3.12 Socioeconomics, Communities, and Environmental Justice

3.12.1 Introduction

This section describes the regulatory setting and the affected environment for socioeconomics, communities, and environmental justice (EJ); the impacts that would result from the project; and the project design features and mitigation measures that would reduce these impacts. Demographic analysis of socioeconomics, communities, and EJ, including race, ethnicity, income, and housing characteristics, is provided in the *Fresno to Bakersfield Section: Community Impact Assessment Technical Report* (Authority and FRA 2012a). Additional information on property displacements and relocation impacts is provided in the *Fresno to Bakersfield Section: Draft Relocation Impact Report* (Authority and FRA 2012b).

Federal agencies are required to address EJ, to the greatest extent practicable and permitted by law, to identify and address, as appropriate, the potential disproportionately high and adverse human health and environmental impacts, including interrelated social and economic effects, of their programs, policies, and activities on minority and low-income populations. Related topics that affect communities are also discussed in the various resource areas in Chapter 3 of this document.

This section presents population trends, demographic characteristics, housing, household income, fiscal resources, and agricultural industry characteristics. The data used in the analysis are derived from various sources, including the U.S. Census Bureau, California Department of Finance (CDOF), California Employment Development Department (CEDD), and the various county and city agencies. Much of the data presented in this section on population and economic growth in the San Joaquin Valley was developed between 2005 and 2010. While specific projections for the region have changed in recent years, the Authority and FRA reviewed the San Joaquin Valley demographic forecasts for 2010 to 2050, which were published in 2012 for the Metropolitan Planning Organizations (MPOs) of the eight San Joaquin Valley counties (The Planning Center/DC&E 2012). Based on this review of the baseline data and forecasting for population and economic trends, the Authority and FRA verified that the analysis presented in this EIR/EIS remains valid.

The Final Program Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Proposed California High-Speed Train System (Statewide Program EIR/EIS) (Authority and FRA 2005) and the Final Bay Area to Central Valley High-Speed Train (HST) Partially Revised Program Environmental Impact Report (EIR) (Authority 2012) identified mitigation strategies for socioeconomics, communities, and EJ resources. Strategies incorporated into the Fresno to Bakersfield Section HST project, to date, include involving the community early in the project (including outreach to minority and low-income populations in compliance with Executive Order 12898), conducting station design workshops, and maintaining the connectivity of pedestrian, bicycle, and vehicular crossings of the rail corridor to sustain neighborhood and community integrity.

As discussed in the Executive Summary, the analysis in this section includes revisions based on design refinements and analytical refinements that have resulted in some changes (increases and decreases) to the anticipated numbers of displacements in certain areas. These refinements do not change the significance findings under NEPA or CEQA and do not result in an increase in disproportionately high and adverse effects on minority or low-income populations. The changes to the text and tables that result from these revisions are shaded gray. Additionally, in order to communicate to the public a more clear analysis of potential impacts, this section has been restructured from the presentation in the Revised Draft EIR/Supplemental Draft EIS so that the

discussion of socioeconomic and community impacts is presented separately from the discussion of environmental justice. Finally, this section now addresses the potential impacts of mitigation in 3.12.11 and 3.12.12, in order to make that information readily available to the public.

3.12.2 Laws, Regulations, and Orders: Socioeconomics and Communities

The following federal, state, and local laws, regulations, and agency jurisdiction and management guidance apply to these resources.

3.12.2.1 Federal

Title VI of the Civil Rights Act [42 U.S.C. Section 2000(d) et seq.]

Title VI of the Civil Rights Act prohibits discrimination on the basis of race, color, national origin, age, sex, or disability in programs and activities receiving federal financial assistance.

Americans with Disabilities Act [42 U.S.C. Sections 12101 to 12213]

The Americans with Disabilities Act prohibits discrimination based on disability.

Uniform Relocation Assistance and Real Property Acquisition Policies Act [42 U.S.C. Chapter 61]

The federal Relocation Assistance Program ensures that persons displaced as a result of a federal action or by an undertaking involving federal funds are treated fairly, consistently, and equitably. This helps to ensure persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole.

Executive Order 13166

Executive Order 13166 requires each federal agency to ensure that recipients of federal financial assistance are provided meaningful access to its programs and activities, including applicants and beneficiaries with limited English proficiency.

Executive Order 13045

Executive Order 13045 requires federal agencies to minimize environmental health and safety risks to children, and to prioritize the identification and assessment of environmental health and safety risks that may have a disproportionate impact on children.

3.12.2.2 State

CEQA [California Public Resources Code Section 21000 et seq.] and CEQA Guidelines [California Code of Regulations, Title 14, Section 15000 et seq.]

California Environmental Quality Act (CEQA) requires state and local agencies to identify the significant environmental impacts of their actions, including potential significant impacts on established communities, and to avoid or mitigate those impacts when feasible. Pursuant to CEQA Guidelines Section 15131(b), economic and social impacts of a project that are not related to physical changes in the environment are not treated as significant impacts on the environment, but may be used to evaluate the significance of physical changes that would be caused by the project.

California Relocation and Assistance Act [Government Code Section 7260 et seq.]

In parallel with the federal law, this act requires state and local governments to provide relocation assistance and benefits to displaced persons as a result of projects undertaken by state and/or local agencies that do not involve federal funds. However, because the project will receive federal funding, the Uniform Act takes precedence.

California High-Speed Rail Authority Title VI Plan

In March 2012, the Authority adopted a Title VI policy and plan (Authority 2012a). The policy states:

- The California High Speed-Rail Authority (Authority) is committed to ensuring that no person in the state of California is excluded from participation in, nor denied the benefits of, its programs, activities, and services on the basis of race, color, national origin, age, sex, or disability as afforded by Title VI of the Civil Rights Act of 1964 and Related Statutes.
- The Authority, as a federal grant recipient, is required by the Federal Railroad Administration to conform to Title VI of the Civil Rights Act of 1964 and related statutes. The Authority's sub-recipients and contractors are required to prevent discrimination and ensure non-discrimination in all of their programs, activities, and services.
- As permitted and authorized by Title VI, the Authority will administer a Title VI Program in accordance with the spirit and intent of the non-discrimination laws and regulations.

The Title VI Plan includes a commitment to inclusive public involvement of all persons affected by the high-speed train project (Authority 2012a).

California High-Speed Rail Authority Limited English Proficiency Policy and Plan

In May 2012, the Authority adopted a Limited English Proficiency policy and plan. The policy states:

- It is the policy of the California High-Speed Rail Authority (Authority) to communicate effectively and provide meaningful access to limited English proficient (LEP) individuals to all the Authority's programs, services, and activities. The Authority will provide free language assistance services to LEP individuals encountered or whenever an LEP individual requests language assistance services.
- The Authority will treat LEP individuals with dignity and respect. Language assistance will be provided through a variety of methods, including staff interpreters, translation and interpreter service contracts, and formal arrangements with local organizations providing interpretation or translation services or telephonic interpreter services.

The LEP Policy and Plan supplements the Title VI Plan (Authority 2012a, 2012b).

3.12.2.3 Regional and Local

Several county and local jurisdictions are crossed by the proposed project alternatives in the Fresno to Bakersfield Section. Many of the goals, objectives, and policies set forth in these jurisdictions' general plans are related to socioeconomics. Although not all jurisdictions name their general plan elements in the same manner, the plans cover the same general topics. The elements relevant to socioeconomics include land use, transportation and circulation, housing, open space and conservation, community facilities and services, and economic development. In addition, many jurisdictions have separate plans related to economic development. For a more detailed description of each general plan element for all jurisdictions and for a list of the relevant

goals and policies, see the *Fresno to Bakersfield Section: Community Impact Assessment Technical Report* (Authority and FRA 2012a). In general, these elements address the following issues:

- Land use goals and policies call for land use to enhance the quality of life for residents by preserving community character and minimizing conflicts between incompatible land uses. The general plans also reflect the different issues involved in city and county planning, with city general plans more focused on urban character and community design, and county plans more concerned with agricultural land and rural residential growth.

- Transportation elements have policies that are related to movement by means of non-motorized modes of transportation. General plan objectives envision the integration of pedestrian and bicycle mobility into the community design to promote transportation alternatives in place of the automobile.

- Housing elements do not differ substantially between jurisdictions. Overall, the goals, policies, and objectives focus on encouraging the provision of a range of housing types and prices to meet the diverse needs of residents. Secondarily, they focus on providing adequate housing assistance to households with very low, low, and moderate incomes, as well as to those with special housing needs.

- Open-space and conservation elements differ between the county and city general plans. The county elements typically focus on preserving open space and agricultural resources, while the city elements focus more on community character, scenic resources, and open space in developed areas. Policies protect these lands to maintain the economy, scenic beauty, visual identity, and recreational needs of the community.

- Community facilities and services elements all focus on providing services to residents. Policies discuss the need to promote growth in areas where adequate public service infrastructure exists, and where adequate police, fire, medical, and other services can be promptly provided.

- Economic development elements are included in the general plans of all jurisdictions except Kings County, the City of Corcoran, and the communities of Laton, Armona, and Grangeville. In the plans that include this element, the focus differs somewhat between the city and county general plans. The county elements focus more on promoting the long term preservation of productive agricultural lands, while the city elements focus more on increasing job growth and encouraging the development of a vibrant downtown area. Diversification of industries is a key policy in all general plans.

The local jurisdictions have other relevant plans, policies, and codes that are related to socioeconomics. Local zoning codes have regulations limiting density and require land use conformance. Other relevant plans include economic development strategies, downtown revitalization plans, housing needs allocation plans, specific community plans, and bicycle master plans.

3.12.3 Laws, Regulations, and Orders: Environmental Justice

3.12.3.1 Federal

Executive Order 12898

Executive Order 12898 outlines the Federal government's Environmental Justice Policy, which requires federal agencies to identify and address, to the greatest extent practicable and permitted by law, the potential disproportionately high and adverse human health and

environmental impacts of their programs, policies, and activities on minority and low-income populations. Federal agency responsibilities under this Executive Order also apply to Native American programs. To implement Executive Order 12898 the U.S. Department of Transportation (DOT) relies on DOT Order 5610.2(a), *Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, which applies to actions undertaken by DOT operating administrations, including FRA. The DOT Order affirms the importance of considering environmental justice principles as part of early planning activities in order to avoid disproportionately high and adverse effects. The DOT Order states that the DOT will not carry out any programs, policies, or activities that will have a disproportionately high and adverse effect on minority populations or low-income populations unless "further mitigation measures or alternatives that would avoid or reduce the disproportionately high and adverse effect are not practicable." The DOT Order defines environmental justice to mean an adverse impact that is predominately borne by a minority population and/or a low-income population, or that would be suffered by the minority population and/or low-income population, and that is appreciably more severe or greater in magnitude than would be suffered by the non-minority population and/or non-low-income population (DOT Order 5610.2(a), Appendix Definitions, sub. [g]).

3.12.3.2 State

California Government Code Section 65040.12(e)

Government Code Section 65040.12(e) defines environmental justice as "the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies."

California High-Speed Rail Authority Environmental Justice Policy

In August 2012, the Authority adopted an Environmental Justice Policy (Authority 2012c). The policy states:

- The California High Speed-Rail Authority (Authority) shall develop and maintain an Environmental Justice Guidance in compliance with Title VI of the Civil Rights Act of 1964, Presidential Executive Order 12898, and California State law- Government Code Section 65040.2 et seq. and Public Resources Code Section 71110 et seq.
- The Authority will promote environmental justice into its programs, policies, and activities to avoid, minimize or mitigate disproportionately high human health and environmental effects, including social and economic effects on minority and low-income populations.
- The Authority will duly emphasize the fair and meaningful involvement of all regardless of race, color, national origin or income with respect to the high-speed rail project planning, development, operations, and maintenance.
- The Authority will engage the public through public participation forums so that decisions are mitigated and reflect environmental justice for all communities.

3.12.4 Methods for Evaluating Impacts: Socioeconomics and Communities

3.12.4.1 Data Collection and Analysis

The following sections summarize the methodologies that were used in the analysis for socioeconomic and community issues. Specific details on these methodologies can be found in the *Fresno to Bakersfield Section: Community Impact Assessment Technical Report* (Authority

and FRA 2012a) and the *Fresno to Bakersfield Section: Draft Relocation Impacts Report* (Authority and FRA 2012b).

Disruption or Division of Established Communities

Operation of the Fresno to Bakersfield Section of the HST project could potentially divide adjacent communities by physically removing homes, businesses, and important community facilities. (For a description of the number and type of facilities that would be affected by each project alternative, refer to Impact SO#9 and Impact SO#10 in the Relocation of Local Residents or Businesses subsection of Section 3.12.8.) This could disrupt established patterns of interactions among community residents, isolate one part of a community from another, or disrupt residents' access to community facilities and services. In addition, other environmental impacts on communities or neighborhoods—such as substantial increases in noise or traffic—could similarly disrupt established patterns of community members' interactions in the project vicinity. Similarly, substantial changes in visual quality or aesthetics could also result in a perceived change to community character or the quality of life experienced in affected neighborhoods. (Refer to Section 3.2, Transportation; Section 3.4, Noise and Vibration; and Section 3.16, Aesthetics and Visual Resources for a full discussion of such impacts in the urban and rural communities located along the alternative alignments.)

Community baseline information is presented in Affected Environment, Section 3.12.6, below, from north to south along the project corridor. Information pertaining to the study area's urban cities is presented below. Available information for each of the urban cities may vary as a result of the relative size of the city, which influences the amount of data collected. For example, the U.S. Census American Community Survey single-year estimates for 2008 are available for Bakersfield and Fresno because both of these cities have a population of greater than 65,000. By contrast, Hanford, Corcoran, and Wasco each have a population of less than 65,000 but greater than 20,000, and therefore only the 2006–2008 average estimates are available. The American Community Survey currently has no recent estimates available for the city of Shafter, which has a population of less than 20,000. Despite these differing data sources, the data collected allow for an accurate examination of community factors and comparison and contrast of communities within the study area.

Initially, potential impacts were identified through intensive review of aerial photographs and GIS layers showing the spatial relationship between the proposed alternatives and existing community resources. Census information, the assessor's parcel data, and other databases (e.g., ReferenceUSA [Infogroup 2013]) were used to identify the number and types of community facilities that may be displaced or disrupted. Secondary research, such as a review of local planning documents and city web sites, was conducted on the unique attributes and resources of the affected communities. Potential impact findings were verified through field research and discussions with persons knowledgeable about local community conditions and neighborhood characteristics, such as local elected officials, service providers, city planners, and community residents.

Project benefits were considered on a regional scale, whereas potentially adverse impacts associated with the project were evaluated at the community or neighborhood level. While benefits are typically regional in nature, the adverse construction and operation impacts are more localized in specific communities. Project alignment alternatives were considered in relation to the existing physical boundaries of communities, to the locations of key community facilities and services, and to unique neighborhood attributes. This review was done to determine the potential impacts on access to facilities and services as well as on community character or community cohesion.

Relocations of households, businesses, and community facilities were considered for their potential to alter the physical shape, character, or function of communities or neighborhoods. Temporary or permanent barriers that could be created by the project were identified to determine whether they would isolate portions of a community, separate residents from important community facilities or services, or alter access to such resources. For the purpose of this analysis, a community is defined as "a population rooted in one place, where the daily life of each member involves contact with and dependence on other members," and community cohesion is defined as "the degree to which residents have a 'sense of belonging' […] and the degree of interaction among the individuals, groups, and institutions that make up the community" (Caltrans 1997).

Because "community" implies a certain concentration of homes, often with associated businesses and services, the focus of the community impact analysis is urban neighborhoods and rural residential developments. As the proposed project is in the San Joaquin Valley, one of the wealthiest agricultural areas in the nation, an attempt has been made to also consider project impacts on the broader "agricultural community" that exists throughout much of the region. This consideration seems appropriate given NEPA's directive to examine potential effects with sensitivity to local context.

Relocation of Local Residents and Businesses

Full and partial acquisitions of parcels required for the HST project were identified using aerial photographs, conceptual engineering plans, profiles, and right-of-way data showing potential parcel acquisitions. Potential full and partial acquisitions were tabulated for the project alternatives. The availability of suitable replacement housing and business locations was also examined. The analysis was conducted in July 2010. Therefore, the real estate numbers represent the vacancies at that time. However, the recovery from the recession of 2008–2009 has been very slow in the region, and the economic conditions have remained essentially constant (Central Valley Business Times 2011; University of the Pacific 2012). Therefore, market conditions in 2014 are considered generally comparable to those evaluated in 2010. A potential full parcel acquisition was identified if the project would displace existing structures or acquire enough of a property to affect the property's intended use. In the case of full acquisition, all residences and businesses on the parcel are assumed displaced and relocated. The term "displacement" is used to represent property acquisition of a parcel or structure, while the term "relocation" is used to represent finding new properties for displaced residents, businesses, and organizations in acquired structures. Many parcels would be partially acquired, and acquisition of the structures located on the parcel would not be necessary. However, this does not mean there would be no adverse impacts on these properties. For example, acquisition could result in the edge of the right-of-way being within several feet of the structure, making the continued use of the structure questionable. Property acquisition could require relocation of driveways or eliminate access to business loading docks. During construction, building occupants would be exposed to noise, dust, and heavy vehicle traffic that could adversely affect property use. Access to properties as well as structures could also be restricted during construction.

At this stage of project design, identifying the individual circumstances surrounding each partial acquisition of parcels is not possible. To be conservative and to avoid underestimating displacements and relocations, all residences and businesses on partially acquired parcels, including those that may ultimately be temporarily affected—for example, impacts associated with construction that are not expected to last through project operation—are counted as full displacements requiring relocation. This assumption allows for a worst-case assessment of potential property acquisition impacts. The final full and partial parcel acquisition decisions would ultimately be determined on a case-by-case basis during the land acquisition phase of the project. See Appendix 3.12-A, Relocation Assistance Program Brochures, which provides a summary of the rights and benefits of displacees under the Uniform Relocation Assistance program.

Economic Effects

The methodologies for examining the potential economic effects are provided below.

Property and Sales Tax Revenue Changes

Overall, property and sales tax revenues are expected to increase as a result of the project. Short-term reductions in property tax revenues caused by private property being acquired for a public transportation purpose, and related sales tax revenue reductions associated with relocating businesses will cause a tax revenue reduction. These revenue losses, however, are expected to be more than offset by both short-term increases in sales tax revenues from construction spending and long-term increases in the regional property and sales tax bases resulting from increased property values and new economic development through improved connectivity of the region to the rest of the state.

The assessment of changes in property tax revenues was based on anticipated full property acquisitions as a proportion of the 2009 county-tax assessed values of acquired properties. The assessed values of agricultural lands took into consideration the taxed values as set under Williamson Act contract. The resulting estimated tax-revenue reductions were then compared with the entire county tax base to assess the intensity and context of this change.

The assessment of changes in sales tax revenues examined effects during the first few years of the project after the start of construction, as well as the anticipated long-term change in sales tax revenues during operation. The first analysis assessed whether or not the short-term temporary changes in sales tax revenues from the acquisition of commercial and industrial properties would be substantial as these businesses relocate and re-establish themselves. The long-term assessment of sales tax revenues examined the ongoing sales tax revenues that would result from the purchase of goods and services associated with the continued operation and maintenance of the HST.

Employment

The project is anticipated to improve state and regional interconnectivity, while creating job opportunities across many sectors of the regional economy. This job creation would occur both during the short-term construction and long-term operation of the project. Analysis was conducted to determine whether project-related job creation could be expected to be filled by the region's existing labor force or whether the new jobs would attract labor to the region.

To estimate short-term construction employment, the Bureau of Economic Analysis RIMS II direct-effect multipliers were used to estimate the region-wide potential direct, indirect, and induced job creation resulting from project spending in the construction and manufacturing sectors.[1] The estimated long-term employment expansion resulting from the operation of the HST was previously studied by others and is summarized in this analysis (Cambridge Systematics 2010). The long-term increase in employment would occur as new businesses are attracted to California and businesses already in the state expand. Regionally, the spatial reallocation of employment would be based on changes in business location by firms benefiting from the increased statewide mobility that the HST project provides.

[1] Direct job creation is a measure of those new construction-related jobs that result from building the project itself. Indirect job creation is a measure of new jobs generated in businesses in the area that would supply goods and services to the project construction, such as equipment suppliers, construction companies, and maintenance firms. Induced job creation is a measure of new jobs in new or existing businesses, such as retail stores, gas stations, banks, restaurants, and service companies, which may supply goods and services to these new direct and indirect workers and their families.

Changes in School District Funding

The assessment of the potential financial impacts on school districts was based on possible changes in school district funding due to shifts in student populations in communities with substantial numbers of residential displacements. The examination of property tax revenue changes, as described above, provides an understanding of the potential effects to school district funding resulting from property acquisition. In addition, school district funding in California is dependent on student attendance; therefore, relocation of large populations of students outside of affected school districts would reduce district funding. To determine the potential likelihood of any such effects, areas with large numbers of residential displacement were examined to determine if relocation outside of current school district boundaries would be necessary. The total number of housing units that may be displaced in a school district was compared with the number of vacant housing units in the same school district to determine if a substantial number of families with enrolled students may be forced to relocate outside of their current school district.

Economic Effects on Agriculture

The project would acquire agricultural land and convert it to HST use; therefore, some agricultural production would be lost. Compensation for any lost production would be incorporated into the property acquisition compensation paid to owners. However, some production would probably not be easily relocated, and the production that is relocated would take time to become re-established. Therefore, some short-term reduction in agricultural production could occur.

A dollar-value estimate of reduced agricultural production was calculated and state and county data on jobs generated per dollar of revenue were used to estimate the corresponding potential direct agricultural job loss for these revenue reductions. These losses would be a result of both direct land acquisition for project right-of-way and indirect land acquisition near the project to provide new access roads along the edge of fields. Data addressing the locations of particular crop production and animal operations were obtained from county agricultural sources (Fresno County 2010a; Kings County 2007; Tulare County 2010; Kern County 2008). The value of agricultural production affected by property acquisition was estimated using county price data for affected crops and animals.

This methodology to assess the economic effects on the agricultural industry provides an indication of impacts across the region and allows for the comparison of the HST project alternatives. Some individual agricultural operations would be affected more than others, and this cost to agricultural operations would be considered on a case-by-case basis during the land acquisition phase of the project.

3.12.4.2 Methods for Evaluating Effects under NEPA

Under NEPA regulations (40 CFR 1500-1508), project effects are evaluated based on the criteria of context and intensity. Context means the affected environment in which a proposed project occurs. Intensity refers to the severity of the effect, which is examined in terms of the type, quality, and sensitivity of the resource involved; location and extent of the effect; and other considerations. An important factor in identifying an effect is its duration. While duration alone does not determine the intensity of an effect, duration is presented, where applicable, to provide a context as to the expected length of time the identified effect will occur. Beneficial effects (e.g., improved connectivity from the project and opportunities for development around station locations) as well as adverse impacts are identified and described. When there is no measurable effect, the effect is found not to occur. Intensity of effects is the degree or magnitude of a potential effect, described as negligible, moderate, or substantial. Context and intensity are

considered together when determining whether an adverse effect is significant. Therefore when considering the context, it is possible that a significant adverse effect may still exist when the intensity of the effect is negligible or an effect may not be significant despite substantial intensity.

For socioeconomics and communities, the terms are defined as follows:

- Effects with *negligible* intensity are defined as social or economic impacts, including those related to the other environmental resource conditions (e.g., air quality, noise, and transportation), which would be measurable but not perceptible to residents in the community.
- Effects with *moderate* intensity are defined as those that would result in some noticeable localized and/or short-term social or economic change within a community or region, but would not result in long-term social, economic, or physical changes to features that define the community, or affect the overall quality of life in a community or region.
- Effects with *substantial* intensity would result in potential large-scale and/or long-term impacts, such as broad long-term impacts on the regional economy, labor force, or tax base; physical division of an established neighborhood; relocation of key community businesses and industries; relocation of a large number of residences; or where the project would affect the overall quality of life in a community or the community character.

3.12.4.3 CEQA Significance Criteria

Under CEQA Guidelines, the project would have a significant impact if it would:

- Physically divide an established community.
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.
- Relocate substantial numbers of people, necessitating the construction of replacement housing elsewhere.
- Result in substantial adverse physical impacts associated with the provision of new or physically altered community and governmental facilities or with the need for new or physically altered community and governmental facilities, the construction of which could cause significant environmental impacts.

This section discusses project impacts on the agricultural economy of the study area. In accordance with Section 15064(e) of the CEQA Guidelines, "economic and social changes resulting from a project shall not be treated as significant effects on the environment." Therefore, no CEQA significance criteria are provided for economic impacts. CEQA does address the conversion of agricultural land to nonagricultural uses (see Section 3.14, Agriculture Lands, for that evaluation).

3.12.4.4 Study Area for Analysis

Figure 3.12-1 provides a map of the project and communities in the study area. The study area for direct and indirect impacts on population and communities is defined as the 0.5-mile radius from the centerline of all proposed alignment alternatives, as well as the 0.5-mile radius around all proposed station locations or access points, around the HMF sites, and around other project facilities. Impacts and effects on communities are expected to occur within this 0.5-mile radius study area, inasmuch as this area represents where key resource effects on property relocation;

transportation; noise and vibration; safety and security; aesthetics; parks, recreation, and open space; and cultural resources would occur. The study area for economic effects is the four-county region. This study area was chosen because the economic effects to fiscal revenues, job creation, and business disruption would have economic implications for this whole region, not only the area located within the 0.5-mile radius.

The region examined for the affected environment consists of the four counties of Fresno, Kings, Tulare, and Kern. This region is presented to provide context and allow for comparison and contrast between communities within the study area and the surrounding communities. The 0.5-mile-radius study area includes portions of six cities (Fresno, Hanford, Corcoran, Wasco, Shafter, and Bakersfield), three communities (Laton, Grangeville, and Armona), and several smaller communities. These smaller communities in the rural areas that lie between the urban cities along the alignment were identified by reviewing maps and through discussion with local officials and in site visits to identify existing conditions. Site visits to all communities were conducted in March and May of 2010 and November 2011.

The cities and communities of Hanford, Corcoran, Wasco, Shafter, Laton, Grangeville, and Armona were each examined as a whole, given their limited geographic area and somewhat more homogeneous populations than the larger cities of Fresno and Bakersfield. The cities of Fresno and Bakersfield were determined to be composed of too many distinct neighborhoods and heterogeneous populations to be examined as a whole. Therefore, study area profiles for these cities include data by neighborhood/community district to present a more project-focused analysis.[2] Data for the city of Fresno are presented for the Central, Edison, and Roosevelt districts, see Figure 3.12-2 for the city of Fresno district map. For Bakersfield, data are presented for the Central, Northeast, and Northwest districts, see Figure 3.12-3 for the city of Bakersfield district map.

District boundaries were determined based on current definitions used by city staff (Fresno), interviews with local planners (Bakersfield), and examination of census boundaries (tract, block group, and block) to approximate the identified district boundaries as closely as possible. The district boundaries are not drawn exactly to meet the 0.5-mile study area radius, but rather to identify the relevant area based on demographics and cohesion that needs to be examined in the context of a community.

[2] Note that the following district names are used for the purposes of this document only. They do not necessarily reflect the popular names for portions of these cities.

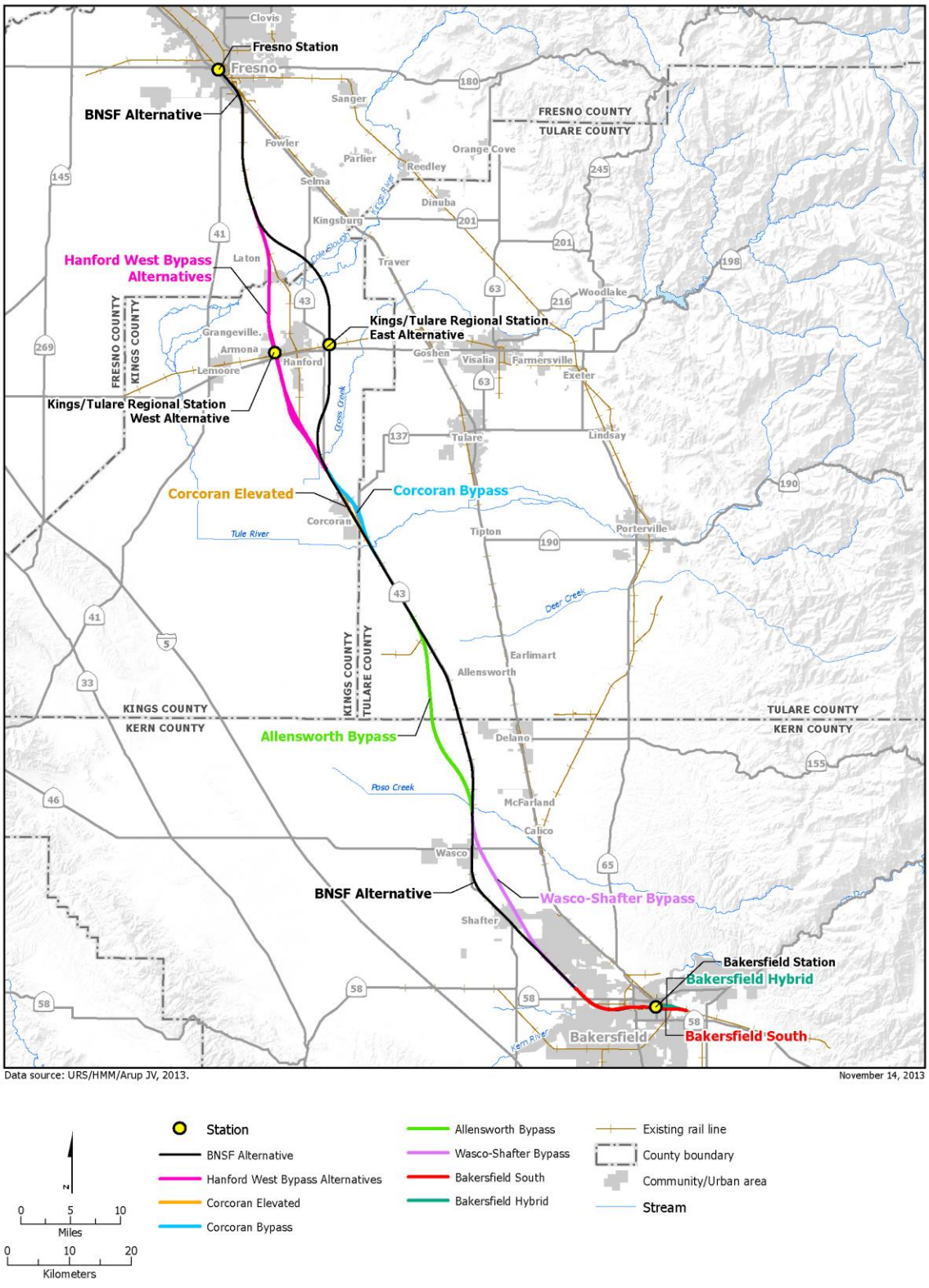

Figure 3.12-1
Fresno to Bakersfield Section alternatives

The Northeast Bakersfield District is not completely contained within the project study area. This neighborhood, which lies south of East Truxtun Avenue between Union Avenue and Oswell Street, is only partially within the defined project study area for the Fresno to Bakersfield Section, but is examined as a whole community in this document. This is done because the Bakersfield to Palmdale Section of the HST project would continue from the Bakersfield station and bisect this neighborhood. Therefore, it is important to examine potential impacts on this community as a cohesive whole rather than have the analysis split the neighborhood between the two environmental documents.

3.12.5 Methods for Evaluating Impacts: Environmental Justice

The purpose of this methodology section is to summarize the approach the Authority and FRA used to develop the environmental justice (EJ) findings for the Fresno to Bakersfield Section of the HST. The analysis identified areas with minority and low-income populations and evaluated the potential for the project to result in disproportionately high and adverse effects on minority and low-income populations. This was done by comparing the impacts experienced by the minority and low-income populations to the non-minority and/or non-low-income population and the reference community, which are tools to compare the proportionality of impacts.

The locations of minority and low-income populations were identified and mapped within the EJ study area (see Figures 3.12-4 through 3.12-7). The EJ study area was established as all census block and block groups within a 0.5-mile radius of all proposed alternative alignments, as well as station and heavy maintenance facility (HMF) locations because this is the area that would be most directly affected by the project both in the short term (project construction) and long term (project operation).

The occurrence of minority and low-income populations within the EJ study area was compared to the conditions in the reference community. The reference community for the Fresno to Bakersfield Section of the HST is defined as the four counties of Fresno, Kings, Tulare, and Kern, within the San Joaquin Valley that includes the population that could benefit from the proposed project. See Figure 3.12-8, which depicts the locations of minority and low-income populations within the reference community and the EJ study area.

For the EJ analysis, minority persons were defined as individuals identified as non-White (Black, Asian American, American Indian and Alaskan Native, Native Hawaiian and Other Pacific Islander) and Hispanic or Latino (a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race) in the 2000 Census. Low-income populations were defined as those with individuals with household incomes below the Census poverty threshold, which is based on the poverty guidelines issued by the Department of Health and Human Services.

A minority or low-income population is identified using either or both of the following criteria:

1. The census block contains 50%, or more, minority persons and/or the census block group contains 25%, or more, low-income persons.

2. The percentage of minority and/or low-income persons in any census block or block group is more than 10% greater than the county average.

At the time this analysis was conducted in mid-2010, the 2000 census data were the most recent data available. However, demographics may have changed within the study area since the 2000 census data were obtained. Therefore, to confirm the findings in the analysis and ensure that these data are accurate for use in this EJ analysis, additional intensive quantitative and qualitative methods were undertaken. Quantitative analysis included examining newer data sources that would indicate the current locations of minority and low-income populations. These

sources included the American Community Survey and participation data by zip code for state social service programs, food stamps, Section 8 housing, and free or reduced-fee school lunch programs. Qualitative investigations included outreach to 22 local agencies and organizations to inquire about recent changes in local demographics that would lead to changes in the locations of identified minority and low-income populations. In addition, these local experts were asked to review maps of the identified minority and low-income populations to assess whether or not the locations and/or boundaries represent the current demographics. See Appendix B, Community Baseline Data, in the *Fresno to Bakersfield Section: Community Impact Assessment Technical Report* (Authority and FRA 2012a) for these maps of identified EJ communities.

When minority and low-income populations were identified in the study area and may be adversely impacted by the project, the Authority and FRA conducted the necessary analysis to determine whether there is a disproportionately high and adverse impact on the population.

To determine whether impacts would be disproportionately high and adverse on identified minority and low-income populations, the analysis identified the potential for adverse project effects on human health and environmental resources in the study area by reviewing all other sections of this EIR/EIS. These impacts were identified by geographic area, by alternative alignment, and by type of impact. All effects that were found to be adverse were evaluated to determine the location of the impact and whether those locations were in areas with minority and low-income populations. When minority and low-income populations were identified, the impacts experienced by that population were compared with the affected area and the larger reference community to determine whether the project would result in a disproportionately high and adverse impact. A disproportionately high and adverse effect on minority and low-income populations is defined as an impact that:

1. Is predominantly borne by a minority and/or low-income population, or
2. will be suffered by the minority and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect suffered by the non-minority and/or non-low-income population in the affected area and the reference community.

In addition, in determining whether the impact would be disproportionately borne by a minority and/or low-income population, the analysis considered if the project would (1) implement measures to avoid or reduce the adverse effect, and (2) provide benefits that would affect the minority and low-income populations.

3.12.5.1 Environmental Justice Outreach and Interest Groups

Executive Order 12898 requires that federal agencies ensure effective public participation and access to information. Consequently, an extensive EJ public and agency outreach program was conducted throughout the EIR/EIS process and will continue through design and construction phases. Since 2007, over 170 EJ-related meetings were held with local officials; public, local, and regional organizations; and government agencies, as well as with representatives of affected communities along the HST alternatives. Outreach conducted to date is documented in Chapter 8, Public and Agency Involvement.

The purpose of these efforts was to gain the input of minority and low-income populations regarding the project and to obtain their comments as part of the public record, and so the analyses and conclusions in this EIR/EIS accurately reflect the setting and potential impacts of the project in those communities. Through analysis of the project, staff identified whether any of the minority and low-income populations would potentially be disproportionately affected by the project relative to the potential benefit the community would gain after appropriate alternatives or changes to the project were implemented. A description of the process and a list of all public

outreach meetings are provided in Chapter 8, Public and Agency Involvement. The process is summarized as follows:

- Identify and engage minority and/or low-income interest groups within the HST project study area.
- Engage EJ community leaders and organizations.
- Identify how project information would be made available to the community.
- Conduct EJ-specific community meetings to inform community members of the project and solicit input about community-based concerns; establish opportunities for participation by potentially affected minority and low-income populations.
- Develop alignment alternatives or modifications to avoid or minimize impacts on minority and low-income populations.
- Document public information meetings and other EJ outreach.

Communities with high concentrations of minority and low-income populations along the alternative alignments were targeted for additional public outreach. The communities identified included the cities of Corcoran, Allensworth, Wasco, and Shafter as well as west Fresno, west Hanford, and east Bakersfield (generally east of Union Street between the UPRR tracks and California Avenue). Special outreach conducted for minority and low-income populations in these communities included Spanish-language publicizing of meetings, availability of Spanish-language versions of presentation materials, and availability of Spanish interpreters at public meetings. Local elected officials were invited to each of these meetings, along with any other known community leaders.

Overall, comments from minority and low-income communities expressed concerns similar to those received from all communities along the project. Outreach to affected communities has been and will continue to be conducted as part of the Authority and FRA decision-making process. Issues raised by EJ community leaders, organizations, and members include concerns related to the following:

- Noise from the trains.
- Visual impacts from elevated structures.
- Structures being targets for graffiti.
- Division of communities and transportation access.
- Potential impacts on local employment.
- Access to affordable regional and inner-city transportation.
- Affordability for low-income community members.
- Access to the appropriate training for jobs with the HST.
- Emergency response and general safety issues.
- Local funding for the added security.
- Pollution from the proposed HMF.
- Central Valley (local) benefits.
- Impacts on local churches.
- Housing displacement of low-income or unemployed community members.
- Impacts on public schools and school-related commute times.
- Potential impacts on local landmarks or facilities important to minority or low-income communities.

To help the public, including minority and low-income populations, access and better understand the contents of the Draft EIR/EIS published in August 2011, a series of four educational

workshops were held in Fresno, Corcoran, Wasco, and Bakersfield. The Authority also held three public hearings to solicit feedback about the Draft EIR/EIS in Fresno, Hanford, and Bakersfield. During these public hearings, citizens completed comment forms and/or had their comments transcribed by a court reporter. The Authority also held an outreach meeting on October 5, 2011, to inform the west Hanford area residents of the potential Hanford West Bypass 1 and 2 alternatives and the plans to prepare the Fresno to Bakersfield Section Revised Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement (Revised DEIR/ Supplemental DEIS). Following the publication of the Revised DEIR/Supplemental DEIS in August 2012, the Authority again held educational workshops and public hearings to inform the public about the changes made since the Draft EIR/EIS and to solicit feedback about the Revised DEIR/Supplemental DEIS. Spanish-language materials were provided at all of these public meetings; a Spanish translator also was present at all meetings to provide information to Spanish-speaking residents and facilitate the public comment process.

Further EJ outreach efforts during the public comment periods for the Draft EIR/EIS and Revised DEIR/Supplemental DEIS included providing meeting notices to EJ interest groups, listing advertisements in Spanish-language newspapers, and posting meeting notices (in English and Spanish) at community facilities that serve minority and low-income populations.

Consistent with the Authority's LEP policies, the Authority provided free language assistance services to limited English proficient (LEP) individuals, including all of those encountered during public outreach and whenever requested by LEP individuals. The provision of Lao and Hmong language interpreters was offered in public notice materials prior to meetings, and Spanish translators were available at all public workshops and hearings. The Authority also provided the following supporting materials for the Draft EIR/EIS and Revised DEIR/Supplemental DEIS in Spanish[3] at the meetings and on the web site:

- Notice of availability (web site).
- Highlights of the EIR/EIS (meetings and web site).
- Executive summary (meetings and web site).
- Project brochure (meetings and web site).
- Fact sheet on the public comment period changes (meetings and web site).

Throughout the project, a telephone number to call for information with Spanish, Hmong, and Tagalog-language interpreter services has been available to provide assistance on the public involvement process and also answer questions on the Draft Project EIR/EIS and Revised DEIR/Supplemental DEIS. The city of Fresno has a large Hmong population, but discussions with City Councilmember Blong Xiong and city staff members determined that the project study area did not include a Hmong population center. Chapter 8, Public and Agency Involvement, provides complete information on the outreach activities that have been conducted to date and a list of future public meetings and outreach activities.

3.12.6 Affected Environment: Socioeconomics and Communities

This Affected Environment section presents a summary of county and community demographics, housing, economic conditions, and community characteristics in the four-county region. The section focuses on differences among the communities located along the project alternatives. This allows for comparison and contrast of communities to highlight specific issues that are important in evaluating the context in which potential impacts may occur. For additional information on any particular community, a complete presentation of data can be found in the

[3] Project materials were printed in Spanish because of the large Spanish-speaking population in the project study area and the reference community.

Fresno to Bakersfield Section: Community Impact Assessment Technical Report (Authority and FRA 2012a).

3.12.6.1 Population Characteristics

Population and demographic characteristics provide information about the region's social context. Age, household, and disability characteristics are discussed to identify potential special relocation needs. Information regarding race and income is presented to identify minority and low-income populations. (See the *Fresno to Bakersfield Section: Community Impact Assessment Technical Report* [Authority and FRA 2012a] for detailed population-characteristic profiles.)

Regional Population Characteristics

Table 3.12-1 provides information on the existing and projected population growth for Fresno, Kings, Tulare, and Kern counties compared to growth for the state of California. The population in the four-county region has increased in the last decade and is projected to increase substantially over the next 25 years, with some county populations expected to nearly double by 2035.

Table 3.12-1
Existing and Projected Populations

Location	2000	2010[a]	2035[b]	Change in Population 2010–2035 (%)	Average Annual Growth Rate (2010–2035)
Fresno County	799,407	953,761	1,547,582	62.3	2.5
Kings County	129,461	156,289	274,576	75.7	3.0
Tulare County	368,021	447,814	809,789	80.8	3.2
Kern County	661,653	839,587	1,523,934	81.5	3.3
Regional Total	1,958,542	2,397,451	4,155,881	73.3	2.9
California	33,873,086	38,648,090	51,747,374	33.9	1.4

Sources:
[a] California Department of Finance (CDOF) 2010.
[b] CDOF 2007.

Age distributions across the four counties in the region are similar, and middle-aged groups constitute the highest concentration of the population. Analysis of census data for the four counties as well as for the major cities in the study area shows the largest age group of the population shifted to being somewhat younger between 2000 and 2008, reflecting the arrival of younger workers to the area along with their spouses and children (U.S. Census Bureau 2000d and CDOF 2010).

In 2000, the 606,395 households in the region had an average household size of 3.11[4] persons. In 2010, the number of households increased to 720,766, and the average household size increased to 3.21 persons (CDOF 2010). Approximately 75% of all households in the region are family households. However, the percentage of married-couple households has decreased across

[4] Persons who are institutionalized are not counted as being in the total household population. They are however included in the total population.

all four counties since 2000, and the percentage of households headed by a single female or a single male has increased across the region.

Linguistic isolation among households in the region was similar to that of the state in 2000, inasmuch as 9.4% of regional households and 9.6% of California households had no one over the age of 14 with the ability to speak English very well (U.S. Census Bureau 2000a).[5] This percentage has increased in both the state and the region since 2000, with 10.8% of the households in the state and 11% in the region estimated to be linguistically isolated in 2008 (U.S. Census Bureau 2008a). This percentage has increased in Tulare County at a slightly faster rate with 11.1% of households identified as linguistically isolated in 2000, and 13.4% in 2008 (U.S. Census Bureau 2008a).

Disabled populations, particularly the elderly, tend to rely more heavily on community services as a result of issues with mobility and accessibility. The census data show that disabilities increase significantly in the populations who are 65 and older. Among seniors in Tulare and Kern counties in 2007, almost 50% reported a disability, giving these counties the highest disability rates for this age group in the region (U.S. Census Bureau 2007). It should be noted that the data are collected for many different types of disabilities and individuals can be identified as having more than one type of disability. Therefore, this number may double count persons with more than one type of disability.

Minorities in this analysis are defined as all individuals identified as Hispanic and/or non-White. Individuals of a non-Hispanic White background made up approximately 43% of the region's population in 2000, while individuals of Hispanic ethnicity of any race made up a similar 43% of the population, with the non-Hispanic, non-White comprising the remaining 14% (U.S. Census Bureau 2000b). Between 2000 and 2008, the percentages of these two groups shifted substantially, with the total non-Hispanic White population decreasing to about 38% and the Hispanic population of all races increasing by almost 7%, or by 289,916 people. Persons of Hispanic ethnicity now represent approximately half the population of the region.

In 2008, countywide median annual household income was highest in Kings County, at $50,962, and lowest in Fresno County, at $43,737. By comparison, the median annual household income for California was $61,062 in the same year (U.S. Census Bureau 2008d).

HST Study Area Population Characteristics

The study area population data are presented from north to south along the project corridor. Figure 3.12-1 provides a map of the project and communities in the study area. Data are presented for the Fresno and Bakersfield city districts crossed by the alignment; the small cities of Hanford, Corcoran, Wasco, and Shafter; and the alignment segments between these cities and small communities.[6]

City of Fresno

Fresno's population of 427,652 in 2000 grew to 502,303 in 2010, resulting in an annual average growth rate of 1.7%. This is lower than the growth rates of Fresno County (1.9%) and the region (2.2%) during the same period (CDOF 2010).

[5] According to the U.S. Census Bureau, a household is linguistically isolated if "no member 14 years old and over speaks only English or speaks a non-English language and speaks English very well. In other words, all members 14 years old and over have at least some difficulty with English."

[6] Each section of unincorporated areas along the project corridor was evaluated to identify population centers. In small rural communities located between the larger cities, population figures were sometimes unavailable. In these cases, the population was estimated by counting the number of residences and multiplying by the average household size for the four-county region (3.18 people per household).

Communities within Fresno are examined as three districts (see Figure 3.12-2 for the city of Fresno district map). The Census 2000 populations of the districts in Fresno vary widely, ranging from 16,754 people in the Central District to 102,489 people in the Roosevelt District.[7] All the districts have very high proportions of minority populations. Fresno, as a whole, has a minority population of 60.3%, and each district has a minority population of at least 85% (see Table 3.12-2).

The number of households and the average household size were 160,763 and 3.07 people, respectively, in 2010 (CDOF 2010). Approximately 68% of the households were family households in 2008. In 2000, the average household size was similar across the districts of Edison (3.74) and Roosevelt (3.75), but the average household size in the Central District was smaller (3.33 persons) (U.S. Census Bureau 2000c).

[7] The data available to examine the three bisected Fresno neighborhood districts within the study area are derived from Census 2000 data aggregated at the census-tract level to match district boundaries as closely as possible (see Figure 3.12-2 for the city of Fresno district map).

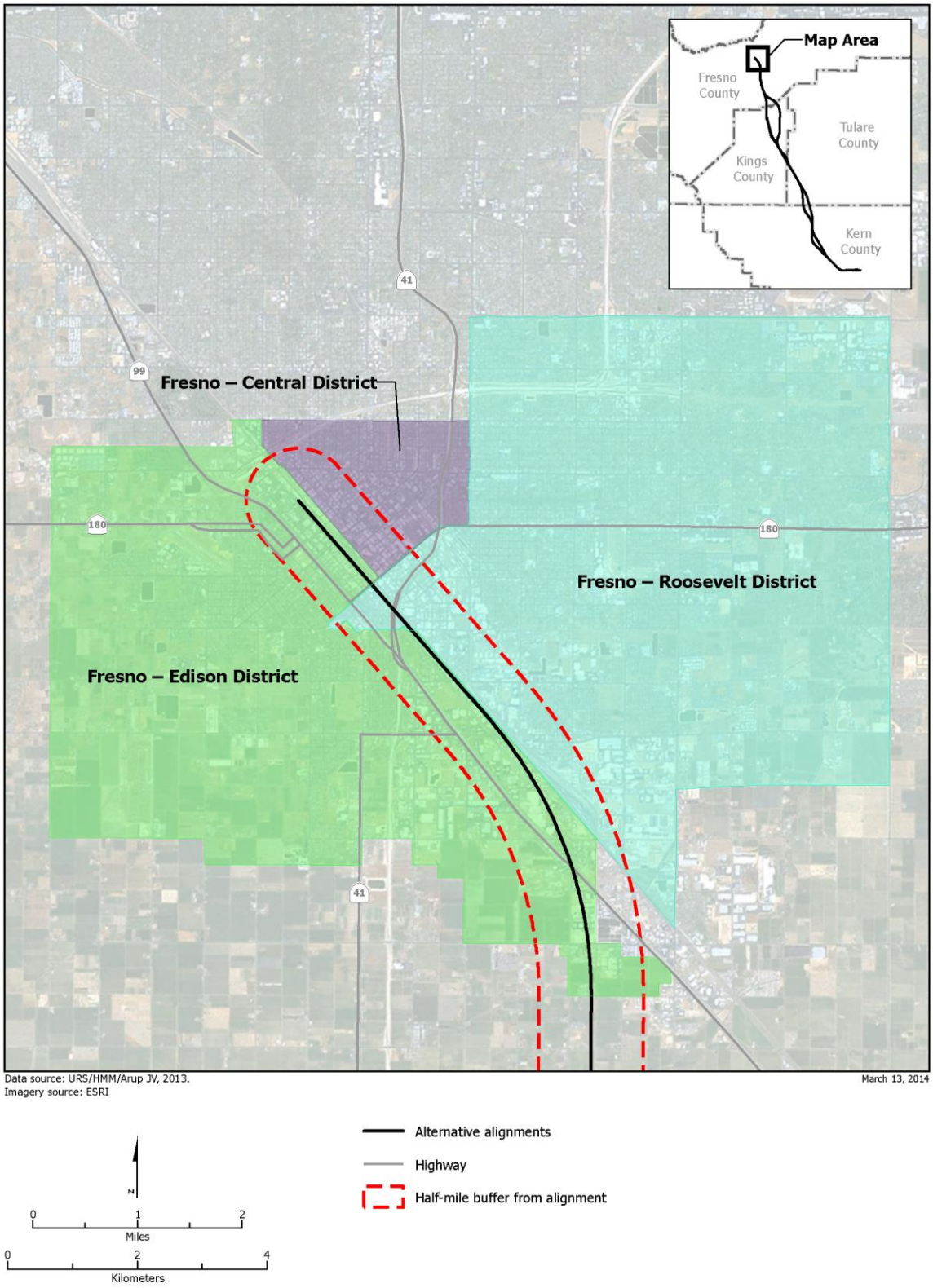

Figure 3.12-2
Districts within the city of Fresno

Linguistic isolation in Fresno was 9.7% in 2008, and within the three districts, linguistic isolation was significantly higher (ranging between 16% and 26%) than in the city as a whole (U.S. Census Bureau 2000a, 2008a).

City of Fresno to Community of Laton

Five small communities are interspersed along this section of the alignment. Community population estimates range from fewer than 100 people in the smallest communities, Oleander and Conejo, to approximately 1,500 residents in the largest community, Malaga.

Community of Laton

Laton's population was 1,236 residents in 2000, with a total number of households and average household size of 331 and 3.72, respectively (U.S. Census Bureau 2000d); of these households, approximately 74% were family households (U.S. Census Bureau 2000a). Linguistic isolation averaged 2% in 2000, and the minority population was approximately 68.9% of all residents in 2000 (see Table 3.12-2).

Community of Laton to City of Hanford and Communities of Grangeville and Armona

Two small communities lie just to the east of Hanford along the alignment. The population of the community of Ponderosa is estimated to be approximately 150 persons, and the population of Hamblin is estimated to be approximately 200. The larger communities of Grangeville and Armona, just to the west of Hanford, are described below.

City of Hanford

Hanford's population of 41,686 residents in 2000 grew to 53,266 in 2010, resulting in an average annual growth rate of 2.8% (CDOF 2010). The number of households and the size of the average household were 17,070 and 3.07, respectively, in 2010 (CDOF 2010). Approximately 74% of the households were family households in the 2006–2008 estimate (U.S. Census Bureau 2008a). Linguistic isolation averaged 9.2% in 2006–2008 (U.S. Census Bureau 2008a). Hanford's minority population was approximately 60% of all residents in 2006–2008 (see Table 3.12-2).

Community of Grangeville

The population of Grangeville was 638 residents in 2000, with an average household size of 2.8 persons and a total of 227 households (U.S. Census Bureau 2000d). Approximately 87.7% of the households were family households in the 2000 estimates (U.S. Census Bureau 2000a), with 4% of these households being linguistically isolated. The minority population of Grangeville was approximately 26.8% of all residents in 2000 (see Table 3.12-2).

Community of Armona

Armona's population was 3,239 residents in 2000, with an average household size of 3.37 persons, and a total of 961 households (U.S. Census Bureau 2000d). Approximately 81.7% of the households were family households in the 2000 estimates (U.S. Census Bureau 2000a), with 9% of these households being linguistically isolated. The minority population of Armona was approximately 58.3% of all residents in 2000 (see Table 3.12-2).

Table 3.12-2
Minority Group Representation in the Region

Location	% of Population[a,b]											
	Hispanic of All Races		Non-Hispanic Native American		Non-Hispanic Asian		Non-Hispanic African American		Non-Hispanic Other		Total	
	2000	2008	2000	2008	2000	2008	2000	2008	2000	2008	2000	2008
Fresno County	44.0	48.7	0.8	0.6	7.9	8.4	5.0	4.9	2.6	2.3	60.3	65.0
City of Fresno	39.9	46.6	0.8	0.3	11.0	9.9	8.0	7.5	3.0	2.4	62.7	66.7
Fresno Central District	64.3	—	0.8	—	9.9	—	9.0	—	3.5	—	87.5	—
Fresno Edison District	47.3	—	0.4	—	11.1	—	36.4	—	1.8	—	97.0	—
Fresno Roosevelt District	58.7	—	0.8	—	15.5	—	6.7	—	2.8	—	84.4	—
Community of Laton**	68.9	—	0.6	—	0.6	—	0.4	—	1.5	—	72.0	—
Kings County	43.6	49.3	1.0	1.2	3.0	3.1	8.0	7.5	2.8	1.7	58.4	62.8
City of Hanford*	38.7	45.5	0.7	0.8	2.8	4.2	4.8	7.3	3.1	0.9	50.1	58.8
Community of Grangeville**	18.7	—	0.3	—	2.8	—	0.2	—	4.9	—	26.9	—
Community of Armona**	48.6	—	1.2	—	1.3	—	4.0	—	3.2	—	58.3	—
City of Corcoran*	59.6	62.6	0.5	1.5	0.7	2.0	14.0	12.8	1.1	0.9	75.9	80.8
Tulare County	50.8	57.5	0.8	0.6	3.1	2.8	1.4	1.3	2.1	2.2	58.2	64.4
Kern County	38.4	47.1	0.9	0.5	3.2	3.6	5.7	5.4	2.3	2.5	50.5	59.0
City of Wasco*	66.7	74.4	0.5	0.4	0.6	1.7	9.8	7.5	0.8	1.2	78.4	85.2
City of Shafter**	68.1	—	0.5	—	0.3	—	1.4	—	0.7	—	71.0	—
City of Bakersfield	32.7	43.3	1.0	0.5	2.5	4.8	12.2	8.6	3.1	3.0	51.5	60.2

Table 3.12-2
Minority Group Representation in the Region

Location	% of Population[a,b]											
	Hispanic of All Races		Non-Hispanic Native American		Non-Hispanic Asian		Non-Hispanic African American		Non-Hispanic Other		Total	
	2000	2008	2000	2008	2000	2008	2000	2008	2000	2008	2000	2008
Bakersfield Central District	32.7	—	1.0	—	2.5	—	12.2	—	3.2	—	51.5	—
Bakersfield Northeast District	46.7	—	1.0	—	1.4	—	4.5	—	2.1	—	55.7	—
Bakersfield Northwest District	13.6	—	1.0	—	1.9	—	1.5	—	2.4	—	20.4	—
Region	43.3	49.8	0.8	0.6	5.1	5.3	4.8	4.6	2.5	2.3	56.5	62.6
California	32.4	36.6	0.5	0.4	10.8	12.2	6.4	5.9	3.2	2.8	53.3	58.0

[a] U.S. Census Bureau 2000b.
[b] U.S. Census Bureau 2008c.
*Cities of Hanford, Corcoran, and Wasco data provided by American Community Survey 2006-2008 (U.S. Census Bureau 2008a).
**City of Shafter and communities of Laton, Grangeville, and Armona data for ACS 2008 or ACS 2006-2008 are not available.

Note: The California Department of Finance does not provide annual racial profile estimates, so the most-current American Community Survey data are used. This explains the difference between the 2010 total population estimates presented in the text and the 2008 or 2006-2008 totals in this table. Also, Census Racial and Ethnicity Characteristics data include institutionalized population, of which Corcoran and Wasco have a significant number given the presence of state prison facilities. Also, 2008 data are not available at the district level so only 2000 data are presented.

City of Hanford and Communities of Grangeville and Armona to City of Corcoran

The study area between the cities of Hanford and Corcoran is in Kings County. El Ranchero is the one community identified in this segment. El Ranchero lies south of Lacey Boulevard, 1 mile east of Hanford, and has an estimated population of 400 residents. According to a county official, this community is quickly being surrounded by the development of the city of Hanford, and it is expected that it will eventually become incorporated into the city (Kinney 2010, personal communication).

City of Corcoran

In 2000, Corcoran had a population of 20,843 residents; by 2010, the population had grown to 25,692 people, for an average annual growth rate of 2.3% (CDOF 2010). Corcoran had markedly higher percentages of the population in the middle-aged groups in 2008, which is likely the result of the population housed in the state prison facilities located within the city limits. The number of households and the average household size were 3,690 and 3.61, respectively, in 2010 (CDOF 2010). Approximately 80% of the households were family households in the 2006–2008 estimate (U.S. Census Bureau 2008a). In 2000, 12.1% of the city's households were linguistically isolated. More recent data are not available from the U.S. Census American Community Survey for 2006–2008; however, with the increase in minority population and the trends seen in both the county and region, it can be assumed that linguistic isolation has not decreased. Corcoran's minority population, which represented approximately 75% of all residents in 2000, increased to approximately 80% of all residents by 2006–2008 (see Table 3.12-2).

City of Corcoran to City of Wasco

Four communities exist along the alignment between Corcoran and Wasco. The communities of Blanco and Allensworth are located in Tulare County, while Kernell and Pond are in Kern County. The population estimates for these communities range from fewer than 10 in Kernell to around 400 residents in the community of Allensworth. None of these communities have experienced significant growth in the past several years, and no growth is anticipated in the foreseeable future (Kinney 2010, personal communication; Smith 2010, personal communication; Waters 2010, personal communication).

City of Wasco

Wasco had a population of 21,263 residents in 2000, and by 2010, the population had grown to 25,541, resulting in an average annual growth rate of 2% (CDOF 2010). When compared to the other cities in the region, Wasco had markedly higher percentages of the population in the middle-aged groups in 2008 which is likely as a result of the population housed in the state prison facilities located within the city limits. The number of households and the average household size were 4,892 and 3.95, respectively (CDOF 2010). Approximately 80% were family households in the 2006–2008 estimate. Linguistic isolation among households was 20.2% in 2000 (U.S. Census Bureau 2000a). More recent data are not available from the U.S. Census American Community Survey for 2006–2008; however, as with Corcoran, with the increase in minority population and with trends seen in both the county and region, it can be assumed that linguistic isolation has not decreased. Wasco's minority population, which represented approximately 80% of all residents in 2000, increased to over 85% of all residents, based on the 2006–2008 American Community Survey (see Table 3.12-2).

City of Wasco to City of Shafter

The three communities identified in the study area between the cities of Wasco and Shafter are Palmo, the North Shafter Labor Camp, and Myricks Corner. Palmo, which is the smallest of the

communities, has an estimated population of fewer than 25 people. The North Shafter Labor Camp has approximately 300 residents, and Myricks Corner has approximately 250 residents.

City of Shafter

Shafter's population was 12,736 in 2000 and grew to 16,208 by 2010, which is an average annual growth rate of 2.7% (CDOF 2010). The number of households and the average household size were 4,052 and 3.83, respectively, in 2010 (CDOF 2010). Linguistic isolation was 17.1% in 2000 (U.S. Census Bureau 2000a). More-recent information is not available from the U.S. Census American Community Survey for 2006–2008; however, as previously discussed for the other communities, it can be assumed that linguistic isolation has not decreased. Shafter's minority population represented approximately 70% of all residents in 2000 (see Table 3.12-2).

City of Shafter to City of Bakersfield

The one identified community in the study area between the cities of Shafter and Bakersfield is Crome. This small community is unincorporated and has an estimated population of about 75 people.

City of Bakersfield

In 2000, Bakersfield had a population of 247,057 residents; the population grew to 338,952 in 2010, for an average annual growth rate of 3.7% (CDOF 2010).

Communities within Bakersfield are examined as three districts (see Figure 3.12-3 for the city of Bakersfield district map).

The Census 2000 populations of the three districts in Bakersfield vary widely, ranging from 38,610 people in the Central District to 140,082 people in the Northeast District.[8] Both the Central and Northeast districts had similar percentages of minorities (51.5% and 55.7%, respectively) when compared to Bakersfield as a whole, while the Northwest neighborhood had a much lower percentage (18.8%) of minorities (see Table 3.12-2).

In Bakersfield, the number of households and the average household size were 110,316 and 3.04, respectively, in 2010 (CDOF 2010). Family households were 71.6% in 2008. The percentage of married-family couples decreased by approximately 3%, and both the number of non-family and male-householder-family households increased. There was no significant growth in housing stock from 2000 to 2008 in the neighborhood districts.

Average household size was similar in the Northeast (3.07) and Northwest (3.03) districts, while the Central District's average household size (2.57) was considerably smaller (U.S. Census Bureau 2000a). This could be due to the urban nature of the area as well as to the lower percentage of family households in and around the downtown area. The differences in the makeup of households across the Bakersfield districts in 2000 showed that the Central District had a percentage of family households (62.5%) below the city average of 73.7%. The Northeast District was similar to the city average (73.9%), while the Northwest District had a higher-than-average percentage of family households (84.2%).

[8] The data available to examine the three bisected Bakersfield neighborhood districts within the study area are Census 2000 data aggregated at the census tract level to match district boundaries as closely as possible (see Figure 3.12-3 for the city of Bakersfield district map).

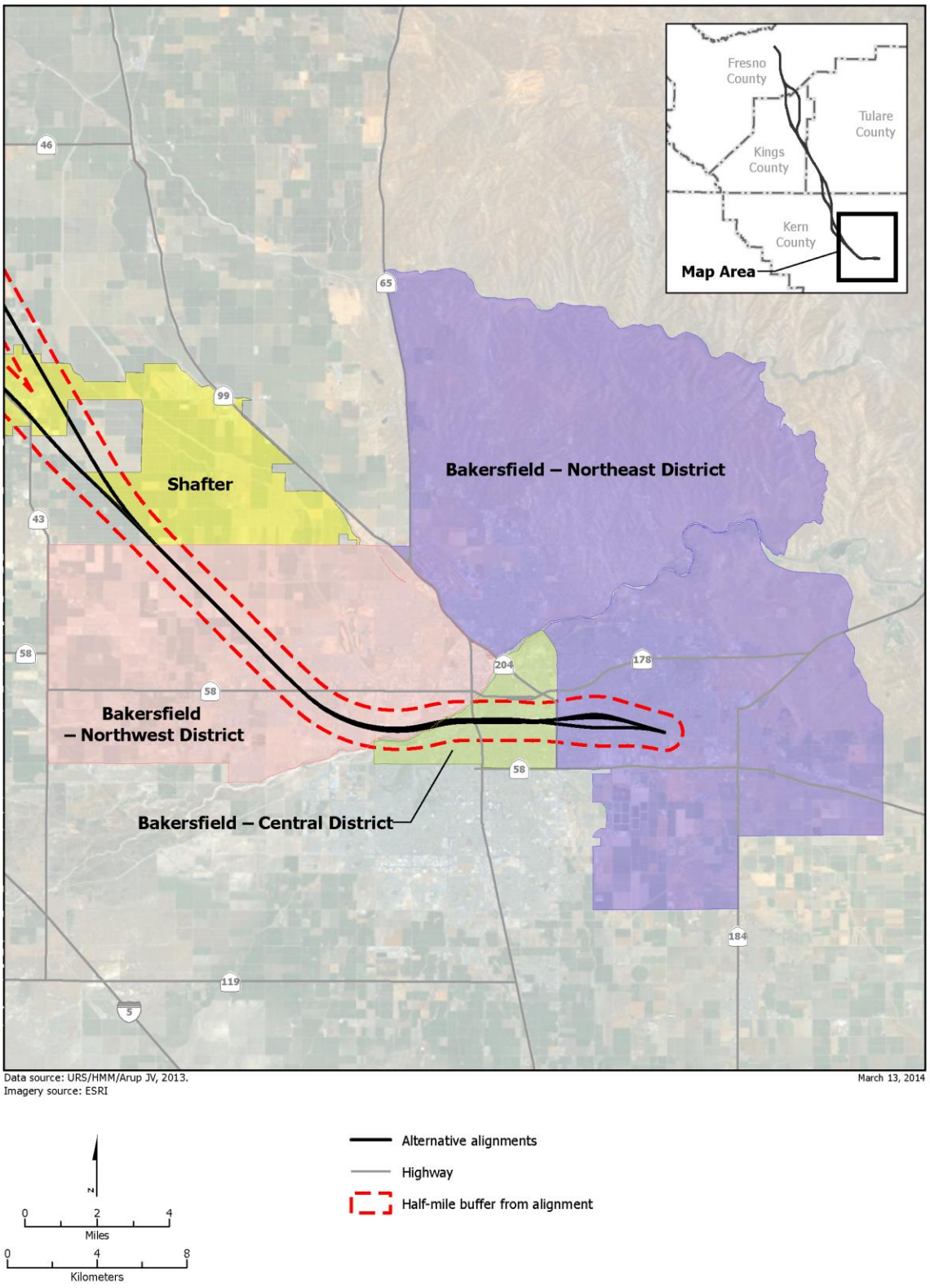

Figure 3.12-3
Districts within the city of Bakersfield

Linguistic isolation was 6.8% in 2008 in Bakersfield (U.S. Census Bureau 2008a). Among the districts, the Northeast District (8.9%) had a higher percentage of linguistic isolation than that of the city (5.8%), the Northwest District had a very low percentage (1.2%), while the Central District was similar to the city average (U.S. Census Bureau 2000a).

3.12.6.2 Housing Setting

This section provides details on housing. Specifically, it covers housing structure types, community tenure, and vacancy rates, which are all useful in understanding the availability of suitable housing in areas where residential property displacements would occur with project implementation.

Regional Housing Setting

The single-family home is the predominant housing type across the region, accounting for 73% of existing units in the region in 2010. Multifamily units and mobile homes account for 20% and 7% of the remaining housing stock, respectively. Table 3.12-3 provides a summary of housing characteristics, including vacancy rates for the region. Kings County is unique because approximately 14% of the population is housed in group quarters, including the state prison facilities located in Corcoran and Avenal, and the military housing at NAS Lemoore. The housing data in Table 3.12-3 exclude these group quarters. A full listing of housing characteristics for the counties, cities, and communities is provided in the *Fresno to Bakersfield Section: Community Impact Assessment Technical Report* (Authority and FRA 2012a).

Table 3.12-3
Housing Characteristics (2010)

Location	Single-Family Housing Units		Multifamily Housing Units		Mobile Homes	Occupied	Percent Vacant
	Detached	Attached	2 to 4	5 Plus			
Fresno County	**210,874**	**10,083**	**25,755**	**53,912**	**14,134**	**294,547**	**6.42**
City of Fresno	103,640	6,028	17,142	40,301	3,923	160,763	6.01
Fresno Central District[a]	1,277	248	986	2,244	8	4,165	12.6
Fresno Edison District	4,593	354	1,138	603	49	6,231	7.5
Fresno Roosevelt District[a]	16,768	1,058	3,561	6,944	572	26,807	7.3
Community of Laton[a]	350	7	4	0	12	363	2.7
Kings County	**30,227**	**2,637**	**3,011**	**4,624**	**2,278**	**40,347**	**5.68**
City of Hanford	13,212	864	1,538	2,082	343	17,070	5.37
Community of Grangeville [a]	172	13	18	12	27	242	4.2
Community of Armona[a]	878	41	59	36	28	1,042	4.9
City of Corcoran	**2,970**	**180**	**373**	**334**	**164**	**3,690**	**8.23**
Tulare County	**106,474**	**4,917**	**10,320**	**9,001**	**11,812**	**131,915**	**7.44**

Table 3.12-3
Housing Characteristics (2010)

Location	Single-Family Housing Units		Multifamily Housing Units		Mobile Homes	Occupied	Percent Vacant
	Detached	Attached	2 to 4	5 Plus			
Kern County	**196,958**	**8,536**	**23,912**	**25,929**	**26,400**	**253,957**	**9.86**
City of Wasco	3,861	361	445	441	134	4,892	6.68
City of Shafter	3,512	177	278	283	209	4,052	9.13
City of Bakersfield	83,006	3,224	11,658	16,055	2,749	110,316	5.46
Bakersfield Central District[a]	7,848	775	2,944	3,651	451	14,447	7.8
Bakersfield Northeast District[a]	32,352	1,999	5,426	5,262	3,099	44,351	7.9
Bakersfield Northwest District[a]	16,067	159	488	1,068	884	17,936	3.9
Regional Total	**544,533**	**26,173**	**62,998**	**93,466**	**54,624**	**720,766**	**7.81**

Sources: CDOF 2010; U.S. Census Bureau 2000e.

Notes:
[a] Housing data not available at the district level in Fresno and Bakersfield or in smaller communities for 2010, so 2000 Census data are presented.

HST Study Area Housing Setting

Housing profiles for individual cities and communities along the alignment, as well as for segments connecting the urbanized areas, are presented in the sections that follow. In addition to data describing housing stock, ownership, and residency tenure data are provided to help illustrate levels of community cohesion within the affected area. Community cohesion refers to the sense of belonging and commitment that residents have to their communities. High levels of home ownership, low residential unit turnover, and the presence of public facilities, among other community characteristics, are signs of a potentially high level of community cohesion (Caltrans 1997).

City of Fresno

As is the case in Fresno County and in the region overall, the largest increase in Fresno's housing stock occurred in single-family detached homes between 2000 and 2010, accounting for 77.5% of the housing stock growth. Given the recent economic recession, the majority of this growth occurred before 2008, with little occurring since. The city's housing inventory is different from that of either the county or the region because a larger percentage of the housing units are multifamily residences, which reflects the more urban nature of the city of Fresno compared to the unincorporated areas in the region.

The housing stock varies substantially among Fresno's three districts. The Central District has a much higher percentage of multifamily units compared with either the Edison or Roosevelt districts. When compared with the city as a whole, the Roosevelt District reflects the citywide housing stock very closely, whereas the Central District has a much higher percentage of multifamily units (78% compared to 35% for the city as a whole). The Edison District had a higher percentage of single-family homes (80% compared to 67% for the city as a whole).

The rate of home ownership in Fresno has decreased since 2000, and these rates varied widely across the three districts. In 2000, the Central District, which is the most urban of the three, had the highest percentage of individuals who rent (86.2%), making its residents about twice as likely to rent as the city residents as a whole (43.2%). Edison (59.5%) and Roosevelt (56.4%) had lower percentages of renters, but these percentages were still above those of the city as a whole. As of 2008, residents of 69.4% of the occupied housing units in Fresno had moved into their homes since 2000, while 13.6% of households were more established, having lived in the same residences since at least 1990. These percentages are similar to the percentages in the county (67% and 14.5%) and the region (66% and 15.2%) as a whole (U.S. Census Bureau 2000e, 2008b).

In 2000, the Edison District had a higher percentage of housing units with the same residents for 20 years, or more, than did either the Central or Roosevelt districts. Slightly more than a quarter of the housing units in the Edison District had been occupied by the same residents for at least 20 years, while in the Central and Roosevelt districts, 81.6% and 73.1% of units, respectively, had turned over in the past 10 years.

City of Fresno to Community of Laton

Along the Fresno to Laton portion of the alignment, the community of Malaga has an estimated 450 homes, with the main residential area completely surrounded by an industrial park. Census data show that the community of Bowles had an estimated 35 housing units in 2000, 23 of which were owner-occupied (U.S. Census Bureau 2000e; CDOF 2010). The remaining communities had between 20 and 50 identified residences (Gorman 2010, personal communication).

Community of Laton

Laton is a small rural community between Fresno and Hanford that had 373 housing units in 2000. Of these housing units, 350 units (93.8%) are detached single-family houses and 363 units were occupied, for a vacancy rate of 2.7%. In 2000, the community of Laton had a much higher percentage of single-family homes than the nearby community of Hanford, the county, and the region as a whole.

Community of Laton to City of Hanford and Communities of Grangeville and Armona

Hamblin and Ponderosa, two communities in Kings County, both have between 20 and 50 residences. Both communities have experienced growth over the past several years, and this growth is expected to continue (Kinney 2010, personal communication).

City of Hanford

The largest increase in Hanford housing stock occurred in single-family detached homes between 2000 and 2010, and accounted for 84.8% of the housing stock growth. The composition of the housing stock in Hanford is similar to that of the county and the region, except that it includes a smaller percentage of mobile homes. Home ownership in Hanford has decreased slightly, from 59.3% in 2000 to 58.7% in 2008, which is similar to decreases in the county and region. As of 2008, residents of 62.5% of the occupied housing units in Hanford had moved into their homes since 2000, while 14.5% of households were more established, having lived in the same residences since at least 1990. These percentages are similar to the percentages in the county (67% and 14.5%) and the region (66% and 15.2%) as a whole (U.S. Census Bureau 2000e).

Community of Grangeville

Grangeville is a small community between Fresno and Hanford in a predominantly rural area in Kings County. At the time of the census of 2000, Grangeville had a total of 237 housing units and

a vacancy rate of 4.2%. A total of 71.1% of the units were single-family detached houses (172 units), which is a similar percentage of single family housing to that of nearby Hanford.

Community of Armona

The housing stock of Armona consisted of 1,042 housing units in 2000. Of these housing units, 84.3% were single-family detached houses (878 units), and 991 units were occupied, for a vacancy rate of 4.9%. The percentage of single-family homes in Armona is higher than that of the county, and is also higher than the percentage of single family housing in nearby Hanford.

City of Hanford and Communities of Grangeville and Armona to City of Corcoran

The study area between the cities of Hanford and Corcoran is entirely in Kings County. El Ranchero is the only community identified in this segment of the project. El Ranchero lies south of Lacey Boulevard, 1 mile west of Hanford, and the community has approximately 125 homes (Kinney 2010, personal communication).

City of Corcoran

Corcoran's housing stock is very similar to that of the county and region, except for the smaller proportion of mobile homes. Single-family detached homes accounted for 82.5% of the housing stock growth between 2000 and 2010. The city's housing vacancy rate at 8.2% was higher than the rates in both the county (5.7%) and the region (7.4%) (CDOF 2010). The rate of home ownership in Corcoran has increased from 57.2% in 2000 to 60.2% between 2006 and 2008. This increase is counter to trends observed in the county and region, which both experienced decreases over this period. In 2008, residents of more than half of the occupied housing units in Corcoran (55.4%) had moved into their homes since 2000, while 22.8% of these households were more established, having lived in the same unit since at least 1990. The percentage of housing units that have turned over in the past 8 years is substantially lower than that in the county (67%) and in the region (66%). Similarly, the percentage of units with the same residents since at least 1990 is substantially higher, suggesting that the population of Corcoran is more stable than that in other communities in the region (U.S. Census Bureau 2000e).

City of Corcoran to City of Wasco

All eight communities identified in the study area between the cities of Corcoran and Wasco are unincorporated. The communities of Blanco, Angiola, Stoil, and Allensworth are located in Tulare County, and Kernell, Pond, Elmo, and Neufeld are located in Kern County. None has experienced significant growth in the past several years, and no growth is anticipated in the foreseeable future (Smith 2010, personal communication; Waters 2010, personal communication). The community of Allensworth is home to approximately 120 households, and most of the housing stock consists of mobile homes. The remaining seven communities are quite small with the largest having about 20 residences.

City of Wasco

As with the county and region, the largest increase in the Wasco housing stock between 2000 and 2010 was in single-family detached homes, accounting for 80.3% of the housing stock growth. The composition of the housing inventory is similar to that of the county and region, although Wasco has a smaller percentage of mobile homes. The rate of home ownership in Wasco has decreased from 57.6% in 2000 to 50.8% between 2006 and 2008, consistent with changes seen in the county and region over this same period. Residents of 61.3% of the occupied housing units in Wasco in 2008 have moved into their homes since 2000, while 19.8% of households in the city were more established, having lived in the same home since 1990 or earlier. The percentage of recent turnover is lower, and the percentage of more established

residents is higher in Wasco than in the county (68.6% and 13.6%, respectively), and in the region (66% and 15.2%, respectively), suggesting a somewhat more stable community than is typical of the region (U.S. Census Bureau 2000e).

City of Wasco to City of Shafter

The three communities identified in the study area between the cities of Wasco and Shafter are Palmo, North Shafter Labor Camp, and Myricks Corner. These communities are unincorporated and all are in Kern County. Palmo, with approximately five homes, has the fewest residences of the communities in this area. North Shafter Labor Camp contains approximately 45 dwellings and Myricks Corner approximately 75 residences (Smith 2010, personal communication).

City of Shafter

The largest increase in the Shafter housing stock between 2000 and 2010 is consistent with the region, with single-family detached homes accounting for 95% of the housing stock growth. The composition of the local housing stock is similar to that of the county and region. Housing vacancy rates in the city were 9.1% in 2000, and remained approximately the same in 2010 (CDOF 2010). These rates are higher than those in the region (7.81%), but lower than those in the county (9.86%).

The rate of home ownership in 2000 in Shafter was 60%, which was similar to that of both the county and the region. Residents of 66.2% of the occupied housing units in Shafter had moved into their homes between 1990 and 2000, while 18.6% of households were more established, having lived in the same residence since at least 1980.[9] These values are similar for the county (71.2% and 13.9%) and the region (70.4% and 16%) for the same period (U.S. Census Bureau 2000f).

City of Shafter to City of Bakersfield

Crome is the one identified community in the study area between the cities of Shafter and Bakersfield. This community is unincorporated and has approximately 20 homes.

City of Bakersfield

The housing stock in Bakersfield grew by 32.2% between 2000 and 2010, which was greater than that of the county (21.7%) and the region (18.7%). As with the county and region, though, the largest increase in the Bakersfield housing stock occurred in single-family detached homes, which accounted for 89.3% of the housing stock growth. The composition of the city's housing stock is also similar, except for the smaller percentage of mobile homes. The housing vacancy rate in the city was 5.5% in 2000, and according to California Department of Finance estimates, remained stable into 2010 (CDOF 2010).[10] The 2010 vacancy rate was lower than the rates of both the county (9.86%) and the region (7.81%).

A comparison of the 2000 housing stock by district shows some large differences in numbers and types of housing units. The Central District had the lowest percentage of single-family homes and a very high percentage of multifamily housing, while the Northeast District showed a higher percentage of single-family homes. The Northwest District had the highest percentage of single-family homes, which comprised 86.2% of the total housing stock.

[9] Because Shafter data are not available for years after 2000, the analysis was adjusted to compare 1990–2000 and pre-1980 data to identify community stability of and length of residency trends.

[10] California Department of Finance vacancy data likely underestimate current vacancy rates given it uses 2000 Census as a basis to estimate values.

The rate of home ownership in Bakersfield has decreased from 60.4% in 2000 to 57.2% in 2008. This decrease is consistent with changes seen in the county and region over this period. The rate of home ownership across districts varied widely in 2000. The Central District, which is the most urban of the districts, had the highest percentage of individuals who rented (57.5%), which is substantially higher than that of the city as a whole (39.6%). In contrast, the Northwest District had the lowest percentage of renters (14.6%), which is significantly below the city average. The Northeast District had rates more similar to the city averages, with 56.7% of individuals owning homes, and 43.3% of individuals renting (U.S. Census Bureau 2000e, 2008b).

Residents of 75.4% of the occupied housing units in Bakersfield in 2008 had moved into their homes after 2000, while only 9.4% of the households had lived in the same residences since at least 1990. The rate of recent turnover is higher and the percentage of more established residents is lower in Bakersfield than in the county (68.6% and 13.6%) and region (66% and 15.2%) (U.S. Census Bureau 2008b).

In 2000, both the Central and Northeast districts had a higher percentage of housing units with the same residents for at least 10 years than did the Northwest District. About 30% of the housing units in these two districts were occupied by residents who had moved in before 1990. However, in the Northwest District, almost 80% of the district's units had new residents in the past 10 years, a much higher rate of population turnover than in the other two districts.

The Northeast District is home to several established residences and businesses. The neighborhood south of East Truxtun Avenue between Union Avenue and Oswell Street lies partially in the project study area. This neighborhood is examined as a whole community in this document since the Bakersfield to Palmdale Section of the HST project would bisect this neighborhood as well. This neighborhood has a relatively high density of churches, a community dental clinic, schools, markets, and a veterinary hospital. A relatively high level of pedestrian and bicycle travel was observed in the neighborhood. Community groups have organized activities in response to the proposed HST project. These neighborhood characteristics indicate the presence of a shared sense of community as well as interest in this project.

The Northwest District is residential in character, with many single-family, ranch-style homes constructed before 1990. The rate of home ownership in this area (81%) is substantially higher than the citywide average (57.2%), and census information indicates that there is considerable racial and socioeconomic homogeneity. The relatively large yards surrounding the modest single-family homes appear to be well cared for, and residents were observed actively engaged in yard maintenance—one potential indicator of a shared sense of community pride and commitment to place. Recent community organizing activities have also been conducted specifically to raise awareness about the proposed HST project and its potential impacts on the neighborhood, an indication of the level of shared community interest associated with this proposed project. These factors indicate a relatively high degree of community cohesion in this area.

3.12.6.3 Economic Setting

Regional Economic Setting

Levels of employment and income in the region have historically lagged behind those in other parts of the state as a result of the seasonal nature of agricultural employment and slower growth in the other nonagricultural sectors. The four counties of Fresno, Kings, Tulare, and Kern make up one of the most agriculturally productive areas in the world, and the regional economy has been driven by the farming industry, which accounts for about 20% of total employment. In 2008, the counties of Fresno, Tulare, Kern, and Kings were ranked first, second, third, and eighth, respectively, in total agricultural production value in California. In total, these counties

accounted for about $16.4 billion of the total $36.2 billion (or 45%) of the agricultural revenue generated in the state in 2008 (CDFA 2010).

Although this region has been leading the state in agricultural revenues, the regional economy has also been diversifying in recent decades to become more oriented toward the services sector industry. Growth in employment across sectors came as a result of the real estate boom in the mid-2000s, which generated many jobs in construction, fueled retail sales, and generated increased property sales and tax revenues (Cowan 2005).

Unemployment rates have increased sharply since 2007 across all four counties due to the nationwide economic recession. Tulare County's 15.3% average annual unemployment rate was the highest in the region in 2009, and substantially higher than the state average of 11.4% (CEDD 2010a). Moreover, monthly unemployment rates in these counties have remained high or even increased in 2010.

The *Fresno to Bakersfield Section: Community Impact Assessment Technical Report* (Authority and FRA 2012a) contains more detailed information.

HST Study Area Economic Setting

Because agriculture has historically been the main industry in the region, many jobs in the study area are still related to this sector (e.g., food processing, manufacturing, warehousing, and distribution). The occupational profiles of the cities themselves tend to differ from the region because a much larger percentage of the workforce participates in professional and service occupations. Agriculture is still the dominant occupation in the rural areas outside the cities, and the majority of those who live in and near the study area are employed in that industry.

City of Fresno

Despite the strength of the agricultural sector, unemployment in Fresno remains high but is similar to the county and region (14.6% in the city of Fresno, 15.5% in the county, and around 16% in the region). Public administration is the largest occupational sector, followed by educational, health, and social services (City of Fresno Planning and Development Department 2002). Unemployment data for the districts in the city of Fresno show that individuals living in the Central District (30%) were much more likely to be unemployed in 2000 than those living in either the Edison (23%) or Roosevelt districts (16.8%).

Community of Laton

Laton has a high concentration of employment in the agricultural sector. As a result of the more-cyclical nature of the agricultural industry, unemployment rates in the community were 21.2% in 2000 and rose over the next several years to reach 29.8% in 2009; these rates are some of the highest in the study area and are much higher than those seen in the county or the region.

City of Hanford

Public administration is the largest occupation group within the Hanford city limits. The occupational profile of the city is similar to that of the county and region, with 15.4% of the workforce employed in agriculture-related jobs. During 2009, unemployment rates in Hanford reached 12.8%, somewhat lower than the county's rate of 14.6%.

Community of Grangeville

Grangeville had a very diverse employment base in 2000. Unlike many other small rural communities in the Central Valley, it is not dominated by a single industry. The employment base

is spread among agriculture, manufacturing, retail trade, and education. All these industries employed approximately the same percentage of the workforce. Unemployment was at 7.4% in 2000, which is similar to the rate in Kings County and that of nearby Hanford.

Community of Armona

No single industry dominated the occupational profile of Armona in 2000. Several industries, including agriculture, manufacturing, retail trade, and education, employed a large portion of the workforce. In 2000, unemployment was at 13.6%, and the rate had increased to 19.1% by 2009. These unemployment rates are higher than those seen in the county or in Hanford during the same period.

City of Corcoran

Public administration is the largest occupation within Corcoran's city limits. The city's occupational profile differs from that of the county and region, with a much smaller percentage of the workforce participating in agriculture-related activities. Compared with other communities, Corcoran has a very high percentage of individuals working in the public administration field because of the location of two major state prison facilities. During 2009, the city's average annual unemployment rate reached 15.2%.

City of Wasco

Agriculture has been the historical mainstay of Wasco's economy, but a state prison is now the city's biggest employer. Public administration and agriculture are the two largest occupational sectors, and account for approximately 70% of Wasco's occupational profile. During 2009, Wasco's annual average unemployment rate was 26.1%.

City of Shafter

Agriculture and related occupations comprise the largest occupational sector in Shafter. Between 2000 and 2008, the agricultural industry in Shafter experienced substantial growth, more than doubling in size, in large part as a result of the opening of the Bidart Brothers apple-packing facility and the expansion of Grimmway's citrus- and carrot-packaging facilities (Sweeny 2010, personal communication). The occupational profile of Shafter is even more dominated by the agricultural sector than that of either the county or region. Despite the growth in agriculture, Shafter's 2009 annual average unemployment rate was 25.1%.

City of Bakersfield

Bakersfield's economy has historically been more diversified than others in the region, with both the oil and gas industry and agriculture playing major roles. Public administration is the largest occupational sector in Bakersfield. Bakersfield's occupational profile includes a much smaller percentage of the workforce engaged in agriculture-related activities, while other occupations that form a small percentage of the county and regional occupational profiles are larger here. The 2009 annual average unemployment rate was 10.1%. In 2000, unemployment rates for both the Central and Northeast districts were significantly higher at 18.5% and 20.5%, respectively, than the 12.4% unemployment rate in the Northwest District (U.S. Census Bureau 2000g).

Tax Revenues

State and local governments have been hit hard by the loss of tax revenues since the onset of the national recession in 2007. The slowdown in the economy has reduced business sales and sales tax revenues to local governments. Property assessment values are being reset to lower levels with the sale of foreclosed homes, which results in lower property tax revenues. In

addition, even homes that have not been resold are subject to temporary property tax reductions linked to Proposition 13.[11] As a result of reduced local government revenues in 2008 and 2009, local governments in the region are actively reducing staff, cutting services, and furloughing employees to adjust to the available financial resources. Overall, current conditions are due to the severe recession, and though these conditions are likely indicative of short-term circumstances, current conditions are not a good marker by which to measure the long-term horizon of project impacts. As an example of the role that property and sales tax play in local government revenues, Table 3.12-4 presents fiscal characteristics for the counties and cities for fiscal year 2008–2009.

Table 3.12-4
County and City Fiscal Conditions for Fiscal Year 2008–2009

Location	Annual Budget	Property Tax as a % of Budget	Sales Tax as a % of Budget
Fresno County	**$1,501,239,097**	**6.45**	**9.49**
City of Fresno	$726,713,800	10.6	9.9
Community of Laton	N/A	N/A	N/A
Kings County	**$182,447,882**	**22.4**	**1.0**
City of Hanford	$55,735,830	19.5	10.7
Community of Grangeville	N/A	N/A	N/A
Community of Armona	N/A	N/A	N/A
City of Corcoran[a]	$14,870,654	8.0	1.5
Tulare County	**$734,248,355**	**14.6**	**0.8**
Kern County	**$1,645,347,432**	**14.2**	**2.6**
City of Wasco	$24,840,132	2.8	4.6
City of Shafter	$42,000,000	1.4	10.5
City of Bakersfield	$181,174,000	34.4	36.5

Sources: Fresno County 2008; City of Fresno 2009; County of Kings 2009; City of Hanford 2009; City of Corcoran 2009; Tulare County 2009; Kern County 2009; City of Wasco 2008; City of Shafter 2008; City of Bakersfield 2009.

[a] City of Corcoran data presented for fiscal year 2007–2008, because more-recent data was not available at the time of analysis

N/A = Specific location budget not available.

Agricultural Economic Setting

The Central Valley of California is one of the most productive agricultural areas in the world. Key crops and agricultural products produced in this region include grapes, almonds, walnuts, milk, poultry, tomatoes, citrus, and alfalfa hay. This production includes a wide variety of different

[11] Proposition 13 decreased property taxes in California by assessing property values at their 1975 value and restricted annual increases of the assessed value of real property to an inflation factor, not to exceed 2% per year. It also prohibited reassessment of a new base year value except for (a) change in ownership or (b) completion of new construction.

commodities, with California being the nation's sole producer of a large number of specialty crops (CDFA 2010).

Agricultural employment in these counties is critical and accounts for almost 20% of all jobs. This is a slight decrease from 21.1% in 2000. This decreasing trend is expected to continue, dropping to 16.9% by 2016 due to a decline in small-family farms and an increase in larger-scale agricultural operations (CEDD 2009). As a result, the types of agricultural operations in the region are arguably the current model of large-scale, industrial agriculture for the world. A December 2005 report notes that recent data suggest that this trend toward larger farms may be accelerating as pressures increase from global competitors and as new agricultural technologies continue to reinforce the substitution of capital for labor to create even greater-scale efficiencies (Cowan 2005).

Section 3.14, Agricultural Lands, summarizes the most recent land use and farmland classification survey conducted by the California Department of Conservation in conjunction with the United States Department of Agriculture, Natural Resources Conservation Service, and its Farm Mapping and Monitoring Program in Fresno, Kings, Tulare, and Kern counties.

School District Funding

Funding for California's K through 12 public schools comes primarily from the state budget (60%), with local property taxes (23%) and the federal government (10%) as the other significant contributors. Each individual school district's income is based on the average number of students attending district schools during the year, typically referred to as the average daily attendance (EdSource 2009). Since the academic year 2007-2008, funding per pupil for California K-12 public schools has declined by roughly 5 percent, from $8,235 per pupil to $7,693 in 2010-2011. Public schools across California are facing difficult budget issues, and in the years going forward, K through 12 funding is anticipated to be vulnerable to significant future cuts. As such, school districts are struggling to hold on to funds they currently receive (EdSource 2011).

3.12.6.4 Communities and Neighborhoods

Regional Community Setting

Specifics for each of the communities are presented below. In addition, the *Fresno to Bakersfield Section: Community Impact Assessment Technical Report* (Authority and FRA 2012a) provides complete information on demographics, housing, and the economy for all communities within the study area.

HST Study Area Community Setting

Most of the residents, businesses, and community resources in the study area are in the largest two cities in the region, Fresno and Bakersfield. Alternative alignments also pass through four smaller cities that contain residences and businesses: Hanford, Corcoran, Wasco, and Shafter. The remainder of the study area consists mostly of rural agricultural land with few concentrations of residences, businesses or services, and community facilities. The historical dominance of agriculture in the rural economy and the continued agricultural productivity of the region, however, yield a sense of a strong agricultural community throughout the region, even though that community is dispersed throughout the rural agricultural areas.

Services and facilities include schools (public and private), religious institutions, parks and recreation facilities, government facilities (such as courthouses, city halls, post offices, and libraries), cemeteries, fire halls, police stations, hospitals, transit stations, and social institutions (such as community centers, senior facilities, and social clubs). The majority of these are in the urban areas, with many centered in the downtown areas of both the large and small cities.

Religious facilities represent approximately half or more of the study area community facilities in Fresno, Corcoran, Wasco, Shafter, and Bakersfield.

Circulation and access in a community are important to community character and quality of life. Non-motorized circulation issues associated with pedestrian and bicycle transportation are key concerns in the analysis and the focus of this discussion. The greatest number of non-motorized facilities in the study area is in Fresno and Bakersfield, the largest cities in the region.

Planning documents in the region recognize the importance of the availability and accessibility of alternative modes of transportation, and plan for additional pedestrian- and bicycle-friendly features. These pedestrian- and bicycle-friendly facilities cross the project alignment in the cities and communities of Fresno, Armona, Corcoran, Wasco, Shafter, and Bakersfield. Issues associated with main roads, public transportation, pedestrian walkways, and parking can also affect communities. More detail on these aspects of circulation and access can be found in Section 3.2, Transportation.

The sections below describe the setting of the communities where the proposed alternatives would be located. The communities are examined from north to south along the project. Table 3.12-5 identifies the major communities through which each alternative alignment would travel. Other, very small, unincorporated communities in the study area are also identified and described in the text below. (Note that community-use facilities are discussed below for each community where such facilities exist.)

Table 3.12-5
Cities and Communities Affected by Alignment, Station, and HMF Alternatives

Alternative	Cities/Communities
BNSF Alternative	Fresno (Central, Roosevelt, and Edison districts), Hanford, Corcoran, Wasco, Shafter, Bakersfield (Northwest, Central, and Northeast districts), Blanco, Allensworth, Kernell, Pond, Ponderosa, Hamblin, El Ranchero, Malaga, and Bowles
Hanford West Bypass 1 Alternative	Laton, Hanford, Grangeville, and Armona
Hanford West Bypass 1 Modified Alternative	Laton, Hanford, Grangeville, and Armona
Hanford West Bypass 2 Alternative	Laton, Hanford, Grangeville, and Armona
Hanford West Bypass 2 Modified Alternative	Laton, Hanford, Grangeville, and Armona
Corcoran Elevated Alternative	Corcoran
Corcoran Bypass Alternative	Unincorporated Kings and Tulare counties
Allensworth Bypass Alternative	Unincorporated Tulare and Kern counties
Wasco-Shafter Bypass Alternative	Unincorporated Kern County
Bakersfield South Alternative	Bakersfield (Northwest, Central, and Northeast districts)
Bakersfield Hybrid Alternative	Bakersfield (Northwest, Central, and Northeast districts)
Fresno Station	Fresno (Central District)
Kings/Tulare Regional Station–East Alternative	Hanford
Kings/Tulare Regional Station–West Alternative	Hanford and Armona

Table 3.12-5
Cities and Communities Affected by Alignment, Station, and HMF Alternatives

Alternative	Cities/Communities
Bakersfield Station–North Alternative, Bakersfield Station–South Alternative Bakersfield Station–Hybrid Alternative	Bakersfield (Central District)
Fresno Works–Fresno HMF Site	Fresno
Kings County–Hanford HMF Site	Hanford
Kern Council of Governments–Wasco HMF Site	Wasco
Kern Council of Governments–Shafter East HMF Site Kern Council of Governments–Shafter West HMF Site	Shafter
HMF = heavy maintenance facility	

City of Fresno

Fresno is the fifth-largest city in California and one of the main cultural, economic, and service hubs of the Central Valley. The BNSF Alternative would enter Fresno northwest of the downtown area and move southeastward through three of Fresno's oldest and poorest neighborhoods. The alignment would generally parallel the existing BNSF railroad tracks, passing through the southwestern portion of the Central District, touching the northeastern edge of the Edison District, and traversing the southern section of the Roosevelt District. Residents of the area adjacent to the alignment generally represent much higher percentages of minority status than the city of Fresno as a whole, larger average family sizes, lower educational attainment levels, lower median household incomes, and substantially higher rates of unemployment. The proposed alignment, however, is located in an area of predominately industrial and commercial uses along the railroad tracks that buffer the surrounding residential areas from the existing transportation corridor. One charter school is housed in a commercial building in the study area. A relatively substantial homeless population resides under State Route (SR) 41 structures along the BNSF railroad tracks near several facilities, including the Fresno Rescue Mission, that provide services (meals, shelter, rehabilitation, and counseling) to this population.

City of Fresno to Community of Laton

The five small communities that are interspersed along this section of the BNSF Alternative are Malaga, Oleander, Bowles, Monmouth, and Conejo. Malaga community facilities in the study area include a school, a park, and a water district office, which serves as the administrative center of the community. The key community facilities identified in the study area in Bowles are the Pacific Union School, Marion Homes (nursing home), and the Manning Gardens Convalescent Home. Monmouth community facilities identified in the study area are the Monroe Elementary School and the Monmouth Community Presbyterian Church. No key study area community facilities were identified in Oleander or Conejo.

Community of Laton

Laton is a small rural town in the south-central portion of Fresno County, just north of the Kings River. The local economy is based on agriculture, and the community is surrounded by dairy

farms, cornfields, and fruit and nut orchards. The community had a major growth spurt in 1986, when 96 new homes were built.

Community of Laton to City of Hanford and Communities of Grangeville and Armona

Hamblin and the Ponderosa Road community—also called the Ponderosa—are rural residential areas along this part of the alignment. These communities are on the outskirts of Hanford and do not have many services or facilities, but residents place a high value on living a rural lifestyle in proximity to city services. The one key community facility identified in the study area in the Ponderosa Road vicinity is the Kit Carson Elementary School.

City of Hanford

The BNSF Alternative would bypass the main residential and service area of Hanford, passing through a predominately agricultural area east of the city, although the area northeast of the city also contains several small, unincorporated communities and clusters of rural residences. A church with an adjoining preschool is located within the study area.

Community of Grangeville

Grangeville is a small rural town in Kings County, 1.9 miles north of the community of Armona and approximately 4.5 miles east of Downtown Hanford. The local economy is based solely on agriculture, and the community is surrounded by fruit and nut orchards. Grangeville falls under Kings County public services and the city of Hanford ZIP code. Buildings within the study area include a church and the Pioneer Union Elementary School.

Community of Armona

With a community motto, "Small but Proud," Armona is west of the city of Hanford on the Highway 198 corridor. The local economy is based on agriculture, and the community is surrounded by fruit and nut orchards. One fire station is present in the community of Armona, with approximately 14 on-call volunteer firefighters. Police services are provided by the county sheriff. No medical services are present in the community, and residents must travel to nearby cities to access these services. Three public schools in the community enroll approximately 700 students. All are managed by the Armona Union Elementary School District. The community also has eight places of worship and one community park.

City of Hanford and Communities of Grangeville and Armona to City of Corcoran

The study area between the cities of Hanford and Corcoran is entirely within Kings County, running parallel to SR 43 through a rural agricultural area. Some clusters of rural residences are in the vicinity of Corcoran but outside the city limits. A county fire station is located within the study area.

City of Corcoran

The city of Corcoran, located about 15 miles south of Hanford and 15 miles west of the SR 99 corridor, is surrounded by agricultural land. Corcoran has three public buildings in the study area to serve the needs of the community. One building houses the city administrative offices and serves as the city hall. There is also a library operated by Kings County and a veterans' center. All three facilities are in the project study area. Public-safety facilities include Corcoran's two police stations, both of which are located in the study area. Corcoran has one fire station and two medical facilities. The fire station and 1 of the medical facilities, the Corcoran District Hospital, are also in the study area, as are 10 religious facilities, 5 parks, and 3 of the city's 6 schools that are part of the Corcoran Unified School District.

The Corcoran Bypass Alternative would diverge from the BNSF line to pass around the developed areas of Corcoran on the eastern side. The alternative would pass through a rural agricultural area with no concentrations of residences, businesses, or community facilities and services.

City of Corcoran to City of Wasco

The study area between the cities of Corcoran and Wasco parallels SR 43 and is predominately rural agricultural land, with several small communities (or clusters of residences and/or businesses) interspersed between the cities in Blanco, Angiola, Allensworth, Kernell, Pond, and Neufeld. Of the six communities identified in the study area between Corcoran and Wasco, only the community of Allensworth has any community facilities in the study area. These facilities include Allensworth Elementary School, a church, and a community center. The Allensworth Bypass Alternative would diverge from the BNSF Alternative to bypass the community of Allensworth on the western side.

City of Wasco

Wasco has three public buildings in the study area: the city administrative offices and city hall, a library operated by Kern County, and the local historical society museum. Public-safety facilities include a single county sheriff's station and one fire station, both located in the study area. Wasco's one medical facility is an independent medical center and is also in the study area. There are nine public and private schools in the community, five of which are in the study area. Wasco has many places of worship. There is a large Agricultural Workers Camp on the eastern side of the city.

The Wasco-Shafter Bypass Alternative would diverge from the BNSF Alternative, to bypass the communities of Wasco and Shafter on the eastern side. This is a rural agricultural area with no concentrations of residences, businesses, and community facilities or services.

City of Wasco to City of Shafter

The area between the cities of Wasco and Shafter is predominately rural agricultural land, with three small communities (Palmo, North Shafter Labor Camp, and Myricks Corner) interspersed between the cities. The University of California's Shafter Research and Extension Center is also located in this portion of the study area.

City of Shafter

Shafter's city limits, which encompass a substantial amount of farmland and open space and can accommodate future growth, extend eastward to SR 99 and southeast almost to the Bakersfield city limits. The city is bisected from northwest to southeast by both SR 43 and the BNSF railroad tracks so that most of the relatively small urbanized area of the city falls within the study area boundaries. Shafter has five public buildings that serve the needs of the community. One building houses the administrative offices of the city and serves as the city hall. Other buildings include the local library, which is operated by the county, and three museums. City hall and two of the museums are in the study area. Across the BNSF grade-crossing to the east on 7th Standard Road are the Shafter International Trade and Transportation Center (IT&TC) on the north side and another industrial complex on the south side.

City of Shafter to City of Bakersfield

The study area between the cities of Shafter and Bakersfield is predominately rural agricultural land, with only one very small, unincorporated community (Crome) located between the cities. Crome is situated at the corner of Santa Fe Way and 7th Standard Road, approximately 5 miles northwest of Bakersfield. There are approximately 20 homes in the community, as well as a large

auto-wrecking operation to the north of the residential area. The community has one church, and no other businesses or key community facilities. The Shafter Cemetery is also located in this portion of the study area, near the Central Valley Highway and the BNSF tracks southeast of Shafter, in an area surrounded by agricultural land and open space.

City of Bakersfield

Bakersfield, the largest city and main commercial center in Kern County, is at the southern end of the San Joaquin Valley, equidistant from Fresno to the north and Los Angeles to the south. While Bakersfield is not as populated as Fresno, Bakersfield offers a wide array of community facilities and amenities compared with the smaller communities in the region. The study area includes the Central, Northeast, and Northwest districts of Bakersfield.

Public facilities located in the study area include libraries, museums, community centers, and government offices. Seven of these facilities are in the Central District and three are in the Northeast District. Public-safety facilities include four police stations, one of which is in the study area. The county sheriff manages one station, a jail, and a crime lab in the city. Two federal law enforcement agencies have offices in the study area as well—the FBI and the Federal Bureau of Alcohol, Tobacco, and Firearms. All these facilities are in the Central District, except for the FBI building, which is in the Northwest District. Bakersfield's 26 fire stations are spread throughout the city: three are in the study area (two in the Central District and one in the Northeast District). In addition, there are many religious facilities in the study area.

A community facility of particular note in the Northeast District is the Mercado Latino Tianguis (Mercado), a shopping complex in the city's Northeast District that re-creates the feel of a Mexican village market. This facility is not a single business entity; rather, it rents stall space to approximately 118 small businesses and microbusinesses that cater to Kern County's Hispanic population.

Bakersfield High School, part of the Kern Union High School District, is one of the seven schools in the study area in the Central District. In addition to the critical nature of the educational services it provides to the greater Bakersfield community and the adjacent low-income and minority neighborhood, the high school holds high importance for the many local alumni who are proud of the school's longevity and achievements and continue to support the campus and its events. The BHS campus is in a built-out urban area, so alterations or expansion are a challenge. Other school districts in the area— the Bakersfield City Elementary School District, the Fruitvale Elementary School District, and the Rosedale Union Elementary School District—are in the study area the project.

Bethel Christian School is in the study area and serves the greater Bakersfield area. Approximately 50 students in grades K–12 attend the school. Bethel Christian School is coed and is Baptist in orientation.

Sixty-one religious facilities representing a wide range of faiths are located within the study area throughout the city. A majority of the religious facilities in the study area are in the Northeast District (32), with fewer in the Central (19) and Northwest (10) districts. Six parks operated by the city, as well as existing bicycle facilities, are in the study area (City of Bakersfield 2007). The district's existing parks are neighborhood parks close to schools, serving the Beardsley, Fruitvale, Norris, Rosedale, Standard School, and Rio Bravo–Greeley School Districts (North of the River Recreation and Park District 2009). Detailed park information is provided in Section 3.15, Parks, Recreation, and Open Space.

The Bakersfield South Alternative would diverge from and run parallel to the BNSF Alternative, approximately 250 feet to the north for about 9 miles, from the Rosedale Highway area to the

downtown station area. The study area for this alternative alignment would affect slightly different but similar areas in the Bakersfield Central, Northeast, and Northwest districts.

The Bakersfield Hybrid Alternative follows portions of both the BNSF and Bakersfield South alternatives. The Bakersfield Hybrid Alternative follows the Bakersfield South Alternative as it parallels the BNSF Alternative at varying distances to the north. At approximately A Street, the Bakersfield Hybrid Alternative diverges from the Bakersfield South Alternative, crosses over Chester Avenue and the BNSF right-of-way in a southeasterly direction, and then curves back to the northeast to parallel the BNSF Railway tracks towards Kern Junction. After crossing Truxtun Avenue, the alignment curves to the southeast to parallel the UPRR tracks to its terminus at Oswell Street.

3.12.7 Affected Environment: Environmental Justice

The minority and low-income population characteristics within the region (the four-county reference community for the EJ analysis) and within the EJ study area are identified and presented below. Table 3.12-6 presents population estimates with minority and low-income percentages for the total area of the counties and cities and also for the population living only in the EJ study area. Figures 3.12-4 through 3.12-7 show the locations of the minority and low-income populations along the study area, and Figure 3.12-8 shows the locations of minority and low-income populations throughout the reference community.

The region as a whole has a high percentage of minority and low-income individuals. According to the 2000 Census, 56.5% of the total regional population is minority, and 22.2% is living below the U.S. Census poverty threshold. Within the EJ study area, these percentages are even higher in some locations, with minority and low-income individuals totaling 68.7% and 28.2% of the EJ study area population, respectively. Hispanics are the predominant minority group in the EJ study area, accounting for 80% of the minority population (U.S. Census Bureau 2000d). The presence of large concentrations of minority and low-income populations is not surprising given the importance of agriculture and agricultural workers in the region. In the 1997 National Agricultural Workers Survey, almost 70% of farm workers surveyed were migrant workers (U.S. Department of Labor 1997). Figures 3.12-4 through 3.12-7 show the locations of these minority and low-income populations by county.

Overall, the census blocks in the EJ study area total 350.4 square miles, and 112.3 square miles (or 32.1%) of this area are identified as census blocks containing minority and low-income populations. The vast majority of these blocks with minority and low-income populations are in very large census blocks that are rural, with low-density populations (102.8 of the 112.3 square miles), and with only 9.5 square miles (or 8%) of the EJ study area blocks encompassing more urbanized populations (U.S. Census Bureau 2000d).

The region's urban cities of Fresno, Hanford, Corcoran, Wasco, Shafter, and Bakersfield have high proportions of minority and low-income populations.

Fresno's Central District contains scattered areas with minority and low-income populations, and the Edison District contains a contiguous area with minority and low-income populations along the EJ study area's southern extent at the city limits. The Roosevelt District around Calwa, where the EJ study area curves southward to leave the city, also contains a number of areas with minority and low-income populations (U.S. Census Bureau 2000d).

Table 3.12-6
Minority and Low-Income Percentages in the Region

Location	Region			Environmental Justice Study Area			
	Population 2000[a]	% Minority[a]	% Low Income[b]	Population 2000[a]	% Minority[a]	% Low Income[b]	Key Minority Demographic
Fresno County	799,407	60.3	22.9	18,610	81.4	40.5	Hispanic
City of Fresno	427,652	62.7	24.7	12,680	86.2	48.4	Hispanic
Fresno Central District	16,896	87.5	57.7	6,243	78.1	60.5	Hispanic
Fresno Edison District	27,992	91.1	44.7	4,605	96.0	45.8	Hispanic
Fresno Roosevelt District	102,643	84.0	38.0	1,832	89.1	43.2	Hispanic
Community of Laton	1,236	71.9	17.4	685	81.9	18.7	Hispanic
Kings County	129,461	58.4	19.5	14,302	64.8	18.3	Hispanic
City of Hanford	41,686	50.1	17.3	1,135	64.7	13.9	Hispanic
Community of Grangeville	638	26.8	14.0	330	23.3	14.1	Hispanic
Community of Armona	3,239	58.3	26.6	185	42.7	30.1	Hispanic
City of Corcoran[c]	14,458	75.9	29.4	10,240	73.4	24.2	Hispanic
Tulare County	368,021	58.2	23.9	619	83.0	35.3	Hispanic
Kern County	661,645	50.5	20.7	81,699	66.4	26.7	Hispanic
City of Wasco	21,263	78.4	27.6	7,868	91.3	31.9	Hispanic
City of Shafter	12,736	71.0	28.9	8,849	63.8	29.9	Hispanic
City of Bakersfield	247,057	48.9	19.2	31,719	61.8	25.7	Hispanic
Bakersfield Central District	27,466	58.7	30.2	9,860	61.4	29.5	Hispanic
Bakersfield Northeast District	137,928	55.7	27.1	37,145	83.0	37.0	Hispanic
Bakersfield Northwest District	52,650	18.7	5.7	12,659	19.9	5.5	Hispanic
Regional Total	1,958,534	56.5	22.2	115,230	68.7	28.2	Hispanic

[a] U.S. Census Bureau 2000d (P4. Hispanic or Latino, and Not Hispanic or Latino by Race).
[b] U.S. Census Bureau 2000d (P88. Ratio of Income in 1999 to Poverty Level).
[c] An error in the Census 2000 data for Corcoran was later corrected by the Census Bureau, but only for total population and not for the racial profile breakdown. Minority percentages for Corcoran are therefore based on the original 14,458 total population estimate provided by the census.

Notes: Census 2000 racial profile data do not include the institutionalized population, of which Corcoran has a significant number, given the presence of the Corcoran state prison facilities. Bakersfield districts cross city limit boundaries and therefore contain population that is outside what the Census defines as the city of Bakersfield. This table examines the communities for which aggregate level data were available. The smaller communities identified in the baseline above and where aggregate level data are not available are included in this analysis within the unincorporated county areas.

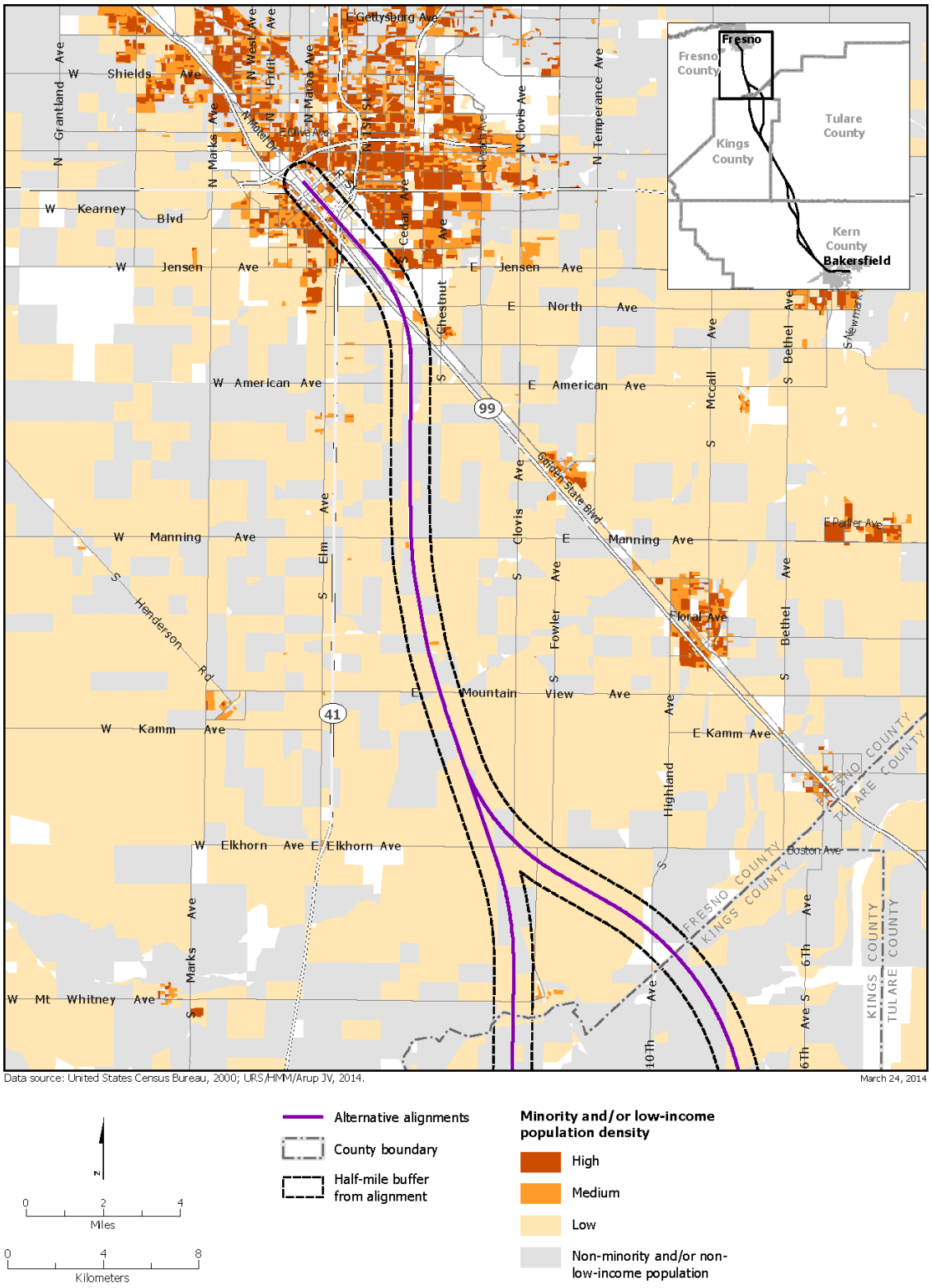

Figure 3.12-4
Minority and Low-Income Populations Fresno County

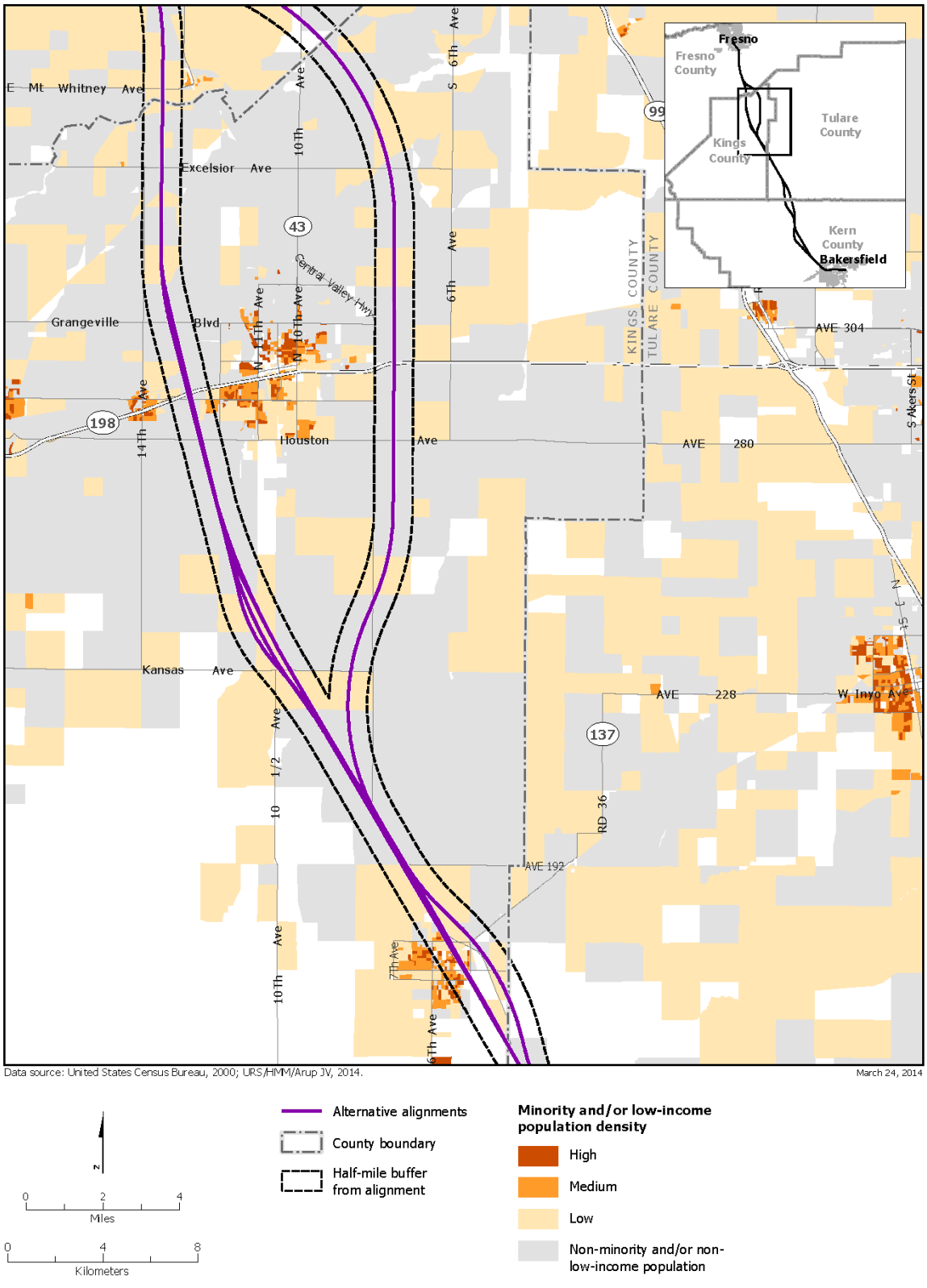

Figure 3.12-5
Minority and Low-Income Populations Kings County

Figure 3.12-6
Minority and Low-Income Populations Tulare County

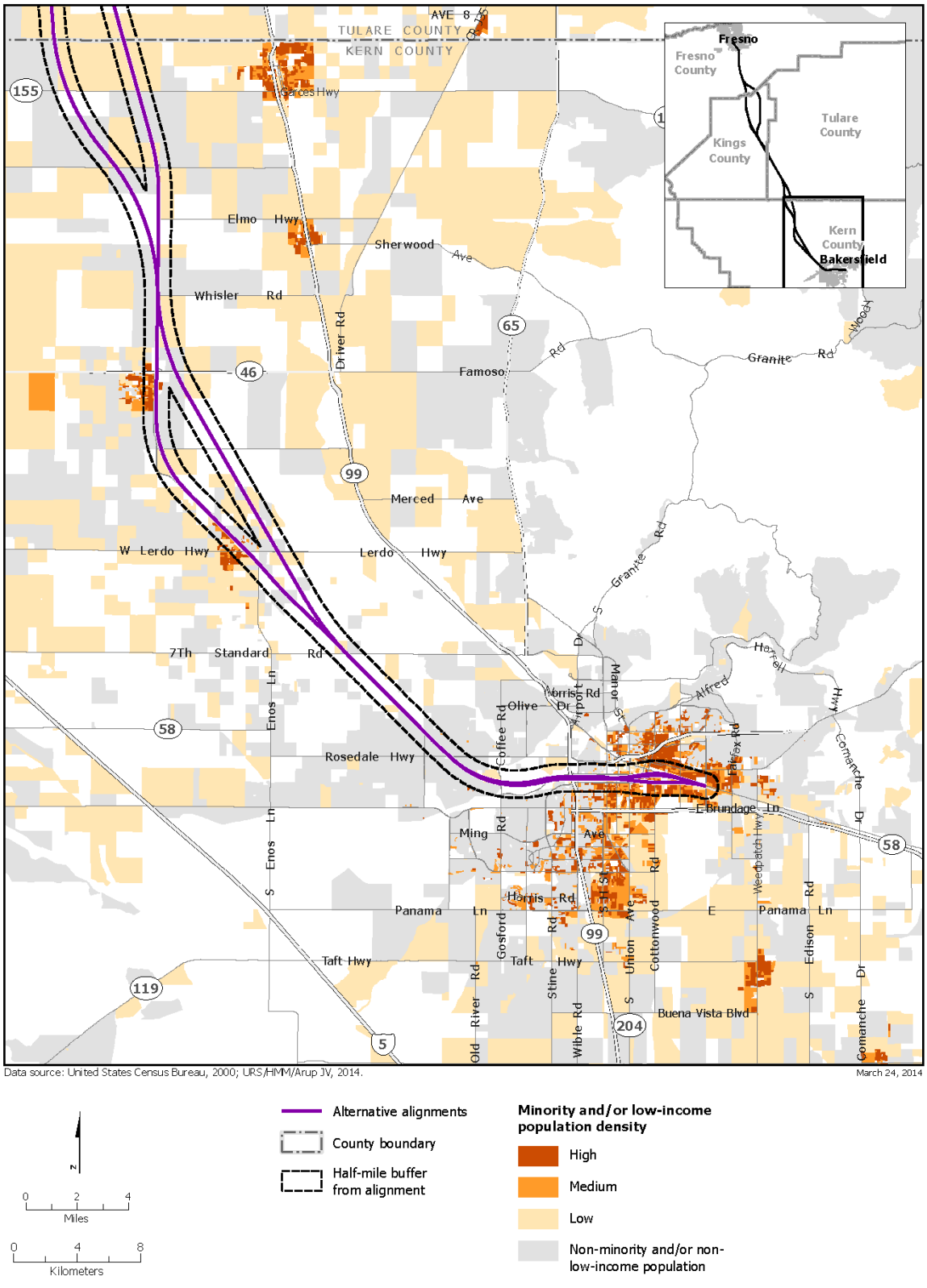

Figure 3.12-7
Minority and Low-Income Populations Kern County

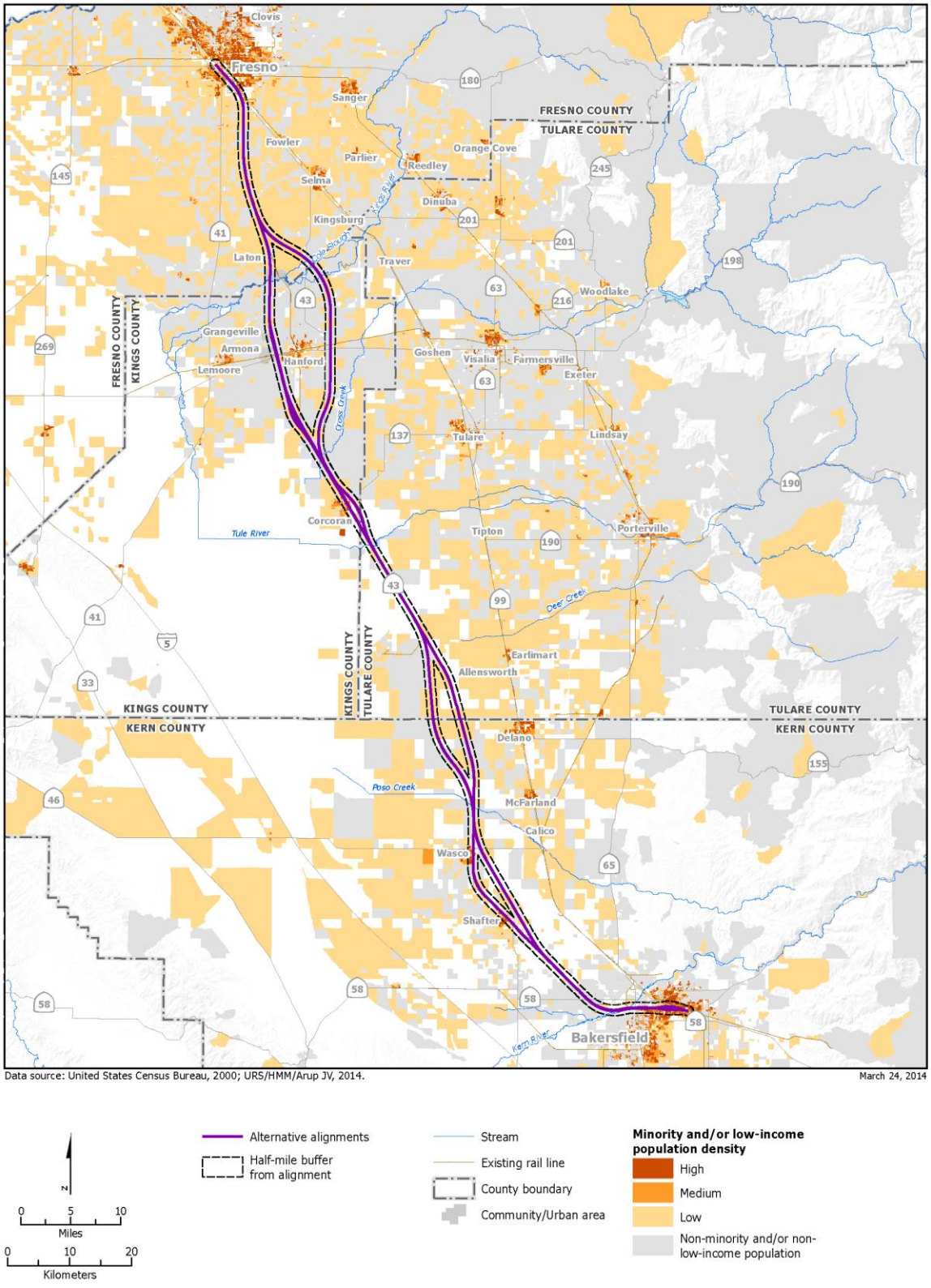

Figure 3.12-8
Minority and Low-Income Populations in the Reference Community

Fresno also has the largest homeless encampment in the San Joaquin Valley. Hundreds of homeless individuals live in makeshift shelters under the SR 41 freeway structures between the Central and Edison districts (Barfield 2010, personal communication). Also located in the vicinity are the Fresno Rescue Mission, the Poverello House, and other facilities that serve this population with meal programs, medical and dental care, showers and laundry services, clothing, overnight shelter, drug and alcohol rehabilitation programs, and other services. Census 2000 data-collection methods attempted to include homeless people in the overall population counts, but limitations in this data-collection effort likely led to an underestimation of homeless populations in various locations (U.S. Census Bureau 2001).

The EJ study area for the Hanford West Bypass 1, Hanford West Bypass 1 Modified, Hanford West Bypass 2, and Hanford West Bypass 2 Modified alternatives includes Laton, Hanford, Grangeville, and Armona. Minority and low-income populations along this section are smaller than for the project as a whole and differ from other parts of the EJ study area across the region, where a minority population typically corresponds with a low-income population. Within the study area for the Hanford West Bypass alternatives (e.g., in Laton and Hanford and in Kings County as a whole), minority populations are not necessarily correlated with low-income populations. There is neither a minority population nor a low-income population within the study area in Grangeville. The population in the study area in Armona is a low-income population but not a minority population.

The EJ study area for the BNSF Alternative through Corcoran encompasses several areas with minority and low-income populations that are fairly continuous throughout the EJ study area within the Corcoran city limits, particularly to the west of SR 43 and Pickerell Avenue. The EJ study area for the Corcoran Bypass Alternative (to the east of the town) contains a smaller total population and scattered areas with minority and low-income populations (U.S. Census Bureau 2000d).

Wasco contains minority and low-income populations along the entire length of the EJ study area for the BNSF Alternative. These minority and low-income populations are, for the most part, west of SR 43, extending between SR 43 and Griffith Avenue, with the exception of a major farm-labor housing development east of SR 43. The EJ study area for the Wasco-Shafter Bypass Alternative, which lies to the east of Wasco and Shafter, contains several small, scattered areas with minority and low-income populations (U.S. Census Bureau 2000d).

Within Shafter, the existing BNSF railroad appears to be a dividing line through the city. The high school and newer, higher-income housing are located to the northeast of the BNSF Railway, and the low-income neighborhoods and downtown area are to the southwest. A farm-labor housing development is located along SR 43 north of the Shafter central business district. As stated in the Wasco EJ discussion in the paragraph above, the EJ study area for the Wasco-Shafter Bypass Alternative contains small, scattered areas with minority and low-income populations (U.S. Census Bureau 2000d).

No concentrations of minority and low-income populations were identified in the Bakersfield Northwest District. Central Bakersfield contains a number of areas with minority and low-income populations, particularly south of Truxtun Avenue. The EJ study area in the Bakersfield Northeast District also contains areas of minority and low-income populations moving west to east from Central Bakersfield through Oswell Street (U.S. Census Bureau 2000d).

3.12.8 Environmental Consequences: Socioeconomics and Communities

This section describes the impact analysis relating to socioeconomics and communities for the proposed project. Measures to mitigate (that is, avoid, minimize, rectify, reduce, eliminate, or

compensate for) significant impacts accompany each impact discussion. Analysis included a review of the data and impact analyses in the other sections prepared for this EIR/EIS to determine impacts related to socioeconomics and communities, including Section 3.2, Transportation; Section 3.3, Air Quality and Global Climate Change; Section 3.4, Noise and Vibration; Section 3.11, Safety and Security; Section 3.13, Station Planning, Land Use, and Development; Section 3.14, Agricultural Lands; Section 3.15, Parks, Recreation, and Open Space; Section 3.16, Aesthetics and Visual Resources; Section 3.17, Cultural Resources; and Section 3.18, Regional Growth.

Overview

All of the HST project alternatives would result in both beneficial and adverse socioeconomic and community impacts. The HST stations in the cities of Fresno and Bakersfield would have the potential to encourage redevelopment, attract new businesses, and revitalize the downtowns, resulting primarily in beneficial social impacts in these areas, though many displacements would occur in Bakersfield. However, the project would cause disruption to the agricultural community in one of the nation's most productive agricultural regions. Agricultural parcels would be split by the new linear feature, and numerous farmsteads would be displaced as a result of constructing new roadway overcrossings. Overall, the project alternatives would result in increased employment opportunities, improved economic diversity, and regional economic benefits that would not occur under the No Project Alternative.

During construction, all the alternatives would have air quality impacts that with implementation of project design features and mitigation would be reduced to a less-than-significant level. Standard implementation of a construction safety and health plan during construction would reduce risks to human health during construction. A traffic control plan would establish procedures for temporary road closures and ensure that construction of road crossings would be staggered; when a road is temporarily closed for construction, the next adjacent road to the north and south would remain open to accommodate detoured traffic, thus minimizing effects on bus transportation. With the implementation of the project design features, there would be an effect with negligible intensity on children's health and safety during construction.

During operation, the project alternatives would have beneficial effects on air quality because reduced traffic congestion would lower emissions when compared to the No Project Alternative. The proposed alignment alternatives would affect schools in the region, but resulting potential safety impacts would be less than significant. The project will be designed to prevent conflicts with other vehicles, pedestrians, and bicyclists, thus providing a safety benefit for children in the study area. The construction of new overpasses in communities would allow for access over the project and also over the existing railway corridor that is currently crossed at-grade. These overpasses would again improve safety for children in the area over the No Project Alternative. Therefore, with the implementation of the project design features and mitigation, there would be an effect with negligible intensity to children's health and safety during operation.

Substantial adverse effects associated with the BNSF, Bakersfield South, and Bakersfield Hybrid alternative alignments would result from residential displacements in Bakersfield. The BNSF Alternative would result in adverse effects as a result of residential displacements in Corcoran. Commercial displacements would result in substantial effects in the Bakersfield Central and Northeast districts associated with the BNSF, Bakersfield South, and Bakersfield Hybrid alternative alignments. Substantial commercial and industrial impacts would occur in Corcoran as a result of the BNSF Alternative. Moderate effects from residential displacements would occur in unincorporated Fresno and Kings Counties from the BNSF Alternative. Commercial and industrial displacements from the BNSF Alternative and Fresno HMF location would result in moderate effects in the Fresno Edison District and in unincorporated Fresno County. Moderate short-term effects from fiscal changes and agricultural displacement would result from the BNSF and the

alternative alignments. All of the HST alternatives require residential property acquisitions, but these acquisitions are not expected to have any negative effects on school districts because there are adequate numbers of vacant replacement properties available in each school district and there would be negligible long-term effects related to property tax collection.

In summary, the HST System would result in significant effects under NEPA, and significant impacts under CEQA related to the division of existing communities as well as the residential, commercial, industrial, and agricultural property displacements.

3.12.8.1 No Project Alternative

The No Project Alternative does not include construction and operation of the HST project in the Fresno to Bakersfield Section, but does include many planned actions that would be implemented by the year 2035. A complete definition of the No Project Alternative is provided in Chapter 2. Section 3.19, Cumulative Impacts, provides foreseeable future projects, which include large residential and commercial developments as well as local and regional transportation projects. The many specific planned development projects that could affect population, housing, and economic activity are listed in Section 3.19, Cumulative Impacts.

Disruption or Division of Existing Communities

The No Project Alternative would not include the community benefits associated with the HST project: reduction of traffic congestion on highways and major roadways and improved mobility and access to jobs, educational opportunities, and recreational resources. Nor would it entail the community impacts identified for the project alternatives. Currently planned projects primarily include transportation improvements and residential and industrial development projects. It is uncertain if these projects would create new barriers that would disrupt community interactions or divide established communities, but they would result in a net increase in housing units and industrial space in the region.

If the planned projects are carried out, the development is assumed to be consistent with adopted general plans and policies, which aim to strengthen socioeconomic conditions in existing communities and improve neighborhood amenities, potentially benefiting community cohesion. The many development projects planned under the No Project Alternative would include typical design and construction practices to avoid or minimize potential impacts to the extent possible. These projects would be subject to separate project-level environmental review processes to identify potentially significant impacts and to include feasible mitigation measures to avoid or substantially reduce potential impacts.

Based on current development trends, the No Project Alternative would likely affect some community facilities; however, any potential impacts are assumed to be mitigated to the fullest extent possible. Emergency response times and access would likely be enhanced from transportation improvements. It is not known if direct or indirect adverse impacts on Section 4(f) lands (that is, public school facilities open for public recreation use) would occur. Again, it is assumed that the projects planned under the No Project Alternative would be subject to a project-level environmental review and include feasible mitigation measures to avoid or substantially reduce potential impacts.

The planned projects would have temporary impacts on children's health and safety, primarily associated with air quality from construction activities, but the projects are not as large in scale as the HST project, and any impacts would likely be smaller in scale. In addition, any expansion of SR 99 would likely result in additional air quality effects in the long term, so the No Project Alternative would not have the same benefits on air quality as the HST project.

Displacement and Relocation of Local Residents and Businesses

The planned projects comprising the No Project Alternative would require acquisition of land and may result in displacement of residences and/or relocation of businesses. It is expected that the planned projects would undergo project-specific environmental review and include feasible mitigation measures to avoid or substantially reduce potential impacts, and to adequately compensate property owners.

Economic Effects

The projects comprising the No Project Alternative would result in some economic benefits as well as potential losses of property and sales tax revenue and employment as a result of property relocations. These transportation projects would likely require acquisition of commercial, industrial, and agricultural land that would result in temporary business disruptions associated with construction that, in turn, would lead to decreased sales and tax revenues. Typically, these types of transportation projects do not have a long-term substantial effect on collection of local tax revenues. These planned projects that comprise the No Project Alternative, however, would undergo project-specific environmental review that would require mitigation measures to minimize adverse economic effects.

Economic Effects on Agriculture

The No Project Alternative would result in farmland conversion to accommodate anticipated growth in the region that would occur without the proposed project, and these losses result in negative impacts on agriculture employment and the agricultural economy. In comparison, the HST alternatives would convert farmland for construction of the project and reduce property tax revenues, but would also provide opportunities for focusing more compact future development on land that is already urbanized within the station areas. This could reduce the amount of farmland converted to urban uses to accommodate future growth beyond current local general plans. The HST is also expected to create additional employment opportunities beyond the No Project Alternative that could be filled by those affected by the loss of agriculture lands.

3.12.8.2 High-Speed Train Alternatives

This section evaluates impacts that would result from the construction and operation of each HST alternative alignment of the proposed project. Impacts during the construction period would be temporary (such as use of land for construction staging) because they would cease when construction is completed. Project operation impacts and property acquisitions for the HST alignment and associated facilities would be permanent. Although property acquisition of agriculture lands would occur prior to construction, any loss of agriculture production and employment is considered a potential long-term effect and is discussed under Project Operation Impacts.

Construction Period Impacts

Project construction is expected to be completed within 6 years. This period extends from the beginning of the first phase of construction and continues through operational testing of the HST System. It is expected that heavy-construction activities, such as grading, excavating, and laying the HST railbed and trackway, would be accomplished within a 3-year period. Construction would also require property acquisition and displacement of homes and businesses along the selected alignment. Because these impacts would involve permanent changes to communities, they are addressed below under project operation (rather than under temporary construction impacts).

Impact SO #1 – Disruption to Community Cohesion or Division of Existing Communities from Project Construction

This section examines the potential for construction to divide existing communities, or to affect important facilities providing services to the communities, or to bring about changes in community character that could alter social interactions or affect community cohesion. Potential impacts are examined for each alternative alignment.

Heavy construction would involve grading, excavating, constructing the HST railbed, and laying the trackway. The degree of construction intensity would vary among the alignment alternatives and project elements. For example, construction duration in the station areas in Fresno and Bakersfield would be longer than that for construction of the rail tracks because of the comparatively larger number of structures (e.g., stations, parking garages, and other buildings). Associated construction activities would include receiving and moving equipment and materials, clearing and grading soils, introducing lights for nighttime work, and storing construction materials. To the extent feasible, construction would occur within the right-of-way acquired for the project, although some areas outside the right-of-way would be used for staging.

For all project alternatives as well as all proposed station and HMF locations, construction impacts would include temporary increases in noise and dust, visual changes, and traffic congestion related to temporary road closures or detours. (Refer to Section 3.3, Air Quality and Global Climate Change: Section 3.4, Noise and Vibration; and Section 3.16, Aesthetics and Visual Resources, for a full discussion of these construction impacts.) Air quality emissions from construction would be reduced by best management practices and the Voluntary Emissions Reduction Agreement described in Section 3.3. Construction-related noise impacts on residents would be greater during nighttime periods because of the extra sensitivity of people trying to sleep. Construction noise impacts on both residential and commercial properties would vary at different locations along the alignment depending on proximity to sensitive receptors.

Construction activities could be particularly disruptive to nearby community facilities and institutions such as schools, clinics, and government offices because construction would occur primarily during normal hours of operation when noise, traffic, and other conflicts would be most problematic. For example, construction activities, materials deliveries, etc. (especially with the BNSF Alternative) would conflict with pedestrian and vehicle access to Bakersfield High School via Campus Way and 14th Street when school is in session. Detailed construction access plans would be developed before the start of construction, and the affected cities would review these plans before construction implementation. Potential conflicts with special events (e.g., fairs, athletic events, major conventions) would be addressed through a special mitigation measure described in the section titled "Construction during Special Events" in Section 3.2, Transportation. This measure provides mechanisms to prevent roadway construction activities from reducing roadway capacity during major athletic events or other special events that attract a substantial number of visitors. Mechanisms include the presence of police officers directing traffic, special-event parking, use of within-the-curb parking, or shoulder lanes for through-traffic, traffic cones, and so on. Through such mechanisms, roadway capacity would be maintained. With the mitigation measures proposed for transportation and noise and vibration effects (see Sections 3.2 and 3.4), intensity is expected to be reduced to moderate under NEPA, and impacts are expected to be less than significant under CEQA. Further discussion of construction activities can be found in the alternatives description in Chapter 2.

Adverse impacts as a result of local roadway modifications and construction activities may include the temporarily disruption of circulation patterns in some communities. Although access to some neighborhoods, businesses, or community facilities would be disrupted and detoured for short periods of time during construction, access would be maintained. Any roadways that would require realignment would be constructed before the closure of the existing roadway to minimize

impacts. Construction would also require an increase in truck trips that could increase congestion. In addition, construction activities would affect pedestrians, bicyclists, and other transit because of required detours, traffic delays, and increased congestion. Where temporary road closures would be required during construction, detours would be completed before the closures, clear signage would be installed and pedestrian and bicycle access would be maintained.

Emergency vehicle access for police and fire protection services would be maintained at all times. Law enforcement, fire, and emergency services could experience increased response times because of construction-related road closures, detours, and increased traffic congestion in some locations. Trip duration could be longer in rural areas where temporary road closures could result in several miles of out-of-direction travel.

Access to some community facilities, such as the Fresno Rescue Mission, Bakersfield High School, the Mercy Medical Plaza building, the Mercado Latino Tianguis, Salón Juárez, and religious facilities in Bakersfield, could be modified temporarily during construction and potentially inconvenience patrons. Access to these facilities would not be eliminated except in cases where facilities would relocate. Noise, dust, and glare could affect the use of community facilities, including schools and parks.

Construction would require a large number of employees, but is expected to have little effect on population growth or create a potential for increased demand for housing and community services (see Section 3.18, Regional Growth). Unemployment in the region is high, so project-related construction jobs are expected to be filled by current residents in the region who have the needed skills (see Impact SO #5 – Temporary Construction Employment for more details).

BNSF Alternative

In general, construction would occur primarily outside (but in some areas within or adjacent to) established residential neighborhoods or areas associated with agricultural, commercial, or industrial uses. Where the alternatives are aligned adjacent to existing transportation corridors, construction would not isolate established communities, but would exacerbate divisions associated with historic linear facilities (e.g., roadways or railway tracks) that divide existing communities. Mitigation Measure TR-1 in Section 3.2, Transportation, would maintain access for owners of property within the construction area. If a proposed road closure restricts current access to a property, this mitigation measure would provide alternative access via connections to existing roadways. If adjacent road access is not available, new road connections would be prepared, if feasible. If alternative road access is not feasible, the property will be considered for acquisition.

However, construction could change the existing community character and potentially affect community cohesion—especially in urban areas with many displacements or in small, established rural communities—by encroaching on community facilities located near the existing freight rail tracks and introducing new obtrusive visual and noise elements associated with numerous high-speed trains passing through the community daily (and potentially, by constructing sound walls or other barriers to mitigate environmental impacts). Impacts on pedestrian and vehicular circulation would not be a barrier to community interaction because detours would be established whenever road closures are required to maintain access for pedestrian, bicycle, and vehicle traffic in a manner that would assure safe passage during construction. Although project construction would affect individuals and property owners, these impacts would be temporary and would not substantially affect community cohesion. Therefore, construction effects and impacts from the BNSF Alternative related to disruption or severance of community interactions or division of established communities would be of moderate intensity under NEPA, and less than significant under CEQA.

Hanford West Bypass Alternatives

The Hanford West Bypass 1, Hanford West Bypass 1 Modified, Hanford West Bypass 2, and Hanford West Bypass 2 Modified alternatives differ from the BNSF by passing along the western side of the communities of Laton and Hanford and also by affecting Grangeville and Armona. Construction impacts associated with these alternatives would be similar to the effects and impacts identified for the BNSF Alternative, above. Therefore, construction effects and impacts from the Hanford West Bypass alternatives related to disruption or severance of community interactions or division of established communities would be of moderate intensity under NEPA, and less than significant under CEQA.

Corcoran Elevated Alternative

The Corcoran Elevated Alternative would be identical to the BNSF, except for a portion of the alignment that would be elevated from through the city of Corcoran. Construction impacts associated with this alternative would be similar to the effects and impacts identified for the BNSF Alternative, above. Therefore, construction effects and impacts from the Corcoran Elevated Alternative related to disruption or severance of community interactions or division of established communities would be of moderate intensity under NEPA, and less than significant under CEQA.

Corcoran Bypass Alternative

The Corcoran Bypass Alternative differs from the BNSF by passing east of Corcoran through rural residential and agricultural land. Construction impacts associated with this alternative would be similar to the effects and impacts identified for the BNSF Alternative, above. Therefore, construction effects and impacts from the Corcoran Bypass Alternative related to disruption or severance of community interactions or division of established communities would be of moderate intensity under NEPA, and less than significant under CEQA.

Allensworth Bypass Alternative

The Allensworth Bypass Alternative differs from the BNSF by passing west of the community of Allensworth through rural residential and agricultural land. Construction impacts associated with this alternative would be similar to the effects and impacts identified for the BNSF Alternative, above. Therefore, construction effects and impacts from the Allensworth Bypass Alternative related to disruption or severance of community interactions or division of established communities would be of moderate intensity under NEPA, and less than significant under CEQA.

Wasco-Shafter Bypass Alternative

The Wasco-Shafter Bypass Alternative differs from the BNSF by passing east of the communities of Wasco and Shafter through rural residential and agricultural land. Construction impacts associated with this alternative would be similar to the effects and impacts identified for the BNSF Alternative, above. Therefore, construction effects and impacts from the Wasco-Shafter Bypass Alternative related to disruption or severance of community interactions or division of established communities would be of moderate intensity under NEPA, and less than significant under CEQA.

Bakersfield South Alternative

The Bakersfield South Alternative differs from the BNSF through the Bakersfield Northwest, Central and Northeast Districts but affects the same communities in similar ways. Construction impacts associated with this alternative would be similar to the effects and impacts identified for the BNSF Alternative, above. Therefore, construction effects and impacts from the Bakersfield South Alternative related to disruption or severance of community interactions or division of

established communities would be of moderate intensity under NEPA, and less than significant under CEQA.

Bakersfield Hybrid Alternative

The Bakersfield Hybrid Alternative differs from the BNSF through the Bakersfield Northwest, Central, and Northeast districts but affects the same communities in similar ways. Construction impacts associated with this alternative would be similar to the effects and impacts identified for the BNSF Alternative, above. Therefore, construction effects and impacts from the Bakersfield Hybrid Alternative related to disruption or severance of community interactions or division of established communities would be of moderate intensity under NEPA, and less than significant under CEQA.

Proposed Station and HMF Locations

Construction impacts associated with the proposed station locations would be similar to the impacts identified for the BNSF Alternative, above, but the construction duration would likely be longer in the station areas because of the infrastructure requirements.

For the potential HMF alternative locations, construction impacts at the Fresno and Wasco HMF site alternatives would be similar to the BNSF Alternative, above, because of the comparatively high concentrations of population near those locations. This is also true for the smaller rural community adjacent to the Shafter East and Shafter West HMF sites. As with the stations above, construction duration would likely be longer in the station areas because of the infrastructure requirements. Only the Hanford HMF site, which is about 2 miles east of the Home Garden community and southwest of the main urbanized area of Hanford, is surrounded by predominately rural agricultural land. Therefore, community impacts would be of moderate intensity under NEPA, and less than significant under CEQA at all HMF sites except Hanford, where there would be no community impacts.

Impact SO #2 – Construction Effects on Children's Health and Safety

Refer to Appendix 3.12-C, Children's Health and Safety Risk Assessment, for complete information on construction impacts for the proposed alignment alternatives, stations, and HMF sites, including a listing of all school facilities within 0.5 mile of the study area.

During construction, all of the alternatives would have impacts on air quality that, with mitigation, would be of negligible local intensity under NEPA, and reduced to a less-than-significant level under CEQA.

The project would involve the construction of road overcrossings that could affect school bus transportation routes. (See Section 3.2, Transportation, for information on construction planning and mitigation measures that will ensure that detours associated with this construction are minimized to maintain circulation in the region.) Standard construction procedures related to traffic management would be used to maintain or minimize impacts on traffic flow during peak travel periods, including identification of when and where temporary closures and detours would occur. For example, in those areas where a new crossing is required, detours would be built first, clear signage would be installed, and traffic would be diverted. Pedestrian crossings and bicycle access for school children would be maintained in a manner that would assure safe passage during construction (see Section 3.11, Safety and Security). After construction is completed, traffic would be diverted to the new overcrossing, local school area circulation and pedestrian and bicycle access would be restored. Therefore, local traffic impacts on school access and safety would be of negligible intensity under NEPA, and less than significant under CEQA.

The construction of any of the project alternatives would involve transporting, using, and disposing of construction-related hazardous materials and wastes (See Section 3.10, Hazardous Materials and Wastes, for information on regulatory requirements and project mitigation measures that would reduce the potential for impacts from these materials.) Potentially, such construction could result in accidental spills or releases of hazardous materials and wastes, and could result in temporary hazards to schools. The best management practices described in the project design features and mitigation measures in Section 3.10, Hazardous Materials and Wastes, will be implemented to ensure that the use of extremely hazardous substances or mixtures thereof in a quantity equal to or greater than the state threshold quantity will not occur within 0.25 mile of a school. Therefore, potential construction-period impacts relating to use or transport of hazardous materials would be of negligible local intensity under NEPA, and would be less than significant under CEQA.

Economic Effects

Construction of the project would provide short-term economic benefits for the entire region. These economic benefits include gains in sales tax revenues and job creation as a result of construction. The new jobs would be created both directly in the construction sector as well as across other related sectors that supply materials, equipment, and services for the project and its workers. See the *Fresno to Bakersfield Section: Community Impact Assessment Technical Report* for a more detailed discussion of the anticipated economic effects of project construction (Authority and FRA 2012a). The BNSF Alternative is used as a representative alternative in this analysis because there was not a measurable difference among the alternatives for construction-period economic effects.

Impact SO #3 – Construction-Related Property Tax Revenue Reductions

Short-term reductions in property tax revenues could occur as a result of perceived lower property values caused by nearby construction activities. Sales prices of properties that change ownership in advance of planned construction or during the construction period may be lower than current assessed values and may result in lower property tax revenues. Although this effect cannot be quantified, it would likely affect only areas adjacent to project construction activities and is considered to have a moderate intensity under NEPA. (Note that the reduction in property tax revenues due to project land acquisition is addressed in Impact SO #12 – Operation-Related Property and Sales Tax Revenue Effects.)

Construction of any of the HST alternatives is not anticipated to result in any negative effects on school district funding as a result of reduced property tax revenues. Although property acquisitions would occur prior to construction, this is considered a long-term impact and is addressed under Project Operation Impacts (Impact SO #14 – Changes in School District Funding and School Access).

Impact SO #4 – Construction-Related Sales Tax Revenue Gains

An estimated increase in sales tax revenues is expected for the counties and cities of the region as a result of project construction. This increase would be a result of project spending on construction equipment and materials. Unless specifically exempted, all transactions for tangible assets related to the project would be subject to sales tax. Sales tax revenues during construction were estimated using the sales tax rates specific to each county and the estimated local expenditures on equipment and materials for each year of construction. For this analysis, it is estimated that roughly 25% of the total project spending on construction equipment and materials would occur within the region. See the *Fresno to Bakersfield Section: Community Impact Assessment Technical Report* for details on this methodology and the findings (Authority and FRA 2012a).

The BNSF Alternative has been estimated to generate about $11.2 million in sales tax revenues for the region over the construction period. Estimated increases in tax revenues for each of the

counties are $5.6 million for Fresno, $520,000 for Kings, $2.2 million for Tulare, and $2.8 million for Kern. Local project construction expenditures and sales tax revenues differ slightly for all alignment alternatives and station alternatives. The sales tax revenue generated from construction activities would increase local government revenues during the construction period and would be a beneficial effect under NEPA.

Impact SO #5 – Temporary Construction Employment

The employment created through project construction would employ workers in the regional labor force and has the potential to attract small numbers of workers to the region as a result of employment opportunities. The increase in population from in-migrating construction workers would not affect the ability of local jurisdictions to provide government and public services because the number expected is small. Overall, employment growth from project construction is expected to be a net benefit for the region as a whole.

It is estimated that approximately 22,800 one-year, full-time job equivalents would be created within Fresno, Kings, Tulare, and Kern counties over the entire construction period of the BNSF Alternative. Direct jobs in the construction sector comprise around 33% of this total estimate—or 7,600 one-year, full-time job equivalents—while annual indirect and induced jobs created in the region comprise approximately 67% of this total. This job creation would peak during the years of heaviest project construction (2015–2018), requiring around 4,750 workers annually (with approximately 1,600 direct jobs in the construction sector and 3,150 indirect and induced jobs in other sectors).[12]

In terms of workers to fill these jobs, the annual average unemployment across the four-county region was 14.9% in 2009, with 159,300 persons out of work (CEDD 2010b). In addition, a 2009 CEDD study reported a loss of 32,300 construction-specific jobs in the San Joaquin Valley during the current recession (Eberhardt School of Business 2009). As such, the existing regional labor force is anticipated to be sufficient to fill the demand for the estimated direct project construction jobs, as well as the resulting indirect and induced jobs.

As with any large construction project, some influx of construction workers would be expected. Moreover, sufficient numbers of construction workers with special skills may not be available in the region. However, this influx is expected to be a small proportion of the total construction workers. Therefore, there would be no need to expand existing or add new community or government facilities to maintain acceptable service ratios, response times, or other performance objectives for any public services, including fire protection, police protection, schools, parks, or other public facilities. Consequently, the potential physical impacts from the short-term provision of new or altered public services would have no effect under NEPA and no impact under CEQA.

Potential effects on construction worker employment would be beneficial for the regional employment base in the San Joaquin Valley. Short-term regional construction job creation estimates, described above, would be similar under all alternative alignments. Proposed station locations would result in an additional 300 one-year, full-time job equivalents per station over the entire construction period. The HMF, if located within the Fresno to Bakersfield Section of the HST System, would yield an additional 1,900 one-year, full-time job equivalents over the entire construction period. Like the BNSF Alternative, the effects would be beneficial under NEPA because of the temporary improvement in the employment rate for construction workers and

[12] A 1-year full-time job equivalent is one person fully employed for 1 year. It is likely that many of the jobs created would be held by the same person for more than a single year. Therefore, the total annual employment during the heaviest period of construction is also presented to better identify the peak number of job openings created and the number of additional workers who will be needed in the region.

workers in support service industries located in the study area, and these impacts would be less than significant under CEQA.

Project Operation Impacts

Overall, the HST project has the potential to result in both beneficial and adverse long-term effects on social conditions and the quality of life experienced by residents of the communities and neighborhoods in the study area. The project would improve state and regional access, reduce travel times, and reduce traffic congestion on many local roadways, thus increasing overall mobility (see Section 3.2, Transportation). People who live and/or work in the general vicinity of the proposed station locations would likely benefit the most from the new facilities. Those who live along the portions of the alignment without station access would not enjoy the same level of mobility and access benefits but would potentially be exposed to adverse project effects. The project could enhance social conditions on a regional scale by facilitating new access to employment and educational opportunities throughout the state and through increased connectivity of the region by providing another means for people to visit friends and relatives living in other parts of the San Joaquin Valley.

Adverse impacts that would result from the project would include the disruption and division of communities; displacement and relocation of residences, businesses, and agricultural facilities; and economic effects. Although property acquisitions would occur before construction, the impacts would be permanent and are discussed in this section.

Impact SO #6 – Disruption to Community Cohesion or Division of Existing Communities from Project Operation[13]

This section examines the potential for the project to divide existing communities, or to affect important facilities providing services to the communities, or to bring about changes in community character that could alter social interactions or affect community cohesion. Potential impacts are examined for each alternative alignment. Because none of the alternatives would permanently close existing pedestrian or bicycle facilities and new roadway crossings would be built to maintain pedestrian and bicycle access, project impacts on these key community resources would not result in a disruption of community cohesion and are not discussed further in this section.

According to CEQA, the effect of a project on a neighborhood or community is significant if a project would create a new physical barrier that isolates one part of an established community from another and potentially results in a physical disruption to community cohesion. Community impacts are typically considered to be less than significant under CEQA unless they would divide an existing community. Under NEPA, impacts on a community are evaluated in terms of intensity and context and effects are determined to be significant or not significant. Thus, under NEPA, a community impact could be considered significant, even if it does not result in the physical division of a community.

Table 3.12-7 summarizes the findings from the analyses conducted for Transportation, Aesthetics and Visual Resources, Noise and Vibration, Air Quality, and Safety and Security, because impacts on these resources have the potential to affect community character and community cohesion.

[13] The environmental justice discussion has been moved to Section 3.12.9 to improve clarity and, as a result, impacts beginning with Impact SO#6 were renumbered to reflect the change in organization from the Revised Draft EIR/Supplemental Draft EIS.

Table 3.12-7
Resource Impacts from Project Operation Potentially Affecting Community Character and Cohesion — Impacts Common to All Alternatives

Resource	Potential Impact
Transportation	There would be no new barriers to access in urban areas where the alignment would be elevated, and road networks would be maintained. The project would provide grade-separation at many existing at-grade crossings of the BNSF Railway between Fresno and Bakersfield, benefiting vehicle traffic, pedestrian, and bicycle safety and circulation. Project operation would increase traffic congestion at numerous intersections around the Fresno, Kings/Tulare Regional, and Bakersfield stations. Prior to mitigation, local effects would be of substantial intensity under NEPA, and impacts would be significant under CEQA. Mitigation measures for operational impacts include a wide variety of roadway improvements, including restriping, installation of signals, modification of signal timing, and roadway widening. Some existing roads would be closed in rural areas, as well as in urban areas where the HST tracks would be constructed at-grade. Traffic would be diverted and crossings would be maintained at least every 2 miles, which would reduce impacts. Because traffic volumes and population densities are sparse in rural areas, transportation and access impacts are expected to be minimal. Urban traffic impacts outside of the Downtown Fresno and Downtown Bakersfield station areas would be negligible, except for the BNSF at-grade alternative through Corcoran, where the project would cause adverse impacts. Parking would be provided in the station areas, and the additional traffic associated with the stations could adversely affect some of the surrounding neighborhoods. Mitigation measures would minimize or avoid permanent adverse traffic or parking impacts. Refer to Section 3.2, Transportation, for complete information.
Air Quality and Global Climate Change	All alternatives have the potential to improve regional air quality by reducing regional automobile travel and associated emissions. Operation of all the HST alternatives would have a beneficial or less-than-significant impact on air quality under CEQA, and would be a net benefit at the regional level under NEPA. Operation of the HMF would be of a net benefit under NEPA, and would have a less-than-significant impact on air quality after mitigation under CEQA. Refer to Section 3.3, Air Quality and Global Climate Change, for complete information.
Noise and Vibration	All HST alternatives would create substantial noise impacts during construction. Because the Authority will mitigate these temporary impacts, the effects of construction noise would have negligible intensity under NEPA, and the impacts would be less than significant under CEQA. The number and severity of operation noise impacts would vary depending on the type of alignment (elevated versus at-grade) and the speed the HSTs are traveling. The noise analysis found that severe noise impacts would remain at several locations along the alignments, but would not affect entire neighborhoods or communities. Nearly all of the severe impacts for all alternatives could be effectively mitigated; however, mitigation could cause secondary impacts, including unwanted visual impacts. For this reason, communities may choose to have some increase in noise impacts where conditions are already noisy, such as adjacent to existing railroads. No vibration impacts would affect the quality of life in nearby neighborhoods or communities. Refer to Section 3.4, Noise and Vibration, for complete information.

Table 3.12-7
Resource Impacts from Project Operation Potentially Affecting Community Character and Cohesion — Impacts Common to All Alternatives

Resource	Potential Impact
Safety and Security	The project would be grade-separated from all other forms of transportation, including railroads, roadways, and local pedestrian and bike paths. Because the project would be grade-separated, with crossings at least every 2 miles, no significant impacts related to response or travel times of emergency service vehicles are anticipated. At some locations along the BNSF Alternative, local emergency responders would not have a ladder tall enough to reach the elevated HST guideways, but these significant impacts would be reduced to a less-than-significant level with proposed mitigation measures. Maintaining safety and security at the stations and park-and-ride lots is important to many residents in surrounding neighborhoods. The HST System would provide benefits to local safety and security under all project alternatives by requiring security enforcement officers at stations. All HST alternatives could increase demand for local emergency responders around the stations due to station activity and associated redevelopment and economic activity.
Aesthetics and Visual Resources	The HST alternatives would have adverse effects on visual quality in some areas, either by blocking views or adding elevated structures that would be out of character, scale, and harmony with the surroundings. These impacts would be most prevalent where project components would be near historic resources or denser residential areas, especially in Fresno, Corcoran, Wasco, Shafter, and Bakersfield. The reduced visual quality would be of substantial intensity under NEPA and a significant impact under CEQA. Refer to Section 3.16, Aesthetics and Visual Resources, for complete information.
Parks, Recreation, and Open Space	Project operation would impact some community parks and playgrounds, especially Colonel Allensworth State Historic Park and the Amtrak playground in Bakersfield (the former due to indirect environmental impacts, the latter through increased usage). Refer to Section 3.15, Parks, Recreation, and Open Space, for complete information.
Cultural and Paleontological Resources	All HST alternatives have the potential to result in adverse impacts on historic properties and historical resources. Such impacts would be mitigated through resource treatment plans developed in coordination with the California State Historic Preservation Officer. Refer to Section 3.17, Cultural and Paleontological Resources, for complete information.
Acronyms and Abbreviations: HMF = heavy maintenance facility HST = high-speed train	

BNSF Alternative

Much of the BNSF Alternative would follow existing rail lines in established transportation corridors. In most areas where the alignment would diverge from existing rail corridors, it would cross rural agricultural land or open space, where, generally, no concentrations of homes, businesses, or community facilities are found. However, some rural residential developments or small, unincorporated communities are present along the alignment. Also, because of the predominance of agricultural activities in the region, the BNSF Alternative passes through substantial areas where there is a dispersed agricultural community consisting of individual or clustered farmsteads on actively farmed land along the proposed alignment, especially in Fresno and Kings counties.

The portions of the BNSF Alternative along existing transportation corridors would not divide existing communities, because the project would not introduce a new barrier, but it could affect social relationships by widening an existing community division caused by the BNSF rail tracks, by displacing homes and businesses, and by introducing a substantial new source of periodic noise and an incongruous new visual element into the community. The BNSF Alternative could also affect perceptions of quality of life by introducing a permanent new urban feature into the community that would be especially visible in areas where the guideway would be elevated. The paragraphs below describe impacts associated with the BNSF Alternative on a community-by-community basis, addressing not only the two major cities (Fresno and Bakersfield) and the four smaller cities (Hanford, Corcoran, Wasco, and Shafter) but also the small, unincorporated communities situated in rural areas along the alignment. Consideration is also given to the overall impacts of the project on the broader agricultural community in the Central Valley.

The BNSF Alternative would extend through approximately 24 miles of Fresno County, from the proposed downtown HST station to the Kings County border. Within the city of Fresno, the BNSF Alternative would follow the western side of the existing UPRR right-of-way at-grade from Amador Street to East Jensen Avenue. The HST tracks would pass through predominantly industrial areas in portions of Fresno's Central, Edison, and Roosevelt districts. The BNSF Alternative would displace two homes in the Edison and Roosevelt neighborhoods, but would displace 62 businesses (42 in the Edison District and 20 in the Roosevelt district), including a café, several automotive businesses, a commercial bakery, and a mix of light-industrial and warehousing uses. The affected area has a high number of commercial vacancies, thus potentially offering opportunities for nearby relocation and avoiding disruption of the business community. The majority of the affected businesses do not serve the neighborhood, and few residences would be directly affected; therefore, community cohesion in Fresno is not anticipated to be substantially affected by the project.

The BNSF Alternative would affect the homeless population living in clusters of tents in the vicinity of SR 41 and Golden State Boulevard near Downtown Fresno in the Roosevelt District (referred to locally as Tent City) (Barfield 2010, personal communication; Prout 2010, personal communication).[14] The BNSF Alternative would also displace a key facility that provides critical services to this population. The Fresno Rescue Mission provides meals and services, including overnight shelter accommodations for up to 250 persons, and an onsite 18-month drug and alcohol recovery program that currently has approximately 110 persons enrolled full-time. It complements services provided to the homeless population by nearby Poverello House. The Fresno Rescue Mission owns and operates other related facilities (and some additional vacant land) in the immediate vicinity, including an emergency family shelter, a food warehouse, and the Save the Children playground. Because the displacement of the Fresno Rescue Mission would result in the division of a community and the loss of access to an important community resource, the intensity would be substantial under NEPA, and the impact would be significant under CEQA. With mitigation, this impact would be reduced to less than significant. [15]

[14] Fresno's Homeless Coordinator estimates that approximately 100 people are living in the G and H Street encampments, while the Fresno Rescue Mission estimates that around 200 homeless persons are living on streets in the vicinity of the Mission, in addition to the several hundred that seek overnight shelter at the Mission or participate in its 18-month residential program (Barfield 2010, personal communication).

[15] According to the Rescue Mission's executive director, if the BNSF Alternative were implemented, the Mission would rebuild the facility on land it owns in the immediate vicinity, which could present an opportunity to improve and consolidate some of its functions that are now scattered, as well as meet ADA and other requirements that have come into existence since the original Rescue Mission was established. If this occurs, the relocation of the Fresno Rescue Mission onto land the Mission already owns needs to be evaluated for secondary impacts caused by the HST project (Prout 2010, personal communication).

South of the city of Fresno, the BNSF Alternative would continue along the BNSF railway right-of-way, and pass through mainly rural agricultural areas of Fresno County. This alternative would be located in the vicinity of five small, unincorporated communities: Malaga, Oleander, Bowles, Monmouth, and Conejo. The alignment would pass about 0.75 mile to the west of Malaga—far enough away that community impacts would be limited, although the elevated HST guideway spanning Golden State Boulevard and SR 99 would be visible from the community. The alignment would pass approximately 0.25 mile east of the small community of Oleander, and one of the proposed HMF sites would lie 0.1 mile northeast of this community. Gas-line relocation and roadway work would make access to homes and businesses along East Adams Avenue inconvenient (through temporary access constraints, detours, or traffic delays), and three residential units and one business, an auto repair shop, would be displaced.

The alignment would pass immediately east of the community of Bowles, within 300 feet of the closest residences, 500 feet from Manning Gardens Convalescent Hospital, and 800 feet from Pacific Union School—an elementary school and the only school facility in Bowles. The existing freight line running through the community would be relocated to the eastern side of the new HST tracks, so that freight-rail trains would be further removed from the residential area of town. Roads at the northern and southern ends of the community (East Springfield and East Manning avenues) would be realigned to overpass the train tracks and maintain east-west connections in the community. Although HST construction and operation and associated noise and visual impacts would disrupt the community, no homes or businesses in Bowles would be displaced.

The alignment would pass at-grade along the western border of Monmouth, through agricultural land and across the existing freight tracks, within 250 feet of homes and within 500 feet of the community's only church.

The BNSF alignment would not cause any displacements in Conejo, but the right-of-way would pass within 200 feet of many homes and would be elevated 45 feet to cross the existing BNSF railroad, resulting in substantial noise and visual impacts in the community.

These impacts on small communities would be considered less than significant under CEQA, but would range from negligible (Malaga) to moderate (Oleander, Monmouth, Conejo, Bowles) intensity under NEPA. This is because of the change in community character and perceived quality of life that would result from operation of numerous HSTs (in addition to existing freight and passenger trains) very close to these communities. Even if noise impacts are reduced through construction of the barrier walls, such walls would be an intrusive visual element in these rural communities.

The BNSF Alternative would travel approximately 28 miles through Kings County, traversing primarily rural agricultural areas. It would bypass the city of Hanford but would pass east of the unincorporated area referred to as the community of Hamblin in the USGS Geographic Name Information System, and travel through a rural residential development with 25 homes in the vicinity of East Lacey Boulevard and Ponderosa Road. The HST tracks in the Hamblin area would be elevated approximately 40 feet for about 2.5 miles, from Fargo Avenue to Hanford-Armona Road, to span the San Joaquin Valley Railroad and SR 198. The elevated HST tracks would be 1 mile east of Hamblin. Although the HST tracks and station would be visible from Hamblin, impacts on community character and cohesion in Hamblin would be of negligible intensity under NEPA, and none would exist under CEQA because of the distance between the community and the HST facilities.

In the Ponderosa Road community (containing 25 residential units), there are 7 units within the project footprint that would be relocated. Remaining homes would be close (less than 200 feet) to the new HST guideway, which would be elevated 40 feet above ground level. The Kings/Tulare Regional Station–East Alternative would be built on the elevated guideway in the immediate

vicinity of this community, just north of the existing freight-rail tracks. Given these impacts, the project would affect community character, social interactions, and community cohesion by displacing several households, and by exposing the remaining rural residential homes to increased noise, visual, and traffic impacts. This would be of substantial intensity under NEPA and a significant impact under CEQA.

To the south, the BNSF Alternative would curve west and then south through agricultural areas, rejoining the BNSF Railway right-of-way (along the western side) just north of the city of Corcoran. The alignment would travel through the eastern edge of the city of Corcoran at-grade, along the western side of the existing BNSF Railroad right-of-way. The HST tracks and new road overcrossings would displace 27 homes, including a substantial portion of a mobile home/RV park near the downtown area. It would also displace up to 15 commercial-industrial businesses in Corcoran, including a community market and several automotive businesses. The HST tracks would be within approximately 200 feet of the City Hall building. The displacements, along with the increased noise and visual impacts associated with the HST project, could affect social interactions, community cohesion, and the perceived quality of life in Corcoran. This effect would be of moderate to substantial intensity under NEPA, but a less-than-significant impact under CEQA, because of the presence of an existing transportation corridor dividing the community and availability of relocation resources in the community.

The BNSF Alternative crosses approximately 22 miles of rural agricultural land in Tulare County, adjacent to the western side of the BNSF Railway right-of-way. The only community in this segment of the alignment is the unincorporated community of Allensworth, situated immediately south of the Colonel Allensworth State Historic Park. This community has about 120 homes, the Allensworth Elementary School, a church, and a community center. The HST tracks would pass along the eastern side of the community at-grade. The alignment would not displace any homes, but would pass as close as approximately 150 feet from several homes and within 2,000 feet of the school. The project would not divide the community, but it would introduce new visual and noise elements into this rural setting. This effect would be considered of moderate intensity under NEPA, and the impact would be less than significant under CEQA.

The BNSF Alternative in Kern County is approximately 44 miles long. It would pass through the cities of Wasco and Shafter on an elevated guideway following the BNSF Railway right-of-way—on the western side through Wasco, and on the eastern side through Shafter, then switching to the western side again south of Shafter. In Wasco, the elevated structure would span approximately 3 miles from Margola Street to Prospect Avenue, averaging 35 feet in height to the top of the rail. Operation would result in intrusive visual and noise impacts on community facilities, including city offices and downtown parks, which could impact community character or perceived quality of life. HST facilities would result in the displacement of 4 homes and 19 businesses in Wasco. Most of these businesses provide automotive or agricultural services or storage. The project would also introduce new noise and visual elements along the existing transportation corridor. HST trains would pass within 400 feet of the city's administrative offices, and about 600 feet from the downtown Wasco Plaza area. This effect would be considered to be of substantial intensity under NEPA, and the impact would be less than significant under CEQA.

The BNSF Alternative would also pass three very small, unincorporated communities that are located along the existing railroad tracks in the Wasco vicinity: Kernell (11 miles north of Wasco), Pond (8 miles north of Wasco), and Palmo (2.5 miles south of Wasco). The HST tracks would pass each of these communities at-grade, and on the far side of the existing railroad and Central Valley Highway rights-of-way. In Kernell, homes would be buffered from noise and visual impacts to some extent by a series of long industrial buildings. In Pond, the new HST tracks would pass about 600 feet from several homes (and closer to some isolated farmsteads in the vicinity). In Palmo, the HST tracks would be approximately 500 feet from existing homes, and the alignment would also displace several industrial buildings on the southern side of Kimberlina Road in that

vicinity (almond processing facilities and a building that houses a youth counseling program serving the cities of Shafter and Hanford). Project effects on these very small communities would be considered to be of moderate intensity under NEPA and less than significant under CEQA.

Similarly, the BNSF Alternative would pass three unincorporated communities just north of the city of Shafter: the North Shafter Labor Camp (2 miles north of Shafter), Myrick's Corner (1.25 miles north of Shafter), and North Shafter (approximately 1 mile north of the city). The project would not require any property acquisition in these communities, but the new HST trains would pass close to existing homes (within 200 to 300 feet). The HST tracks would be at-grade passing the North Shafter Labor Camp but would begin to elevate north of Madera Avenue, passing Myrick's Corner at an elevation of 40 to 50 feet above-grade, and approximately 60 feet above-grade near the suburb of North Shafter, exposing these communities to new sources of noise and visual intrusion within several hundred feet of existing homes. The effects on these communities would be considered to be of substantial intensity under NEPA, and the impacts would be less than significant under CEQA.

In the Shafter vicinity, the elevated structure would span a distance of about 3.5 miles, descending to grade at Cherry Avenue. The HST facilities and related road and utility work would displace 3 homes and 12 businesses in Shafter, including a hardware store and a gas station/minimart. Because of the displacements and the introduction of intrusive new noise and visual impacts, these effects would be considered to be of substantial intensity under NEPA, and the impacts would be less than significant under CEQA.

Between Shafter and Bakersfield, the BNSF Alternative would pass the small, unincorporated community of Crome,[16] a cluster of about 25 to 30 homes about 5 miles northwest of Bakersfield. The HST project would relocate Santa Fe Way to the west through Crome to accommodate the HST tracks. This activity would displace approximately one-third (8 to 10) of the homes in Crome and the only non-residential use in the community—a church building that houses both the 7th Standard Pentecostal Church of God and the India Pentecostal Assembly. Because of the magnitude of the displacements (the high proportion of community facilities affected) and the noise and visual impacts that would occur as a result of the HST project, these effects would be considered to be of substantial intensity under NEPA, and the impacts would be significant under CEQA.

The BNSF Alternative would enter the northwestern portion of Bakersfield at-grade; from approximately Palm Avenue to the new downtown station, the alternative would be on an elevated structure ranging from 50 to 80 feet above-grade. This alignment would pass through three districts of Bakersfield: Northwest, Central, and Northeast. In several areas, the alignment deviates from the existing transportation corridor, to accommodate turning-radius requirements of a high-speed train and to incorporate the downtown station. In these areas, the substantial acquisition of right-of-way and redevelopment of properties for the BNSF Alternative would divide established communities—particularly the formerly unincorporated Greenacres area of the Northwest District near Rosedale, and the mixed-minority residential Northeast District, which has large populations of Hispanic residents.

In the Northwest District, the BNSF Alternative would depart from the BNSF right-of-way just south of Rosedale Highway and rejoin the rail right-of-way after crossing the Kern River. The alignment would cut through an existing suburban development in Bakersfield's Northwest District, displacing 115 homes and 14 non-residential properties, including a gas station/minimart, and 2 churches (Chinmaya Mission and Korean Presbyterian Church). The

[16] This community is just outside the Shafter city limits, in the northwestern quadrant of the intersection of 7th Standard Road and the Central Valley Highway. While it is not referred to by any name in county planning documents, it is labeled "Crome" in the USGS Geographic Name Information System.

proposed route would also eliminate the only functional access that rural residential homes along Palm Avenue and Torrey Drive have used to bring horse trailers and supplies to the rear portions of their 0.75-acre to 1-acre parcels; however, this practice appears to be via the BNSF railroad maintenance road, which is not a public right-of-way or a private easement. This alignment would alter community social interactions and community cohesion, change the physical character of the community, and potentially create problems for rural residential property owners to continue using their properties for certain activities (e.g., horse trailer ingress/egress). These effects would be of substantial intensity under NEPA, and the impacts would be significant under CEQA.

In the Central District, the BNSF Alternative would not displace church facilities, but would displace one single-family home, as well as CityPlace Apartments, a relatively new affordable housing complex, which includes handicap-accessible units, recreation facilities, and support programs to residents (such as after-school tutoring). This apartment complex, which currently houses 70 low-income households, was completed in November 2011 as part of the proposed South Mill Creek redevelopment project. With recent changes in redevelopment law in California, abolition of the local Redevelopment Agency, and dramatic reductions in funding available for such urban redevelopment projects, the future of the remainder of this project is uncertain. A survey of adjacent vacant land suggests the Authority could reconstruct or replace the apartment complex on the same property, which is already zoned for residential development. The Authority will consult with the appropriate respective parties before land acquisition, to assess potential opportunities to relocate the apartment complex, both to minimize the disruption of facility activities and services, and to ensure relocation that allows the community currently served to continue to access these services. Still, the displacement of this facility would be a serious loss to the community and a disruption to community cohesion. The BNSF Alternative would also displace an estimated 112 businesses in the Central District—a mix of office and industrial uses, retail services, and medical clinics, as well as the Industrial Arts building on the Bakersfield High School campus. The school's importance to the community, combined with the critical nature of the educational services it provides, makes it an important community resource. Removal of the Industrial Arts Building would be a substantial physical change to the campus as a whole. Depending on where and how it is replaced, this physical change could result in a social impact (as those alumni and community members who are emotionally attached to the high school's history and role in the community perceive a substantial void in the long-intact campus). In addition, there are inherent challenges in finding a suitable replacement location in the surrounding built-out urban environment. The displacement of this facility—as well as affordable housing and numerous businesses—in the Central District is considered of substantial intensity under NEPA and would be a significant impact under CEQA.

In the Northeast District, 123 homes and 176 non-residential properties (including a mix of retail and industrial businesses and several churches) would be displaced by the BNSF Alternative. Christ First Ministries would be displaced, and a portion of the parking at Iglesia de Dios would be taken. In addition, the HST alignment would pass very close to the building that houses the Bethany United Methodist Church and Centro Cristiano Agape. Existing parking lots, including parking at the Bakersfield Convention Center overflow lot, would be directly affected by the project. Also, a small portion of the parking lot at Owens Intermediate School in Bakersfield would be used for a temporary construction easement, affecting 6 to 10 parking spaces. The BNSF Alternative would roughly parallel East Truxtun Avenue and would result in the displacement of a swath of older homes and businesses several hundred feet south of this roadway.[17] It would bisect the building that houses the Mercado Latino Tianguis (Mercado) at

[17] Some commercial and industrial uses could remain if HST support columns that would carry the elevated guideway do not affect property use. In some cases, existing business structures might be

2105 Edison Highway. Because of its size and location, the Mercado building would either be redesigned and rebuilt at the same location or relocated nearby. This could mean closing or relocating the building for approximately 1 year, potentially affecting the livelihoods of 118 merchants and temporarily removing a facility of importance for the local and regional Hispanic community. Together, the displacement of the Mercado and the displacement of a substantial number of residences and businesses in the Bakersfield Northeast District would be of substantial intensity under NEPA and a significant impact under CEQA.

Hanford West Bypass 1 Alternative

The Hanford West Bypass alternatives would bypass the city of Hanford on its west side rather than the east side, as does the BNSF Alternative. As a result, these alternatives would avoid impacts to the Ponderosa residential community associated with the BNSF Alternative. The Hanford West Bypass 1 Alternative would depart from the BNSF Alternative just south of East Elkhorn Avenue in Fresno County, then travel south through predominately agricultural land to the west of the community of Laton and to the east of Grangeville. This alternative would then pass between Hanford and Armona just west of the College of the Sequoias Hanford campus and through an area with a mix of agricultural land, commercial-industrial businesses, and a small cluster of suburban homes. From there, the Hanford West Bypass 1 Alternative would travel south through predominately agricultural land and would rejoin the BNSF Alternative just south of Lansing Avenue.

The main community impact associated with this alternative would be felt in the vicinity of 13th Avenue and the Hanford-Armona Road, where three homes and three businesses would be displaced, mainly as a result of ancillary road work rather than track construction. Although the loss of homes would be a hardship for the affected households, the loss of homes would not divide or disrupt the communities of Hanford or Armona as a whole. Moreover, as discussed below in the section concerning the displacement and relocation of residents (see discussion under Impact SO #9 – Residential Displacements), these households would be expected to have the opportunity to relocate in the area. The displaced businesses are regional in nature, and provide services beyond the immediate community. They include towing services, a collision center, and agriculture supply and service businesses. Because this alternative would not result in the division of an existing community but would result in localized, short-term social and economic disruption within the community, the intensity would be moderate under NEPA and the impact would be less than significant under CEQA.

Hanford West Bypass 1 Modified Alternative

The Hanford West Bypass 1 Modified Alternative would be the same as the Hanford West Bypass 1 Alternative from East Kamm Avenue to Flint Avenue. From there, the Hanford West Bypass 1 Modified Alternative would parallel the Hanford West Bypass 1 Alternative to the west by as much as 400 feet until converging with the Hanford West Bypass 1 Alternative just north of Jackson Avenue. The portions of this alternative alignment that differ from the Hanford West Bypass 1 Alternative are in rural agricultural areas with no concentrations of homes, community services, or businesses. Therefore, community impacts associated with this alternative would be similar to those identified for the Hanford West Bypass 1 Alternative, occurring primarily in the vicinity of 13th Avenue and the Hanford-Armona Road. Therefore, the intensity would be moderate under NEPA and the impact would be less than significant under CEQA.

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modified or demolished and rebuilt in new locations to accommodate the project, resulting in temporary business disruptions rather than in permanent displacements.

Hanford West Bypass 2 Alternative

The Hanford West Bypass 2 Alternative is similar to the Hanford West Bypass 1 Alternative, except between Jackson Avenue and Kansas Avenue. The Hanford West Bypass 2 Alternative would rejoin the BNSF alignment just south of Lansing Avenue. The portions of this alternative alignment that differ from the Hanford West Bypass 1 Alternative are in rural agricultural areas with no concentrations of homes, community services, or businesses. Therefore, community impacts associated with this alternative would be identical to those identified for the Hanford West Bypass 1 Alternative, occurring primarily in the vicinity of 13th Avenue and the Hanford-Armona Road. Therefore, the intensity would be moderate under NEPA and the impact would be less than significant under CEQA.

Hanford West Bypass 2 Modified Alternative

The Hanford West Bypass 2 Modified Alternative is similar to the Hanford West Bypass 2 Alternative, except that it is located farther to the east between Idaho Avenue and just south of Lansing Avenue where it would rejoin the BNSF Alternative. The portions of this alternative alignment that differ from the Hanford West Bypass 2 Alternative are in rural agricultural areas with no concentrations of homes, community services, or businesses. Therefore, community impacts associated with this alternative would be similar to those identified for the Hanford West Bypass 2 Alternative, occurring primarily in the vicinity of 13th Avenue and the Hanford-Armona Road. Therefore, the intensity would be moderate under NEPA and the impact would be less than significant under CEQA.

Corcoran Elevated Alternative

This alternative alignment would be identical to the BNSF Alternative, except for the portion of the alignment that passes through the city of Corcoran. Here the alignment would be elevated from Nevada Avenue to 4th Avenue, traveling along the eastern side of the existing BNSF Railway right-of-way. Because the guideway would be elevated and on the eastern side of the tracks, there would be substantially fewer property displacements than under the BNSF Alternative. Only one home and one small business (an auto body shop) would be displaced in Corcoran. The associated noise and visual impacts close to the downtown center and residential areas would hinder outdoor interactions, degrade the quality of downtown gathering places, and result in perceptions of reduced quality of life in the community over the long term, and therefore would be considered of substantial intensity on the community under NEPA and as a less-than-significant impact under CEQA.

Corcoran Bypass Alternative

The Corcoran Bypass Alternative would deviate from the BNSF Alternative to bypass the city of Corcoran on the eastern side. The overall community impacts associated with this alternative would differ from those described above for the BNSF Alternative in the immediate vicinity of Corcoran. By extending through predominately rural agricultural areas outside the city limits, the alternative would avoid the substantial community impacts within the city of Corcoran that would occur with the BNSF Alternative or the Corcoran Elevated Alternative. The Corcoran Bypass Alternative, however, would divide the small, unincorporated rural residential community that lies immediately northeast of the city limits, in the vicinity of Newark Avenue, between SR 43 and the irrigation canal. The Corcoran Bypass Alternative would pass through the middle of this community, which consists of about 20 homes on adjacent large lots. The HST tracks and associated roadway work would displace about 40% of the homes, and leave some of the remaining homes very close (within 50 to 150 feet) to the HST train tracks. Similar impacts would occur at the smaller enclave of rural residential homes approximately 1 mile to the southeast, in the vicinity of 5th Avenue and Waukena Avenue. Even though the Corcoran Bypass would involve

substantially fewer displacements in the city of Corcoran than would the BNSF Alternative, the residential displacements occurring in these small, rural residential communities would constitute an effect of substantial intensity under NEPA and the impact would be significant under CEQA.

Although the Corcoran Bypass Alternative would displace around 27 fewer homes in Corcoran than the BNSF Alternative, it would displace 30 more homes in the unincorporated area of Kings County. However, most of this increase in the number of displacements in unincorporated areas would occur in the rural residential developments in the unincorporated area just outside the Corcoran city limits described above. Therefore, because most of the additional displacements would occur in suburban neighborhoods rather than rural areas, the impacts to the agricultural community would be similar to those described for the BNSF Alternative.

Allensworth Bypass Alternative

The Allensworth Bypass Alternative would pass west of the community of Allensworth, farther away from the existing community than would the BNSF Alternative. As such, noise and other operational impacts on the community would be less than they would be under the BNSF Alternative. Because the Allensworth Bypass Alternative would not result in the division of an existing community or changes in community character, the intensity would be negligible under NEPA, and there would be no impact under CEQA.

Wasco-Shafter Bypass Alternative

The Wasco-Shafter Bypass Alternative would traverse agricultural land and open space east of Wasco and Shafter, where no population concentrations are found. This bypass alternative would not divide existing communities and would avoid the operational impacts on the downtown areas of Wasco and Shafter associated with the BNSF Alternative by extending through rural agricultural areas instead. Because the Wasco-Shafter Bypass Alternative would not result in the division of an existing community or changes in community character, intensity would be negligible under NEPA and no impact under CEQA.

Bakersfield South Alternative

The Bakersfield South Alternative, like the BNSF Alternative, would pass through Bakersfield's Northwest, Central, and Northeast districts, affecting several community facilities. Impacts in the Bakersfield Northwest District would be similar to those identified for the BNSF Alternative, displacing many homes and several churches. Like the BNSF Alternative, the Bakersfield South Alternative would divide the existing community and result in a considerable number of residential property acquisitions in this neighborhood (102, compared with 115 for the BNSF Alternative) and the displacement of churches (the Korean Presbyterian Church would be fully displaced and parts of Chinmaya Mission property would be affected).

In the Central District, the Bakersfield South Alternative would parallel the BNSF Railway line north of the existing rail yard that lies east of SR 99, avoiding the impacts on Bakersfield High School associated with the BNSF Alternative. Like the BNSF Alternative, the Bakersfield South Alternative would displace the CityPlace apartment complex in Central Bakersfield. This alternative would also displace 77 commercial-industrial businesses (compared with the 112 businesses that the BNSF Alternative would displace), the Kern County Health and Human Services building, and a building that houses services associated with the Mercy Hospital medical complex. It would also displace portions of the city's corporation yard and the city's fleet services downtown facility. The elevated guideway would also span an existing staff and patient parking lot and the Bakersfield Convention Center overflow parking lot, permanently removing a small portion of the parking spaces when the supports are constructed. The Mercy Hospital medical complex provides critical care to the greater Bakersfield community, and there are inherent

challenges in finding suitable replacements for large facilities nearby (such as the four-story medical office and pharmacy building) in a built-out urban environment.

In the Northeast District, the Bakersfield South Alternative would also divide and disrupt the existing neighborhood southeast of the downtown area, between East Truxtun and East California avenues, and from Union Avenue to the study area terminus at Oswell Street. This established neighborhood in the Northeast District would be traversed further south under this alternative, from East Truxtun Avenue and much closer to California Avenue, compared to the BNSF Alternative. Similar to the BNSF Alternative, the Bakersfield South Alternative would divide parts of this older, established neighborhood by a 100-foot right-of-way beneath the elevated guideway, which would be cleared of homes, churches, and other facilities that were once a part of the community. Under this alternative, 143 homes and 58 businesses would be displaced (compared with 123 homes and 176 businesses under the BNSF Alternative). Three churches (Baker Street Church of Christ, Full Gospel Lighthouse, and First Free Will Baptist Church) would all be fully displaced, and the alignment would pass very close to two other churches (Grace Christian Center and the Chapel of Praise Church of God). This alternative would also relocate the Bethel Christian School, which is associated with the First Free Will Baptist Church. Because the HST facility would not be within an existing rail corridor, it is considered a new linear element dividing an established community. Also, the only veterinary hospital in this neighborhood, which has served the community since 1968, would be immediately adjacent to the new rail facility, and would likely be forced to close or relocate because of the need for a quiet environment at this sensitive facility where surgical procedures and other treatments and recovery take place.

The Bakersfield South Alternative would result in the division of existing communities in the Bakersfield Northeast and Northwest districts. The alternative would require relocation of many commercial-industrial businesses, the Kern County Health and Human Services building, facilities associated with the Mercy Hospital medical complex, community religious facilities, and the Bethel Christian School. The intensity would be substantial under NEPA, and the impact would be significant under CEQA.

Bakersfield Hybrid Alternative

The Bakersfield Hybrid Alternative, like the BNSF and Bakersfield South alternatives, would pass through Bakersfield's Northwest, Central, and Northeast districts, affecting similar community facilities. Impacts in the Northwest District would be very similar to those identified for the BNSF Alternative, displacing many homes and businesses, as well as several churches. Like the BNSF and Bakersfield South alternatives, the Bakersfield Hybrid Alternative would divide this existing community and result in a considerable number of residential property acquisitions in this neighborhood (98, compared with 115 and 102 for the BNSF and Bakersfield South alternatives, respectively) and would similarly disrupt two churches (the Korean Presbyterian Church would be fully displaced and parts of Chinmaya Mission property would be affected). In addition, 14 business units would be displaced by the Bakersfield Hybrid Alternative in the Northwest District, and these business impacts would be similar to those of the BNSF Alternative.

In the Central District, the Bakersfield Hybrid Alternative would parallel the BNSF Railway line north of the existing rail yard that lies east of SR 99, avoiding the impacts on Bakersfield High School associated with the BNSF Alternative. It would displace 1 home, the CityPlace apartment complex, as well as 97 mixed commercial-industrial businesses in the Central District (compared with the 112 businesses and 77 businesses that the BNSF and Bakersfield South alternatives would displace, respectively). It would also displace portions of the city's corporation yard the four-story medical office building associated with the Mercy Hospital medical complex, as well as a Kern County Mental Health office. Similar to the BNSF and Bakersfield South alternatives, the elevated guideway would span portions of existing downtown parking lots in Central Bakersfield, permanently removing a small portion of the parking spaces when the supports are constructed.

In the Northeast District, the Bakersfield Hybrid Alternative would cause less disruption than the other two alternatives to the existing residential neighborhood located southeast of the downtown area, roughly between East Truxtun and East California avenues, and from Union Avenue to the project terminus at Oswell Street. The Bakersfield Hybrid Alternative would travel along the northern edge of this neighborhood, avoiding many of the residential and church displacements associated with the other alternatives, but (like the BNSF Alternative) it would displace many of the automotive and other businesses located on the south side of the Edison Highway, and it would cause additional business displacements in the area north of East Truxtun Avenue and south of the rail yards. The Bakersfield Hybrid Alternative would displace 62 homes in the Northeast District—still a substantial number, but considerably fewer than the 123 homes that would be displaced under the BNSF Alternative or the 143 homes that would be displaced under Bakersfield South. Under the Bakersfield Hybrid Alternative, 183 businesses in the Northeast District would be displaced, compared with 176 businesses under the BNSF Alternative and 58 businesses under Bakersfield South. The high number of business displacements under both the BNSF and Bakersfield Hybrid alternatives includes the estimated 118 micro-businesses sheltered under the roof of the Mercado Latino on Edison Highway.

Also displaced in this area would be the Bakersfield Homeless Shelter. This privately run shelter has 174 beds to provide crisis housing for women and children and homeless families. It serves 500 to 700 meals daily, and provides an array of counseling, health, education, and job placement services (Gill 2012).

Because portions of the Bakersfield Hybrid Alternative would not be within an existing rail corridor, it is a new linear element dividing an established community. It would divide the existing community in the Bakersfield Northwest District. It would cause fewer residential displacements in the Northeast District than the other two alternative alignments through Bakersfield, but it would displace more businesses as well as a key facility providing important community services to Bakersfield's homeless population. This alternative would still require relocation of many commercial-industrial businesses, as well as a Kern County Mental Health office and the Bakersfield Homeless Shelter. The intensity of these community impacts would be substantial under NEPA, and the impact would be significant under CEQA.

Station Alternatives

Fresno Station. The Fresno Station would be centered on Mariposa Street, adjacent to the HST tracks west of Chukchansi Park. Some commercial-industrial businesses in the area would be relocated, but the station would not divide an existing community, and it has the potential to benefit community cohesion by improving neighborhood aesthetics and providing an active transportation hub and opportunities for associated service businesses. Therefore, the intensity would be negligible under NEPA, and any impact would be less than significant under CEQA.

Kings/Tulare Regional Station–East Alternative. The Kings/Tulare Regional Station–East Alternative would be located in a rural agricultural area. The station itself would not displace any homes, businesses, or community facilities. However, the visual, noise and traffic impacts associated with the station would adversely affect the quality of life in the adjacent rural residential area in the vicinity of Ponderosa Road and Edna Way—for those homes that are not displaced by the HST tracks. These intensities would be moderate under NEPA and impacts would be less than significant under CEQA.

Kings/Tulare Regional Station–West Alternative [at-grade and below-grade options]. The Kings/Tulare Regional Station–West Alternative would be located in a rural agricultural area where there is no concentration of homes or community facilities. One business would be displaced. Therefore, the effects on existing communities would be negligible under NEPA, and impacts on these communities under CEQA would be less than significant.

Bakersfield Station–North Alternative. This station alternative would span the existing BNSF rail line east of the existing Amtrak station. The Bakersfield Station–North Alternative would displace 10 residential households and 12 businesses. These community effects would be of moderate to substantial intensity under NEPA, and the community impacts would be less than significant under CEQA.

Bakersfield Station–South Alternative. The Bakersfield Station–South Alternative would displace five commercial and industrial facilities; as described in the Relocation of Local Residences and Businesses section, below. However, this alternative would be on the southern side of the existing BNSF rail line and would generally not interfere with established patterns of interactions among community residents; it would not isolate one part of a community from another, nor disrupt resident access to community facilities and services (although the alignment would be very close to the Bakersfield Word of Life Ministries). These effects would be of moderate intensity under NEPA, and community impacts would be less than significant under CEQA.

Bakersfield Station–Hybrid Alternative. The Bakersfield Station—Hybrid Alternative would be in the same general vicinity as the other two station alternatives in Bakersfield's Central District, but with a somewhat different footprint between Truxtun and California avenues, but with a portion of the station facilities reaching farther to the east, across Union Avenue. This station alternative would displace 12 homes and 19 businesses. The businesses are a mix of small automobile servicing businesses, professional services (legal, insurance), and one fast-food restaurant. These effects would be of moderate intensity under NEPA, and community impacts would be less than significant under CEQA.

Heavy Maintenance Facility Site Alternatives

The operation of a heavy maintenance facility could result in changes in transportation, air quality, noise and vibration, safety and security, and aesthetics and visual resources that could potentially affect an adjacent community. Table 3.12-8 summarizes the impacts of changes to those resources that could occur at the HMF sites. The Fresno Works–Fresno HMF site is in a transitional area between the city and rural areas, with a mix of industrial and agricultural uses. Part of the HMF would lie less than 0.25 mile east of the rural residential community of Malaga. The Kern Council of Governments–Wasco HMF site is adjacent to the Wasco Agricultural Workers Camp, and the Kern Council of Governments–Shafter East and Kern Council of Governments–Shafter West HMF sites lie adjacent to a small rural residential community. If the HMF is not sited in the Fresno to Bakersfield Section of the HST System, then the collocated maintenance-of-way facility would be situated in either the Kern Council of Governments–Shafter East or Kern Council of Governments–Shafter West HMF site alternative. This maintenance-of-way facility would have the same potential effects as those identified for the HMF site alternatives in these locations. The long-term air-quality effects at these HMF sites would be reduced to negligible under NEPA and to less than significant under CEQA with mitigation. Unavoidable noise impacts would have greater impacts at the Fresno and Wasco HMF sites because of the comparatively high concentrations of population near those locations, but they would also affect the small rural community adjacent to the Shafter East and Shafter West HMF sites. Only the Hanford HMF site, which is about 2 miles east of the Home Garden community and southwest of the main urbanized area of Hanford, is surrounded by predominately rural agricultural land.

Table 3.12-8
Potential Impacts on Community Cohesion, Neighborhoods, and Community Resources during Operation—Proposed HMF Sites

Resource	Potential Impact
Transportation	Four of the HMF sites (Fresno, Wasco, and Shafter) would require modifications to surrounding roads, but would not result in adverse traffic impacts on the surrounding communities. The proposed HMF site near Hanford would result in adverse traffic impacts due to worker-shift changes overlapping with existing peak-hour traffic. The proposed HMF sites would have no impact on transit services, parking, or bike or pedestrian facilities. Refer to Impact TR#14 in Section 3.2, Transportation, for complete information.
Air Quality and Global Climate Change	As a result of HMF operation, impacts on nearby sensitive receptors from emissions would be substantial; however, these impacts would be reduced after mitigation. Refer to Impact AQ#16 in Section 3.3, Air Quality and Global Climate Change, for complete information.
Noise and Vibration	Adverse noise impacts may remain at sensitive receptors within 900 feet of proposed HMF sites. The Hanford Shafter East and Shafter West sites have 6, 6, and 8 sensitive receptors, respectively, within 900 feet. The Fresno site has 100, and the Wasco site has 327 sensitive receptors within 900 feet. Vibration from HMF operations would not impact sensitive receivers at any of the alternative HMF sites. Refer to Impact N&V #3 in Section 3.4, Noise and Vibration, for complete information.
Safety and Security	The design of the HMF sites would follow safety design standards. No safety effects related to motor vehicles, pedestrians, or bicycles are anticipated. Operation of an HMF could increase the demand for local fire and ambulance services and the Authority will work with local emergency response providers to increase capacity, as required. Refer to Impact S&S#10 in Section 3.11, Safety and Security, for complete information.
Aesthetics and Visual Resources	The HMF alternatives could degrade the existing visual character or quality of the rural agricultural landscape within which all the alternative HMF facilities would be located. The principal viewers of the HMF from any of the alternative sites would be rural residents with high sensitivities to the quality of the landscape. Refer to Impact AVR#4 in Section 3.16, Aesthetics and Visual Resources, for complete information.
Acronyms and Abbreviations: HMF = heavy maintenance facility	

Four of the five proposed HMF site alternatives would displace small numbers of residences and businesses, although the effects range from negligible to significant depending on the context. The exception is the Fresno Works–Fresno HMF site that would relocate 38 rural households and 11 businesses but would not result in community division because it would be located east of the existing community of Malaga, so intensity would be negligible under NEPA and impacts would be less than significant under CEQA. The Kings County–Hanford HMF site is in a rural agricultural area. Because selection of this location would displace a single home and would not divide an existing community, the intensity of community effects would be negligible under NEPA and the impact less than significant under CEQA. The Kern Council of Governments–Wasco HMF site would displace two homes and would be immediately adjacent to the Wasco Agricultural Workers Camp. Although the HMF facility would not divide the labor camp, indirect noise, visual, and traffic impacts could adversely affect community character and quality of life, a substantial intensity under NEPA and a less-than-significant impact under CEQA. The Kern Council of Governments–Shafter West and-Shafter East HMF sites are surrounded by predominately agricultural land, but the southern end of both sites lies adjacent to the community of Crome. This community would be adversely affected by the BNSF Alternative, and construction of the HMF facility nearby would add to the cumulative impact on the character and living conditions in

this community. A maintenance-of-way facility constructed in association with any of the HMF sites would have similar potential effects as those identified for these sites.

Impact SO #7 – Effects to the Regional Agricultural Community

Under the BNSF Alternative, residential displacements include a total of 133 displaced homes in the unincorporated areas of the region—56 in Fresno County, 32 in Kings County, 6 in Tulare County, and 22 in Kern County. Although many of these displacements would occur in areas just outside of city limits, a substantial number of them would be farmsteads that would be displaced by construction of roadway overcrossings. The largest number would occur in Fresno County, where farm homesteads and rural residences would have to be displaced at intervals of approximately every mile or so along the alignment to accommodate new roadway overcrossings. These displacements would cause considerable disruption to the agricultural community south of Malaga in the agricultural areas surrounding Bowles, Monmouth, and similar small farm towns stretching from Kings County to the vicinity of Corcoran.

The displacement of numerous farm homesteads in a region that takes pride in its agricultural heritage and where agriculture is a dominant economic activity would cause disruption not only to the individual property owners but also to the wider agricultural community. Rural neighbors often rely on each other for assistance (e.g., for responding to an emergency, lending resources in the event of unexpected equipment failure, finding extra hands at harvest). This interdependence can build community cohesion, even in areas with low population density, especially where the same families may have been neighbors for many years. Displacement of rural homes can cause substantial disruption to families faced with having to move or replace their established home, along with outbuildings, gardens, irrigation and fencing systems, mature landscaping, and other improvements that have been carefully built over decades or several generations. The broader farming community can also suffer disruption from the displacement of multiple neighbors—who may or may not decide to continue farming in proximity to a new high-speed train line—and through having other farming operations in the area divided by a new linear feature. This disruption to the agricultural community in the rural areas of Fresno and Kings counties would be considered of substantial intensity under NEPA and a significant impact under CEQA.

Impact SO #8 – Effects of Project Operations on Children's Health and Safety

Overall, none of the proposed alignment alternatives, stations, or HMF sites is anticipated to result in effects of substantial intensity on children's health and safety over the operational period of the project. Much of the area adjacent to the proposed alignment alternatives is associated with agriculture, industrial, and commercial uses, which are typically not areas where children congregate. All of the alternatives would benefit children's health as a result of improvements in air quality over the No Project Alternative. (Refer to Section 3.3, Air Quality and Global Climate Change, for complete information.)

The project will be designed to prevent conflicts with other vehicles, pedestrians, and bicyclists, thus providing a safety benefit for children in the study area. (Refer to Section 3.11, Safety and Security, for complete information on safety plans and procedures.) The alternatives also include construction of overpasses in communities allowing for access over the project and the existing railway corridor. These overpasses would improve safety for children in the area over the No Project Alternative.

The project would affect schools along the proposed alignment alternatives. California Code of Regulations (CCR) Title 5, Section 14010, provides siting standards for new schools and these standards provide an indication of when safety impacts may occur to school employees and students. Specifically relevant to this project, these regulations call for consideration of proximity

of schools to transmission lines and the implementation of a safety study for schools near railroad track easements.

CCR 14010(c) calls for a separation between schools and power transmission lines of 100 feet for 50-133 kV lines, 150 feet for 220-230 kV lines, and 350 feet for 500-550 kV lines. The HST project would be powered by a 25 kV system; therefore, the electrification of the trains would not be a safety hazard to schools. The Fresno to Bakersfield Section would not require the construction of new power transmission lines in the vicinity of existing or future planned schools. For these reasons, the electrification of the HST project would have no safety effect on school employees and students.

CCR 14010(d) requires a safety study for school sites within 1,500 feet of a railroad track easement. Derailment of a train during a seismic event or other natural disaster could be a substantial safety hazard to these schools if the train left the HST right-of-way and collided with other structures or people on adjacent properties. This hazard is associated with the physical mass and speed of the train. Because the HST would only carry passengers and be electric-powered, there would be no safety hazard associated with HST cargo or fuel. The physical impact of an HST leaving the right-of-way could only occur within roughly 100 feet of the right-of-way (see Section 3.11 Safety and Security). Therefore, only Bakersfield High School and Bessie E. Owens Intermediate School along the BNSF Alternative would be subject to this safety risk.[18] As discussed above, a basic design feature of an HST System is to contain train sets within the operational corridor. Thus, if a derailment were to occur next to a school, the train would remain within the HST right-of-way. Because the train would be contained in the HST right-of-way and would not contain cargo or fuel that would result in a fire or explosion, the proposed project would not substantially increase hazards to nearby schools.

While the HMF site could result in adverse localized air quality effects by exposing sensitive receptors (e.g., schools, residences and child care centers), the health risk assessment conducted for a prototypical HMF facility indicated that sensitive receptors located more than 1,300 feet from the facility would not be significantly impacted by the HMF site. There are no schools located within 1,300 feet of the HMF sites. Therefore, operation of the HMF would not result in adverse effects on children's health and safety.

The Authority will ensure adherence to regulatory permitting requirements and implementation of mitigation measures AQ-MM#6 and AQ-MM#7 which will ensure that sensitive receptors near the HMF site would not be exposed to emissions above the federal, state, and San Joaquin Valley Air Pollution Control District health risk thresholds (see Section 3.3 Air Quality and Global Climate Change).

Overall, the effect of project operation is considered to have negligible intensity on children's health and safety. (Refer to Appendix 3.12-C, Children's Health and Safety Risk Assessment, for complete information.)

Displacement and Relocation of Local Residences and Businesses

The Fresno to Bakersfield Section of the HST System is approximately 114 miles long; the section crosses both urban and rural lands. To comply with the project objective to use existing transportation corridors when feasible, the Fresno to Bakersfield Section would primarily be sited adjacent to the existing BNSF Railway corridor. In some cases, engineering constraints and avoidance of environmental impacts would require deviation from the existing railway corridor. In these cases, the potential for property acquisition leading to displacement and relocation is

[18] Note that if the Bakersfield South Alternative is chosen, the Bethel Christian School would be relocated away from the project so would not remain within 100 feet of the project right-of-way.

present, particularly near urbanized areas.[19] This impact would be direct and would result from the need to acquire land for placement of track, maintenance facilities, detours, overpasses, and associated structures. Guidance for impacted parties is provided in several documents detailing the relocation assistance programs provided by the Authority. This guidance differs depending on whether the affected party is a farmer, business owner, homeowner, or mobile home owner. (See Appendix 3.12-A for all relocation assistance programs.)

As outlined in Section 3.12.2, the Uniform Relocation Assistance and Real Property Acquisition Policies Act, as amended (Uniform Relocation Act), ensures that persons displaced as a result of a federal action or by an undertaking involving federal funds are treated fairly, consistently, and equitably. This helps to ensure persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. Each relocated person would work with a relocation agent from the Authority. If the HST project would require that a considerable number of people be relocated, the Authority will establish a temporary relocation field office to serve the affected residents. Project relocation offices will be open during convenient hours and evening hours, if necessary. In addition to these services, the Authority is required to coordinate its relocation activities with other agencies causing displacements to ensure that all displaced persons receive fair and consistent relocation benefits.

Impact SO #9 – Residential Displacements

BNSF Alternative

In total, an estimated 460 residential units and a corresponding 1,409 residents would be displaced and relocated along the entire BNSF Alternative (see Table 3.12-9). The majority of the 460 displacements are in the Bakersfield area, where 309 households would be relocated. These 309 units are divided between the Bakersfield Central District (71 units and 182 residents), Northeast District (123 units and 376 residents), and Northwest District (115 units and 352 residents).

The remaining displacements along the BNSF Alternative are primarily in Corcoran (27 units and 97 residents) and unincorporated areas of Fresno (56 units and 176 residents), Kings (32 units and 106 residents), and Kern (22 units and 69 residents) counties. The other cities have a small number of residential displacements, with 2 housing units and 8 residents displaced in the city of Fresno, and 4 units with 16 residents in Wasco and 2 units with 8 residents in Shafter. The city of Hanford would experience no residential displacements.

An examination of suitable replacement housing alternatives indicates that all areas with displacements have a sufficient number of comparable replacement residences currently available. The communities in unincorporated Fresno, Kings, and Kern counties, as well as in Corcoran and the Bakersfield districts—where over 95% of the total residential displacements would occur—have vacant residences in excess of the estimated number of displacements.

For example, 945 single-family homes were available for sale in July 2010 in the Bakersfield Northeast District. With only a total of 123 units displaced, there is an 8-to-1 vacancy-to-displacement ratio, which substantially exceeds what would be necessary to house relocated residents. Similarly, the Northwest District currently has 500 vacancies, which exceed by more than a 4-to-1 ratio the 115 units that would be displaced by the proposed project. Total vacancies are again large in Corcoran, where there are 75 vacant residences for the 27 displacements.

[19] The term "displacement" is used to represent property acquisitions of a parcel or structure, while the term "relocation" is used to represent the need to find new properties for residents and businesses located in affected structures.

Table 3.12-9
Residential Displacement under the BNSF Alternative

Location	Residential Units Displaced	Estimated Residents to be Relocated
Urban Areas		
Fresno Central	0	0
Fresno Edison	1	4
Fresno Roosevelt	1	4
Hanford	0	0
Corcoran	27	97
Wasco	4	16
Shafter	2	8
Bakersfield Northwest	115	352
Bakersfield Central	71	182
Bakersfield Northeast	123	376
Rural Areas		
Unincorporated Fresno County	56	176
Unincorporated Kings County	32	106
Unincorporated Tulare County	6	20
Unincorporated Kern County	22	69
Regional Total	**460**	**1,409**

Source: Authority and FRA 2012a.

Examination of the HUD-aggregated U.S. Postal Service (USPS) administrative data on address vacancies in the heavily affected areas of Bakersfield and Corcoran verified that residential vacancies would be sufficient to accommodate relocated residents. Approximately 1 out of every 18 residences in the Bakersfield Central and Northeast districts was identified as vacant, and 1 out of 70 residences is vacant in the Northwest District. In Corcoran, the ratio of vacancies is approximately 1 out of every 20 residences. These vacancy levels equate to a total of 856 vacant units in the Central District, 4,672 vacant units in the Northeast District, 481 vacant units in the Northwest District, and 252 in Corcoran. These levels far exceed the number of residential displacements expected from the project in all these locations.

Vacant residential properties identified in zip codes along the project alignment in unincorporated Fresno, Kings, and Kern counties numbered 342, 589, and 2,044, respectively. These vacancies are more than sufficient for the respective 56, 32, and 22 potential displacements in these locations, and do not include consideration of existing adjacent vacant land where the current units could be moved.

Under the Uniform Relocation Assistance and Real Property Acquisition Policies Act, comparable replacement housing should provide space and physical characteristics similar to those of the displacement dwelling. Therefore, it is important that the values of these potential replacement housing units are comparable to the values of the displaced properties. This comparison of housing price is a good measure of the suitability of replacement housing, since price is a function of important attributes such as size, quality, and neighborhood amenities. The fact that the values are comparable is particularly important in Bakersfield, given the 309 residential

displacements across a wide range of prices in this community. Displaced residential units in the Northeast District have an average value of around $70,000. More specifically, 2% of the units have a value greater than $200,000, 21% have a value between $100,000 and $200,000, and 77% have a value less than $100,000. Displaced properties in the heavily affected Northwest District have an average value of around $160,000, with 36% of the units valued at more than $200,000, 47% have a value between $100,000 and $200,000, and 17% have a value below $100,000.

Data from the 2009 U.S. Census American Community Survey show that vacant housing values in Bakersfield are evenly distributed between all three of these price classes, with about 1,100 units in each class (U.S. Census Bureau 2009). In addition, a review of current vacant home prices in the Northeast and Northwest districts reveals a price distribution similar to the displaced properties in each district (Zillow 2010).

Multifamily displacements in the heavily affected Bakersfield districts would be 53 units displaced in the Northeast District, 70 units displaced in the Central District, and 23 multifamily units displaced in the Northwest District.[20] Under the assumption that a large percentage of those in multifamily housing would not purchase a home and would continue to rent, comparable rental units in these communities were quantified. Available houses and apartments for rent in the Northwest District (34 units) are sufficient to house the potential relocated renters in these communities. However, fewer units are available in the Central District (48 units) and Northeast District (27 units) than the potential number of relocated renters. In addition, renters housed in single-family residences could add to this need for rental units in both districts. Even so, given the large numbers of single-family residential vacancies, it is not likely that new housing would need to be constructed to house these individuals. The relocation plan for residents in this district will note the fact that rental units available in the immediate area may not be adequate and that as a result, it would be important to allow sufficient lead time to identify suitable rental properties and to provide housing of last resort, including rehabilitation of existing housing or relocation of the disrupted residential areas to newly constructed housing elsewhere in the vicinity, where necessary, for low-income renters in the Central and Northeast districts.

One manufactured housing or mobile home park community is affected by the BNSF Alternative in the city of Corcoran (20 units displaced). The special characteristics of mobile home parks can make it difficult to relocate residents within the same vicinity. Therefore, special consideration will be included in the project relocation plan to address the unique needs of these residents.

Overall, residential displacements are concentrated in Bakersfield (a total of 309 residences and 911 residents) and in the city of Corcoran (27 residences and 97 residents). Although sufficient replacement housing is available in these communities, these displacements are a considerable number for these communities and represent over two-thirds of all residential displacements along the entire alignment. Given this high number of displacements, the effect of displacements in these communities would be of substantial intensity under NEPA. Although the BNSF Alternative would displace and relocate considerable numbers of existing housing units and people in these communities, adequate replacement housing appears to be available in the area. As a result, the project would not necessitate the construction of substantial numbers of replacement housing units and therefore the impact would be less than significant under CEQA.

Although residential displacements in unincorporated Fresno, Kings, and Kern counties are smaller in number and less concentrated in a single community, they are still considerable and represent about 12%, 7%, and 5%, respectively, of all residential displacements along the alignment. Because the majority of displacements in unincorporated counties are typically single-family residential homes on working agricultural lands, it may be difficult to find comparable

[20] Manufactured housing is examined separately below.

replacements at any price, and relocating existing housing to nearby land may take time. This may be especially difficult for rural residential subdivisions. One rural residential subdivision in unincorporated Kings County—in the vicinity of Ponderosa Road and Edna Way east of Hanford (which is affected by the BNSF Alternative)—is an example of the challenge in finding comparable replacement housing. In this location, residents enjoy a unique blend of amenities (spacious lots and a country setting close to town). Very few comparable, vacant, developed rural residential homes may be available as replacement properties. If so, it may be necessary to consider constructing housing of last resort, including rehabilitation of existing housing or relocation of disrupted residential areas to newly constructed housing elsewhere in the vicinity. Similarly, the rural residential community of Crome in unincorporated Kern County is surrounded by agricultural uses, so it may be difficult to find comparable replacement housing nearby for displaced households.

Given the potential difficulties in finding agricultural residential properties, as outlined in Impact SO #7 – Impacts Effects to the Regional Agricultural Community, the intensity of the displacements associated with the BNSF Alternative in unincorporated Fresno, Kings, and Kern counties would be moderate under NEPA. Residential displacements in the other communities along the BNSF Alternative are few and would have a negligible intensity under NEPA. Residential displacements in the other communities along the BNSF Alternative are few and would have a negligible intensity under NEPA. In all of these cases, the project would not necessitate the construction of substantial numbers of replacement housing units, and therefore the impact would be less than significant under CEQA.

Based on known demographics of the region, residential displacements associated with the BNSF Alternative could result in the relocation of sensitive populations, defined as the elderly (over 65), disabled, female heads of household, and linguistically isolated residents. Impacts from the relocation of minority and low-income populations are examined specifically in Impact SO #18 – Environmental Justice Effects. The high number of displacements, particularly in the heavily affected Bakersfield neighborhood districts and in Corcoran, could result in considerable relocations of sensitive populations. Additionally, the BNSF Alternative would relocate the Fresno Rescue Mission's headquarters building in the Roosevelt District in Fresno. Although no data are available on the demographic characteristics of the homeless population served by the Fresno Rescue Mission, information acquired from shelter staff suggests that a significant portion of the individuals affected would be elderly, potentially linguistically isolated, and single mothers with families (Prout 2010, personal communication). Therefore, the intensity under NEPA would be moderate, and relocation plans and resources will take these sensitive populations into account.

Table 3.12-10 provides a summary of the relative changes in residential displacements for each of the alignments. This table compares each of the alternative alignments to the corresponding portion of the BNSF Alternative.

Table 3.12-10
Change in Residential Displacement Relative to the BNSF Alternative

Alternative	Total Units Displaced	Total Residents Displaced
BNSF Alternative	460	1,409
Change Relative to the BNSF Alternative		
Hanford West Bypass 1	-11	-35
Hanford West Bypass 1 Modified	-12	-38
Hanford West Bypass 2	-15	-48

Table 3.12-10
Change in Residential Displacement Relative to the BNSF Alternative

Alternative	Total Units Displaced	Total Residents Displaced
Hanford West Bypass 2 Modified	-13	-41
Corcoran Elevated	-26	-93
Corcoran Bypass	+1	-4
Allensworth Bypass	-7	-22
Wasco-Shafter Bypass	-13	-45
Bakersfield South	+6	+19
Bakersfield Hybrid	-78	-239

Hanford West Bypass 1 Alternative

The Hanford West Bypass 1 Alternative would displace 41 residences (2 in Hanford, 10 in unincorporated Fresno County, 27 in unincorporated Kings County, and 2 in Armona). Because 52 residential displacements would occur along the corresponding portion of the BNSF Alternative, the Hanford West Bypass 1 Alternative would result in 11 fewer displacements compared to the BNSF Alternative. The estimated total number of residents relocated by this alternative would be about 133, or about 35 fewer than under the BNSF Alternative.

An examination of suitable replacement housing for the displaced residents in this area shows a sufficient number of alternative homes are currently available. Real estate listings for homes for sale show that in unincorporated Fresno and Kings counties (within zip codes 93242 and 93230), and the community of Armona (zip code 93202) had vacancies of 506 and 37, respectively, all in excess of the residential displacements that would result in these locations for this alternative. Also, examination of HUD-aggregated USPS administrative data on address vacancies in the affected area of Armona further verified that residential vacancies would be sufficient to accommodate relocated residents, because 107 units were identified as vacant. The Hanford West Bypass 1 Alternative would therefore not necessitate the construction of replacement housing elsewhere. Overall, the effect of residential displacements would be of moderate intensity under NEPA, and the impacts associated with the Hanford West Bypass 1 Alternative would be less than significant under CEQA. The Hanford West Bypass 1 Alternative is not expected to result in considerable relocations of sensitive populations. Furthermore, relocation plans and resources will take the sensitive populations into account. The effects on sensitive populations would therefore be of negligible intensity under NEPA.

Hanford West Bypass 1 Modified Alternative

The Hanford West Bypass 1 Modified Alternative would displace 40 residences (10 in unincorporated Fresno County, 28 in unincorporated Kings County, and 2 in Armona). Because 52 residential displacements would occur along the corresponding portion of the BNSF Alternative, the Hanford West Bypass 1 Modified Alternative would result in 12 fewer displacements, compared to the BNSF Alternative. The estimated total number of residents relocated by this alternative would be about 131, or 38 fewer than under the BNSF Alternative.

As discussed for the Hanford West Bypass 1 Alternative, an examination of suitable replacement housing for the displaced residents in this area shows a sufficient number of alternative homes

are currently available. The Hanford West Bypass 1 Modified Alternative would therefore not necessitate the construction of replacement housing elsewhere. Overall, the effect of residential displacements would be of moderate intensity under NEPA, and the impacts associated with the Hanford West Bypass 1 Alternative would be less than significant under CEQA. The Hanford West Bypass 1 Modified Alternative is not expected to result in considerable relocations of sensitive populations. Furthermore, relocation plans and resources will take the sensitive populations into account. The effects on sensitive populations would therefore be of negligible intensity under NEPA.

Hanford West Bypass 2 Alternative

The Hanford West Bypass 2 Alternative would displace 37 residences: 2 in Hanford, 10 in unincorporated Fresno County, 23 in unincorporated Kings County, and 2 in Armona. Because 52 residential displacements would occur along the corresponding portion of the BNSF Alternative, the Hanford West Bypass 2 Alternative would result in 15 fewer displacements. The estimated total number of residents relocated by this alternative would be about 120, or about 48 fewer than under the BNSF Alternative.

An examination of suitable housing alternatives for the displaced residents in this area is the same as that outlined for the Hanford West Bypass 1 Alternative. Therefore, the Hanford West Bypass 2 Alternative would not necessitate the construction of replacement housing elsewhere. Overall, the effect of residential displacements would be of moderate intensity under NEPA, and the impacts of residential displacements would be less than significant under CEQA. The Hanford West Bypass 2 Alternative is not expected to result in considerable relocations of sensitive populations. Furthermore, relocation plans and resources will take the sensitive populations into account. The effects on sensitive populations would therefore be of negligible intensity under NEPA.

Hanford West Bypass 2 Modified Alternative

The Hanford West Bypass 2 Modified Alternative would displace 39 residences: 10 in unincorporated Fresno County, 24 in unincorporated Kings County, and 5 in Armona. Because 52 residential displacements would occur along the corresponding portion of the BNSF Alternative, the Hanford West Bypass 2 Modified Alternative would result in 13 fewer displacements. The estimated total number of residents relocated by this alternative would be about 128, or about 41 fewer than under the BNSF Alternative.

An examination of suitable housing alternatives for the displaced residents in this area is the same as that outlined for the Hanford West Bypass 1 Alternative. Therefore, the Hanford West Bypass 2 Modified Alternative would not necessitate the construction of replacement housing elsewhere. Overall, the effect of residential displacements would be of moderate intensity under NEPA, and the impacts of residential displacements would be less than significant under CEQA. The Hanford West Bypass 2 Modified Alternative is not expected to result in considerable relocations of sensitive populations. Furthermore, relocation plans and resources will take the sensitive populations into account. The effects on sensitive populations would therefore be of negligible intensity under NEPA.

Corcoran Elevated Alternative

The Corcoran Elevated Alternative would displace 4 residences: 1 in Corcoran, 1 in unincorporated Kings County, and 2 in unincorporated Tulare County. Because 30 residential displacements would occur along the corresponding portion of the BNSF Alternative, these displacements would be a decrease of 26 units if this alternative were selected instead of the BNSF Alternative. Given the small number of residential displacements associated with this alternative, the effects would be of negligible intensity under NEPA, and the impacts would be

less than significant under CEQA. Because few residential displacements would occur as a result of the Corcoran Elevated Alternative, the effects on sensitive populations would be of negligible intensity under NEPA.

Corcoran Bypass Alternative

The Corcoran Bypass Alternative would displace 31 residences: 30 in unincorporated Kings County and 1 in unincorporated Tulare County. Because 30 residential displacements would occur along the corresponding portion of the BNSF Alternative, these displacements would be an increase of 1 unit if this alternative were selected instead of the BNSF Alternative. The estimated total number of residents relocated would be 102, and about 4 less than under the BNSF Alternative. One rural residential subdivision in unincorporated Kings County, in the Newark Avenue area northeast of Corcoran, is an exception to the finding of a sufficient number of current vacant residences. In this location, residents enjoy a unique blend of amenities (spacious lots, city services, and a country setting close to town). Few comparable, vacant, developed rural residential homes may be available as replacement properties; therefore, it may be necessary to consider constructing housing of last resort, including rehabilitation of existing housing or relocation of disrupted residential areas to newly constructed housing elsewhere in the vicinity.

An examination of suitable housing alternatives for the displaced residents in this area finds that a sufficient number of alternative homes are currently available. Real estate listings for homes for sale show that unincorporated Kings County (within zip code 93212) and the city of Corcoran had 664 vacancies, well in excess of the 31 residential displacements that would result from the alternative alignment. The alternative would therefore not necessitate the construction of replacement housing elsewhere. Overall, the effect of residential displacements would be of moderate intensity under NEPA, and impacts associated with the Corcoran Bypass Alternative would be less than significant under CEQA. The Corcoran Bypass Alternative is not expected to result in considerable relocations of sensitive populations. Furthermore, relocation plans and resources will take the sensitive populations into account. The effects on sensitive populations would therefore be of negligible intensity under NEPA.

Allensworth Bypass Alternative

The Allensworth Bypass Alternative would not displace any residences, compared to the nine residential displacements that would occur along the corresponding portion of the BNSF Alternative. Therefore, there would be no effect on residential displacements under NEPA, and there would be no impact under CEQA. Because there are no residential displacements under the Allensworth Bypass Alternative, there would be no effect on sensitive populations under NEPA.

Wasco-Shafter Bypass Alternative

The Wasco-Shafter Bypass Alternative would displace 10 residences in unincorporated Kern County. The corresponding portion of the BNSF Alternative would displace 23 residences. There would be 31 residents displaced by the Wasco-Shafter Bypass, 45 fewer than the corresponding portion of the BNSF Alternative.

Unincorporated Kern County has 2,044 vacant homes available to meet the housing needs of these displaced residents. Because the project would not displace or relocate substantial numbers of existing housing units or people and therefore would not necessitate the construction of replacement housing elsewhere, the effect of residential displacements would be of negligible intensity under NEPA, and any impacts associated with the Wasco-Shafter Bypass Alternative would be less than significant under CEQA. Because few residential displacements would occur as a result of the Wasco-Shafter Bypass Alternative, the effects on sensitive populations would be of negligible intensity under NEPA.

Bakersfield South Alternative

The Bakersfield South Alternative would displace 315 residences in the city of Bakersfield. The corresponding portion of the BNSF Alternative would displace 309 residences. Displacements resulting from the Bakersfield South Alternative would affect 930 residents, compared with the 911 residents that would be relocated by the corresponding portion of the BNSF Alternative.

The displacements related to the Bakersfield South Alternative occur within all three districts in Bakersfield. This alternative would displace 143 units and 438 residents in the Northeast District, 70 units and 180 residents in the Central District, and 102 units and 312 residents in the Northwest District. The Bakersfield South Alternative would displace slightly more residential units (6) and people (19) than the BNSF Alternative.

Similar to the BNSF Alternative, residential displacements in the Northwest, Central, and Northeast districts would be considerable. Given the high number of displacements, the effect of these displacements would be of substantial intensity under NEPA.

Sufficient numbers of replacement residences are available in the area. The Northeast District has 945 units available for sale, the Central District has 520 units and the Northwest District has 500 units. As noted in the discussion of displacements in the BNSF Alignment, although replacement rental units may be scarce, no new residential units are likely to be constructed because all of these districts have sufficient replacement housing to accommodate the estimated number of displacements, and housing of last resort (if needed) could involve rehabilitation of existing housing resources within affected districts, or relocation of disrupted residents to newly constructed housing that already exists elsewhere in the vicinity. Replacement or reconstruction of the CityPlace affordable housing complex would require consultation with the City of Bakersfield and the 70 affected households. Because the project would not displace or relocate substantial numbers of existing housing units or people and would not necessitate the construction of replacement housing elsewhere, the impacts would be less than significant under CEQA.

The presence of sensitive populations in this area was examined for the BNSF Alternative and is the same for the Bakersfield South Alternative. The analysis suggests that displacements in these districts may affect high numbers of sensitive populations, including disabled, female head of household populations, and linguistically isolated populations in the Northeast District. Therefore, the intensity under NEPA would be moderate, and relocation plans and resources will take these sensitive populations into account.

Bakersfield Hybrid Alternative

The Bakersfield Hybrid Alternative would displace 231 residences in Bakersfield. The corresponding portion of the BNSF Alternative would displace 309 residences. Displacements resulting from the Bakersfield Hybrid Alternative would affect 672 residents, compared with the 911 residents that would be relocated by the corresponding portion of the BNSF Alternative.

The displacements related to the Bakersfield Hybrid Alternative occur within all three districts in Bakersfield. This alternative would displace 62 units and 202 residents in the Northeast District, 71 units and 182 residents in the Central District, and 98 units and 303 residents in the Northwest District. The Bakersfield Hybrid Alternative would displace fewer residential units (78) and people (239) than the BNSF Alternative.

Similar to the BNSF Alternative, residential displacements in the Northwest, Central, and Northeast districts would be considerable. Given the high number of displacements, the effect of these displacements would be of substantial intensity under NEPA.

Sufficient numbers of replacement residences are available in the area. The Northeast District has 945 units available for sale, the Central District has 520 units, and the Northwest District has 500 units. As noted in the discussion of displacements in the BNSF Alignment, although replacement rental units may be scarce, no new residential units are likely to be constructed because all of these districts have sufficient replacement housing to accommodate the estimated number of displacements, and housing of last resort (if needed) could involve rehabilitation of existing housing resources within affected districts, or relocation of disrupted residents to newly constructed housing that already exists elsewhere in the vicinity. Replacement or reconstruction of the CityPlace affordable housing complex would require consultation with the City of Bakersfield and the 70 affected households. Because the project would not displace or relocate substantial numbers of existing housing units or people and would not necessitate the construction of replacement housing elsewhere, the impacts would be less than significant under CEQA.

The presence of sensitive populations in this area was examined for the BNSF Alternative and is the same for the Bakersfield Hybrid Alternative. The analysis suggests that displacements in these districts may affect high numbers of sensitive populations, including disabled, female head-of-household populations, and linguistically isolated populations in the Northeast District. Therefore, the intensity under NEPA would be moderate, and relocation plans and resources will take these sensitive populations into account.

Station Alternatives

Four station alternatives (Fresno Station, Kings/Tulare Regional Station–East, Kings/Tulare Regional Station–West [at-grade or below-grade], and Bakersfield Station–South) would not displace any residential units and would not require the construction of replacement housing. The Bakersfield Station–North Alternative would displace 10 residential units in the Bakersfield Central District. The Bakersfield Station–Hybrid Alternative would displace 12 residential units in the Bakersfield Central District. As discussed for the BNSF Alternative, above, there is sufficient vacant replacement housing in this area. Therefore, because the Bakersfield Station–North and –Hybrid alternatives would not displace or relocate substantial numbers of existing housing units or people and would not require the construction of replacement housing, the effect of residential displacements would be of negligible intensity under NEPA, and any impacts associated with the Bakersfield Station–North and –Hybrid alternatives would be less than significant under CEQA. Because few residential displacements would occur as a result of the station alternatives, the effects on sensitive populations would be of negligible intensity under NEPA.

Heavy Maintenance Facility Site Alternatives

The residential displacements associated with the HMF site alternatives are as follows:

- Fresno Works–Fresno: 38 units.
- Kings County–Hanford: 1 unit.
- Kern Council of Governments–Wasco: 2 units.
- Kern Council of Governments Shafter–East: 0 units.
- Kern Council of Governments Shafter–West: 5 units.

As discussed for the BNSF Alternative above, there is sufficient vacant replacement housing in these areas. Therefore, because these HMF sites would not displace or relocate substantial numbers of existing housing units or people and would not necessitate the construction of replacement housing, residential displacements would be of negligible intensity under NEPA, and the impacts would be less than significant under CEQA. Because few residential displacements would occur as a result of the HMF site alternatives, the effects on sensitive populations would be of negligible intensity under NEPA.

If the HMF is not sited in the Fresno to Bakersfield Section of the HST System, then the co-located maintenance-of-way facility would be situated in either the Shafter East or Shafter West HMF site alternatives. This maintenance-of-way facility would have the same potential effects as those identified for the HMFs in these locations.

Impact SO #10 – Commercial and Industrial Business Relocations

BNSF Alternative

An estimated 416 commercial and industrial businesses would be displaced and relocated along the entire BNSF Alternative. These relocations would correspond to an estimated 2,926 relocated employees. Bakersfield businesses account for 302 of the 416 total businesses that would likely be relocated. The Bakersfield business relocations are divided between the Central District (112 businesses and an estimated 724 employees), the Northeast District (176 businesses and 477 employees), and the Northwest District (14 businesses and 403 employees).

The remaining commercial and industrial relocations along the BNSF Alternative are primarily in the city of Fresno (62 businesses and 1,082 employees), unincorporated Fresno County (1 businesses and 2 employees), and Wasco (19 businesses and 43 employees). The cities of Corcoran (15 businesses and 49 employees) and Shafter (12 businesses and 93 employees), unincorporated Kern County (3 businesses and 3 employees), and unincorporated Kings County (2 businesses and 50 employees) also have relocations. The city of Hanford and unincorporated Tulare County would not have any business relocations. Table 3.12-11 shows a breakdown of these totals.

Bakersfield's Northeast District is home to the Mercado Latino Tianguis, an important community facility that would be displaced along with all its associated businesses. This facility is examined in Impact SO #6 – Disruption to Community Cohesion or Division of Existing Communities from Project Operation, above. From a social perspective, the displacement of this facility would be a significant impact in Bakersfield's Northeast District. In terms of displacement of businesses, the Mercado is also an important consideration because it houses an estimated 118 local small businesses with an estimated 230 employees.

Table 3.12-11
Commercial and Industrial Relocations under the BNSF Alternative

Location	Businesses Relocated	Estimated Employees Relocated
Urban Areas		
Fresno Central	0	0
Fresno Edison	42	868
Fresno Roosevelt	20	214
Hanford	0	0
Corcoran	15	49
Wasco	19	43
Shafter	12	93
Bakersfield Northwest	14	403
Bakersfield Central	112	724
Bakersfield Northeast	176	477

Table 3.12-11
Commercial and Industrial Relocations under the BNSF Alternative

Location	Businesses Relocated	Estimated Employees Relocated
Rural Areas		
Unincorporated Fresno County	1	2
Unincorporated Kings County	2	50
Unincorporated Tulare County	0	0
Unincorporated Kern County	3	3
Regional Total	**416**	**2,926**
Source: Authority and FRA 2012a.		

The North American Industry Classification System (NAICS) designations of the displaced commercial and industrial businesses along the BNSF Alternative reveal that the types of businesses that would be relocated include automotive repair; wholesale trade; professional, scientific, and technical services; machinery and equipment services; accommodation and food services; construction; transportation and warehousing; health care and social services assistance; administrative and support; and waste management and remediation services. Examination of suitable replacement properties for these types of displaced business sites indicates that a sufficient number of sites are currently available in the retail, commercial, office, industrial, and transportation and warehousing sectors. This analysis examined the availability of these types of business properties within the zip codes that intersect the study area in the affected communities. The 333 displaced business sites in Bakersfield, Wasco, and Shafter consist primarily of retail, commercial, office, and miscellaneous businesses (comprising 116 units of the total). Examination of current commercial real estate for sale and lease in these locations identified 430 potential replacement properties available in July 2010.[21] Also important in these areas are displacements of industrial (22 businesses) and transportation/warehousing (10 businesses) properties. Property vacancies in these areas total 46 and 111 units, respectively, again showing sufficient availability of suitable properties.

Within the city of Fresno and unincorporated Fresno County, the commercial, retail, and office space vacancies total 174 properties; this level of vacancies would be more than sufficient to meet the needs of the 30 displaced businesses in this sector. Vacant industrial and transportation/warehousing vacancies total 64 and 114 properties, respectively, again more than the 11 and 4 businesses of each class that would require relocation.

Within the city of Corcoran and unincorporated Kings County, there are 12 business relocations occurring across the industrial, commercial, wholesale, retail, and automotive and transportation sectors. Current vacancies in Corcoran are minimal, and there is a deficit of all types of required business properties in the city. Therefore, business relocation in Corcoran would be an important consideration in the relocation plan.

The HUD-aggregated USPS administrative data on address vacancies support these findings, showing overall business vacancies in the Bakersfield Central and Northeast districts to be 17% and 16%, respectively. These vacancy rates translate to approximately 1 out of every 6 business

[21] The Mercado Latino Tianguis houses 118 of the total 176 businesses and an estimated 230 of the 477 employees displaced by BNSF Alternative in the Northeast District. This facility would only require a single site for relocation, and is therefore counted as a single site in this suitability analysis.

properties being vacant, or approximately 2,112 and 834 total vacant business properties in each district, respectively. The overall vacancy rate in Fresno's Edison District is approximately 17%, meaning that 1 out of approximately 6 business sites is vacant, totaling 200 vacant business properties in the district.

The automotive maintenance and repair sector is an important class of business to be relocated in both Fresno and Kern counties as well as in the city of Corcoran. Because of the nature of the services performed, these businesses usually require specialized facilities. Examination of potential replacement automotive-specific properties identified a shortage of existing replacement resources. In Fresno County, 12 automotive businesses would be relocated, and only 5 properties are vacant. In Kern County, there are 25 automotive businesses that would need to be relocated, and only 9 vacancies are identified. In Corcoran, 3 automotive businesses would be relocated, and there are no vacancies. In light of the relative scarcity of these specialized replacement properties, the relocation plan would need to take into account the additional efforts necessary for automotive maintenance and repair businesses during the acquisition and relocation process.

Commercial and industrial business relocations in Bakersfield's Central and Northeast districts total 288 units employing an estimated 1,201 individuals. Although sufficient replacement space is available in these communities, the number of displacements is considerable and represents about 70% of all commercial and industrial business displacements along the entire alignment. Given this high number and the fact that the BNSF Alternative would result in significant impacts dividing these communities and important community facilities, the effect of these relocations on business operations would be of substantial intensity under NEPA.

The number of business relocations in Corcoran is substantial, especially given the small size of the city's overall economy. In addition, the lack of suitable vacant replacement properties has the potential to further disrupt economic conditions. Therefore, the effect of these relocations on business operations in Corcoran would be of substantial intensity under NEPA.

Commercial and industrial business displacements in Fresno's Edison District and Roosevelt District are smaller in number, but remain considerable and represent about 10% and 5%, respectively, of all business displacements along the alignment. The effect on business operations within these communities would be of moderate intensity under NEPA.

Commercial and industrial business displacements in the other communities along the BNSF Alternative are relatively small in number and would have a negligible intensity under NEPA.

Table 3.12-12 provides a summary of the relative changes in commercial and industrial business displacements and required relocations, and compares each of the alternative alignments to the BNSF Alternative.

Table 3.12-12
Change in Commercial and Industrial Business Relocation Relative to the BNSF Alternative

Alternative	Total Businesses Displaced	Total Employees Displaced
BNSF Alternative	416	2,926
Change Relative to the BNSF Alternative		
Hanford West Bypass 1	+2	-14
Hanford West Bypass 1 Modified	+2	-14
Hanford West Bypass 2	+3	-14

Table 3.12-12
Change in Commercial and Industrial Business Relocation Relative to the BNSF Alternative

Alternative	Total Businesses Displaced	Total Employees Displaced
Hanford West Bypass 2 Modified	+3	-14
Corcoran Elevated	-14	-46
Corcoran Bypass	-15	-49
Allensworth Bypass	0	0
Wasco-Shafter Bypass	-32	-128
Bakersfield South	-153	659
Bakersfield Hybrid	-8	9

Hanford West Bypass 1 Alternative

Four businesses with 36 employees would be relocated along the Hanford West Bypass 1 Alternative. These relocations compare with the 2 businesses and 50 employees that would be relocated in the corresponding portion of the BNSF Alternative. As with the corresponding portion of the BNSF Alternative, the examination of commercial real estate for sale and lease in Kings County found that a sufficient number of sites are available for the types of businesses displaced. The Hanford West Bypass 1 Alternative would have a negligible intensity for commercial and industrial business operations under NEPA.

Hanford West Bypass 1 Modified Alternative

Four businesses with 36 employees would be relocated along the Hanford West Bypass 1 Modified Alternative. These relocations compare with the 2 businesses and 50 employees that would be relocated in the corresponding portion of the BNSF Alternative. As with the corresponding portion of the BNSF Alternative, the examination of commercial real estate for sale and lease in Kings County found that a sufficient number of sites are available for the types of businesses displaced. The Hanford West Bypass 1 Alternative would have a negligible intensity for commercial and industrial business operations under NEPA.

Hanford West Bypass 2 Alternative

Five businesses with 36 employees would be relocated along the Hanford West Bypass 2 Alternative. These relocations compare to the 2 businesses and 50 employees that would be relocated in the corresponding portion of the BNSF Alternative. As with the corresponding portion of the BNSF Alternative, the examination of commercial real estate for sale and lease in Kings County found that a sufficient number of sites are available for the types of businesses displaced. The Hanford West Bypass 2 Alternative would have a negligible intensity for commercial and industrial business operations under NEPA.

Hanford West Bypass 2 Modified Alternative

Five businesses with 36 employees would be relocated along the Hanford West Bypass 2 Modified Alternative. These relocations compare to the 2 businesses and 50 employees that would be relocated in the corresponding portion of the BNSF Alternative. As with the corresponding portion of the BNSF Alternative, the examination of commercial real estate for sale and lease in Kings County found that a sufficient number of sites are available for the types of businesses displaced.

The Hanford West Bypass 2 Alternative would have a negligible intensity for commercial and industrial business operations under NEPA.

Corcoran Elevated Alternative

One business with 3 employees would be displaced along the Corcoran Elevated Alternative compared with the 15 business and 49 employees in the corresponding portion of the BNSF Alternative. Unlike for the corresponding portion of the BNSF Alternative, the examination of commercial real estate for sale and lease in Corcoran found that a sufficient number of sites are available for the displaced business. This alternative would have a negligible intensity for commercial and industrial business operations under NEPA.

Corcoran Bypass Alternative

No commercial or industrial business relocations would be required along the Corcoran Bypass Alternative compared with the 15 business and 49 employees that would be relocated in the corresponding portion of the BNSF Alternative. This alternative would have no effect on commercial and industrial business operations under NEPA.

Allensworth Bypass Alternative

No commercial or industrial business relocations would be required along the Allensworth Bypass Alternative. This correlates to the absence of any businesses or employees that would be relocated along the corresponding portion of the BNSF Alternative. This alternative would have no effect on commercial and industrial business operations under NEPA.

Wasco-Shafter Bypass Alternative

Two businesses with approximately 11 employees would require relocation along the Wasco-Shafter Bypass Alternative. The corresponding portion of the BNSF Alternative would entail relocation of 34 businesses with an estimated 139 employees. As with the corresponding portion of the BNSF Alternative, the examination of commercial real estate for sale and lease in Kern County found that a sufficient number of sites are available for the types of businesses displaced. This alternative would have a negligible intensity for commercial and industrial business operations under NEPA.

Bakersfield South Alternative

An estimated 149 commercial and industrial businesses would be displaced and require relocation by the Bakersfield South Alternative. These relocations would correspond to the relocation of an estimated 2,263 employees. One thousand of the relocated employees would result from the displacement of the Kern County Health and Human Services Department. These relocations compare with the 302 businesses and 1,604 employees that would be relocated for the corresponding portion of the BNSF Alternative.

Bakersfield South Alternative relocations are divided between the city's districts, with the Central District experiencing relocations of 77 businesses and 628 employees, the Northeast District with 58 businesses and 1,231 employees, and the Northwest District with 14 businesses and 404 employees. The Mercado Latino Tianguis discussed in the BNSF Alternative above would not be affected by the Bakersfield South Alternative.

A considerable number of businesses would be displaced and relocated by the Bakersfield South Alternative. However, an examination of suitable replacement properties for these businesses resulted in the same findings as for the BNSF Alternative. A sufficient number of potential replacement sites are currently available for relocation of the businesses in the retail, commercial,

office, industrial, and transportation and warehousing sectors. However, relocation of automotive sector businesses may have difficulty finding suitable replacement properties.

Although commercial and industrial relocations in the Bakersfield Central and Northeast districts would be fewer under the Bakersfield South Alternative when compared with the BNSF Alternative, the totals would still be considerable. Given this high number and that the Bakersfield South Alternative would result in significant impacts by dividing adjacent communities and would require relocation of important community facilities as well as the Kern County Health and Human Services Department, the effect of these relocations would be of substantial intensity under NEPA.

Bakersfield Hybrid Alternative

An estimated 294 commercial and industrial businesses would be displaced and require relocation by the Bakersfield Hybrid Alternative. These relocations would correspond to the relocation of an estimated 1,613 employees. These relocations compare with the 302 businesses and 1,604 employees that would be relocated for the corresponding portion of the BNSF Alternative.

Bakersfield Hybrid Alternative relocations are divided among the city's districts, with the Central District experiencing relocations of 97 businesses and 642 employees, the Northeast District with 183 businesses and 567 employees, and the Northwest District with 14 businesses and 404 employees. The Mercado Latino Tianguis, as discussed in the BNSF Alternative, above, would also be affected by the Bakersfield Hybrid Alternative.

A considerable number of businesses would be displaced and relocated by the Bakersfield Hybrid Alternative. However, an examination of suitable replacement properties for these businesses resulted in the same findings as for the BNSF Alternative. A sufficient number of potential replacement sites are currently available for relocation of the businesses in the retail, commercial, office, industrial, and transportation and warehousing sectors. However, relocation of automotive-sector businesses may have difficulty finding suitable replacement properties.

Although commercial and industrial relocations in the Bakersfield districts would be fewer under the Bakersfield Hybrid Alternative when compared with the BNSF Alternative, the totals would still be considerable. Because of this high number and the fact that the Bakersfield Hybrid Alternative would result in significant impacts in dividing adjacent communities and would require relocation of important community facilities, the effect of these relocations would be of substantial intensity under NEPA.

Station Alternatives

Sufficient numbers of potential replacement sites are available for the anticipated commercial and industrial business relocations associated with the Fresno and Bakersfield station alternatives in all but the automotive sector. Given the number of businesses and employees to be relocated, the effect on businesses associated with four of these station alternatives (Fresno, Bakersfield–North, Bakersfield–South, and Bakersfield–Hybrid) would be of moderate intensity under NEPA. Intensity resulting from the Kings/Tulare Regional Station–West [at-grade or below-grade] alternatives would be negligible, and the Kings/Tulare Regional Station–East Alternative would have no effect, because there would be no associated commercial or industrial relocations.

The Fresno Station would require relocation of 24 commercial and industrial businesses with an estimated 162 employees. As with the BNSF Alternative, sufficient numbers of suitable replacement business sites are available in the vicinity for every sector except for the automotive sector. Given the number of businesses and employees displaced in this small area, the effect on business operations would be of moderate intensity under NEPA.

The Kings/Tulare Regional Station–East Alternative would not require relocation of any commercial or industrial businesses, and therefore no effect would occur for this station alternative under NEPA.

The Kings/Tulare Regional Station–West Alternative [at-grade or below-grade] would require relocation of one industrial business with an estimated three employees. The effect on business operations would be of negligible intensity under NEPA.

The Bakersfield Station–North Alternative would require relocation of an estimated 12 commercial and industrial businesses, with an estimated 139 employees in the Bakersfield Central District. Five of these businesses are associated with railroad spurs providing access to the BNSF railroad. Therefore, these businesses would require special relocation consideration to ensure continued access to the BNSF in their new locations. Given the number of businesses and employees displaced in this small area, the effect on business operations would be of moderate intensity under NEPA.

The Bakersfield Station–South Alternative would relocate an estimated 5 commercial and industrial businesses, with an estimated 124 employees in the Bakersfield Central District. Five of these businesses are associated with railroad spurs providing access to the BNSF railroad. Therefore, these businesses would require special relocation consideration to ensure continued access to the BNSF in their new locations. Given the number of businesses and employees displaced in this small area, the effect on business operations would be of moderate intensity under NEPA.

The Bakersfield Station–Hybrid Alternative would require relocation of an estimated 18 commercial and industrial businesses, with an estimated 112 employees in the Bakersfield Central District and one business with 9 employees in the Bakersfield Northeast District. Four of these businesses use railroad spurs for access to the BNSF railroad. Therefore, these businesses would require special relocation consideration to ensure continued access to the BNSF in their new locations. Given the number of businesses and employees displaced in this small area, the effect on business operations would be of moderate intensity under NEPA.

Heavy Maintenance Facility Site Alternatives

Examination of suitable alternative sites for displaced commercial and industrial businesses in the areas surrounding the HMF alternatives showed that a sufficient number of replacement sites are currently available in these areas for all relocated businesses except those in the automotive sector. Again, the relocation of any automotive sector businesses may be more difficult due to an apparent scarcity of suitable, currently vacant locations.

The Fresno Works–Fresno HMF site would relocate 10 commercial and industrial businesses, with an estimated 165 employees in Fresno's Roosevelt District and 1 business with 11 employees in unincorporated Fresno County. Suitable alternative sites for these displaced commercial and industrial businesses would be the same as for the BNSF Alternative. Given the number of relocated businesses and employees in this small area, the effect on commercial and industrial business operations would be of moderate intensity under NEPA.

The Kings County–Hanford HMF site would not displace any commercial or industrial businesses. This alternative site for the HMF facility would not have any effect on commercial and industrial business operations under NEPA.

The Kern Council of Governments–Wasco HMF site would require relocation of one business, with an estimated 8 employees within Wasco. Given the number of businesses and employees that would need to be relocated in this small area, the effect on commercial and industrial business operations would be of negligible intensity under NEPA.

The Kern Council of Governments–Shafter East HMF site would not displace any commercial or industrial businesses. There would be no effect on business operations under this alternative.

The Kern Council of Governments–Shafter West HMF site would not displace any commercial and industrial businesses. There would be no effect on business operations under this alternative.

If the HMF is not located in the Fresno to Bakersfield Section of the HST System, then the co-located maintenance-of-way facility would be located in either the Shafter East or Shafter West HMF alternative locations. This maintenance-of-way facility would have the same potential effects as those identified for the HMFs in these locations.

Impact SO #11 – Project Effects on Agricultural Businesses

Agricultural parcels account for the largest percentage of acreage to be acquired for the project. This section determines the number of agricultural parcels that would be split into two, or more, separate parcels due to required right-of-way acquisition and identifies the number of agricultural facilities—structures used for various operational functions including processing, product and equipment storage, and irrigation infrastructure—that would be displaced by the project.

When agricultural parcels are split, the resulting new parcels could be rearranged, and agricultural operations could remain in effect either under existing or new ownership. This process would take some time and therefore short-term effects would be expected as this rearranging takes place. In these cases, there would also likely be added operational expenses to farm this land—new equipment, new infrastructure installation, and increased access costs incurred as additional labor hours and extra gasoline for tasks such as irrigation, pesticide application, harvesting, and other field management operations. In addition, any existing lease agreements on affected lands would need to be examined as a result of parcel acquisitions. Compensation for these expenses would be determined on a case by case basis during the property acquisition phase of the project. Counting these split parcels provides insight into the relative potential adverse disruptions and costs incurred by agricultural operations for each of the project's alternative alignments. It should be noted that in some circumstances, portions of the resulting split agricultural parcels may not be able to be rearranged or accessed, and these lands would therefore be lost for future agricultural production. These types of land "remnants" are not examined here, but are accounted for in Section 3.14, Agricultural Lands.

When parcels are split, the potential exists for a loss of Williamson Act tax protection over the long term on remainder parcels that may end up smaller than the county minimum standard acreage. As a result, there could be tax-break loss implications to individual landowners whose land is removed from contract. Williamson Act lands affected by the project are examined in detail in Section 3.14, Agricultural Lands.

The number of agricultural facilities that would be displaced by the alternative alignments provides a measure of the potential disruption to agricultural business operations. These facilities are used for functions such as processing, product and equipment storage, and irrigation infrastructure. The greater the number of these types of facilities that are disturbed by the project, the greater the expected short-term effect will be on agricultural operations needing to relocate these structures.

BNSF Alternative

Along the entire BNSF Alternative, an estimated 90 agricultural parcels would be split, and 21 parcels containing agricultural facilities would be displaced (see Table 3.12-13). In Kings County, the BNSF Alternative would split 29 agricultural parcels. Split parcels would also result in unincorporated Fresno County (20 split parcels), Tulare County (14 split parcels), and Kern

County (27 parcels). Displaced agricultural facilities would occur in Fresno County (6 parcels), Kings County (7 parcels), Tulare County (5 parcels), and Kern County (3 parcels).

Table 3.12-13
Agricultural Parcel Splits and Displaced Facilities under the BNSF Alternative

Location	Split Agricultural Parcels	Displaced Facilities (Parcels)
Fresno County	20	6
Kings County	29	6
Tulare County	14	5
Kern County	27	4
Regional Total	90	21

Suitable agricultural land is available in the region for any agricultural facilities that would be required to relocate as a result of the proposed project. Should relocation be determined to be necessary, an examination of vacant and for-sale agricultural properties and operations revealed that a substantial supply of potential replacement properties is currently available (Loopnet 2010). In July 2010, there were 380 agricultural properties for sale in the region: 195 in Fresno County, 23 in Kings County, 97 in Tulare County, and 65 in Kern County.[22] These operations include vacant agricultural land, as well as land and facilities for pasture/ranch, field crops, vineyards, dairy, and nut and fruit tree operations.

In terms of agricultural facilities supporting the businesses, special consideration is required in the relocation plan for dairy operations, a unique rendering facility in Kings County, and a California Department of Food and Agriculture sampling station in Corcoran. Dairy operations are important to the local economy and are examined in more detail in the Economic Effects section, below. The affected rendering facility (Baker Commodities) is the only one of its kind in the area, and is critical to the economic well-being of local dairy and livestock operations. In addition, the sampling station in Corcoran inspects wheat, safflower, corn, and barley for moisture; from May until September each year, as many as 75 to 100 trucks per day pass through the facility. It would therefore be important that the rendering facility and the sampling station are relocated before the existing facilities are closed or that steps be taken to ensure that sufficient capacity is available at other facilities to avoid interruption in the services these facilities provide.

The overall effect of the BNSF Alternative on agricultural business operations would be of moderate intensity under NEPA in the short term as agricultural operation adjustments are made, and in the long term, these effects would be of negligible intensity under NEPA. Table 3.12-14 presents a summary of the agricultural parcel splits and displaced facilities associated with each of the alignment alternatives.

[22] The analysis was conducted in July 2010. Therefore, the real estate numbers represent the properties for sale at that time. However, the recovery from the recession of 2008–2009 has been very slow in the region, and the economic conditions have remained essentially constant (Central Valley Business Times 2011; University of the Pacific 2012). Therefore, market conditions in 2014 are considered generally comparable to those evaluated in 2010.

Table 3.12-14
Change in Agricultural Parcel Splits and Facilities Relative to the BNSF Alternative

Alternative	Split Parcels	Facilities Displaced
BNSF Alternative	90	21
Change Relative to the BNSF Alternative		
Hanford West Bypass 1	+15	+4
Hanford West Bypass 1 Modified	+20	+5
Hanford West Bypass 2	+5	+2
Hanford West Bypass 2 Modified	+6	+2
Corcoran Elevated	-2	+1
Corcoran Bypass	+12	-5
Allensworth Bypass	+34	-1
Wasco-Shafter Bypass	+10	-1
Bakersfield South	0	0
Bakersfield Hybrid	0	0

Hanford West Bypass 1 Alternative

The Hanford West Bypass 1 Alternative results in 63 split parcels and displacement of 9 agricultural facilities. The corresponding portion of the BNSF Alternative splits 48 parcels and displaces six facilities. Similar to the BNSF Alternative, the effect of parcel splits and facility disruptions on agricultural business operations associated with the Hanford West Bypass 1 Alternative would be of moderate intensity under NEPA in the short term and of negligible intensity under NEPA in the long term.

Hanford West Bypass 1 Modified Alternative

The Hanford West Bypass 1 Modified Alternative results in 68 split parcels and displacement of 12 agricultural facilities. The corresponding portion of the BNSF Alternative splits 48 parcels and displaces six facilities. Similar to the BNSF Alternative, the effect of parcel splits and facility disruptions on agricultural business operations associated with the Hanford West Bypass 1 Modified Alternative would be of moderate intensity under NEPA in the short term and of negligible intensity under NEPA in the long term.

Hanford West Bypass 2 Alternative

The Hanford West Bypass 2 Alternative results in 53 split parcels and displacement of eight agricultural facilities. The corresponding portion of the BNSF Alternative splits 48 parcels and displaces six facilities. Similar to the BNSF Alternative, the effect of parcel splits and facility disruptions on agricultural business operations associated with the Hanford West Bypass 2 Alternative would be of moderate intensity under NEPA in the short term and of negligible intensity under NEPA in the long term.

Hanford West Bypass 2 Modified Alternative

The Hanford West Bypass 2 Modified Alternative results in 54 split parcels and displacement of eight agricultural facilities. The corresponding portion of the BNSF Alternative splits 48 parcels and displaces six facilities. Similar to the BNSF Alternative, the effect of parcel splits and facility disruptions on agricultural business operations associated with the Hanford West Bypass 2

Modified Alternative would be of moderate intensity under NEPA in the short term and of negligible intensity under NEPA in the long term.

Corcoran Elevated Alternative

The Corcoran Elevated Alternative does not result in split parcels but displaces seven facilities. The corresponding portion of the BNSF Alternative splits two parcels and displaces six facilities. Similar to the BNSF Alternative, the effect of parcel splits and facility disruptions on agricultural business operations associated with the Corcoran Elevated Alternative would be of moderate intensity under NEPA in the short term and of negligible intensity under NEPA in the long term.

Corcoran Bypass Alternative

Along the Corcoran Bypass Alternative, an estimated 14 agricultural parcels would be split and one agricultural facility would be displaced. A total of 11 of the 14 split parcels along the bypass are in Kings County, and 3 of the parcels are in Tulare County. The corresponding portion of the BNSF Alternative would split an estimated two parcels and would displace six agricultural facilities. Similar to the BNSF Alternative, the effect of parcel splits and facility disruptions on agricultural business operations associated with the Corcoran Bypass Alternative would be of moderate intensity under NEPA in the short term and of negligible intensity under NEPA in the long term.

Allensworth Bypass Alternative

An estimated 46 agricultural parcels would be split along the Allensworth Bypass Alternative. This number is much greater than the 12 parcels that would be split along the corresponding portion of the BNSF Alternative. The Allensworth Bypass Alternative does not displace any facilities. The 46 split parcels along the Allensworth Bypass would be in Kern County (27 parcels) and Tulare County (19 parcels). Similar to the BNSF Alternative, the effect of split parcels and facility disruptions on agricultural business operations would be of moderate intensity under NEPA in the short term and of negligible intensity under NEPA in the long term.

Wasco-Shafter Bypass Alternative

Along the Wasco-Shafter Bypass Alternative, an estimated 29 agricultural parcels would be split and one agricultural facility would be displaced. The corresponding portion of the BNSF Alternative would split 19 agricultural parcels and displace two agricultural facilities. Similar to the BNSF Alternative, the effect of split parcels and facility disruptions on agricultural business operations would be of moderate intensity under NEPA in the short term and of negligible intensity under NEPA in the long term.

Bakersfield South Alternative

No agricultural parcels would be split and only one facility would be disrupted as a result of the Bakersfield South Alternative because this alternative is primarily within the city limits of Bakersfield. Only one agricultural facility would be displaced and no agricultural parcels would be split by the corresponding section of the BNSF Alternative. The effect on agricultural operations resulting from the Bakersfield South Alternative would therefore be of negligible intensity under NEPA.

Bakersfield Hybrid Alternative

No agricultural parcels would be split and only one facility would be disrupted as a result of the Bakersfield Hybrid Alternative because this alternative is primarily within the city limits of Bakersfield. Only one agricultural facility would be displaced and no agricultural parcels would be

split by the corresponding section of the BNSF Alternative. The effect on agricultural operations resulting from the Bakersfield Hybrid Alternative would therefore be of negligible intensity under NEPA.

Station Alternatives

All but two of the station alternatives are in urbanized downtown areas and therefore would not affect agricultural operations. The remaining station sites, the Kings/Tulare Regional Station–East and the Kings/Tulare Regional Station–West [at-grade or below-grade] alternatives, are in agricultural areas but would not split any parcels or displace any facilities. The effect of all station location alternatives would be of negligible intensity under NEPA.

Heavy Maintenance Facility Site Alternatives

None of the HMF alternatives would split agricultural parcels. The Fresno Works–Fresno HMF Site Alternative would displace three agricultural facilities, and the Kern Council of Governments–Shafter West HMF Site Alternative and the Kern Council of Governments–Wasco HMF Site Alternative would each displace one facility. The Kings County–Hanford and Kern Council of Governments–Shafter East HMF alternatives would not displace any facilities. Therefore, the Fresno HMF Alternative would have a moderate intensity under NEPA in the short term, and all the other HMF alternatives would have a negligible intensity under NEPA.

If the HMF is not sited in the Fresno to Bakersfield Section of the HST System, then the co-located maintenance-of-way facility would be situated in either the Kern Council of Governments–Shafter East or Kern Council of Governments–Shafter West HMF site alternatives. This maintenance-of-way facility would have the same potential effects as those identified for the HMF site alternatives in these locations.

Economic Effects

Operation of the project would provide economic benefits and facilitate broader economic expansion for the entire region. These economic advantages include user benefits (travel-time savings, cost reductions, reduced accidents) and accessibility improvements for the region's citizens through improved connection of the Central Valley to the rest of California. These benefits accrue not only to travelers on the HST, but also to travelers using other transportation modes in the region because trips would be diverted from highways and airports, resulting in reduced congestion (Cambridge Systematics 2003, 2007).

The project would also improve accessibility to labor and customer markets in the region, thereby improving the competitiveness of the region's industries and the overall economy. This increase in competitiveness would result from businesses' ability to locate close to a HST station, thus allowing for greater connectivity to the entire state than is currently possible. This increased connectivity also translates into improved efficiencies in population growth as new growth concentrates around these stations' areas, thus reducing urban sprawl into the region's agricultural lands (Cambridge Systematics 2003, 2007).

As presented in Section 3.18, Regional Growth, the project is expected to increase population growth 3% by 2035 in the four-county region in comparison with the No Project Alternative and also result in a 3% increase in regional employment over this same time period. A recent study determined that this increase in employment would occur across many economic sectors within the region including the service, communications, utilities, finance, insurance, and real estate sectors (Kantor 2008).

The total economic outcome of project operations may also have potential negative economic effects. These negative economic effects include possible short-term reductions in property and

sales tax revenues as a result of land acquisition, reductions in local school district funding, and effects on agricultural production. Potential fiscal effects on local government services from the project are of concern given current and ongoing budget deficits in the region's counties and cities. However, it is possible that these losses could be offset in the future by increased property tax and sales tax revenues indirectly generated by the project. For example, the construction and operation of an HMF would result in beneficial fiscal impacts from increases in sales tax revenue from additional operational spending. Also, indirect effects in the form of increased property values and the resulting increase in property tax revenues could occur around the HST stations. The stations would attract commercial and office development and high-density residential development associated with transit-oriented development into the surrounding downtown core. Section 3.13, Station Planning, Land Use, and Development, provides additional details about the potential effects of HST stations. The new development would likely result in higher property values than would occur under the No Project Alternative. The following sections provide more discussion on economic issues.

Impact SO #12 – Operation-Related Property and Sales Tax Revenue Effects

Property Tax Revenue Effects. Property value increases can be expected to occur from project operation, which would increase the connectivity of the region to the rest of the state, as well as from the associated increased density of residential and commercial development around station locations. There may also be a decrease in property values immediately adjacent to the project as a result of visual or noise disturbances. Any such impacts would be minimized by the visual and noise mitigations being proposed. In addition, such effects would be limited to a small geographic area in comparison with the expected region-wide increases in property values. These resulting overall changes in property values cannot be quantified. Many factors influence these values and it is not possible to isolate the impact of the project from all the other current and future effects on real estate supply and demand. A complete literature review on the impacts of related transportation projects on property values is provided in the *Fresno to Bakersfield Section: Community Impact Assessment Technical Report* (Authority and FRA 2012a).

A short-term reduction in property tax revenues may occur due to property acquisition, and thus removing parcels from county tax rolls.[23] Along the BNSF Alternative, displacement of residences, businesses, and agricultural lands would result in estimated annual losses of approximately $2 million in property tax revenue to the four counties in the region. The largest effect is in Kern County (a $1.2 million reduction in revenues), with reductions of $460,000 in Fresno, $270,000 in Kings, and $47,000 in Tulare. This estimated amount ranges from a low of 0.03% of the total fiscal year 2009-2010 property-tax revenue of Tulare County to a high of 0.16% in Fresno County. Relative property-tax revenue net effects are similar in magnitude for all alternatives when compared with the BNSF Alternative. Therefore, the intensity is negligible for all alternatives, because the economic impact is measurable, but would not be perceptible to community residents.

For the station and HMF alternative sites, the overall long-term net benefits of the station and heavy maintenance facilities would be similar for all alternatives. Individual station sites and HMF facility sites under consideration are very similar in size to the other station and HMF facility sites, respectively. If the HMF is not sited in the Fresno to Bakersfield Section of the HST System, then the co-located maintenance-of-way facility would be situated in either the Kern Council of Governments–Shafter East or Kern Council of Governments–Shafter West HMF site alternatives. This maintenance-of-way facility would have the same potential effects as those identified for the HMFs in these locations.

[23] Short-term in this case is meant to represent the time between when properties are removed from tax rolls and when project operation provides indirect benefits through increases to properties in the region.

Details on the effects to individual county and city property-tax revenues are provided in the *Fresno to Bakersfield Section: Community Impact Assessment Technical Report* (Authority and FRA 2012a).

Sales Tax Revenue Effects. The project would generate an estimated $1.5 million annually in direct new sales tax revenues for the region through project spending on operation and maintenance (Authority and FRA 2012a).

Some short-term reductions in sales tax revenues are expected because the need to acquire land will necessitate the relocation of businesses along the project alignment. While negligible at the regional level, this interruption in sales would lead to some potential short-term losses for communities adjacent to the project. As discussed previously in the examination of suitable replacement properties for relocated businesses, most businesses would have the opportunity to relocate within the same tax jurisdiction. As such, the duration of business disruptions would be expected to be minimal.

Although relocations in the same vicinity would limit losses in sales tax revenues for local jurisdictions, the potential for temporary sales tax loss would remain, either because businesses would temporarily close during these relocations or because some might choose to close down rather than relocate. Although other businesses would eventually replace those that close, temporary revenue losses would nevertheless occur. Along the BNSF Alternative, the total estimated potential short-term losses of sales tax revenue from business relocations in the four-county region would be around $476,000. This amount ranges from a low of less than 0.01% of the total fiscal year 2009-2010 combined sales tax revenue collected in Fresno, Kings, and Tulare counties to a high of 0.02% in Kern County.

As presented above, the expected annual gain in sales tax revenue from project spending is greater than the expected loss from business relocation. For the alternative alignments and station and HMF location sites, the overall net effects on sales tax revenue of the project would be beneficial. If the HMF is not sited in the Fresno to Bakersfield Section of the HST System, the co-located maintenance-of-way facility would be situated in either the Kern Council of Governments–Shafter East or Kern Council of Governments–Shafter West HMF site alternatives. This maintenance-of-way facility would have the same potential effects as those identified for the HMFs in these locations.

Details on the effects on individual county and city sales tax revenues are provided in the *Fresno to Bakersfield Section: Community Impact Assessment Technical Report* (Authority and FRA 2012a).

Impact SO #13 – Employment Growth

Project operation would improve state and regional connectivity while creating job opportunities across many sectors of the regional economy (Cambridge Systematics 2010; Kantor 2008). The employment created has the potential to draw workers to the region. Section 3.18, Regional Growth, discusses the potential impacts of population growth resulting from project operation. Overall, it is expected that employment growth from project operation would be a net benefit for the region as a whole.

For the alternative alignments, it is estimated that approximately 47,500 new jobs would be created by 2035 in the region as a result of the operation of the HST System. This total would include the direct jobs to operate and maintain the project in the region (approximately 2,000 jobs); the indirect and induced jobs created to support these new workers; and the additional jobs created as a result of the improved connectivity of the region to the rest of the state, leading to increased competitiveness of the region's industries and growth in the overall regional economy. The total number of new jobs created is estimated to be a 3.2% increase in total

employment above the 2035 estimate of 1.4 million total jobs in the region under the No Project Alternative (Cambridge Systematics 2010). Therefore, the region's workforce would be expected to support much of the 3.2% job growth. Overall, there would be no need to expand existing or add new community or government facilities to maintain acceptable service ratios, response times, or other performance objectives for any public services, including fire protection, police protection, schools, parks, or other public facilities. Consequently, the potential physical impacts from the long-term provision of new or altered public services would have no effect under NEPA and no impact under CEQA.

For the other alternative alignments and station and HMF location sites, estimates of the demand for employment and long-term job creation would be the same. Therefore, similar to the BNSF Alternative, the potential physical impacts from the long-term provision of new or altered public services would have no effect under NEPA and no impact under CEQA. If the HMF is not sited in the Fresno to Bakersfield Section of the HST System, then the co-located maintenance-of-way facility would be situated in either the Kern Council of Governments–Shafter East or Kern Council of Governments–Shafter West HMF site alternatives. This maintenance-of-way facility would have the same potential effects as those identified for the HMFs in these locations.

Impact SO #14 – Changes in School District Funding and School Access

Another important fiscal issue for local communities is the potential effect on school district funding. High concentrations of residential displacements have the potential to relocate large numbers of school-age residents out of their current school district. California public schools receive funding based on student attendance, so such relocation of substantial numbers of students would lead to an impact on overall school district funding. As discussed in the property section above, there is suitable vacant residential property within the current vicinity of all residential displacements. Therefore, very little effect is expected to occur on school district funding as a result of project operation. The details of this analysis and complete results by school district can be found in the *Fresno to Bakersfield Section: Community Impact Assessment Technical Report* (Authority and FRA 2012a). Further discussion on impacts on public school district funding and bus transportation routes can be found in Appendix 3.12-B, Effects on School District Funding and Transportation Bus Routes.

The BNSF Alternative, as noted in the Residential Displacements section above, would result in substantial residential relocations in Bakersfield and Corcoran. The school district analysis for Bakersfield examined impacts to both the elementary and secondary school districts in the area as a result of these relocations. The analysis determined potential relocations by student age. Therefore, the results presented for elementary school districts are only for students of elementary school age, and those for secondary school districts are for students of secondary school age.

The Bakersfield elementary school districts affected and the estimated numbers of potential students to be relocated in this area are as follows: the Bakersfield City Elementary School District has 93 potentially relocated students (out of 27,590 enrolled), the Fruitvale Elementary School District has 18 potentially relocated students (out of 3,259 enrolled), and the Rosedale Union Elementary School District has 53 potentially relocated students (out of 5,226 enrolled). The secondary school district affected is the Kern Union High School District; it has 87 potentially relocated students (out of 37,452 enrolled).[24] In Corcoran, the Corcoran Unified School District was affected; it has 25 potentially relocated students (out of 3,381 enrolled). In all cases, analysis of vacancies in these areas suggests that relocated residents would have the opportunity to relocate within the same school districts. Therefore, the effect of the BNSF Alternative on

[24] Current student enrollment data obtained from California Department of Education Educational Demographics Unit DataQuest Reports at http://www.cde.ca.gov/re/sd/.

school district funding would be of negligible intensity under NEPA. Relocations within the Kit Carson Elementary School District would result in the potential loss of an estimated 9 students (out of 448 enrolled). As discussed above, availability within the district of rural residences comparable to those acquired in the Ponderosa community would be limited. The number of students projected to be relocated in the district is low compared to total enrollment, and even if all of these students were to leave the district, the effect would be of negligible intensity under NEPA.

The other alternative alignments would result in residential displacements in Laton and Armona along the Hanford West Bypass alternatives and in Bakersfield along the Bakersfield South and Bakersfield Hybrid alternatives. Relocations in the Armona Union Elementary School District would affect up to 10 potential students (out of 2,171 enrolled) and 9 potential students in the Laton Joint Unified School District (out of 746 enrolled); relocations in the Hanford Joint Union High School District would affect up to 10 students (out of 3,891 enrolled). School districts in Bakersfield would be affected in much the same way as under the BNSF Alternative. As discussed above for the BNSF Alternative, analysis of vacancies in these areas suggests that most relocated residents could relocate within the same school district; therefore, the effect of these alternatives on school district funding would be of negligible intensity under NEPA.

For the station alternatives, no large numbers of residential displacements would occur. Therefore, the effect on school district funding would be of negligible intensity under NEPA for any of these alternatives.

For the HMF location sites, four alternatives (Hanford, Wasco, Shafter East, and Shafter West) would have very few residential displacements. A larger number of residential displacements would occur in unincorporated Fresno County in conjunction with the Fresno HMF site; however, given vacancies in the area, few students would be expected to relocate outside of their school district. As such, the effect on school district funding would be of negligible intensity under NEPA for any of these alternatives. If the HMF is not sited in the Fresno to Bakersfield Section of the HST System, then the co-located maintenance-of-way facility would be situated in either the Kern Council of Governments–Shafter East or Kern Council of Governments–Shafter West HMF site alternatives. This maintenance-of-way facility would have the same potential effects as those identified for the HMFs in these locations. (Refer to Appendix 3.12-B, Effects on School District Funding and Transportation Bus Routes, for complete information on the residential displacements within the school districts.)

The examination of property tax revenue changes, as described above in the Property Tax Revenue Effects section, provides an understanding of the potential effects to school district funding resulting from property relocation. Displacement of residences, businesses, and agricultural lands would result in estimated annual losses of approximately $2 million in property tax revenue to the four counties in the region. This estimated amount represents approximately 0.4% of the total fiscal year 2009-2010 combined property tax revenue of the counties and cities in the study area. As stated above, this intensity is negligible under NEPA because the economic impact is measurable, but would not be perceptible to community residents.

As discussed in Section 3.11, Safety and Security, and Section 3.2, Transportation, road overcrossings installed along the HST track would also cross over the existing BNSF railroad, resulting in fewer at-grade railroad crossings in the study area. This reduced number of at-grade crossings would result in improved access times, as vehicles will not have to wait at train crossings. As discussed in Section 3.2, Transportation, existing roads would either remain unchanged where elevated track would cross them or would be modified into overcrossings where at-grade track would conflict with them. Road segments that would be permanently closed are typically short (less than 1 mile) and road crossings in rural areas would occur approximately every 2 miles. Therefore, any changes to access to schools would be of negligible intensity under

NEPA. There is therefore no potential for community division of school districts. A detailed analysis of potential impacts to community character and division is presented above in the Disruption or Division of Existing Communities section.

The potential loss of agricultural jobs as a result of project acquisition of agricultural lands is discussed in detail in the next section. Potential job loss in the agricultural sector is not expected to lead to large population reductions that would reduce school district attendance in the region. Therefore the loss of agricultural jobs on school district funding would be of negligible intensity under NEPA.

Impact SO #15 – Economic Effects on Agriculture

Given that the Central Valley of California is one of the most productive agricultural areas in the world, it is important to understand the potential effects of the project on the region's agricultural production and movement of goods. The project would acquire agricultural land, thus removing it from production (see Section 3.14, Agricultural Lands, for a detailed description of these lands). Although a large percentage of this production would relocate, some of it could not be easily replaced given the limited availability of suitable replacement lands (e.g., limitations on prime farmland and new locations for animal operations). In addition, reduced agricultural production would have an additional multiplier effect on the region's economy and could adversely affect associated businesses involved in related sectors such as agricultural services, food processing, and the transportation of goods.

The details of this analysis and the complete results by county and by agricultural production category can be found in the *Fresno to Bakersfield Section: Community Impact Assessment Technical Report* (Authority and FRA 2012a).

Agriculture Revenue and Employment Effects. The project would acquire agricultural land, and some agricultural production would therefore be lost. (See Section 3.14, Agricultural Lands, for details on the acres of agricultural land to be acquired.) Compensation for any lost production would be incorporated into property values and compensation paid to owners during the land acquisition process. This includes any value of existing assets (such as orchards) that have a future value for production. However, it is important to note that there is likely to be production that could not easily be relocated after compensation. Moreover, some relocated agricultural production would take time to re-establish itself and return to full production levels. Important examples of this type of production are relocated vine and tree crops that will take time to mature. In addition, the relocation of wastewater application lands, a waste treatment pond or onsite housing facility could require undergoing a time-consuming process to obtain a new air quality or water quality permit to replace the lost facility. Also, any full acquisition of an animal operation, where the project is passing through the heart of associated facilities, would require the entire operation to relocate, a difficult and time-consuming process given current and projected future environmental regulations. Therefore, given the time likely required to relocate affected crop and animal operations, some short-term reduction in agricultural production can be expected.

BNSF Alternative

The estimated total reduction in agricultural production along the BNSF Alternative represents a small amount of the total annual revenue generated by agricultural production in each of the four counties. Specifically, the estimated total annual reduction in revenues is approximately $23.1 million for the region as a whole, which represents less than 0.2% of the region's estimated $16 billion annual agricultural production. The associated reduction in agricultural employment in the four-county region would be about 300 employees. The effects would be highest in Kern County (with $9.4 million in reduced annual revenues and around 140 employees affected) and Kings

County ($5.9 million in reduced annual revenues and around 70 employees affected). About half of the effect in Kings County ($2.9 million) occurs in the dairy sector (see details below). The estimated annual revenue reductions for Fresno and Tulare counties are $4.3 million and $3.4 million, with about 75 and 20 employees affected, respectively.

Effects on dairy operations are a special consideration in Kings County. Overall, it is not expected that the construction of the BNSF Alternative would result in the need to entirely relocate any dairy operations. Along the BNSF Alternative in Kings County, there are three dairy facilities and one feedlot facility where portions of cattle-holding areas and retention basins as well as associated structures would be affected. However, it is expected that these structures and facilities could be relocated on the existing parcel and therefore construction of the BNSF Alternative would not preclude continued operation in the same location. This does not include relocation of croplands for nutrient distribution, which are examined separately, below. In these cases, the Authority's right-of-way agents would work with each affected operation to address issues of concern. Agents would attempt to resolve conflicts, for example, by reconfiguring facilities so that there is no net loss of operational capacity. The agents may not be able to resolve all issues, and may offer compensation to landowners who demonstrate a hardship from loss of facilities.

Additionally, when the BNSF Alternative removes a portion of a dairy site or would otherwise be close to confined animal facilities, the HST operation might cause noise that would disturb livestock. Based on existing research, the FRA has established a threshold for HST noise effects on livestock of 100 dBA SEL (FRA 2005). As discussed in Section 3.4, Noise and Vibration, the term SEL, or the sound exposure level, represents the noise generated during a single event such as the train passing a given point. At a distance of 100 feet, the SEL for project operations at all dairies along the alignment in Kings County would be less than 100 dBA SEL. Facilities on operations not located at least 100 feet from the project would experience moderate noise and vibration effects. (See Appendix B of Section 3.14, Agricultural Lands, for details on these effects to animal operations.)

The BNSF Alternative alignment would need to acquire 22 acres of land in Kings County at animal operation sites and 337 acres of cropland that are used for nutrient distribution, including lands associated with animal operations that are not directly impacted by the project.[25] This land is important because animal operations face restrictions on the amount of manure that can be spread per acre of farmland. Some operations may have enough of their own land to manage all of their manure onsite, while others must sell manure off site to comply with regulations. Therefore, acquiring these acres could force operations to alter current manure management practices and require them to find replacement locations for nutrient distribution. If such replacement lands are not available immediately or if it is not economically feasible for smaller operations to adjust, operations would be required to reduce the number of cows housed at the facility. To be conservative and not underestimate any potential effect resulting from this loss of land, it was assumed that animal operations would need to reduce their production in the short term until they found replacement lands for all of the 359 acres acquired by the project. As a result, this short-term effect on the Kings County dairy sector is estimated at around $14.3 million, which represents approximately 2.1% of the total county revenue generated annually in the dairy sector.

The value of reduced agricultural production for all counties is a very small percentage of total county production (less than 1% for each county). Property owners would be compensated for this lost production through the land valuation and acquisition process. Even so, there would be the potential for temporary disruption to agricultural operations as production is reallocated

[25] Nutrient distribution is the application of manure from animal operations to cropland in order to safely dispose of the waste and also improve soil productivity.

between owners and as facilities are relocated. Related economic sectors, such as processing facilities and transportation companies, could also experience some short-term multiplier effects from reduced agricultural production. The Bureau of Economic Analysis estimates that this additional multiplier indirect and induced effect to related sectors would be about equal to the direct loss in revenue in agriculture, thus resulting in a total direct plus indirect and induced multiplier effect of approximately $69 million annually across the four-county region (Bureau of Economic Analysis 2010).[26] Overall, the intensity of the effect of the BNSF Alternative on agricultural business operations would be moderate in the short term during the initial period when operations and manure management lands are adjusting, and would be negligible in intensity over the long term under NEPA.

Table 3.12-15 provides total economic effects on agriculture for the BNSF Alternative and the changes for all other alternative alignments relative to the BNSF Alternative.

Table 3.12-15
Effects of the Proposed Alignment Alternatives on Agricultural Revenues and Employment

Alternative	Revenue Reduction ($ million)	Associated Employment (jobs)
BNSF Alternative	$34.5	350
Change Relative to the BNSF Alternative		
Hanford West Bypass 1	-$9.6	-65
Hanford West Bypass 1 Modified	-$9.3	-62
Hanford West Bypass 2	-$10.8	-71
Hanford West Bypass 2 Modified	-$10.1	-64
Corcoran Elevated	-$0.2	-2
Corcoran Bypass	+$0.3	+3
Allensworth Bypass	-$1.0	-12
Wasco-Shafter Bypass	+$0.3	+16
Bakersfield South	NA	NA
Bakersfield Hybrid	NA	NA

NA = not applicable as there is little agricultural production along the Bakersfield South and Bakersfield Hybrid Alternatives as these are primarily in the urban area of Bakersfield.

Hanford West Bypass 1 Alternative

The estimated reductions in agricultural revenue and employment are $8.6 million and around 77 employees for the two counties of Fresno and Kings. Kings County would experience the majority of this impact ($7.3 million and 59 employees), with the remaining reductions in Fresno County ($1.2 million and 18 employees). Overall, these estimated dollar value reductions for the Hanford West Bypass 1 Alternative represent 0.15% of total agricultural production in both counties. These reductions are less than the $18.8 million in reductions associated with the corresponding portion of the BNSF Alternative. One dairy facility along the Hanford West Bypass 1 Alternative would be severely affected by the project. During the right-of-way acquisition process, engineering solutions may be identified that make it possible for continued operation. However, this is a speculative outcome, and at this time it is assumed that the severity of the effect likely

[26] Indirect effects occur for existing firms in the area, such as equipment suppliers, packing companies, transportation firms, etc., which may supply goods and services to agricultural producers. Induced effects occur for businesses, such as retail stores, gas stations, banks, restaurants, and service companies, which may supply goods and services to these workers and their families.

precludes the dairy from continuing operation at this location. Similar to the BNSF Alternative, the effect on agricultural business operations associated with the Hanford West Bypass 1 Alternative would be of moderate intensity in the short term and negligible in the long term under NEPA.

Hanford West Bypass 1 Modified Alternative

For the Hanford West Bypass 1 Modified Alternative, the estimated reductions in agricultural revenue and employment are $8.9 million and around 80 employees for the two counties of Fresno and Kings. Kings County would experience the majority of this impact ($7.7 million and 62 employees), with the remaining reductions in Fresno County ($1.2 million and 18 employees). Overall, these estimated dollar-value reductions for the Hanford West Bypass 1 Alternative represent 0.16% of total agricultural production in both counties. These reductions are less than the $18.8 million in reductions associated with the corresponding portion of the BNSF Alternative. Two dairy facilities along the Hanford West Bypass 1 Modified Alternative would be severely affected by the project. During the right-of-way acquisition process, engineering solutions may be identified that make it possible for continued operation. However, this is a speculative outcome, and at this time it is assumed that the severity of the effect likely precludes the dairy from continuing operation at this location. Similar to the BNSF Alternative, the effect on agricultural business operations associated with the Hanford West Bypass 1 Modified Alternative would be of moderate intensity in the short term and negligible in the long term under NEPA.

Hanford West Bypass 2 Alternative

For the Hanford West Bypass 2 Alternative, the estimated reductions in agricultural revenue and employment are $7.4 million and about 71 employees for the two counties of Fresno and Kings. Kings County would experience the majority of this impact ($6.2 million and 53 employees), with the remaining reductions in Fresno County ($1.2 million and 18 employees). Overall, these estimated dollar-value reductions for the Hanford West Bypass 2 Alternative represent 0.13% of total agricultural production in both counties. These reductions are less than the $18.8 million in reductions associated with the corresponding portion of the BNSF Alternative. No dairy facilities would be severely affected by the Hanford West Bypass 2 Alternative, and similar to the BNSF Alternative, the effect on agricultural business operations would be of moderate intensity in the short term and negligible in the long term under NEPA.

Hanford West Bypass 2 Modified Alternative

For the Hanford West Bypass 2 Modified Alternative, the estimated reductions in agricultural revenue and employment are $8.1 million and about 78 employees for the two counties of Fresno and Kings. Kings County would experience the majority of this impact ($6.9 million and 60 employees), with the remaining reductions in Fresno County ($1.2 million and 18 employees). Overall, these estimated dollar-value reductions for the Hanford West Bypass 2 Modified Alternative represent 0.14% of total agricultural production in both counties. These reductions are less than the $18.8 million in reductions associated with the corresponding portion of the BNSF Alternative. No dairy facilities would be severely affected by the Hanford West Bypass 2 Alternative, and similar to the BNSF Alternative, the effect on agricultural business operations would be of moderate intensity in the short term and negligible in the long term under NEPA.

Corcoran Elevated Alternative

The estimated reductions in agricultural production value and employment for the Corcoran Elevated Alternative would be $2.9 million and around 16 employees for the two counties of Kings and Tulare. Tulare County would experience the majority of these impacts ($2 million and 10 employees), with the remaining reductions in Kings County ($954,000 and 6 employees). Overall, these estimated dollar-value reductions for the Corcoran Elevated Alternative represent around 0.04% of total agricultural production in both counties. These reductions are less than

the $3.1 million in reductions associated with the corresponding portion of the BNSF Alternative. Similar to the BNSF Alternative, the effect on agricultural business operations associated with the Corcoran Elevated Alternative would be of moderate intensity in the short term and negligible in the long term under NEPA.

Corcoran Bypass Alternative

The estimated reductions in agricultural production value and employment for the Corcoran Bypass Alternative would be $3.4 million and 21 employees for the two counties of Kings and Tulare. Tulare County would experience the majority of these impacts ($2 million and 10 employees), with the remaining reductions in Kings County ($1.4 million and 11 employees). Overall, these estimated dollar-value reductions for the Corcoran Bypass Alternative represent around 0.05% of the total agricultural production in both counties. These reductions are greater than the $3.1 million in reductions associated with the corresponding portion of the BNSF Alternative. Similar to the BNSF Alternative, the effect on agricultural business operations associated with the Corcoran Bypass Alternative would be of moderate intensity in the short term and negligible in the long term under NEPA.

Allensworth Bypass Alternative

The estimated reductions in agricultural production value and employment for the Allensworth Bypass Alternative would be $1.5 million and 15 employees for the two counties of Kern and Tulare. Kern County would experience most of these impacts ($987,000 and 12 employees), with the remaining reductions in Tulare County ($481,000 and 3 employees). Overall, these estimated dollar-value reductions for the Allensworth Bypass Alternative represent 0.02% of total agricultural production in both counties. These reductions are less than the $2.5 million in reductions associated with the corresponding portion of the BNSF Alternative. Similar to the BNSF Alternative, the effect on agricultural business operations associated with the Allensworth Bypass Alternative would be of moderate intensity in the short term and negligible in the long term under NEPA.

Wasco-Shafter Bypass Alternative

The estimated reductions in agricultural production and employment for the Wasco-Shafter Bypass Alternative would be $7.7 million and 129 employees for Kern County. These reductions are the equivalent of about 0.2% of Kern County's estimated $4 billion in total agricultural production. These reductions are greater than the $7.4 million in reductions associated with the corresponding portion of the BNSF Alternative. Similar to the BNSF Alternative, the effect on agricultural business operations associated with the Wasco-Shafter Bypass Alternative would be of moderate intensity in the short term and negligible in the long term under NEPA.

For the Bakersfield South and Bakersfield Hybrid alternative alignments, a dollar value for reduced agricultural production was not calculated because no acres of land along this alternative are involved in intensive agricultural production. There would be no impact for these alternatives.

Several potential alternative sites have been identified for the HMF, one of which is the Kings County–Hanford HMF Site. Acquisition of nutrient distribution lands for the Kings County HMF site represents a reduction in annual agricultural revenue of $11.7 million, which is 1.1% of all dairy production in Kings County. Similar to the BNSF Alternative, the effect on agricultural business operations associated with the Kings County HMF site would be of moderate intensity in the short term under NEPA and negligible in the long term as new replacement lands are permitted for manure management purposes. The other potential HMF alternative sites would not affect Kings County nutrient distribution lands.

Agricultural Access and Project Road Closures

Agriculture is central to the economy of the region and as a consequence, permanent road closures resulting from the project were examined to identify potential effects on regional access for agricultural operations. These effects from restriction in regional access include increased costs to operations and increased difficulties in moving workers and equipment to cultivate and harvest fields and in delivering products to processing facilities and markets. It is beyond the scope of this effort to determine these potential impacts at the level of the individual operation (i.e., for each farm or ranch operation). The split parcels that result from the alternative alignments will affect access across fields for some individual operations more than others. This cost to individual producers and the impact of the split parcels on operation feasibility and value will be considered case by case during the property acquisition portion of the project. This analysis focuses on identifying any areas where significant stretches of the project are projected to result in road closures that would limit access from one side of the project to the other for the sector as a whole.

For the BNSF Alternative, the road closures associated with the project are dispersed and detours to alternative routes are approximately 2 miles or less, so regional access for agricultural operations (e.g., moving workers and equipment to cultivate and harvest fields and delivering products to processing operations and markets) is not expected to be restricted. Therefore, intensity would be negligible under NEPA.

For the alternative alignments, the roads closures resulting from the alternative alignments are similar. All are dispersed and detours to alternative routes are approximately 2 miles or less. Therefore, the effect on agricultural access and road closures would be of negligible intensity under NEPA.

For the station alternatives, no major road closures are associated with any of the station alternatives. Therefore, the effect on agricultural access and road closures would be of negligible intensity under NEPA.

For the HMF alternative locations, no major road closures are associated with any of the alternative HMF sites. Therefore, the effect on agricultural access and road closures would be of negligible intensity under NEPA. If the HMF is not sited in the Fresno to Bakersfield Section of the HST System, then the co-located maintenance-of-way facility would be situated in either the Kern Council of Governments–Shafter East or Kern Council of Governments–Shafter West HMF site alternatives. This maintenance-of-way facility would have the same potential effects as those identified for the HMF site alternatives in these locations.

Impact SO #16 – Potential for Physical Deterioration

Although the project would cause the displacement of specific homes, businesses, and/or community facilities, no evidence was found that any of these displacements or the resulting social and economic consequences of the project alternatives would result in physical deterioration of communities. For the BNSF Alternative, special consideration is required in Corcoran to ensure that affected businesses have the opportunity to relocate locally, and in Bakersfield's Northeast district to ensure that businesses in the Mercado Latino Tianguis are able to continue to operate without considerable disruption while the market is either rebuilt or relocated. In the Fresno, Hanford, and Bakersfield areas, the new HST stations would provide community connectivity and be aesthetically compatible with their surroundings as a result of context sensitive design, and the new activity would stimulate development (San Joaquin Valley Regional Policy Council 2010). Context sensitive design will be applied to the stations as part of the Authority's Urban Design Guidelines (2011b). The presence of HST operations close to residential neighborhoods could affect community character and perceptions of quality of life in

small rural communities along the route. However, no economic consequences can be linked to these effects and the resulting potential for physical deterioration. A summary of project socioeconomic consequences in relation to the potential for physical deterioration is provided in the *Fresno to Bakersfield Section: Community Impact Assessment Technical Report* (Authority and FRA 2012a).

3.12.9 Environmental Consequences: Environmental Justice

Overview

The project study area contains many minority and low-income populations, as shown in Figures 3.12-4 to 3.12-7. Most minority and low-income populations are located in high population-density centers, such as Fresno and Bakersfield as well as the communities of Corcoran, Wasco, and Shafter. In general, disproportionately high and adverse effects on minority and low-income populations resulting from construction activities and project operation would be concentrated in urban areas, particularly in the city of Bakersfield. However, disproportionately high and adverse effects may also occur in the smaller rural communities between Fresno and Bakersfield, including the unincorporated community of Crome south of Shafter.

3.12.9.1 No Project Alternative

Environmental Justice Effects

Under the No Project Alternative, the HST System would not be constructed, but other planned transportation improvements would be made to rail, highway, airport, and transit systems, and commercial and residential development projects would occur. These projects would occur throughout the region, which has many minority and low-income populations. As a result, these planned projects may affect minority and/or low-income populations. It is assumed that project-specific environmental review and community outreach would address these potential adverse effects and propose feasible mitigation measures to avoid or substantially reduce potential impacts.

3.12.9.2 High-Speed Train Alternatives

Construction Period Impacts

Impact SO #17 – Environmental Justice Effects of Project Construction

This section evaluates and summarizes the impacts of construction activities on human health and environments to evaluate the potential for construction activities to result in disproportionately high and adverse effects on minority and low-income populations. This analysis adopts a conservative approach in order to identify the broadest possible range of potential impacts on minority and low-income populations. This was done by reviewing the construction impacts associated with the environmental elements addressed in the other sections of Chapter 3, Affected Environment, Environmental Consequences, and Mitigation Measures, in the Project EIR/EIS. Then, the impacts experienced by minority and low-income populations were compared to the non-minority and/or non-low-income population and the reference community, as detailed in Section 3.12.5, Methodology for Evaluating Impacts.

BNSF Alternative

The findings for the BNSF Alternative are provided in Table 3.12-16. The other alternative alignments (Hanford West Bypass 1, Hanford West Bypass 1 Modified, Hanford West Bypass 2, Hanford West Bypass 2 Modified, Corcoran Elevated, Corcoran Bypass, Allensworth Bypass, Wasco-Shafter Bypass, Bakersfield South, and Bakersfield Hybrid); the station alternatives

(Fresno Station, Kings/Tulare Regional Station–East, Kings/Tulare Regional Station–West, Bakersfield Station–North, Bakersfield Station–South, and Bakersfield Station-Hybrid); and the HMF site alternatives (Fresno Works–Fresno, Kings County–Hanford, Kern Council of Governments–Wasco, Kern Council of Governments–Shafter East, and Kern Council of Governments–Shafter West) are discussed in the text after the table and the impacts are compared with those in the corresponding portion of the BNSF Alternative.

Table 3.12-16
Environmental Justice Construction Impacts for the BNSF Alternative

Environmental Element	Impacts Summary	Environmental Justice Analysis
Transportation	Construction activities would result in additional traffic in the study area as a result of temporary road or lane modifications. However, temporary road closures and detours would not impact traffic circulation, create operational hazards, incompatible uses, or safety risks. Existing or planned *Safe Routes to Schools* would not be impacted by construction activities. The temporary increase in traffic would impact all communities in both urban and rural areas, including minority and low-income populations. Implementation of the project design features described in Section 3.2.6, including the development of a construction transportation plan (CTP) in coordination with the appropriate city and county engineering departments, would reduce the transportation impacts through the use of designated construction truck routes, by maintaining public transit, pedestrian and bicycle access and by maintaining traffic flow during construction in all communities (see Section 3.2 Transportation).	All populations in the study area would experience adverse traffic impacts as a result of project construction, including minority and low-income populations. Impacts experienced by minority and low-income populations would be the same as impacts experienced by the non-minority and/or non-low-income populations in the affected area and are not unique to minority and low-income populations when compared to the reference community. Therefore, these adverse impacts would not be borne primarily by minority and low-income populations and consequently, construction activities would not result in disproportionately high and adverse effects on minority and low-income populations. In addition, implementation of the CTP and all other project design features described in Section 3.2.6 will minimize all potential impacts, including those that would be experienced by minority and low-income populations, since the design features are applied equally throughout the project area during construction.

Table 3.12-16
Environmental Justice Construction Impacts for the BNSF Alternative

Environmental Element	Impacts Summary	Environmental Justice Analysis
Air Quality and Global Climate Change	Emissions associated with the concurrent construction of track, station, and maintenance facilities would exceed the San Joaquin Valley Air Pollution Control District (SJVAPCD) pollutant emissions thresholds for construction. The San Joaquin Valley Air Basin is not in attainment of federal and state air quality standards for ozone and $PM_{2.5}$ and not in attainment of state standards for PM_{10}. Without mitigation, construction emissions from the project would contribute to this regional air quality problem. As described in Section 3.3.6.3, project construction emissions would not cause state or federal ambient air quality standards to be exceeded locally and would not increase local health. Therefore, the project would not cause local air quality impacts to any population in the study area. Mitigation measures AQ-MM#1, AQ-MM#2, AQ-MM#4 and AQ-MM#5, include measures to reduce regional emissions through the use of clean construction equipment, engine emissions standards, and by purchasing offsets from the appropriate air districts. As a result, project construction would result in no net increase in regional pollutant concentrations.	Implementation of mitigation measures AQ-MM#1, AQ-MM#2, AQ-MM#4 and AQ-MM#5, will result in no net increase in regional pollutant concentrations. Therefore, project construction would not result in air quality impacts to any regional population. In addition, project construction emissions would not cause local air quality or health risk impacts to any population in the study area. Furthermore, the Authority will implement the appropriate Project Design Features to further reduce any potential air quality impacts during construction. Therefore, because the application of mitigation will ensure no net increase in regional emissions and because no communities will experience any localized adverse air quality or health impacts during construction, no communities within the study area, including low-income and minority populations, will experience disproportionately high or adverse impacts resulting from project construction.

Table 3.12-16
Environmental Justice Construction Impacts for the BNSF Alternative

Environmental Element	Impacts Summary	Environmental Justice Analysis
Noise and Vibration	Noise from construction activities would temporarily exceed noise standards along the entire project study area, and adversely affect sensitive receivers (e.g., residences, schools, hospitals, parks). Construction vibration only has the potential to result in damages to buildings within 50 feet of pile driving activities. The increase in noise and vibration would impact all communities near construction activities, including minority and low-income populations. Mitigation measures N&V-MM#1 and N&V-MM#2 include noise and vibration control measures such as installing temporary sound barriers, prohibiting nighttime construction, using sound-deadening materials and repairing damaged structures that would avoid or greatly reduce the impacts from construction activities (see Section 3.4 Noise and Vibration).	All populations in the study area would experience adverse noise and vibration impacts as a result of project construction, including minority and low-income populations. These impacts are the same as experienced by the non-minority and/or non-low-income populations in the affected area and are not unique to minority and low-income populations. Therefore, these adverse impacts would not be borne primarily by minority and low-income populations and consequently, construction activities would not result in disproportionately high and adverse effects on minority and low-income populations. In addition, mitigation measures N&V-MM#1 and N&V-MM#2 will minimize all potential impacts, including those that would be experienced by minority and low-income populations, since the mitigation measures are applied equally throughout the project area during construction.
EMF and EMI	There would be no adverse EMF/EMI construction impacts on communities because construction equipment would generate low EMF and EMI levels (see Section 3.5 EMI and EMF).	Because no adverse EMF/EMI impacts would occur during construction, no minority or low-income populations would be adversely impacted.
Public Utilities and Energy	There would be no adverse public utility and energy impacts because phasing of construction activities would avoid or minimize temporary interruptions of utility services (see Section 3.6 Public Utilities and Energy).	Because no adverse public utility and energy impacts would occur during construction, no minority or low-income populations would be adversely impacted.
Biological Resources and Wetlands	Construction activities would temporarily impact special status plants, wildlife, and habitats of concern, but would not result in adverse effects on human health or environments in any communities, including those with minority and low-income populations (see Section 3.7 Biological Resources and Wetlands).	While some adverse effects to biological resources and wetlands are likely to occur during project construction, the resources affected are not related to human health, specific areas or resources used by the general public, including minority or low-income populations. Therefore, these impacts would not result in adverse impacts to minority and low-income populations.

Table 3.12-16
Environmental Justice Construction Impacts for the BNSF Alternative

Environmental Element	Impacts Summary	Environmental Justice Analysis
Hydrology and Water Resources	Construction activities such as excavation and dewatering in work areas have the potential to degrade water quality. However, in accordance with SWRCB Construction General Permit (Order No. 2009-0009 DWQ, NPDES No. CAS000002), a SWPPP will be prepared and implemented for project construction which will provide BMPs to minimize potential short-term increases in sediment transport caused by construction, including erosion control requirements, stormwater management, and channel dewatering for affected stream crossings. These BMPs will include measures to provide permeable surfaces where feasible and to retain or detain and treat stormwater onsite. Other BMPs include strategies to manage the overall amount and quality of stormwater runoff. The SWPPP will be implemented uniformly throughout the project alignment and will effectively reduce the potential adverse impacts to water resources to all communities during construction.	All populations in the study area could be exposed to adverse impacts on water quality as a result of project construction, including minority and low-income populations. However, the Project Design Features, including the implementation of a SWPPP will minimize the potential for degradation of water quality during project construction. Best management practices called for in the SWPPP will be implemented uniformly at all construction locations and will effectively reduce the potential impacts. Therefore, as a result all of the impacts (as well as the associated avoidance of such impacts from Project Design Features) would be the same as experienced by the non-minority and/or non-low-income populations in the study area and are not unique to minority and low-income populations. Consequently, construction activities would not result in disproportionately high and adverse effects on minority and low-income populations.
Geology, Soils, and Seismicity	Construction activities could deposit unstable soils and contribute to soil erosion, but would not result in adverse effects on human health or environments in any communities, including those with minority and low-income populations (see Section 3.9 Geology, Soils and Seismicity).	No minority or low-income populations would be adversely impacted by construction activities related to geology, soils, and seismicity.

Table 3.12-16
Environmental Justice Construction Impacts for the BNSF Alternative

Environmental Element	Impacts Summary	Environmental Justice Analysis
Hazardous Materials and Wastes	Construction activities would be similar along the entire project area and would involve transporting, using, and disposing of hazardous materials and wastes and have the potential to result in accidental spills or releases and result in temporary hazards at all locations near construction activities, including at schools. The segment of the alignment with the highest risk for existing hazardous waste sites is Fresno. These sites are located in an industrial area separated from any residential population, including minority and low-income residential populations. The next most likely location for existing hazardous waste sites is along the alignment through downtown Wasco and Shafter. Low-income and minority populations are located adjacent to the alignment in both these communities. Construction staging areas would have the highest concentrations of hazardous materials used for the project and therefore the greatest risk for accidental spills. Construction staging areas are distributed roughly equally throughout the alignment primarily in agricultural areas and vacant or underutilized lands in urban areas and are not specifically located in minority and low-income communities. Schools are particularly sensitive locations for the accidental release of hazardous materials due to the potential impacts on children's health and safety. Schools within 0.25 mile of construction activities that could be at risk for hazardous waste spills are located in Fresno, Corcoran, Wasco, Shafter, and Bakersfield and are listed in Table 3.10-5. These schools are distributed among low-income and minority populations as well as among non-minority and/or non-low-income populations. Adherence to the federal, state, and local regulations will minimize the risk of a spill or accidental release of hazardous materials; see Section 3.10.6, Project Design Features. Mitigation measure HMW-MM#1 would avoid the potential for hazards at schools because it would not allow the use of extremely hazardous substances in quantities exceeding state thresholds within 0.25 mile of a school (see Section 3.10 Hazardous Materials and Wastes).	The highest risk for the accidental release of hazardous wastes is in a non-residential area of the city of Fresno. Such an accidental release would not disproportionately impact low-income or minority populations in the city. The second highest risk for the accidental release of hazardous wastes is in the cities of Wasco and Shafter. Such an accident could disproportionately affect the low-income and minority populations of these cities. However, remediation of hazardous waste sites in accordance with federal, station, and local regulations would be applied equally throughout the alignment prior to initiating project construction and would reduce the potential risk for such an accident to a very low level in all communities along the alignment. Because construction staging areas would be distributed roughly equally throughout the alignment, accidental spills of hazardous materials during construction would not occur disproportionately in low-income and/or minority communities. The potential hazards to schools would occur in urban areas with minority and low-income populations along the project study area, including Fresno, Corcoran, Wasco, Shafter, and Bakersfield, as shown in Figures 3.12-4 through 7. These schools are located in both low-income and minority communities and non-low-income and non-minority communities in these cities. The application of mitigation measure HMW-MM#1 will reduce the risk of a hazardous materials spill near any of these schools. Therefore the impacts experienced by minority and low-income populations would be the same as experienced by the rest of the population within the reference community. Consequently, construction activities would not result in disproportionately high and adverse effects.

Table 3.12-16
Environmental Justice Construction Impacts for the BNSF Alternative

Environmental Element	Impacts Summary	Environmental Justice Analysis
Safety and Security	As discussed in Section 3.2 Transportation, construction activities would result in temporary road closures and rerouting that could pose safety risks to communities. At these sites, lane closures and detours could potentially create a distraction to automobile drivers, pedestrians, and cyclists. Distraction and unfamiliarity with detours could lead to accidents. In addition, the road closures, detours, and localized automobile congestion could increase the response time for law enforcement, fire, and emergency services personnel and school buses. The temporary increase in traffic would impact all communities in both urban and rural areas, including minority and low-income populations. Project design features include the development of a detailed construction transportation plan (CTP), as discussed in the sections 3.2.6 and 3.11.6., which would establish procedures for temporary road closures and require coordination with local jurisdictions on emergency vehicle access (see Section 3.11 Safety and Security).	All populations in the study area would experience adverse safety impacts as a result of project construction, including minority and low-income populations. These impacts would not be experienced uniquely by minority and low-income populations. Therefore, these adverse impacts would not be borne primarily by minority and low-income populations and consequently, construction activities would not result in disproportionately high and adverse effects on minority and low-income populations. These impacts will be mitigated through the development of a construction transportation plan (CTP), as described in 3.2.6. Implementation of the CTP will reduce the impact throughout the affected area and eliminate the adverse effect and consequently, construction activities would not result in disproportionately high and adverse effects on minority and low-income populations.

Table 3.12-16
Environmental Justice Construction Impacts for the BNSF Alternative

Environmental Element	Impacts Summary	Environmental Justice Analysis
Socioeconomics and Communities	Construction activities could impact community cohesion by affecting important facilities providing services and altering social interactions through temporary increases in noise, visual changes and road closures. Because property acquisition of homes and businesses would involve permanent changes to communities, they are addressed below under project operation in Table 3.12-17. Construction activities would be disruptive to all communities near construction areas, including minority and low-income populations. With the project design features and mitigation measures proposed for transportation, noise and vibration, and visual effects, construction activity impacts on community cohesion would be minimized (see sections 3.2 Transportation, 3.4 Noise and Vibration and 3.16 Aesthetics and Visual Resources).	All minority and low-income populations in the study area would experience adverse community cohesion impacts as a result of project construction. In most cases, these impacts would also be experienced by the non-minority and/or non-low-income populations in the affected area. However, access to important community facilities, such as the Fresno Rescue Mission and the Mercado Latino Tianguis, which are used primarily by low-income and minority populations and could be modified temporarily during construction and inconvenience patrons in Fresno and Bakersfield. In addition, Bakersfield High School could be impacted, which is a facility used by the community as a whole, including minority and low-income populations. However, the application of project design features and mitigation measures to address transportation, noise and vibration and visual effects, including TR-MM#1, which would provide alternate access for properties impacted by road closures, will reduce the impact throughout the affected area and eliminate the adverse effect. Through the implantation of these project design features and mitigation measures, the impacts to important community facilities serving low-income and minority populations would be greatly reduced to a level similar to impacts experienced by the reference community as a whole. Consequently, construction activities would not result in disproportionately high and adverse effects on minority and low-income populations.
Station Planning, Land Use, and Development	There would be no adverse land use impacts because lands used for temporary construction would be acquired from willing landowners and restored to their previous condition at the end of the construction period and this would not change the long-term pattern or intensity of land use or cause incompatibility with adjacent land uses (see Section 3.13 Station Planning, Land Use, and Development).	Because no adverse land use impacts would occur during construction, no minority or low-income populations would be adversely impacted.
Agricultural Lands	Construction activities would require the temporary use of agricultural land, but would not result in adverse effects on human health or environments in any communities, including those with minority and low-income populations (see Section 3.14 Agricultural Lands).	No minority or low-income populations would be adversely impacted by construction activities related to agricultural lands.

Table 3.12-16
Environmental Justice Construction Impacts for the BNSF Alternative

Environmental Element	Impacts Summary	Environmental Justice Analysis
Parks, Recreation, and Open Space	Construction activities would result in temporary closures, access restrictions, noise, and visual impacts at parks and school district play areas near construction areas, including in communities with minority and low-income populations. The greatest effects would be experienced at Father Wyatt Park in Corcoran, and Kern River Parkway, McMurtrey Aquatic Center, Mill Creek Linear Park, the Amtrak Station playground, and Bakersfield High School recreation facilities in Bakersfield. Construction activities that result in increases in noise and vibration and visual disturbances would be reduced through mitigation measures described in Section 3.2, Transportation and Section 3.16, Aesthetics and Visual Resources. Mitigation measure PK-MM#1 would reduce the impact of partial park closures by providing alternative access that allows for continued use of the impacted parks (see Section 3.15 Parks, Recreation, and Open Space).	Impacts on parks and school district play areas would be distributed along the entire study area, and would be experienced by all park visitors, including the non-minority and/or non-low-income populations as well as the minority and low-income populations. However, the greatest impacts to parks and play areas would occur in urban areas with minority and low-income populations along the project study area, including Corcoran and Bakersfield, as shown in Figures 3.12-4 through 7. The application of mitigation measures to address noise and vibration and visual disturbances as well as PK-MM#1, will reduce the impact and eliminate the adverse effect. After the implementation of mitigation measures, all community members including minority and low-income populations will continue to have access to parks and recreation areas during construction and their use will not be substantially impaired by construction activities. Consequently, construction activities would not result in disproportionately high and adverse effects on minority and low-income populations.
Aesthetics and Visual Resources	Construction activities would reduce the visual quality of scenic vistas and existing landscapes, and introduce new sources of light and glare. The visual impacts would impact all communities in both urban and rural areas, including minority and low-income populations. Mitigation measures AVR-MM#1a and AVR-MM#1b would reduce the visual disruption from construction activities by preserving vegetation and using temporary fencing and walls to screen views (see 3.16 Aesthetics and Visual Resources).	All populations in the study area would experience adverse visual resource impacts as a result of project construction, including minority and low-income populations. These impacts are the same as experienced by the non-minority and/or non-low-income populations in the affected area and are not unique to minority and low-income populations. Therefore, these adverse impacts would not be borne primarily by minority and low-income populations and consequently, construction activities would not result in disproportionately high and adverse effects on minority and low-income populations. In addition, mitigation measures AVR-MM#1a and AVR-MM#1b will minimize all potential impacts, including those that would be experienced by minority and low-income populations, since the mitigation measures are applied equally throughout the project area during construction.

Table 3.12-16
Environmental Justice Construction Impacts for the BNSF Alternative

Environmental Element	Impacts Summary	Environmental Justice Analysis
Cultural and Paleontological Resources	Construction activities would result in noise and vibration and visual impacts to structures that have been determined to be eligible for the National Historic Preservation Act (NHPA). Historic architectural resources would be impacted in all communities near construction areas, including minority and low-income populations. Mitigation measures Cul-MM#6, Cul-MM#7, Cul-MM#8, Cul-MM#10, Cul-MM#11, Cul-MM#12, Cul-MM#13, Cul-MM#14, and Cul-MM#15would reduce the noise and vibration and visual effects, as well as inventory and monitor historic architectural resources (see Section 3.17 Cultural and Paleontological Resources).	Impacts on historical architectural structures would be distributed along the entire study area and mitigation measures would be applied as described in Cul-MM#6, Cul-MM#7, Cul-MM#8, Cul-MM#10, Cul-MM#11, Cul-MM#12, Cul-MM#13, Cul-MM#14, and Cul-MM#15. However, no aspects of the cultural environment, other than the structures that were determined to be eligible for the NHPA, or historical properties, were identified as being affected by construction activities. That is, the adverse effects to historical properties, as discussed in Section 3.17 Cultural and Paleontological Resources, pertain solely to the structure itself, and not to the cultural environment. Consequently, these impacts would not result in adverse impacts to minority and low-income populations.
Cumulative Impacts	Construction activities would result in adverse cumulative impacts along the entire project area. The cumulative impacts would impact all communities near construction areas, including minority and low-income populations. Mitigation measures CUM-N&V-MM#1, CUM-SO-MM#1, CUM-SO-MM#2, and CUM-VQ-MM#1, would reduce the noise and vibration, community and visual impacts by consulting with local government agencies to design and plan construction activities to minimize disruption from concurrently scheduled construction projects (see Section 3.19 Cumulative Impacts).	Cumulative noise and vibration, community and visual impacts would be distributed along the entire study area and mitigation measures would be applied as described in CUM-N&V-MM#1, CUM-SO-MM#1, CUM-SO-MM#2, and CUM-VQ-MM#1. However, the mitigation measures would not completely reduce the cumulative impacts in urban areas with minority and low-income populations, as shown in Figures 3.12-4 through 7, because construction of the HST would occur concurrently with several other projects in these areas. Because the mitigation measures do not eliminate the adverse impacts within urban areas and because the cumulative noise and vibration, community disruption, and visual impacts would be greater for minority and low-income populations in the urban areas of Fresno, Corcoran, Wasco, Shafter, and Bakersfield, when compared to the reference community, construction of the HST in conjunction with several other planned projects would have disproportionately high and adverse effects in these locations.

Acronyms and Abbreviations:
EJ = environmental justice
EMF/EMI = electromagnetic fields / electromagnetic interference

Hanford West Bypass Alternatives

Construction activities associated with the Hanford West Bypass 1 Alternative, Hanford West Bypass 1 Modified Alternative, Hanford West Bypass 2 Alternative, and Hanford West Bypass 2

Modified Alternative would have similar impacts on all communities along the bypass project area as the corresponding portion of the BNSF Alternative. The areas near construction activities along the Hanford West Bypass alternatives are sparsely populated, with few minority and low-income populations. All populations in the study area would experience adverse impacts, including traffic and visual impacts as a result of project construction, including minority and low-income populations. These impacts would not be experienced uniquely by minority and low-income populations and consequently, construction activities from the Hanford West Bypass alternatives would not result in disproportionately high and adverse effects on minority and low-income populations.

Corcoran Elevated Alternative

Construction activities associated with the Corcoran Elevated Alternative would have similar impacts on the communities in the Corcoran area as the corresponding portion of the BNSF Alternative, including minority and low-income populations. All populations in the study area would experience adverse impacts, including traffic and visual impacts as a result of project construction, including minority and low-income populations. These impacts would not be experienced uniquely by minority and low-income populations and consequently, construction activities from the Corcoran Elevated Alternative would not result in disproportionately high and adverse effects on minority and low-income populations.

Corcoran Bypass Alternative

Construction activities associated with the Corcoran Bypass Alternative would avoid the impacts on the more densely populated urban areas in Corcoran, but would have similarly adverse impacts on the small, unincorporated communities east of Corcoran in the vicinity of Newark Avenue and at the intersection of 5th Avenue and Waukena Avenue as the corresponding portion of the BNSF Alternative. All populations in the study area would experience adverse impacts, including traffic and visual impacts as a result of project construction, including minority and low-income populations. These impacts would not be experienced uniquely by minority and low-income populations and consequently, construction activities from the Corcoran Bypass Alternative would not result in disproportionately high and adverse effects on minority and low-income populations.

Allensworth Bypass Alternative

Construction activities associated with the Allensworth Bypass Alternative would have similar impacts on the communities in the bypass alternative study area as the corresponding portion of the BNSF Alternative, including minority and low-income populations. All populations in the study area would experience adverse impacts, including traffic and visual impacts as a result of project construction, including minority and low-income populations. These impacts would not be experienced uniquely by minority and low-income populations and consequently, construction activities from the Allensworth Bypass Alternative would not result in disproportionately high and adverse effects on minority and low-income populations.

Wasco-Shafter Bypass Alternative

Construction activities associated with the Wasco-Shafter Bypass Alternative would avoid the impacts on the more densely populated urban areas in the cities of Wasco and Shafter, but would have similarly adverse impacts on rural residences in unincorporated Kern County, including the community of Crome, as the corresponding portion of the BNSF Alternative. All populations in the study area would experience adverse impacts, including traffic and visual impacts as a result of project construction, including minority and low-income populations. These impacts would not be experienced uniquely by minority and low-income populations and consequently, construction

activities from the Wasco-Shafter Bypass Alternative would not result in disproportionately high and adverse effects on minority and low-income populations.

Bakersfield South Alternative

Construction activities associated with the Bakersfield South Alternative would have similar impacts on the communities in the bypass alternative study area as the corresponding portion of the BNSF Alternative, including minority and low-income populations. All populations in the study area would experience adverse impacts, including traffic and visual impacts as a result of project construction, including minority and low-income populations. These impacts would not be experienced uniquely by minority and low-income populations and consequently, construction activities from the Bakersfield South Alternative would not result in disproportionately high and adverse effects on minority and low-income populations.

Bakersfield Hybrid Alternative

Construction activities associated with the Bakersfield Hybrid Alternative would have similar impacts on the communities in the bypass alternative study area as the corresponding portion of the BNSF Alternative, including minority and low-income populations. All populations in the study area would experience adverse impacts, including traffic and visual impacts as a result of project construction, including minority and low-income populations. These impacts would not be experienced uniquely by minority and low-income populations and consequently, construction activities from the Bakersfield Hybrid Alternative would not result in disproportionately high and adverse effects on minority and low-income populations.

Station Alternatives

Construction activities at the alternative station sites (i.e., the Fresno Station, Kings/Tulare Regional Station–East, Kings/Tulare Regional Station–West [at-grade or below-grade], Bakersfield Station–North, Bakersfield Station–South, and Bakersfield Station-Hybrid) would be similar to the impacts on human health and environments resulting from the construction of the alternative alignments and non-station structures. All populations in the study area would experience adverse traffic, air quality, noise, water quality, hazardous materials, safety and security, community, parks, and visual impacts as a result of project construction, including minority and low-income populations. These impacts would not be experienced uniquely by minority and low-income populations. The communities around the Fresno and Bakersfield stations contain many minority and low-income populations, while the Kings/Tulare Regional station alternatives are not located in areas with minority and low-income populations. Therefore, the adverse impacts at the Fresno and Bakersfield stations would be borne primarily by minority and low-income populations. However, application of mitigation measures, as described above in Table 3.12-16, would achieve a reduction in impacts and eliminate the adverse impacts on all communities. Consequently, construction activities at the station alternatives would not result in disproportionately high and adverse effects on minority and low-income populations.

Heavy Maintenance Facility Site Alternatives

Construction activities at the alternative HMF sites (the Fresno Works–Fresno, Kings County–Hanford, Kern Council of Governments–Wasco, Kern Council of Governments–Shafter East, and Kern Council of Governments–Shafter West) would be similar to the impacts on human health and environments result from the construction of the alternative alignments and stations. If the HMF is not sited in the Fresno to Bakersfield Section of the HST System, then the co-located maintenance-of-way facility would be situated in either the Kern Council of Governments–Shafter East or Kern Council of Governments–Shafter West HMF sites. This maintenance-of-way facility would have the same potential effects as those identified for the HMF site alternatives in these locations. All populations in the study area would experience adverse air quality, water quality,

hazardous materials, safety and security, community, parks, and visual impacts as a result of project construction, including minority and low-income populations. These impacts would not be experienced uniquely by minority and low-income populations. The communities around the HMF sites in Fresno, Wasco, Shafter and Bakersfield contain many minority and low-income populations, while the HMF site in Hanford is not located in an area with minority and low-income populations. Therefore, the adverse impacts at the Fresno, Wasco, Shafter and Bakersfield HMF sites would be borne primarily by minority and low-income populations. However, application of mitigation measures, as described above in Table 3.12-16, would achieve a reduction in impacts and eliminate the adverse impacts on all communities. Consequently, construction activities at the station alternatives would not result in disproportionately high and adverse effects on minority and low-income populations.

Project Operation Impacts

Impact SO #18 – Environmental Justice Effects

This section evaluates and summarizes the impacts of project operation on human health and environments to evaluate the potential for the project to result in disproportionately high and adverse effects on minority and low-income populations. This analysis adopts a conservative approach in order to identify the broadest possible range of potential impacts to minority and low-income populations. This was done by reviewing the project operation impacts associated with the environmental elements addressed in the other sections of Chapter 3, Affected Environment, Environmental Consequences, and Mitigation Measures, in the Project EIR/EIS. Then, the impacts experienced by minority and low-income populations were compared to the non-minority and/or non-low-income population and reference community, as detailed in Section 3.12.5, Methodology for Evaluating Impacts.

BNSF Alternative

The findings of the EJ analysis for the BNSF Alternative are provided in Table 3.12-17. The other alternative alignments (Hanford West Bypass 1 and Hanford West Bypass 1 Modified, Hanford West Bypass 2 and Hanford West Bypass 2 Modified, Corcoran Elevated, Corcoran Bypass, Allensworth Bypass, Wasco-Shafter Bypass, Bakersfield South, and Bakersfield Hybrid), the station alternatives (Fresno Station, Kings/Tulare Regional Station–East, Kings/Tulare Regional Station–West [at-grade or below-grade], Bakersfield Station–South, Bakersfield Station–North, and Bakersfield Station-Hybrid), and the HMF site alternatives (Fresno Works–Fresno, Kings County–Hanford, Kern Council of Governments–Wasco, and Kern Council of Governments–Shafter North, and Kern Council of Governments–Shafter South) are discussed in the text after the table and the impacts are compared with those in the corresponding portion of the BNSF Alternative.

Table 3.12-17
Operation-Related Environmental Justice Impacts for the BNSF Alternative

Environmental Element	Impacts Summary	Environmental Justice Analysis
Transportation	The project would provide benefits to the regional transportation system by reducing vehicle trips on freeways by providing another mode of transportation for intercity passenger trips. All communities, including minority and low-income populations, would benefit from the reduction in roadway congestion and an increase in transportation options. Operation of the project would require the construction of roadway crossings and the permanent closure of some roads. The road closures have the potential to result in a loss of property access. The adverse impacts to roadways, intersections and property access would impact all communities near the project, including minority and low-income populations. Mitigation measures TR-MM #2, TR-MM #3, TR-MM#4, TR-MM#5, TR-MM#6, TR-MM#7, and TR-MM#8, would reduce the impacts on roadways and intersections by improving traffic signals and adding new lanes. Mitigation measure TR-MM#1 would reduce the potential impact from loss of property access as a result of road closures by providing alternate access via new or existing road connections or, where necessary, replacement of the property (see Section 3.2 Transportation). Project operation would increase the length of the peak morning and evening commute times in the vicinity of the Fresno and Bakersfield HST stations. This increase would affect all communities near the immediate downtown of Fresno and Bakersfield.	All populations in the study area would experience adverse transportation impacts as a result of project operation, including minority and low-income populations. Therefore, these adverse impacts would not be borne primarily by minority and low-income populations and consequently, project operation would not result in disproportionately high and adverse effects on minority and low-income populations. In addition, mitigation measures TR-MM#1, TR-MM #2, TR-MM #3, TR-MM#4, TR-MM#5, TR-MM#6, TR-MM#7, and TR-MM#8 will minimize all potential impacts, including those that would be experienced by minority and low-income populations, since the mitigation measures are applied equally throughout the project area.
Air Quality and Global Climate Change	At the regional level, operation of the project would result in lower pollutant emissions, reduce statewide greenhouse gas emissions by 2020 and would be a net benefit to regional air quality (see Section 3.3 Air Quality and Global Climate Change). This impact would benefit all communities in the region, including minority and low-income populations. As described in Section 3.3.6.3, operational-related emissions at and in the vicinity of stations and HMF sites will not result in local exceedance of ambient air quality standards and will not increase health risks to any of the nearby communities.	All communities would experience the regional air quality benefits, including minority and low-income populations. The benefits of the project are discussed further in the Environmental Justice Effects Conclusion, below. Because project operation would result in an overall beneficial impact to minority and low-income populations and would not result in localized air quality impacts, the impacts would not be disproportionately high and adverse impacts.

Table 3.12-17
Operation-Related Environmental Justice Impacts for the BNSF Alternative

Environmental Element	Impacts Summary	Environmental Justice Analysis
Noise and Vibration	Noise and vibration from the operation of the HST would exceed noise standards and affect sensitive receivers (e.g., residences, schools, hospitals, parks) along the entire project corridor due to an increase in ambient noise levels and excessive vibration for building occupants. The increase in noise and vibration would impact all communities near the project, including minority and low-income populations. Mitigation measures N&V-MM#3, N&V-MM#4, N&V-MM#5, N&V-MM#6,andN&V-MM#8 would reduce these impacts by constructing sound barriers, acquiring property easements, installing insulation, and rail grinding to provide a smooth running surface (see Section 3.4 Noise and Vibration).	Noise and vibration impacts would be distributed along the entire study area and mitigation measures would be applied, as appropriate, as described in N&V-MM#3, N&V-MM#4, N&V-MM#5, N&V-MM#6, and N&V-MM#8. However, the mitigation measures would not completely reduce the impacts in densely developed urban areas with high existing ambient noise levels. This includes the areas with minority and low-income populations. These minority and low-income populations are found in the urban areas along the project study area, including Corcoran, Wasco, Shafter, and Bakersfield, as shown in Figures 3.12-4 through 7. Because the mitigation measures do not eliminate the adverse impacts within the urban areas containing many minority and low-income populations, and because these urban areas are more likely to experience more severe adverse noise and vibration impacts resulting from project operation, operational noise and vibration would have disproportionately high and adverse effects on minority and low-income populations in these locations.
EMF and EMI	There would be no adverse EMF/EMI operation impacts on communities because EMF/EMI impacts on schools, hospitals, businesses, colleges and residences would be below industry standard limits and prevented by dedicated frequency blocks (see Section 3.5 EMI and EMF).	Because no adverse EMF/EMI impacts would occur during project operation, no minority or low-income populations would be adversely impacted.
Public Utilities and Energy	There would be no adverse public utilities and energy impacts associated with project operation because HST facilities would not permanently disrupt existing utility infrastructure or the services that the utility providers' customers rely on (see Section 3.6 Public Utilities and Energy).	Because no adverse public utility and energy impacts would occur during project operation, no minority or low-income populations would be adversely impacted.
Biological Resources and Wetlands	Operation of the project would affect special status plants, wildlife and habitats of concern, but would not result in adverse effects on human health or environments in any communities, including those with minority and low-income populations (see Section 3.7 Biological Resources and Wetlands).	While some adverse effects to biological resources and wetlands are likely to occur during project operation, the resources affected are not related to human health, specific areas or resources used by the general public, including minority or low-income populations. Therefore, these impacts would not result in adverse impacts to minority and low-income populations.

Table 3.12-17
Operation-Related Environmental Justice Impacts for the BNSF Alternative

Environmental Element	Impacts Summary	Environmental Justice Analysis
Hydrology and Water Resources	There would be no adverse water quality impacts associated with project operation on any communities because the regenerative braking technology of the HST would reduce the potential amount of metal particles deposited into the environment. In addition, any runoff from the right-of-way would be collected and treated, where required, prior to being discharged to a stormwater drainage system, as described in Section 3.8.6, Project Design Features (see Section 3.8 Hydrology and Water Resources). Additionally, existing municipal treatment systems would prevent any potential water pollutants from affecting the municipal water supplies in the region.	Because no adverse water quality impacts would occur in any communities during project operation, no minority or low-income populations would be adversely impacted.
Geology, Soils, and Seismicity	There would be no adverse geology, soils, and seismicity impacts associated with project operation on any communities because the exposure of people to the potential effects from seismically induced surface fault rupture would be avoided by repairs that would occur with routine maintenance of the HST and in the unlikely event that seismic activity results in catastrophic damage to dam structure, the HST could be evacuated prior to any potential flooding.	Because no adverse geology, soils, and seismicity impacts would occur in any communities during project operation, no minority or low-income populations would be adversely impacted.

Table 3.12-17
Operation-Related Environmental Justice Impacts for the BNSF Alternative

Environmental Element	Impacts Summary	Environmental Justice Analysis
Hazardous Materials and Wastes	Operation of the HST would involve transporting, using, and disposing of minor amounts of hazardous materials and wastes for routine maintenance. The potential for accidental spills or releases would impact all communities near the project, including minority and low-income populations. Adherence to the federal, state, and local regulations, as described in 3.10.6, Project Design Features, will minimize the risk of a spill or accidental release of hazardous materials (see Section 3.10 Hazardous Materials and Wastes).	All populations in the study area could be exposed to the potential for adverse impacts as a result of project operation that would result if there was an accidental spill or release of hazardous materials and wastes, including minority and low-income populations. However, the extent of the impact would be determined by the location of the spill or release. The risk of such spill or release and therefore the potential impacts are the same as experienced by the non-minority and/or non-low-income populations in the study area and are not unique to minority and low-income populations. Therefore, these adverse impacts would not be borne primarily by minority and low-income populations and consequently, project operation would not result in disproportionately high and adverse effects on minority and low-income populations. In addition, the project design features described in 3.10.6 will minimize all potential impacts, including those that would be experienced by minority and low-income populations, since adherence to federal, state and local regulations will occur throughout the project area.

Table 3.12-17
Operation-Related Environmental Justice Impacts for the BNSF Alternative

Environmental Element	Impacts Summary	Environmental Justice Analysis
Safety and Security	Operation of the HST would provide a safety benefit because the system would use contemporary safety and signaling and be fully grade-separated to prevent conflicts with vehicles, pedestrians, and bicyclists. This impact would benefit all communities in the region, including minority and low-income populations. Nonetheless, project operation could impact the health and safety of populations near the right-of-way due to the possibility of train accidents. Emergency response times by law enforcement, fire, and emergency services personnel could be impacted as a result of permanent road closures or the need to access elevated HST track portions in the case of an accident. The system safety and security measures described in 3.11.6, Project Design Features, will minimize safety and security risks by design features that would contain train sets within the operational corridor if a derailment were to occur, procedures to protect passenger and employee health, safety features to facilitate safe evacuations on elevated tracks, and coordination with emergency responders to incorporate roadway modifications that maintain existing traffic patterns and fulfill response route needs (see Section 3.11 Safety and Security).	All populations in the study area could be exposed to adverse safety and security impacts as a result of project operation, including minority and low-income populations. In addition, the entire study area would experience the safety benefits from the grade separated system. Neither the adverse impacts nor project benefits are unique to minority and low-income populations but would be experienced by the community as a whole. Therefore, these adverse impacts would not be borne primarily by minority and low-income populations and consequently, project operation would not result in disproportionately high and adverse effects on minority and low-income populations. In addition, the project design features described in 3.11.6 will minimize all potential impacts, including those that would be experienced by minority and low-income populations, since the system safety and security measures will be applied throughout the project area.

Table 3.12-17
Operation-Related Environmental Justice Impacts for the BNSF Alternative

Environmental Element	Impacts Summary	Environmental Justice Analysis
Socioeconomics and Communities	Project operation would result in the division of some communities, remove numerous homes, businesses, and community services or amenities. Operation might also cause some physical deterioration in communities near the project, including minority and low-income populations. With respect to displacements, in total the BNSF Alternative would displace about 460 residential units throughout the project area, and the greatest concentration of the displacements would occur in Bakersfield (approximately 309 residential units). Of these, 123 would occur in the Northeast district and 71 (70 units at the CityPlace affordable housing apartment complex) would occur in the Central district, both of which contain high-density minority and low-income populations. The other locations in the project area that would experience greater numbers of displacements are Corcoran (27 units), unincorporated areas in Fresno, Kings and Kern counties (56, 32, and 22 units, respectively). Throughout the unincorporated areas outside of cities, there are scattered communities with low-density populations. Of these low-density populations, Malaga, Bowles, Monmouth, Blanco, Allensworth, Pond, North Shafter Labor Camp, Myrick's Corner, and Crome contain minority and low-income populations. Only one of these unincorporated communities containing minority and low-income populations would experience residential displacements as a result of the BNSF Alternative: Crome (10 units). The cities of Fresno, Wasco, and Shafter contain minority and low-income populations and would experience relatively fewer displacements (2, 4, and 2 units, respectively); see Impact SO#9 in Section 3.12.8, above for more information.	Community impacts would be distributed along the entire study area and mitigation measures would be applied, as appropriate, as described in SO-MM#1, SO-MM#2, SO-MM#3 and SO-MM#5. However, the mitigation measures would not completely reduce the impacts in locations where many residential and community facility displacements would occur. Even where residents and businesses are not displaced, the community would be exposed to increased noise, visual, and traffic impacts as discussed above. The displacements and the residual community impacts during operation would affect the minority and low-income populations in the urban communities, especially in Bakersfield as well as in rural communities, especially in Crome, as shown in Figures 3.12-4 through 7. Because the urban and rural areas containing minority and low-income populations are more likely to experience greater displacement and community disruption and/or division impacts resulting from project operation, when compared to the larger reference community, community impacts would have disproportionately high and adverse effects in these locations.

Table 3.12-17
Operation-Related Environmental Justice Impacts for the BNSF Alternative

Environmental Element	Impacts Summary	Environmental Justice Analysis
Socioeconomics and Communities (continued)	While not all of the residential displacements would affect all communities, along the project alignment the highest concentration of the displacements would occur in the urban communities and some of the smaller unincorporated areas, and would be within low-income and minority communities. This is especially true in the city of Bakersfield where more than half of the displacements would occur within communities with minority and low-income populations and in the rural community of Crome where much of the community with minority and low-income populations would be displaced. Important community facilities would also be displaced as a result of project operation. Although all community facilities would be relocated, as described in mitigation measure SO-MM#3, the displacement still represents an adverse impact. Community facilities primarily used by minority and low-income populations would be displaced include the Fresno Rescue Mission and nearby homeless population, a church building that houses both the Pentecostal Church of God and the India Pentecostal Assembly in Crome, several churches in Bakersfield (Saints Memorial Church of God in Christ, Chinmaya Mission, Korean Presbyterian Church, and Christ First Ministries), the Mercado Latino Tianguis building that houses 118 merchants and the Industrial Arts building at Bakersfield High School; see Impact SO#6 in Section 3.12.8, above for more information. In addition to the displacements, communities along the alignments are likely to experience community disruption and/or division impacts. These impacts result from the noise, visual and traffic impacts that will remain during operation despite the mitigation measures described in 3.2 Transportation, 3.4 Noise and Vibration and 3.16 Aesthetics and Visual Resources.	

Table 3.12-17
Operation-Related Environmental Justice Impacts for the BNSF Alternative

Environmental Element	Impacts Summary	Environmental Justice Analysis
Socioeconomics and Communities (continued)	Mitigation measures SO-MM#1,SO-MM#2, SO-MM#3 and SO-MM#5 would reduce these impacts by ensuring displaced residents and important facilities are relocated, and by applying context sensitive design solutions to prevent loss of community cohesion and physical deterioration (see 3.12.11, Mitigation Measures: Socioeconomics and Communities).	
Station Planning, Land Use, and Development	Project operation would cause the permanent conversion of land and result in a significant change in intensity of land use incompatible with adjacent land uses by converting lands zoned for residential, commercial and agricultural uses to transportation use. The adverse land use effects would occur in all communities near the project, including minority and low-income populations (see Section 3.13 Station Planning, Land Use, and Development). In urban areas such as Fresno, Corcoran, Wasco and Shafter, which contain minority and low-income populations, the project would convert commercial and industrial land uses adjacent to the BNSF railway to transportation uses but would be largely compatible with adjacent land uses and would not substantially change the pattern and intensity of the use of the land. Urban Bakersfield also has minority and low-income populations, and there, the project would enhance the incompatibility of the existing freight rail with many adjacent land uses in the area, including residential and community facility land uses nearby. In rural areas, such as the unincorporated rural agricultural areas in Fresno and Kings counties, the HST would convert agricultural land uses to transportation uses, but because the project would be mostly adjacent to the existing BNSF railway, it would be compatible with adjacent land uses. These rural areas have few, if any, scattered low-density minority and/or low-income populations.	Land use impacts would be distributed along the entire study area, but the adverse effects would be highest in places where the project would be incompatible with adjacent land uses, including some rural agricultural areas in unincorporated Fresno and Kings counties where the alignment diverges from the BNSF railway, and in urban areas in Bakersfield where the project would enhance the existing incompatibility with adjacent residential and community facility land uses. However, the project would not induce development along the project area. As shown in Figures 3.12-4 through 7, there are few, if any, scattered low-density minority and/or low-income populations in the unincorporated areas of Fresno and Kings counties, and many high-density minority and low-income populations in Bakersfield. Because the urban areas in Bakersfield containing minority and low-income populations are more likely to experience severe land use impacts resulting from project operation, when compared to the larger reference community, land use conversion would have disproportionately high and adverse effects in Bakersfield.

Table 3.12-17
Operation-Related Environmental Justice Impacts for the BNSF Alternative

Environmental Element	Impacts Summary	Environmental Justice Analysis
Agricultural Lands	Project operation would result in the permanent conversion of agricultural land to nonagricultural use and conflict with farmland protection contracts (e.g., Williamson Act contracts). The impacts to agricultural lands would impact rural agricultural communities along the project area, which contain few minority and low-income populations. Mitigation Measure AG-MM#1 would reduce the impact by preserving important farmland (see Section 3.14 Agricultural Lands).	Agricultural land impacts would be distributed along rural agricultural areas in the study area. As shown in Figures 3.12-4 through 7, these areas have the lowest numbers of minority and low-income populations in the affected area and within the reference community. There are scattered, low-density minority and/or low-income populations south of Fresno and east of Hanford, but most of the area impacted does not contain minority and/or low-income populations. Therefore, these adverse impacts would not be borne primarily by minority and low-income populations and consequently, project operation would not result in disproportionately high and adverse effects on minority and low-income populations.
Parks, Recreation, and Open Space	Project operation would result in the permanent acquisition of parklands at Colonel Allensworth State Historic Park and Allensworth Ecological Reserve. The project would also introduce a modern feature not consistent with the historic atmosphere of Colonel Allensworth State Historic Park and would impact the character of Kern River Parkway, McMurtrey Aquatic Center, Mill Creek Linear Park, the Bakersfield Amtrak Station playground and the recreational facilities at Bakersfield High School due to increases in noise, visual disturbance, and facility use. Visual impacts and increases in noise and vibration at parks and school play areas would be reduced through mitigation measures described in Section 3.2, Transportation and Section 3.16, Aesthetics and Visual Resources. Additionally, mitigation measure PK-MM#2 would reduce the impact of parkland acquisition at Colonel Allensworth State Historic Park and PK-MM#3 would reduce the impacts of potential degradation from increased facility use at the Amtrak Station playground in Bakersfield (see Section 3.15 Parks, Recreation, and Open Space).	Impacts on park, recreation, open space resources, and school play areas would occur in Allensworth and Bakersfield and mitigation measures would be applied as described in PK-MM#2 and PK-MM#3. However, these mitigation measures and those addressing visual and noise and vibration impacts, would not completely reduce the impacts in Allensworth and Bakersfield. Although the area surrounding Colonel Allensworth State Historic Park is sparsely populated, the park is a memorial to the only California town founded, financed, and governed by African Americans, and therefore has special significance to a minority population. In addition, many of the parks that may be affected in Bakersfield are utilized by adjacent minority and low-income populations, as shown in Figures 3.12-4 through 7. Because the mitigation measures do not eliminate the adverse impacts within areas containing minority and low-income populations and these populations would experience greater adverse impacts when compared to the larger reference community, project operation would have disproportionately high and adverse effects on minority and low-income populations in these locations.

Table 3.12-17
Operation-Related Environmental Justice Impacts for the BNSF Alternative

Environmental Element	Impacts Summary	Environmental Justice Analysis
Aesthetics and Visual Resources	Permanent project features such as elevated structures, tracks, and road overcrossings would result in impacts on the existing visual character and quality along the entire project corridor. Project operation would introduce new sources of light and glare and new noise walls would block views. The changes in visual quality would impact all communities in rural and urban areas near the project, including minority and low-income populations. Mitigation measures AVR-MM#2a through AVR-MM#2f would reduce these impacts by incorporating context sensitive design criteria for project features, planting trees and providing other landscape treatments to screen views of project structures and sound walls (see 3.16 Aesthetics and Visual Resources).	Impacts on aesthetics and visual resources would be distributed along the entire study area and mitigation measures would be applied as described in AVR-MM#2a through AVR-MM#2f. However, the mitigation measures would not achieve a complete reduction in impacts in urban areas and at Allensworth State Historic Park due to the introduction of elevated structures and sound barriers. This includes the urban areas of Fresno, Corcoran, Wasco, Shafter, and Bakersfield as well as Allensworth. These areas contain minority and low-income populations, as shown in Figures 3.12-4 through 7. Because the mitigation measures do not eliminate the adverse impacts within areas containing minority and low-income populations and because these communities would bear a higher burden from these impacts when compared to the larger reference community, project operation would have disproportionately high and adverse effects on minority and low-income populations in these locations.
Cultural and Paleontological Resources	There would be no adverse impacts on cultural resources associated with project operation because operational noise and vibration levels would not damage historic architectural resources (see Section 3.17 Cultural and Paleontological Resources).	Because no adverse cultural resource impacts would occur during project operation, no minority or low-income populations would be adversely impacted.

Table 3.12-17
Operation-Related Environmental Justice Impacts for the BNSF Alternative

Environmental Element	Impacts Summary	Environmental Justice Analysis
Cumulative Impacts	Construction activities would result in adverse cumulative noise and vibration, agricultural, land conversion, community division and/or disruption, and visual impacts along the entire project area. The cumulative impacts would impact all communities near construction areas, including minority and low-income populations. Mitigation measures CUM-N&V-MM#1, CUM-SO-MM#1, CUM-SO-MM#2, and CUM-VQ-MM#1would reduce the noise and vibration, community and visual impacts by consulting with local government agencies to minimize disruption from other planned and existing projects (see Section 3.19 Cumulative Impacts).	The adverse cumulative impacts would be distributed along the entire study area and mitigation measures would be applied as described in CUM-N&V-MM#1, CUM-SO-MM#1, CUM-SO-MM#2, and CUM-VQ-MM#1. However, the mitigation measures would not completely reduce the cumulative impacts resulting from operation of the HST as well as several other past, present and planned projects in the urban communities of Fresno, Corcoran, Wasco, Shafter and Bakersfield, and well as the community of Crome, with minority and low-income populations, as shown in Figures 3.12-4 through 7. Because the mitigation measures do not eliminate the adverse impacts and because the cumulative noise and vibration, community division and disruption, and visual impacts would be greater for minority and low-income populations in the urban areas of Fresno, Corcoran, Wasco, Shafter and Bakersfield, as well as the community of Crome. When compared to the reference community, operation of the HST in conjunction with other reasonably foreseeable projects would have disproportionately high and adverse cumulative effect on minority and low-income populations in these locations.

Hanford West Bypass Alternatives

The Hanford West Bypass 1 Alternative, Hanford West Bypass 1 Modified Alternative, Hanford West Bypass 2 Alternative, and Hanford West Bypass 2 Modified Alternative would have similar impacts on the rural communities along the bypass alternatives project area as the corresponding portion of the BNSF Alternative. The Hanford West Bypass Alternatives travel through predominately agricultural lands, passing near the communities of Laton, which contains a low-density minority population, Grangeville, which does not contain a minority or low-income population, Armona, which contains a low-density low-income population, and scattered residences in unincorporated areas of Fresno and Kings counties. The bypass alternatives would result in about 40 residential displacements, which is fewer than the 52 displacements that would occur as a result of the corresponding portion of the BNSF Alternative. Three of these displacements would occur in the area west of Hanford along Hanford-Armona road and the remaining displacements would occur at isolated residences in unincorporated Fresno and Kings counties. All populations in the study area would experience adverse impacts, including noise and vibration and visual impacts, as a result of project operation. The areas near the Hanford West Bypass alternatives are sparsely populated, with few minority and low-income populations. Therefore, the adverse impacts would not be borne primarily by minority and low-income populations and consequently, project operation of the Hanford West Bypass alternatives would not result in disproportionately high and adverse effects on minority and low-income populations. Additionally, the application of mitigation measures described above in Table 3.12-17, would achieve a reduction in impacts and eliminate the adverse impacts on all communities.

Corcoran Elevated Alternative

The Corcoran Elevated Alternative would have similar impacts on the communities in the Corcoran area as the corresponding portion of the BNSF Alternative, including minority and low-income populations. However, the Corcoran Elevated alternative would result in 4 residential displacements, which is fewer than the 30 displacements that would occur as a result of the corresponding portion of the BNSF Alternative. All populations in the study area would experience adverse impacts, including noise and vibration and visual impacts as a result of project operation, including minority and low-income populations. Similar to the corresponding portion of the BNSF Alternative, the proposed mitigation measures described in Table 3.12-17 would not completely reduce the impacts in urban area. Because the mitigation measures do not eliminate the adverse impacts within the urban area of Corcoran containing minority and low-income populations, and because urban areas are more likely to experience more severe adverse noise and vibration and visual impacts resulting from project operations, the Corcoran Elevated Alternative would have disproportionately high and adverse effects on minority and low-income populations in Corcoran.

Corcoran Bypass Alternative

The Corcoran Bypass Alternative would avoid the impacts on the more densely populated urban areas in Corcoran, but would have similarly adverse impacts on the small, unincorporated communities east of Corcoran in the vicinity of Newark Avenue and at the intersection of 5th Avenue and Waukena Avenue as the corresponding portion of the BNSF Alternative. All populations in the study area would experience adverse impacts, including noise and vibration and visual impacts as a result of project operation, including minority and low-income populations. The Corcoran Bypass Alternative would result in adverse impacts related to displacements in the small, rural residential communities of Newark Avenue (10 units) and the 5th Avenue and Waukena Avenue area (10 units), which have minority and low-income populations. Because the mitigation measures described in Table 3.12-17 would not completely reduce these impacts within this area containing minority and low-income populations, the Corcoran Bypass Alternative would have disproportionately high and adverse effects on minority and low-income populations.

Allensworth Bypass Alternative

The Allensworth Bypass Alternative would have fewer impacts on communities along the bypass alternative project area than the corresponding portion of the BNSF Alternative because it would avoid the impacts at Colonel Allensworth State Historic Park. The Allensworth Bypass travels through areas with no population concentrations and scattered low-density populations, some of which have minority and low-income populations. All populations in the study area would experience adverse impacts, including noise and vibration and visual impacts as a result of project operation, including minority and low-income populations. These impacts would not be experienced uniquely by minority and low-income populations and consequently, project operation of the Allensworth Bypass Alternative would not result in disproportionately high and adverse effects on minority and low-income populations. Additionally, the application of mitigation measures described above in Table 3.12-17, would achieve a reduction in impacts and eliminate the adverse impacts on all communities.

Wasco-Shafter Bypass Alternative

The Wasco-Shafter Bypass Alternative would have fewer impacts on the communities in the areas around Wasco and Shafter than the corresponding portion of the BNSF Alternative because it would reduce the community impacts in the cities of Wasco and Shafter and in Crome, which have minority and low-income populations. These impacts are the same as experienced by the non-minority and/or non-low-income populations in the affected area and are not unique to

minority and low-income populations. Therefore, these adverse impacts would not be borne primarily by minority and low-income populations and consequently, construction activities from the Wasco-Shafter Bypass Alternative would not result in disproportionately high and adverse effects on minority and low-income populations.

Bakersfield South Alternative

The Bakersfield South Alternative would have similar impacts on the Bakersfield communities as the corresponding portion of the BNSF Alternative, including minority and low-income populations. The Bakersfield South Alternative would displace about 315 residential units in Bakersfield. Of these, 143 would occur in the Northeast district and 70 (at the CityPlace affordable housing apartment complex) would occur in the Central district, both of which contain high-density minority and low-income populations. Community facilities that are used primarily by minority and low-income populations that would be displaced include several churches (Full Gospel Lighthouse, Church of Christ, Korean Presbyterian Church, Baker Street Church of Christ, and First Free Will Baptist Church) and the Bethel Christian School. All populations in the study area would experience adverse impacts, including noise and vibration, community division, land use, parks, and visual impacts as a result of project operation, including minority and low-income populations. These impacts would not be experienced uniquely by minority and low-income populations. Similar to the corresponding portion of the BNSF Alternative, the proposed mitigation measures described in Table 3.12-17 would not completely reduce the impacts in urban areas. Because the mitigation measures do not eliminate the adverse impacts within the urban area of Bakersfield containing minority and low-income populations, the Bakersfield South Alternative would have disproportionately high and adverse effects on minority and low-income populations in Bakersfield.

Bakersfield Hybrid Alternative

The Bakersfield Hybrid Alternative would have similar impacts on the Bakersfield communities as the corresponding portion of the BNSF Alternative, including minority and low-income populations. The Bakersfield Hybrid Alternative would displace about 231 residential units in Bakersfield. Of these, 62 would occur in the Northeast district and 71 (70 units at the CityPlace affordable housing apartment complex) would occur in the Central district, both of which contain high-density minority and low-income populations. Community facilities that are used primarily by minority and low-income populations that would be displaced include the Korean Presbyterian church and the Bakersfield Homeless Shelter. All populations in the study area would experience adverse impacts, including noise and vibration, community division, land use, parks, and visual impacts as a result of project operation, including minority and low-income populations. Similar to the corresponding portion of the BNSF Alternative, the proposed mitigation measures described in Table 3.12-17 would not completely reduce the impacts in urban areas. Because the mitigation measures do not eliminate the adverse impacts within the urban area of Bakersfield containing minority and low-income populations, the Bakersfield Hybrid Alternative would have disproportionately high and adverse effects on minority and low-income populations in Bakersfield.

Station Alternatives

The alternative station sites (i.e., the Fresno Station, Kings/Tulare Regional Station–East, Kings/Tulare Regional Station–West [at-grade or below-grade], Bakersfield Station–North, Bakersfield Station–South, and Bakersfield Station-Hybrid) would have similar operational impacts on human health and environments as the alternative alignments and non-station structures. All minority and low-income populations in the station areas would experience adverse traffic, air quality, noise, water, hazardous materials, safety and security, land use, parks, and visual impacts as a result of project operation. These impacts are the same as experienced by the non-

minority and/or non-low-income populations in the affected areas. The communities around the Fresno and Bakersfield stations contain many minority and low-income populations, while the Kings/Tulare Regional station alternatives are not located in areas with minority and low-income populations. Therefore, the adverse impacts at the Fresno and Bakersfield stations would be borne primarily by minority and low-income populations. As described in Table 3.12-17, the proposed mitigation measures would not completely reduce the impacts in urban areas. Because the mitigation measures do not eliminate the adverse impacts within the urban areas of Fresno and Bakersfield containing minority and low-income populations, and because urban areas are more likely to experience more severe adverse impacts resulting from project operations, the Fresno and Bakersfield station alternatives would result in disproportionately high and adverse effects on minority and low-income populations in Fresno and Bakersfield.

Heavy Maintenance Facility Site Alternatives

The alternative HMF sites (the Fresno Works–Fresno, Kings County–Hanford, Kern Council of Governments–Wasco, Kern Council of Governments–Shafter-East, and Kern Council of Governments–Shafter West) would have similar operational impacts on human health and environments as the alternative alignments and stations. If the HMF is not sited in the Fresno to Bakersfield Section of the HST System, then the co-located maintenance-of-way facility would be situated in either the Kern Council of Governments–Shafter East or Kern Council of Governments–Shafter West HMF site alternatives. This maintenance-of-way facility would have the same potential effects as those identified for the HMF site alternatives in these locations. All minority and low-income populations in the HMF site areas would experience adverse traffic, air quality, noise, water, hazardous materials, safety and security, land use, parks and visual impacts a result of project operation. These impacts are the same as experienced by the non-minority and/or non-low-income populations in the affected areas. The communities around the HMF sites in Fresno, Wasco, Shafter and Bakersfield contain many minority and low-income populations, while the HMF site in Hanford is not located in an area with minority and low-income populations. Therefore, the adverse impacts at the Fresno, Wasco, Shafter and Bakersfield HMF sites would be borne primarily by minority and low-income populations. As described in Table 3.12-17, the proposed mitigation measures would not completely reduce the impacts in urban areas. Because the mitigation measures do not eliminate the adverse impacts within the urban areas of Fresno, Wasco, Shafter and Bakersfield containing minority and low-income populations, and because urban areas are more likely to experience more severe adverse impacts from project operations, the Fresno, Wasco, and Shafter HMF site alternatives would result in disproportionately high and adverse effects on minority and low-income populations in these locations.

Environmental Justice Effects Conclusion

As shown in Figures 3.12-4 through 3.12-7, the project study area contains the urban areas of Fresno, Hanford, Corcoran, Wasco, Shafter, and Bakersfield that have high proportions of minority and low-income populations as well as scattered areas of low- density minority and low-income populations in the rural areas in between these communities. The locations of minority and low-income populations within the project study area and the reference community is provided in Section 3.12.7, Affected Environment.

The BNSF, Corcoran Bypass, Corcoran Elevated, Bakersfield South, and Bakersfield Hybrid alternatives, as well as the Fresno Station, Bakersfield Station–North, Bakersfield Station–South, and Bakersfield Station-Hybrid station alternatives, and the Fresno Works–Fresno, Kern Council of Governments–Wasco, Kern Council of Governments–Shafter-East, and Kern Council of Governments–Shafter West HMF sites, would result in disproportionately high and adverse effects on minority and low-income populations. As described in Tables 3.12-16 and Table 3.12-17, the project includes mitigation measures that would minimize or avoid most of the impacts associated with project construction and operation. Where mitigation measures would not

completely reduce the impacts in areas with minority and low-income populations, disproportionately high and adverse effects on minority and low-income populations would occur. Noise and vibration, community division and/or disruption, land use, parks and recreation, visual, and cumulative impacts would have disproportionately high and adverse effects on minority and low-income populations.

The Authority and FRA along with the EPA, U.S. Department of Housing and Urban Development, and the Federal Transit Administration (FTA) have entered into an Interagency Partnership and established a "Memorandum of Understanding (MOU) for Achieving an Environmentally Sustainable High-Speed Train System in California," which includes a common goal of integrating HST station access and amenities into the fabric of surrounding neighborhoods (Authority et al. 2011). The principles of this partnership are to help improve access to affordable housing, increase transportation options, lower transportation costs, and protect the environment in communities nationwide. The implementation of the MOU would be beneficial to all populations but could help intensify project benefits in the urban areas most affected by project impacts, where many minority and low-income populations are located. For example, the Authority will establish a temporary relocation field office to help facilitate relocation efforts in areas with substantial relocation needs. In addition to providing services, the Authority is required to coordinate its relocation activities with other agencies causing displacements to minimize impacts while ensuring that all persons displaced receive fair and consistent relocation benefits.

The Authority will also continue its outreach activities, such as the workshops that have been held in the city of Fresno, to discuss the HST project and collect community input. At meetings in September 2011 and February 2012, the Authority provided overviews on the relocation process and distributed the brochure "Your Property, Your High-Speed Train Project" and other brochures on the Relocation Assistance Program. The Authority has also made information available on the right-of-way process (Appendix 3.12-A), with emphasis on property and business owners' rights under federal and state laws and regulations. The Authority has worked with local community leaders and EJ organizations to notify the public of meetings and opportunities for comment. To ensure the outreach team could properly communicate with all meeting attendees, the Authority provided bilingual staffing and the translation of vital documents and meeting announcements. The Authority will continue these outreach activities in order to engage minority and low-income populations in the project planning process.

According to EO 12898, the offsetting project benefits associated with the project were considered in the EJ analysis described in Impact SO#17 and Impact SO#18. Tables 3.12-16 and 3.12-17 describe that the project would provide benefits that would accrue to all populations in the region, including minority and low-income populations. These benefits include improved mobility within the region, a reduction in traffic congestion on freeways, improvements in regional air quality, and the creation of new employment opportunities during project construction and operation.

Jobs created by construction and operation of the project would likely be filled by workers in the region. To ensure these job opportunities benefit minority and low-income populations, the Authority has approved the development of a Community Benefits Policy to support employment of individuals who reside in disadvantaged areas and those designated as disadvantaged workers. This will help to remove potential barriers to small businesses, disadvantaged business enterprises, disabled veteran business enterprises, women-owned businesses, and microbusinesses that want to participate in building the HST System.

Additionally, station construction and planned station area improvements in the downtown areas of Fresno and Bakersfield would benefit the local minority and low-income populations. The stations would provide interregional connectivity with other metropolitan centers, inducing

residential and commercial infill development and increasing property values in the surrounding area.

Although this project would result in benefits which would accrue to minority and low-income populations, it is not possible to determine whether these would outweigh the adverse effects of the project for all minority and low-income populations with certainty. This is because project benefits would accrue differently for households along the project corridor, depending on factors such as proximity to the project, access to station areas, and frequency of use of the HST System. Moreover, homeownership status could be a crucial determinant of whether a household near a station would benefit from the potential increase in property values resulting from revitalization and economic development. In the absence of strong, affordable housing requirements established by the appropriate jurisdiction for new construction, as well as effective rent-control programs, low-income renters could potentially be driven out of the downtown station areas. However, as discussed below in Project Design Features, the Authority's Station Area Planning funding aims to promote low-incoming housing as a part of station area development. Project design features and mitigation measures that will reduce the potential project impacts to minority and low-income populations are discussed in Section 3.12.10 through 3.12.12 below. However, even when applying these mitigation measures, there remains a disproportionately high and adverse impact on minority and low-income populations.

3.12.10 Project Design Features

The Authority and FRA have identified avoidance and minimization measures that are consistent with the Program EIR/EIS documents. During project design and construction, the Authority will ensure that the measures outlined below are implemented to reduce impacts on socioeconomic and community resources and minority and low-income populations.

Construction Management Plan

The Authority will require that the design-build contractor will develop and implement a construction management plan to address communications, community impacts, visual protection, air quality, safety controls, noise controls, and traffic controls to minimize impacts on low-income households and minority populations. The plan will assure property access is maintained for local businesses, residences, and emergency services. This plan will include maintaining customer and vendor access to local businesses throughout construction by using signs to instruct customers about access to businesses during construction. In addition, the plan will include efforts to consult with local transit providers to minimize impacts on local and regional bus routes in affected communities.

Compliance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act

The Authority must comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act, as amended (Uniform Act). The provisions of the Uniform Act, a federally mandated program, would apply to all acquisitions of real property or displacements of persons resulting from this federally assisted project. It was created to provide for and ensure fair and equitable treatment of all affected persons. Additionally, the Fifth Amendment of the United States Constitution provides that private property may not be taken for a public use without payment of "just compensation."

The Uniform Act requires that the owning agency provide notification to all affected property owners of the agency's intent to acquire an interest in their property. This notification includes a written offer letter of just compensation. A right-of-way specialist is assigned to each property owner to assist him or her through the acquisition process. The Uniform Act also provides

benefits to displaced individuals to assist them financially and with advisory services related to relocating their residence or business operation. Benefits are available to both owner occupants and tenants of either residential or business properties.

The Uniform Act requires provision of relocation benefits to all eligible persons regardless of race, color, religion, sex, or national origin. Benefits to which eligible owners or tenants may be entitled are determined on an individual basis and explained in detail by an assigned right-of-way specialist.

The California Relocation Assistance Act (CRAA) essentially mirrors the Uniform Act and also ensures consistent and fair treatment of property owners. However, because the project will receive federal funding, the Uniform Act takes precedence. Owners of private property have federal and state constitutional guarantees that their property will not be acquired or damaged for public use unless owners first receive just compensation. Just compensation is measured by the "fair market value," where the property value is considered to be the highest price that would be negotiated on the date of valuation. The value must be agreed upon by a seller who is willing, not obliged to sell, but under no particular or urgent necessity and by a buyer who is ready, willing, and able to buy but under no particular necessity. Both the owner and the buyer must deal with the other with the full knowledge of all the uses and purposes for which the property is reasonably adaptable and available (Code of Civil Procedure Section 1263.320a).

The Authority has developed more detailed information about how it plans to comply with the Uniform Act and the California Relocation Assistance Act. The Authority has developed three detailed relocation assistance documents modeled after Caltrans versions. The documents are listed below and included in Appendix 3.12-A:

- Your Rights and Benefits as a Displacee under the Uniform Relocation Assistance Program (Residential).
- Your Rights and Benefits as a Displacee under the Uniform Relocation Assistance Program (Mobile Home).
- Your Rights and Benefits as a Displaced Business, Farm, or Nonprofit Organization under the Uniform Relocation Assistance Program.

Relocation Mitigation Plan

Before any acquisitions occur, the Authority will develop a relocation mitigation plan, in consultation with affected cities and counties. In addition to establishing a program to minimize the economic disruption related to relocation, the relocation mitigation plan will be written in a style that also enables it to be used as a public-information document.

The plan will be designed to meet the following objectives:

- Provide affected property and business owners and tenants a high level of individualized assistance in situations when relocation is necessary.
- Coordinate relocation activities with other agencies causing displacements in the study area to ensure that all displaced persons receive fair and consistent relocation benefits
- Make a best effort to minimize the permanent closure of displaced businesses and non-profit agencies as a result of relocations.
- Within the limits established by law and regulation, minimize the economic disruption caused to tenants and residents by relocation.

- In individual situations, where warranted, consider the cost of obtaining the entitlement permits necessary to relocate to a suitable location and take those costs into account when establishing the fair market value of the property.

- Provide those business owners who require complex permitting (such as dairies) with regulatory compliance assistance.

The relocation mitigation plan will include the following components:

- A description of the appraisal, acquisition, and relocation process that describes the activities of the appraisal and relocation specialists, for the benefit of the reader.

- A means of assigning appraisal and relocation staff to affected property owners, tenants, or other residents on an individual basis.

- Individualized assistance to affected property owners, tenants, or other residents in applying for funding, including research to summarize loans, grants, and federal aid available, and research of demographically similar areas for relocation.

- Creation of an ombudsman's position to act as a single point of contact for property owners, residents, and tenants with questions about the relocation process. The ombudsman would also act to address concerns about the relocation process as it applies to the individual situations of property owners, tenants, and other residents.

Relocation Mitigation Plans are commonly used for large infrastructure projects that displace a large number of residences and businesses, such as this project, and are considered successful in minimizing the impact to individual property owners.

Station Area Development and Social Equity

As discussed above in Impact SO #16, the Authority's Urban Design Guidelines include a commitment by the Authority to work closely with communities where a station would be constructed to ensure that transit-oriented development policies are implemented (Authority 2011b). The Authority will develop context sensitive designs by working with local governments to enhance the public benefits of HST station development so that they meet the needs of the local communities, including more affordable housing and job opportunities. Through the process of providing Station Area Planning funding, the Authority will work collaboratively with cities to plan intensified development around the station sites and promote social equity through measures such as recommendations for a certain percentage of low-income housing units.

Pedestrian and Bicycle Access

Roadway improvements included in the project, such as overpass construction (see Chapter 2, Alternatives), would improve pedestrian and bicycle safety through associated street widening, traffic restriction, and/or new traffic signals (see Section 3.11, Safety and Security). Road overcrossing would be built with sidewalks that provide pedestrian and bicycle access across the HST. This will be substantially safer than many roadway and state route facilities in the project study area that currently cross at-grade with the BNSF railroad tracks. Additionally, the Authority's Station Area Development policies specifically promote compact pedestrian-oriented design to ensure walking, bicycle, and transit access with streetscapes that include landscaping, small parks, and pedestrian spaces.

HMF Site Selection and Minority and Low-Income Populations

Construction and operation of the HMF would have both adverse and beneficial effects on the surrounding population. As discussed in Impact SO #18, operation of the HMF would result in air quality, noise and vibration, and visual and aesthetic impacts. Four of the alternative HMF sites (the Fresno Works–Fresno, Kern Council of Governments–Wasco, Kern Council of Governments–Shafter East, and Kern Council of Governments–Shafter West) in the Fresno to Bakersfield Section of the HST System are located in areas with minority and low-income populations and would result in disproportionately high and adverse effects on minority and low-income populations. The HMF would also yield 1,900 one-year, full-time job equivalents over the construction period, see Impact SO #3. The Authority's Community Benefits Policy supports the employment of individuals who reside in disadvantaged areas which could include those near HMF sites.

3.12.11 Mitigation Measures: Socioeconomics and Communities

The Statewide Program EIR/EIS mitigation strategies have been refined and adapted for this project-level EIR/EIS. The evaluation of impacts in this section is based largely on impacts identified in other sections of this draft EIR/EIS, including Section 3.2, Transportation; Section 3.3, Air Quality and Global Climate Change; Section 3.4, Noise and Vibration; Section 3.13, Station Planning, Land Use, and Development; Section 3.15, Parks, Recreation, and Open Space; Section 3.16, Aesthetic and Visual Resources; and Section 3.18, Regional Growth. These sections include mitigation measures that will minimize or avoid some of the social and economic impacts identified. In addition, the Authority will apply the following mitigation measures to reduce substantial adverse environmental impacts resulting from implementation of the Fresno to Bakersfield Section of the HST project.

Mitigation Measure SO-1: Implement measures to reduce impacts associated with the division of residential neighborhoods. The Authority will minimize impacts associated with the project alternatives in the rural residential areas, including Ponderosa Road/Edna Way east of Hanford, the Newark Avenue vicinity northeast of Corcoran, the 5th Avenue and Waukena Avenue vicinity east of Corcoran, and Crome, as well as in urban residential areas in Fresno, Corcoran, Wasco, Shafter and Bakersfield by conducting special outreach to affected homeowners and residents to fully understand their unique relocation needs. The Authority will make every effort to locate suitable replacement properties that are comparable to those currently enjoyed by these residents, including constructing suitable replacement facilities if necessary. For details on the definition of a comparable replacement dwelling and information on the rights and benefits of all property owners and tenants, see Appendix 3.12-A Relocation Assistance Program Brochures. In cases where residents wish to remain in the immediate vicinity, the Authority will take measures to purchase vacant land or buildings in the area, and consult with local authorities over matters such as zoning, permits, and moving of homes and replacement of services and utilities, as appropriate. Before land acquisition, the Authority will conduct community workshops to obtain input from those homeowners whose property would not be acquired, but whose community would be substantially altered by construction of HST facilities, including the loss of many neighbors, to identify measures that could be taken to mitigate impacts on those who remain (including placement of sound walls and landscaping, and potential uses for remnant parcels that could benefit the community in the long term).

Mitigation Measure SO-2: Implement measures to reduce impacts associated with the division of communities. The Authority will minimize impacts associated with the project alternatives in all existing communities through a program of additional outreach to homeowners, residents, business owners, and community organizations in affected neighborhoods.

As a part of this program, before land acquisition, the Authority will consult with officials and representatives of community facilities affected by significant noise impacts (e.g., churches, schools, and hospitals) to identify suitable noise abatement measures or to help affected businesses and organizations find more-suitable locations in the community. Similarly, the Authority will locate suitable replacement housing for displaced residents, as discussed in SO-MM#1.

Before the completion of final design, the Authority will also conduct community workshops about the future use of the area beneath the rail guideway. These meetings will provide residents the opportunity to identify design and use options that could strengthen community cohesion and be compatible with the character of the impacted community.

A minimum of three facilitated workshops will be held in each of community where elevated rail guideway would be constructed. To maximize attendance and generate awareness of the workshops, the Authority will work with either community organizations, or community leaders within the neighborhoods. A location and time will be selected to increase attendance and be based on the needs of the community.

Information will be presented at the workshops that give the community options for the future use of the area beneath the rail guideway, as well as an opportunity for individuals to provide feedback. For example, if safety considerations prohibit such uses as bike paths or community gardens, alternatives, such as sculpture gardens or managed landscaping, could be considered. The comments and feedback will be considered in planning for the future use of the sites.

Upon gathering feedback from the community, the Authority will report the findings, either through a fourth public workshop or in written report that would be made available to the public.

The Authority will be responsible for implementing the results of the community workshops through project design and through the long-term management of the area beneath the elevated rail guideway. This will involve documenting the desired design concepts, incorporating them into the final design, and facilitating ongoing maintenance. The Authority will identify potential uses that may be developed in the project right-of-way. These uses will be compatible with the character of the adjacent community and sensitive to project needs (as outlined in Section 3.11, Safety and Security). The costs associated with the development of these associated uses and how these costs will be paid will be determined during consultations with the affected city, county, or parks district. Furthermore, the parties or entities (i.e., the Authority, local government, park or recreation district, or nonprofit organization) responsible for some ongoing maintenance of these community areas will be determined.

Mitigation Measure SO-3: Implement measures to reduce impacts associated with the relocation of important facilities. Depending on the alternative selected, the Authority will minimize impacts resulting from the disruption to key community facilities: Bakersfield High School, Mercado Latino Tianguis, Fresno Rescue Mission, Mercy Hospital medical complex facilities, Bakersfield Homeless Shelter, Kern County Mental Health office (1400 L Street), Kern County Health and Human Services Department, community churches, an important livestock rendering facility (Baker Commodities) in the Hanford area, the City of Bakersfield's corporation yard and the fleet services downtown facility, the CityPlace affordable housing complex, and parking associated with Bakersfield's Convention Center and Owens Intermediate School.

The Authority will consult with the appropriate respective parties before land acquisition to assess potential opportunities to reconfigure land use and buildings and/or relocate affected facilities, as necessary, to minimize the disruption of facility activities and services, and also to ensure relocation that allows the community currently served to continue to access these services.

Because many of these community facilities are located in Hispanic communities, the Authority will continue to implement a comprehensive Spanish-language outreach program for these communities as land acquisition begins. This program will facilitate the identification of approaches that would maintain continuity of operation and allow space and access for the types of services currently provided and planned for these facilities. Also, to avoid disruption to these community amenities, the Authority will ensure that all reconfiguring of land uses or buildings, or relocating of community facilities is completed before the demolition of any existing structures.

In regard to Bakersfield High School, if the BNSF Alternative is selected through Bakersfield, the Authority will consult with the Kern Union High school district on a replacement for the Industrial Arts building in accordance with California Department of Education policies, and a replacement structure will be in place before the existing Industrial Arts building is removed.

In regard to Bethel Christian School and the First Free Will Baptist Church, if the Bakersfield South Alternative is selected through Bakersfield, the Authority will consult with First Free Will Baptist Church and Bethel Christian School to identify suitable relocation alternatives for both facilities to minimize impacts of the disruption. Facilities will be relocated before any existing facility is removed.

Because the unique services provided by the rendering facility and the CDFA sampling station in Kings County are critical to agricultural operations in the region, relocation of these facilities will occur before the existing facilities are closed or steps will be taken to ensure that sufficient capacity is available at other facilities so there is no interruption to the services provided.

To ensure the fair and equitable treatment of the affected residents of the CityPlace affordable apartment complex with special relocation needs (including handicapped), the Authority will consult with the City of Bakersfield to identify suitable housing replacement options and relocation alternatives for all affected households.

This mitigation measure will be effective in minimizing the impacts of the project by completing new facilities before necessary relocations, and by involving affected facilities in the process of identifying new locations for their operations.

Mitigation Measure SO-4: Provide access modifications to affected farmlands. In cases where partial-property acquisitions result in division of agricultural parcels, the Authority will evaluate with property owner input the effectiveness of providing overcrossings or undercrossings of the HST track to allow continued use of agricultural lands and facilities. This would include the design of overcrossings or undercrossings to allow farm equipment passage. (Refer to Section 3.14, Agricultural Lands, for additional information.) This mitigation measure will be effective because it will maintain access to farmlands for farmers whose property is bisected.

Mitigation Measure SO-5: Develop measures to minimize the potential for physical deterioration. The Authority will work with the communities on the design of project features consistent with Technical Memorandum 200.6, Aesthetic Guidelines for Non-Station Structures (Authority 2011a). The guidelines for station and non-station structures allow for contextual design responses to site-specific or unique conditions, or "context sensitive solutions". Context sensitive solutions mean structural aesthetics must respond to local settings with concern for the human scale, building scale, and the vantage points from which the structures will be viewed. Included in the Authority's design principles is the requirement that the structures enhance local environments and community context. Landscaping will be used to visually integrate project structures into the local context with plantings that recreate the natural setting into which they are placed. The aesthetic design of project structures, in combination with landscape and urban

design that serve the local community can create a positive contribution to the surrounding visual context and minimize the potential for physical deterioration.

This technical memorandum can be found on the Authority's website under Project Level Environmental and Engineering Guidelines, Studies & Reports: (http://www.hsr.ca.gov/docs/programs/eir_memos/Proj_Guidelines_TM200_06R00.pdf).

Impacts of Mitigation

All of the above mitigation measures include plans to conduct outreach activities in affected communities and to consult with property owners; these activities will result in no impacts on the physical environment.

In addition to consultation with affected parties, Mitigation Measure SO-3 will require the reconfiguration of land or construction of replacement structures for community facilities impacted by the HST. Potential impacts on the physical environment from this mitigation would result from construction activities, including emissions and fugitive dust from construction equipment, construction-related noise, visual impacts associated with new structures, and impacts on biological and cultural resources that may be present on the site of new structures. Any new facilities would be designed and constructed to be consistent with local land use plans, and would be subject to separate site-specific analysis under CEQA, including measures to mitigate impacts to a less-than-significant level. For this reason, it is expected that impacts of mitigation would be less than significant under CEQA, and the impact would have negligible intensity under NEPA.

In the event that Mitigation Measure SO-4 will require the construction of overcrossings or undercrossings on agricultural parcels to maintain access for affected farmers, there could be potential impacts on the physical environment. The impacts of this mitigation would be similar to those resulting from construction of other overcrossing or undercrossing structures along the HST, including emissions and fugitive dust from construction equipment, construction-related noise, visual impacts associated with new structures, and impacts on biological and cultural resources that may be present on the site of new structures. Any new overcrossings or undercrossings would be designed and constructed to be consistent with local land use plans, and would be subject to separate analysis under CEQA, including measures to mitigate impacts to a less-than-significant level. For this reason, it is expected that impacts of mitigation would be less than significant under CEQA, and the impact would have negligible intensity under NEPA.

Modifications to areas underneath the elevated guideway and along the edges of the right-of-way under Mitigation Measure SO-5 could result in potential impacts on the physical environment. The intention of this mitigation measure is to lessen the aesthetic impacts from the introduction of new HST structures by improving the visual quality of the surroundings. Creating gardens and trails and planting trees will require temporary use of excavation equipment and other landscaping tools. Impacts of this mitigation measure could include noise, emissions, and fugitive dust from construction-related activities. Any new recreation facilities would be designed and constructed to be consistent with local land use plans, and would be subject to separate analysis under CEQA, including measures to mitigate impacts to a less-than-significant level. For this reason, it is expected that impacts of mitigation would be less than significant under CEQA and the impact would have negligible intensity under NEPA.

3.12.12 Mitigation Measures: Environmental Justice

The Statewide Program EIR/EIS mitigation strategies have been refined and adapted for this project-level EIR/EIS. The evaluation of impacts in this section is based largely on impacts identified in other sections of this EIR/EIS, and the sections include mitigation measures that will

minimize or avoid some of the impacts on minority and low-income populations, as detailed in Section 3.12.9, Environmental Consequences. In addition, the Authority will apply the following mitigation measure to reduce disproportionately high and adverse impacts on minority and low-income populations resulting from implementation of the Fresno to Bakersfield Section of the HST project.

Mitigation Measure SO-6: Continue outreach to disproportionately and negatively impacted environmental justice populations. The Authority will continue to conduct substantial EJ outreach activities in adversely affected neighborhoods to obtain resident feedback on potential impacts and suggestions for mitigation measures. Input from these communities will be used to refine the alternatives during ongoing design efforts. In addition, to offset any disproportionate effects, the Authority will develop special recruitment, training, and job set-aside programs so that minority and low-income populations are able to benefit from the jobs created by the project. This type of outreach is common for large infrastructure projects with long construction periods and has been found to be effective.

Impacts of Mitigation

Mitigation Measure SO-6 includes plans to conduct outreach activities in affected communities and consult with property owners; these activities will result in no impacts on the physical environment.

3.12.13 NEPA Impacts Summary: Socioeconomics and Communities

Direct and indirect effects have been identified under NEPA for the construction and operation periods of the project. The sections below discuss impacts related to the following topics: communities, in general; displacement of residences and businesses; and economic impacts.

3.12.13.1 Construction Period Impacts

Disruption or Division of Existing Communities

The impacts of noise, dust, visual changes, and changes in traffic patterns would not affect overall community integrity but would affect quality of life in the communities surrounding project construction zones. (Note: permanent displacement impacts are discussed under Project Operation, above.) All of the alternatives would result in effects of moderate intensity on community interactions during construction. The context of these communities varies from urban settings, where construction can be a common occurrence, to rural settings, where such a construction project would be in stark contrast to existing conditions. Given this moderate intensity and context, the overall impact would be significant for the duration of construction.

Economic Effects

The HST construction activities could affect sales prices of nearby properties and result in lower property tax revenues. This would have an effect of moderate intensity under NEPA. The current context of the region is one of challenging budget deficits for local county and city jurisdictions. Given this moderate intensity and context, the overall impact on property tax revenues would be significant for the duration of construction.

HST System construction spending for all alternatives would result in sales tax revenue gains and an increase in employment. The sales tax revenue generated would benefit local government revenues and the additional jobs would benefit the regional employment base in the San Joaquin Valley.

3.12.13.2 Project Impacts

Disruption or Division of Existing Communities

The HST project has the potential to cause both beneficial and adverse impacts on social conditions and the quality of life experienced by residents of study area communities and neighborhoods. Short-term impacts associated with the displacement and relocation of homes and businesses would be substantial in some areas. Although mitigation measures can reduce the impact of the BNSF Alternative, Bakersfield South Alternative, Bakersfield Hybrid Alternative, and Corcoran Bypass Alternative on specific community facilities, in areas where the project would divide communities, impacts would remain substantial and significant, even with measures to relocate homes and businesses and address noise and visual impacts. In the long term, the project would improve regional access, reduce travel times, and reduce traffic congestion on many local roadways. People who live and/or work in the general vicinity of proposed stations would likely benefit the most from the proposed new rail facilities. Those who live along the portions of the alignment without easy station access would not enjoy the same level of mobility and access benefits and would potentially be exposed to adverse project-related effects.

Adverse effects include the potential to divide adjacent communities by physically removing homes, businesses, and community facilities and placing a new linear project through the community outside of and away from the existing railroad right-of-way. The intensity of this effect would be substantial for several small, unincorporated communities along the alternative alignments (e.g., Ponderosa Road east of Hanford, Newark Avenue northeast of Corcoran, 5th Avenue and Waukena Avenue east of Corcoran, and Crome between Shafter and Bakersfield), as well as in the affected neighborhoods of Bakersfield, where right-of-way acquisition would divide communities and disrupt community facilities, such as the Mercado Latino Tianguis, Bakersfield High School, a Mercy Hospital medical complex building, and several religious facilities. The impact to these communities would be significant.

The context of these communities varies from urban settings, where the project would disrupt many residents and facilities in established communities, to rural settings, where the project would disrupt agricultural communities with residents that take pride in their agricultural heritage and where agriculture is a dominant economic activity. Given this substantial intensity and context, the impacts would be significant.

Displacement and Relocation of Local Residents and Businesses

Residential relocation effects of substantial intensity associated with the BNSF, Bakersfield South, and Bakersfield Hybrid alternatives would occur in Corcoran and the Bakersfield Northwest and Northeast districts. Effects of moderate intensity from residential displacements would occur in unincorporated Fresno, Kings, and Kern counties from the BNSF Alternative and in Armona from the Hanford West Bypass 1 and Hanford West Bypass 1 Modified, Hanford West Bypass 2, and Hanford West Bypass 2 Modified alternatives. Commercial and industrial business displacements and required relocations associated with the BNSF, Bakersfield South, and Bakersfield Hybrid alternatives would result in effects of substantial intensity in Corcoran and the Bakersfield Central and Northeast districts. Commercial and industrial business relocations required under the BNSF Alternative and the Fresno HMF site in Fresno's Edison and Roosevelt districts would result in effects of moderate intensity. The regional context is one where established neighborhoods in urban and rural communities would be disrupted and displaced commercial and agricultural businesses have great importance to the local economies. Given this substantial intensity and context, the overall impacts would be significant.

Economic Effects

Operation of the HST System for all alternatives would result in economic benefits to the region, including long-term increases in property and sales tax revenues as a result of improved accessibility to statewide labor and customer markets. The direct jobs created to operate and maintain the project, indirect and induced jobs created to support these new workers, and the additional jobs created as a result of the improved connectivity of the region to the state would result in a net benefit in regional employment.

Some short-term reductions in property and sales tax revenues may occur as a result of land acquisition and the removal of properties from county tax rolls. A reduction in tax revenues has the potential to affect school district funding. As most residences and businesses would have the opportunity to relocate within the same tax jurisdiction and the potential losses would be a small percentage of annual tax revenues collected by local jurisdictions, the intensity of the effect would be negligible. In the context of a challenging regional economic climate, the impact would less than significant.

The intensity of effects on agricultural production as a result of project land acquisition would be moderate in the short term and negligible in the long term, as farm operations logically reallocate land resources and relocate agricultural facilities. Given the regional context of a productive agricultural economy, the impact would be less than significant in the long term.

3.12.14 NEPA Impacts Summary: Environmental Justice

Direct and indirect effects have been identified under NEPA for the construction and operation periods of the project. This section below discusses impacts on minority and low-income populations.

3.12.14.1 Construction Period Impacts

As illustrated in Table 3.12-16, all communities along the alignment and adjacent to station and HMF locations would be impacted during project construction. However, in almost all cases, the impacts would not result in disproportionately high and adverse effects to minority and low-income populations since these impacts are not unique to, nor would not be borne primarily by, these populations. Nevertheless, because many of the minority and low-income populations reside in the urban areas of Fresno, Corcoran, Shafter, Wasco and Bakersfield where other reasonably foreseeable construction projects will also occur, there are likely to be disproportionately high and adverse cumulative effects experienced by these populations. Mitigation measures that would be implemented would not completely eliminate the adverse impacts to the low-income and minority populations and when considered with other reasonably foreseeable projects in the area, these populations are likely to bear a disproportionate burden of the cumulative impacts.

3.12.14.2 Project Impacts

Project impacts occurring disproportionately on minority and low-income populations would be concentrated in urban areas along the project area including Fresno, Corcoran, Wasco, Shafter and Bakersfield, as well as in rural areas such as Newark Avenue, 5th Avenue and Waukena Avenue, and Crome. These impacts would include an increase in both ambient noise levels and vibratory impacts above standards; disruption of communities and the displacement of community facilities, changes or loss of park resources, decreases in visual quality, and cumulative impacts for noise and vibration, communities, and aesthetics and visual resources.

In accordance with Executive Order 12898, offsetting benefits associated with the project were considered in the EJ analysis that evaluated the potential for disproportionately high and adverse

effects on minority and low-income populations. The proposed HST project would result improved mobility within the region, a reduction in traffic congestion on freeways, improvements in regional air quality, and in long-term economic benefits to the region, including employment growth. A majority of the construction and operation jobs would be filled by the regional labor force and thus would broadly benefit regional employment due to multiplier effects. The jobs will benefit minority and low-income populations specifically through special recruitment, training, and job set-aside programs.

Additionally, station construction and planned station area improvements in the downtown areas of Fresno and Bakersfield would benefit the local minority and low-income populations. Station-related benefits include improved accessibility to the region, revitalization, and economic development.

3.12.15 CEQA Significance Conclusions

Table 3.12-18 provides a summary of significant impacts limited to CEQA thresholds only, associated mitigation measures, and level of significance after mitigation.

Table 3.12-18
Summary of Significant Social Impacts and Mitigation Measures

Impact	Level of Significance before Mitigation	Mitigation Measure	Level of Significance after Mitigation
Project			
SO #6: Division of existing community Ponderosa Road/Edna Way east of Hanford, the Newark Avenue vicinity northeast of Corcoran, the 5th Avenue and Waukena Avenue vicinity east of Corcoran, and Crome. Impacts associated with the BNSF Alternative and the Corcoran Bypass Alternative would relocate and displace residents of small, rural residential communities.	Significant	**SO-MM#1: Implement measures to reduce impacts associated with the division of residential neighborhoods.**	Significant
SO #6: Division of existing community in the Bakersfield Northeast and Central districts. Impacts associated with the BNSF, Bakersfield South, and Bakersfield Hybrid alternatives would relocate and displace residents, businesses, and community facilities.	Significant	**SO-MM#2: Implement measures to reduce impacts associated with the division of communities.**	Significant

Table 3.12-18
Summary of Significant Social Impacts and Mitigation Measures

Impact	Level of Significance before Mitigation	Mitigation Measure	Level of Significance after Mitigation
SO #6: Division of existing community in the Bakersfield Northwest District. The BNSF, Bakersfield South, and Bakersfield Hybrid alternatives would create a new physical barrier, isolating one part of an established community from another and potentially resulting in a physical disruption to community cohesion.	Significant	**SO-MM#2: Implement measures to reduce impacts associated with the division of communities.**	Significant
SO #6: Displacement of Bakersfield High School's Industrial Arts building.	Significant	**SO-MM#3: Implement measures to reduce impacts associated with the displacement of Bakersfield High School facilities.**	Less than significant
SO #6: Displacement of the Mercado Latino Tianguis.	Significant	**SO-MM#3: Implement measures to reduce impacts associated with the displacement of the Mercado Latino Tianguis.**	Less than significant
SO #6: Displacement of the Fresno Rescue Mission and associated facilities, and the Bakersfield Homeless Shelter.	Significant	**SO-MM#3: Implement measures to reduce impacts associated with the displacement of the Fresno Rescue Mission and associated facilities, and the Bakersfield Homeless Shelter.**	Less than significant
SO #6: Displacement of Mercy Hospital medical complex facilities.	Significant	**SO-MM#3: Implement measures to reduce impacts associated with the displacement of Mercy Hospital medical complex facilities.**	Less than significant
SO #6: Displacement of religious facilities.	Significant	**SO-MM#3: Implement measures to reduce impacts associated with the displacement of religious facilities.**	Less than significant

Table 3.12-18
Summary of Significant Social Impacts and Mitigation Measures

Impact	Level of Significance before Mitigation	Mitigation Measure	Level of Significance after Mitigation
SO #6: Displacement of government facilities—Bakersfield public works corporation yard, the fleet services downtown facility, Kern County Health and Human Services Department, and Kern Mental Health office—as well as parking associated with the Bakersfield Convention Center and temporary construction use of Owens Intermediate School parking area.	Significant	**SO-MM#3: Implement measures to reduce impacts associated with the displacement of facilities.**	Less than significant

Abbreviations:
MM mitigation measure
SO Socioeconomics, Communities, and Environmental Justice

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