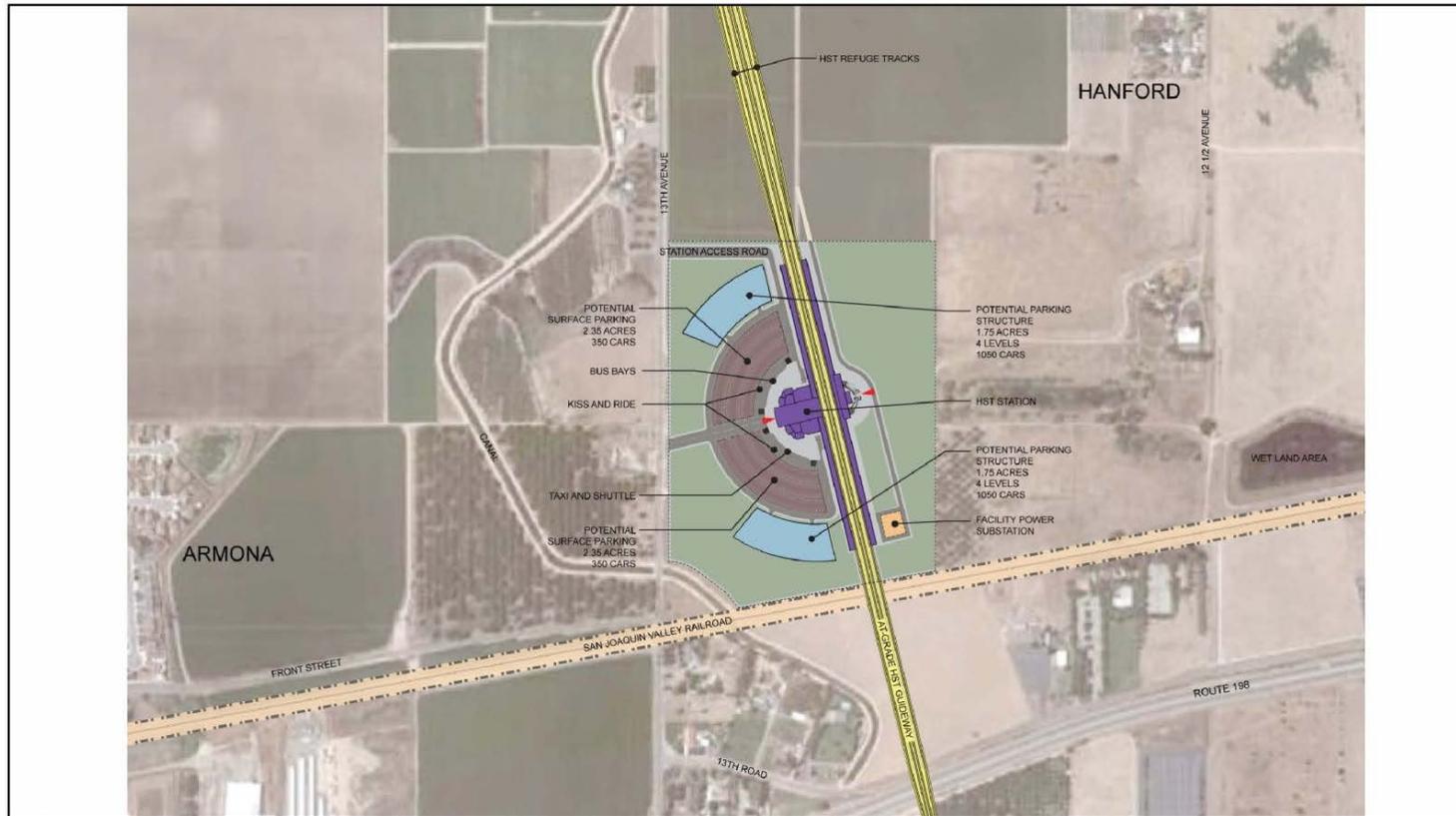
PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

May 30, 2012

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NOT TO SCALE

-  STATION ENTRANCE
-  KEY PEDESTRIAN LINKAGE
-  OPEN SPACE
-  STATION CAMPUS BOUNDARY
-  RIGHT-OF-WAY BOUNDARY
-  ROADWAY MODIFICATION

Figure 2-4
 Kings/Tulare Regional Station–East Alternative



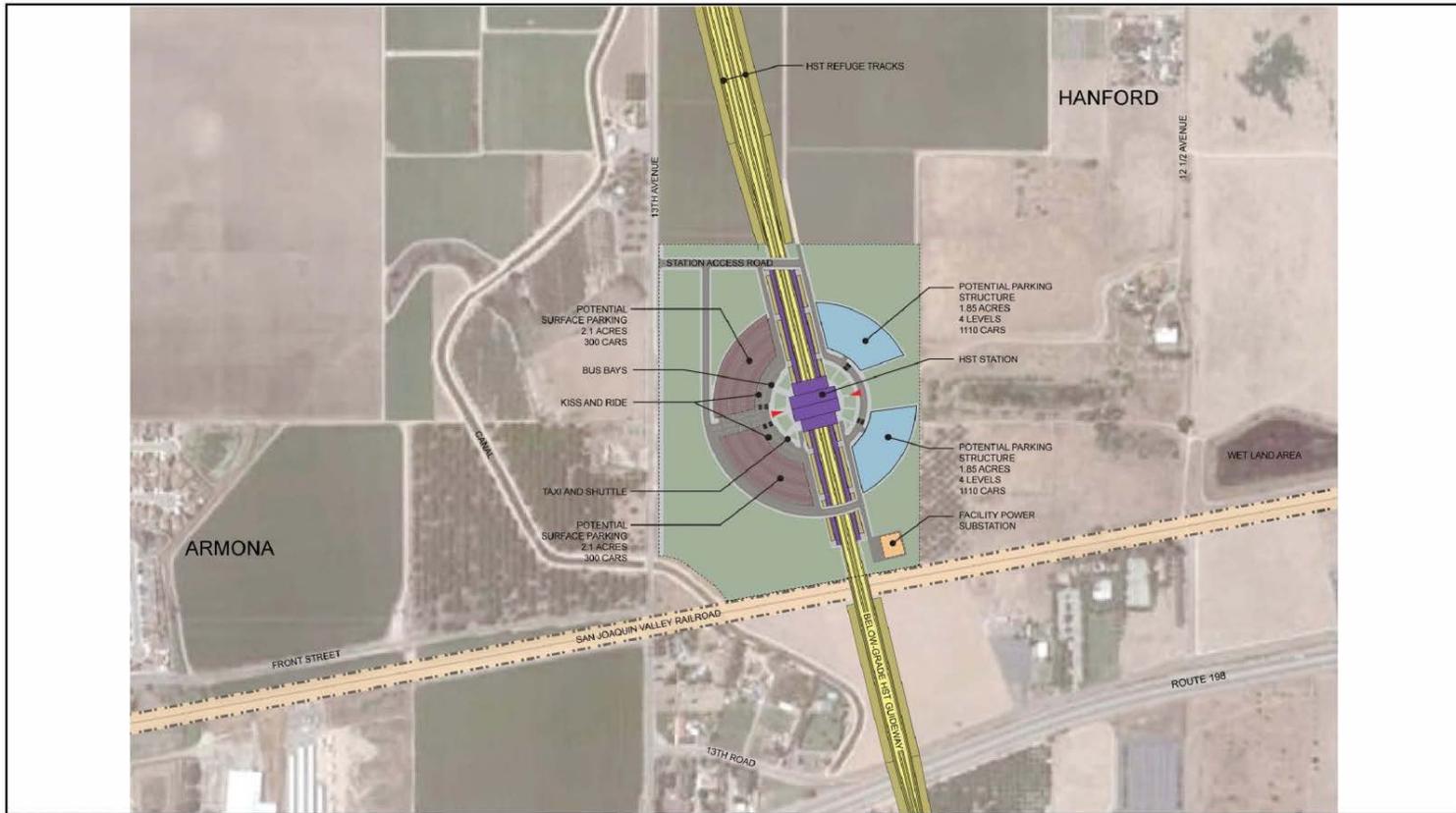
PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

January 24, 2012

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|---|------------------------|---|-------------------------|
|  | STATION ENTRANCE |  | STATION CAMPUS BOUNDARY |
|  | KEY PEDESTRIAN LINKAGE |  | RIGHT-OF-WAY BOUNDARY |
|  | OPEN SPACE |  | ROADWAY MODIFICATION |

Figure 2-5
 Kings/Tulare Regional Station–West Alternative (at-grade option)



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

January 24, 2012

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|  | STATION ENTRANCE |  | STATION CAMPUS BOUNDARY |
|  | KEY PEDESTRIAN LINKAGE |  | RIGHT-OF-WAY BOUNDARY |
|  | OPEN SPACE |  | ROADWAY MODIFICATION |

Figure 2-6
 Kings/Tulare Regional Station–West Alternative (below-grade option)

2.2.2.3 Bakersfield Station Alternatives

Three options are under consideration for the Bakersfield Station.

Bakersfield Station–North Alternative

The Bakersfield Station–North Alternative would be located at the corner of Truxtun and Union Avenue/SR 204 along the BNSF Alternative (Figure 2-7). The three-level station building would be 52,000 square feet, with a maximum height of approximately 95 feet. The first level would house station operation offices and would also accommodate trains running along the BNSF Railway line. The second level would include the mezzanine; the HST platforms and guideway would pass through the third level. Under this alternative, the station building would be located at the western end of the parcel footprint. Two new boulevards would be constructed to access the station and the supporting facilities.

The 19-acre site would designate 11.5 acres for the station, bus transit center, short-term parking, and kiss-and-ride. An additional 7.5 acres would house two parking structures that together would accommodate approximately 4,500 cars. The bus transit center and the smaller of the two parking structures (2.5 acres) would be located north of the HST tracks. The BNSF Railway line would run through the station at-grade, with the HST alignment running on an elevated guideway.

Bakersfield Station–South Alternative

The Bakersfield Station–South Alternative would be similarly located in downtown Bakersfield, but situated on the Bakersfield South Alternative along Union and California avenues, just south of the BNSF Railway right-of-way (Figure 2-8). The two-level station building would be 51,000 square feet, with a maximum height of approximately 95 feet. The first floor would house the concourse, and the platforms and the guideway would be on the second floor. Access to the site would be from two new boulevards, one branching off from California Avenue and the other from Union Avenue.

The entire site would be 20 acres, with 15 acres designated for the station, bus transit center, short-term parking, and kiss-and-ride. An additional 5 acres would support one six-level parking structure with a capacity of approximately 4,500 cars. Unlike the Bakersfield Station–North Alternative, this station site would be located entirely south of the BNSF Railway right-of-way.

Bakersfield Station–Hybrid Alternative

The Bakersfield Station–Hybrid Alternative would be in the same area as the North and South Station alternatives, and located at the corner of Truxtun and Union Avenue/SR 204 on the Bakersfield Hybrid Alternative (Figure 2-9). The station design includes an approximately 57,000 square-foot main station building and an approximately 5,500 square-foot entry concourse located north of the BNSF Railway right-of-way. The station building would have two levels with a maximum height of approximately 95 feet. The first floor would house the concourse, and the platforms and guideway would be on the second floor. Additionally, a pedestrian overcrossing would connect the main station building to the north entry concourse across the BNSF right-of-way.



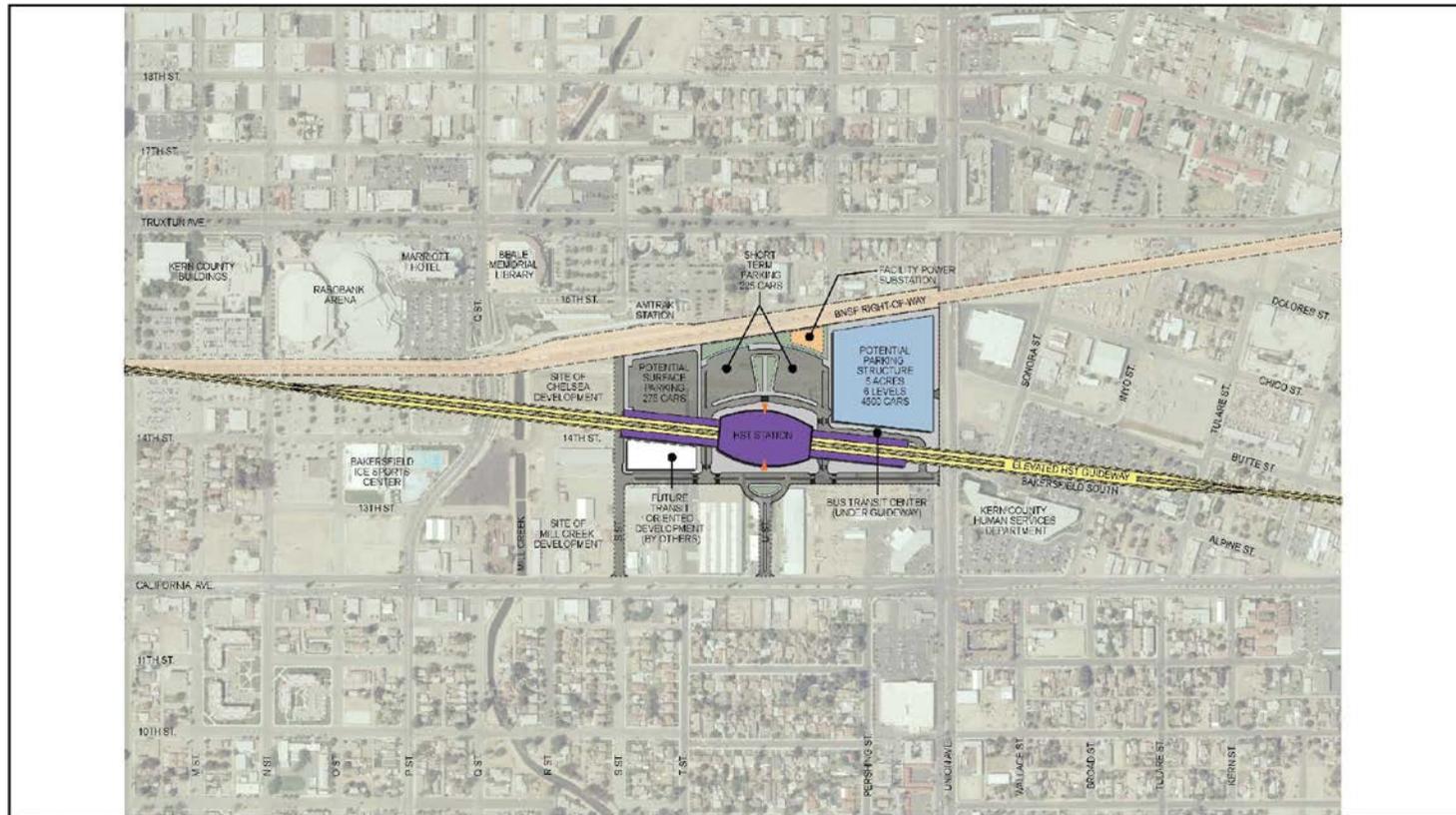
PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

May 30, 2012

NOT TO SCALE

- STATION ENTRANCE
- KEY PEDESTRIAN LINKAGE
- OPEN SPACE
- STATION CAMPUS BOUNDARY
- RIGHT-OF-WAY BOUNDARY
- ROADWAY MODIFICATION

Figure 2-7
 Bakersfield Station–North Alternative

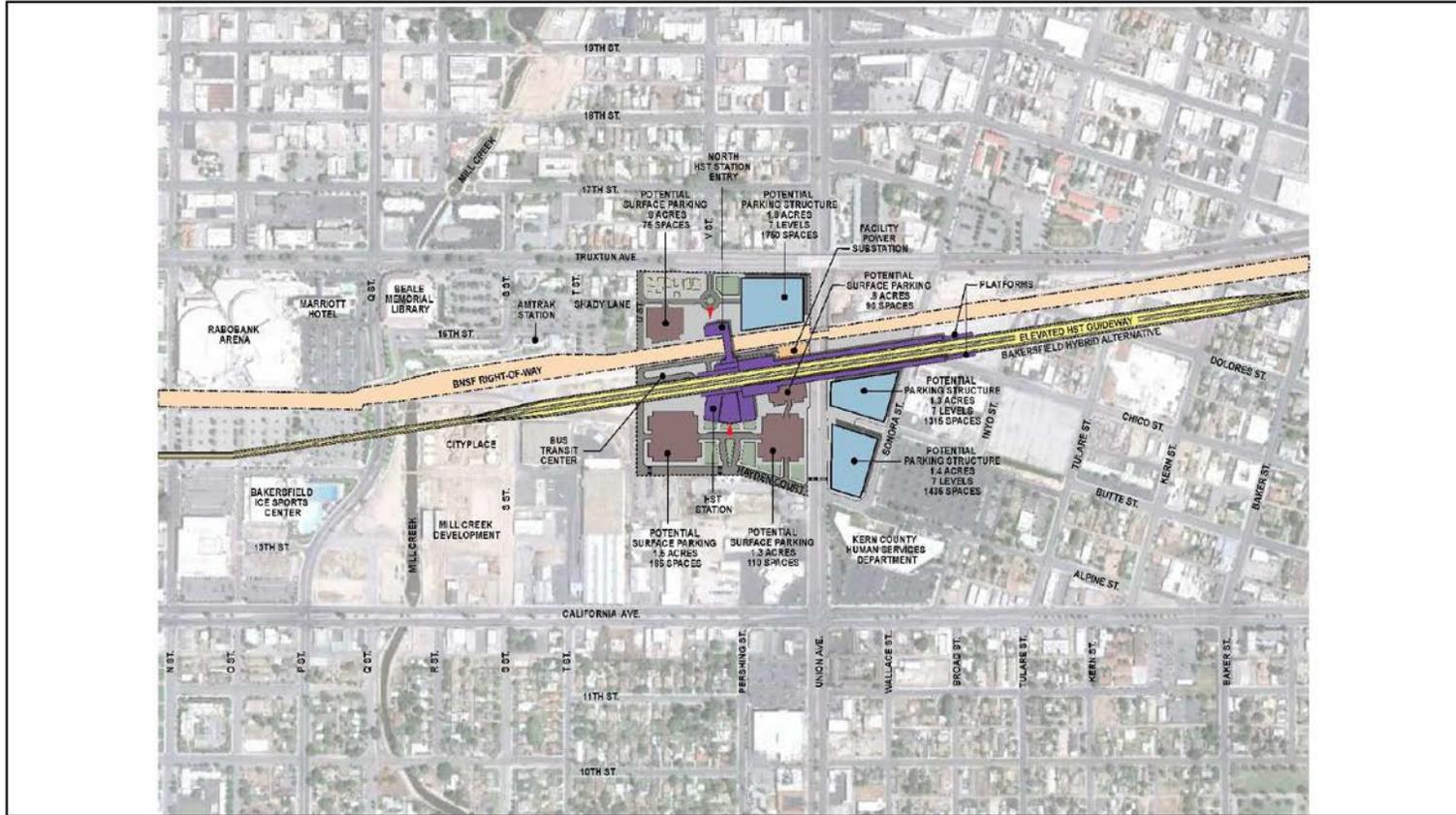


PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

May 30, 2012

NOT TO SCALE

Figure 2-8
 Bakersfield Station–South Alternative



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED

May 30, 2012

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N
NOT TO SCALE

- STATION ENTRANCE
- KEY PEDESTRIAN LINKAGE
- OPEN SPACE
- STATION CAMPUS BOUNDARY
- RIGHT-OF-WAY BOUNDARY
- ROADWAY MODIFICATION

Figure 2-9
 Bakersfield Station–Hybrid Alternative

The entire site would be approximately 24 acres, with 15 acres designated for the station, bus transit center, short-term parking, and kiss-and-ride areas. Approximately 4.5 of the 24 acres would support three parking structures with a total capacity of approximately 4,500 cars. Each parking structure would be seven levels; one with a planned capacity of 1,750 cars, another with a capacity of 1,315 cars, and the third with a planned capacity of 1,435 cars. An additional 460 parking spaces would be provided in surface lots covering a total of approximately 4.5 acres of the station site. Access to the station site would be from Truxtun and Union avenues, as well as from Hayden Court. Under this alternative, the BNSF Railway track runs through the station site, and the main station building and majority of station facilities would be sited south of the BNSF Railway right-of-way.

2.2.3 Heavy Maintenance Facility

One HST heavy vehicle maintenance and layover facility would be sited along either the Merced to Fresno or Fresno to Bakersfield HST section. Before the start-up of initial operations, the HMF would support the assembly, testing, commissioning, and acceptance of high-speed rolling stock. During regular operations, the HMF would provide maintenance and repair functions, activation of new rolling stock, and train storage. The HMF concept plan indicates that the site would encompass approximately 154 acres to accommodate shops, tracks, parking, administration, roadways, power distribution station, and storage areas. The HMF would include tracks that allow trains to enter and leave under their own electric power or under tow. The HMF would also have management, administrative, and employee support facilities. Up to 1,500 employees could work at the HMF during any 24-hour period.

The Authority has determined that one HMF would be located between Merced and Bakersfield; however, the specific location has not yet been finalized. The property boundaries for each HMF site would be larger than the acreage needed for the actual facility because of the unique site characteristics and constraints of each location. Five HMF sites are under consideration in the Fresno to Bakersfield Section (Figure 2-1):

- The Fresno Works–Fresno HMF Site lies within the southern limits of the city of Fresno and county of Fresno next to the BNSF Railway right-of-way between SR 99 and Adams Avenue. Up to 590 acres are available for the facility at this site.
- The Kings County–Hanford HMF Site lies southeast of the city of Hanford, adjacent to and east of SR 43, between Houston and Idaho avenues. Up to 510 acres are available at the site.
- The Kern Council of Governments–Wasco HMF Site lies directly east of Wasco between SR 46 and Filburn Street. Up to 420 acres are available for the facility at this site.
- The Kern Council of Governments–Shafter East HMF Site lies in the city of Shafter between Burbank Street and 7th Standard Road to the east of the BNSF Railway right-of-way. This site has up to 490 acres available for the facility.
- The Kern Council of Governments–Shafter West HMF Site lies in the city of Shafter between Burbank Street and 7th Standard Road to the west of the BNSF Railway right-of-way. This site has up to 480 acres available for the facility.

2.3 Power

Power for the HST System would be drawn from California's electricity grid and distributed to the trains via an overhead contact system. The project would not include the construction of a separate power source, although it would include the extension of power lines to a series of

power substations positioned along the HST corridor. The transformation and distribution of electricity would occur in three types of stations:

- Traction power distribution stations (TPDSs) transform high-voltage electricity supplied by public utilities to the train operating voltage. TPDSs would be sited adjacent to existing utility transmission lines and the HST right-of-way, and would be located approximately every 30 miles along the route. Each TPDS would be 200 feet by 160 feet.
- Switching stations connect and balance the electrical load between tracks, and switch power on or off to tracks in the event of a power outage or emergency. Switching stations would be located midway between, and approximately 15 miles from, the nearest TPDS. Each switching station would be 120 feet by 80 feet and be located adjacent to the HST right-of-way.
- Paralleling stations, or autotransformer stations, provide voltage stabilization and equalize current flow. Paralleling stations would be located every 5 miles between the TPDSs and the switching stations. Each paralleling station would be 100 feet by 80 feet and located adjacent to the HST right-of-way.

2.4 Project Construction

The construction plan developed by the Authority and described below would maintain eligibility for eligibility for federal American Recovery and Reinvestment Act (ARRA) funding. For the Fresno to Bakersfield Section, specific construction elements would include at-grade, below-grade, and elevated track, track work, grade crossings, and installation of a positive train control system. At-grade track sections would be built using conventional railroad construction techniques. A typical sequence includes clearing, grubbing, grading, and compacting the rail bed; applying crushed rock ballast; laying track; and installing electrical and communications systems.

The precast segmental construction method is proposed for elevated track sections. In this construction method, large concrete bridge segments would be mass-produced at an onsite temporary casting yard. Precast segments would then be transported atop the already completed portions of the elevated track and installed using a special gantry crane positioned on the aerial structure. Although the precast segmental method is the favored technique for aerial structure construction, other methods may be used, including cast-in-place, box girder, or precast span-by-span techniques.

Preconstruction activities would be conducted during final design and include geotechnical investigations, identification of staging areas, initiation of site preparation and demolition, relocation of utilities, and implementation of temporary, long-term, and permanent road closures. Additional studies and investigations to develop construction requirements and worksite traffic control plans would be conducted as needed.

Major construction activities for the Fresno to Bakersfield Section would include earthwork and excavation support systems construction, bridge and aerial structure construction, railroad systems construction (including trackwork, traction electrification, signaling, and communications), and station construction. During peak construction periods, work is envisioned to be underway at several locations along the route, with overlapping construction of various project elements. Working hours and workers present at any time will vary depending on the activities being performed.

The Authority intends to build the project using sustainable methods that:

- Minimize the use of nonrenewable resources.
- Minimize the impacts on the natural environment.
- Protect environmental diversity.
- Emphasize the use of renewable resources in a sustainable manner.

The approximate schedule for construction is provided in Table 2-1.

Table 2-1
 Approximate Construction Schedule^a

Activity	Tasks	Duration
Right-of-way Acquisition	Proceed with right-of-way acquisitions once State Legislature appropriates funds in annual budget	March 2013–March 2015
Survey and Preconstruction	Locate utilities, establish right-of-way and project control points and centerlines, establish or relocate survey monuments	March 2013–October 2013
Mobilization	Safety devices and special construction equipment mobilization	June 2013–July 2014
Site Preparation	Utilities relocation; clearing/grubbing right-of-way; establishment of detours and haul routes; preparation of construction equipment yards, stockpile materials, and precast concrete segment casting yard	July 2013–July 2017 (two site preparation periods)
Earth Moving	Excavation and earth support structures	December 2013–August 2015
Construction of Road Crossings	Surface street modifications, grade separations	December 2013–August 2015
Construction of Aerial Structures	Aerial structure and bridge foundations, substructure, and superstructure	December 2013–December 2017
Track Laying	Includes backfilling operations and drainage facilities	May 2016–December 2017
Systems	Train control systems, overhead contact system, communication system, signaling equipment	March 2018–January 2021
Demobilization	Includes site cleanup	August 2017–June 2022 (two demobilization periods)
HMF Phase 1 ^b	Test Track Assembly and Storage	April 2017–November 2017
HMF Phase 2 ^b	Test Track Light Maintenance Facility	April 2017–December 2018
Maintenance-of-Way Facility	Potentially collocated with HMF ^a	April 2017–December 2018
HMF Phase 3 ^b	Heavy Maintenance Facility	January 2018–July 2019
HST Stations	Demolition, site preparation, foundations, structural frame, electrical and mechanical systems, finishes	Fresno: May 2019–May 2022 Kings/Tulare Regional: TBD ^c Bakersfield: May 2019–May 2022

Notes:

^a Based on a two-phase implementation of the project: first construction will meet the ARRA funding deadline and be completed in 2017; the remainder of the Initial Operating Segment will be completed by 2022 per the Business Plan and based on anticipated funding flow.

^b HMF would be sited in either the Merced to Fresno or Fresno to Bakersfield Section.

^c Right-of-way would be acquired for the Kings/Tulare Regional Station; however, the station itself would not be part of initial construction.

Acronym:

TBD = to be determined

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Chapter 3.0

Regulatory Framework

3.0 Regulatory Framework

3.1 Federal

3.1.1 Department of Transportation Act, Section 4(f) [DOT Act 49 U.S.C.]

The DOT Act became law on October 15, 1966. It is aimed to preserve the natural beauty of the countryside, public park and recreation lands, wildlife and waterfowl refuges, and historic sites.

3.1.2 National Historic Preservation Act [16 U.S.C. Section 470 et seq.]

The NHPA establishes the federal government policy on historic preservation. Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties. Potential adverse effects include changes in the physical features of the property's setting that contribute to its historic significance, or introduction of visual elements that diminish the integrity of the property's significant historic features.

3.1.3 Federal Highway Administration (FHWA)

In its implementation of NEPA, the FHWA has developed specific guidance for the evaluation of visual impacts of highway projects; this guidance is discussed at length in the Methods for Evaluating Impacts section below.

3.2 State

3.2.1 California Environmental Quality Act [Section 21000 et seq.] and CEQA Guidelines [Section 15000 et seq.]

CEQA requires state and local agencies to identify the significant environmental impacts of their actions, including potential significant aesthetic and visual impacts, and to avoid or mitigate those impacts, when feasible.

3.2.2 State Scenic Highways [Streets and Highway Code Sections 260 to 263]

These Streets and Highway Code sections list highways that are either eligible for designation as a scenic highway or already are designated as a scenic highway.

3.3 Regional Plans, Policies, and Regulations

Table 3-1
 Summary of Regional Plans, Policies, and Regulations

Policy Title	Summary
Fresno County	
Fresno County, Fresno County General Plan, Agriculture and Land Use Element, Policy LU-B.11 ^a (Fresno County 2000a).	This policy indicates that new development requiring a County discretionary permit must be planned and designed to maintain the scenic open space character of rangelands, including views corridors of highways.
Fresno County, Fresno County General Plan, Open Space and Conservation Element, Goal OS-K, Policies OS-K.1 through OS-K.4 ^b (Fresno County 2000b)	This goal and these policies are concerned with conservation, protection, and maintenance of scenic quality and development that degrades areas of scenic quality. Policies in this section identify methods to achieve this goal, including encouraging private property owners to enter into open space easements; purchasing sites for park use; requiring development adjacent to scenic areas and roadways to incorporate natural features of the site; and requiring development to minimize impacts on scenic qualities. A system of scenic roadways that includes landscaped drives, scenic drives, and scenic highways is also identified.
City of Fresno	
City of Fresno, Fresno 2025 General Plan, Urban Form Element, Policy 3-C-a, Objective C-5, Policy C-5-a, Objective C-18, Policies C-18-a, C-18-b, C-18-h, C-18-j, Objective C-20, and Policy C-20-e ^c (City of Fresno Planning and Development Department 2002).	The objectives and policies are concerned with improving the overall image in the Fresno Central Plan Area. This includes, but is not limited to, enhancing the visual image of all "gateway" routes entering the Fresno metropolitan area, such as passenger rail rights-of-way. Properties adjacent to both side of a gateway are to provide a sense of entry and transition, and serve as initial information points for visitors. Gateways are to include more prominent landscaping, special lighting, orientation signs, and symbols or logos. Unsightly land uses are restricted or subject to special design/buffering standards. Emphasis is on site and building design in order to preserve functionality and community aesthetics.
City of Fresno, Fulton Corridor Specific Plan and the Downtown Neighborhoods Community Plan ^d (City of Fresno 2010).	In January 2010, the City of Fresno began preparation of two new plans for the portions of Downtown Fresno potentially affected by the project. These include the Fulton Corridor Specific Plan, covering the area of downtown in which the project is located; the Downtown Neighborhoods Community Plan, covering the surrounding residential areas. Completion of the Fulton Corridor Specific Plan is anticipated in 2011 and adoption in 2012. Policies of that plan applicable to the project, including the Fresno downtown station, will then supersede the existing 1996 Fulton-Lowell Specific Plan and 1989 Central Area Community Plan, and add specificity to policies currently in place under the Urban Form Element.
Kings County	
Kings County, County of Kings 2035 General Plan, Open-Space Element, Scenic Resources OS Goal B1, OS Objectives B1.1 to B1.3 ^e (Kings County 1993a).	The open space policies for scenic resources are concerned with maintaining and protecting the scenic beauty of Kings County. Objectives and policies in this section include protection and enhancement of roadways that cross scenic areas or serve as scenic entranceways to cities and communities.

Table 3-1
 Summary of Regional Plans, Policies, and Regulations

Policy Title	Summary
Kings County, County of Kings 2035 General Plan, Resource Conservation Element, RC Goal D3, RC Objective D3.1, RC Policy D3.1.3 ^f (Kings County 1993b).	The Resource Conservation Element includes objectives and policies concerned with protection of scenic qualities in riparian environments. Conservation of fish and wildlife habitat and protection of scenic qualities are to be guiding principles when potential impacts on riparian environment are evaluated.
City of Corcoran	
City of Corcoran, Corcoran General Plan 2025, Land Use Element, Objective B, Policies 1.4, 1.37, and 1.41 ^g (City of Corcoran 2007).	Objectives and policies include maintaining and enhancing Corcoran's visual qualities. Scenic entryways (gateways) and roadway corridors are to be developed into the City, including the Whitley Avenue corridor. Special setback and landscape standards, entry signage, open space and park development, and/or land use designations are to be included. Industrial development is not to create significant offsite circulation, noise, dust, odor, visual, and hazardous materials impacts that cannot be adequately mitigated.
Tulare County	
Tulare County, Tulare County General Plan 2030 Update, Land Use, Policy LU-5.6, Goal LU-7, Policies LU-7.6 and LU-7.12h (Tulare County 2010).	The Land Use goals and policies provide provisions regarding industrial uses and preservation of the character and scale of Tulare County's communities, among other things. Policy LU-5.6 prohibits new heavy industrial uses to a minimum of 500 feet from schools, hospitals, or populated residential areas, unless mitigated. Policy LU-7.6 requires landscaping to adequately screen new industrial uses to minimize visual impacts. Policy LU-7.12 encourages preservation of buildings and areas with special and recognized historic, architectural, or aesthetic value.
Tulare County, Tulare County General Plan 2030 Update, Scenic Landscapes, Goal SL-1, Policies SL-1.1, SL-1.2, and SL-4.3 ^h (Tulare County 2010).	The Scenic Landscape goals and policies emphasize the enhancement and preservation of scenic landscapes in Tulare County. Goal SL-1 is to protect and feature the beauty of working and natural landscapes. Policy SL-1.1 requires new development to not significantly impact or block views of natural landscapes by minimizing obstruction of views from public lands and rights-of-way, keeping development below ridge lines, blending structures into the landscape, screening parking areas from view, including landscaping that screens the development, limiting the impact of new roadways and grading on natural settings, and including signage that is compatible and in character with the location and building design. Policy SL-1.2 requires that new non-agricultural structures and infrastructure located in or adjacent to croplands, orchards, vineyards, and open rangelands be sited so as to not obstruct important viewsheds, be designed to reference traditional agricultural building forms and materials, screen and break up parking and paving with landscaping, and minimize light pollution and bright signage.
Tulare County, <i>Tulare County General Plan 2030 Update</i> , Scenic Landscapes, Goal SL-1, Policies SL-1.1, SL-1.2, and SL-4.3 ^h (continued)	Policy SL-4.3 encourages rail infrastructure to be planned and designed to limit visual impacts on scenic landscapes by concentrating infrastructure in existing railroad rights-of-way, by avoiding additional grade separated crossings in viewshed locations, and by using new transit stations supporting rail transit as design features in existing and future core community areas.

Table 3-1
 Summary of Regional Plans, Policies, and Regulations

Policy Title	Summary
Tulare County, <i>Tulare County General Plan 2030 Update</i> , Corridors Framework Plan, Policy C-1.3 ^b	Policy C-1.3 supports the development and adoption of scenic corridor protection plans that protect and enhance the scenic qualities of major transportation routes.
Kern County	
Kern County, <i>Kern County General Plan</i> , Land Use, Open Space, and Conservation Element (Kern County Planning Department 2007b); Industrial Policies 6 and 7; General Provisions 47, 48, 49, and 66 ¹	These policies outline measures for upgrading the visual character of existing industrial areas through the use of landscaping, screening, or buffering; for including design features in industrial areas such as screen walls, landscaping, increased height and/or setbacks, and lighting restrictions so as to reduce impacts on residences due to light, noise, sound, and vibration; for ensuring that light and glare from discretionary new development projects are minimized in rural as well as urban areas; for encouraging the use of low-glare lighting; for incorporating aesthetically pleasing and unifying design features that promote a visually pleasing environment; and for promoting the conservation of oak tree woodlands for their environmental value and scenic beauty.
Kern County, <i>Kern County General Plan</i> , Circulation Element, Scenic Route Corridors Policy 2j (Kern County Planning Department 2007a).	The Circulation Element of the Kern County General Plan contains a scenic route corridors section that focuses primarily on State-designated routes within the County. Policy 2 stipulated that various methods of protecting and enhancing the scenic qualities of land and uses within the boundaries of a scenic route corridor be devised and carried out.
Kern County, <i>Kern County General Plan</i> , Kern River Plan Element, Open Space Versus Development Policies 3, 4, 5, 6, and 8k (City of Bakersfield 1985; Kern County Planning Department 1985).	The Kern River Plan Element was adopted in 1985 as a part of the General Plans of both the City of Bakersfield and Kern County. Specific policies regarding the aesthetics of Kern River require that buildings, structures, and vegetation be constructed, installed, or planted in a manner that minimizes obstruction of scenic views from highways, streets, trails, parks, or beach areas; that land developments that would detract from scenic quality be screened by vegetation, fencing, or landscaped berms, or be located in a reasonably inconspicuous manner; that natural topography, vegetation, and scenic features be retained to the greatest extent feasible in development along the river; that grading or earthmoving within the secondary floodway blend with existing topography, and that vegetation subsequently be reestablished where it does not conflict with channel maintenance and recharge facilities; that building heights and setbacks not significantly obstruct river views; and that structural improvements be set back as far as possible from the primary floodway line.
City of Wasco	
City of Wasco, <i>City of Wasco General Plan</i> (City of Wasco [2002] 2010a), Policies Statement, Land Use Element, Objective A, Policies 1 and 8 ¹ (City of Wasco [2002] 2010b)	Objectives and policies include maintaining and enhancing Wasco's visual qualities. The Central Business District is to be maintained as the geographical center of the community, and aesthetics along the BNSF Railroad gateway into downtown are to be improved.

Table 3-1
 Summary of Regional Plans, Policies, and Regulations

Policy Title	Summary
City of Shafter	
City of Shafter, <i>Shafter General Plan</i> , Land Use Organization, Policy 5 ^m (City of Shafter 2005)	This policy emphasizes the “entry” function of lands adjacent to the Lerdo Highway and 7th Standard Road interchanges along State Route 99, including lands adjacent to Shafter Airport, and promotes uses that present a positive image of the community.
City of Bakersfield	
City of Bakersfield, <i>Metropolitan Bakersfield General Plan</i> , Land Use Element, Policies 70 and 71 ⁿ (City of Bakersfield 2007a)	These policies promote the establishment of attractive entrances into communities, major districts, and transportation terminals, centers, and corridors within the planning area, and they encourage landscaping on banks of flood control channels, canals, and roadways, and other public improvements with trees to provide a strong visual element in the planning area.
City of Bakersfield, <i>Metropolitan Bakersfield General Plan</i> , Open-Space Element, Policy 5 ^o (City of Bakersfield 2007b)	This policy indicates that a development location should be sensitive to its relationship to the Kern River.
<p>Sources:</p> <p>^a Fresno County 2000a, 2-22.</p> <p>^b Fresno County 2000b, 5-33.</p> <p>^c City of Fresno Planning and Development Department 2002, 34-35, 47-49.</p> <p>^d City of Fresno 2010.</p> <p>^e Kings County 1993a</p> <p>^f Kings County 1993b</p> <p>^g City of Corcoran 2007, 1-2, 1-3, and 1-10.</p> <p>^h Tulare County 2010, Part 1: 4-30, 4-31, 4-32, 7-3, 7-8, and Part II: 2-1.</p> <p>ⁱ Kern County Planning Department 2007a, 48, 71, 72, and 74.</p> <p>^j Kern County Planning Department 2007b, 105.</p> <p>^k Kern County Planning Department 1985, Section 3.2.3: 4-5.</p> <p>^l City of Wasco 2010b, 2.0-1.</p> <p>^m City of Shafter 2005.</p> <p>ⁿ City of Bakersfield 2007a, II-15.</p> <p>^o City of Bakersfield 2007b, VI-5.</p>	

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Chapter 4.0

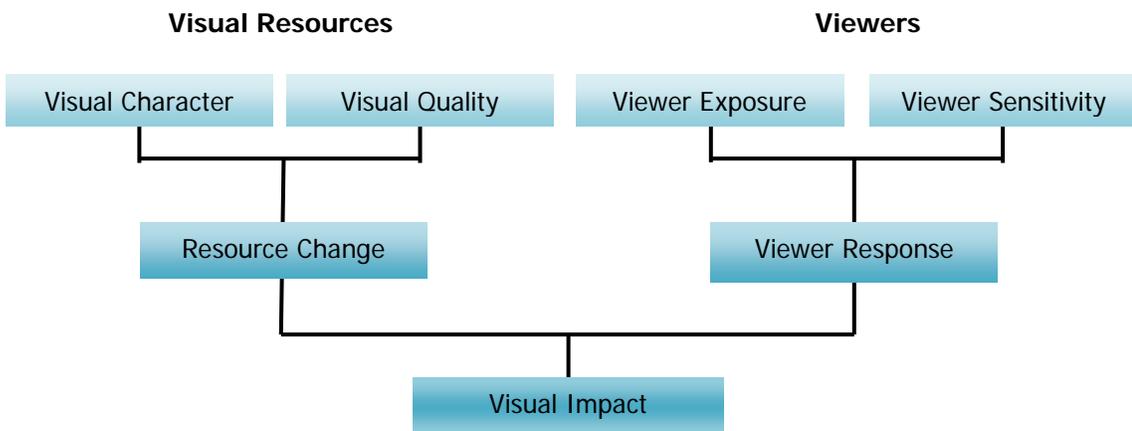
Affected Environment

4.0 Affected Environment

4.1 Assessment Method

This assessment was conducted according to the FHWA Visual Impact Assessment methodology (FHWA 1988), particularly as applied under guidelines of the California Department of Transportation (Caltrans) Standard Environmental Reference (SER), Chapter 27, Visual and Aesthetics Review (Caltrans 2009). This assessment methodology was adapted for this study by the California High-Speed Rail Authority. The conceptual model for this method, as presented in the FHWA handbook, is shown in Table 4-1:

Table 4-1
 FHWA Visual Assessment Model



Indicators of viewer response are identified first, to focus the analyses on where there is the potential for substantial adverse impacts. Viewer response is evaluated in terms of *viewer sensitivity* and *viewer exposure* to project-related visual change. As described in the FHWA methodology, viewer sensitivity is evaluated according to viewer activity type, viewer awareness as affected by the visual setting, and local values and goals. The evaluation of viewer response to visual change was based primarily on viewer activity type and associated scenic expectations, and is augmented with local priorities and values, particularly as expressed in adopted public policy.

Typically, recreational and residential viewers are assumed to have higher levels of viewer sensitivity to project effects than people working or passing through a viewshed. Residents are generally assumed to have a high level of concern with their home environment, and have extended long-term exposure to changes in that setting. Recreational viewers often have high levels of concern with scenic quality, particularly in settings where scenery is a central focus of the visitor’s experience. In contrast, viewers at their place of work are generally assumed to have low levels of viewer sensitivity, particularly in industrial settings. Motorists and commuters are generally assumed to have moderate levels of sensitivity unless noteworthy scenic vistas would be affected, or the affected roadways have scenic designation. A public participating in some types of active recreation may have a lower level of viewer sensitivity because scenery may not be central to the recreation experience.

Viewer exposure may also strongly influence viewers’ response to project effects, and includes consideration of the presence or absence of screening or filtering of project features; number of viewers; the distance at which the project would be seen; the extent, frequency, and duration of viewer exposure; and other relevant viewing conditions.

In the analysis, this characterization of visual quality and viewer response serves as the baseline for evaluating potential impacts due to adverse changes in the setting's visual quality. As described in the FHWA's guidelines, visual impacts are evaluated primarily in terms of the degree of change to visual quality as a result of the project. The significance of those impacts is determined in relation to the anticipated viewer response—the viewer sensitivity and visual exposure. Where a high degree of visual change would occur in combination with high levels of anticipated viewer response, the impact would be considered to be substantial. In contrast, views with low levels of visual change coupled with low levels of anticipated viewer response would be considered not to have been adversely affected to a substantial degree. These thresholds of impact are discussed in greater detail in Chapter 5.0 of this technical report.

Visual assessments are typically conducted through the use of key representative viewpoints. These viewpoints are intended to represent potentially affected high-sensitivity viewer groups within each landscape type. In this study the characterization of visual quality and viewer response has been conducted from such representative viewpoints. Key viewpoints (KVPs) are identified and depicted in this study where high levels of viewer response indicate a particular susceptibility to substantial impacts from visual change. From within this set of representative viewpoints, a subset has been selected for the preparation of visual simulations as presented in Chapter 5.0 of this report, to represent conditions where project features could potentially have substantial adverse visual effects on sensitive viewer groups or viewer types.

With the key viewing positions identified, the analysis proceeds with the description of the character of the settings for these positions. The settings are described in terms of landscape units, representing distinctive segments of the project viewshed that have similar visual character and visual quality. Visual character refers to the physical attributes of the landscape and is descriptive. Within each major landscape unit, landscape types or subsegments have also been identified to support a relevant description of the visual setting of potential key viewers and viewpoints. Each subtype, in turn, is characterized in terms of two principal attributes: anticipated *visual quality* and *viewer response*.

Visual quality represents a qualitative assessment of the value of a landscape: it is evaluated in terms of the descriptors *vividness*, *intactness*, and *unity*. The three criteria are defined as follows:

Vividness is the visual power or memorability of landscape components as they combine in distinctive visual patterns.

Intactness is the visual integrity of the natural and man-built landscape and its freedom from encroaching elements. It can be present in well-kept urban and rural landscapes, as well as in natural settings.

Unity is the visual coherence and compositional harmony of the landscape considered as a whole. It frequently attests to the careful design of individual manmade components in the landscape (FHWA 1988).

In this study, visual quality is rated on a five-point scale of Low, Moderately Low, Moderate, Moderately High, and High, and the overall rating is derived from the average score of these three factors taken in combination.

4.2 Project Viewshed

Geographic information system (GIS) mapping was not conducted for this study. GIS mapping, typically conducted with U.S. Geological Survey digital elevation mapping (DEM) data, is unable to reflect the effect of land cover, i.e., vegetation, man-made structures, and other features affecting the viewshed other than topography alone. However, in the extremely level San Joaquin

Valley, potential viewsheds are typically limited primarily by distance, and secondarily by land cover features not reflected in GIS mapping. Within the Fresno and Bakersfield study areas, man-made structures and vegetation are the decisive defining factors of the viewshed. DEM topographic GIS mapping was thus not considered to be appropriate for use in this project's particular study area.

The viewshed of the project is highly dependent on the project features themselves. For large at-grade portions of the alternative alignments, potential visibility of the project is quite limited due to the low level of prominence of the project features (rail bed, catenary poles and wires, the trains themselves). Beyond foreground viewing distances of 0.5 mile or even less, these portions of the project would have a limited visual presence. In segments where the project is elevated on berms or low structures the area of visual effect would increase correspondingly. Within urban areas, where the project includes very tall guideways, the potential visibility may increase dramatically. However, in these environments, project visibility is also limited in complex, highly site-specific ways by existing urban development. For practical purposes, then, the project viewshed is defined in this study as the area within which particular project features could have moderate or greater visibility and is addressed in this way under the discussion of individual landscape units and landscape subtypes. Accounting for the anticipated scale of the project features in different segments of the Fresno-Bakersfield corridor, the zone of potential substantial impact is not generally expected to extend beyond a foreground distance of 0.25 mile from the alternative alignments or project features.

4.3 Regional Landscape

In the broadest physiographic terms the entire project is within a single landscape unit, the Central/San Joaquin Valley, the vast level plain between the Sierra Nevada and Coastal Range. The Central Valley extends over 400 miles from north-central California to the Tehachapi Mountains near the southern project terminus and encompasses more than half of the state of California.

The San Joaquin Valley landscape is defined predominantly by vast reaches of agricultural land organized in a rigid north-south, east-west grid, punctuated by large cities such as Fresno and Bakersfield and numerous small, predominantly agricultural towns that generally retain historic old downtowns. Unlike portions of the northern Central Valley in the vicinity of Sacramento, these towns have not yet cohered into large corridors of continuous suburban sprawl but remain as distinct settlements, surrounded by virtually continuous open agricultural land. Unless blocked by orchards, other tall crops, or towns, views tend to extend great distances over the open agricultural fields. In addition to the predominant pattern of agricultural fields and towns, the riparian corridors of major rivers feeding the San Joaquin Valley represent another distinctive component of the valley landscape. The riparian woodlands of these streams have been confined to very narrow corridors but remain a defining feature of the valley landscape. Other distinctive landscape features include the contrasting vertical forms of agro-business facilities; the extensive but usually inconspicuous network of canals and ditches; and the typical configuration of tall, isolated tree groves surrounding older rural residences. The Sierra Nevada and Coast Range stand generally between 40 and 60 miles from the project corridor at their nearest points and can be a defining and vivid landscape feature. However, increasingly, valley haze frequently tends to obscure these scenic views.

4.4 Existing Visual Resources: Landscape Units, Viewer Response, and Visual Quality

The project corridor from Fresno to Bakersfield was characterized in terms of three major, highly distinct landscape units as follows:

- City of Fresno
- Central Valley Rural/Agricultural, including the small traditional towns comprising a subtype within that unit
- City of Bakersfield

Figure 4-1 depicts an overview of these landscape units.

Each of these landscape units is further subdivided into *landscape subtypes* with common visual character associated primarily with land-use types, viewer types, and visual attributes. These subtypes are indicated with green lines on the close-up aerial maps. Where potentially sensitive viewers are present, their sensitivity to adverse impacts on visual quality and the degree of project visibility are rated. Together, these two ratings are predictive of anticipated viewer response to the project. Views that represent instances of potentially substantial visual impact are identified and the viewing positions mapped. Then the views from these points are rated for their existing visual quality. For convenience of discussion, the Fresno and Bakersfield landscape units are described by subsegments going from north to south, as indicated in the overview maps, Figures 4-2 and 4-21. Close-up mapping of each subsection of the alignment showing the location of representative viewpoints follows each of these overview maps of Fresno and Bakersfield.

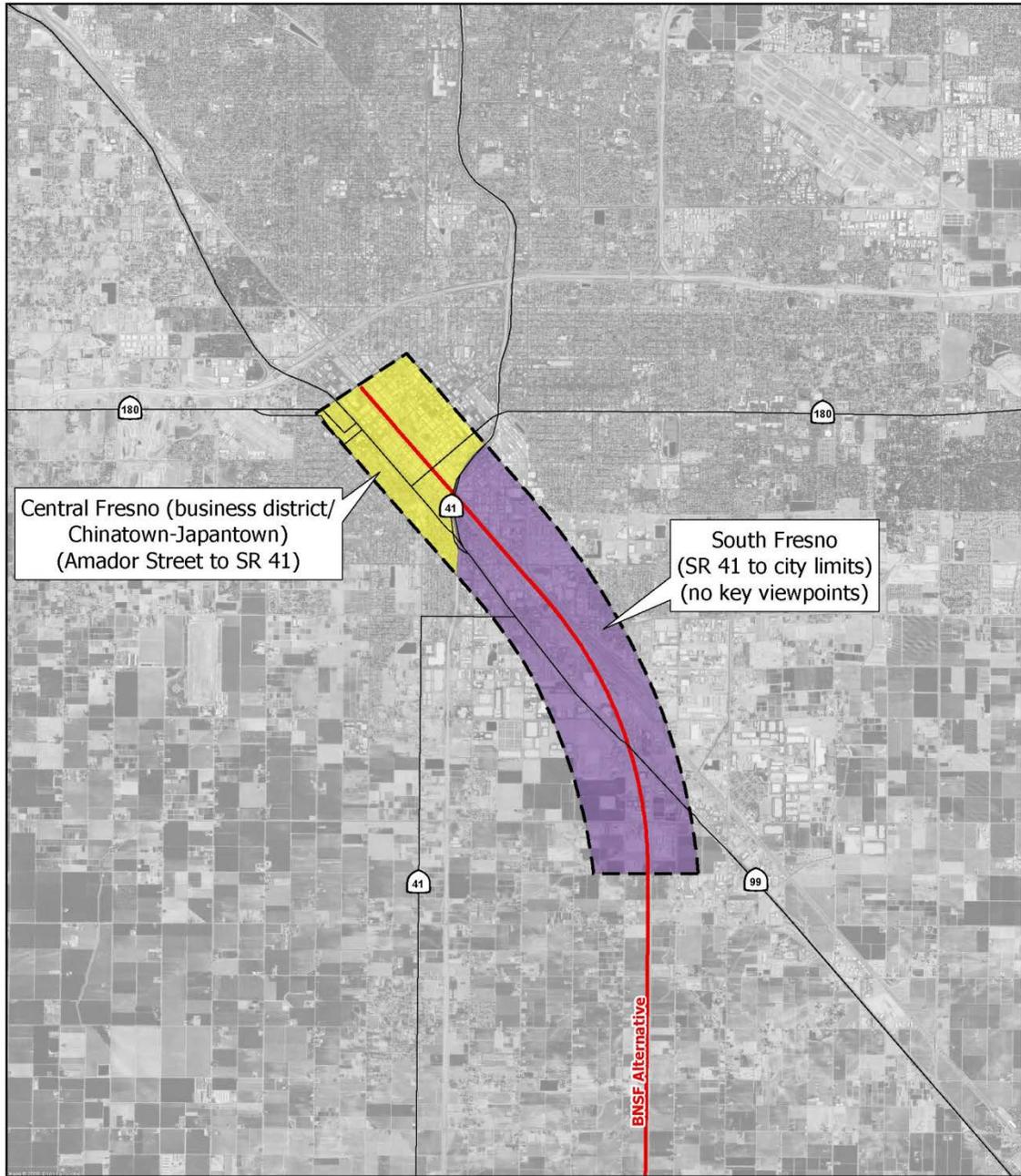
The visual baseline thus reflects potentially affected sensitive public views. Where there are no indications of public sensitivity to adverse visual impacts, views from points within such areas are not depicted or rated for quality, unless needed as context for potential impacts on nearby sensitive viewers.

4.4.1 Landscape Unit 1: City of Fresno

This urban landscape unit is characterized by nearly level terrain, and the full range of urban development types, from medium- and high-rise development in the historic city center, to extensive low-rise residential neighborhoods and industrial areas. Accordingly, the range of viewer response among these land use types ranges from high to low.

The city of Fresno is oriented into two distinct street grids—the historic city center, oriented perpendicularly to the axis of the northwest-to-southeast-oriented UPRR lines and SR 99; and more recently developed, extensive areas outside of this relatively small district, oriented in a north-south, east-west grid. The city form is also defined to an extent by its various freeways: the historic city center is roughly defined by SR 180, 41, and 99 to the north, east, and southwest, respectively. The visual character of land uses immediately next to the proposed BNSF alternative alignment within Fresno is typified largely by industrial uses associated with the existing railroad right-of-way. In addition, the project would be visible from adjacent land uses of various types and sensitivities, including parts of the city's Central Business District (CBD) and residential neighborhoods. These landscape subtypes are indicated with green lines on Figures 4-3 and 4-8. Key views within these subtypes have been identified according to anticipated viewer response, and the quality of these potentially affected public views is evaluated in the analysis below.

For convenience, the description of this landscape unit is discussed below by sequential subsections proceeding from north to south. Where adverse impacts on sensitive viewers could potentially occur, representative viewpoints are depicted to illustrate the discussion of viewer response and visual quality. Figure 4-2 provides an overview of the landscape subsegments, which are shown in close-up in Figures 4-3 and 4-8.



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED
 Source: Environmental Data Resources, 2011; URS, 2012. July 13, 2012

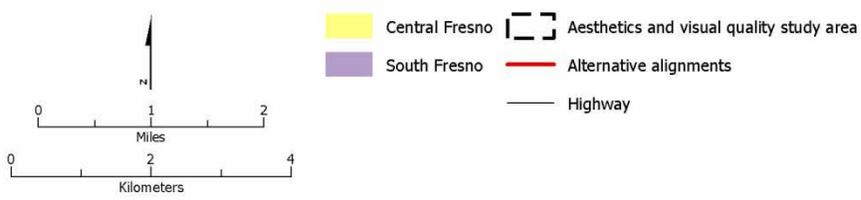


Figure 4-2

Landscape Unit 1: City of Fresno overview of landscape subsegments

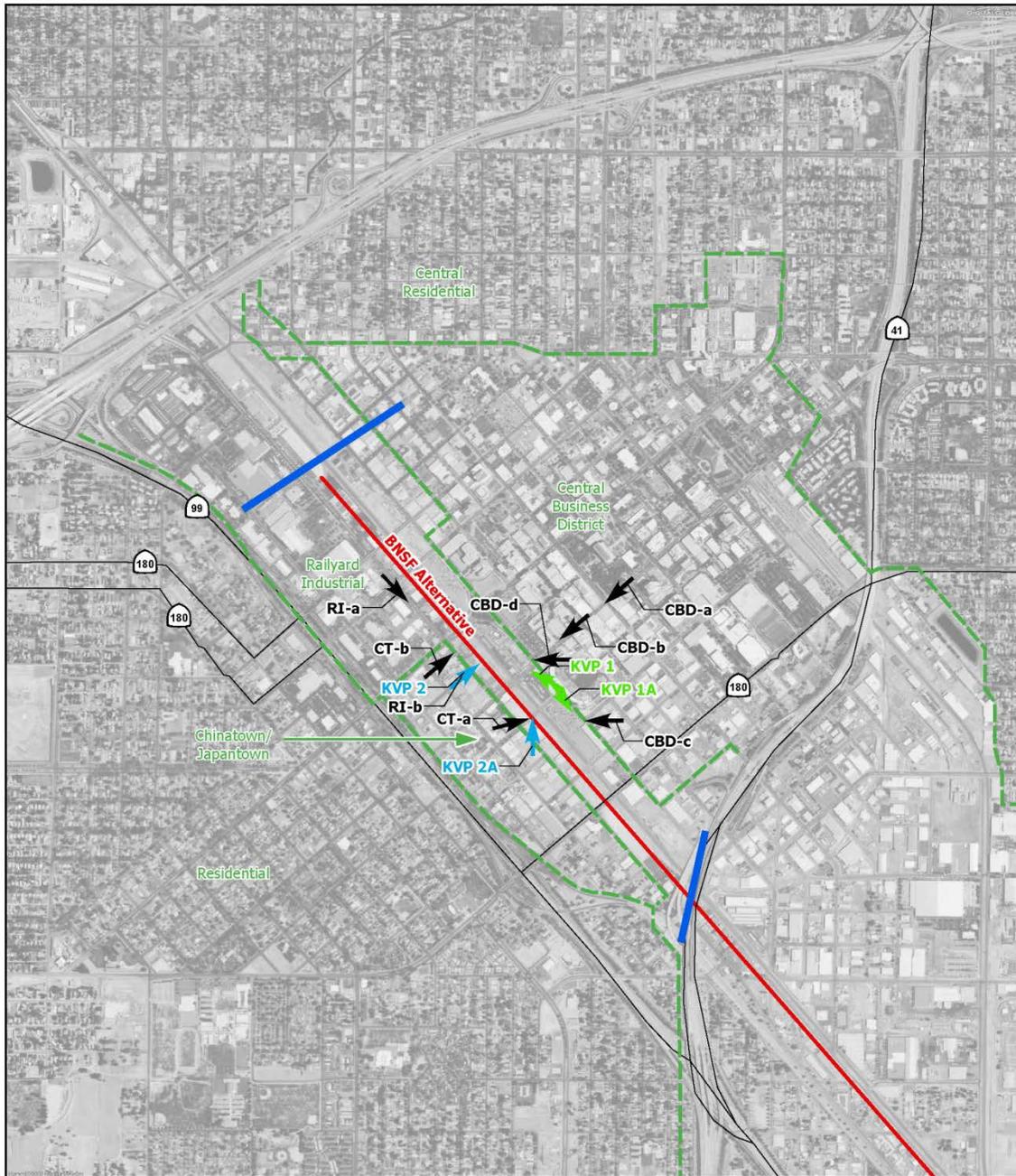
4.4.1.1 Central Fresno: Central Business District/Chinatown (Amador Street to State Route 41)

The city's CBD, centering on Fresno and Tulare streets, dominates the section between the northern terminus of the project near Amador Street and SR 41. The alignment in this section adjoins the original city street grid, oriented to the northeast-southwest and perpendicular to the existing UPRR line and SR 99. The most heavily used portions of the city's downtown are within 0.5 mile east of the project alignment, including the county government center, City Hall, the city's convention and major conference centers, public auditoriums and theaters, the redeveloped Fulton Street pedestrian mall, and the Grizzlies minor league baseball stadium (Chukchansi Stadium), which is approximately 200 feet east of the BNSF Alternative. The alignment also adjoins the historic Fresno Chinatown district, located to the southwest. Key sensitive viewer groups in this section include viewers of all kinds within the foreground distance in the CBD; viewers within historic Chinatown; and viewers from elevated portions of adjoining freeways near the project alignments.

The CBD viewshed in the project area can be divided into three landscape subtypes: industrial, business district, and Chinatown. The areas of these landscape subtypes, as well as identifying arrows for representative viewpoints for each subtype, are shown on Figure 4-3. Ground-level photos taken from those representative viewpoints are shown on Figures 4-4, 4-5a, 4-5b, and 4-6. Location arrows for KVPs, as discussed in Chapter 5.0, Environmental Consequences, are also depicted on Figure 4-3. The KVPs serve as the basis of the impact analysis, and are the locations of simulated views of the project.

Industrial

In this landscape subtype, the BNSF Alternative follows the existing UPRR rail tracks that divide the central city between north and south, traversing an area of industrial use, including auto wrecking, warehouses, storage yards, vacant land, and parking (Figure 4-4). There are no sensitive public views from points within this area. This is because the public that frequents the area predominantly comprises those working at the industrial facilities there, or motorists parking, generally near their place of work. People at their workplace become accustomed to the visual character of their surroundings. Because of this familiarity and their focus principally on work, they are typically not highly concerned with the quality of the aesthetics and visual resources of the immediate surroundings of their workplaces. Where there is no demonstrable sensitivity, public views are not considered to be critical (key) views in relation to visual impact assessments. Because viewer sensitivity in these areas is considered low, overall viewer response, regardless of viewer exposure to the alternative alignments, is considered low. Therefore, the character of this subtype is not addressed in great detail. However, these areas of low vividness, intactness, and unity and thus, low overall visual quality, comprise the principal site of the alternative alignments within the central city. Although adverse impacts are not anticipated from within these areas, they constitute the setting in which the project would be seen by more sensitive viewers in adjacent areas. Representative character photos are presented to depict the flavor of the affected areas, their limited susceptibility to visual impact, and their influence on the views of the many adjacent sensitive viewers in the project foreground.



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED
 Source: William Kanemoto & Associates, 2012; DigitalGlobe Imagery, 2009

July 13, 2012

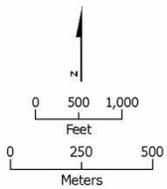
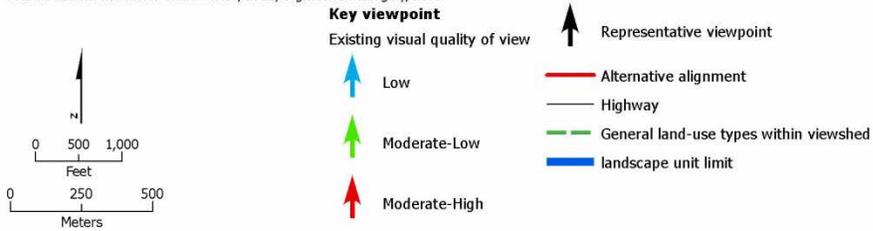


Figure 4-3
 Key viewpoints: Central Fresno subsection



RI-a. View from Tuolumne Street looking southeast down BNSF Alternative and Fresno West alignments toward alternative station locations.



RI-b. View from China Alley near Mariposa Street, looking north toward alignments.

Source: William Kanemoto & Associates, 2012.

Figure 4-4
Representative viewpoints:
Central Fresno industrial image types



CBD-a. Tulare Street at L Street, looking southwest toward alternative station sites, alignment from 1/3 mile (0.5 kilometer).



CBD-b. Tulare Street and Fulton Mall, looking southwest toward alternative station sites, alignment from 800 feet (244 meters).

Source: William Kanemoto & Associates, 2012.

Figure 4-5a
Representative viewpoints: Central Fresno Business District



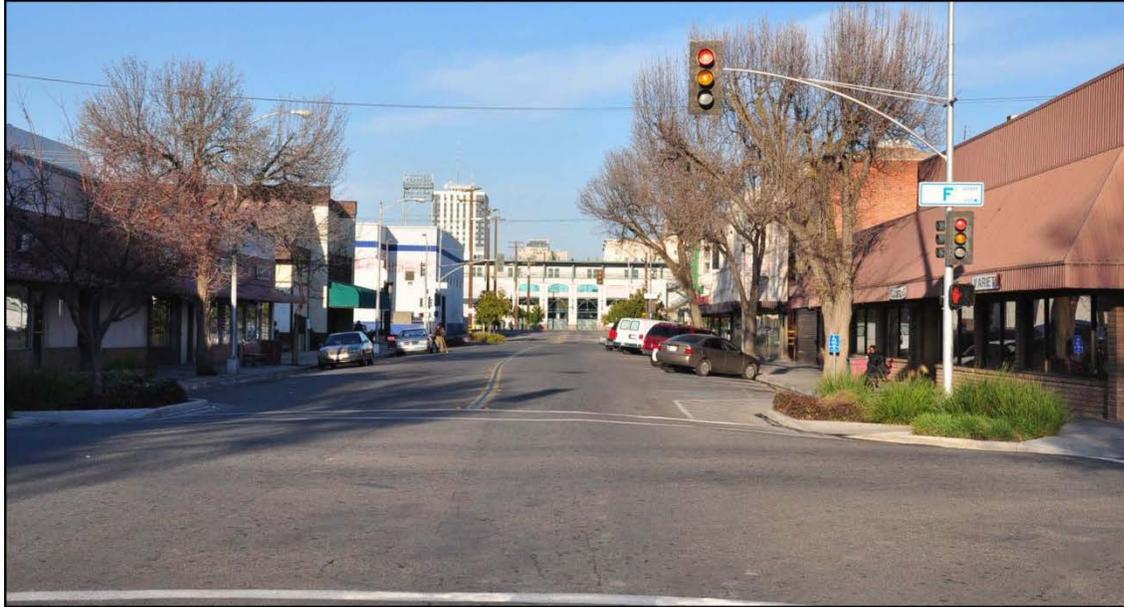
CBD-c. Inyo at H Street, looking west toward alternative station sites, alignment from 500 feet (152.4 meters)



CBD-d. Southern Pacific train station, looking west from Tulare and H Streets

Source: William Kanemoto & Associates, 2012.

Figure 4-5b
Representative viewpoints: Central Fresno Business District



CT-a. View from Kern and F Streets, looking northeast toward station alternatives, alignment at 400 feet (122 meters).



CT-b. View from Mariposa and E Streets, looking northeast toward alignment at 600 feet (183 meters).

Source: William Kanemoto & Associates, 2012.

Figure 4-6
Representative viewpoints: Central Fresno - Chinatown/Japantown

Business District

Viewer sensitivity in the central business district is considered to be moderately high based on the concentration and type of use (recreational, visitor-serving, governmental, residential), and the importance of the downtown city image. Viewer exposure in the business district is moderately high overall. The predominance of higher buildings would tend to screen the project from much of this area, creating narrow view corridors down the main northeast-southwest streets that would limit visibility of the project from within the downtown to an area between the taller building facades (see viewpoints CBD-a and CBD-b in Figure 4-5a). However, the number and sensitivity of viewers in the immediate foreground zone of the project alignments and associated station sites remain high. Crowds attending events at Chukchansi Stadium, substantial numbers of workers and visitors at adjacent retail and governmental offices, and occupants of nearby residential and live-work developments would have direct, unobscured views of the project. Overall, viewer response is expected to be moderately high.

The visual quality of the business district overall is considered moderately high. The Fresno County governmental center occupies a heavily landscaped four-square-block area between Tulare and Fresno streets, and the downtown includes various historic office buildings and landmarks, street trees, landscaped medians, and similar features that contribute to a relatively high degree of visual intactness and unity. Distinctive early-twentieth-century masonry office buildings remain throughout the central downtown, including several ranging from 8 to 12 stories high that form the downtown skyline. These and extensive landscaping contribute to moderately high vividness. The HST would not substantially affect the visual character of this area, but would be seen by viewers in or near it.

Chinatown

Viewer sensitivity within Chinatown is considered to be moderately high, due to the historic significance of the district. Visual exposure to the project from Chinatown is also high; all of the station alternatives have components in Chinatown and this proximity is accentuated by the view corridors over the many vacant lots. Overall, anticipated viewer response is thus moderately high (Figure 4-6).

As in downtown, land uses directly adjoining the BNSF Alternative on Chinatown's eastern edge are generally industrial in character. Despite localized redevelopment improvements on F Street, Kern Street, and elsewhere, the prevailing visual quality within the Chinatown district is moderately low overall. With some notable exceptions, the district is typified by very heterogeneous, predominantly nondescript low-rise architecture, much of it in disrepair, and a relative scarcity of highly memorable, vivid features. Recent street tree plantings and street corner landscaping enhance the visual unity and intactness of many streets in the area, and help offset the disparate façade treatments that often detract from an overall unity of streetscape character. This effect would increase as landscaping matures. The visual character and quality of the district is strongly influenced, however, by the barren quality of the area's very high proportion of vacant lots, which strongly detract from the intactness of the setting and also expose various industrial uses in the foreground of views toward downtown and the project alignment. Visual intactness and unity are thus moderate. Vividness is moderately low overall for the reasons cited above. Vivid views of downtown are offset by the visual character of industrial land uses and vacant lots in the foreground.

Adjacent Residential Neighborhoods

Portions of older single-family residential neighborhoods west of SR 99 are within foreground distance of the project area. However, within the neighborhoods, views toward the project and downtown are generally blocked by foreground buildings and landscaping. Existing views of the

downtown area are thus largely limited to narrow views of the tallest buildings down major northeast-oriented streets. Due primarily to foreground filtering from intervening development, as well as to distance, potential prominence of the project from this area is low. Though viewer sensitivity is high, overall viewer response in this area is considered low. Therefore, this area is not considered susceptible to project-related visual impacts.

Residential neighborhoods to the north of the CBD also have little or no exposure to the project; foreground development of the CBD effectively blocks all potential view corridors to the project. This area is thus not considered susceptible to project-related visual impacts.

Views from Adjoining Highways

Anticipated viewer response for motorists approaching Fresno is considered to be moderate. Sensitivity of motorists on the freeway is considered moderate. Most commuters and others engaged in work-related travel do not have high levels of concern with views from the road. Nevertheless, these elevated highway views may be among the most formative images of the city for residents and visitors, since they provide some of the few overviews available in the prevailing level terrain. Viewer numbers are very high, although viewer exposure to prominent, visually dominant views of the project alignments from highways would be limited to short segments near downtown.

The downtown skyline and views of the Sierra Nevada are also vivid features of views from elevated portions of SR 41 and SR 180 near downtown Fresno, as shown in Figure 4-7. However, the visual foreground of motorists tends to be dominated by cars and the wide roadways themselves. Overall, the visual quality of highway views is considered moderate.

4.4.1.2 South Fresno (SR 41 to City Limits)

East of SR 41, the BNSF alternative alignment follows existing railroad lines, deviating to the south near Jensen Avenue, as shown in Figure 4-8. Calwa, a small residential neighborhood, is to the east of the project within foreground distance in the vicinity of Jensen Avenue, though views would be filtered by intervening industrial development and railyards. With that exception, the adjoining corridor is characterized by associated industrial activity, such as light manufacturing, railroad switching yards, vehicle or material storage, and staging lots, warehouses, and commercial transport facilities.

Viewer sensitivity of residents is considered to be high. However, these areas have very low visual exposure to the project because the orientation of the street grid provides no view corridors toward the project from within the neighborhoods. Potential views of the project alignments are generally blocked or filtered by intervening industrial areas. Therefore, due to the lack of visual exposure, there would be little or no viewer response to the project (low viewer response). In the absence of visual exposure, no key viewpoints were considered necessary in this segment and consideration of visual quality for views in this area is not relevant. The potential for substantial impacts in this section is very low, and representative viewpoints are not depicted.



HW-a. View of alignments from eastbound Highway 180, looking southeast down alignment.



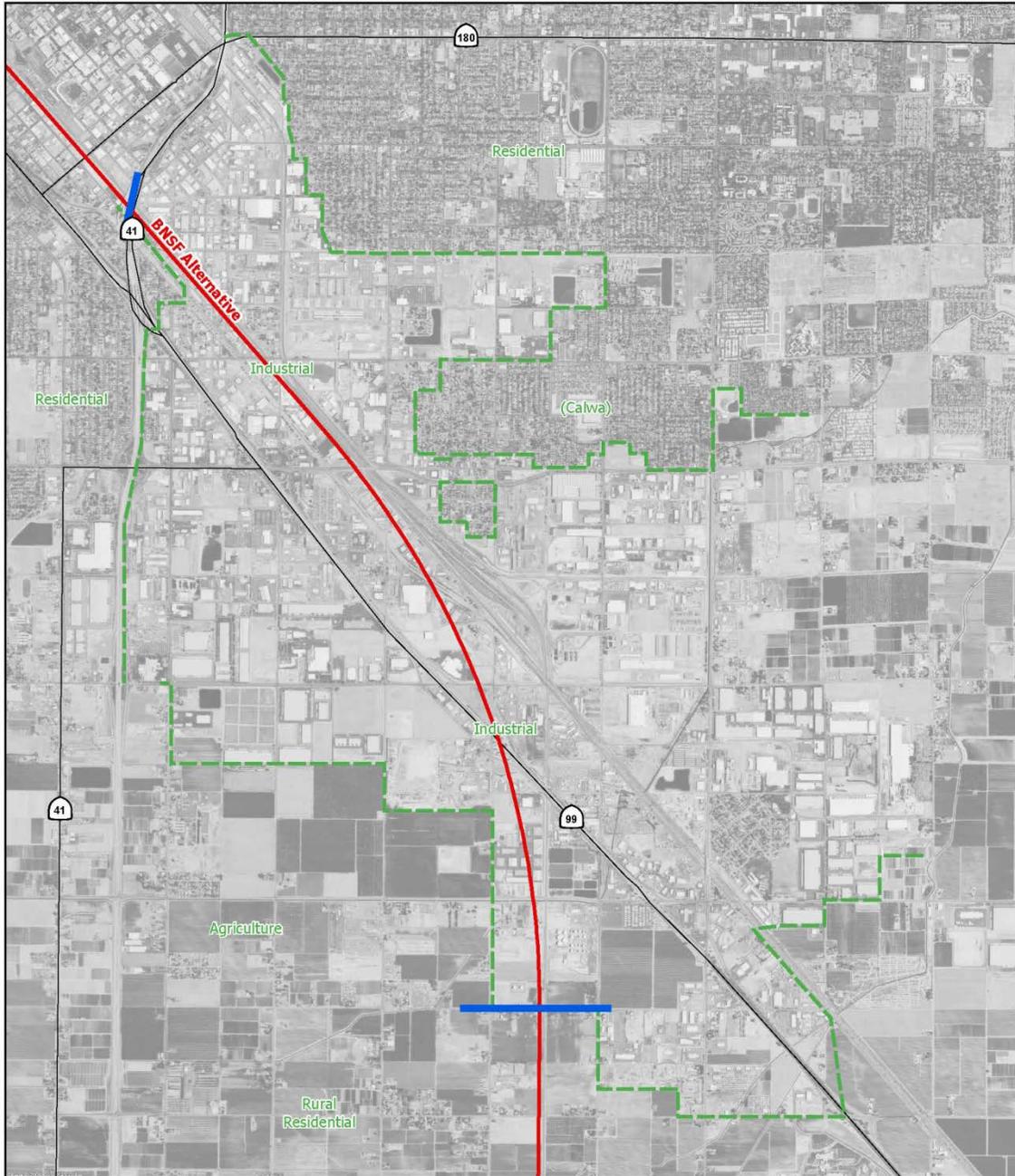
HW-b. View toward alignments overcrossing, looking northeast from eastbound Highway 180.



HW-c. View toward alignment overcrossing, looking north from northbound Highway 41.

Source: William Kanemoto & Associates, 2012.

Figure 4-7
Representative viewpoints: Central Fresno highway views



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED
 Source: William Kanemoto & Associates, 2012; DigitalGlobe Imagery, 2009

July 13, 2012

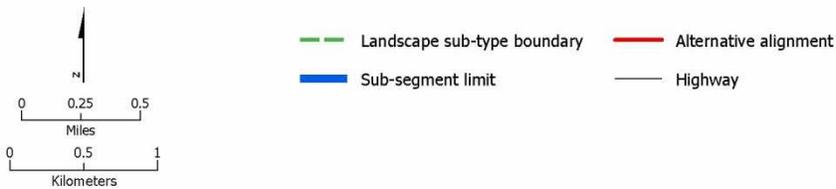


Figure 4-8
 South Fresno subsection

4.4.1.3 Section 106/4(F) Viewpoints

Various National Register-eligible sites appear in the Fresno downtown within foreground distances of the project alignments, notably the historic 1889 Southern Pacific Train Depot at Tulare Street, which directly adjoins the project alignment, depicted in Figure 4-5b, viewpoint CBD-d. Under the Fresno Station–Mariposa Alternative, a pedestrian overcrossing could pass between the depot building and the adjacent Pullman car shed, leaving both unaffected. Views of and to historic features like the depot are presumed to be of high sensitivity. The historic nature of the structure is evident in its distinctive architectural style. The structure would have high exposure to the project alignment, which would adjoin it.

It is assumed in this analysis that any eligible historic properties located within the project’s visual near-foreground (0.25 mile) whose national or state historic register eligibility is dependent upon the criteria of “setting” or “feeling” could be adversely impacted by the visual effects of the HST project (USDI 1997). Because some of the project features would be prominent within that distance zone, they could strongly affect the setting and feeling of any eligible historic properties. Numerous eligible historic properties fall within 0.25 mile of the project, although not all of these would be dependent upon the specific eligibility criteria of setting or feeling. For more information, see the *California High-Speed Train Fresno to Bakersfield Section: Historic Property Survey Report (HPSR)* (Authority and FRA 2011c). See also Section 3.17, Cultural and Paleontological Resources, and Chapter 4.0, Draft Section 4(f)/6(f) Evaluation, in the *California High-Speed Train Fresno to Bakersfield Section Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS)* in which potentially affected properties are individually reviewed (Authority and FRA 2011a).

Table 4-2 summarizes the visual quality and viewer response of the City of Fresno landscape unit.

Table 4-2

Summary Table – Visual Quality and Viewer Response of Landscape Unit 1: City of Fresno

Landscape Unit 1: City of Fresno			
Subsection			
Central Business District/Chinatown (SR 180 to SR 41)			
Landscape Subtype			
Railyard Industrial			
Visual Quality: LOW		Viewer Response: LOW	
Vividness	Low	Viewer Sensitivity	Low
Intactness	Low	Viewer Exposure	Low or none
Unity	Low		
Central Business District			
Visual Quality: MODERATELY HIGH		Viewer Response: MODERATELY HIGH	
Vividness	Moderate	Viewer Sensitivity	High
Intactness	Moderately High	Viewer Exposure	Moderately High
Unity	Moderately High		

Table 4-2

Summary Table – Visual Quality and Viewer Response of Landscape Unit 1: City of Fresno

Landscape Unit 1: City of Fresno			
Chinatown			
Visual Quality: MODERATELY LOW		Viewer Response: MODERATELY HIGH	
Vividness	Moderately Low	Viewer Sensitivity	Moderately High
Intactness	Moderately Low	Viewer Exposure	High
Unity	Moderately Low		
Central Fresno Residential Neighborhoods			
Visual Quality: MODERATE		Viewer Response: LOW	
Vividness	Moderate	Viewer Sensitivity	High
Intactness	Moderate	Viewer Exposure	Low
Unity	Moderate		
Views from Adjoining Highways			
Visual Quality: MODERATE		Viewer Response: MODERATE	
Vividness	Moderate	Viewer Sensitivity	Moderate
Intactness	Moderate	Viewer Exposure	Moderate
Unity	Moderate		
South Fresno (SR 41 to city limits)			
Landscape Subtype			
South Fresno Residential (Calwa)			
Visual Quality: MODERATE		Viewer Response: LOW	
Vividness	Moderate	Viewer Sensitivity	High
Intactness	Moderate	Viewer Exposure	Very Low
Unity	Moderately Low		
Acronym: HST = high-speed train SR = State Route			

4.4.2 Landscape Unit 2: Central Valley Rural/Agricultural

Most of the Fresno to Bakersfield corridor is characterized as a single, vast landscape unit comprising agricultural fields, orchards, pastures, and related rural land uses, with considerable continuity of visual character. This large agricultural landscape is punctuated by several small-to-medium sized towns and other visually distinct landscape subtypes and associated viewer groups through which the project corridor passes. The scale and character of this unit are not conducive to description by sequential project subsections as was done in the discussion of the City of Fresno. Rather, the unit is treated as a whole, and characterized in terms of the major affected

visual subtypes, some of which recur throughout the entire length of the unit. These are described below. Site-specific discussions are included within the subtypes as appropriate, as in the case of directly affected small towns. Figure 4-1 shows the limits of this landscape unit and landscape subtypes.

4.4.2.1 Valley Agricultural Subtype

This landscape subtype comprises the great majority of the project alignments between the cities of Fresno and Bakersfield. The valley agricultural landscape is characterized by predominantly uninterrupted views of the nearly level San Joaquin Valley, often extending to background distances. This landscape is characterized by a diversity of agriculture-related activities and production facilities. The most apparent expression of this agricultural landscape is a coarse pattern of vineyards, orchards, cultivated fields, and grazing lands, separated by roads, highways, irrigation canals, or ditches organized in a highly regular, north-south/east-west, grid pattern. Within this extensive, open setting of fields are areas containing agro-industrial uses such as feed lots, storage silos, large processing and warehouse facilities, equipment storage areas, and associated infrastructure of wells, pumping facilities, fuel storage, fencing, power transmission lines, towers, and poles. This subtype typically includes small residential areas and associated services that have developed around a particular agricultural facility. These are discussed separately under the Rural Residential subtype.

Typically there are few indications of viewer sensitivity in agricultural areas. Viewers are few and viewer activities are largely work-oriented. Exceptions would occur where designated scenic highways, roads, corridors, and the like cross agricultural lands. However, no such designated routes were identified within the project viewshed. The BNSF Railway line is generally open to public views within this subtype, with little to obstruct views toward the right-of-way. However, in the absence of sensitive viewing positions, project exposure in views from within this subtype is not relevant to this assessment. There would be little or no potential viewer response to the project. Nevertheless, this landscape subtype is the context within which the project would be seen in nearly all sensitive views within rural areas of the project corridor. Representative views of the valley agricultural subtype are provided in Figure 4-9.

Overall, visual quality of this subtype is moderate, though varying depending on specific local circumstances. Differences among field, orchard, vineyard, and crop types offer some seasonal interest and visual variety. However, the level topography, vast scale, and repetitiousness of agricultural uses tend to contribute to a lack of variety, even monotony, resulting in moderately low to moderate vividness. Views of vivid features, such as mountains or natural riparian corridors, are few and of limited prominence. Visual unity and intactness are generally moderately high, presenting a continuity of pattern and character, topography and land use; but views are also regularly interrupted by the vertical and visually utilitarian features of modern industrial agricultural production. The contrasting form and character of these utilitarian features detract from the prevailing landscape unity.

4.4.2.2 Rural Residential Subtype

The rural residential subtype takes various forms, from isolated homesteads to small aggregations of homes lining the north-south/east-west road grid, to denser more suburban-style settlements of generally small scale, primarily in transitional areas on the periphery of both the cities and small towns. Rural residences are found near all of the alternative alignments within the rural San Joaquin Valley, except the Allensworth Bypass Alternative.



V-a. Typical valley agricultural scene.



V-b. Typical valley agro-industry scene.



V-c. Valley orchard scene.

Source: William Kanemoto & Associates, 2012

Figure 4-9
Representative viewpoints: Central Valley Rural/Agricultural Landscape Unit – Valley agricultural subtype

In general, residences are considered to be of high viewer sensitivity; views are of extended duration, and residents have a high level of concern for the quality of their day-to-day living environment. This may be particularly true in rural areas of relative intactness and, often, visual unity (see the discussion of visual quality, below). Viewer exposure varies primarily by distance, though visual filtering by vegetation and structures certainly affects some viewers. Exposure is also moderated by generally low concentrations of viewers. However, exposure is considered high within the foreground distance zone, because there is generally little to screen or filter views.

Overall, viewer response from residents who live near (less than 0.25-mile from) the project alignments is considered to be moderately high. These near-foreground viewpoints comprise the set of locations of this type that are of potential concern, with high viewer sensitivity and high or moderately high viewer exposure.

The relevant distance to project features representing potential visual impact would vary according to the project design in that segment. Where the alignment is at grade, the critical distance would be less than in elevated segments, where the project could be more prominent. Though concentrated in the outskirts of the cities and towns, pockets of this subtype occur throughout the Valley landscape unit. Figure 4-10 shows representative views of the rural residential subtype.

Homes and farms are typically characterized by the presence of fences, barns, storage structures, and equipment for small-scale agricultural operations. Often, older homesteads and farms in these areas are identified by the characteristic presence of large ornamental trees of various types, often quite old and tall, which contribute a distinctive, widely spaced vertical element into the otherwise flat valley landscape. Between these islands of farm structures and trees, the remaining acreage is generally open, used for livestock or agricultural purposes and is simply a part of the pervasive Valley agricultural image. Small stores, rural schools, or parks are also typically associated with these settlements. Many are also associated with particular agro-industrial facilities in the vicinity.

Visual quality within this subtype varies from one rural home site or settlement to another. The visual quality of some settlements may be rated high due to the presence of trees, architectural style, or site landscaping, which contribute to vividness through attractive tree canopies or distinctive architectural forms (weathered barns, water towers, period architecture); and/or generally high visual unity or intactness (for example, the classic old farms with tightly organized, tall tree canopies that appear as highly unified vertical 'islands'). Other sites or congregations of homes may rate low because of structure deterioration, presence of abandoned farm equipment, landform disturbances, or visual clutter and other expressions of low visual unity and intactness. The visual quality of this subtype is strongly influenced by the surrounding agricultural landscape, and is considered moderate overall.

Figure 4-11 depicts an aerial view of the proposed Kings/Tulare Regional Station – East Alternative site, east of Hanford. Because the site is away from town in a rural area, the principal affected viewers would be adjacent rural residences. Figure 4-12 depicts views from these adjacent residences, as well as from the adjoining rural SR 43 (8th Avenue). The affected residences are typical of the more suburban-style settlements found throughout the valley landscape unit, several of which adjoin the proposed project alignments. Figure 4-13 depicts aerial views of the rural areas west of Laton and Hanford, including the proposed Kings/Tulare Regional Station – West Alternative site, indicating the location of the key viewpoint/simulation locations depicted in Figures 5-22 and 5-23 (KVPs 19 and 20).



RR-a. Typical valley farmstead.



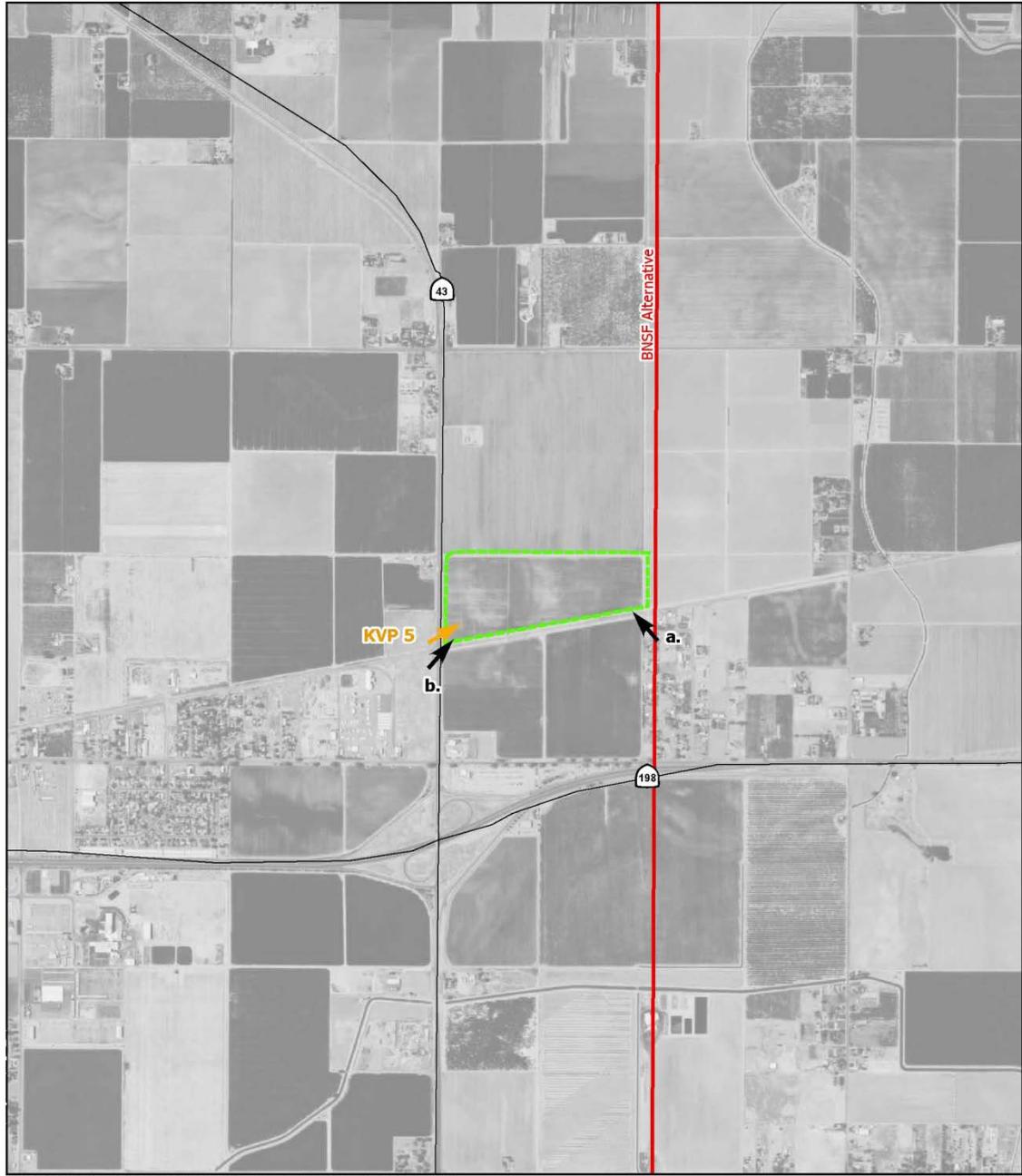
RR-b. Valley rural residences at alignment foreground (Monmouth).



RR-c. Valley residential settlement looking toward alignment.

Source: William Kanemoto & Associates, 2012.

Figure 4-10
Representative viewpoints: Central Valley Rural/Agricultural Landscape Unit – Valley rural residential subtype



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED
 Source: William Kanemoto & Associates, 2012; DigitalGlobe Imagery, 2009

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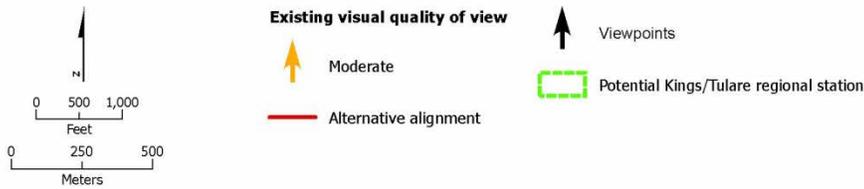


Figure 4-11
 Key viewpoint: Kings/Tulare Regional Station – East Alternative site



a. Potential Kings/Tulare Regional Station site from adjacent rural residence.



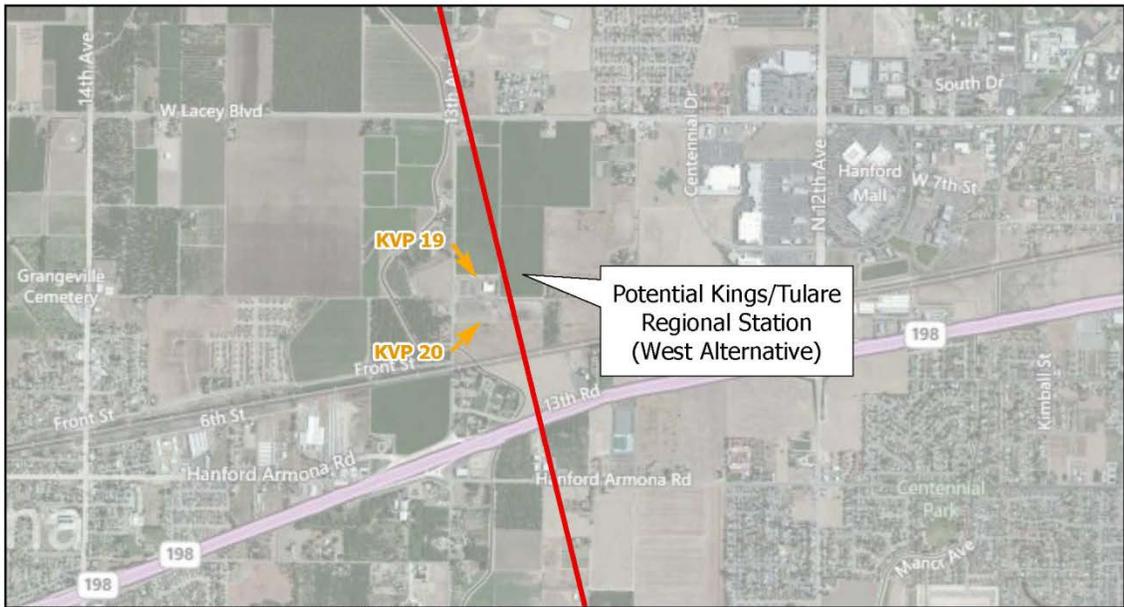
b. Potential Kings/Tulare Regional Station site looking east from SR 43/8th Avenue.

Source: William Kanemoto & Associates, 2012.

Figure 4-12
Representative viewpoints: Central Valley Rural/Agricultural Landscape Unit
– Kings/Tulare Regional Station – East Alternative site



Key viewpoint: Mt. Whitney Avenue, Laton



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED
 Source: William Kanemoto & Associates, 2012.

Key viewpoint: Kings/Tulare Regional Station - West Alternative



Figure 4-13
 Key viewpoints: Hanford West Bypass 1 and Bypass 2 alternatives, west of Laton, Hanford, and the Kings/Tulare Regional Station – West Alternative site

4.4.2.3 Valley Riparian Subtype

The valley riparian (VR) subtype is infrequent within the Central Valley Rural/Agricultural Landscape Unit and includes the following, which are within the project study area: Kings River, Tule River, Deer Creek, and Poso Creek. Where this subtype occurs, it is characterized by a natural meandering, unchannelized stream with a generally narrow band of riparian vegetation winding through otherwise cultivated lands, orchards, and the like. These streams cross beneath roads and highways that crisscross the Central Valley. This subtype is recognizable and becomes apparent as a ribbon of relatively tall, natural-appearing vegetation at middle-ground viewing distance, and is perhaps the only natural feature providing vertical form and line contrast within the otherwise level valley terrain. Representative viewpoints of this landscape subtype are shown in Figure 4-14.

Viewer sensitivity of the river crossings varies. Viewers in the region are likely to show high sensitivity to impacts on the riparian corridors because of their attractiveness and rarity. The sensitivity of the viewers within this landscape subtype would be a function of use opportunities, such as trails, navigability for boating, and opportunities for fishing. Viewer sensitivity within the riparian corridors is ultimately a function of the presence of established, formal recreational or wildlife-oriented facilities such as parks, parking areas, wildlife viewing areas, and trails. Viewer exposure is considered generally to be high, as the alignment crossings of this subtype may be visible for an extended distance and period of time to a high number of travelers. However, exposure of sensitive viewer groups would vary greatly on a site-specific basis. Overall, viewer response is considered to be moderately high, with the caveat that site-specific variation can be great.

The visual quality of these areas is high. The natural riparian forest canopy, where it occurs, contributes one of the few scenically vivid and intact natural features of the valley landscape.

4.4.2.4 Rural City/Town Subtype

The rural city/town subtype includes the predominantly agriculture-related communities of Laton, Hanford, Corcoran, Wasco, and Shafter. The BNSF Alternative passes near the community of Laton and the city of Hanford but skirts them, and would not directly affect them. Farther south, the BNSF Alternative passes directly through the downtowns of Corcoran, Wasco, and Shafter. These communities vary widely in size, from Laton, a small, primarily residential settlement, to Hanford, a small city. However, each community supports a historic, defined central business district with associated parks, schools, medical facilities, and local governmental institutions. In marked contrast to vast areas of suburban sprawl characteristic of portions of the Sacramento (northern Central) Valley, these historic towns of the San Joaquin Valley remain spatially distinct islands within the wider agricultural landscape, and remain strongly influenced by the latter.

The BNSF Alternative is visually isolated from the town of Laton by a substantial buffer of orchards and tall riparian woodland east of the town and north of Riverdale Avenue. Similarly, the Hanford West Bypass 1 and Hanford West Bypass 2 alternatives are largely buffered from Laton by dense orchards. The BNSF and Hanford West Bypass 1 and Hanford West Bypass 2 alternatives are also visually isolated from downtown Hanford (to the east and west, respectively) by distance and intervening development. In this segment, the BNSF Alternative would be visible in the foreground to rural residents and motorists on SR 198 and SR 43 (8th Avenue) in the agricultural area east of Hanford, which is where the site of the Kings/Tulare Regional Station – East Alternative is proposed. The Hanford West Bypass 1 and Hanford West Bypass 2 alternatives would be visible at foreground distance to rural residents, the College of the Sequoias, and motorists on 13th Avenue and east-west streets in the predominantly agricultural area west of Hanford near Armora, which is where the Kings/Tulare Regional Station – West Alternative is proposed. The town centers of Laton and Hanford would not be affected by the HST and will thus not be analyzed further.



VR-a. Poso Creek at Highway 43.



VR-b. Alignment crossing at Tule River from Highway 43.



VR-c. Kings River near alignment crossing at Highway 43.

Source: William Kanemoto & Associates, 2012

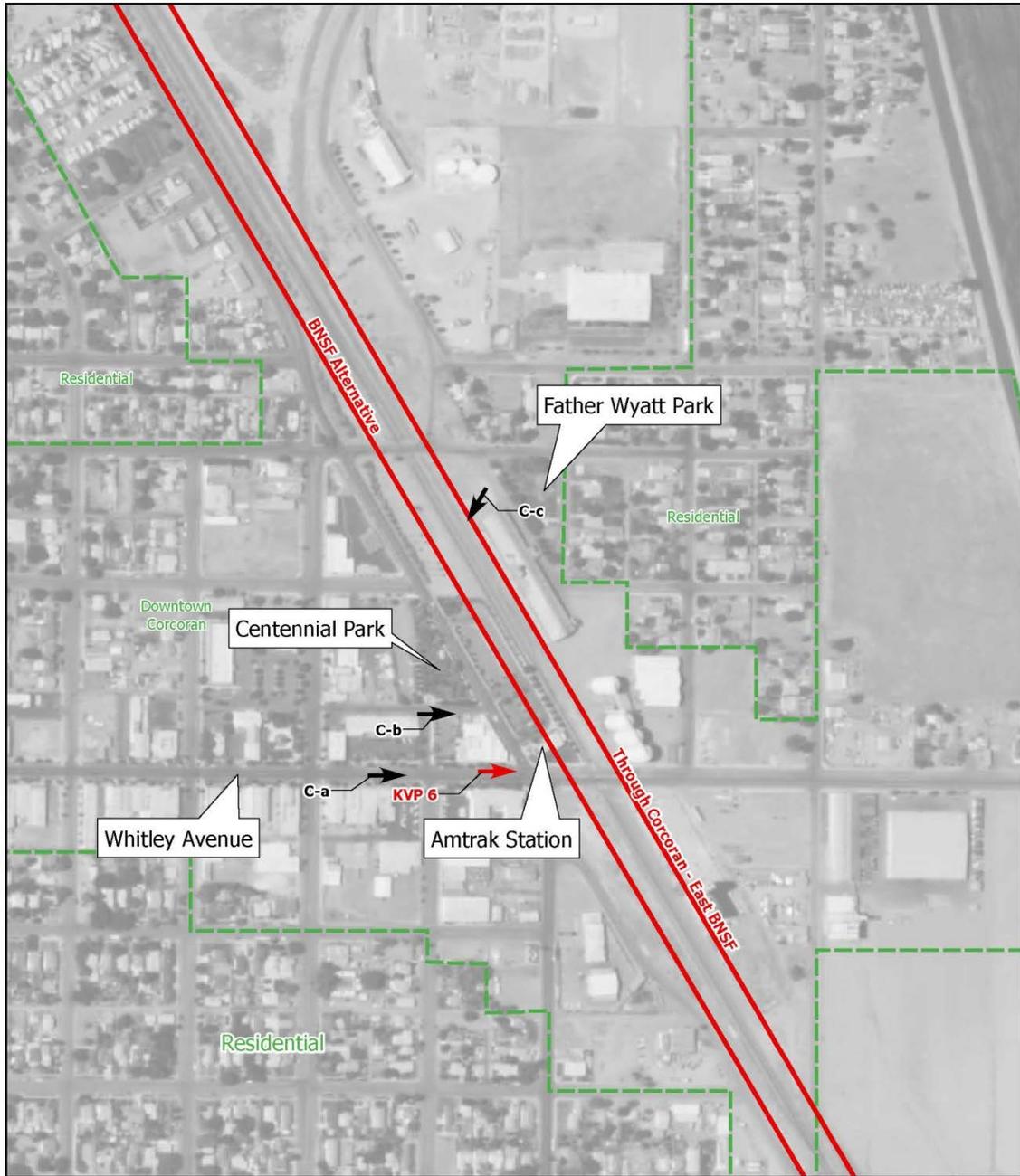
Figure 4-14
Representative viewpoints: Central Valley Rural/Agricultural Landscape Unit – Valley riparian subtype

In Corcoran, Wasco, and Shafter, the historic old town sections developed around the BNSF Railway line. Therefore, the BNSF Alternative, which follows the BNSF Railway corridor, directly adjoins the old town centers, which in all three cases represent areas with higher visual sensitivity and visual quality, as discussed below. Viewer sensitivity for these communities is anticipated to be high because of community concern for the integrity and quality of the downtowns, and the presence of parks and residential areas near the BNSF Alternative. The Corcoran Elevated Alternative would also follow the BNSF right-of-way, directly adjoining downtown Corcoran only.

In the communities of Corcoran, Wasco, and Shafter, viewer exposure is also potentially high because the BNSF Alternative (and in Corcoran, the Corcoran Elevated Alternative) is close to the centers of those historic towns. In addition, each town includes various situations where the alignment is close to residential areas and associated schools and parks with moderately high levels of viewer sensitivity. In both downtowns and nearby parks the concentration of potential viewers may also be relatively high, with broad visibility from multiple locations, and extended exposure to view. Each of these towns thus includes key receptor locations with moderately high levels of potential viewer response close to the BNSF Alternative (and in Corcoran, to the Corcoran Elevated Alternative).

In addition to adjacent historic town centers mentioned previously (Whitley Avenue in Corcoran, Seventh Street and the Amtrak station in Wasco, Central Avenue in Shafter), examples of potentially sensitive viewpoints in the immediate project foreground include Centennial and Father Wyatt parks in Corcoran; a residential neighborhood on H Street between Sixth and Ninth streets in Wasco; and Kirchenmann Park, nearby residential neighborhoods between E. Tulare Avenue and E. Lerdo Highway, and the Shafter Cemetery (Shafter Memorial Park) in Shafter. Figure 4-15 is an aerial view of downtown Corcoran with the locations of representative sensitive viewpoints in the vicinity of the BNSF Alternative. Figure 4-16 depicts views toward the BNSF Alternative and the Corcoran Elevated Alternative from downtown Corcoran, Centennial Park, and Father Wyatt Park. Figure 4-17 is an aerial view of downtown Wasco with the locations of representative sensitive viewpoints in the vicinity of the BNSF Alternative. Figure 4-18 provides views of the BNSF Alternative from downtown Wasco, looking toward the Amtrak station and from an adjoining residential neighborhood. Figure 4-19 is an aerial view of downtown Shafter with the locations of sensitive viewpoints in the vicinity of the BNSF Alternative. Figure 4-20 provides views toward the BNSF Alternative from downtown Shafter, Stringham Park, and Shafter Memorial Park.

Visual quality along the alignment in or near Corcoran, Wasco, and Shafter are variable. Each of these communities is frequently typified by strip development, storage facilities, and related agro-industrial land uses, generally of low visual quality due to visual incoherence often associated with utilitarian and industrial uses. However, in all three towns this railroad-related industrial zone is juxtaposed with the historic old town centers. In each, the main street radiates from the historic railroad station. Visual quality in these old town centers range from moderate to moderately high with corresponding levels of vividness, intactness, and unity. Elements contributing to visual quality include a preponderance of historic architecture, as well as street trees, median plantings, and other elements of main street redevelopment. These features contribute to a prevailing intactness of character and unity of scale typical of the historic main streets.



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED
 Source: William Kanemoto & Associates, 2012; DigitalGlobe Imagery, 2009

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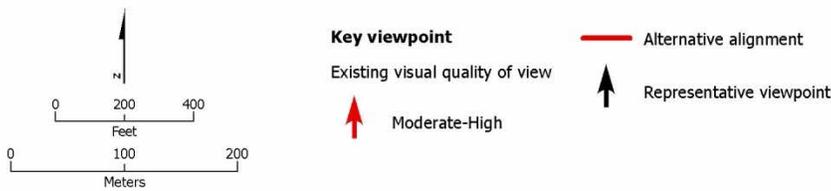


Figure 4-15
 Key viewpoint: Corcoran



C-a. Alignment from downtown Corcoran.



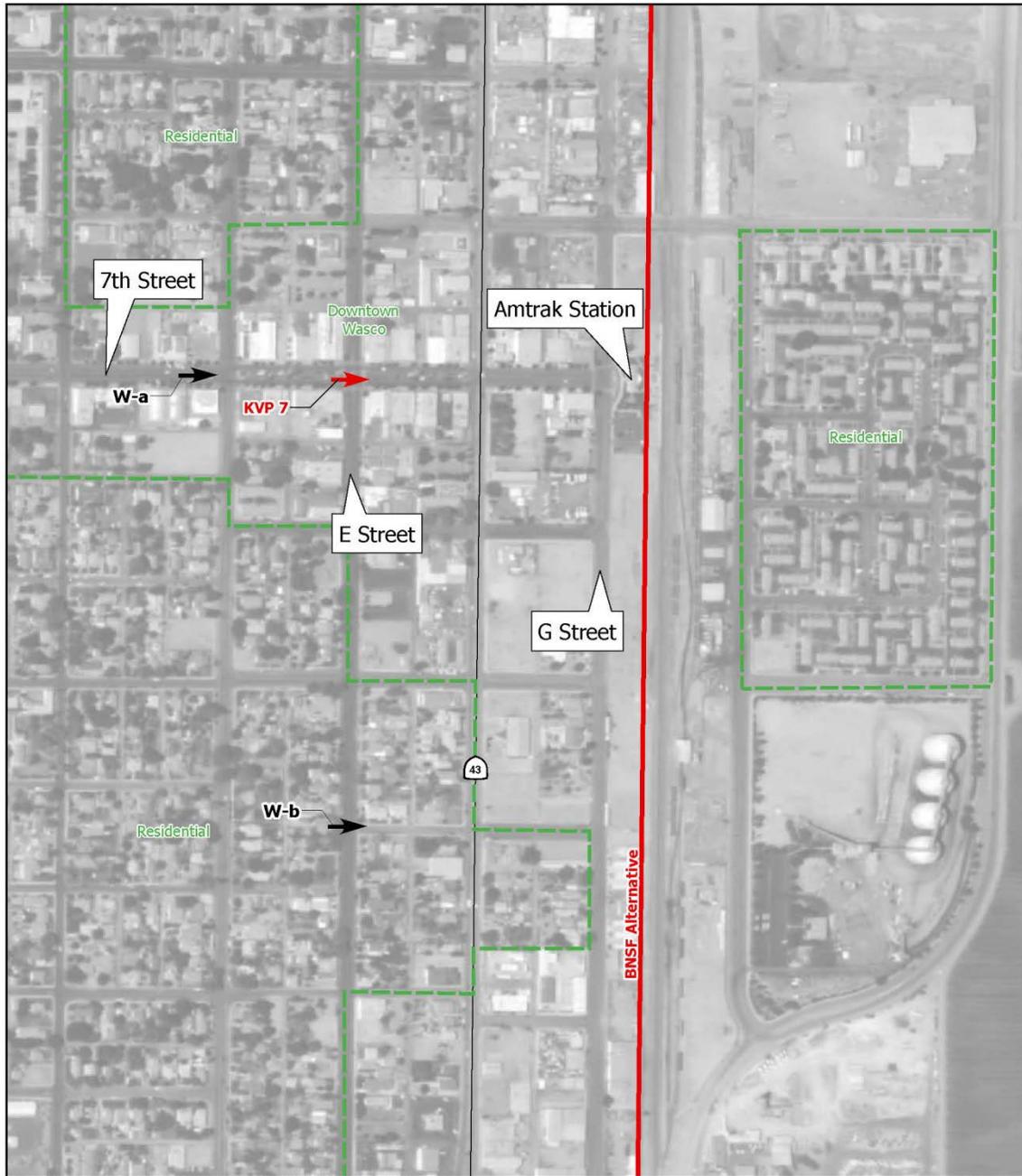
C-b. Alignment from Centennial Park, downtown Corcoran.



C-c. Alignment from Father Wyatt Park, downtown Corcoran.

Source: William Kanemoto & Associates, 2012

Figure 4-16
Representative viewpoints: Central Valley Rural/Agricultural Landscape Unit
– rural town subtype (Corcoran)



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED
 Source: William Kanemoto & Associates, 2012; DigitalGlobe Imagery, 2009

July 13, 2012

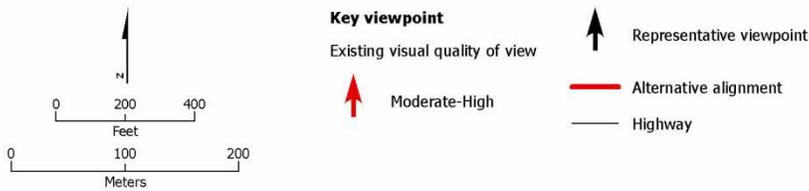


Figure 4-17
 Key viewpoint: Wasco



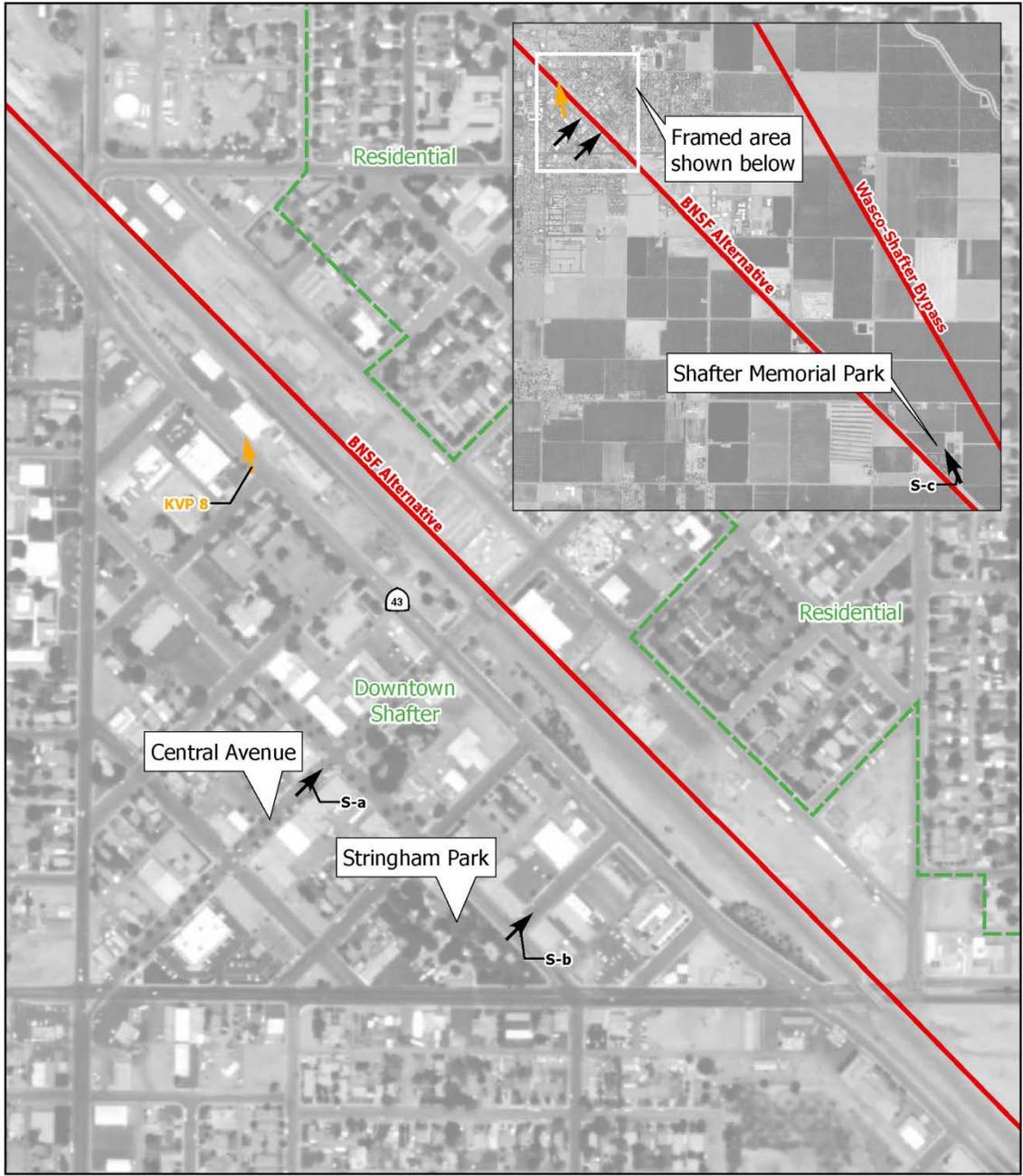
W-a. Downtown Wasco, looking toward Amtrak station, 7th Street.



W-b. Alignment from residential neighborhood, central Wasco.

Source: William Kanemoto & Associates, 2012.

Figure 4-18
Representative viewpoints: Central Valley Rural/Agricultural
Landscape Unit – rural town subtype (Wasco)



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED
 Source: William Kanemoto & Associates, 2012; DigitalGlobe Imagery, 2009

July 13, 2012

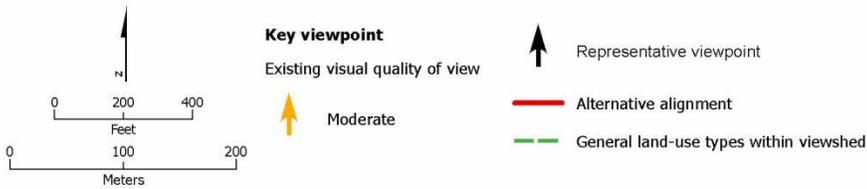


Figure 4-19
 Key viewpoint: Shafter



S-a. Alignment from downtown Shafter.



S-b. Alignment from Stringham Park, downtown Shafter.



S-c. Alignment at Shafter Memorial Park.

Source: William Kanemoto & Associates, 2012

Representative viewpoints: Central Valley Rural/Agricultural Landscape Unit – rural town subtype (Shafter) **Figure 4-20**

4.4.2.5 HST Passengers

Visual quality for HST passengers would essentially be that of the landscape subtype through which the HST would pass. However, one difference would be enhanced vividness of views from elevated segments. In this extremely level landscape, long views over open land resulting from even slightly elevated viewpoints are rare and improve the quality of views, extending their distance and opening views to a broader expanse of landscape features.

4.4.2.6 Section 106/4(F) Viewpoints

Section 4(f) of the Department of Transportation Act calls for the preservation of the natural beauty of the countryside, public park and recreation lands, wildlife and waterfowl refuges, and historic sites. Two Section 4(f) viewpoints were identified within this landscape unit: the Colonel Allensworth State Historic Park adjacent to the BNSF Alternative, midway between the towns of Wasco and Corcoran; and the Pixley National Wildlife Refuge, which adjoins the BNSF Alternative for a distance of a little over 1 mile, a short distance north of Colonel Allensworth State Historic Park.

The Colonel Allensworth State Historic Park is a picturesque historic district marking an African-American farm settlement founded in 1908 by the site's namesake, which has been restored since acquisition of portions of the district by the California State Parks in 1974. Because visual integrity of the site's setting is critical to the district's historic integrity and its experience for visitors, visual sensitivity of the park is considered to be very high. Because it adjoins the BNSF Alternative with no visual buffering, visual exposure is also high. Overall viewer response is thus very high.

The park is a unique visual subtype set within the typical valley agricultural landscape. Visual quality of the park is moderately high (Figure 4-21). Although the surrounding landscape is relatively featureless and lacks vivid elements, the intactness of the setting is striking, with few or no anachronistic features to distract from the historic character of the setting. Vividness, though lacking in the landscape, is provided by the homes and structures of the district itself, which are memorable for their historically distinctive and intact quality. The setting is similarly unified, spatially expressing their original agricultural and community functions clearly. In the case of this site, it is considered that the visual integrity of setting is an overriding factor in evaluating visual quality—the intactness of the setting and absence of anachronistic features within the viewshed would be paramount.

Pixley National Wildlife Refuge, located south of Corcoran and north of Allensworth State Historic Park, is another unique visual subtype within the valley landscape, representing the natural, uncultivated San Joaquin Valley landscape. A trailhead and wildlife-viewing platform adjoining a habitat restoration area off of Deer Creek Road and Road 88, roughly 2 miles east of the BNSF Alternative are the only visitor facilities identified. Viewer sensitivity is considered high. However, viewer exposure to the project at this middle ground distance is considered to be moderately low; at a distance of roughly 1.5 miles, the at-grade HST would be visually subordinate and indistinct. Overall anticipated viewer response is thus considered moderate. For this reason no key viewpoint was selected for this site. Visual quality is moderately high. The flat valley wetland setting is somewhat lacking in vivid features. However, its highly intact, highly unified natural setting lends a striking panoramic experience of undisturbed open space. As in many valued natural landscapes within the Central Valley, it is the absence of incongruous, encroaching man-made elements—the high degree of intactness—that is scenically distinctive. The very featurelessness of the landscape creates an experience of vast space that is itself memorable.



A-a. Allensworth State Historic Park view toward BNSF Alternative.



A-b. Allensworth State Historic Park view toward Allensworth Bypass alternative alignment.

Source: William Kanemoto & Associates, 2012.

Figure 4-21
Representative viewpoints: Central Valley Rural/Agricultural Landscape Unit – Colonel Allensworth
State Historic Park

The Santa Fe Railroad Depot in Shafter, also known as the Shafter Depot Museum, directly abuts the BNSF Alternative and is a National Register-eligible historic site. Viewer response is considered high due to the use type, National Register of Historic Places status (high viewer sensitivity), and high viewer exposure to the BNSF Alternative within the immediate foreground. Visual quality on Central Avenue, Shafter's main street, is moderately high due to street tree plantings decorative paving, and other streetscape improvements that contribute to moderately high intactness and unity. However, from SR 43 eastward, including the foreground setting of the project alignment, visual quality becomes moderately low, dominated by utilitarian, industrial uses with little visual unity or coherence, almost no vegetation, and no notably vivid or memorable qualities. The Shafter Depot is within this somewhat barren, visually incoherent setting. Visual integrity of the setting would thus not appear to be an important component of the depot's historic significance.

Table 4-3 summarizes the visual quality and viewer response of the Central Valley Rural/Agricultural landscape unit.

Table 4-3
 Summary Table – Visual Quality and Viewer Response of Landscape Unit 2: Central Valley Rural/Agricultural

Landscape Unit 2: Central Valley Rural/Agricultural			
Landscape Subtypes			
Valley Agricultural Subtype			
Visual Quality: MODERATE		Viewer Response: MODERATELY LOW	
Vividness	Moderate to Moderately Low	Viewer Sensitivity	Low
Intactness	Moderately High to Moderate	Viewer Exposure	Moderately Low
Unity	Moderately High to Moderate		
Rural Residential Subtype			
Visual Quality: MODERATE		Viewer Response: MODERATELY HIGH	
Vividness	Moderate/Moderately Low		(Under 0.25 mile
Intactness	Moderately High	Viewer Sensitivity	High
Unity	Moderately High	Viewer Exposure	Moderately High
Riparian/River Crossing Subtype			
Visual Quality: HIGH		Viewer Response: MODERATE	
Vividness	High	Viewer Sensitivity	Moderately High
Intactness	High	Viewer Exposure	Varies from Low to Moderate
Unity	High		
Small Town Subtype: Corcoran, Wasco, and Shafter			
Visual Quality: MODERATE to MODERATELY HIGH		Viewer Response: MODERATELY HIGH	
Vividness	Moderate	Viewer Sensitivity	High
Intactness	Moderate to Moderately High	Viewer Exposure	Moderately High
Unity	Moderate to Moderately High		

Table 4-3
 Summary Table – Visual Quality and Viewer Response of Landscape Unit 2: Central Valley
 Rural/Agricultural

Landscape Unit 2: Central Valley Rural/Agricultural			
Section 106/4(f) Viewpoints			
Colonel Allensworth State Historic Park			
Visual Quality: MODERATELY HIGH		Viewer Response: HIGH	
Vividness	Moderately High	Viewer Sensitivity	High
Intactness	High	Viewer Exposure	High
Unity	High		
Pixley National Wildlife Refuge			
Visual Quality: MODERATELY HIGH		Viewer Response: MODERATE	
Vividness	Moderate	Viewer Sensitivity	High
Intactness	High	Viewer Exposure	Moderately Low
Unity	High		
Shafter Depot Museum			
Visual Quality: MODERATE		Viewer Response: HIGH	
Vividness	Moderate	Viewer Sensitivity	High
Intactness	Moderate	Viewer Exposure	High
Unity	Moderately Low		

4.4.3 Landscape Unit 3: City of Bakersfield

This landscape unit is defined as the segment from the unincorporated suburban community of Greenacres (Rosedale) north of the city limits to the vicinity of Oswell Street in East Bakersfield. The unit thus extends beyond the city limits of Bakersfield per se, encompassing a variety of subsections with varying character, as described below.

Bakersfield lies at the southern “horseshoe” end of the San Joaquin Valley. To the east lies the Tehachapi Range, a short transverse range connecting the Coast Ranges on the west with the southern end of the Sierra Nevada on the east. About 3 miles northeast of all of the alternative alignments are the low foothills of the Greenhorn Mountains, which are situated at the southern end of the Sierra Nevada and which rise to an elevation of 8,295 feet to the east of the city. Together, the Tehachapi Range and the Greenhorn Mountains form an impressive backdrop to Bakersfield.

The Kern River further defines the town geographically, running along the foot of the hills to the north. The project thus lies near the boundary between two major landscape units, the Central Valley and Tehachapi Mountains. However, all HST alternative alignments in this unit lie within the Valley landscape type, characterized by nearly level terrain supporting a full range of land uses, from rural residential and some agriculture to the east, to a typical spectrum of urban uses, including low-rise residential development, a mid-rise central business district, public parks, schools, business parks, suburban shopping malls, commercial areas, and industrial facilities.

In the center of town, the BNSF, Bakersfield South, and Bakersfield Hybrid alternatives follow the existing BNSF Railway corridor and railyard that currently divide the town center between north

and south. As in Fresno, portions of the alignment that follow existing rail lines are largely typified by industrial development, storage areas, and other utilitarian uses of generally low sensitivity and visual quality. However, because the HST would be elevated throughout the city, the area of potential visibility may often extend far beyond the immediate right-of-way, affecting the full range of land use types.

The city's central business district (CBD) is north of existing railyards in this central segment. Truxtun and Chester avenues form the major axes of the CBD, and both are characterized by prominent center median tree planting and landscaping within the CBD that enhances the quality of the streetscape. California Avenue, south of the BNSF Railway yard, is also a major east-west axis, with intermittent center median landscaping.

As in the city of Fresno, relevant landscape subtypes within Bakersfield are described below, grouped for convenience by project alignment segment, proceeding in sequence from north to south. Figure 4-22 depicts an overview of these subsegments of the alternative alignments. Relevant landscape subtypes are depicted by green lines in the close-up mapping of sub-segments in Figures 4-23, 4-25, and 4-27.

4.4.3.1 Greenacres (Rosedale): Hageman Road to Calloway Drive

For a segment of roughly 4 miles from the point where SR 43 diverges from the BNSF Railway line north of Bakersfield, the BNSF, Bakersfield South, and Bakersfield Hybrid alternatives follow the existing BNSF Railway right-of-way through an unincorporated suburban residential area, Greenacres (Rosedale), for roughly 2 miles before diverging eastward south of SR 58. Adjacent land uses in this segment include industrial and commercial uses and empty parcels. However, the principal adjoining use consists of dense suburban residential development that continues until the vicinity of Calloway Drive. In addition, the existing BNSF right-of-way in this segment is extremely narrow, with as little as 100 feet separating residences across the right-of-way.

Beginning south of SR 58, the alternative alignments diverge from the BNSF right-of-way, and for roughly 1.5 miles between SR 58 and Calloway Drive the BNSF, Bakersfield South, and Bakersfield Hybrid alternatives could require the taking of a substantial number of residences. Visual character is typical of single-story, single-family residential development, mostly built during the latter half of the 20th century. Figure 4-23 depicts landscape subtypes and Figure 4-24 shows representative viewpoints of potentially affected viewer groups in the vicinity of the project alignments.

Suburban residential development is a land use with high public sensitivity and the potential for adverse visual impacts. Views of the project would be experienced by residents repetitively, would be of extended duration, and would have a high personal significance to the viewers.

Visual exposure to the BNSF, Bakersfield South, and Bakersfield Hybrid alternatives within this subtype is variable. Most or all neighborhoods are partially screened from the existing rail line by fencing, community walls, and landscaping. However, the net potential viewer response is considered high, due to very close proximity of relatively large numbers of residents (in the hundreds) to the alignment, and to their high viewer sensitivity. Even adverse impacts of low intensity can stimulate controversy within highly sensitive views.

Visual quality of the typical suburban residential setting of Greenacres (Rosedale) is moderate overall. Vividness, intactness, and unity are all generally moderate, and most neighborhoods are characterized by wide front lawns and mature landscaping. Portions of all the alternative alignments would be elevated in this segment; some number of homes will need to be acquired, and the project will cut through some residential portions of the community.

Both alignments also cross three major arterial roads in this segment, four-lane SR 58, four-lane Calloway Drive, and six-lane Coffee Road. Sensitivity of motorists on these routes is considered to be moderate to moderately low. Viewer activity consists largely of commuting and work-related travel, with a high proportion of trucking and material transport. Figure 4-24 provides views of the BNSF, Bakersfield South, and Bakersfield Hybrid alternatives at the crossings of SR 58 and Glen Street.

4.4.3.2 Kern River: Calloway Drive to Kern River Parkway

From the vicinity of Calloway Drive eastward for approximately 2.5 miles, both the BNSF and the Bakersfield South alternatives leave the residential area of Greenacres (Rosedale) and pass through an area north of the Kern River consisting of large areas of vacant land, highly disturbed by extensive grading and landform alteration, and a visually dominant oil refinery to the north. Figure 4-25 depicts landscape subtypes and representative viewpoints of potentially affected viewer groups in the vicinity of the alternative alignments in this subsegment.

Kern River Floodplain Industrial

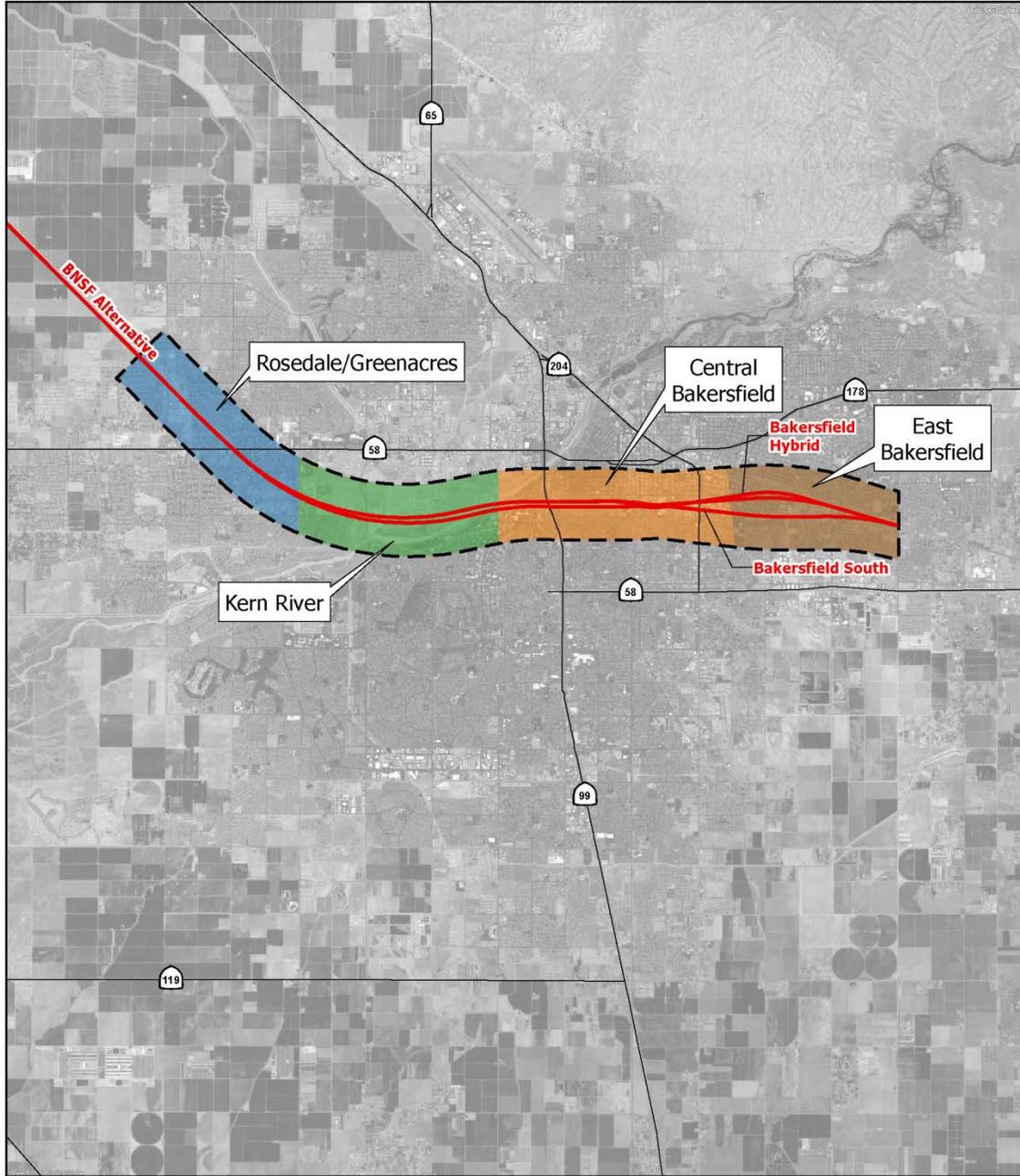
Viewers of this subtype would be largely limited to motorists on Coffee Road in the Greenacres (Rosedale) segment, discussed above; and viewers from Truxtun Avenue and the Kern River Parkway, in the Kern River Parkway segment, discussed below. There are no sensitive viewers within the subtype itself. Viewers within the subtype would be limited mainly to refinery employees.

Figure 4-26, KR-a, provides a representative view of the BNSF, Bakersfield South, and Bakersfield Hybrid alternatives from the Kern River floodplain in this industrial area. This segment is of very low visual quality and viewer response. Visual quality has been adversely affected by disturbed vacant land and an oil refinery.

Kern River, Kern River Parkway/Truxtun Avenue

At the end of this subsection, the BNSF, Bakersfield South, and Bakersfield Hybrid alternatives cross over the Kern River, which flows seasonally, and the Kern River Parkway, which includes landscaped park areas, a bike trail, and an artificial lagoon just south of both the BNSF and the Bakersfield South alternatives. The river serves to separate the broad industrial and suburban areas to the northwest from the older center of town and associated residential areas, shopping centers, and business parks to the east. The segment of the alternative alignments from Coffee Road to the river would be visible primarily from Truxtun Avenue and the Kern River Parkway Bike Trail at foreground distances of 0.5 mile or less.

Viewer sensitivity of Parkway and bike trail users, a recreational, scenery-oriented viewer group, is high. Visual exposure, however, is moderate. Despite the foreground distances to the alternative alignments, most views from Truxtun Avenue and the adjoining, parallel bike trail are filtered by dense landscaping at the edge of the road, within the parkway, as well as by riparian vegetation on both banks of the river. This and distance reduce visual exposure to a moderately low level for all but the actual alignment crossing of river and road. In the immediate foreground of the alignment crossing, viewer exposure would be high within roughly 0.25 mile to the south on Truxtun Avenue, the parkway, and bike trail. Truxtun Avenue enters an undercrossing beneath the existing rail line to the north, which tends to visually isolate portions of the road and parkway to the north from the alignment crossing. Overall, viewer response in the Parkway/Truxtun Avenue is moderately high.

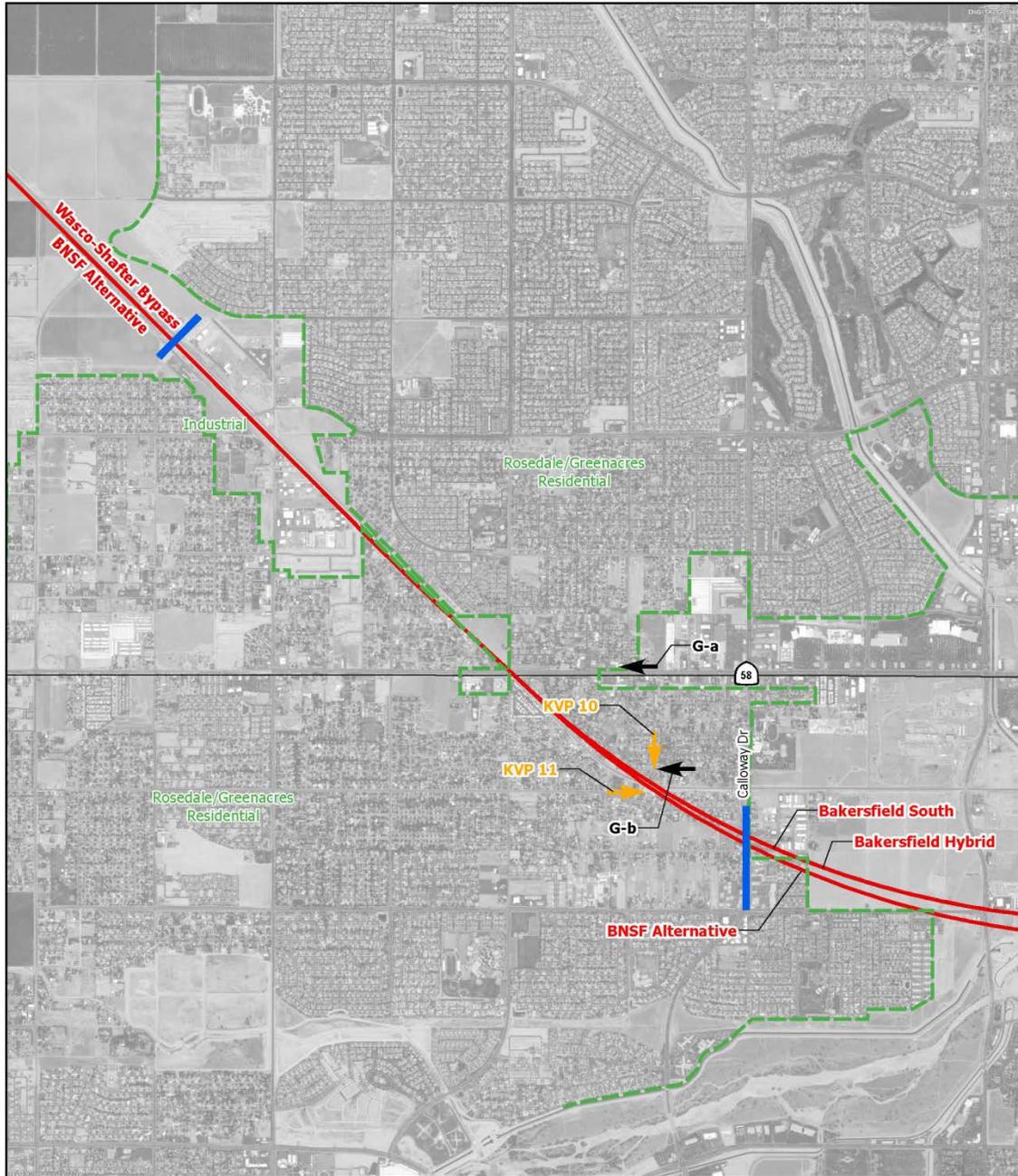


PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED
 Source: William Kanemoto & Associates, 2012; DigitalGlobe Imagery, 2009; URS, 2012

July 13, 2012



Figure 4-22
 Landscape Unit 3: Bakersfield landscape subsections



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED
 Source: William Kanemoto & Associates, 2012; DigitalGlobe Imagery, 2009

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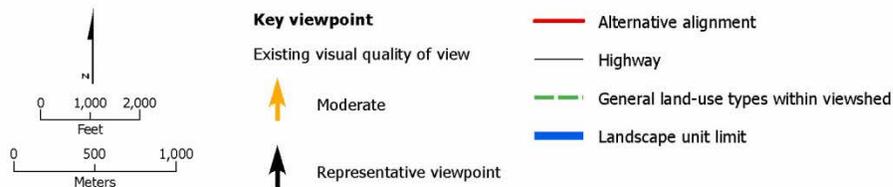


Figure 4-23
 Key viewpoints: Rosedale/Greenacres subsection



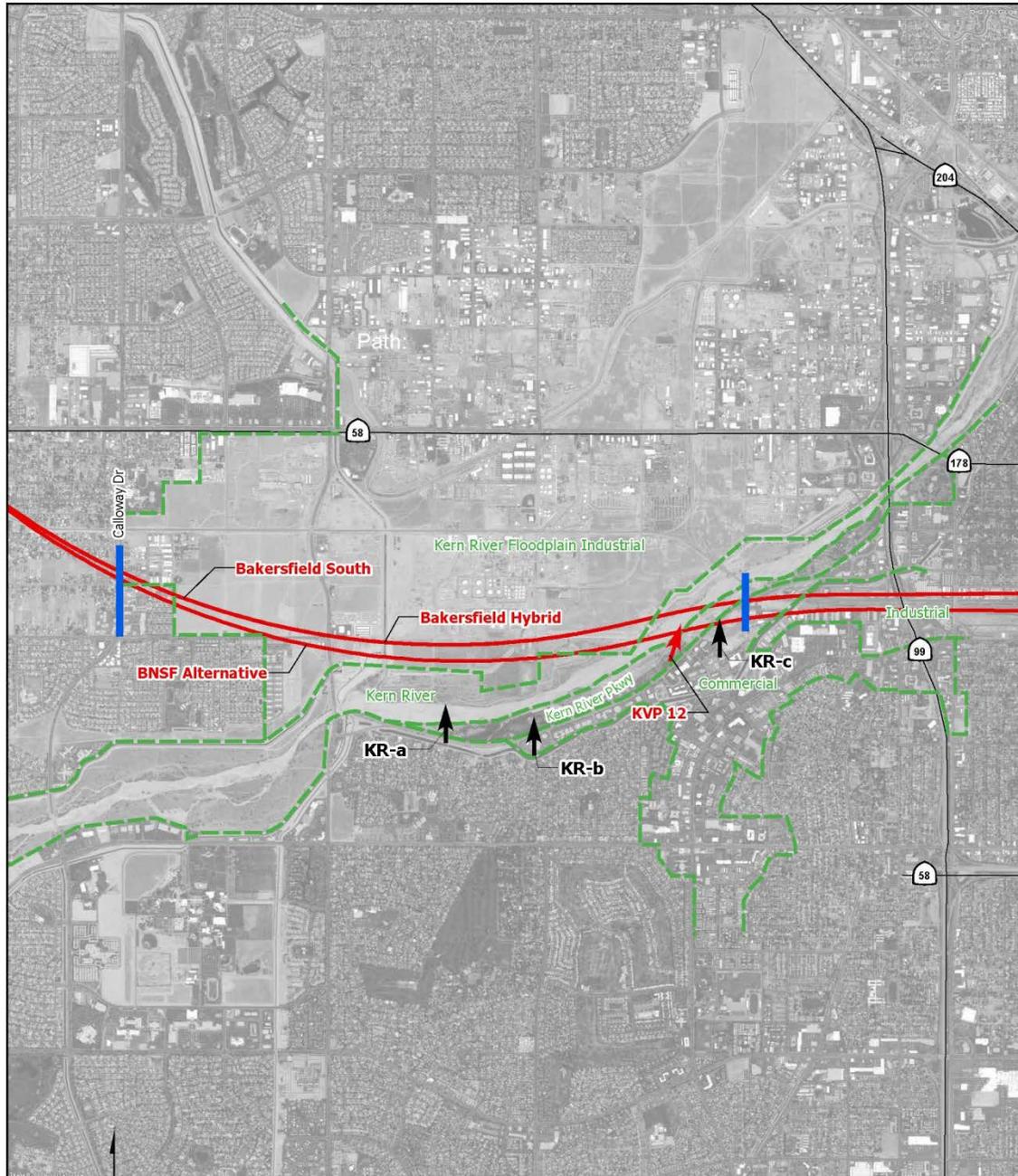
G-a. Alignment crossing at Highway 58, Greenacres (Rosedale), looking west at ½ mile (0.8 kilometer).



G-b. Alignment crossing, Glen Street, Greenacres (Rosedale), looking west at 500 feet (152.4 meters).

Source: William Kanemoto & Associates, 2012.

Figure 4-24
Representative viewpoints: Bakersfield landscape Unit – Rosedale/Greenacres subsection



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED
 Source: William Kanemoto & Associates, 2012; DigitalGlobe Imagery, 2009

July 13, 2012

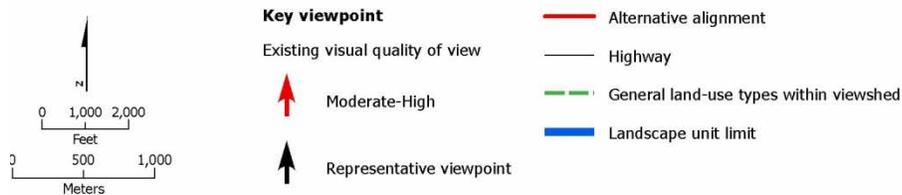


Figure 4-25
 Landscape types and key viewpoints: Kern River subsection

A small area of retail and office commercial uses line Truxtun Avenue to the southeast in this segment. Viewer sensitivity of these activity types is considered generally moderate. Views of the project from the road and parkway in the vicinity of these land uses are somewhat buffered by landscaping. From the developments themselves, exposure is further limited by their inward orientation, away from the river and parkway and toward the center of the developments, reducing viewer exposure to the project. Viewer response of these uses is, therefore, moderate.

Visual quality of this landscape subtype is moderately high. Although the river is dry and the floodplain appears somewhat barren for much of the year, its vividness is enhanced at those times by riparian vegetation on both banks of the river, including a large area of restored riparian woodland, trails and a large, attractive artificial lagoon which the parkway bike trail passes north of Truxtun Avenue. Abundant landscaping along Truxtun Avenue in this area not only provides an aesthetic amenity but also tends to focus views toward points within the parkway. Figure 4-26, KR-b, provides a representative view of both alternative alignments from the Kern River Parkway. However, the proposed alignment crossing itself is a small segment with moderately low visual quality, in a relatively desolate, unimproved portion of the river corridor near the existing railroad crossing, devoid of vegetation and situated between improved, landscaped portions of the parkway and Truxtun Avenue. Figure 4-26, KR-c, provides a view of the BNSF, Bakersfield South and Bakersfield Hybrid alternatives at the actual point where the alignments would cross the river into downtown Bakersfield.

South of Truxtun Avenue in this segment, a number of residences are within foreground distance of the project alignments. However, of these only three have open views from upper story windows to the alternative alignments at a distance of roughly 0.4 mile. The rest are visually isolated from the alignments by backyards, landscaping, community walls, and landscaping along the Kern River Parkway. Given its negligible visual exposure to the project, this residential area is not analyzed further.

4.4.3.3 Central Bakersfield: Kern River to Union Avenue

SR 99 lies a short distance east of the Kern River Parkway. The segment from here to roughly Union Avenue to the east encompasses central Bakersfield, including the BNSF Railway yard and the city's downtown/central business district, which lies north of the BNSF, Bakersfield South, and Bakersfield Hybrid alternatives. All alternative alignments pass within feet of the heart of the city's downtown center, including most of the major city and county governmental offices, the city arena and convention center, the Condors' pro hockey stadium, as well as a hospital and a high school. Both Bakersfield station alternatives would be at the eastern limit of this segment near Union Avenue. Figure 4-27 depicts landscape subtypes and representative viewpoints of potentially affected viewer groups in the vicinity of the alternative alignments. On Figure 4-27, Central Bakersfield subsection, the black arrows show locations and orientations of photos in Figures 4-28, 4-29, 4-30a, and 4-30b. The colored arrows indicate locations of key viewpoints described in the impact analysis in Chapter 5.0, Environmental Consequences.

Railyard Industrial

Throughout this segment, the BNSF, Bakersfield South, and Bakersfield Hybrid alternatives parallel the existing rail yard that divides the town between north and south, traversing an area of predictably industrial use, including auto wrecking, warehouses, storage yards, vacant land, and parking. Typical of such areas, viewer response and visual quality are both low, as discussed previously in relation to similar areas in the city of Fresno.

Except for a small portion of the proposed North Station Alternative, nearly all of the project features, including guideways, station, and associated parking structures, would be situated and seen within this landscape subtype. Figure 4-28 provides representative viewpoints of this

landscape subtype. All of these views are applicable to the BNSF, Bakersfield South, and Bakersfield Hybrid alternatives.

Central Bakersfield Residential

The northern portion of this segment of both alternative alignments west of the central business district and most of the segment south of California Avenue between SR 99 and Union Avenue comprise extensive older residential single-story, single-family neighborhoods dating from the early to the mid-twentieth century.

Viewer sensitivity for urban residential areas is considered to be high. Typically, residents are considered sensitive to visual change due to prolonged periods spent at home and the high value placed on one's home environment generally.

Homes are oriented facing the east-west streets within 0.5 mile of the project alignments. For 0.5 mile between Oak and A streets, residences are as close as 200 feet to the north of the Bakersfield South and Bakersfield Hybrid Alternatives. Neighborhoods to the south of California Avenue are as close as 800 feet from the BNSF Alternative centerline, on the southern side of California Avenue. Consequently, the alignments are within the foreground distance zone for hundreds of residences, and many are within a 0.25-mile distance zone. Viewer exposure to the project from within these neighborhoods is moderated by the orientation of homes toward the east-west street grid. View corridors oriented toward the alignments would be directed primarily along north-south-oriented collector streets, and not down the residential neighborhood streets themselves. This would tend to limit the periods of exposure of most residents to the times when they are traveling to and from home, rather than while at home. These south-facing view corridors are also highly filtered in many locations by mature street tree canopy. However, because of the proximity to the alignments, visibility and awareness of the project would be high within a 0.25-mile distance zone. Awareness of the project would decline rapidly outside of that zone due to diminishing project dominance and filtering of foreground elements.

For approximately 45 residences very close to the alignments on 16th Street between Oak and A streets, exposure is potentially high. Jastro Community Park and Franklin Elementary School are within 550 feet of the centerlines of the Bakersfield South and Bakersfield Hybrid alternatives in this area, with a moderate level of visual exposure to the alignments from adjoining south-facing streets (Figure 4-29). Exposure of the park and school is moderated by intervening tree canopies and homes. Overall viewer response is thus considered high in the immediate project foreground, but moderate beyond that distance.

Tree-lined streets predominate within these residential neighborhoods. A preponderance of relatively high density, large-scale, mature tree canopies provide a visually unifying character that also masks the presence of visually incongruous features such as power poles, etc. Overall visual quality is considered moderately high.



KR-a. Kern River floodplain, View from Kern River Parkway looking north, from approximately 0.25 mile (0.4 kilometer).



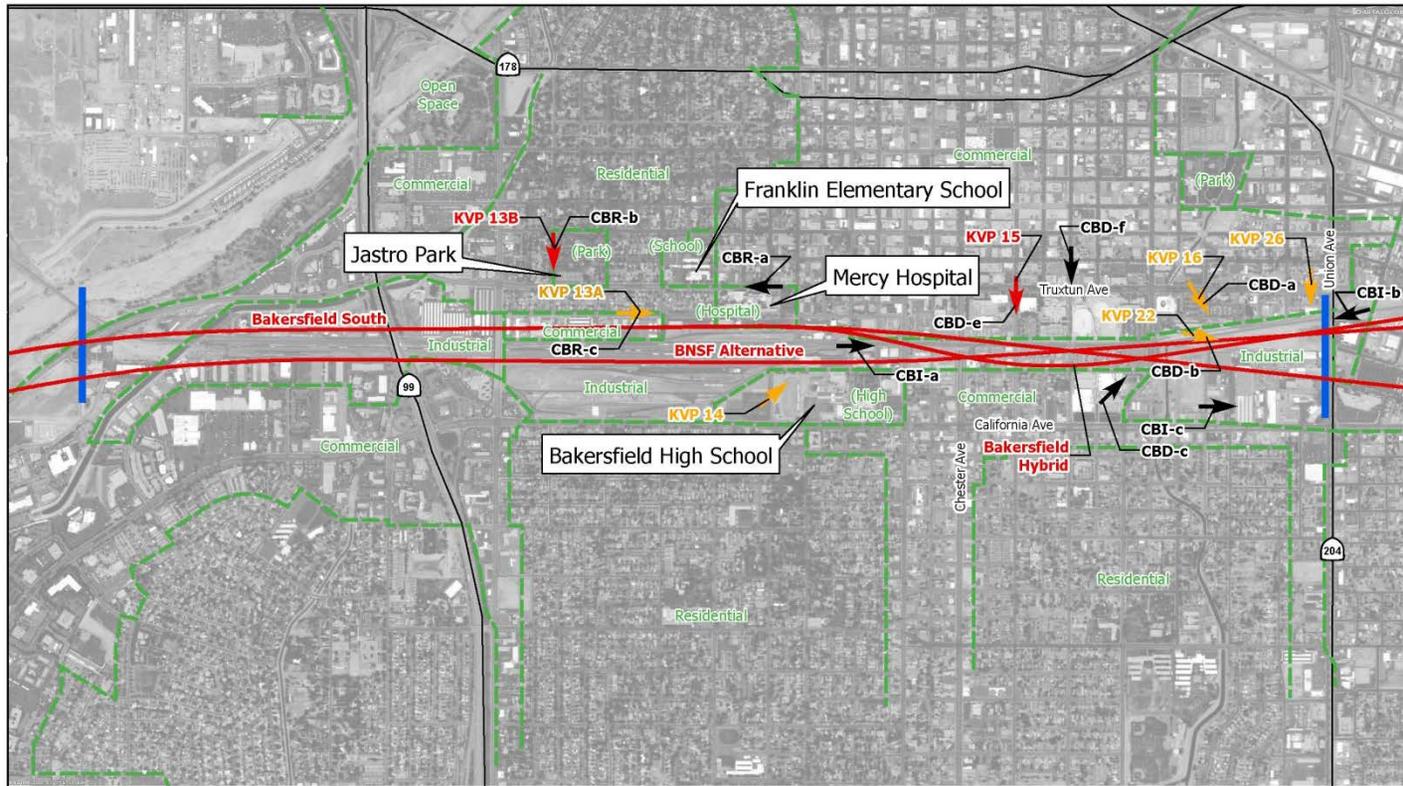
KR-b. Kern River Parkway, looking north from Truxtun Avenue.



KR-c. Alignment crossing from Kern River Parkway, looking north from 400 feet (122 meters).

Source: William Kanemoto & Associates, 2012

Figure 4-26
Representative viewpoints: Kern River subsection



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED
 Source: William Kanemoto & Associates, 2012; DigitalGlobe Imagery, 2009

July 13, 2012

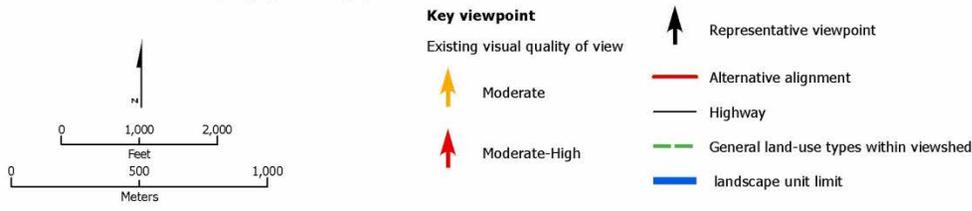


Figure 4-27
 Representative viewpoints: Central Bakersfield subsection (Black arrows show locations and orientations of photos in Figures 4-28, 4-29, 4-30a, and 4-30b.)



CBI-a. Project alignments looking east near Chester Avenue, downtown Bakersfield.



CBI-b. Northern station site option, at alignment, looking west at Union Avenue.



CBI-c. South station site option, looking east from 400 feet (122 meters).

Source: William Kanemoto & Associates, 2012

Figure 4-28
Representative viewpoints: Bakersfield landscape Unit – Railyard industrial (project alignments and station sites)



CBR-a. Central Bakersfield residential, from Truxtun Avenue looking west. Homes to left are within 350 feet (107 meters) of Bakersfield South Alternative Alignment.



CBR-b. Jastro Park, looking south, 800 feet (244 meters) toward Bakersfield South Alternative Alignment.



CBR-c. BNSF Alternative Alignment from 16th Street, looking east. Industrial uses on right would be replaced by Bakersfield South Alternative Alignment.

Source: William Kanemoto & Associates, 2012

Figure 4-29

Representative viewpoints: Bakersfield landscape Unit - Central Bakersfield residential

Central Business District (CBD)

This subsection of the alignment is marked to the west by Mercy Hospital, which directly adjoins the Bakersfield South and Bakersfield Hybrid Alternatives at a distance of 150 feet or less from the centerline. Portions of Bakersfield High School, an eligible state and federal historic site, lie within the proposed right-of-way of the BNSF Alternative. Truxtun Avenue, the downtown main street, runs east-west paralleling the project alignments, as little as 400 feet to the north. The City of Bakersfield and Kern County governmental centers are located along Truxtun Avenue in this segment in the vicinity of Chester Avenue. The city arena and convention center, the Condors' pro hockey stadium, the city library, and the Amtrak station are just east of the government center. The Bakersfield HST Station would stand to the southeast of these.

Viewer sensitivity is moderately high due to the concentration of high profile public uses in the CBD, and the importance of any actions that have the potential to adversely affect the city's visual image. Visual exposure in this segment is high, due to the high numbers of viewers in the CBD, high potential visibility, and duration of view of the proposed elevated guideways from numerous locations, and due to the immediate proximity of Truxtun Avenue and its important commercial and civic land uses to the alignments. Overall, visual exposure to project features would be moderate from Truxtun Avenue northward within the foreground zone, and high south of Truxtun Avenue. Overall, viewer response is considered to be moderately high. Figures 4-30a and 4-30b provide views toward the alternative alignments in the CBD.

Truxtun and Chester avenues form the central axes of downtown Bakersfield, with civic and office buildings ranging from 1 to 12 stories high in a wide range of styles establishing a predominantly modern downtown image. Both Truxtun and Chester avenues are landscaped with side- and center-median street tree planting and landscaping that lend a moderately high level of intactness and unity to the streetscape. Distinctive nineteenth- and early twentieth-century high-rise buildings are scattered within the district, contributing a vivid and unifying visual element. Overall, visual quality along this streetscape is moderately high.

Highway Viewers

Viewer sensitivity of views from highways passing through Bakersfield is moderate. The highway system may play a secondary role in disclosing the city image simply because it is not extensive, and elevated portions do not present highly vivid views of the skyline or other prominent landmarks and striking features. The only elevated freeway with potentially prominent views of the project is north-south oriented SR 99, about 1.5 miles west of downtown at its nearest point. The project would cross above SR 99 at a height of approximately 60 feet. Viewer exposure to prominent views of this project crossing would be unobstructed but relatively brief, within the immediate foreground of the crossing. Viewer numbers would be very high. Overall, viewer response is considered moderate.

The only elevated freeway with potentially prominent views of the project is north-south oriented SR 99, about 1.5 miles west of downtown at its nearest point. Despite the relative proximity of SR 99 to the downtown area, the city's skyline is not highly evident from this segment or from the vicinity of the project crossing. Motorists thus enjoy views of moderate visual quality, enhanced by their elevated viewing position, which affords wide, panoramic views of the city. However, these views generally lack highly vivid or striking elements. Views of the Green Mountains foothills north of town are visible at times but are relatively low and often obscured by haze. The Tehachapi Mountains are not prominent from these locations within the city.



CBD-a. Northern station option from Amtrak station, looking southeast.



CBD-b. Northern station option from Truxtun Avenue, looking southeast. Station would begin behind building in foreground.



CBD-c. Overview of alignments and station area from Aquatic Center.

Source: William Kanemoto & Associates, 2012

Figure 4-30a
Representative viewpoints: Bakersfield landscape Unit - Bakersfield Central Business District



CBD-d. Chester Avenue at 19th Street, looking south toward alignment at 0.3 mile (483 meters).



CBD-e. Chester Avenue at 17th Street, looking south toward alignment at 850 feet (259 meters).



CBD-f. N Street at Truxtun Avenue, looking south toward alignment from 800 feet (244 meters).

Source: William Kanemoto & Associates, 2012

Figure 4-30b
Representative viewpoints: Bakersfield landscape Unit - Bakersfield Central Business District

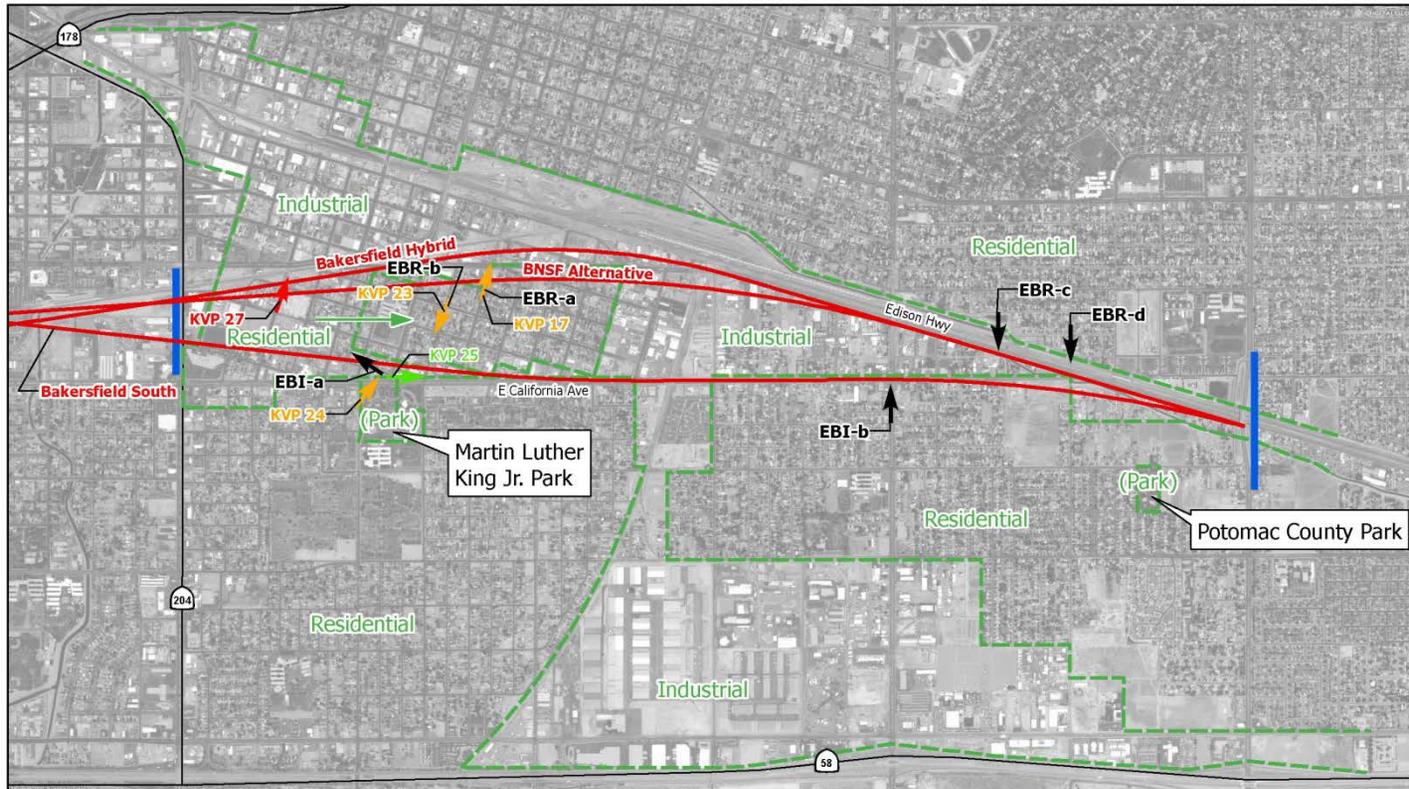
4.4.3.4 East Bakersfield: Union Avenue to Oswell Street

East of Union Avenue, the three alternative Bakersfield alignments diverge. The BNSF Alternative turns northward to parallel Truxtun Avenue and Edison Highway to their south; the Bakersfield South Alternative turns southward to parallel East California Avenue; and the Bakersfield Hybrid Alternative passes north of Truxtun Avenue, roughly paralleling the existing BNSF railroad tracks. The alignments converge at Oswell Street, which is the terminus of this analysis (see Figure 4-31).

Immediately east and south of the proposed Bakersfield Station, the BNSF Alternative lies largely within an industrial zone of low visual quality (Figure 4-32, EBI-a). This area south of the existing BNSF tracks east of Union Avenue is characterized by warehouses, worker parking, and material storage, with low visual unity, no intactness, and no vividness. Industrial workers in the workplace would be the principal viewers in this area, and would have low sensitivity to the visual effects of the alternatives. Between Baker and Brown Streets, the BNSF Alternative would pass through a small, isolated residential neighborhood surrounded by industrial uses over a distance of roughly 8 blocks (Figure 4-33, EBR-a, and Figure 4-33, EBR-b). A large number of residential parcels would require relocation, while many of the remaining parcels would adjoin the right-of-way. The entire community, including a middle school and several churches, lies within 0.25 mile of the alternative alignments in a section where the HST would be elevated.

Viewer sensitivity, viewer exposure and thus overall viewer response of these residents would be high due to their parcels' close proximity to the alignment. Although visual unity and vividness are moderately low, tree plantings and landscaping lend a degree of intactness, and the overall visual quality of the neighborhood is generally moderate. East of this residential neighborhood to the terminus at Oswell Street, the rest of the project alignment in east Bakersfield parallels freight railroad lines south of Edison Highway, passing through an industrial zone of low visual quality. Like the industrial area near Union Avenue described previously, this area is characterized by light industrial uses of very low vividness, intactness and unity, dominated by open material and equipment storage, parking, and a general lack of concern with visual order (Figure 4-32, EBI-b). The alignment also passes within 0.25 mile or less of residential neighborhoods to the north of Edison Highway. However, while the viewer sensitivity of residents is assumed to be high, visual exposure to the alignments by residential viewers in these neighborhoods east of Brown Street is limited (Figure 4-34). The alignment is nearby but does not bisect these residential areas. Views are isolated and filtered by intervening industrial land uses of low visual quality, including the BNSF freight rail right-of-way, Edison Highway, and other foreground features. Thus, although the visual quality of the neighborhoods is similar to that of the area near Union Avenue described above, viewer exposure is moderately low and the overall viewer response east of Brown Street would be moderately low.

Until the vicinity of Brown Street, the conditions of the Bakersfield South Alternative would be similar to those of the BNSF Alternative. East of Brown Street, the Bakersfield South Alternative would occupy the center median of East California Avenue. East California Avenue is a major east-west travel corridor characterized by a mix of unrelated land uses that exhibit very low visual unity due to their disparate nature. Though mainly characterized by light industrial uses with low visual intactness and unity and low viewer sensitivity, pockets of commercial and even residential uses also occur, with correspondingly higher levels of viewer sensitivity. Overall, the visual quality of the East California Avenue corridor is moderately low. Viewer response, however, is considered moderate overall due to the scattered presence of higher-sensitivity uses immediately adjoining the right-of-way, including residences and churches. Dr. Martin Luther King Jr. Park abuts East California Avenue immediately south of the Bakersfield South Alternative. Visual quality of the grassy, well-landscaped park is moderately high, and viewer sensitivity, exposure, and overall response are also considered high.



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HST ALIGNMENT IS NOT DETERMINED
 Source: William Kanemoto & Associates, 2012; DigitalGlobe Imagery, 2009; URS, 2012

July 13, 2012

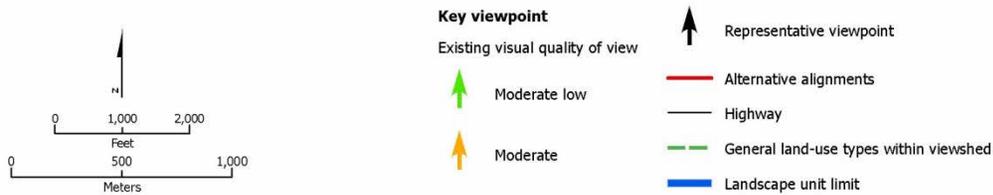


Figure 4-31
 Key viewpoints: East Bakersfield subsection



EBI-a. East Bakersfield industrial image type from Martin Luther King Jr. Park at California Avenue and King Street, looking northwest.



EBI-b. East Bakersfield industrial, strip commercial image type. Bakersfield south alignment at Mt. Vernon and E. California Avenues, looking north from 400 feet (122 meters).

Source: William Kanemoto & Associates, 2012.

Figure 4-32
Representative viewpoints: Bakersfield landscape Unit - East Bakersfield industrial image types



EBR-a. BNSF, Bakersfield Hybrid alignments from Robinson St., looking north



EBR-b. Bakersfield South alignment from Owens St., looking south

Source: William Kanemoto & Associates, 2012.

Figure 4-33
Representative viewpoints: Bakersfield landscape Unit – East Bakersfield residential images



EBR-c. Canal St. looking south toward BNSF, Bakersfield Hybrid alignments



EBR-d. Barlow St. looking south toward BNSF, Bakersfield Hybrid alignments

Source: William Kanemoto & Associates, 2012.

Figure 4-34
Representative viewpoints: Bakersfield landscape Unit – East Bakersfield residential types, looking south to the BNSF and Bakersfield Hybrid alternatives

The Bakersfield Hybrid Alternative would occupy the same landscape units (Central and East Bakersfield Landscape Units) and affect the same general viewer groups as the BNSF Alternative previously described. East of the station site, located at V Street under this alternative, the Bakersfield Hybrid Alternative would proceed eastward to the north of the BNSF Alternative, paralleling the existing BNSF railroad line and largely avoiding the residential neighborhood east of Union Avenue between Inyo and Brown Streets described above.

Table 4-4 summarizes the visual quality and viewer response of the city of Bakersfield landscape unit.

Table 4-4

Summary Table – Visual Quality and Viewer Response of Landscape Unit 3: City of Bakersfield

Landscape Unit 3: City of Bakersfield			
Subsections:			
Greenacres (Rosedale)			
Landscape Subtype			
Suburban Residential			
Visual Quality: MODERATE		Viewer Response: HIGH	
Vividness	Moderate	Viewer Sensitivity	High
Intactness	Moderate	Viewer Exposure	High
Unity	Moderate		
Kern River: Calloway Road to Kern River Parkway			
Landscape Subtype			
Kern River Floodplain Industrial			
Visual Quality: LOW		Viewer Response: LOW	
Vividness	Low	Viewer Sensitivity	Low
Intactness	Low	Viewer Exposure	Moderately Low
Unity	Low		
Kern River, Kern River Parkway, Truxtun Avenue			
Visual Quality: MODERATELY HIGH		Viewer Response: MODERATELY HIGH	
Vividness	Moderately High	Viewer Sensitivity	High
Intactness	Moderately High	Viewer Exposure	Moderate
Unity	Moderately High		
Kern River Residential			
Visual Quality: MODERATE		Viewer Response: LOW	
Vividness	Moderate	Viewer Sensitivity	High
Intactness	Moderate	Viewer Exposure	Low
Unity	Moderate		

Table 4-4

Summary Table – Visual Quality and Viewer Response of Landscape Unit 3: City of Bakersfield

Central Bakersfield (Kern River to Union Avenue)			
Landscape Subtype			
Railyard Industrial/Project Alignments			
Visual Quality: LOW		Viewer Response: LOW	
Vividness	Low	Viewer Sensitivity	Low
Intactness	Low	Viewer Exposure	Low
Unity	Low	Light Industrial and Strip Commercial	
Central Bakersfield Residential			
Visual Quality: MODERATELY HIGH		Viewer Response: HIGH	
Vividness	Moderately High		(0.25-mile zone)
Intactness	Moderately High	Viewer Sensitivity	High
Unity	High	Viewer Exposure	Moderately High
		Viewer Response: MODERATE	
			(Over 0.25-mile)
		Viewer Sensitivity	High
		Viewer Exposure	Moderate/ Moderately Low
Central Business District			
Visual Quality: MODERATELY HIGH		Viewer Response: MODERATELY HIGH	
Vividness	Moderately High	Viewer Sensitivity	Moderately High
Intactness	Moderately High	Viewer Exposure	Moderately High
Unity	Moderately High		
Highway Viewers			
Visual Quality: MODERATE		Viewer Response: MODERATE	
Vividness	Moderate	Viewer Sensitivity	Moderate
Intactness	Moderate	Viewer Exposure	Moderate
Unity	Moderate		
East Bakersfield—Union to Baker			
Landscape Subtype			
East Bakersfield Residential (Baker to Brown Streets)			
Visual Quality: MODERATE		Viewer Response: HIGH	
Vividness	Moderate	Viewer Sensitivity	High
Intactness	Moderate	Viewer Exposure	High
Unity	Moderately Low		
Acronyms and Abbreviations: HST = high-speed train km = kilometer SR = State Route			

Chapter 5.0

Environmental Consequences

5.0 Environmental Consequences

This chapter describes the impact analysis relating to aesthetics and visual quality for the proposed project. It describes the methods used to determine the impacts of the project and lists the criteria used to conclude whether an impact may be considered substantial. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) adverse impacts accompany each impact discussion.

5.1 Impact Methodology

5.1.1 Aesthetics and Visual Impacts

Visual assessment necessarily has a subjective component and is necessarily qualitative in nature. To reduce the subjective element and make the underlying judgments of the analyses more transparent, consistent, and explicit, various formal methods have been developed by agencies to conduct visual assessment in environmental documents.

As described in Section 4.1, this assessment was conducted according to the FHWA Visual Impact Assessment methodology (FHWA 1988), particularly as applied under guidelines of the Caltrans Standard Environmental Reference (SER), Chapter 27, Visual and Aesthetics Review (Caltrans 2009). This assessment methodology was adapted for this study by the California High-Speed Rail Authority. In Section 4.4, the visual setting of the project alternatives was described, in accordance with the FHWA/Caltrans VIA methodology, in terms of the method's two primary measures, *viewer response* and *visual quality*.

With the assistance of visual simulations, site reconnaissance, and site photography, the critical distance zone of roughly 0.5 mile was defined as the area within which the largest project features could potentially be visually dominant and exert strong effects on existing visual quality of the setting. Beyond that distance, substantial impacts are considered unlikely. In many instances, this zone of potentially substantial impact could be as little as 0.25 mile, depending on the scale of the particular project feature and the particular characteristics of the setting.

Under the assessment methodology, project impacts are evaluated as a function of the degree to which the visual quality of the setting would change in the context of anticipated viewer response. Substantial adverse impacts may occur where substantial declines in visual quality of the setting, as identified by the overall decline in the attributes of vividness, intactness, and unity, are combined with high levels of anticipated viewer response (viewer sensitivity and exposure). In accordance with Caltrans guidance, impacts identified in this way are evaluated according to the following general impact criteria (Caltrans 2009):

- Low (L)—Minor adverse change to the existing visual resource (i.e., decline in visual quality), with low viewer response to change in the visual environment.
- Moderate (M)—Moderate adverse change to the visual resource with moderate viewer response.
- Moderately High (MH)—Moderate adverse visual resource change with high viewer response, or high adverse visual resource change with moderate viewer response.
- High (H)—A high level of adverse change to the resource and a high level of viewer response to visual change.

These thresholds may be represented in a matrix form, as shown in Table 5-1:

Table 5-1
 Matrix of Visual Impact Levels

Change to Visual Quality Due to Project

		High	Moderate	Low
Viewer Response (Sensitivity/Exposure)	High	H	MH	M
	Moderate	MH	M	LM
	Low	M	LM	L

Source: WKA, based on Caltrans impact criteria, above.

In the discussions in this technical report, the summary ratings of viewer response and of existing and with-project visual quality are provided to establish the basis for conclusions; the individual constituent components of those ratings are not given in the text. For greater detail on the individual component ratings underlying the visual quality ratings, see Appendix B.

Individual instances of potential visual impact are evaluated in this technical report from key representative viewpoints according to the procedures and thresholds of the assessment methodology. Overall CEQA findings of project impact significance may be found in the project EIR.

5.1.2 Scenic Vistas and Highways

For purposes of this analysis, “scenic vistas” may refer either to designated scenic viewpoints—ones identified in public documents or formally developed for sightseeing—or to views generally of exceptional scenic quality, particularly if widely recognized or identified in public documents. Examples of scenic vistas include the following:

- Public views of definable, widely recognized natural or manmade scenic features of public interest or concern. These may include mountain peaks, bays, rivers, or other natural features of regional importance; or vivid manmade scenic features such as the Golden Gate Bridge, the Statue of Liberty, or highly vivid city skylines.
- Public views from designated view locations, such as a Caltrans public vista point along a highway; a view overlook in a national or state forest or park; or view locations designated in a land use planning document adopted by federal, state, or local government.

If a project feature would block, interfere with access to, or have a strong adverse effect on such views, it would potentially cause a substantial impact. The viewshed of a designated state or local scenic road is considered to be particularly sensitive to visual impacts in this study.

5.1.3 Historic Buildings, Neighborhoods, and Landscapes

In general, public views of historic properties, neighborhoods, and landscapes are considered to be highly sensitive. The FHWA methodology recognizes local values and goals, and cultural significance, as possible contributing factors to viewer sensitivity.

In addition, under Section 106 of the National Historic Preservation Act, the eligibility of historic properties for listing on the National Register of Historic Places may be adversely affected by visual impacts that impair their historic integrity. Aspects of historic integrity that may be affected by visual impacts include integrity of *setting* and *feeling*, if those criteria are qualifying factors in a historic property's eligibility. In addition, visibility is a key aspect of historic integrity. Properties must not only "retain their essential physical features, but the features must be visible enough to convey their significance" (USDI 1997). Visual impacts that adversely affect the eligibility or visibility of identified historic properties could thus represent a substantial adverse impact.

Similarly, public parks, recreation areas, wildlife and waterfowl refuges, and historic sites, as identified under Section 4(f) of the USDOT Act of 1966 (PL 89-670), are defined as high-sensitivity viewpoints in this study.

Potential Section 106 and 4(f) visual impacts were considered in this analysis. Properties of concern were identified by the cultural, 4(f), and visual project teams through record reviews and site reconnaissance. The purpose of the review in this visual analysis is simply to characterize the level and type of visual impact expected at these sites, which are presumed in the visual analysis to be of high viewer sensitivity. The main analysis of visual impacts in this study thus reflects the special sensitivity of such sites. The actual determination of Section 106 and 4(f) significance, however, is presented in the Historic Property Survey Report, the Finding of Effect Report, and the 4(f) Section of the EIR/EIS.

5.2 Impacts

Impacts on the existing visual character or quality of the potentially affected sites and their surroundings in the cities of Corcoran, Wasco, Shafter, and Bakersfield, as well as within and near Colonel Allensworth State Historic Park, would be substantial. Impacts on the city of Fresno would be mitigated to a less than substantial level. Impacts on Corcoran, Wasco, Shafter, Bakersfield, and Colonel Allensworth State Historic Park would not be fully mitigated. Impacts on Corcoran, Wasco, Shafter, and Allensworth Historic Park would be avoided or minimized by the Corcoran Bypass, Wasco-Shafter Bypass, and Allensworth Bypass Alternative alignments.

In the rural valley, the high degree of visual contrast created by the HST and the moderately high viewer response of affected adjacent rural residents would result in changes to visual character that would adversely affect visual quality. The HST would remain visually prominent and out of character with the existing agricultural setting. Visual impacts on residents residing within 0.25 mile of the BNSF Alternative would remain substantial. Views of riparian and river crossings would not be substantially affected, due to the limited recreational use and public access. The HST project would create a substantial new source of light and glare that could be mitigated.

The proposed HST stations would not substantially degrade the existing visual character or quality of their site and their surroundings. The HMF alternatives would substantially degrade the existing visual character or quality of their site and their surroundings. There would be no impact on views from designated scenic highways, as there are no scenic highways in the vicinity of the BNSF Alternative and other build alternatives.

5.2.1 Project Visual Description

In the city of Fresno, the HST alignment would be at grade. Prominent project features would include the Fresno downtown station (28,000 square feet overall), and potential roadway overcrossings at Tulare and Ventura Streets.

Two station options, centered on Kern Street and Mariposa Street respectively, are under consideration in Fresno (see Figure 5-1a, Key viewpoint 1: Fresno Station–Mariposa Alternative

from downtown (H Street at Tulare Street), looking west. See Figures 2-2 and 2-3 for the station locations and the description in Chapter 2.0 of this report). However, the overall visual characteristics of the station alternatives would be essentially similar.

Under both alternatives, the main station structure would include a 60-foot-tall, two-level, at-grade station of approximately 75,000 square feet. Associated facilities would include up to three 5-story parking structures occupying a total of 5.5 acres; surface parking for approximately 800 cars; and a possible road overcrossing conveying Tulare Street over the railroad tracks. Under the Mariposa station option, an intermodal facility to accommodate bus operations would be located between Fresno and Mariposa Streets east of H Street, and a pedestrian overcrossing would be constructed to carry HST passengers from the station entrance on H Street, between the historic Southern Pacific Railroad depot and the adjacent Pullman car shed, to the HST platform. Neither station layout option would encroach upon the historic train depot. Under both options the majority of HST facilities would be located east of the HST tracks, on the downtown side.

In the rural San Joaquin Valley portions of the corridor between Fresno and Bakersfield, project features affecting viewers would include elevated double-track guideways; at-grade double track in rural areas; over 50 roadway grade crossings requiring construction of over- or undercrossing structures where the project alignments are at-grade and not elevated; and various other project appurtenances, including a 154-acre HMF in one of four possible locations (rural Fresno, Hanford, Wasco, or Shafter), 200-by-150-foot traction power distribution stations (TPDSs) located every 30 miles along the route, 120-by-80-foot electrical switching stations located midway between each pair of TPDSs, and 100-by-80-foot paralleling stations located every 5 miles between the TPDS and switching stations. The TPDSs and switching, and paralleling stations would be located adjacent to the project right-of-way. In addition, the Kings/Tulare Regional Station (17,000 square feet overall, plus at-grade parking lots) would be located within this landscape unit.

In the city of Bakersfield, prominent project features would include the Downtown Bakersfield station (28,000 square feet overall); 118-foot-wide, four-track elevated guideway for 3,000 feet to the north and south of the station; and 50-foot wide, two-track guideways elsewhere. Guideways in Bakersfield would be up to 75 feet tall to rail height, with an additional approximately 24 feet to the top of the overhead contact system (OCS) power poles. Three station design options, associated with the BNSF, Bakersfield South, and Bakersfield Hybrid alternatives respectively, are under consideration. One, which is associated with the BNSF Alternative (Bakersfield Station–North Alternative), would be located immediately east of the existing Amtrak station, roughly one block south of Truxtun Avenue. A 5-story, 2.5-acre parking structure would be located on Truxtun Avenue at Union Avenue; and a 5-story, 4-acre parking structure would be located south of the guideways west of Union Avenue. Another option, which is associated with the Bakersfield South Alternative (Bakersfield Station–South Alternative), would be located farther southeast of the Amtrak station, approximately midway between the BNSF right-of-way and California Avenue. A single 6-story, 6-acre parking structure would be located west of Union Avenue south of the railroad right-of-way. The third option, which is associated with the Bakersfield Hybrid Alternative, would be located at V Street, one block south of Truxtun Avenue. Under all options, the main station structure would include a 64-foot-tall entrance and mezzanine level, and a 90-foot-tall boarding platform roof/enclosure above the guideways. Under all Bakersfield alignment alternatives, the elevated guideway would extend from Rosedale to the project terminus at Oswell Street.



Existing View



Conceptual Station Design (Functional Design Treatment)
with Tulare Street Overcrossing Option

Source: William Kanemoto & Associates, 2012; VBN Architects, 2012.

Figure 5-1a
Key viewpoint 1: Fresno Station – Mariposa Alternative from downtown (H Street at Tulare Street), looking west

In all project segments under all alternatives, a total of up to 10 miles of soundwalls of up to 14 feet in height could be required to mitigate potential noise impacts. These structures would increase the visual dominance and industrial character of the project in both elevated and at-grade segments, resulting in further declines in visual quality, particularly as seen by sensitive viewers within 0.25 mile of the project. Soundwalls could block some views and contrast with the setting's visual character.

5.2.2 No Project Alternative

Under the No Project Alternative, the proposed project would not be constructed, and neither the adverse nor the beneficial impacts of the project would occur. This alternative would be equivalent to the foreseeable future project scenario described under the cumulative impacts discussion in Chapter 6.0 of this report. Adverse effects on residents in cities and rural areas, identified under the with-project alternatives below, would not occur. Adverse impacts on the downtowns of Hanford, Corcoran, Wasco, and Shafter would not occur. Likewise, anticipated beneficial impacts on the Fresno and Bakersfield downtowns due to introduction of proposed stations would not occur.

5.2.3 High-Speed Train Alignment Alternatives

5.2.3.1 Construction-Period Impacts

BNSF Alternative

Construction of the HST would be staged from seven sites, including two that are in permanent system maintenance yards located in Fresno and Bakersfield, and five additional sites spaced roughly evenly along the length of the right-of-way. The project proposes to use precast span construction, for which mass-produced elevated guideway sections would be manufactured at a central facility and conveyed to the construction site on transporters moving along the completed portions of the guideway. This method would reduce the construction footprint, area of disturbance, and amount of equipment needed to construct the guideways, and also would be faster, lessening the overall time of construction disturbance. Conventional construction methods would be used for at-grade segments. Construction activities are expected to last for approximately 5 years.

Construction activities would cause substantial visual disturbance in any given area, including earth preparation, rail bed or column and guideway construction, and associated truck hauling and other major material and equipment storage and movement. These activities would be highly visible. However, areas disturbed by construction would be remediated after completion.

Staging areas could introduce major visual changes to their immediate surroundings, with unsightly, visually chaotic aggregations of stored material and equipment. In addition, concrete batch plants for production of concrete used in project construction would be introduced within the project right-of-way for the duration of construction. Because of their lengthy period of use, these impacts would be substantial if they are located near any high-sensitivity receptors, such as recreationists or residents. Lighting for nighttime construction would result in substantial disturbances to nearby residents and motorists. Together, construction activities potentially represent a substantial adverse visual effect.

To address potential construction impacts, Mitigation Measure VIS-MM-6, Construction Mitigation Measures, is recommended, as described in Chapter 7.0.

Other Alternatives

Construction impacts under all of the alternatives other than the BNSF Alternative would be substantially similar to those described under the BNSF Alternative. The overall number of project-wide staging sites would remain the same. The overall amount of elevated guideway construction under the non-BNSF alternative alignments could be less than under the BNSF Alternative. Construction of at-grade segments would be less prominent and affect viewers within a smaller area, and in this way could have less impact than the BNSF Alternative. However, the anticipated decline in visual quality and resulting impacts would remain substantial under all alternatives for a considerable period of construction. Mitigation Measure VIS-MM-6, Construction Mitigation Measures, is recommended to address these impacts under all alternatives.

5.2.3.2 Operations Impacts

High-Speed Train Project–Common Impacts

Various ancillary project features would be located throughout the length of both the BNSF Alternative and the other alternative alignments, with corresponding potential project-wide effects. HMF options are discussed under “High Speed Train Heavy Maintenance Facility Alternatives,” below. The precise locations of other ancillary project features, such as TPDSs, electrical switching stations, and paralleling stations, are not yet known. A considerable number would be needed; for example, paralleling stations would occur every 5 miles along the route. The dimensions of these facilities would range from 100 by 80 feet (paralleling stations) to 200 by 150 feet (TPDSs). These could introduce additional industrial features into the visual foreground of viewers and exacerbate guideway-caused declines in visual intactness, unity, and overall visual quality as seen by high-sensitivity viewers. Where these facilities would be located within 0.25 mile of residences, parks, or other high-sensitivity viewpoints, they would be considered a potential cause of substantial visual impacts.

BNSF Alternative

In the following discussion, the potential impacts of the BNSF Alternative are organized by landscape units and, in the rural central valley, by landscape subtype. Following the FHWA VIA methodology, potential impacts identified within each unit are analyzed from key viewpoints representing those situations where viewers with high anticipated viewer response could be exposed to high degrees of change to visual quality as a result of the project.

City of Fresno Landscape Unit

In the setting analysis (Section 4.4.1, above), two viewer groups with potentially high viewer response were identified in Fresno: viewers of all types in the immediate foreground of the project in the CBD to the northeast of the alignment, and viewers of all types in the historic Chinatown district to the southwest.

As described above, principal visually prominent project features in Fresno would include the Downtown Fresno station; associated surface and garage parking, drop-off, and bus transfer facilities; and potential new road overcrossings at Tulare and Ventura Streets. Two station layout options are under study for the BNSF Alternative, one centering on Mariposa Street and another centering on Kern Street. However, the overall visual effects of the two would be similar. Under both station alternatives, two 5-story parking structures totaling 4 acres of surface area would be constructed along H Street between Tuolumne and Mono Streets; a third 5-story parking structure of 1.5 acres would be constructed between E Street and SR 99 between Fresno and Mariposa streets. Under the Fresno Station–Mariposa Alternative, 5.75 acres of surface parking would be introduced along H Street; under the Fresno Station–Kern Alternative, 4.75 acres would be introduced.

Key Viewpoint 1: Central Business District Viewers (View of Fresno Station–Mariposa Alternative). The most prominent project feature in the Fresno CBD would be the proposed downtown station. It would adjoin Chukchansi Stadium and the core of downtown, and would be large in scale and extent.

Key viewpoint 1 (see Figures 5-1a and 5-1b) is located on the southeast corner of Tulare and H Streets at the main entrance to Chukchansi Stadium, looking northwest toward the main HST station entrance of the Fresno Station–Mariposa Alternative.

The proposed Fresno station has not yet been fully designed. However, the overall station footprint, layout, volume, and scale as depicted in the simulations reflect the conceptual design of the station. Two station layout options (centered on Mariposa Street or on Kern Street) are under consideration. The top image of Figure 5-1a depicts the existing view of the site of the proposed Mariposa Street option of the downtown HST station from KVP 1, at Tulare and H streets at the entrance to Chukchansi Stadium, looking west. The bottom image depicts the conceptual station design with generic “functional” design treatment, and with a Tulare Street road overcrossing option. The bottom image in Figure 5-1a depicts the conceptual station design with generic “functional” design treatment, with a Tulare Street overpass option. The functional station demonstrates the scale and general architectural appearance of a HST station with minimal local agency involvement in the design process. Through collaboration with the City of Fresno, the station design may be further refined to incorporate additional aesthetic features that would result in a more iconic or architecturally distinctive design. The top image of Figure 5-1b depicts the same “functional” station design with a Tulare Street underpass option. The bottom image of Figure 5-1b depicts an enhanced, “iconic” design treatment and Tulare Street overpass option. Together, the simulations represent a range of the possible design treatments that might be employed in the final design. The visual assessment for KVPs 1 and 2 is for a functional station at the pedestrian level.

In the context of the adjacent downtown urban form, the proposed station would be larger and taller than most nearby existing development, would be highly prominent, but would not be completely out of scale or character. Other existing structures of similar height or greater, including 10- and 12-story high-rises and 6-story parking structures are located within a block or two of the site. Compared with the predominantly surface parking and industrial uses of the existing project site, the proposed station would represent a substantial improvement in visual quality, from the prevailing moderately low level to a moderately high one characterized by well-designed architecture, greatly enhanced street landscaping, and a high degree of overall visual unity.

Key Viewpoint 2: Chinatown Viewers. Key Viewpoint 2 (Figure 5-2a) is located on China Alley between Mariposa and Tulare streets, facing the proposed entrance to the Fresno Station–Mariposa Alternative from the Chinatown district. The proposed station would be the principal project feature visible from the Chinatown district. The top image of Figure 5-2b depicts the conceptual station design with generic “functional” design treatment, and the bottom image depicts an “iconic” treatment of the Fresno Station–Mariposa Alternative as seen from KVP 2 in Chinatown.

The overall impact of the project from this area would be similar to that described under Key Viewpoint 1 above. In the context of the moderately low visual quality of the existing industrial and railyard setting between G and H streets, the introduction of the station would represent a substantial improvement in visual quality of the streetscape. Vividness and visual unity would be enhanced by unified architectural and streetscape design, compared with the heterogeneous, visually chaotic, utilitarian quality of existing industrial uses. Although the station would intervene between Chinatown and views of downtown across the tracks to the east, those views are currently largely obstructed by tall industrial facilities between G and H streets that would be

displaced by the proposed station. Through high-quality architectural and streetscape design, introduction of the station facilities could have the effect of improving the visual coherence and vividness of the streetscape. Overall, while viewer response would be moderately high, introduction of the project into foreground views of Chinatown would have a beneficial impact.

Various options are under consideration for roadway crossings over or under the proposed HST right-of-way in downtown Fresno. Tulare and Ventura streets, roughly between Fulton Mall and E Street, could be transformed into overcrossings similar to the existing ones on nearby Tuolumne and Stanislaus Streets. Sensitive receptors and visual sensitivity in the vicinity of Ventura Street are minimal, and adverse impacts would not be anticipated. The immediate Tulare street streetscape, however, includes the main entrance to Chukchansi Stadium and the historic Southern Pacific Depot. A Tulare Street overcrossing would adjoin these sites as well as Fulton Mall, a high-sensitivity location used by high numbers of pedestrian visitors to downtown. As depicted in the lower image of Figure 5-1a, a Tulare Street road overcrossing would introduce a large-scale concrete structure of utilitarian character into the visual foreground of the H and Tulare streetscapes. The overcrossing would intrude into views of the stadium entrance, the proposed HST station entrance, and the historic Southern Pacific Depot, with resulting adverse effects on the visual quality of the streetscape. Though arguably no worse visually than the existing setting overall, the new scene with an overcrossing would substantially reduce the potential beneficial effects of station development on this portion of downtown and Chinatown, compromising the potential for improved visual intactness and unity in the vicinity of Chukchansi Stadium and the Southern Pacific Depot.

The road overcrossing is located to the north of the stadium entrance and would thus not cast a shadow on the park or park entrance. It would cast a shadow on the proposed HST station and Southern Pacific Depot during some hours and seasons of the year. No significant shadow impacts on any nearby recreational or residential uses are anticipated as a result of the project in downtown Fresno.



Conceptual Station Design (Functional Design Treatment)
with Tulare Street Underpass



Conceptual Station Design (Iconic Design Treatment)
with Tulare Street Underpass

Source: William Kanemoto & Associates, 2012; VBN Architects, 2012.

Figure 5-1b
Key viewpoint 1: Fresno Station – Mariposa Alternative from downtown (H Street at Tulare Street), looking west — visual simulations



Existing View

Source: William Kanemoto & Associates, 2012.

Figure 5-2a
Key viewpoint 2: Fresno Station — Mariposa Alternative from Chinatown (China Alley between F and G Streets), looking north



Conceptual Station Design (Functional Design Treatment)



Conceptual Station Design (Iconic Design Treatment)

Source: William Kanemoto & Associates, 2012; VBN Architects, 2012.

Figure 5-2b
Key viewpoint 2: Fresno Station — Mariposa Alternative from Chinatown (China Alley between F and G Streets), looking north — visual simulations

KVPs 1A, 2A: Views of the Fresno Station–Kern Alternative. Key viewpoint 1A (Figure 5-3) is the same location as KVP 1, at the entrance to Chukchansi Stadium at Tulare and H Streets in downtown, but is facing south rather than northwest, looking toward the station entrance of the Fresno Station–Kern Alternative, which is proposed to the southwest of Chukchansi Stadium. Key viewpoint 2A (Figure 5-4a) depicts the existing view of the site of the proposed Fresno-Station–Kern Alternative of the downtown HST station from KVP 2A in Chinatown at G Street near Kern Street, looking north. Figure 5-4b depicts a simulated view of the conceptual station design with a generic “functional” design treatment. As suggested in the simulations, the effects of the Fresno Station–Kern Alternative as seen from both downtown and Chinatown would be substantially similar to the effects under the Fresno Station–Mariposa Alternative. As described above for the Fresno Station–Mariposa Alternative, the effect of the new Kern Street station would be beneficial from both downtown and Chinatown.

As discussed in section 4.4.1, potential views of the project alignments in south Fresno are generally blocked or filtered by intervening industrial areas. Therefore, due to the relative lack of visual exposure, there would be little or no viewer response to the project. In the absence of visual exposure, the potential for substantial impacts in this segment is therefore very low. Consequently, no key viewpoints were considered necessary in this segment and further analysis of impacts is not relevant.

San Joaquin Valley Rural/Agricultural Landscape Unit

As described in section 4.4.2, the San Joaquin Valley Rural/Agricultural Landscape Unit makes up the great majority of the proposed project setting, comprising most of the project corridor between the cities of Fresno and Bakersfield. This vast area is discussed under six landscape subtypes: the valley agricultural subtype, making up the greatest part of the project setting; the rural residential subtype; the riparian corridor subtype; the rural city/town subtype; Colonel Allensworth State Historic Park; and Pixley National Wildlife Refuge. Each of these is discussed separately below.



a. Existing View



b. Conceptual Station Design (Functional Design Treatment)

Source: William Kanemoto & Associates, 2012; VBN Architects, 2012.

Figure 5-3
Key viewpoint 1A: Fresno Station—Kern Alternative from downtown (H Street at Tulare Street), looking south



a. Existing View



b. Conceptual Station Design (Functional Design Treatment)

Source: William Kanemoto & Associates, 2012; V&N Architects, 2012.

Figure 5-4
Key viewpoint 2a: Fresno Station—Kern Alternative from Chinatown (G Street near Kern Street),
looking north

Valley Agricultural Subtype

As discussed in section 4.4.2, the valley agricultural landscape is typically moderate in visual quality, generally high in intactness, but often monotonous and lacking in vivid features and visual variety. Typical viewers within this unit consist principally of agricultural workers and motorists, with low and moderate levels of viewer sensitivity respectively. Motorists on designated or eligible state or local scenic highways would be considered more highly sensitive to visual impacts, but no such roadways would be affected by the project alignments. Because the level of viewer sensitivity and response of these principal viewer groups is considered to be moderate to low, substantial impacts from the project are thus not anticipated. A third viewer group with high viewer sensitivity, rural residents, is discussed as a separate subtype, below.

Rural Residential Subtype

Rural residential settlements represent a distinct landscape subtype within the rural valley. Rural residents are the principal high-sensitivity viewer group to be potentially affected by the HST project in this landscape unit. Thus, instances of potentially substantial impact by the HST project within the Rural/Agricultural landscape unit are likely to occur primarily within this landscape subtype. Although the number of affected residences in a particular location could be low in many instances, the overall number of rural residents affected by the HST within the Rural/Agricultural landscape unit would be substantial, potentially totaling several hundred.

Key Viewpoint 3: Simulations of High-Speed Train At-Grade and on Elevated Guideway in Rural Landscape (Typical). Key viewpoint 3 (Figures 5-5 and 5-6) consists of simulations of typical views of the project in the rural valley setting, showing at-grade and elevated conditions at distances of 0.25 mile and 0.5 mile. The simulations are not intended to depict a specific location, but rather to illustrate the level of the project's typical visual prominence and effect on viewers at different distances, as seen from locations throughout the rural San Joaquin Valley. The simulation photograph is taken with a "normal" lens (approximately 40-degree-horizontal angle of view).

As indicated by the simulations of KVP 3 and supplemented by field reconnaissance and professional judgment, at-grade segments of the HST as seen at distances of 0.25 mile or less could begin to visually dominate, altering the rural character and detracting strongly from the intactness and unity of the existing agricultural landscape. The height of at-grade rail beds would vary but could be as much as 12 feet. Near the right-of-way, the HST trains, elevated berm, security fencing, and detail of the OCS poles and wires would be clearly visible and contribute a highly industrial character that would be incompatible with the rural setting. Beyond this distance, project features, though visible, would affect the setting's visual quality to a moderate to low degree and decrease further with distance.

Similarly, the monumental horizontal scale and distinctly industrial form, color, and texture of the elevated segments of the HST, seen at distances of 0.5 mile or less, would begin to visually dominate and detract strongly from the intactness and unity of this agricultural landscape, resulting in a moderate to strong decline in visual quality.

Thus, for rural residents, who would have high sensitivity to these changes, at-grade segments within 0.25 mile or elevated segments within 0.5 mile would represent a potentially substantial impact in the absence of any mitigation. Beyond these distances, project features, though visible, would affect the setting's visual quality to a moderate to low degree.



a. Simulated View - 0.25-mile distance



b. Simulated View - 0.50-mile distance

Source: William Kanemoto & Associates, 2012.

Figure 5-5
Key viewpoint 3: Simulations of high-speed train at-grade in rural landscape



a. Simulated view - 0.25-mile distance



b. Simulated view - 0.50-mile distance

Source: William Kanemoto & Associates, 2012.

Figure 5-6
Key viewpoint 3: Simulations of high-speed train on elevated guideway in rural landscape

Key Viewpoint 4: Simulation of HST and Local Road Overcrossing from Adjacent

Residences. Roadway overcrossings would be required where at-grade segments of the alignment cross existing roads, and would introduce a more urban character into the affected rural settings. Similar to KVP 3, KVP 4 (Figure 5-7) is not intended to depict a specific location, but rather to illustrate the typical level of visual prominence and effect of the many local road overcrossings that would be introduced as part of the HST project. As with KVP 3, the principal affected high-sensitivity viewer group would consist of rural residents in and around their homes. As seen at distances of 0.25 mile or less, overcrossings, including earth embankments and concrete bridges, would visually dominate, altering the rural character and detracting strongly from the intactness and unity of the existing agricultural landscape. For these high-sensitivity residential viewers, these changes would thus represent a potentially substantial impact in the absence of any mitigation. Although the number of residents affected at any one overcrossing would generally be small, overall the number of residents so affected within the Rural/Agricultural landscape unit would be substantial, totaling in the hundreds.

Key Viewpoint 5: Kings/Tulare Regional Station – East Alternative). Key viewpoint 5 (Figure 5-8) is a view of the proposed Kings/Tulare Regional Station – East Alternative, seen from nearby 8th Avenue (SR 43) at a distance of 0.5 mile looking northeast. The station and guideway would be sited close to a residential settlement of 28 homes along Ponderosa Road and Edna Way, some which would be relocated. Remaining homes would directly adjoin the alignment and elevated guideways.

As depicted in the simulation, the proposed station, though large and very prominent, would be sufficiently distant from the highway to recede in dominance, paralleling the horizon and not intruding appreciably into the skyline. The foreground viewed by passing motorists would be dominated by the canopies of trees in the interior parking lot and along its perimeter. Consequently, the intactness and memorability of the scene from such nearby public viewpoints could be enhanced. The introduction of a large urban facility such as this would, however, lower visual unity of the setting. Intactness would be affected positively by the new, maturing tree canopies, and negatively by the urban character of the station and paved areas. Overall, the effect on visual quality at this distance would be moderately adverse.

Impacts of the Kings/Tulare Regional Station to nearby rural residents would be due primarily to the adjacent elevated guideway, and would be as described above, under KVP 3. The elevated project guideways south of the Kings/Tulare Regional Station would result in removal of several residences along Ponderosa Road and Edna Way north of Lacey Boulevard. The remaining residences would abut the project right-of-way. The roughly 50-foot-tall guideways would introduce a highly dominant feature of urban, industrial character into the immediate foreground of these homes. Given the moderately high viewer response associated with those living in this development, this would represent a substantial impact.

Overall, for rural residents in the Rural/Agricultural Landscape Unit, who would have high sensitivity to the project's visual effects, at-grade HST segments and road overcrossings within 0.25 mile or elevated HST segments within 0.5 mile would represent a potentially substantial impact in the absence of any mitigation. Beyond these distances, the project's features, though visible, would affect the setting's visual quality to a moderate to low degree, and the degree would decrease as distance from the project's features increased.



a. Existing View



b. Simulated View

Source: William Kanemoto & Associates, 2012.

Figure 5-7
Key viewpoint 4: Existing view and simulation of typical new rural road overcrossing (Floral Avenue)



a. Existing View



b. Simulated View

Source: William Kanemoto & Associates, 2012; VBN Architects, 2012.

Figure 5-8
Key viewpoint 5: Existing and simulated views of the Kings/Tulare Regional Station – East
Alternative from 8th Avenue (SR 43)

To address these impacts on nearby residents, Mitigation Measures VIS-MM-2, Onsite and OffSite Landscape Screening, and VIS-MM-3, Non-Reflective OCS Components, are recommended, as described in Chapter 7.0 of this report.

Because of the rural character of the Kings/Tulare Regional Station setting, night lighting and light pollution from the facility could be a concern. Without adequate mitigation and design measures, station and parking lot lighting would contribute to potentially substantial nighttime light pollution in an area that currently enjoys dark night skies. To address potential night lighting impacts, Mitigation Measure VIS-MM-4: Operational Night Lighting Measures, is recommended.

Riparian/River Crossing Subtype

Major creeks and rivers, and their accompanying riparian forest canopy, are a highly distinctive and valued feature of the Central Valley landscape. The BNSF Alternative would cross four of these, the Kings and Tule rivers, and Cross and Poso creeks, within the rural San Joaquin Valley. The Kings River is the most prominent river crossing within the rural valley, and is identified as an important regional scenic resource in the *2035 Kings County General Plan*. However, the Kings River crossing of the proposed BNSF Alternative would be located within a setting dominated by fruit tree orchards, which would screen visibility of the HST from all nearby public viewpoints. Consequently, no simulated view of the project is depicted. Effects of the river crossing to viewers on the nearest major roadway, SR 43, would be minor, limited to a momentary elevated view from a short overcrossing of SR 43 above the HST right-of-way. This impact would be minor.

River recreationists have higher levels of sensitivity than motorists. However, of the four river crossings, only the Kings River is wide enough in the vicinity of the project crossing to receive any recreational use. At the Kings River, viewer exposure to the alignment crossing would be limited to a very short segment because meanders in the river and the riparian vegetation on its banks would screen most views. Although strong adverse effects to visual quality could be experienced immediately adjacent to the structure, the project would not substantially degrade the visual character or quality for recreationists beyond a very short distance. This would be a moderate impact. There is no recreational use at the other three crossings and impacts, in the absence of sensitive viewers, would thus be negligible.

Rural City/Town Subtype (Corcoran, Wasco, and Shafter)

The BNSF Alternative would follow the existing BNSF right-of-way through the downtowns of Corcoran, Wasco, and Shafter. The major sensitive viewer groups in these towns are residents, users of nearby local parks, and visitors to the town centers. Figures 4-15, 4-17, and 4-19 show the locations of existing views and simulations of the HST in the downtowns of Corcoran, Wasco, and Shafter, as depicted in KVPs 6, 7, and 8 respectively. KVP 6, Figure 5-9, is taken from Whitley Avenue, downtown Corcoran's main street, near the Amtrak station, facing east. KVP 7 in Wasco, Figure 5-10, is taken from the intersection of 7th Avenue and F Street, Wasco's main street and the heart of the old town, at a distance of roughly 600 feet, facing east. The simulation of the HST in Shafter, KVP 8, Figure 5-11, is from the intersection of Poso Avenue and SR 43, looking north to the historic Shafter Depot Museum at a distance of approximately 350 feet. The elevated guideway in Wasco would rise to approximately 50 feet. In Shafter the guideway would be approximately 65 feet high. The OCS poles would extend about 24 feet above the guideway in all cases.



a. Existing View



b. Simulated View

Source: William Kanemoto & Associates, 2012.

Figure 5-9
Key viewpoint 6: Existing and simulated views of high-speed train in Corcoran, from Otis Avenue near Whitley Avenue, looking south



a. Existing View



b. Simulated View

Source: William Kanemoto & Associates, 2012.

Figure 5-10
Key viewpoint 7: Existing and simulated views of high-speed train in Wasco from 7th Avenue and F-Street, looking east toward the Amtrak station (slightly altered image)



a. Existing View



b. Simulated View

Source: William Kanemoto & Associates, 2012.

Figure 5-11
Key viewpoint 8: Existing and simulated views of high-speed train in Shafter from Poso Avenue and SR 43, looking toward the Shafter Depot Museum

Key Viewpoint 6: Corcoran. Key viewpoint 6 (Figure 5-9) is a view of the alignment from Whitley Avenue, downtown Corcoran's main street, near the Amtrak station facing east. The BNSF Alternative in Corcoran would be elevated and pass directly above a portion of the existing Amtrak station at Whitley and Otis avenues. Preservation of the prominent existing row of palm trees, street lights, and other landscaping on the east side of Otis Avenue, as proposed, would retain the most vivid features of that streetscape and therefore maintain a degree of intactness and unity at the street level.

Project effects on the visual quality of the existing downtown setting would be strongly adverse within a roughly 0.25-mile distance zone. Existing visual intactness and unity in particular would experience a strong decline from the introduction of a visually dominant regional transportation facility of industrial scale and urban character into the small agricultural town setting. Given its central location, the alignment would exert a strong, adverse influence on the image and character of the town. In the context of viewers' moderate to moderately high response, this would represent a substantial impact.

A new road overcrossing at Patterson Avenue would be a prominent visual effect in downtown Corcoran. The overcrossing is a common feature of urban settings that generally has moderate visual effects. However, the berms, slopes, or retaining walls of the proposed crossing at Patterson Avenue could require removal of some homes, and the overcrossing would directly abut a number of the remaining homes. The resulting decline in visual intactness and unity could therefore represent a substantial impact on residences on Patterson Avenue. No substantial glare or night lighting impacts are anticipated from operation of the project in this location.

To address the potential impacts, Mitigation Measure VIS-MM-1, Elevated Guideway, Retaining Wall, and Soundwall Design Measures; and Mitigation Measure VIS-MM-2, Onsite and Offsite Landscape Screening, are recommended, as described in Chapter 7.0 of this report.

Key Viewpoint 7: Wasco. Key viewpoint 7 (Figure 5-10) is taken from the intersection of F Street and Seventh Street, Wasco's main street and the heart of the old town, at a distance of about 600 feet. The guideways are roughly 50 feet high to track height in this location, with 24-foot OCS poles above. The view down Seventh Street terminates at the Amtrak station, a recently completed (2008) structure of historic Mission style. In Wasco, the elevated guideway would pass directly above the existing Amtrak station. Unlike in Corcoran, no parks are located within the most critical 0.25-mile distance zone of the alignments in Wasco. As indicated in Key viewpoint 7, Downtown Wasco in general and Seventh Street in particular have benefited from downtown redevelopment, including street tree plantings, other streetscape improvements, and the landmark Amtrak station, all of which lend the setting a moderate or better level of vividness, unity, and overall visual quality.

Project effects on the visual quality of the existing downtown setting would be strongly adverse within a roughly 0.25-mile distance zone. Existing visual intactness and unity in particular would experience a strong decline from the introduction of a visually dominant regional transportation facility of industrial scale and urban character into the small agricultural town setting. The alignment would exert a strong adverse influence on the image and character of the town due to its central location. In the context of viewers' moderate to moderately high response, this would represent a substantial impact.

No substantial glare or night lighting impacts are anticipated from operation of the HST in this location.

To address impacts, Mitigation Measures VIS-MM-1, Elevated Guideway, Retaining Wall and Soundwall Design Measures, and VIS-MM-2, Onsite and Offsite Landscape Screening, are recommended. Even with these measures, however, impacts would remain substantial.

Key Viewpoint 8. Shafter. Key viewpoint 8 (Figure 5-11) is taken from the intersection of Poso Avenue and SR 43 looking north to the historic Shafter Train Depot and Museum, which is at a distance of approximately 350 feet. The guideways are roughly 65 feet high to track height in this location, with 24-foot OCS poles above. Shafter's main street, and the heart of the old town, is located three blocks to the south. Like the main streets of Corcoran and Wasco, it has benefited from downtown streetscape improvements, including street tree planting, and decorative lighting, paving, and landscaping treatments. Consequently, the quality and character of the downtown, and Central Avenue in particular, have a moderately high degree of intactness, unity, and overall visual quality.

As in Wasco, project effects on the moderate to moderately high visual quality of the existing downtown and residential settings would be strongly adverse within a roughly 0.25-mile distance zone. Due especially to the height and scale of the guideways, a strong decline in visual intactness and unity would result from the introduction of a visually dominant feature of industrial character into the small agricultural town setting. In the context of viewers' moderate to moderately high response, this would represent a substantial impact on the visual character and quality of the setting.

Mannel, James, and Kirchenmann parks, small neighborhood parks located in the central town area, are within 0.25 mile of the alignment. However, views of the project in each of these cases are limited by intervening development, and substantial visibility of the project is not anticipated.

The elevated guideway would return to ground level a short distance south of town, near Riverside Street. The project would not intrude substantially into the Shafter Cemetery, which adjoins this at-grade portion of the alignment a short distance farther south. A road overcrossing would be located near the cemetery south of Burbank Street, but would be substantially screened by existing cemetery landscaping and orchards,

To address impacts in and around Shafter, Mitigation Measures VIS-MM-1, Elevated Guideway, Retaining Wall and Soundwall Design Measures, and VIS-MM-2, Onsite and Offsite Landscape Screening, are recommended, as described in detail in Chapter 7.0 of this report. Even with these measures, however, impacts would remain substantial.

Other than an alternative alignment, no adequate mitigation measures to address this impact were identified. Although tree planting would screen views of the project from the park, they would also obstruct the long, open, panoramic views that characterize the existing setting, and introduce another incongruous element that could reduce the intactness and unity of the historic setting. An alternative alignment outside of the immediate visual foreground would be the only available measure not having potentially substantial secondary visual impacts.

Pixley National Wildlife Refuge Subtype

As described in Section 4.4.2, the overall anticipated viewer response at the wildlife viewing platform at Pixley National Wildlife Refuge is considered moderate due to distance from the alignment. Although viewer sensitivity is high, the viewing platform is located roughly 1.5 miles east of an at-grade segment of the BNSF Alternative. At this distance, the project, though visible, would be visually very subordinate and would not draw the attention of viewers in the refuge. Viewer exposure is thus negligible and the overall effect of the HST on intactness, unity, and overall visual quality of the setting would be moderately low. Simulations were thus not considered necessary for this viewpoint.

Colonel Allensworth State Historic Park Subtype

Key Viewpoint 9: Colonel Allensworth State Historic Park. Key viewpoint 9 (Figure 5-12) is taken from within Colonel Allensworth State Historic Park, looking east toward the alignment.

The alignment centerline would closely parallel the eastern boundary of the historic district and park, paralleling the BNSF right-of-way on the western, park side of the existing rail line. The alignment centerline is thus slightly over 100 feet from the eastern boundary of the park. At this distance, the project would represent a visually dominant feature contrasting strongly with the existing visual character. The 24-foot-tall OCS system components and wires, and right-of-way fencing, would introduce distinctly industrial elements into the visual foreground that would alter the character of the site and greatly lower visual quality. Above all, high-speed trains of considerable length would pass the park at close distance, the bright colors and rapid motion strongly drawing attention. Because trains are anticipated to run frequently, they would represent an ongoing, even dominating presence. The pristine landscape setting is a major component of the attraction of the historic district, which evokes a vivid experience of the nineteenth-century agricultural valley landscape. The integrity of the landscape setting is thus a critical part of the park experience. The prominent, incongruous project elements would strongly intrude into that experience, undermining or destroying the integrity of the visual setting. The viewer response of park visitors would be high. This would represent a substantial adverse impact.

City of Bakersfield Landscape Unit

For convenience this landscape unit is discussed by subsections of the alignment, proceeding from north to south, as depicted in Figure 4-22.

Greenacres (Rosedale) Subsection (see Figure 4-23)

Key Viewpoint 10: Verdugo Lane. Key viewpoint 10 (Figure 5-13) is taken from Verdugo Lane in the community of Greenacres (Rosedale), looking south to an at-grade segment of the BNSF Alternative right-of-way. Greenacres (Rosedale) is an unincorporated suburb northwest of Bakersfield. For virtually the entire 3.6-mile length of this segment, the project alignment would either require relocation of residences, or pass within very short distances of adjacent residences, sometimes abutting them. Over one thousand homes are within 0.5 mile of the alignments in this segment. As depicted in Figure 5-13, visual effects of the project in the at-grade segment in Rosedale would be minor. The project would appear as a limited length of up to 14-foot-high soundwall at the end of streets abutting the project right-of-way. The soundwalls could potentially have an industrial character that appears out of place in the residential setting, resulting in a moderate decline in visual quality. This adverse impact could be avoided with decorative soundwall color or texture treatment, or planting of vines, as described under Mitigation Measure VIS-MM-1, Elevated Guideway, Retaining Wall and Soundwall Design Measures. The residual level of impact with these measures would be negligible.

Key Viewpoint 11: Palm Avenue. Key viewpoint 11 (Figure 5-14) is taken from Palm Avenue in the community of Greenacres (Rosedale), looking east. A short distance north of Palm Avenue, the BNSF Alternative would become elevated as depicted in the simulation, and remain elevated to the project terminus in east Bakersfield. The guideways would rise from grade level to a maximum height of roughly 65 feet to track height, with 24-foot OCS poles above. In this location near the beginning of the elevated section, the guideways are seen at a lower height.



a. Existing View



b. Simulated View

Source: William Kanemoto & Associates, 2012.

Figure 5-12
Key viewpoint 8: Existing and simulated views of high-speed train from Colonel Allensworth State
Historic Park



a. Existing View



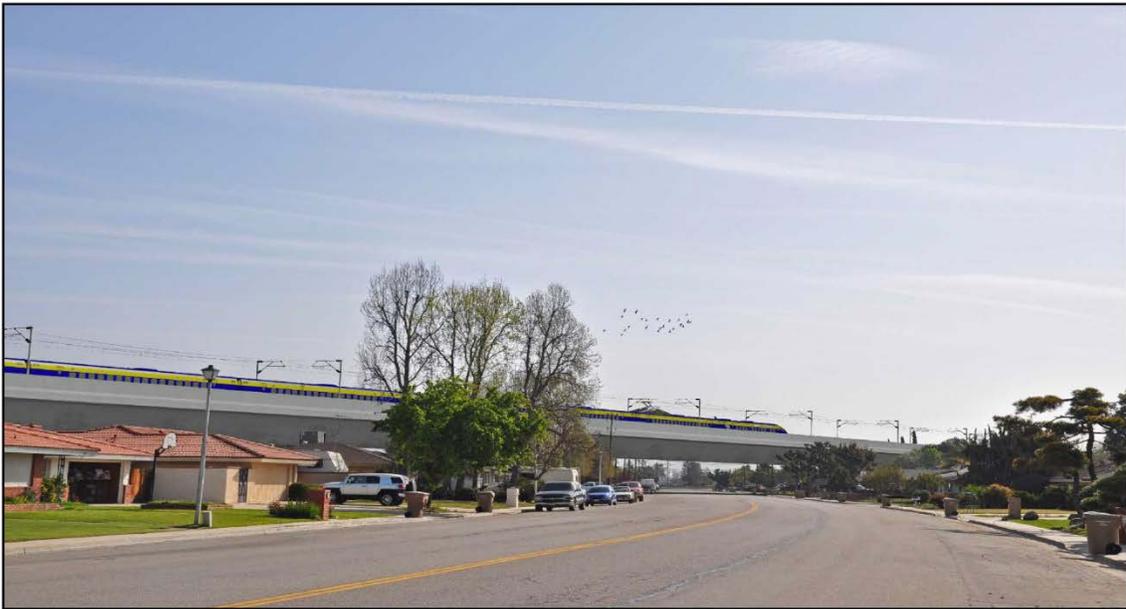
b. Simulated View

Source: William Kanemoto & Associates, 2012.

Figure 5-13
Key viewpoint 10: Existing and simulated views of high-speed train on BNSF Alternative at-grade in Rosedale/Greenacres, from Verdugo Lane looking south



a. Existing View



b. Simulated View

Source: William Kanemoto & Associates, 2012.

Figure 5-14
Key viewpoint 11: Existing and simulated views of high-speed train on BNSF Alternative in Rosedale/Greenacres, from Palm Avenue looking east

Project impacts on visual quality along the elevated section in Rosedale would be strongly adverse. Though the existing setting is not especially memorable (“vivid”), declines in intactness, unity, and overall visual quality would be very strong. The project would introduce a highly dominant concrete structure of industrial character and up to 65 feet in height into the single-story, low-density setting, and this structure would become the primary visual focus within at least a 0.25-mile corridor surrounding the right-of-way. The structure would exert a dominant presence over adjacent residences. In the context of high anticipated viewer response in this setting, impacts would be substantial. For adjacent properties, the effects of the tall structures would be exacerbated by ground-level views of right-of-way security fencing and the cleared land beneath the guideways.

To address these impacts, Mitigation Measure VIS-MM-1, Elevated Guideway, Retaining Wall and Soundwall Design Measures, and VIS-MM-2, Onsite and Offsite Landscape Screening, are recommended. Residual impacts with these measures, however, would remain substantial.

Calloway Drive to Kern River Subsection (see Figure 4-25)

Key Viewpoint 12: Kern River Crossing. Key viewpoint 12 (Figure 5-15) is located along the Kern River Parkway Trail north of Truxtun Avenue about 1.2 miles west of Highway 99 and is approximately 600 feet from the right-of-way. Figure 5-15 depicts the Kern River crossing of the alignment as seen from this viewing position. The guideways are roughly 65 feet high to track height in this location, with 24-foot OCS poles above. The viewpoint is located toward the northeastern limit of a highly improved portion of the river parkway extending roughly 2 miles east of Coffee Road. The parkway in this reach of the river includes extensive riparian habitat restoration and tree planting, a year-round artificial lake, extensive turfed and landscaped parklands, and bike and walking trails. As depicted in Figure 5-15, the project would introduce a highly dominant feature of very urban character into views within the parkway, particularly those within roughly 0.25 mile of the alignment. Vivid elements, including views of an extensive stretch of the Kern River, mountains in the distance to the northeast, and an expansive skyline, would be compromised and partially blocked by intrusion of the structure into the visual foreground. Intactness and unity of views of the river and parkway would also be compromised by intrusion of the urban, industrial structure into a foreground presently dominated by natural features. Overall, the project would result in a strong decline in the overall quality of views from points along the parkway. In the context of moderately high viewer response in this area, this would represent a substantial impact. Because scenic views of the river corridor and mountains are themselves an important part of the existing visual quality of the river corridor and parkway, screening by landscape planting cannot constitute the only mitigation strategy in this location, since it would also result in additional blockage of views.

Consequently, to address impacts in this location, Mitigation Measure VIS-MM-1, Elevated Guideway, Retaining Wall and Soundwall Design Measures, is recommended. Mitigation Measure VIS-MM-2 is also recommended, as described in greater detail in Chapter 7.0 of this report.



a. Existing View



b. Simulated View

Source: William Kanemoto & Associates, 2012.

Figure 5-15
Key viewpoint 12: Existing and simulated views of high-speed train on the BNSF Alternative from the Kern River Parkway Bicycle Trail, looking north

The project alignment would cross Highway 99 immediately east of the Kern River. Because of its location near the primary interchange/off-ramp leading from Highway 99 to downtown, the prominent project structures spanning the freeway would exert a gateway effect to southbound motorists entering the city from the north. The project overcrossing of Highway 99 would be prominent in views from the freeway for only a short distance and brief period of travel, and is thus not expected to strongly lower visual quality from this short affected segment of freeway. However, because of the potential gateway effect resulting from its interaction with the downtown interchange, the structural design considerations recommended for the Kern River crossing segment under Mitigation Measure VIS-MM-1 are also recommended for this portion of the alignment. Attractive structural forms and decorative surface treatments should be applied at the highway overcrossing to avoid detracting from the city entry experience.

Central Bakersfield Subsection (see Figure 4-27)

Key Viewpoint 13: Central Bakersfield Residential Viewers (No Simulation). For roughly 0.5 mile between Oak Street to the west and Mercy Hospital and Bakersfield High School to the east, the alignment would pass within 650 feet (0.12 mile) of residences on 16th Street to the north, within similar distances of residences south of California Avenue to the south, and within 0.25 mile of Jastro Park and other residences in the surrounding neighborhoods (see Figure 5-16). Other residences west of this segment and south of California Avenue would also fall within near-foreground distances of the alignment, although they would not directly face it as in this segment. For viewers within roughly 0.25 mile in these residential areas, the guideways would be a prominent feature in views down north-south-oriented streets. These views would be filtered by tall trees and homes in the foreground, which would tend to limit views directed along the north-south-oriented street corridors in the neighborhoods; that filtering effect would increase with distance. However, within a roughly 0.25-mile zone, and for homes on 16th Street and California Avenue, the contrasting scale and character of the tall concrete structures could not be ignored, and would result in a moderately strong decline in the intactness, unity, and overall visual quality of the existing residential setting. In the context of high viewer response typical of residential neighborhoods in close proximity to the elevated alignments, this would represent a substantial impact.

Existing tall tree plantings in the center median of California Avenue partly filter views toward the project from the south. In-fill planting to increase the density of that screening would substantially lower visibility of the guideways to the south in the long term. Consequently, Mitigation Measure VIS-MM-2, On- and Offsite Landscape Screening, is recommended in that location. To reduce the incompatible industrial character of columns and guideways, Mitigation Measure VIS-MM-1, Elevated Guideway, Retaining Wall and Soundwall Design Measures, is also recommended.

Key Viewpoint 14: Bakersfield High School. Key viewpoint 14 (Figure 5-17) depicts the view of the alignment from the stadium bleachers at Bakersfield High School, looking northeast at a distance of approximately 500 feet. The guideways would remain in a two-track configuration roughly 60 feet high in this segment. The alignment would cross through the school campus immediately to the north of 14th Street, necessitating the removal of two school buildings and introducing a highly dominant, incongruous presence into the immediate visual foreground of the north side of the campus. The centerline of the alignment would be less than 150 feet from the school stadium, main campus entrance, and quad.



a. 14th Street, looking east.



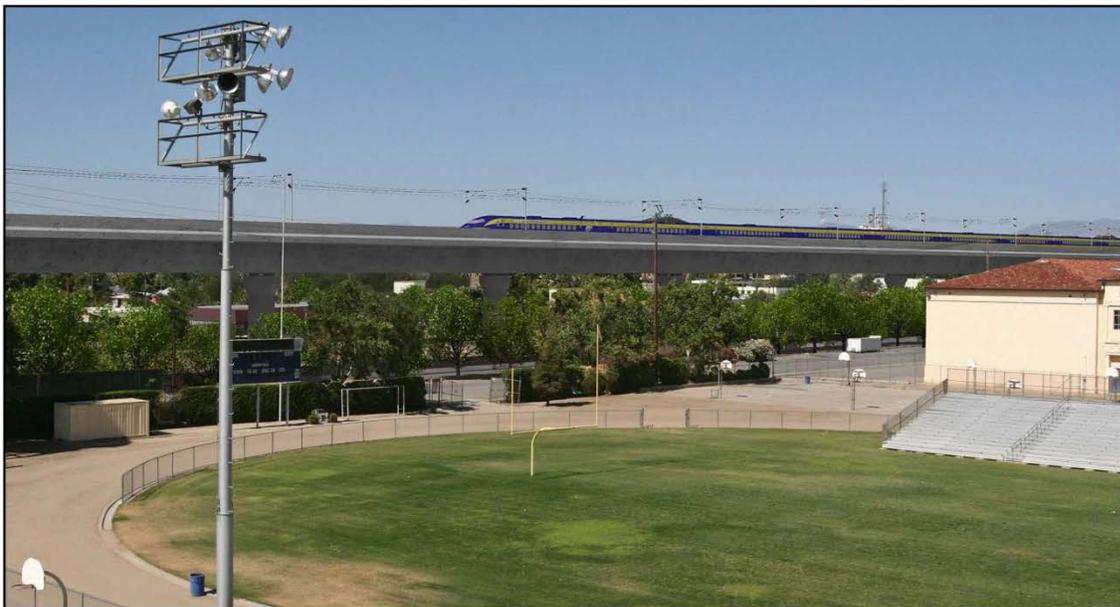
b. Jastro Park, looking south.

Source: William Kanemoto & Associates, 2012.

Figure 5-16
Key viewpoint 13: Views of the BNSF Alternative from a Central Bakersfield residential neighborhood



a. Existing View



b. Simulated View

Source: William Kanemoto & Associates, 2012.

Figure 5-17
Key viewpoint 14: Existing and simulated views of a high-speed train from Bakersfield High School stadium, looking northeast

Existing views from Campus Drive and 14th Street include railyards, a parking lot, and school buildings of undistinguished architecture, seen against a background of more rail lines and of industrial and commercial development with little unity or visual distinction. The existing quality of such views is thus moderately low. However, unsightly off-campus views to the north from points within the campus are largely blocked by the Industrial Arts building and street trees along 14th Street. Views within the campus are thus somewhat enclosed, focusing attention inward and enhancing visual quality within the campus, which thus remains moderate.

Without mitigation, the project would introduce a highly dominant 6-foot-tall concrete structure of incompatible, industrial character, which would replace existing campus buildings with an area of cleared land enclosed by security fencing, and expose unsightly views of railyard and industrial development. Together, these effects would represent a strong decline in visual quality of the campus, from moderate to low quality, particularly along 14th Street. In the context of high viewer response in this location, this impact would be substantial. The FHWA method also accounts for situations of particularly high levels of concern for local goals and values. In this situation, local goals and values are of sufficient concern that viewer sensitivity is considered very high. In addition, portions of the high school have been found to be eligible national historic properties, further heightening the sensitivity of views from and of the campus.

Because the alignment is located north of the school campus, shadow impacts would not be anticipated.

To screen views of the guideways as well as unsightly views off-campus exposed by the proposed removal of buildings north of 14th Street, Mitigation Measure VIS-MM-2, Onsite and Offsite Landscape Screening, is recommended.

Key Viewpoint 15: Central Business District Viewers (Views of Guideways). Key viewpoint 15 (Figure 5-18) depicts the view from L Street near Truxtun Avenue, looking south toward the alignment, and represents a typical view of the guideways in the near foreground of Downtown Bakersfield. For roughly 1 mile between Bakersfield High School and Union Avenue, the alignment parallels the heart of the downtown CBD, located along the Truxtun Avenue corridor to the north. As in the city of Fresno, due to the guideways' considerable height, central location, and prominence through the entire length of the central city, the project would be visible over a large area of downtown to distances of 0.5 mile or more, and become a landmark of the city skyline. Thus, although the project's actual site consists of industrial and railyard areas of low visual quality, its visual influence would extend far beyond, into heavily used areas of the CBD. Views of the guideways would be largely restricted to narrow, focally directed views down north-south-oriented boulevards constrained by foreground development lining the streets. This screening effect would be particularly true in the densest parts of the CBD, where the guideways would often remain visually subordinate to the numerous mid-rise buildings in the foreground. Although views of the guideways would thus be limited from any particular spot, because of the guideways' pervasive visibility down streets throughout the area and because of their central location through downtown, public awareness would be high. Potentially affected viewers in the central downtown consist primarily of visitors and workers at commercial destinations; however, based on the high concentration and type of use (recreational, visitor-serving, governmental, etc.) and the general importance of the downtown/Truxtun corridor image, viewer sensitivity is considered high, and anticipated overall viewer response potentially moderately high.



a. Existing View



b. Simulated View

Source: William Kanemoto & Associates, 2012.

Figure 5-18
Key viewpoint 15: Existing and simulated views of high-speed train from L Street near Truxtun Avenue in downtown Bakersfield

As depicted in the simulation, within a roughly 0.5-mile zone, prominence of the project could be high, and its effects on visual intactness and unity within the downtown strong. The prominent horizontal line of the guideways at the visual horizon would contrast with the characteristically vertical forms of taller downtown buildings and block a portion of the sky. The guideways would increase the existing urban character and alter the skyline. To the extent that the guideways exhibit an industrial, utilitarian character, they could appear incompatible with the adjacent office, government, institutional, and commercial uses. They could thus detract from the moderately high visual quality of much adjoining downtown development, reducing the intactness and unity of the setting. Overall, the guideways would have a moderate to strong adverse effect on visual quality of the setting, depending on the location. In the context of moderately high viewer response, this decline in visual quality would be substantial.

To reduce incompatibility in the character of the guideways and columns, Mitigation Measure VIS-MM-1, Elevated Guideway, Retaining Wall and Soundwall Design Measures, is recommended throughout the Downtown Bakersfield segment, as described in Chapter 7.0 of this report.

Key Viewpoint 16: Central Business District Viewers (Views of Bakersfield Station – North Alternative). Key viewpoint 16 (Figure 5-19a) is taken from Truxtun Avenue, across the street from the Bakersfield Convention Center, seen in the foreground, looking southeast toward the proposed Bakersfield Station – North Alternative. A portion of the Amtrak station is visible in the background of the photo in Figure 5-19a at the right of the frame.

As shown in Key viewpoint 16, predominantly low-rise development south of Truxtun Avenue east of Q Street exposes open views of the station and guideways from points along Truxtun Avenue that are blocked by taller, large-scale office and government buildings farther to the west, toward the center of downtown.

General dimensions of the proposed station were described in Section 5.2.1, Project Visual Description. The architecture of the proposed station is not yet final, and it is thus shown in the simulation in conceptual form (Figures 5-19b and 5-19c) to depict the bulk, massing, and general visual scale. However, the overall station footprint, layout, volume, and scale as depicted in the simulations reflect the detailed proposed conceptual design as developed during the station-planning process to date. Figures 5-19b and 5-19c depict two levels of possible station design treatment. The upper images on the figures depict a simpler “functional” design; the lower images depict a more elaborate “iconic” design treatment. The final, specific level of design will be determined through the station-planning process and city design review.

As suggested in these views of both functional and iconic treatments, with high-quality final design, the main station would complement the surrounding high-profile uses and predominantly modern architecture in the central downtown area, and would represent a memorable (vivid) addition to the downtown area. The large structures would be of greater scale than many of the predominantly mid-rise structures in the area, but similar in scale to several other existing buildings of varying heights in the nearby vicinity. Extensive streetscape landscaping associated with the project would contribute added vividness to the station architecture and intactness to the surrounding setting. There would be a high degree of consistency between the existing foreground of civic and commercial uses and the proposed form, scale, and character of the station. Existing intactness and unity would thus be retained, and vividness enhanced, as noted. Overall, the station would have a beneficial impact on the setting.

As also suggested in the simulations, the more industrial appearance of the guideways, if left as unadorned concrete structures without articulation, ornament, or other design consideration, would contrast noticeably with both the station and its existing surroundings. This potential impact and recommended mitigation were addressed above under Key viewpoint 15.



Existing View

Source: William Kanemoto & Associates, 2012; VBN Architects, 2012.

Figure 5-19a
Key viewpoint 16: Bakersfield Station – North Alternative, existing view



Conceptual Station Design (Functional Design Treatment)



Conceptual Station Design (Iconic Design Treatment)

Source: William Kanemoto & Associates, 2012; VBN Architects, 2012; Newlands and Company, 2012.

Figure 5-19b
Key viewpoint 16: Bakersfield Station – North Alternative, from Truxtun Avenue, visual simulations



Conceptual Station Design (Functional Design Treatment)



Conceptual Station Design (Iconic Design Treatment)

Source: William Kanemoto & Associates, 2012; VBN Architects, 2012; Newlands and Company, 2012.

Figure 5-19c
Key viewpoint 16: Bakersfield Station – North Alternative, visual simulations

As seen from viewpoints nearer the project right-of-way, the project would be seen within the existing industrial and railyard setting, characterized by low visual quality. In that setting, the proposed station and associated streetscape development would represent a beneficial impact.

The south side of the proposed station would be developed in an area that is currently industrial in use, characterized by warehouses, manufacturing and storage facilities, and very low visual quality. The site of proposed station and associated facilities is not currently visible from any publicly accessible vantage points in the existing setting, and for that reason it has not been depicted in this analysis. There are currently no sensitive receptors in the vicinity. As depicted in the proposed conceptual station site plan and city-approved specific plans, this area south of the station site would be rezoned and redeveloped to include various mixed-use developments, converting the existing industrial area into a more mixed-use setting. This long-term trend would represent a substantial improvement of the future visual quality of the area. This potentially beneficial cumulative impact is also discussed in Chapter 6.0 of this report.

East Bakersfield Subsection (see Figure 4-31)

East of downtown and the Bakersfield station, throughout the roughly 3-mile segment between Union Avenue and Oswell Street, the BNSF Alternative would be visible within 0.25 mile or less of several hundred residences. A short distance east of the downtown station, the alignment would skirt the northern portion of a small, residential neighborhood surrounded by industrial uses. The residential area is roughly bounded by Kern Street, East 19th Street, Butte Street, East California Avenue, and Brown Street. Several homes in this area would be removed to accommodate the BNSF Alternative; some that remain would directly adjoin the right-of-way, with immediate foreground views of the guideways, columns, security fencing, and, potentially, sound barriers.

Key Viewpoint 17: East Bakersfield Residential Viewers. Figure 5-20(a) is an existing view and Figure 5-20(b) is a simulation of the HST on the BNSF Alternative from KVP 17, a typical viewpoint in this neighborhood. The view is from Robinson Street near the intersection of Eureka Street from roughly 700 feet away. The guideway in this area would be a double-track configuration approximately 36 feet high.

As illustrated in this simulation, despite its lower overall height compared to the downtown segment, the guideway would appear quite prominently in the immediate foreground of nearby residences, and would be visible above the rooftops of nearby homes. The simulation also shows that existing mature tree canopies would filter or screen views of the guideway in many locations.

The mature tree canopies in KVP 17 would not be substantially affected by the project. However, a decline in the intactness and unity of the views in the neighborhood due to the guideways, the cleared right-of-way, and OCS components would reduce visual quality from moderate to low, especially for residents located nearest the right-of-way. In the context of the high viewer sensitivity and response in this setting, this reduction in the existing visual character and quality of the site and its surroundings would be substantial.



a. Existing View



b. Simulated View

Source: William Kanemoto & Associates, 2012.

Figure 5-20
Key viewpoint 17: Existing and simulated views of the BNSF Alternative from Robinson Street at Eureka Street, looking north

East of Brown Street to the project terminus at Oswell Street, the project would parallel the southern side of Edison Highway and the adjoining UPRR railroad right-of-way for approximately 2 miles. The guideway would be within 300 feet or less of a substantial number of residences in this segment, and would possibly require relocation of a small number of residences. However, because the alignment would skirt and not bisect these neighborhoods, viewer exposure and thus the overall response of the remaining residences would be limited due to the filtering of intervening industrial land uses and other foreground structures. The HST guideway would blend with the visual elements of the existing railroad, highway, and commercial buildings, and would not affect the intactness, vividness, or unity of the view. In the context of moderately low viewer response and little change from the existing visual quality, the project effect east of Brown Street would be negligible.

To address impacts on residents in the residential neighborhood between Kern Street and Brown Street, Mitigation Measure VIS-MM-2, Onsite and Offsite Landscape Screening, is recommended.

Corcoran Elevated Alternative

Under the Corcoran Elevated Alternative, the project would follow the existing BNSF right-of-way. The HST tracks would be elevated between roughly Niles Avenue in the north to 4th Avenue in the south of downtown Corcoran. This section of the Corcoran Elevated Alternative would parallel the BNSF Alternative to the east of the BNSF right-of-way. Impacts would be similar to those described under the BNSF Alternative and depicted in the simulation of Key Viewpoint 6 (Figure 5-9). The guideways would not pass directly above the Amtrak station as they would under the BNSF Alternative, but would remain very close to it. Due to the scale and height of the elevated guideway, the guideway's effects would strongly intrude into adjacent areas within the foreground distance, up to 0.25 mile. The project would be prominent in sight lines down perpendicular streets within foreground distances, and it would sometimes be visible above nearby rooftops to high numbers of viewers.

Strong adverse effects to existing visual intactness and unity would result from the introduction of this visually dominant feature of urban, industrial character into the small agricultural town setting. Due to its central location adjacent to the downtown center, the elevated guideways would exert a strong influence on the image and character of the town, altering the prevailing scale and introducing a strongly urban, industrial character into the town center. Nearby residents, park users, and visitors to the town's main streets would experience strong declines in visual quality. These effects would be exacerbated wherever sound walls are required. In the context of moderately high to high viewer response of adjacent residents and visitors to the town's central business district, the elevated guideways would substantially degrade the existing visual character or quality of the area within roughly 0.25 mile. This would be a substantial impact.

Hanford West Bypass 1 and 2 Alternatives

The Hanford West Bypass 1 and Hanford West Bypass 2 alternatives occur entirely within the San Joaquin Valley Rural/Agricultural Landscape Unit, although a 2-mile segment east of the city of Hanford is characterized by somewhat lower visual quality than is typical in this landscape type due to the encroachment of suburban development. As is the case with the BNSF Alternative within this landscape unit, the Hanford West Bypass 1 and Hanford West Bypass 2 alternatives would also require new roadway overcrossings and undercrossings and related road improvements to provide grade separation from the HST alignments.

The Hanford West Bypass 1 and Hanford West Bypass 2 alternatives would cross the scenic Kings River on the first segment of an elevated viaduct east of the community of Laton. However, viewer exposure to this crossing is low. The project would not be visible from Laton-Kingston

Park, which is located under 0.5 mile east of the alignment. The viaduct would be visible to boaters and other river recreationists within approximately 0.25 mile to the west and 0.4 mile to the east. However, the structure would be far less prominent than the existing 13th Avenue roadway bridge adjoining Laton-Kingston Park, and would be screened by dense riparian woodland on either bank of the river except in the portion directly over the waterway. The structure would thus have little effect on the vividness, intactness, and unity of the existing view, and therefore would not lower visual quality. Thus, even in the context of the high viewer sensitivity of river recreationists, due to low viewer numbers and low viewer exposure, the effect on river recreationists would be negligible.

As in other segments of the San Joaquin Valley Rural/Agricultural Landscape Unit, the primary viewer group that would be affected visually by the Hanford West Bypass 1 and Hanford West Bypass 2 alternatives would consist of scattered rural residences in very close proximity to the alternative alignments.

Key Viewpoint 18: Hanford West Bypass Alternatives from Mt. Whitney Avenue (Laton). Figure 5-21(a) is an existing view and Figure 5-21(b) is a simulated view of the HST on both the Hanford West Bypass 1 and Hanford West Bypass 2 alternatives from KVP 18. This viewpoint is from the nearest residence on Mt. Whitney Avenue west of the center of Laton, looking east toward Laton and a segment of the proposed HST elevated guideway. The view is representative of residential views of elevated project segments at near-foreground distance, which would occur in several scattered locations along the Hanford West Bypass 1 and Hanford West Bypass 2 alternatives. The view is also representative of views for motorists traveling toward Laton on the main access route to the town from the west. (Typical views of at-grade and elevated segments of the HST within the rural valley landscape were also depicted in KVPs 3 and 4 shown in Figures 5-5, 5-6, and 5-7.) At distances of 0.25 mile or less in this rural context, the modern, industrial character of the HST guideway and OCS would result in a decline in visual intactness and unity and in an overall decrease in visual quality from moderate to moderately low. Residential viewers are generally assumed to have high viewer sensitivity, particularly where the HST is in foreground views (0.25 mile or less), although the overall number of affected residents here would be low. Overall viewer response would be moderately high. In the context of a moderately high viewer response, the reduction in visual quality would result in a moderate impact.

In the vicinity of 13th Avenue and West Lacey Boulevard in the unincorporated rural area east of Hanford and west of Armona, the Hanford West Bypass 1 and Hanford West 2 alternatives would be adjacent to the campus of the College of the Sequoias. Two HST design options are under consideration in this segment: an at-grade option and a below-grade option. The at-grade option would require an eastward realignment of 13th Avenue at the intersection with Lacey Boulevard, and construction of undercrossings of the two roads, which would then intersect below-grade.

Viewers at the college would have moderately high viewer sensitivity but moderate visual exposure to the HST. The HST alignment would be screened along most of the school's 13th Avenue frontage by existing orchards. Under the HST at-grade option, the realignment of 13th Avenue and the introduction of a road undercrossing would alter the existing scene and introduce structures with a more urban character, including an at-grade HST bridge and undercrossing roadways and retaining walls. The effects of these common urban features on visual character and quality would appear largely in keeping with the urban character of the school and nearby suburban development within the Hanford city limits to the east. These features, when seen at close distance from the southernmost outdoor portions of the campus, including an outdoor amphitheater area used for public gatherings, would contribute, together with the berm and contacts of the at-grade HST, to a decline in intactness and unity. Most of the campus would have low exposure to these alternative alignments and experience moderate or little effect from them. However, the amphitheater and other adjacent outdoor use areas would have open views

of the alignments at distances of under 500 feet and would experience a moderate to strong decline in intactness and unity without mitigating screening. This view is not currently visible because it is obscured by an existing residential property, which would be displaced by the Hanford West Bypass 1 and Hanford West Bypass 2 alternatives, thereby exposing the view of the HST. Because the alternative alignments are not currently visible, the view is not reproduced here. The very short portion of the alternative alignments with potential exposure to the school could be effectively screened with landscaping. Without such mitigation, however, the moderate to strong decline in visual quality in the context of the moderately high overall viewer response would be a substantial impact.

Under the HST below-grade option, 13th Avenue in the vicinity of the college would retain its existing alignment and remain at-grade, as would Lacey Boulevard. Both roads would require new at-grade roadway bridges to span the opening above the HST alignment, but these structures would be little noticed by motorists after construction. The below-grade alignment would not be prominently evident from within the college campus; chain-link fencing at the right-of-way would be the primary visible above-ground feature. The effects on campus viewers of the below-grade option would thus be negligible.

Under both at-grade and below-grade options, motorists would be the primary affected viewer group of the Hanford West Bypass 1 and Hanford West Bypass 2 alternatives, particularly on 16 roadways. These roadways are primarily east-west routes that cross the alignments and would require grade separations (new undercrossings or overcrossings) or that in two cases (Mt. Whitney and Kansas Avenues) would be crossed by elevated guideways. In general, motorists would have moderate sensitivity and overall viewer response.

The effects of the elevated guideway crossings on motorists were depicted in KVP 18, Figure 5-21. As suggested by the simulated view, the elevated guideway would appear prominent within roughly a 0.25-mile-distance zone and cause a decline in the existing intactness and unity of the setting by introducing a large structure with an urban character. However, the structure is similar in appearance and scale to the roadway overcrossing structures commonly encountered by motorists daily, and given the short duration of viewer exposure to the project, overall viewer response would be moderate. In that context the resulting decline in visual quality would be a moderate impact.



a. Existing View



b. Simulated View

Source: William Kanemoto & Associates, 2012.

Figure 5-21
Key viewpoint 18: Existing and simulated views of high-speed train on the Hanford West Bypass 1 and 2 alternatives, from Mt. Whitney Avenue west of Laton, looking east

Figure 5-22 shows the existing and simulated views of the potential Kings/Tulare Regional Station – West Alternative from KVP 19, depicting the below-grade station option. The view is from 13th Avenue at a distance of 0.2 mile, looking southeast from the northwest boundary of the proposed station site.

Figure 5-23 shows the existing and simulated views of the potential Kings/Tulare Regional Station – West Alternative from KVP 20, depicting the at-grade station option. The view is from adjoining 13th Avenue, looking northeast from the Last Ditch Canal crossing at a distance of 0.2 mile. In both the below-grade and at-grade cases, the proposed station and associated parking structures, though relatively prominent when seen at near-foreground distance from the road, would be moderate in scale when seen by motorists on 13th Avenue.

Although the station would represent a more urban element in the predominantly rural setting, an attractive station design would enhance the setting's visual quality in comparison to the existing electrical substation and visually disordered agri-industrial business that currently dominate the site and vicinity. The view of the station by passing motorists would be softened by tree canopies and other landscaping. Consequently, vividness of the scene from such nearby public viewpoints could be enhanced in comparison to the equipment storage currently visible on the site. The introduction of the large structure and parking lots would lower intactness and unity, but to a minor degree in relation to the existing substation and equipment storage. Overall, the effect on visual quality would be neutral to beneficial. In the context of the moderate viewer response of motorists on SR 43, this effect would be a negligible impact.

The at-grade Hanford West Bypass 1 and Hanford West Bypass 2 alternatives would require construction of an elevated railroad overcrossing of the SJVR to span the HST alignment. This structure would be particularly prominent to the four nearest homes north of 13th Avenue, which would view the overcrossing at distances ranging between 50 and 500 feet. From these residences the structure, without mitigation, would result in a strong decline in visual intactness and unity. In the context of the strong viewer response of adjacent residents, this decrease in visual quality from moderate to low would be a substantial impact.



a. Existing View



b. Simulated View

Source: William Kanemoto & Associates, 2012; VBN Architects, 2012.

Figure 5-22
Key viewpoint 19: Existing and simulated views toward the Kings/Tulare Regional Station – West Alternative, below-grade option



a. Existing View



b. Simulated View

Source: William Kanemoto & Associates, 2012; VBN Architects, 2012.

Figure 5-23
Key viewpoint 20: Existing and simulated views toward the Kings/Tulare Regional Station – West Alternative, at-grade option

Corcoran Bypass Alternative

The Corcoran Bypass Alternative is located a short distance to the east of the Corcoran city limits, passing entirely through sparsely populated agricultural lands, and would be entirely at-grade. Primary visual effects of this alternative would include views of the at-grade alignment at very short distances, and views of earth embankments and bridges of new road overcrossings at Van Dorsten/5-1/2 Avenue and Corcoran Highway at 5th Avenue. Affected viewers of this alternative would be limited to a small number of rural residents within 0.25 mile of the alignments. A small number of homes (roughly one dozen) could be removed for this alternative, and a small number (roughly two dozen) of the remaining residences would lie within 500 feet or less of the right-of-way or roadway overcrossings. Though few in number, these high-sensitivity, high-exposure viewers could experience strong adverse impacts on visual quality from foreground views of the overcrossing. In the context of viewers' high level of viewer sensitivity and response, this impact is considered substantial in the absence of mitigation. Unlike the BNSF Alternative, which would require a new adjoining road overcrossing and retaining walls, the Corcoran Bypass Alternative, would not require these elements and would therefore have no impacts on residences on Patterson Avenue in central Corcoran.

To address impacts on affected residences, Mitigation Measure VIS-MM-2, Onsite and Offsite Landscape Screening, is recommended for the homes adjacent to the right-of-way or highway overcrossings, if requested by owners.

Wasco-Shafter Bypass Alternative

The Wasco-Shafter Bypass Alternative would bypass the towns of Wasco and Shafter a short distance to the east of their city limits, passing entirely through sparsely populated agricultural lands. The alignment would be sited entirely at-grade. However, like the BNSF Alternative, The Wasco-Shafter Bypass Alternative would have an impact on the rural residential settlement at 7th Standard Road because it would also require the relocation of homes in this small settlement, and the construction of a 7th Standard Road overpass a short distance to the south. Some of the remaining adjacent homes could experience strong declines in intactness, unity, and overall visual quality due to their close proximity to the right-of-way; some could directly adjoin the right-of-way. In the context of the high viewer response of adjacent residents, this would represent a substantial impact.

To address impacts on affected residences, Mitigation Measure VIS-MM-2, Onsite and Offsite Landscape Screening, is recommended for the homes adjacent to the highway overcrossing if requested by owners.

Allensworth Bypass Alternative

Key Viewpoint 21: Allensworth Bypass. Key viewpoint 21 (Figure 5-24) depicts the Allensworth Bypass Alternative as seen from Colonel Allensworth State Historic Park at a distance of roughly 1 mile, looking west. As depicted in this view, the project would be at-grade in this segment and remain very visually subordinate to the setting, becoming somewhat more visible when the HST trains passed by, but remaining subordinate. The overall effect on the existing visual quality of the park setting would be subtle and minor.

The Allensworth Bypass Alternative passes through an area nearly devoid of residents. Consequently no potential sensitive visual receptors outside of the park were identified for this alternative alignment segment.

Bakersfield South Alternative

Impacts under the Bakersfield South Alternative would be substantially similar to those described under the BNSF Alternative, except as otherwise detailed below.

Under the Bakersfield South Alternative, the project guideways would be located approximately 450 feet north of the BNSF Alternative in the vicinity of Bakersfield High School. Although the guideways would remain prominent, their visual dominance would be reduced with increased viewing distance. They would remain partially screened by the intervening existing trees and structures, including the Industrial Arts building north of 14th Street, which would remain. Because of the reduced visual exposure due to screening and distance compared to the BNSF Alternative, overall change to visual intactness and quality would remain moderate. Despite the high level of viewer response, impacts would thus remain moderate.

Key Viewpoint 22: Central Business District Viewers (Bakersfield Station – South Alternative). Key viewpoint 22 (Figure 5-25) is taken from S Street south of Truxtun Avenue in front of the existing Amtrak station. The Bakersfield Station–South Alternative would be located 400 to 500 feet south of the Bakersfield Station–North Alternative. Consequently, the station would be less exposed to public viewpoints, including those from Truxtun Avenue, than the Bakersfield Station–North Alternative. However, overall, visual effects would be similar to those of the Bakersfield Station–North Alternative. As illustrated by the conceptual station design shown in Figure 5-25, the station as seen from the general Truxtun Avenue corridor would be compatible in scale with the surrounding architecture in the central downtown area, which is predominantly modern, and would enhance vividness. Extensive streetscape landscaping associated with the project would increase the vividness of the station architecture and surrounding setting. Overall, a high degree of consistency between the existing foreground of civic and commercial buildings and the proposed form, scale, and character of the station would be anticipated. Ongoing design coordination with the city would continue to facilitate that goal.

As seen from viewpoints near the project right-of-way, the project would be seen within the existing industrial and railyard setting, which is of low visual quality. In that setting, the proposed station and associated streetscape development would represent a beneficial impact on the setting.



a. Existing View



b. Simulated View

Source: William Kanemoto & Associates, 2012.

Figure 5-24
Key viewpoint 21: Existing and simulated views of high-speed train on Allensworth Bypass
Alternative, looking west from Colonel Allensworth State Historic Park



a. Existing View



b. Conceptual Station Design (Functional Design Treatment)

Source: William Kanemoto & Associates, 2012; VBN Architects, 2012; Newlands and Company, 2012.

Figure 5-25
Key viewpoint 22: Bakersfield Station – South Alternative from S Street

As with the BNSF Alternative, the south side of the proposed station would be developed in an area that is currently industrial and characterized by warehouses and manufacturing and storage facilities, and that is of very low visual quality. The site of the proposed station and associated facilities is not visible from any sensitive public viewing positions in this area south of the station site, and therefore the southern station vicinity has not been analyzed further. As under the BNSF Alternative, the area south of the station site under the Bakersfield South Alternative would also be rezoned and redeveloped to include various mixed-use developments, which would convert the existing industrial area into a more mixed-use setting. This long-term trend would represent a substantial improvement in the future visual quality of the area.

As under the BNSF Alternative, the Bakersfield South Alternative would proceed eastward through a predominantly industrial area of low visual quality and sensitivity, but then would enter the visual foreground of a residential neighborhood between Butte and Brown Streets, requiring removal of some homes and causing strong reductions in visual quality for the remaining affected homes. Viewer sensitivity and overall response in this neighborhood would be high, and impacts would be potentially substantial.

Key Viewpoint 23: East Bakersfield Residential Viewers. Figure 5-26(a) is an existing view and Figure 5-26(b) is a simulated view of the HST on the Bakersfield South Alternative from KVP 23, a typical viewpoint in this neighborhood on Owens Street at Dolores Street, looking south at a distance of approximately 600 feet from the alignment. As under the BNSF Alternative, the Bakersfield South Alternative would also require removal of a small number of residences on Butte Street and would directly adjoin the remaining residences in the small residential neighborhood east of Union Avenue, as described above under the BNSF Alternative. The decline in visual quality due to the elevated guideways as seen by the adjacent, high-sensitivity, high-viewer-response residential viewers would be a substantial impact.

Key Viewpoints 24, 25: East Bakersfield Residential and Recreational Viewers.

Figures 5-27 and 5-28 show existing views and visual simulations of KVPs 24 and 25, respectively. These viewpoints depict the Bakersfield South Alternative as seen within the East California Avenue corridor. Both KVPs are adjacent to Dr. Martin Luther King Jr. Park, which is located on the southern side of East California Avenue. Under the Bakersfield South Alternative, the HST alignment would merge with California Avenue near Haley Street where it would occupy the center median until shortly past Mt. Vernon Avenue, approximately 1 mile to the east. California Avenue in this segment is approximately 85 feet wide from curb to curb. The guideway would be 50 feet wide and rise to a similar distance to track height, with an additional 24 feet to the top of the OCS poles (up to approximately 74 feet to the top of the OCS).

The existing visual quality within the corridor is moderately low and is characterized by a heterogeneous mix of commercial, light-industrial, and residential buildings. Nevertheless, the guideway would have moderate to strong adverse effects on intactness and unity, particularly for park users and a substantial number of residences at near-foreground distance south of California Avenue. In the context of the moderate to moderately high viewer response of park visitors and residents, this would be a substantial impact.

To address potential impacts of the Bakersfield South Alternative, Mitigation Measure VIS-MM-1, Elevated Guideway, Retaining Wall and Soundwall Design Measures, and Mitigation Measure VIS-MM-2, Onsite and Offsite Landscape Screening, are recommended.



a. Existing view



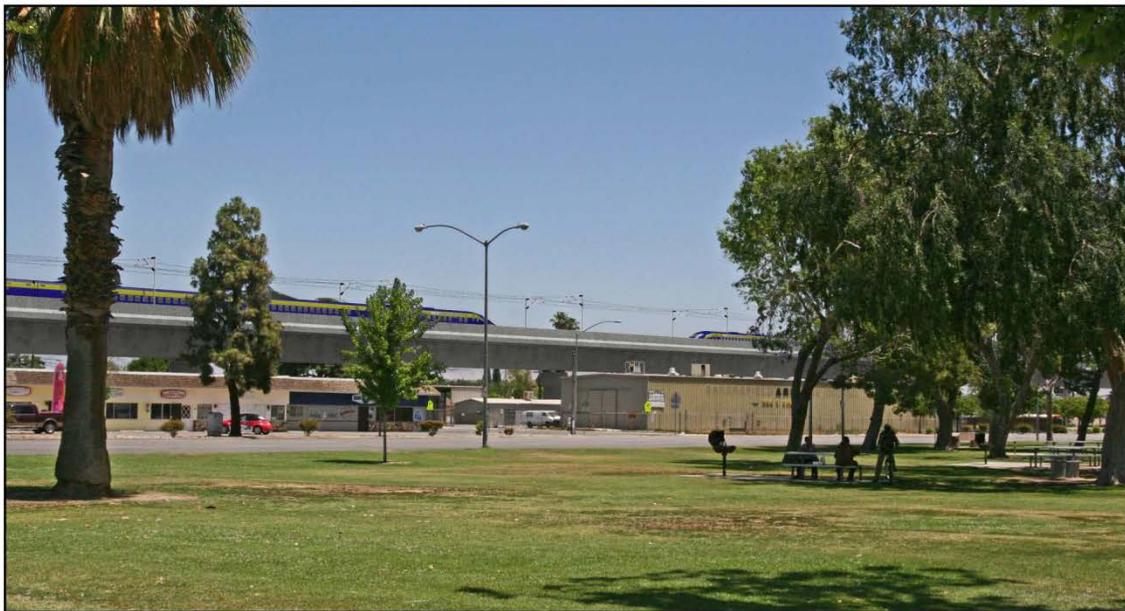
b. Simulated view

Source: William Kanemoto & Associates, 2012.

Figure 5-26
Key viewpoint 23: Existing and simulated views of high-speed train on the Bakersfield South
Alternative, from Owens Street at Dolores Street



a. Existing view



b. Simulated view

Source: William Kanemoto & Associates, 2012.

Figure 5-27
Key viewpoint 24: Existing and simulated views of high-speed train on Bakersfield South Alternative from Dr. Martin Luther King Jr. Park, looking northeast



a. Existing view



b. Simulated view

Source: Newlands & Co., 2012.

Figure 5-28

Key viewpoint 25: Existing and simulated views of high-speed train on Bakersfield South Alternative from Dr. Martin Luther King Jr. Park, looking east down E. California Avenue

Bakersfield Hybrid Alternative

Under the Bakersfield Hybrid Alternative, the visual impacts of the HST would be similar to those of the BNSF and Bakersfield South alternatives in the Greenacres/Rosedale and Kern River landscape units. Impacts would be essentially similar to those of the Bakersfield South Alternative in the Central Bakersfield landscape unit between the Kern River and the vicinity of Bakersfield High School.

As under the Bakersfield South Alternative, within the Central Bakersfield Landscape Unit for approximately 0.5 mile between Oak Street and Mercy Hospital and Bakersfield High School at A Street, the Bakersfield Hybrid Alternative would pass within 150 feet of residences on 16th Street to the north, adjoining them to the south across 16th Street. This section of the alignment would also require the relocation of various industrial and commercial uses on the south side of 16th Street. For the residential viewers on 16th Street, the contrasting scale and character of the elevated concrete guideway and support columns as well as the associated removal of existing businesses on the street, the right-of-way clearing, and the introduction of security fencing would result in a decline in the intactness, unity, and overall visual quality of the existing residential setting. In the context of the high viewer response typical of residential neighborhoods near the elevated alignment, the decrease in visual quality would have substantial intensity under NEPA, and the impact would be significant under CEQA. In contrast to the BNSF Alternative, the Bakersfield Hybrid Alternative would not strongly affect residences south of California Avenue in this segment due to distance and intervening landscaping and structures. As under the Bakersfield South Alternative, the elevated guideways would be visible from Jastro Park at distances of under 600 feet at their nearest point, but the views of these guideways would be highly filtered by the intervening foreground structures and tree canopies. The visual quality of the park would thus not be substantially affected.

With the Bakersfield Hybrid Alternative, the project guideway would be approximately 440 feet farther north of Bakersfield High School than it would be under the BNSF Alternative, and its distance from the high school would be essentially similar to the distance under the Bakersfield South Alternative (Figure 3.16-23). Although the guideway would remain prominent, it would be sufficiently distant to substantially recede in visual dominance, and it would remain partially screened by the existing, intervening trees and structures, including the Industrial Arts Building north of 14th Street. Because of the reduced visual exposure due to screening and distance, the change to visual intactness and the overall visual quality at Bakersfield High School would have negligible intensity under NEPA, and the impact would be less than significant under CEQA.

Key Viewpoint 26: Central Business District Viewers (Bakersfield Station–Hybrid Alternative). Figure 5-29(a) shows the existing view and Figure 5-29(b) is a visual simulation from KVP 26 of the Bakersfield Station – Hybrid Alternative. This viewpoint is from Truxtun Avenue at V Street, looking south toward the proposed north station entrance and drop-off area. As is the case for other HST station alternatives, the proposed station under the Bakersfield Hybrid Alternative has not yet been fully designed, and is thus shown in the simulation in conceptual form, with a generic “functional” fenestration and facade treatment, to depict the bulk, massing, and general visual scale only. The final, specific level of design would be developed in coordination with the City of Bakersfield. This station site would be approximately 400 to 500 feet east of the station site under the BNSF Alternative. Visual exposure of the north station entrance to viewers on Truxtun Avenue would be similar to that of the station site under the BNSF Alternative. In general, the overall visual effects of the Bakersfield Station–Hybrid Alternative on the central downtown area would be similar to those of the HST station under the BNSF and Bakersfield South alternatives, although the overall station footprint within the Truxtun Avenue corridor north of the BNSF right-of-way would be somewhat smaller than that of the HST station under the BNSF Alternative due to its position farther to the east.

As depicted in Figure 5-29(b), the proposed station and associated streetscape development would improve visual quality and enhance vividness and visual unity. This would represent a beneficial effect.

As illustrated by this simulation, the station as seen from the general Truxtun Avenue corridor would be compatible in scale with the nearby, predominantly modern architecture in the central downtown area, and it would greatly enhance vividness. Extensive streetscape landscaping associated with the project would increase intactness and unity of the station's setting. Overall, a high degree of consistency is anticipated between the existing civic and commercial buildings of central downtown and the proposed form, scale, and character of the station. Ongoing design coordination with the city will be continued to facilitate that goal.

As under the BNSF and Bakersfield South alternatives, the southern side of the proposed station site under the Bakersfield Hybrid Alternative is characterized by industrial land uses of low visual quality, and there are no sensitive viewer groups. The site of the proposed station and the associated guideways, parking structures, intermodal facilities, and access streets are not currently visible from any publicly accessible vantage points within the existing setting, and therefore have not been depicted in this analysis.

Key Viewpoint 27: East Bakersfield Residential Viewers. Figure 5-30(a) is an existing view and Figure 5-30(b) is a simulation of the HST on the Bakersfield Hybrid Alternative from KVP 27. This viewpoint is from King Street at Dolores Street, looking north from the vicinity of Owens Middle School at a distance of approximately 675 feet from the Bakersfield Hybrid Alternative. Several residences on 18th Street in the background of this view would be removed. As under the BNSF and Bakersfield South alternatives, the Bakersfield Hybrid Alternative would directly adjoin a small number of the remaining residences in the residential neighborhood east of Union Avenue, as described above under the BNSF Alternative. The impact on visual quality of the elevated guideway on the remaining, high-sensitivity residential viewers directly adjoining the new right-of-way would have substantial intensity under NEPA and would be a significant impact under CEQA.



a. Existing View



b. Simulated View

Source: William Kanemoto & Associates, 2012; VBN Architects, 2012.

Figure 5-29
Key viewpoint 26: Bakersfield Station – Hybrid Alternative from Truxtun Avenue at V Street, looking south



a. Existing view



b. Simulated view

Source: William Kanemoto & Associates, 2012.

Figure 5-30
Key viewpoint 27: Existing and simulated views of high-speed train on Bakersfield Hybrid
Alternative from Owens Middle School, looking north on King Street

Heavy Maintenance Facility Alternatives

A 154-acre HMF could be located in one of four possible locations: in rural Fresno (the Fresno Works–Fresno HMF Site); near Hanford (the Kings County–Hanford HMF Site); or in rural Kern County (either in the vicinity of Wasco [the Kern Council of Governments–Wasco HMF Site] or in the vicinity of Shafter [the Kern Council of Governments–Shafter HMF Site]). Two of these sites are located in the Hanford segment of the BNSF Alternative. The other two are located in rural Kern County—one east of the town of Wasco, and the other in a relatively sparsely populated area north of 7th Standard Road southeast of Shafter. The 154-acre facility would transform a large surrounding area into one with an industrial character, resulting in a strong decline in the quality of views from any rural residences located within 0.25 mile. All four sites under study are located within a few hundred feet of rural residences, although the number of affected homes varies between sites. Also, the HMF study areas are much larger than the actual facility, and the precise siting of the facility within each of the study areas is not yet known. Site-specific impacts thus cannot be determined with certainty at this time, nor can relevant key viewpoints or sensitive receptors be identified. The first site, the Fresno Works–Fresno HMF Site located east of Easton, would be located within a short distance of a large number of rural residences and could have visual effects on an eligible National Register historic district near Easton (the Washington Irrigated Colony). The Wasco HMF site would also be vulnerable to substantial impacts, given the high concentration of nearby residences. Of the four potential sites, these two sites would therefore be most vulnerable to substantial visual impacts. Activity at all four sites would, without mitigation, represent potentially substantial impacts on nearby rural residents with high anticipated viewer response.

To reduce adverse impacts of the HMF on nearby rural residences, Mitigation Measure VIS-MM-2, Onsite and Offsite Landscape Screening, is recommended, as described in Chapter 7.0 of this report.

Impacts on rural residents from nighttime lighting and light pollution from the HMF are also a concern. Without adequate mitigation and design measures, station and parking lot lighting could contribute to nighttime light pollution in areas that currently enjoy dark night skies.

To reduce this impact, Mitigation Measure VIS-MM-4, Operational Night Lighting Measures, is recommended.

Scenic Vistas and Highways

BNSF Alternative

No listed or eligible state scenic highways and no adopted local scenic highways or roadways were identified within the viewshed of this alternative. Consequently, no impacts on scenic highways are anticipated.

No formally designated scenic vistas or vista points were identified in the visual foreground of the project within which project features could cause substantial view blockage or impairment to scenic views or view corridors.

Where areas of high existing visual quality have been identified in the general analysis of aesthetics and visual impacts, above, views of important scenic features seen by substantial numbers of sensitive viewers could be regarded as constituting informal scenic vistas.

The principal such instance is the view of the Kern River and Greenhorn Mountains by recreational visitors in the Kern River Parkway in west Bakersfield. For recreational users of the parkway, views of the river and mountains are among its principal attractions. Distant views of the river and mountains to the northeast would be affected by the visual intrusion and blockage

stemming from the proposed project river crossing, as depicted by the visual simulation of Key Viewpoint 12 (Figure 5-15). While the impacts on foreground views of the river could be reduced by structural design measures and additional parkway landscaping, blockage of distant views up the river and to the mountains could not be mitigated.

No other instances of scenic view blockage were identified for the BNSF Alternative. While views of the Sierra and Coast Range mountains are sometimes prominent and scenic in the San Joaquin Valley, they are more typically obscured by haze and smog and are not typically the focus of attention for viewers in the vicinity of the project alignments. To the extent that views of the mountains do represent scenic vistas, however, they would not be precluded by the project. New scenic views of the valley would be provided to future HST passengers by the elevated viewing position provided in the elevated project segments, which would create unusual panoramic, distant views that are otherwise rare in the valley due to its uniformly level terrain.

Other High-Speed Train Alignment Alternatives

Effects of the non-BNSF alignment alternatives on scenic vistas would be substantially similar to those under the BNSF Alignment. Obstruction of long-distance views of the Central Valley in general could be somewhat less under the non-BNSF alignment alternatives, due to a smaller overall amount of elevated guideway. However, obstruction of outstanding, identifiable scenic features would not differ substantially from the BNSF Alternative under the various non-BNSF alternative alignments.

Effects of the Bakersfield South Alternative on views from the Kern River Parkway would be similar to those under the BNSF Alternative, and these effects would be substantial.

Historic Buildings, Neighborhoods, and Landscapes

BNSF Alternative

Section 106 of the National Historic Preservation Act requires projects with federal participation to take into account the effects of the undertakings on historic properties. Over 70 properties were identified for study as historic properties in immediate proximity to the project's alternative alignments. Of these, 23 properties within the project's area of potential effects (APE) were found to be potentially affected by the project or alternatives (Authority and FRA 2011c). Some of these properties would be removed or relocated as a result of the project. Due to their proximity to the alignments and the large scale of the project features, all historic properties not removed or relocated could experience prominent visual effects on their setting from the project features if located within 0.5 mile or less of the alignment.

Under 36 CFR 800.5(a)(2), adverse effects on historic properties may include "introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features...." Specifically, historic properties whose eligibility for state or federal listing depends on the criteria of *integrity of setting or feeling* could experience adverse historical impacts from such visual effects. Numerous eligible historic properties fall within 0.5 mile of the project. However, it is important to note that historic status of a property does not necessarily imply visual sensitivity. Many historic properties would *not* rely on the criteria of integrity of setting or feeling for their eligibility, and so are not expected to be adversely affected by or vulnerable to project visual effects.

The project's Findings of Effect study identified the following 13 properties whose historic value could be adversely affected by visual impacts under the BNSF Alternative. The following list is included for informational purposes only. Findings related to impacts on historic properties may be found in the *California High-Speed Train Fresno to Bakersfield Section: Historic Property*

Survey Report and the California High-Speed Train Fresno to Bakersfield Section: Findings of Effect Report (Authority and FRA 2011c, 2011b).

- Southern Pacific Railroad Depot, Fresno
- Basque Hotel/E.A. Walrond Building, Fresno
- Holt Lumber Company, Fresno
- South Van Ness Entrance Gate, Fresno
- North Branch of the Oleander Canal, Fresno County
- Washington Canal, Fresno County
- Vierra Farm, Hanford
- Allensworth Historic District, Allensworth
- Santa Fe Freight Depot, Shafter
- San Francisco & San Joaquin Valley Railroad Section House, Shafter
- Harvey Auditorium, Bakersfield High School, Bakersfield
- Stark/Spenser Residence, Bakersfield
- Residence, 1031 E. 18th Street, Bakersfield
- Residence, 2509 E. California Avenue, Bakersfield

Section 4(f) of the Department of Transportation Act calls for the preservation of the natural beauty of the countryside, public park and recreation lands, wildlife and waterfowl refuges, and historic sites. Sixty-one properties were found to constitute 4(f) properties under Section 4(f) of the DOT Act, under all project alternatives. Of these, seven properties were found to have potential direct use impacts under the BNSF Alternative, and five were found to have potential temporary use impacts. Parks and wildlife areas in this group have been analyzed in detail in the “Environmental Consequences” discussion of the BNSF Alternative (Chapter 5.0). Historic sites in this group are referenced in the discussion of Section 106 properties, directly above. All potential instances of “constructive use” under Section 4(f), which would include impacts due to visual effects, were found to be *de minimis* with recommended mitigation measures (Authority and FRA 2011a).

Other Alignment Alternatives

The Draft Project Finding of Effect (FOE) Study identified the following five properties as adversely affected by, among other project effects, direct or indirect visual impacts on their integrity of setting or feeling under the non-BNSF alternative alignments:

- Joe O'Brien Stables, Shafter—Wasco-Shafter Bypass Alternative.
- Kern County Civic Administration Center, Bakersfield—Bakersfield South Alternative.
- Stark/Spenser Residence, Bakersfield—Bakersfield South Alternative.
- San Joaquin Cotton Oil Company, Bakersfield—Bakersfield South Alternative.
- 2509 E. California Avenue, Bakersfield—Bakersfield South Alternative.

The Wasco-Shafter Bypass Alternative would not affect the Shafter Train Depot in downtown Shafter and therefore would result in a lesser impact than the corresponding segment of the BNSF Alternative. The Allensworth Bypass Alternative would not affect Colonel Allensworth State Historic Park to a substantial degree, and would therefore result in a lesser impact than the corresponding segment of the BNSF Alternative.

Of the 61 properties found to constitute 4(f) properties under Section 4(f) of the DOT Act, all were found to constitute *de minimis* impacts under all non-BNSF alternatives, with the following exceptions: Amtrak Station Playground, Kern County Civic Administration Center, and Bakersfield High School would each experience direct use impacts from the project (Authority and FRA 2011c). Potential constructive use impacts resulting from the specifically visual effects of the project could be addressed by the mitigation measures recommended in Chapter 7.0 of this report.

Chapter 6.0

Cumulative Impacts

6.0 Cumulative Impacts

6.1 Introduction

This analysis compares the proposed alignments with the projects identified for cumulative impact analysis, to identify which projects and plans could be visible from vantages that could also include project facilities. A 0.5-mile distance from the alignment (area of effect) was used to narrow the list of cumulative projects that could have visual impacts that would overlap with those of the HST project. This radius of effect also applies to sites of indirect effects, where known.

The cumulative project list was further refined by reviewing the remaining projects for their potential for any visual impacts. Projects with no surface features (e.g., sewer line projects) or that would not have any visual impacts (such as pavement resurfacing or expansion of existing agricultural uses) were culled from the list. Overlapping construction impacts from the HST project and these projects would, if occurring in the same timeframe, have potential temporary cumulative construction-related impacts. However, it is assumed that the project-specific mitigations for the construction impacts of each project would also reduce their combined, cumulative impacts. For example, under Mitigation Measure VIS-MM-6, the HST project would avoid staging near sensitive receptors or would screen views of staging sites with opaque perimeter fencing. Nighttime construction lighting would be shielded and restricted to the construction area, and post-construction disturbances would be restored to their original condition.

Although specific measures of contributing cumulative projects are not known, it is assumed that where project-specific construction measures would be adverse, corresponding project-specific measures would be required. In that case, any cumulative overlapping construction impacts would also be anticipated to be minor and temporary.

The remaining projects are discussed below. Additionally, four specific plans (Coberly Park, Heritage Ranch, Mission Lakes, and Orchard Park) in the Shafter area were reviewed for potential overlapping effects with those of the HST project.

The remaining projects that could contribute to cumulative impacts with the HST project were further reviewed to determine if they coincided with the most visually prominent project reaches—those sections of the alignment that would be elevated or include other large structures such as stations. This was done in order to better define the HST project's "cumulatively considerable" contribution. (If the rail structures were more visually prominent, they would have a greater contribution to cumulative impacts). Other overlaps of the project alignment also are considered in this evaluation, and their contribution would be cumulatively considerable if the surrounding visual context were judged to be of high quality, the project would present a substantial contrast to existing visual quality, or the site is otherwise visually "sensitive."

6.2 Impacts and Mitigations

6.2.1 City of Fresno Projects

Projects within the HST project's visual area of effect in the city of Fresno include the Fresno Freight Rail Alignment Project, the Ventura Boulevard Widening, a new city of Fresno 3,000,000-gallon storage tank, the SR 99 Monterey Bridge replacement, the CARTS Trucking Yard, and the SR 99 Cedar/North Avenue interchange upgrade. The HST project's facilities would be at-grade in the vicinity of these projects.

6.2.1.1 Impact: Reduced Visual Quality of HST Viewshed

The HST project and the projects listed above would each contribute incrementally to visual impacts on the surrounding viewshed. The overall change in visual character due to these projects would not be expected to be substantial because all of these projects, as well as the proposed project, would be in areas that are already industrial/transportation infrastructure in character and partially adjacent to elevated highways. The HST project and these other projects would contribute to an intensification of these impacts but not adversely change the overall visual character or quality of the project visual setting.

The HST project's incremental contribution would not be cumulatively considerable because its interaction with all of the identified cumulative projects would be in the context of the industrial/transportation corridor in which they would all occur, which is characterized by very low visual quality and the absence of sensitive receptors. Further, the projects are not expected to cumulatively affect more visually sensitive areas or receptors outside of that corridor.

6.2.1.2 Mitigation

No mitigation needed.

6.2.2 Villagio and Garner Basin Projects Detention/Recharge Basins

The Villagio and Garner Basin projects, located near the city of Hanford, have both proposed detention/recharge basins near the railroad tracks. The main features of the Villagio project lie outside of the HST project area of visual influence.

6.2.2.1 Impact: Reduced Visual Quality for Residents and Motorists In Project Segment East of City Of Hanford

Depending on the precise design and siting of the combined retention basins of the Villagio and Garner Basin projects, these could potentially contribute considerably to the already substantial project impacts anticipated in this segment due to impacts of the elevated guideways on nearby residents, and could also contribute to cumulative impacts of the combined projects as seen from 8th Avenue and/or Lacey Boulevard. Cumulative impacts of these three projects are thus potentially substantial.

6.2.2.2 Mitigation

Because HST project impacts in this location are not considered fully mitigable in the short term, mitigation of the cumulative effects in this location would require siting, design, or landscape screening measures on the part of the retention basin projects. With such measures, cumulative impacts could be reduced. Potentially overlapping construction impacts of the cumulative projects would be as discussed above, and are assumed to be mitigable with project-specific mitigation measures.

6.2.3 Corcoran Police Station

The City of Corcoran Police Station would be located in the HST project's visual foreground in Downtown Corcoran.

6.2.3.1 Impact: Reduced Visual Quality As Seen From Portions of Downtown Corcoran In Proximity to Proposed Police Station And HST

Under the Corcoran Elevated Alternative, the HST project would be elevated in that area, resulting in combined views of the police station and the elevated HST tracks. However, the

12,000-square-foot police station would be located in an urbanized portion of the central downtown and would be consistent with existing, nearby institutional uses (city hall, fire station) in both character and scale. It would not substantially change the overall visual character or quality of the area, and when combined with the visual impacts associated with the HST project, it would not substantially contribute to adverse cumulative effects on visual quality. The proposed police station would not interact with the BNSF or Corcoran Bypass alternatives.

6.2.3.2 Mitigation

None needed for specifically cumulative impacts.

6.2.4 Wasco Enterprise Zone

The City of Wasco is proposing an Enterprise Zone for the development of a 328-acre industrial park and a 1,053-acre commercial area. The BNSF Alternative would run near or within this area, and would be elevated.

6.2.4.1 Impact: Cumulatively Reduced Visual Character and Quality Within The Proposed Enterprise Zone And Immediate Vicinity

Cumulative visual impacts of the project and other proposed development within this area would be substantial because they would cumulatively change the appearance of the landscape from open agricultural lands to an urbanized character, substantially lowering the visual quality of the affected Enterprise Zone area. The proposed HST project facilities, which would be elevated and prominent in this segment, would contribute in a cumulatively considerable way to this impact.

6.2.4.2 Mitigation

The cumulative contribution of the HST could be substantially reduced by sufficient setback of adjacent uses from the right-of-way, and the planting of substantial, large-scale landscape screening. However, the impacts are considered to remain substantial due to the extended period of time needed for landscape screening of this elevated segment to take effect.

6.2.5 Orchard Park Specific Plan

The proposed Orchard Park Specific Plan (residential and commercial development), located in Shafter, would not have cumulative impacts with the BNSF Alternative, but would overlap and surround the Wasco-Shafter Bypass Alternative.

6.2.5.1 Impact: Cumulatively Reduced Visual Character and Quality In Existing Downtown Shafter, And In The Foreseeable Orchard Park Specific Plan Area

Cumulative visual impacts of the specific plan in combination with the Wasco-Shafter Bypass Alternative would be considerable in that the alternative is not reflected in the specific plan, and would result in adjacencies between the HST and sensitive residential viewers.

6.2.5.2 Mitigation

These visual impacts could be reduced by adequate site-specific mitigation measures that would, however, require substantial mitigation actions by both the HST and Orchard Park projects. Such measures could include sufficient setbacks from the HST right-of-way to the nearest residences, requiring major alteration of the proposed specific plan layout, and substantial landscape screening at the right-of-way, which could be applied by the HST project. However, the latter measure alone would not be sufficient, because the HST Wasco-Shafter Bypass Alternative would

require alteration of the proposed specific plan layout. It is not known if this specific plan remains a foreseeable project.

6.2.6 North Shafter Sewer Project

The North Shafter Sewer Project is proposed in the vicinity of the BNSF Alternative.

6.2.6.1 Impact: Cumulatively Reduced Visual Character and Quality To Residents And Motorists In North Shafter

Because the project consists only of new underground sewer connections to an existing treatment plant, this project would be primarily subsurface in impact, with visually minor aboveground features. As such, it is not anticipated to contribute substantially to long-term cumulative visual impacts in combination with the HST. Potential temporary construction-related cumulative effects were discussed previously.

6.2.6.2 Mitigation

No mitigation needed.

6.2.7 Rosedale Ranch Project

The Rosedale Ranch project proposes 1,655 acres of residential, commercial, institutional, and light industrial land uses within the area of effect of both the BNSF Alternative and the Wasco-Shafter Bypass Alternative.

6.2.7.1 Impact: Cumulatively Reduced Visual Character and Quality As Seen By Motorists and Foreseeable Future Residents in the Vicinity of the Proposed Rosedale Ranch Project

The adjoining portion of the BNSF Alternative, which would abut the development's western boundary, would be at-grade in this area, resulting in a moderate contribution to cumulative visual and other aesthetic impacts. The Rosedale Ranch project, combined with the HST project, would contribute considerably to the alteration of the landscape, from a rural open agricultural character to urban/industrial/infrastructure. The project would also pass a proposed asphalt and concrete recycling facility adjoining the Rosedale Ranch site, contributing to cumulative effects in combination with that facility.

6.2.7.2 Impact: Cumulatively Increased HST Project Impacts on Adjoining Residents In Greenacres (Rosedale)

This project would contribute further to the HST project's already substantial impacts on the visual character and quality of views of adjoining residences in Greenacres (Rosedale), as identified and discussed in the analysis of visual resources. The project-specific impacts have already been identified in that analysis as substantial.

6.2.7.3 Mitigation

Although the project-specific and cumulative impacts could be mitigated to minor levels in the long term by Mitigation Measure VIS-MM-2, Landscape Screening, the project-level impacts, and thus the cumulative impacts, are considered to remain substantial because of the long period (likely exceeding 10 years) until effective mitigation could occur.

6.2.8 Bakersfield Commons Project

Farther east in Greenacres (Rosedale), the Bakersfield Commons project proposes a 255-acre mixed-use development in the vicinity of the project alignment and Coffee Road. The project would include 1.4 million square feet of retail and theater uses, 2 million square feet of commercial space, and over 400 residential units.

6.2.8.1 Impacts: Cumulatively Increased HST Project Impacts On Adjoining Residents In The Community Of Greenacres (Rosedale); Cumulatively Resulting In Visual Incompatibilities Between The Proposed Bakersfield Commons Project And HST

Cumulative visual impacts of the Bakersfield Commons project in combination with the HST project would be potentially substantial in that both the BNSF Alternative and the Bakersfield South Alternative would require adjacencies between the HST and sensitive future residential viewers. The proposed Bakersfield Commons would also contribute further to the already substantial impacts of the HST guideways on adjoining, existing residential viewers along Windsong Street and Brimhall Road.

6.2.8.2 Mitigation

Visual incompatibilities between the HST and Bakersfield Commons projects could be substantially reduced by adequate site-specific mitigation measures, including sufficient setbacks from the HST right-of-way to the nearest residences, and substantial landscape screening at the right-of-way. However, these measures would require substantial modification to the proposed development layout and could remain substantial due to the extended period required for landscape screening of the guideways to take effect. Cumulative impacts on existing residents could be mitigated in the long term by Mitigation Measure VIS-MM-2, Landscape Screening, but project and cumulative impacts would remain substantial due to the extended period (over 10 years) needed for effective mitigation to occur.

6.2.9 Mill Creek Lineal Park and Old Town Kern Redevelopment Project

Two additional mixed-use projects, Mill Creek Lineal Park and Old Town Kern Redevelopment Project, are proposed near the proposed HST station in Downtown Bakersfield, under both the BNSF Alternative and the Bakersfield South Alternative.

6.2.9.1 Impacts: Cumulative Beneficial Impacts on A Visually Blighted Industrial Area

Because the proposed redevelopment projects would result in substantial visual improvement to currently industrial areas of very low visual quality, and because the proposed HST stations are anticipated to have beneficial visual impacts on these surroundings, the combined effect of the projects on the surrounding area would be beneficial.

6.2.9.2 Mitigation

No mitigation needed.

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Chapter 7.0

Mitigation Measures

7.0 Mitigation Measures

7.1 Mitigation Measure VIS-MM-1: Elevated Guideway, Retaining Wall, and Soundwall Design Measures

The Authority has adopted design standards and design guidelines that are established to create a minimum aesthetic quality for a long-lasting infrastructure. Many of these elements are described in Table 3.16-2 in Section 3.16.5.3, High-Speed Train Alternatives. The Authority's *Urban Design Guidelines for the California High Speed Train Project* (Authority 2011d) briefly discusses the principles of context-sensitive solutions to guide the design of stations. This approach is equally applicable to elevated guideways and will be employed to mitigate visual impacts through context-sensitive design. *Aesthetic Guidelines for Non-Station Structures* (TM 200-06) (Authority 2011e) will also guide the design of the HST components. These standards and guidelines work to minimize and avoid aesthetic effects on the adjacent surroundings, where possible.

To reduce potential contrasts between the industrial character of generic guideways and columns and nearby downtown streetscapes, Mitigation Measure VIS-MM-1, Guideway, Retaining Wall and Soundwall Design Measures, is recommended in the following locations:

7.1.1 Downtown Fresno and Bakersfield Segments of the BNSF, Bakersfield South, and Bakersfield Hybrid Alternatives

Guideways and columns should incorporate graceful curved, thin, or tapered sculptural forms and decorative surface texturing to reduce the industrial character of generic concrete structures. Parapets and other portions of the guideways should also include decorative texture treatments to reduce the utilitarian appearance of the large concrete surfaces, through variety of texture, creation of shadow lines, and other articulation of surfaces to add visual and thematic interest. The design of guideway columns and parapets should be closely coordinated with station and platform architecture to ensure unity and coherence. Tall trees should be integrated into the station streetscape and plaza plans to soften and buffer the sight of guideways and columns. Clinging vines should be considered on columns, retaining walls, and soundwalls in residential and other high-sensitivity locations.

7.1.2 Kings/Tulare Regional Station, Corcoran (BNSF and Corcoran Elevated Alternatives), Wasco (BNSF), and Shafter (BNSF)

Parapets and other portions of the guideways, and roadway overcrossing structures in Corcoran should include decorative texture treatments to reduce the utilitarian appearance of the large concrete surfaces, and to add visual and thematic interest through variety of texture, creation of shadow lines, and other articulation of surfaces. Clinging vines should be considered on columns, retaining walls, and soundwalls in residential and other high-sensitivity locations.

With respect to the Highway 99 Crossing, attractive structural forms and decorative surface treatments should be applied at the highway overcrossing under both Bakersfield alignment alternatives to avoid detracting from the city entry experience.

7.2 Mitigation Measure VIS-MM-2: Onsite and Offsite Landscape Screening

To reduce potential contrasts between the industrial character of visually prominent project features and nearby sensitive receptors, Mitigation Measure VIS-MM-2 is recommended as follows:

7.2.1 Rural Residences

Offsite landscape screening should be offered and provided for affected homes within 0.5 mile of the elevated guideways and station, or within 0.25 mile of at-grade segments and road overcrossings that desire and opt for such screening.

7.2.2 Kings/Tulare Regional Station – East Alternative

Onsite perimeter tree planting is recommended at the boundaries of the proposed station to screen views of parking, the station, and station platforms from offsite viewers. Either hedgerow tree planting at the edge of the right-of-way or offsite hedgerow tree planting along the western boundary of the adjoining residential development north of Lacey Boulevard, if requested by property owners, is recommended.

7.2.3 Heavy Maintenance Facility Sites

Substantial perimeter tree hedgerow screening will be used to screen the HMFs if they affect residences, recreationists, or other sensitive receptors within 0.5 mile. Where residences are located within 0.25 mile of the facility, offsite tree screening should also be employed if desired by the affected property owners to reduce the time needed to achieve acceptable screening.

7.2.4 BNSF and Corcoran Elevated Alternatives

To screen adjoining parks and residences, and to preserve a degree of intactness of community character in views from downtown to the west, planting of hedgerows of fast-growing tall trees at the project right-of-way should be considered through the most affected portions of downtown, particularly in the segment between Brokaw Avenue and Whitley Avenue on both sides of the right-of-way, and on the east shoulder of Otis Avenue between Orange Avenue and Brokaw Avenue to augment existing hedgerows of lower-growing shrubs previously planted to screen the existing at-grade railroad tracks.

7.2.5 Wasco (BNSF)

To screen adjoining residences and to preserve a degree of intactness of community character in views from downtown to the west, planting of hedgerows of tall trees at the project right-of-way should be considered through the most affected portions of downtown, particularly between Sixth and Ninth streets on both sides of the right-of-way.

7.2.6 Shafter (BNSF)

To screen adjoining residences and to preserve a degree of intactness of community character in views from downtown to the west, planting of hedgerows of tall trees at the project right-of-way should be considered through the most affected portions of downtown, including areas where affected residents lie within 0.25 mile, including the following:

- The west shoulder of SR 43, from Mayer Lane to West Tulare Avenue.
- Both sides of the right-of-way from North Shafter Avenue and East Tulare Avenue on the north to Lerdo Highway on the south.
- The eastern boundary of the right-of-way adjoining Shafter Cemetery.

7.2.7 Greenacres/Rosedale

To screen adjoining residences and preserve community character, planting of continuous, densely planted hedgerows of tall trees and other landscaping should be considered along the entire edge of the right-of-way wherever elevated guideway and residential adjacencies occur. Clinging vines should be considered on soundwalls visible to residential viewers.

7.2.8 City of Bakersfield (BNSF, Bakersfield South, and Bakersfield Hybrid Alternatives): Kern River Crossing

Offsite landscape screening should be implemented along the Kern River Parkway to provide new, intermittent screening of the project structures. Occasional groupings of new trees along the parkway should be placed to break up views of long expanses of the guideways, reducing their intrusion and enhancing intactness of the parkway, while preserving view corridors of the river. Extensive tall tree planting at or near the edge of the project right-of-way along the parkway is recommended and should minimize blockage of river views.

7.2.9 City of Bakersfield (BNSF, Bakersfield South, and Bakersfield Hybrid Alternatives): Central Bakersfield Residential

To lower visibility of the guideways to near-foreground residences, in-fill tree planting of center medians on California Avenue, and tree planting at the northern project right-of-way along 16th Street should be implemented.

7.2.10 City of Bakersfield (BNSF, Bakersfield South, and Bakersfield Hybrid Alternatives): Bakersfield High School

Dense hedgerows of tall trees should be planted along the edge of the right-of-way north of 14th Street, outside of the project security fencing, in order to minimize visibility of the columns and guideways as seen from street-level viewpoints on the school campus and in immediate environs.

7.2.11 City of Bakersfield (BNSF, Bakersfield South, and Bakersfield Hybrid Alternatives): East Bakersfield Residential

To provide screening of guideways and cleared rights-of-way, planting of hedgerows of tall trees at the project right-of-way should be considered in those portions of this residential neighborhood affected by the project guideways in the vicinity of the project terminus.

7.3 Mitigation Measure VIS-MM-3: Non-Reflective OCS Components

To minimize high potential glare and contrast from specular reflection off of metallic OCS components, OCS poles and other components will have non-reflective surfaces to minimize reflective glare. This measure is recommended on a systemwide basis.

7.4 Mitigation Measure VIS-MM-4: Operational Night Lighting Measures

To minimize glare impacts on sensitive receptors from nighttime operational lighting and to minimize potential night light pollution in rural areas, to the extent feasible and consistent with safety and security, all temporary and permanent exterior lighting will be designed and installed so that the following occurs:

- Lighting does not cause excessive reflected glare.
- Lighting does not illuminate the nighttime sky.
- Illumination of the project and its immediate vicinity is minimized.

Permanent night lighting will comply with all applicable standards, practices, and regulations, including the following Illuminating Engineering Society documents:

- RP-33-99 Lighting for Exterior Environments
- DG-13-99 Outdoor Lighting
- TM-10-00 Addressing Obtrusive Light (Urban Sky Glow and Light Trespass) in Conjunction with Roadway Lighting

This measure shall be applied at the following locations:

- HMF sites
- Kings/Tulare Regional Station

7.5 Mitigation Measure VIS-MM-5: Ancillary Facility Siting and Screening

Ancillary project facilities, including TPDSs and paralleling and switching stations, should not be sited in proximity to residences, parks, historic properties, cemeteries, or other sensitive visual receptors. Where avoidance is not feasible, facilities will be screened with perimeter landscape screening.

7.6 Mitigation Measure VIS-MM-6: Construction Mitigation Measures

To the greatest feasible extent, construction staging locations will not be located within foreground distance (0.25 mile) of residential, recreational, or other high-sensitivity receptors. Where such siting is unavoidable, staging sites will be screened from sensitive receptors with opaque perimeter fencing.

Nighttime construction lighting will be shielded, directed downward, and restricted to the boundaries of the project site to avoid light trespass through directional lighting. Lighting will be kept to the minimum level consistent with safety.

All areas disturbed by construction, staging, and storage will be regraded to original contours and revegetated.

Chapter 8.0

References

8.0 References

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Chapter 9.0

Preparer Qualifications

9.0 Preparer Qualifications

The following individual has made a significant contribution to the development of this technical report:

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Senior Visual Analyst
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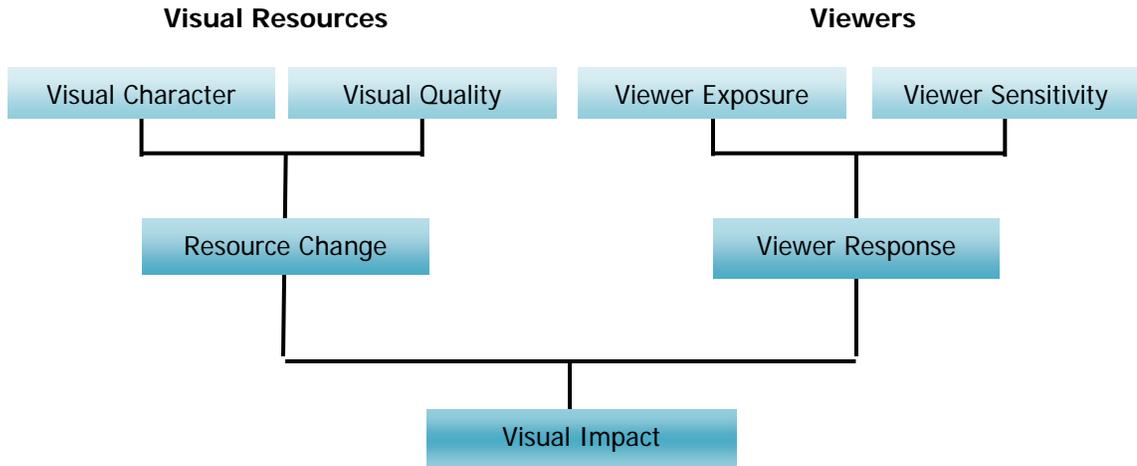
Master Landscape Architecture, University of
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25 years of experience.

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Appendices

Appendix A
Federal Highway Administration Visual
Assessment Model (1988)

The FHWA visual assessment methodology emphasizes the evaluation of a setting's visual quality and the identification of impacts as changes in visual quality. Visual quality in turn is characterized in terms of three descriptors: *vividness*, *intactness*, and *unity*. Vividness is the visual power or memorability of landscape components as they combine in striking and distinctive patterns. Intactness is the visual integrity of the natural and man-made landscape and its freedom from encroaching elements. Unity is the visual coherence and compositional harmony of the landscape as a whole. The conceptual model underlying the methodology is as follows:



Evaluations of visual quality change and viewer response were used in the present study to determine the level of visual impacts as described in the methodology discussion of the report.

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Appendix B
Summary of Visual Quality and Viewer
Response Ratings by Key Viewpoint

Summary of Visual Quality and Viewer Response Ratings by Key Viewpoint

*KEY:
 L = Low
 ML = Moderately Low
 M = Moderate
 MH = Moderately High
 H = High
 B = Beneficial

Visual Quality:

Overall Viewer Response:

V	Vividness
I	Intactness
U	Unity

(Viewer Sensitivity
 + Viewer Exposure)

Visual Quality Change Due to Project:
 > 1 level decline
 1 level decline
 2 levels decline
 1 or 2 levels enhanced
 N (Negligible decline)
 M (Moderate decline)
 S (Strong decline)
 B (Beneficial)

BNSF ALTERNATIVE

KEY VIEWPOINT	Description	V	I	U	Overall Visual Quality	Overall Viewer Response
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1	View of BNSF Alternative, Fresno Station–Mariposa Alternative from Tulare and H Streets, Looking West (CBD Viewers)	L	ML	ML	ML	(Existing)	MH**
		MH	MH	MH	MH	(With Project)	
					B	(VQ Change)	

2	View of BNSF Alternative Fresno Station–Mariposa Alternative from China Alley Between F and G Streets Looking North	ML	ML	L	ML	(Existing)	MH**
		MH	MH	MH	MH	(With Project)	
					B	(Change)	

1A	View of BNSF Alternative, Fresno Station–Kern Alternative from Tulare and H Streets, Looking South (CBD Viewers)	L	ML	ML	ML	(Existing)	MH**
		MH	MH	MH	MH	(With Project)	
					B	(Change)	

Summary of Visual Quality and Viewer Response Ratings by Key Viewpoint

2a	View of BNSF Alternative, Fresno Station–Kern Alternative from G Street near Kern St Looking North	ML	ML	L	ML	(Existing)	MH**
		MH	MH	MH	MH	(With Project)	
					B	(Change)	

HANFORD SEGMENT

3A, 3B	HST Rural At-Grade Alignment - 0.5-Mile Distance Zone - 0.275-Mile Distance Zone	M	M	MH	M	(Existing)	ML(Non-Resid.) MH (Resid.)
		M	ML	M	M	(With Project)	
					M	(Change)	
		M	ML	ML	ML		
			S	(Change)			

3A, 3B	HST Rural Elevated Alignment - 0.5-Mile Distance Zone - 0.275-Mile Distance Zone	M	M	MH	M	(Existing)	ML(Non-Resid.) MH (Resid.)
		M	ML	ML	ML	(With Project)	
					M	(Change)	
		ML	ML	L	ML		
			S	(Change)			

4	Typical HST Rural Road Overcrossing - 0.5-Mile Distance Zone - 0.275-Mile Distance Zone	M	M	MH	M	(Existing)	ML(Non-Resid.) MH (Resid.)
		ML	ML	ML	ML	(With Project)	
					M	(Change)	
		ML	L	L	L		
			S	(Change)			

5	Kings/Tulare Regional Station–East Alternative) from SR 43, Looking Northeast	M	M	MH	M	(Existing)	M (SR 43) H (Resid.)
		M	ML	ML	ML (SR 43)	(With Project)	
					M	(Change)	
		L	L	L	L (Adj. Res.)		
			S	(Change)			

THROUGH CORCORAN SEGMENT

6	Downtown Corcoran: View from Whitley Avenue, Looking East	M	MH	M	M	(Existing)	MH
		M	MH	M	ML/L	(With Project)	
					S	(Change)	

Summary of Visual Quality and Viewer Response Ratings by Key Viewpoint

THROUGH WASCO-SHAFTER

7	Downtown Wasco: View from 7th Street and F Street Looking East	M	MH	MH	MH	(Existing)	MH
		M	L	L	ML	(With Project)	
					S	(Change)	

8	Downtown Shafter: View of Shafter Train Depot near SR 43, looking North	M	MH	MH	MH	(Existing)	MH
		M	L	L	ML	(With Project)	
					S	(Change)	

9	View from Colonel Allensworth State Historic Park, Looking East	M	H	H	MH	(Existing)	H
		M	ML	L	ML	(With Project)	
					S	(Change)	

ROSEDALE (GREENACRES)

10	View from Verdugo Lane, Looking south	M	M	M	M	(Existing)	H
		M	ML	M	M	(With Project)	
					M	(Change)	

11	View from Palm Avenue Looking West	M	M	M	M	(Existing)	H
		ML	L	L	ML/L	(With Project)	
					M/S	(Change)	

**BAKERSFIELD NORTH
(BNSF ALTERNATIVE)**

12	Kern River Crossing from Parkway Trail, Looking North	MH	MH	MH	MH	(Existing)	MH
		M	ML	ML	ML	(With Project)	
					S	(Change)	

13A	View from 14th Street near Myrtle Street, Looking East	M	M	M	M	(Existing)	H
		ML	ML	L	ML	(With Project)	
					M	(Change)	

Summary of Visual Quality and Viewer Response Ratings by Key Viewpoint

13B	View from Jastro Park, Looking South	MH	MH	M	MH	(Existing)	M (Mod. Low exposure)
		M	M	ML	M	(With Project)	
					M	(Change)	
14	View from Bakersfield High School Stadium, Looking Northeast	M	M	ML	M	(Existing)	H
		ML	L	L	L	(With Project)	
					S	(Change)	
15	View from L Street near Truxtun Avenue, Looking South (CBD Viewers)	M	MH	MH	MH	(Existing)	MH
		ML	M	ML	M/ML	(With Project)	
					M/H	(Change)	
16	BNSF Alternative Station (Bakersfield North Option) from Truxtun Avenue, Looking Southeast	M	MH	M	MH	(Existing)	MH
		MH	MH	MH	MH	(With Project)	
					B	(Change)	
17	Robinson Street at Eureka Street, Looking North	M	M	M	M	Existing	(VR)
		M	L	L	L	w/project	H
HANFORD WEST BYPASS 1 AND 2 ALTERNATIVES							
18	Laton, Mt. Whitney Avenue	M	M	M	M	Existing	(VR)18
19	Kings/Tulare Regional Station–West Alternative , below grade(potential)	M	ML	M	M	Existing	(VR)19
20	Kings/Tulare Regional Station–West Alternative, at- grade(potential)	M	ML	M	M	Existing	(VR)20
CORCORAN ELEVATED ALTERNATIVE							
6	View from Whitley Avenue, Looking East	Same as Key Viewpoint 6, BNSF Alternative					

Summary of Visual Quality and Viewer Response Ratings by Key Viewpoint

**CORCORAN BYPASS
 ALTERNATIVE**

See 3A -34B Same as Key Viewpoints
 3A - 3B

**WASCO-SHAFTER BYPASS
 ALTERNATIVE**

See 3A -34B Same as Key Viewpoints
 3A - 3B

**ALLENSWORTH BYPASS
 ALTERNATIVE**

21	View from Colonel Allensworth State Historic Park, Looking Northwest	MH	H	H	MH	(Existing)	H
		MH	H	H	MH	(With Project)	
						N	

**BAKERSFIELD SOUTH
 ALTERNATIVE**

22	Bakersfield Station–South Alternative (Bakersfield Station–South Alternative from S Street near Amtrak Station, Looking Southeast	M	ML	L	M	(Existing)	MH
		MH	MH	MH	MH	(With Project)	
						B	

23	Owens Street at Dolores, looking south	M	MH	M	M	Existing	(VR) H
		M	ML	ML	ML	w/project	
						M (Substantial in limited locations where remaining residences adjoin right-of-way)	

24	E. California Avenue from MLK Park, looking NE	MH	MH	M	MH	Existing	(VR) H
		MH	M	M	M	w/project	
						M	

Summary of Visual Quality and Viewer Response Ratings by Key Viewpoint

25	E. California Avenue from MLK Park, looking E	ML	ML	ML	ML	Existing	(VR) M/MH (RESIDENTS, PARK USERS)
		ML	L	L	L	w/project	
					M	Change	

BAKERSFIELD HYBRID ALTERNATIVE

26	Bakersfield Hybrid Station from Truxtun Ave. at V Street, looking south	M	MH	MH	MH	Existing	(VR) MH
		MH	MH	MH	MH	w/project	
					B	Change	

27	Bakersfield Hybrid from Owens Middle School, looking north	M	M	M	M	Existing	(VR) H
		M	ML	ML	ML	w/project	
					M	Change	

** Overall Response Ratings of Fresno Stations reflect a combination of a predominantly rail industrial setting in proximity to some sensitive downtown commercial and government uses