

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; the impacts that would result from the project; and the mitigation measures that would reduce these impacts. The *Merced to Fresno Section Community Impact Assessment* (Authority and FRA 2011) provides a demographic analysis with complete race, ethnicity, income, and housing characteristics for socioeconomics, communities, and environmental justice.

Environmental justice is a requirement that federal agencies address, to the extent practicable and permitted by law, the potential disproportionately high adverse human health and environmental impacts of their programs, policies, and activities on minority and low-income populations (see the description of Executive Order (EO) 12898 in Section 3.12.2 for further information). Related topics are discussed in Sections 3.11, Safety and Security; 3.13, Station Planning, Land Use, and Development; 3.18, Regional Growth; and 3.19, Cumulative Impacts.

This section presents the socioeconomic topics of population trends, demographic characteristics, housing, household income, fiscal resources, and agricultural industry characteristics. The socioeconomic 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 various city and county agencies.

The analysis included a review of the Bay Area to Central Valley HST Revised Final Program EIR/EIS (Authority and FRA 2010a), which identified mitigation strategies for socioeconomics, communities, and environmental justice resources. Strategies incorporated into the Merced to Fresno Section project to date include early community involvement in the project (including outreach to minority and low-income populations, in compliance with EO 12898), station design workshops, and the maintained connectivity of pedestrian, bicycle, and vehicle crossings of the rail corridor to maintain neighborhood and community integrity.

3.12.2 Laws, Regulations, and Orders

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.

Executive Order 12898

EO 12898, known as the Federal Environmental Justice Policy, requires federal agencies to address, to the greatest extent practicable and permitted by law, the potential disproportionately high, 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. The U.S. Department of Transportation (DOT) Order 5610.2 was issued in 1997 to comply with Executive Order 12898. The policy of the DOT Order is to promote the principles of environmental justice in all DOT programs which includes the FRA. 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, Appendix Definitions, sub. [g]).

Executive Order 13166

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

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.

3.12.2.2 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 Relocation 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 local agencies that do not involve federal funds.

3.12.2.3 Regional and Local

General plans for Merced, Madera, and Fresno counties and the cities of Merced, Chowchilla, Madera, and Fresno contain numerous goals, objectives, and policies related to socioeconomic. The general plan elements that were identified and considered include land use, transportation and circulation, housing, open space and conservation, community facilities and services, and economic development. These elements address the following issues:

- Land use elements focus on policies that enhance the quality of life by preserving community character and minimizing conflicts between incompatible land uses. The general plans also reflect the various issues involved in city and county planning. City general plans focus on urban character and community design, and county plans focus on agricultural land and rural residential growth.
- Transportation and circulation elements include policies related to nonmotorized transportation. General plan objectives include pedestrian and bicycle transportation in the community design and layout to promote alternatives to automobile travel.
- Housing elements encourage a range of housing types and prices to meet the diverse needs of residents, and provide adequate housing assistance to very low to moderate income households and those with special housing needs.
- Open space and conservation elements focus on preserving open space and agricultural resources; 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 focus on providing services for residents. Policies address 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 focus on increasing job growth and encouraging new development within the urban area. Economic development also focuses on the long-term preservation of agricultural lands in the counties.

3.12.3 Methods for Evaluating Impacts

3.12.3.1 Socioeconomics, Communities, and Environmental Justice Data Collection and Analysis

Communities and Neighborhoods

The California Department of Transportation (Caltrans) defines community cohesion as “the degree to which residents have a ‘sense of belonging’ to their neighborhood. Cohesion refers to the degree of interaction among the individuals, groups, and institutions that make up the community” (Caltrans 1997). Community cohesion takes into consideration access and linkages, community facilities, and local businesses in the surrounding area that provide opportunities for residents to gather and interact.

The evaluation of impacts considered the following key neighborhood and community issues: changes in neighborhood quality; barriers to social interaction in the analysis of potential impacts of the HST project on neighborhoods, community cohesion, and community facilities; impacts on community facilities; and impacts on public services, safety, and security. Much of the basis for the discussion of the evaluation of impacts in this section comes from analyses documented in other sections of this Project EIR/EIS, as listed in Section 3.12.1, Introduction. Impacts on these resources do not automatically constitute an adverse impact on neighborhood cohesion; rather, these impacts are evaluated collectively with mitigation measures. This section also provides information on employment in the study area based on the information in Section 3.18, Regional Growth.

Potential impacts on community facilities were assessed by (1) conducting an inventory of all facilities within 0.25 mile of the proposed alignments and within 0.5 mile of the proposed HST stations and maintenance and operations facility sites and (2) identifying facilities that would be directly or indirectly affected by the project. Direct impacts involve physical acquisition, displacement, or relocation of a community facility; indirect impacts involve changes to pedestrian or vehicle access. The analysis also included a review of the potential residential displacements to determine the likelihood of impacts related to school district funding. Because school district funding is dependent on student attendance, any negative changes caused by displacements and relocations outside of the school district could result in negative impacts.

Properties

The analysis for property acquisitions and relocation included data collected from various sources, including the U.S. Census Bureau and local agencies. The number of residential occupants was estimated by using average household size. To estimate the number of employees for each business, the size of the building and the type of business were considered.

Economic Impacts

The project economic impacts analysis was conducted based on current 15%-level design cost estimates. Operation and maintenance costs include activities to operate a safe, well-maintained system, including staff and supplies to conduct these activities. Operation and maintenance costs are estimates based on daily HST miles, operation speed, travel times, station configuration, maintenance and storage facilities,

and assumed operating frequencies. The analysis evaluated the changes in sales tax revenues by using local sales tax rates and local project-related expenditures during construction and operation. New revenues and existing sales tax revenues were compared to estimate project impacts. Impacts on property tax revenues in urban areas assumed a property tax rate of 1.0%. Because Proposition 13 limited property tax rate to 1.0% plus the rate necessary to fund local voter-approved bonded indebtedness (California Board of Equalization [CBOE] 2009), and because every parcel that has been identified for either partial or full acquisition is likely to have a different voter-approved indebtedness, the conservative estimate of 1.0% property tax was assumed and applied to the total property value of all properties that the project is likely to acquire. Information is also provided on the potential for impacts to school district funding. In addition, economic data were not available for geographic areas smaller than cities, resulting in a regional analysis of economic impacts. Impacts on employment and regional economic vitality are discussed in Section 3.18, Regional Growth.

Economic Effects on Agriculture

In the case of acquired agricultural land, the loss in property tax revenues was based on property values, the applicable tax rate (which considers whether the property is enrolled in the Williamson Act agricultural land preservation program), and whether partial acquisition of the property will render the existing farming enterprise inoperable and thus remove it from agricultural production. Because property taxes are collected and disbursed at the county level, the property tax revenues lost within each jurisdiction (Merced, Madera, Fresno counties) are compared to the existing property tax revenues in that jurisdiction.

Environmental Justice

The presence of low-income and minority populations is typically determined by an evaluation of U.S. Census Bureau data. The 2000 Census data are now 10 years old, and demographics have changed within the study area. The analysis also evaluated U.S. American Community Survey (ACS)¹ 2005–2009 data, National Center for Education Statistics (NCES) data (NCES 2010), school enrollment data, comments received during public involvement efforts, specific environmental justice outreach efforts, and a site visit of the study area in November 2009 to supplement information from the U.S. Census Bureau.

For this analysis, minority populations and low-income populations are defined as any readily identifiable groups of minority or low-income persons who live in geographic proximity and, if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed U.S. Department of Transportation program, policy, or activity. The *Merced to Fresno Section Community Impact Assessment* (Authority and FRA 2011) provides additional information on minority and low-income populations.

Analysis of census data is based on census block group level data. A minority or low-income population is defined as a census block group population that meets either or both of the following criteria:

- The census block group contains 50% or more minority persons or 25% or more low-income persons.
- The percentage of minority or low-income persons in any census block group is more than 10% greater than the average for the three counties in the study area (Merced, Madera, and Fresno counties), which is 68% for minority and 32% for low-income persons.

Census block groups that meet these criteria are considered minority or low-income population areas and are referred to as “communities of concern.” The lower of the two thresholds was applied during the analysis to determine communities of concern, which, in this case, was Criterion 1.

¹ The ACS is an ongoing U.S. Census Bureau survey sent to a sample of the population. Data are collected at the city and county level.

To determine adverse impacts on census block groups with communities of concern and whether those impacts would be disproportionately high and adverse on the communities of concern, the analysis included a review of the data and impact analyses in the other sections of this EIR/EIS:

- 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.

The analysis also considered outcomes from the public involvement process that has been conducted. The analysis used two criteria to determine whether communities of concern would experience disproportionately high and adverse effects:

- Communities of concern would predominantly bear the impact.
- Communities of concern would bear the impact, and the impact would be considerably more severe or greater in magnitude than the impact on the general population.

In addition, the analysis considered if the project would (1) implement measures to avoid or minimize disproportionately high and adverse impacts and (2) provide benefits that would affect the communities of concern.

3.12.3.2 Methods for Evaluating Effects Under NEPA

Pursuant to 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, duration of the effect (short- or long-term), and other consideration of context. Beneficial effects are identified and described. When there is no measurable effect, impact is found not to occur. Intensity of adverse effects is summarized as the degree or magnitude of a potential adverse effect where the adverse effect is thus determined to be negligible, moderate, or substantial. It is possible that a significant adverse effect may still exist when on balance the impact is negligible or even beneficial. For socioeconomics, communities, and environmental justice, the terms are defined as follows:

Negligible is defined as social or economic impacts including those related to the other environmental elements (i.e., air quality, noise, and transportation) that would be measurable but not perceptible.

Moderate is defined as those impacts that would not divide neighborhoods or result in physical deterioration but would not affect the overall quality of life. Moderate impacts would also result in some economic effects but impacts would be localized and would not result in disproportionately high and adverse impacts on minority and low-income populations. Effects are *substantial* when an alternative results in one or more of the following impacts: physical division of an established neighborhood; physical deterioration and/or reduction of property values; removal of access to community facilities; relocation of specialized businesses; relocation of a large number of residences that would negatively affect the community; negative economic effects due to a reduction in tax or employment in the cities and counties; or disproportionately high and adverse impacts on minority and low-income populations.

3.12.3.3 CEQA Significance Criteria

Pursuant to CEQA Guidelines, the project would have a significant impact if it would result in any of the following:

- Physically divide an established community.

- Displace substantial amounts of existing housing, necessitating the construction of replacement housing elsewhere.
- Displace 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 governmental facilities or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, 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.

The project's social and economic effects are not treated as significant effects on the physical environment under CEQA. However, the potential for the project to create social or economic effects is considered in determining the level of significance of the project's physical changes to communities and in the discussion of whether social or economic effects create secondary, adverse physical impacts on the environment.

This section discusses project effects 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 addresses the conversion of agricultural land to nonagricultural uses. See Section 3.14, Agriculture Lands, for that evaluation.

3.12.3.4 Study Area for Analysis

For population and household characteristics, including low-income and minority populations, census block group data were collected for the area within 0.5 mile of the centerline of the alignments. Because of the sparse population in rural portions of the study area, some census block groups encompass very large areas of land that often extend for miles beyond the study area. Because the majority of the residents are close to urban areas, census block groups with limited populations in the study area boundaries were not included in the demographic analysis. This more accurately reflects the demographics within the study area boundaries. This was done by reviewing aerial photographs to determine the presence of residential buildings within the study area and by site visits to the study areas in November 2009 and April 2010. For community resources, the study area is defined as the area within 0.25 mile of the centerline of the alignment and 0.5 mile around the HST stations. The analysts also collected population and household characteristics for the surrounding region, including the cities of Atwater, Merced, Chowchilla, Madera, and Fresno; the community of Le Grand; and Merced, Madera, and Fresno counties.

For property impacts and acquisitions, the construction footprint was used to determine the number of acquisitions and displacements. The construction footprint is the total area that would be disturbed during construction. This includes the right-of-way for the project components as well as portions of parcels beyond the necessary right-of-way that would be acquired because they are too small to sustain current uses without other modifications.

The economic setting for the Merced to Fresno Section is discussed in Section 3.18, Regional Growth. A regional-level analysis was performed because economic data are not available for the smaller geographic areas.

3.12.3.5 Environmental Justice Outreach and Interest Groups

EO 12898 requires that federal agencies ensure effective public participation and access to information. Consequently, a key component of compliance with EO 12898 is outreach to potentially affected minority and low-income populations to discover issues of importance that otherwise may not be apparent. Outreach to affected communities has been and will continue to be conducted as part of the Authority

and FRA decision-making process. Outreach conducted to date is documented in Chapter 7, Public and Agency Involvement.

The Merced to Fresno Section Environmental Justice Outreach Plan (Authority and FRA 2010b) identifies outreach efforts to communities of concern for the purpose of understanding where they are present and how they may be potentially be affected by the project. Refer to Chapter 7, Public and Agency Involvement, for further information. All of the outreach effects have been designed to include communities of concern because almost the entire study area is Spanish speaking or low-income. The *Merced to Fresno Section Community Impact Assessment* (Authority and FRA 2011) contains a list of environmental justice-related populations that have been engaged through outreach efforts for the project. As outreach efforts continue, additional groups may be identified and added to the list. In addition to religious institutions and schools, interest groups that focus on minority and low-income populations within the study area are discussed in the *Merced to Fresno Section Community Impact Assessment* (Authority and FRA 2011).

The Merced to Fresno Section Environmental Justice Outreach Plan (Authority and FRA 2010b) summarizes outreach activities to low-income and minority populations at key project milestones, as shown in Table 3.12-1.

Table 3.12-1
 Public Involvement Activities and Outreach to Minority and Low-Income Populations

Project Milestone	General Timeframe	Outreach Activity	Description
Alternatives Analysis	September – November 2009	Direct contact	Contact low-income and minority interest groups to offer project updates, ask about how to reach populations, and gather suggestions for other groups to contact.
Alternatives Analysis Results	November 2009	Public meeting – discussion of alternatives to be evaluated in the Merced to Fresno Project EIR/EIS and next steps	Provide meeting notices to low-income and minority interest groups, advertisements in Spanish-language newspapers, meeting notices in low-income and minority-service community facilities, additional information in Spanish, and Spanish-language interpreters at the meetings. Summarize the analysis in Spanish at the meeting and online.
EIR/EIS Public Hearings and Comment Period	Summer 2011	Public hearings	Provide meeting notices to low-income and minority interest groups, advertisements in Spanish-language newspapers, meeting notices in low-income and minority-service community facilities, additional information in Spanish, and Spanish-language (and Hmong, if required) interpreters at the meetings. Establish a telephone hotline using interpreter services to receive EIR/EIS comments, and provide information on the hotline regarding all Spanish-language materials.
Preferred Alternative	Summer/Fall 2011	Public meeting to discuss the preferred alternative and next steps	Provide meeting notices to low-income and minority interest groups, advertisements in Spanish-language newspapers, meeting notices in low-income and minority-service community facilities, additional information in Spanish, and Spanish-language (and Hmong, if required) interpreters at the meetings. Summarize the Merced to Fresno Section Final Project EIR/EIS in Spanish at the meetings and online.

Ongoing environmental justice outreach efforts have engaged low-income and minority populations in the planning process. Four public information meetings and small community meetings in Le Grand and Fairmead have been held to date. Postcards were mailed in English and Spanish to advertise the meetings, and comment cards provided at the meetings were printed in both languages. Spanish interpreters were available at all four meetings. Because many Fairmead residents do not receive the newspaper, the project team distributed flyers in the community to advertise the meeting. All meeting materials provided contact information for those with special needs, allowing them to make necessary arrangements. In addition, the outreach team contacted several ethnic or minority organizations, including the Laotian community and the National Association for the Advancement of Colored People, to inform them of the project and obtain assistance in notifying others of meetings and project milestones. A meeting and presentation were provided at the Lao Family Community in Merced. Additional outreach is planned prior to the release of this Project EIR/EIS.

In May 2010, the outreach team managed a booth at the Picnic in the Park Health and Safety Fair in Madera, which was sponsored by the Madera County Health Department. Project information was handed out in English and Spanish to approximately 65 people, the majority of whom were bilingual or spoke only Spanish. In addition to specific environmental justice outreach efforts, general outreach efforts during project scoping engaged environmental justice communities, as follows:

- Public involvement and outreach included distribution of informational materials, such as fact sheets; information and scoping meetings, including town hall meetings; public and agency scoping meetings; meetings with individuals and groups; presentations; and briefings.
- Agency involvement included agency scoping meetings, interagency working group meetings, and other agency consultations.

NEPA and CEQA require public involvement throughout the development of projects. The public involvement process starts in the scoping phase. The public was invited to scoping meetings in March 2009 to identify topics the study should address. Additional public information meetings have been held prior to publication of this Project EIR/EIS to discuss study progress. After distribution of this EIR/EIS for public review, the Authority will hold public hearings to allow members of the community and concerned stakeholders to provide comments and public testimony on the environmental review. The Authority will consider all comments received and provide responses in the Merced to Fresno Section Final Project EIR/EIS.

Three public and agency scoping meetings (one each in the cities of Merced, Madera, and Fresno) were attended by 279 people between March 18 and March 26, 2009. In addition to the formal scoping meetings, other presentations, briefings, and workshops were held during the scoping process. During these meetings, several comments were made by the general public. Because the study area consists largely of communities of concern, the comments from the public reflect their concerns as well. Environmental issues mentioned in scoping comments include the following:

- Location of HST stations and alignment.
- Location of the HMF.
- Displacement of people.
- Air quality, congestion, and economic benefits.
- Economic growth.
- Connections to local transit.
- Benefits and impacts on local businesses.
- Potential devaluation of property.
- General support for the project.
- Employment opportunities.
- Agricultural impacts.
- Property acquisition.
- Noise impacts.
- Use of domestic labor and products for construction.

To engage minority and low-income groups in the development of the environmental analysis, the project team will continue to undertake additional specific activities referenced in Table 3.12-1 at key project milestones (such as publication of the draft EIR/EIS). In addition, the public involvement team will

contact environmental justice interest groups directly by telephone. The *Merced to Fresno Section Community Impact Assessment* (Authority and FRA 2011) identifies these groups. During these telephone conversations, the public involvement team will provide a project update, inquire about effective methods to reach potentially affected populations these groups serve, and solicit suggestions for other groups to contact.

Public hearings will be held after the publication of the Project EIR/EIS. Specific environmental justice outreach efforts during the public comment period will include providing meeting notices to environmental justice interest groups, listing advertisements in Spanish-language newspapers, posting meeting notices (in English and Spanish) at community facilities that serve low-income and minority populations, providing a telephone number to call for information in Spanish, and providing Spanish interpreters at public hearings and meetings. In addition, interpreters for the Lao/Hmong community will be at the public hearings, if required. All meeting materials provide contact information for those with special needs, allowing them to make necessary arrangements. A summary of the Project EIR/EIS will be provided in Spanish at the meetings and online at the project web site. A telephone hotline with interpreter services will be established to receive the Project EIR/EIS comments, and information for using the hotline will be provided in all Spanish-language materials. Chapter 7.0, 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.

3.12.4 Affected Environment

3.12.4.1 Population Characteristics

Population and demographic characteristics provide information about the region's social context. This section discusses age, household, and disability characteristics that help identify special relocation needs and the availability of replacement housing. Race and income information identifies communities of concern.

Regional Population Characteristics

Table 3.12-2 provides information on the existing and projected growth for Merced, Madera, and Fresno counties and the state of California. These counties have grown at a faster rate than the state since the 2000 Census, and they are anticipated to grow at a higher average annual rate than California over the next 25 years. The population in Fresno County is projected to increase by 59.3%, with Merced County increasing by 80.1% and Madera County increasing 103.9%. A major reason for the growth in the area is the overflow of people from urban coastal areas seeking affordable housing near major metropolitan areas.

Table 3.12-2
 Regional Existing and Projected Populations

Area	2000	2010	2035	Change in Population 2010–2035 (%)	Average Annual Growth Rate (2010–2035) (%)
Merced County	210,554	258,495	465,500	80.1	3.2
Madera County	123,109	153,655	313,250	103.9	4.2
Fresno County	799,407	953,761	1,519,325	59.3	2.4
California	33,873,086	38,648,090	51,747,374	33.9	1.4

Sources: CDOF (2010a, b).

According to the U.S. Census Bureau, the median age in Madera, Merced, and Fresno counties in 2000 was approximately 30 years, the average household size was 3.2 people, married couples accounted for about 50% of all households, and the percentage of the population with a disability was about 22% for all age categories. Data on disability are collected by the U.S. Census Bureau for sensory disability, mental disability, self-care disability, going outside the home disability, and employment disability. Individuals can be identified as having more than one type of disability; therefore, there is a potential for double counting in the data. The percentage of the population with a disability in California is about 19%. The 2005–2009 ACS data indicate that the average household size has increased slightly, and the number of married couple households in the region has decreased since the 2000 Census. The *Merced to Fresno Section Community Impact Assessment* (Authority and FRA 2011) provides complete information on the demographic characteristics and trends related to age and households in the cities and counties in the region.

Within the three counties, the Hispanic population comprised the largest percentage of the population (about 45%). The Caucasian, non-Hispanic population represents about 42% of the population. The ACS data indicate that the Hispanic population percentage has increased, and other population percentages have decreased in the region since the 2000 Census. The *Merced to Fresno Section Community Impact Assessment* (Authority and FRA 2011) provides complete information on race and ethnicity characteristics.

The percentage of individuals living below the poverty level ranged from 18.7% to 34.1% based on 2000 Census data and from 17.4% to 26.6% based on the ACS data for cities and counties (see Table 3.12-3). The ACS data indicate that median household incomes have increased in the region since the 2000 Census, and many of the cities and counties have had a decrease in the number of individuals living below the poverty level. Only the cities of Atwater and Merced and the unincorporated community of Le Grand experienced an increase in below-poverty-level status. The majority of the low-income populations are located in the urban areas, primarily in the cities of Merced, Madera, and Fresno.

Table 3.12-3
 Household Income and Poverty Status

Area	Median Household Income		Population Below Poverty Level	
	1999\$	2009\$ ^a	2000 (%)	2009 (%)
UPRR/ SR 99 Alternative	25,781	N/A ^b	34.1	N/A ^b
BNSF Alternative	30,730	N/A ^b	26.4	N/A ^b
Hybrid Alternative	30,552	N/A ^b	26.6	N/A ^b
Merced County	35,532	43,848	21.7	21.1
Atwater	37,344	43,613	18.7	23.7
Merced	30,429	34,757	27.9	26.6
Le Grand	28,894	31,668	23.2	26.4
Madera County	36,286	46,803	21.4	18.0
Chowchilla	30,729	39,561	19.2	17.4
Madera	31,033	40,993	32.5	24.8
Fresno County	34,725	46,230	22.9	20.9

Area	Median Household Income		Population Below Poverty Level	
	1999\$	2009\$ ^a	2000 (%)	2009 (%)
Fresno	32,236	43,036	26.2	23.0
^a ACS 2005–2009 data ^b Information from the 2005–2009 ACS is not available for the smaller geographic areas. Sources: Census block group data from U.S. Census Bureau (2000a, 2009). N/A = Not available.				

HST Alternative Population Characteristics

The following sections provide information on the population characteristics associated with the HST alternative study areas, including the proposed HMF sites. Table 3.12-2 provides information on income and poverty in the study area based on 2000 Census data. Tables in the *Merced to Fresno Section Community Impact Assessment* (Authority and FRA 2011) provide complete information on the demographic characteristics and trends related to age and households and on race and ethnicity characteristics. The year 2000 demographic characteristics for those living within the study area of the three HST alternatives, including the wyes and design options, are similar because both the alignments for all alternatives travel through the larger cities of Merced and Fresno.

UPRR/SR 99 Alternative

According to 2000 Census data, the total population of all census block groups within 0.5 mile of the proposed UPRR/SR 99 Alternative alignment (including the wyes and design options) was 71,415 (U.S. Census Bureau 2000b). Excluding the census block groups with limited population in the study area, the population was 43,892, with the majority of the population located in the cities of Merced, Chowchilla, Madera, and Fresno. Overall, the age, household, and disability characteristics of the UPRR/SR 99 Alternative study area and the cities and counties in the region are very similar.

The UPRR/SR 99 Alternative study area contains higher percentages of minority and low-income populations than the BNSF Alternative or Hybrid Alternative study areas or the region. The UPRR/SR 99 Alternative study area contained a higher percentage of minority population (69.7%), including a higher percentage of Hispanic population (53%), than all of the surrounding cities and counties, except the City of Madera. In addition, the UPRR/SR 99 Alternative study area contained a greater concentration of Asian population (10.0%) than the region, except in the cities of Merced and Fresno.

Compared to the region, the UPRR/SR 99 Alternative study area had a lower median household income, a greater percentage of the population below the poverty level, and a greater percentage of households with no vehicle. Households that do not have a vehicle are likely to be transit-dependent and have lower incomes.

BNSF Alternative

According to 2000 Census data, the total population of all the census block groups that intersect the 0.5-mile radius of the proposed BNSF Alternative alignment was 64,804 (U.S. Census Bureau 2000b). Excluding the census block groups with limited population in the study area, the population was 41,042. The BNSF Alternative study area age, household, and disability characteristics are similar to those of the region.

The BNSF Alternative study area contains lower percentages of low-income and minority populations than the UPRR/SR 99 Alternative or Hybrid Alternative study areas but higher percentages than the entire region. The BNSF Alternative study area contained a higher percentage of minorities (67%), including a higher percentage of Hispanic population, than the cities and counties in the region. In addition, the

BNSF Alternative study area contained a higher concentration of Asian population (11.8%) than all other areas, except the cities of Merced and Fresno.

Compared to the region, the BNSF Alternative study area had a lower median household income. As shown in Table 3.12-3, the percentage of the population below the poverty level was higher than all cities and counties in the region, except the City of Merced.

Hybrid Alternative

According to 2000 Census data, the total population of all the census block groups that intersect the 0.5-mile radius of the proposed Hybrid Alternative alignment was 69,830 (U.S. Census Bureau 2000b). Excluding the census block groups with limited population in the study area, the population was 38,308. Similar to the UPRR/SR 99 Alternative and BNSF Alternative study areas, the Hybrid Alternative study area age, household, and disability characteristics are similar to those of the three-county region.

The Hybrid Alternative study area contains similar percentages of low-income and minority populations as the BNSF Alternative study area, lower percentages than the UPRR/SR 99 Alternative study area, and higher percentages than the region. The Hybrid Alternative study area contained a higher percentage of minority population (68%), including a higher percentage of Hispanic population, than the cities and counties in the region. Similar to the BNSF Alternative, the Hybrid Alternative study area contained a greater concentration of Asian population (11.2%) than all other areas, except the cities of Merced and Fresno.

Compared to the region, the Hybrid Alternative study area had a lower median household income. As shown in Table 3.12-3, the percentage of the population below the poverty level was higher than all cities and counties in the region, except the cities of Merced and Madera.

Heavy Maintenance Facility Alternatives

Of the five proposed sites for the HMF, four of the sites (Harris-DeJager, Fagundes, Gordon-Shaw, and Kojima Development) are in areas with agricultural land uses and very sparse populations. In these areas, the census block groups are very large and extend for miles beyond the proposed HMF site. Demographic data are not a good indicator because there is no population within the properties proposed for the HMF, and the areas surrounding the sites are sparsely populated.

The Castle Commerce Center HMF site, which is adjacent to the City of Atwater in Merced County, would connect to the Downtown Merced Station via a guideway that would be located close to residences. According to 2000 Census data, the population was 3,157 for those census block groups associated with the Castle Commerce Center HMF; demographic data were similar for the UPRR/SR 99, BNSF, and Hybrid alternatives study areas.

3.12.4.2 Housing Setting

Single-family housing accounted for more than two-thirds of the total housing units in the three-county region. Of the three counties, Madera had the highest proportion of single-family residential units (81%) and Fresno had the lowest (70%). In 2010, vacancy rates for single-family and multifamily housing units ranged from 4.3% in the City of Madera to 14.1% in unincorporated Madera County (CDOF 2010a). Since 2000, the trends in housing stock inventory have indicated an increase in the percentage of single-family residences and a decrease in multifamily units and mobile homes. In Merced and Madera counties and the City of Fresno, approximately 3,800 single-family homes were available for sale in 2010 during the analysis, and prices ranged from \$25,000 to \$6,500,000 (National Association of Realtors 2010). Refer to the *Merced to Fresno Section Community Impact Assessment* (Authority and FRA 2011) for further information.

Table 3.12-4 provides information on the housing characteristics for the three counties based on the 2005–2009 ACS data. The data indicate that about half of the total housing units in each of the three counties are owner-occupied and half are renter-occupied. The median monthly rent was \$783, \$814,

and \$801 for Merced, Madera, and Fresno counties, respectively, and most of the housing units are more than 30 years old.

Table 3.12-4
 County Housing Characteristics

	Merced County	Madera County	Fresno County
Total Housing Units	84,034	49,477	310,115
Owner-Occupied	39,947 (54%)	27,746 (64%)	152,504 (54%)
Rented	34,219 (46%)	15,647 (36%)	128,342 (46%)
Vacant	9,868 (12%)	6,084 (12%)	29,269 (9%)
Vacancy Rates	11.7	12.3	9.4
Homeowner Vacancy Rates	5.8	5.9	2.9
Rental Vacancy Rates	6.3	3.9	7.0
Number of Bedrooms			
No Bedrooms	1,169 (1.4%)	1,112 (2.2%)	9,929 (3.2%)
1 to 2 Bedrooms	25,671 (30.5%)	11,327 (22.9%)	108,192 (34.9%)
3 to 4 Bedrooms	54,153 (64%)	35,281 (71.3%)	181,723 (58.6%)
5 or More Bedrooms	3,041 (3.6%)	1,757 (3.6%)	10,271 (3.3%)
Occupied Units Paying Rent			
\$0 to \$499	4,166	1,664	14,592
\$500 to \$749	9,764	3,733	33,127
\$750 to \$999	8,985	3,907	35,778
\$1,000 to \$1,499	7,651	3,646	28,492
\$1,500 or More	1,111	988	10,081
Median Rent	\$808	\$826	\$830
Age of Housing Units			
Built 2005 or Later	6,038 (7.2%)	5,747 (11.6%)	21,426 (6.9%)
Built 2000 to 2004	11,620 (13.8%)	6,925 (14.0%)	25,234 (8.1%)
Built 1990 to 1999	12,201 (14.5%)	7,775 (15.7%)	43,909 (14.2%)
Built 1980 to 1989	12,752 (15.2%)	7,419 (15.0%)	47,311 (15.3%)
Built before 1980	41,423 (49.3%)	21,611 (43.7%)	172,235 (55.5%)
Source: U.S. Census Bureau American Community Survey (2009).			

3.12.4.3 Economic Setting

Merced, Madera, and Fresno counties include some of the most agriculturally productive areas in the world, and farming is a primary economic factor in the regional economy. In 2009, these counties ranked 1st (Fresno County), 5th (Merced County), and 14th (Madera County) in total agricultural production value in California. Cumulatively, these counties accounted for about \$8.6 billion (25%) of the total agricultural revenue generated statewide in 2009 (\$34.8 billion) (California Department of Food and Agriculture 2011). Although agriculture still plays a large role in the regional economy, there has been a

shift towards the services sector of the economy. The real estate boom of the mid-2000s created new construction jobs that resulted in increased retail sales and increased sales tax and property tax revenues (Cowan 2005).

The real estate boom that ended in 2007 fueled retail sales, generated many jobs in construction, and increased sales and property tax revenues. However, the San Joaquin Valley has been one of the hardest-hit areas in the nation since the real estate market decline in 2007. As a result of the recession, the counties and cities in the study area have experienced substantial increases in unemployment and residential foreclosure rates, and sharp declines in housing prices (Bertaut 2009). Unemployment rates have increased since the real estate boom ended 2007 in all three counties, with Merced County's 18.9% average annual unemployment rate the highest in the region in 2010. This exceeds the state average of 12.4% for the same period (CEDD 2010a). Madera and Fresno counties also had unemployment rates higher than the state average at 15.6% and 16.8%, respectively.

Most economic data sources provide data that describe the linkages between various sectors of the economy only at the county level. Some sources provide data, such as tax revenues, for cities. Economic data are not available for geographic areas smaller than cities; therefore, Section 3.12.4.1 discusses the economic setting in the Merced to Fresno Section.

Tax Revenues

Increased unemployment rates have reduced retail sales and associated sales tax revenues in the study area. Declining housing values and increasing foreclosure rates have reduced property tax revenues. According to information from the local city and county governments, property and sales tax revenues declined between fiscal year (FY) 2008/2009 and FY 2009/2010. The *Merced to Fresno Section Community Impact Assessment* (Authority and FRA 2011) provides complete information.

Funding for California's public schools (K through 12) 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 funding is based on the average number of students attending district schools during the year, typically referred to as the average daily attendance (EdSource 2009). Public schools across California are facing difficult budget issues, and in the 2011–2012 school year K through 12 funding is anticipated to be substantially reduced for the third year in a row. As such, school districts are struggling to hold onto funds they currently receive (EdSource 2011).

Agricultural Economic Setting

The Central Valley is the largest area of agricultural production in California and contains many of the state's most agriculturally productive counties. According to the most recent U.S. Department of Agriculture (USDA) survey for Merced County (USDA 2009), as of 2006, 2,607 farms occupy more than 1 million acres of land, with an average farm size of 399 acres. In Madera County, 1,708 farms occupy nearly 700,000 acres, with an average farm size of 398 acres. In Fresno County, 6,081 farms occupy more than 1.6 million acres, with an average farm size of 269 acres. Farms occupied more land in 2007 than in 1997, and the average farm size increased. The total market value of farmland nearly tripled in Merced County (179% increase) and more than doubled in Madera County (138% increase). As previously discussed, in 2009 the three counties in the study area ranked 1st (Fresno County), 5th (Merced County), and 14th (Madera County) in total agricultural revenues generated in California. Leading commodities produced in the three counties include: grapes, almonds, milk, chickens, and tomatoes. In Fresno County, the Merced to Fresno Section is primarily within the City of Fresno; it does not affect any of the agricultural land in Fresno County. Agriculture in Fresno County is not discussed in the remainder of this section because the HST alternatives would not affect agricultural land in that county.

Section 3.14, Agricultural and Forest Lands, summarizes the land use and farmland classification survey conducted by the California Department of Conservation in conjunction with the Natural Resources Conservation Service as part of the Farm Mapping and Monitoring Program. Table 3.14-2 (see

Section 3.14, Agricultural Lands) shows the distribution of farmland by land use classification in Merced and Madera counties from the most recent survey.

Merced and Madera County Agricultural Commissioner (CAC) reports (Madera CAC 2010 and Merced CAC 2010) provide data on the total farm acreage in production, expressed as harvested acres. Overall, agriculture in California is a \$34.8 billion industry; the total value of agricultural production was nearly \$2.4 billion in Merced County and \$1 billion in Madera County in 2009. The commodities with the highest values of production in 2009 were milk in Merced County and almonds in Madera County.

In 2008, farm employment made up 16% of total employment and 8.8% of total income in Merced County and 24% of total employment and 6.9% of total income in Madera County. In both counties, the number of workers employed by farms dropped between 2000 and 2008, and the percentage of income from farms increased. The trend in agricultural operations in Merced and Madera counties has been away from smaller family farms toward larger scale operations. A December 2005 report, *California's San Joaquin Valley: A Region in Transition* (Cowan 2005), indicates that the 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 greater efficiencies of scale.

3.12.4.4 Communities and Neighborhoods

The urbanized areas of the cities of Merced, Chowchilla, Madera, and Fresno contain most of the residences and businesses in the region. The small unincorporated communities of Le Grand, Fairmead, and Madera Acres also include residences and businesses. The remainder of the region is rural agricultural land, with no clusters of residences and businesses.

Services and facilities include schools (public and private), religious institutions, parks and recreation facilities, government facilities (e.g., courthouses, prisons, city halls, post offices, and libraries), cemeteries, fire, police, hospitals, and social institutions (e.g., community centers, senior facilities, and food banks), and cultural locations (e.g., entertainment venues and museums). The majority of these are in urban areas, with many centered around the downtown areas of the cities of Merced, Madera, and Fresno. The California Department of Corrections and Rehabilitation (CDCR) operates the Valley State Prison for Women (VSPW) and the Central California Women's Facility (CCWF) east of Chowchilla in Madera County. Each of the facilities is situated on one section of land that is used for buildings and security facilities for the prisons (inside the secure perimeter) and agricultural lands (e.g., almonds) operated for revenue by the California Prison Industry Authority (CALPIA). Inmates participate in farming activities, which afford them meaningful activities as well as income.

Table 3.12-5 provides a summary of the number and types of the facilities located in the study area of the three HST alternatives, of which religious facilities account for about 43%. The *Merced to Fresno Section Community Impact Assessment* (Authority and FRA 2011) provides complete information on the facilities and the locations in the study area.

Table 3.12-5
 Facilities within Study Area

Location	Number of Facilities								
	Cemetery	Cultural	Government ^a	Medical	Public Services ^b	Religious	Schools	Social ^c	Total
City of Merced									
UPRR/SR 99	1	1	1	1	5	13	7	10	39
BNSF	1	1	1	2	5	13	8	10	41
Hybrid	1	1	2	1	2	11	5	10	33
Le Grand									
UPRR/SR 99	0	0	0	0	0	0	0	0	0
BNSF	0	0	2	0	1	1	3	0	7
Hybrid	0	0	0	0	0	0	0	0	0
City of Chowchilla									
UPRR/SR 99	0	1	0	0	0	2	0	0	3
BNSF	0	0	1	0	0	0	0	0	1
Hybrid	0	0	1	0	0	0	0	0	1
City of Madera									
UPRR/SR 99	0	2	2	1	3	13	2	4	27
BNSF	0	0	0	0	0	1	1	0	2
Hybrid	0	0	0	0	0	2	0	0	2
City of Fresno									
UPRR/SR 99	0	7	4	1	4	28	6	7	57
BNSF	0	7	4	1	4	28	6	7	57
Hybrid	0	7	4	0	4	28	6	7	57
HST Alternative Totals									
UPRR/SR 99	1	11	7	3	12	56	15	21	126
BNSF	1	8	8	3	10	43	18	17	108
Hybrid	1	8	7	1	6	41	11	17	92
^a Government services include facilities such as post offices, courthouses, and city halls. ^b Public services include facilities such as police departments, fire departments, and libraries. ^c Social services include facilities such as homeless shelters, community centers, and youth and elderly centers. Source: Authority and FRA (2011).									

Because the BNSF Alternative north-south alignment does not travel through Chowchilla or Madera, there are fewer facilities in the associated study area. Fewer facilities exist along the Hybrid Alternative north-south alignment than either of the other HST alternatives. Between Merced and Fresno, the Hybrid Alternative avoids every community except Madera Acres.

The following sections describe the setting of the communities where the proposed HST alternatives would be located. Table 3.12-6 provides information on the communities that each alternative would travel through.

Table 3.12-6
 Communities Affected, by Alternative

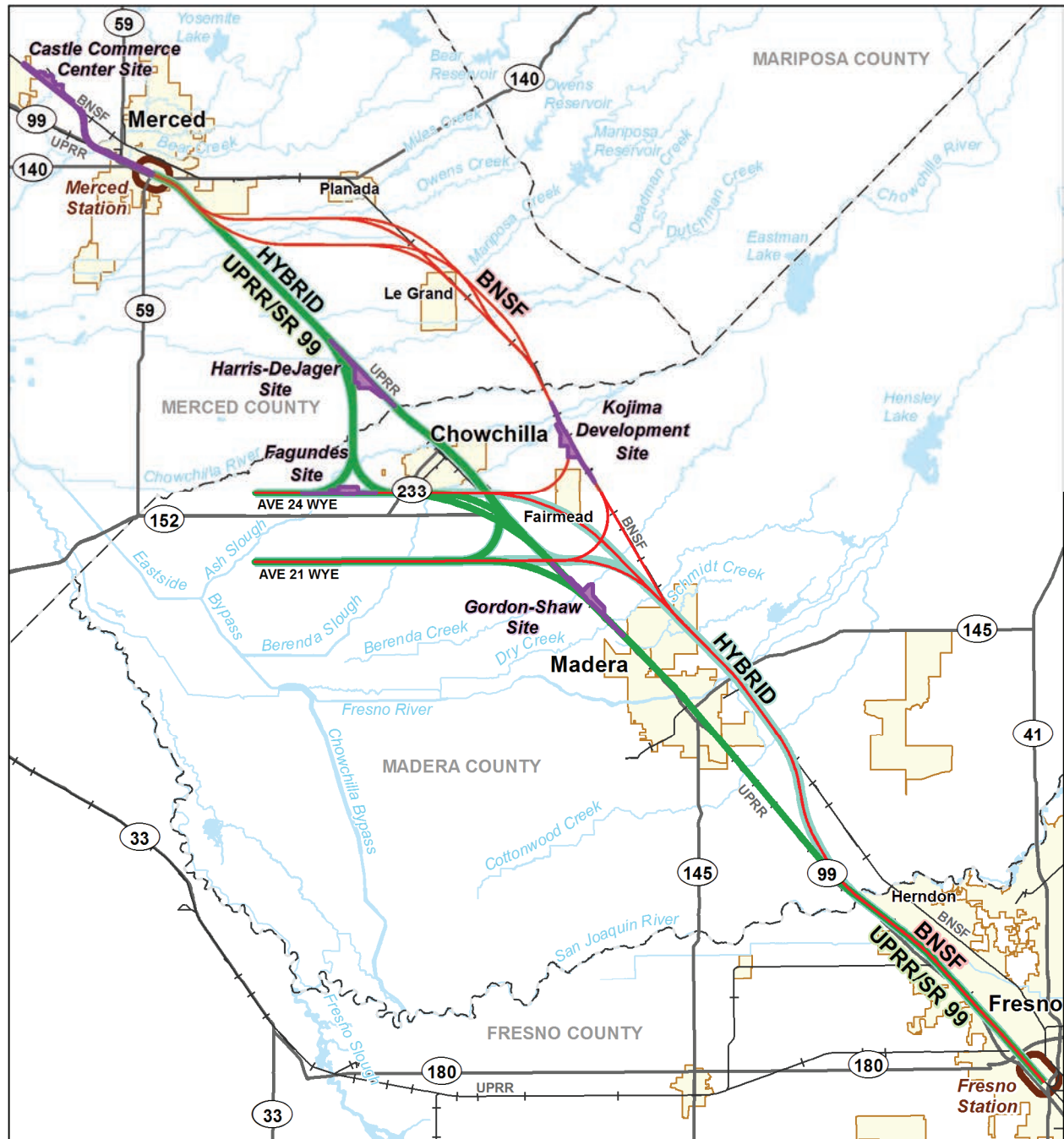
Alternative	Cities and Communities
UPRR/SR 99 with West Chowchilla Design Option	Merced, Fairmead, Madera, and Fresno
UPRR/SR 99 with East Chowchilla Design Option	Merced, Chowchilla, Fairmead, Madera, and Fresno
BNSF with Mission Ave Design Option or Mariposa Way Design Option	Merced, Le Grand, Madera Acres, and Fresno
BNSF with Mission Ave East of Le Grand Design Option or Mariposa Way East of Le Grand Design Option	Merced, Madera Acres, and Fresno
Hybrid Alternative with Ave 24 Wye	Merced, Madera Acres, and Fresno
Hybrid Alternative with Ave 21 Wye	Merced, Chowchilla, Fairmead, Madera, and Fresno
Castle Commerce Center HMF Alternative	Atwater, Franklin-Beachwood, and Merced
Harris-DeJager, Fagundes, Gordon-Shaw, and Kojima Development HMF Alternatives	None
Source: Authority and FRA (2011).	

UPRR/SR 99 Alternative

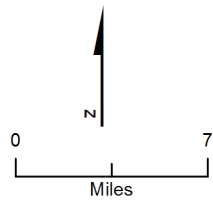
Community Setting

The UPRR/SR 99 Alternative study area is primarily adjacent to the transportation corridors of the UPRR and SR 99, as shown in Figure 3.12-1. Communities within the study area are shown in Table 3.12-6. Of the approximately 60-mile-long alignment, about 40 miles would be in unincorporated parts of the counties, and about 20 miles would be within the incorporated cities of Merced, Madera, and Fresno. Within the unincorporated areas of the three counties, there are few residences and few community facilities or services.

The UPRR/SR 99 Alternative north-south alignment begins in the City of Merced, the county seat. The City of Merced is the economic and cultural hub for the county, where the dairy and agriculture industry are important components of the economy. Because of the agricultural land uses west and east of the city and the airport to the south, much of the growth in the City of Merced has occurred north of the downtown area, as directed by the city's general plan. As growth has occurred northward, areas of Downtown Merced have become vacant or underused.



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- UPRR/SR 99 Alternative
- BNSF Alternative
- Hybrid Alternative
- Station Study Area
- Potential Heavy Maintenance Facility
- City Limit
- County Boundary
- Railroad

Figure 3.12-1
 Communities in the Study Area

Downtown Merced Station

Downtown Merced is primarily commercial but includes residential neighborhoods and other supporting land uses. Schools, neighborhood parks, and religious facilities within the residential neighborhoods of Merced provide a sense of community cohesion by allowing residents to gather and interact. A variety of cultural facilities are located in the downtown core, including the Merced Theater, Playhouse Merced, and the Multicultural Arts Center. In addition, a weekly farmers' market has been held for more than 30 years in Downtown Merced. Although the UPRR railway and SR 99 are both physical barriers to access, there are numerous at-grade crossings of the UPRR corridor and crossings under SR 99 that provide many options for north-south travel.

A residential area south of SR 99 contains a mixture of older single-family and multifamily properties with several rental properties. The area includes parks and churches. There are small convenience stores in the residential areas and businesses along the busier arterial roads.

Downtown Merced Access and Circulation

Access and circulation within Downtown Merced is very good. The area is well-connected, providing several linkages for both motorized and nonmotorized transportation to other parts of the city and the surrounding region. SR 99 is the primary highway in the area, with four interchanges in the study area. SR 140 and SR 59 also provide access to the surrounding area. Within the downtown area, many roadways provide access across the UPRR corridor and SR 99. Most downtown streets include sidewalks, and lighted intersections provide points for pedestrian to cross. There are no pedestrian paths or trails within the study area; however, there are several bicycle facilities, including off-street bicycle paths, marked bicycle lanes on roadways, and shared-use routes. The City of Merced also has proposed new bicycle paths and bicycle lanes in the study area as part of the *Merced County Regional Bicycle Transportation Plan* (Merced County Association of Governments 2008). For a detailed description of the access, circulation, and transit services in Downtown Fresno, see Section 3.2, Transportation.

South of the Downtown Merced Station

South of Merced and the Downtown Merced Station, the alignment enters the town of Chowchilla in Madera County. The proposed alignment would be adjacent to SR 99. The UPRR corridor is approximately 1,500 feet to the west of the alignment, and Downtown Chowchilla is approximately 2,500 feet to the west. To the east of SR 99 is a planned development of commercial and residential uses. The planned commercial uses focus on the SR 99/SR 233 highway interchange. A planned residential area, The Lakes at Pheasant Run, will be a gated community with a golf course, recreational vehicle park, and clubhouse facilities. The residences will be separated from SR 99 by a large earthen berm. There would be no sense of community cohesion between this planned development and Downtown Chowchilla because the community will be gated and separated from the downtown area by SR 99. The West Chowchilla design option bypasses Chowchilla completely and travels through agricultural land west of the city.

The unincorporated community of Fairmead, south of Chowchilla, consists of older single-family residences and a few places for the residents to gather, including a church, elementary school, and playground. Although there are limited facilities and no local businesses in Fairmead, there is a sense of community cohesion due to the small size of the community.

South of Fairmead there are areas of commercial uses focused on automobile traffic at the interchanges along SR 99. North of the City of Madera, there are areas of commercial and industrial land uses within the study area and there are no established residential neighborhoods, but there are a few older, single-family residential properties.

North of the Madera city limits, SR 99 curves to the west, away from the UPRR corridor. The City of Madera is the county seat, and it is the economic and cultural hub for Madera County. Several community facilities and services are located in the downtown area. There is a mixture of commercial and residential uses and park facilities including Sharon Avenue Linear Park, Rotary Park, and Riverview Park. As the alignment crosses the Fresno River, land uses transition to industrial and commercial.

Older, single-family residences constructed during the 1940s are mixed with commercial and industrial uses in Downtown Madera. In these residential areas, tree-lined streets tend to follow a grid pattern and have sidewalks on both sides. These areas contain churches and parks and are close to Downtown Madera and its businesses, all of which provide gathering places for residents to interact. These residential neighborhoods have a strong sense of community cohesion; however, the UPRR corridor was established long before the area was fully developed, and it has served as a barrier between the western and eastern portions of the city, dividing the downtown area. SR 99 is located to the west of the UPRR corridor and forms another barrier to east–west access within the City of Madera, although there are grade-separated crossings over SR 99 that have sidewalks.

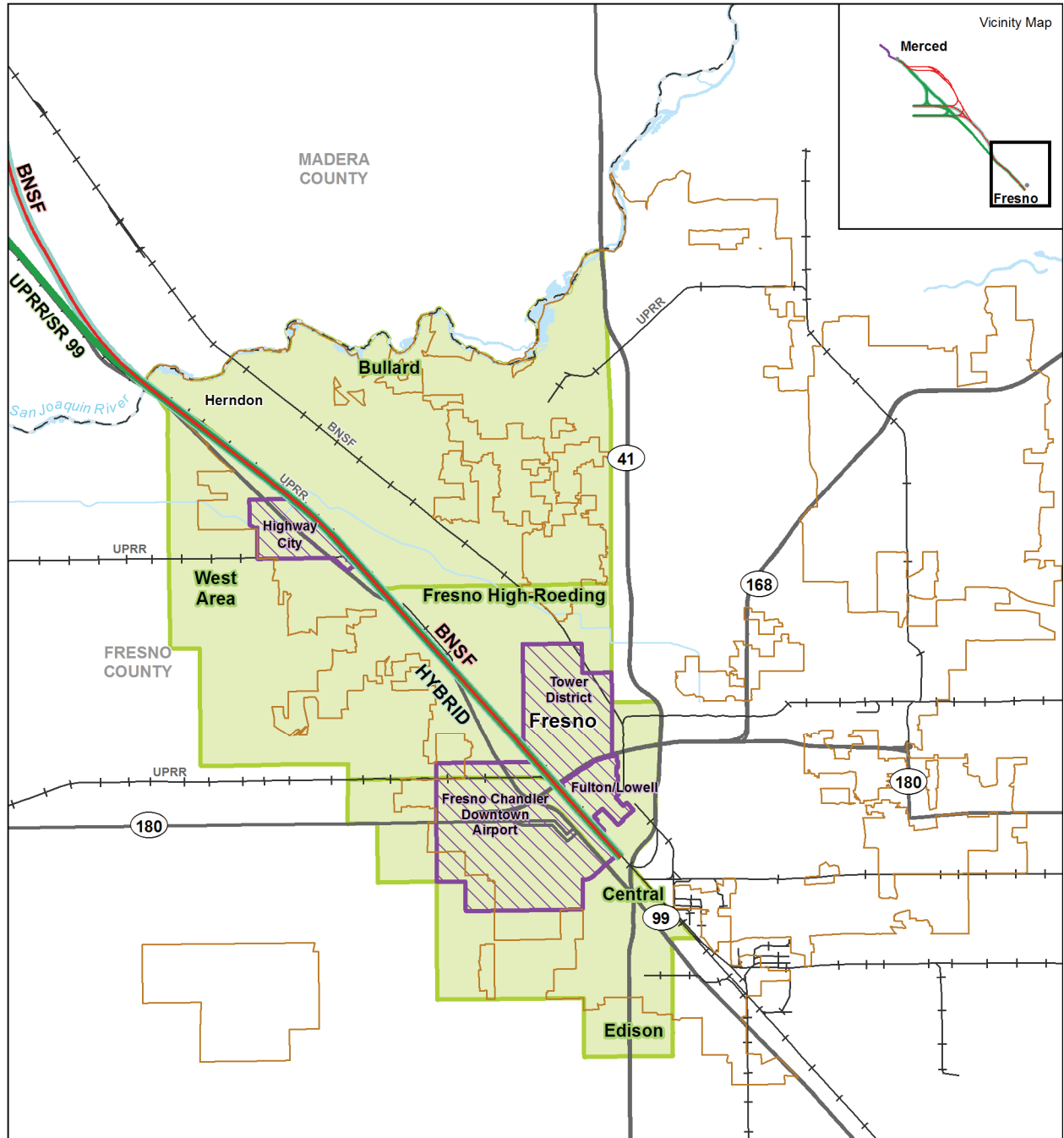
South of the City of Madera, in Madera County, there are newer residential subdivisions to the east. Much of the area includes empty lots and homes for sale because of the recent downturn in the economy and the housing market. The homes are situated around cul-de-sacs that reduce connectivity. With limited community facilities, there likely is limited community cohesion. South of the residential area, there are industrial and commercial uses that transition to agricultural uses, with only a few residences within the study area.

North of the Downtown Fresno Station

Crossing the San Joaquin River, the alignment enters Fresno County and the City of Fresno. As the city grew outward and mostly northward, development occurred on both sides of the UPRR corridor, and community areas were established. Outside of Downtown Fresno, community areas are bounded by the railway corridor. The UPRR and SR 99 are physical barriers to access; however, several crossings, including grade-separated crossings with sidewalks, maintain connections between the western and eastern parts of the study area.

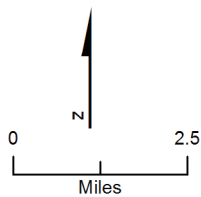
The City of Fresno is divided into nine community areas, with smaller neighborhoods within these community areas. Of the nine community areas, five are within or adjacent to the study area. These community areas include Bullard, West Area, Fresno High-Roeding, Central, and Edison, as shown in Figure 3.12-2. Of these five, there are three associated with the alignments and two associated with the Downtown Fresno Station. The following community and specific plan areas are within the study area:

- The Bullard Community is bounded by the San Joaquin River to the north and the UPRR corridor to the west, and it includes the unincorporated community of Herndon. Residential neighborhoods, separated from the railway corridor by vacant land zoned as industrial, are newer and contain cul-de-sacs with a sidewalk on one side of the street. Schools are the only facilities where the residents can gather and interact in the Bullard Community. These factors contribute to lower community cohesion.
- The West Area Community is bounded on the east by the UPRR corridor and SR 99, and it includes the Highway City Neighborhood (see Figure 3.12-2). Community cohesion in this area is limited because much of the area comprises places where people work. However, Roeding Regional Park, a 159-acre regional park that includes the Fresno Chaffee Zoo, is located here and provides residents an opportunity to gather and interact (for a detailed description of Roeding Regional Park, see Section 3.15, Parks, Recreation, and Open Space). The Highway City Neighborhood, which is bounded by SR 99, the UPRR corridor, and Shaw Avenue, is an older neighborhood with a mixture of residential, commercial, and industrial land uses. There is a limited sense of community cohesion because land uses are principally commercial and industrial, buffering residential areas outside the study area.
- The Fresno High-Roeding Community also includes the Tower District Neighborhood (see Figure 3.12-2). The northern section is industrial land use, including the UPRR railyard. There is no community cohesion. In the southern section, the study area includes mainly single-family residences that are older and on small lots. Many of the streets are lined with mature trees and have sidewalks; the larger arterial roadways have commercial areas. There are few community facilities in the study area; however, there are opportunities for gathering outside of the study area, including



Source: City of Fresno (2011).

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- UPRR/SR 99 Alternative
- BNSF Alternative
- Hybrid Alternative
- - - County Boundary
- +— Railroad
- City Limit
- ▭ Community Plan Area Boundary
- ▨ Specific Plan Boundary

Figure 3.12-2
 City of Fresno – Community and Specific Plan Areas

religious facilities and public school open space. Roeding Regional Park is located west of the community and provides numerous opportunities for residents to interact. The Tower District Neighborhood includes six historical districts that primarily contain residential buildings of historical significance because of their architectural style. Facilities, including businesses that serve area residences, are located along the arterial roadways and create a strong sense of community cohesion.

Downtown Fresno Station

The Downtown Fresno Station would be located in the Central Community Area, which is generally bounded by SR 180 to the north, SR 41 to the south and east, and SR 99 to the west. The Central Community Area is primarily associated with commercial and industrial land uses, including Downtown Fresno east of the UPRR corridor. This area attracts people during business hours for employment, shopping, business, and entertainment. This promotes a sense of community cohesion. Several properties are vacant in Downtown Fresno. There are three neighborhoods in the Central Community Area:

- The Chinatown Neighborhood is one of the most ethnically diverse in the City of Fresno. There are several restaurants and shops in the neighborhood (including ethnic grocery stores) that foster a sense of community cohesion. In addition, the neighborhood holds an annual Chinese New Year Parade, which further promotes a sense of community cohesion. Several historical buildings are listed on the local Register of Historic Properties (Section 3.17, Cultural and Paleontological Resources, provides detailed description of the historical resources located within this portion of the study area.)
- The Fulton Neighborhood is located south of Divisadero Street and includes the Cultural Arts District and several county government facilities. The Cultural Arts District is bounded by H Street to the west, Tuolumne Street to the south, and Divisadero Street to the north and east. The district is home to several cultural facilities, including the Fresno Metropolitan Museum, Arte Americas, and the African-American Museum. Although there are limited residential areas in the neighborhood, the community facilities and services in the neighborhood, including religious facilities, museums, entertainment venues, and restaurants, provide numerous opportunities for residents to gather and interact, promoting a sense of community cohesion.
- The Lowell Neighborhood is primarily residential and is bounded by Divisadero Street to the north, SR 180 to the south, and the UPRR corridor to the west. The area primarily consists of older, single-family homes. The streets in the neighborhood have sidewalks, and many roadways are lined by trees. There are several religious facilities, local restaurants, and community facilities where residents can gather and interact, promoting a sense of community cohesion.

Development of the Community Regional Medical Center, an acute care facility that includes a teaching hospital, resulted in the removal of much of the historic Armenian Neighborhood. Over the years, several buildings in the neighborhood have been torn down and replaced with government facilities, parking lots, and newer buildings. Today, what remains of the neighborhood is centered on Ventura Street and includes the Holy Trinity Armenian Apostolic Church, the Armenian Community Center, and several Armenian restaurants. These are major gathering places, especially for ethnic Armenians.

The Edison Community Area is west of SR 99 and is the location of Fresno's original population that was centered on the train station. Industrial and commercial land uses are located along the UPRR corridor, and there is limited residential development within the Downtown Fresno study area. The majority of the residential development is to the west in the Edison Community Area and the Lowell Neighborhood. In the residential neighborhoods of the Edison Community Area, the homes tend to be older, and several community facilities, including churches, parks, and public schools provide opportunities for gathering and interacting. The small-scale commercial developments located along the busier roadways also serve residents in the area. These resources are all indicators of a strong sense of community cohesion in the Edison Community Area.

Downtown Fresno Access and Circulation

Access and circulation in Downtown Fresno is good, with several routes for motorized and nonmotorized transportation within downtown and to other parts of the city and surrounding region. SR 99 is the main north-south highway, and two interchanges provide access to downtown. SR 180 is to the north and SR 41 is to the south, providing connections in all directions to the surrounding region. The downtown roadway network follows a grid pattern. The railroad's early influence is still evident; several roadways parallel the UPRR corridor and do not travel north-south, like many of the other roadways in the city. Several roadways provide access across the UPRR corridor and SR 99. The majority of the crossings over the UPRR corridor are at-grade and block access when trains travel through the area. The crossings of SR 99 are all grade-separated, minimizing the barriers to access.

The majority of the streets, including those that cross SR 99, have sidewalks and lighted intersections where pedestrians can cross. There are no pedestrian paths or trails within the study area. The City of Fresno recently updated their Bicycle, Trails, and Pedestrian Master Plan (City of Fresno 2010), which identifies several new bicycle lanes on a majority of roadways in the study area as well as a bicycle path along H Street. Portions of B Street, C Street, and H Street have marked bicycle lanes. For a detailed description of the access and circulation in Downtown Fresno and transit services provided, see Section 3.2, Transportation.

Wye Design Options

The Ave 24 and Ave 21 wyes are located in rural agricultural areas in unincorporated Madera County. There are no community facilities or neighborhoods in these areas and there are few residences in these areas.

BNSF Alternative

Community Setting

Information on community and neighborhood characteristics for Downtown Merced and Downtown Fresno and the Ave 24 Wye and Ave 21 Wye are the same as those described under the UPRR/SR 99 Alternative. Because much of the study area for the BNSF Alternative is located in rural and unincorporated areas of Merced and Madera counties (see Figure 3.12-1) where agricultural land uses predominate, there are few residences and community services for much of the alignment study area. Characteristics specific to the BNSF Alternative are described below.

After leaving the City of Merced, the proposed north-south alignment for the BNSF Alternative curves to the east to connect to the BNSF corridor via one of four design options: (1) Mission Ave, (2) Mission Ave East of Le Grand, (3) Mariposa Way, and (4) Mariposa Way East of Le Grand, as shown in Figure 3.12-2 and described in Chapter 2, Alternatives.

Merced County Design Options

All of the Merced County design options would occur within the same community setting. There are few residences and no community facilities or services in the study area outside the unincorporated community of Le Grand. Le Grand is a small farming community with an area of approximately 3.6 square miles. In Le Grand, residential areas primarily comprise small single-family homes and affordable housing developments. Many of the streets have sidewalks and gathering places for the residents, including parks, open spaces at schools, and small retail establishments. The Mission Ave and Mariposa Way design options parallel the BNSF corridor through Le Grand, bisecting a portion of the community. The area to the west of the BNSF corridor contains community facilities, the majority of the residential land uses, and the majority of the businesses in Le Grand.

The Mission Avenue East of Le Grand and the Mariposa Way East of Le Grand design options are similar to the Mission Ave and Mariposa Way design options. However, the East of Le Grand design options

would bypass Le Grand by traveling east of the community through agricultural land rather than paralleling the BNSF north of Le Grand.

South of Le Grand

South of Le Grand, the alignment passes through agricultural land in Merced and Madera counties. In Madera County, the proposed alignment passes the unincorporated community of Sharon, where there are a few single-family residences close to the BNSF corridor. Agricultural uses change to residential uses as the proposed alignment travels through Madera Acres, an unincorporated community east of Madera. Madera Acres is divided by the BNSF corridor and consists primarily of single-family residences.

South of Madera Acres, there are a few single-family residential areas adjacent to the BNSF corridor. The proposed alignment curves to the west about 7 miles north of the Madera-Fresno county line and joins the UPRR corridor north of the county line. From this point to the site of the Downtown Fresno Station, the communities and neighborhoods information is the same as described under the UPRR/SR 99 Alternative.

Hybrid Alternative

From the Downtown Merced Station site to north of Chowchilla, community and neighborhood characteristics are the same as those described under the UPRR/SR 99 Alternative. The Hybrid Alternative with the Ave 24 Wye is the same as the UPRR/SR 99 Alternative with the West Chowchilla design option. This alignment then travels east along the Ave 24 Wye through agricultural land and joins the BNSF corridor. From that point (north of Madera Acres) south to the site of the Downtown Fresno Station, community and neighborhood characteristics are the same as those described for the BNSF Alternative. The Hybrid Alternative with the Ave 21 Wye is the same as the UPRR/SR 99 Alternative with the East Chowchilla design option and this alignment travels east along the Ave 21 Wye and joins the BNSF corridor, similar to the Hybrid Alternative with the Ave 24 Wye.

Heavy Maintenance Facility Alternatives

Castle Commerce Center HMF – UPRR/SR 99, BNSF, and Hybrid Alternatives

Figure 3.12-1 shows the location of the proposed Castle Commerce Center HMF site, which is in an area that was part of the former Castle Air Force Base. Land uses adjacent to the proposed site include agriculture to the east, Castle Airport to the north, Castle Commerce Center to the west, and the BNSF corridor to the south. The guideway that would connect the HMF to the Downtown Merced Station would pass through the unincorporated community of Franklin-Beachwood, in Merced County. Adjacent to that guideway alignment, there are residential land uses (including the Merced Mobile Estates mobile home park) and areas associated with agricultural and commercial land uses. There are eight community facilities within the study area, including four schools (one located adjacent to the guideway) and one cultural, one religious, one medical, and one public service facility.

Harris-DeJager, Fagundes, and Gordon-Shaw HMFs – UPRR/SR 99 and Hybrid Alternatives; and Kojima Development HMF – BNSF Alternative

The proposed Harris-DeJager, Fagundes, Gordon-Shaw, and Kojima Development HMF sites are located in areas where the land uses are primarily agricultural. There are no residential properties and no community facilities or services close to these proposed HMF sites; therefore, no communities of concern exist in these areas and no impacts on communities of concern are anticipated.

3.12.4.5 Environmental Justice

All HST alternatives pass predominantly through areas where concentrations of communities of concern exceed the thresholds identified in Section 3.12.3.1 (i.e., census block groups that contain 50% or more minority persons or 25% or more low-income persons). Of the 38 census tract block groups within the study areas of the three HST alternatives, 5 do not exceed the thresholds. All other affected census block

groups exceed one or both of the thresholds identified. Three potential HMF sites are located in census block groups that do not have high percentages of communities of concern. Outside of the cities and towns, the HST alternatives pass through predominantly rural agricultural areas and potentially could affect agricultural workers, including migrant workers and other transient communities that are not likely included in census data or other information.

Demographic data for this region likely undercount the migrant agricultural workers, because some are undocumented workers. This should be considered in identifying communities of concern. Migrant workers are predominantly low-income and minority populations and are defined as farm workers whose employment requires travel, preventing them from returning to a permanent residence every day. According to the Congressional Research Service (2009), nationwide, 70% of farmworkers are foreign born, 60% of farmworkers have lower-income levels, and the proportion of unauthorized farmworkers has increased (from 7% in 1989 to 37% in 1994–1995, and peaking at 55% in 1999–2000). The *Migrant and Seasonal Farm Worker Enumeration Profiles Study for California* (U.S. Department of Health and Human Services [HHS] 2000) used data from secondary sources and interviews to estimate the number of migrant workers in Merced and Madera counties. In the field agriculture, nursery/greenhouse, and food processing sector, HHS estimated that Merced County had 9,420 migrant farmworkers out of a total of 20,345 farmworkers, and Madera County had 10,710 migrant farmworkers out of a total of 23,132 farmworkers. No migrant farmworker housing (e.g., temporary structures or makeshift housing) was observed within the study areas for the UPRR/SR 99 or BNSF alternatives.

During site visits conducted in January 2010 for the project, several transient communities were discovered within the Fresno vicinity of the UPRR and BNSF corridors. Transient camps were observed beneath railroad and highway underpasses within the City of Fresno. The inhabitants of the camps appeared to be organized informally as a group, advertising skilled labor such as plumbing or painting services. These groups are low-income populations.

Table 3.12-7 shows the total population and percentages of community of concern populations in the cities and counties in the region compared to the three HST alternative study areas. Based on the ACS data, the minority population concentrations have increased for all of the counties and cities and the low-income population concentrations have decreased for all areas except the City of Atwater. The *Merced to Fresno Section Community Impact Assessment* (Authority and FRA 2011) provides figures that illustrate the percentage of minority and low-income populations in the region by census block group. The majority of the minority and low-income populations are concentrated in the residential and urban areas within the study areas, including the cities of Merced, Madera, and Fresno. For most of the study areas, these populations are not adjacent to the proposed alignments, and they tend to be concentrated toward the outer edges of the study area boundaries.

Table 3.12-7
 Minority and Low-income Population

Area or Alternative	Percentage Minority (2000)	ACS Percent Minority (2005-2009)	Percent Low Income (2000)	ACS Percent Low-Income (2005-2009)
HST Alternative				
UPRR/SR 99 Alternative	70	N/A	34	N/A
BNSF Alternative	67	N/A	26	N/A
Hybrid Alternative	68	N/A	26	N/A
Counties and Cities				
Merced County	60	65	22	21

Area or Alternative	Percentage Minority (2000)	ACS Percent Minority (2005-2009)	Percent Low Income (2000)	ACS Percent Low-Income (2005-2009)
Atwater	56	61	19	24
Merced	62	68	28	27
Madera County	53	59	21	18
Chowchilla	45	58	19	17
Madera	75	80	33	25
Fresno County	60	64	23	21
Fresno	63	66	26	23

Sources: Census block group data from U.S. Census Bureau (2000a, 2009).
 N/A = Not available.

Table 3.12-8 provides information on minority students and students who participate in the free lunch or reduced-price lunch program. Thirty elementary schools were identified within the study area; the *Merced to Fresno Section Community Impact Assessment* (Authority and FRA 2011) provides complete data for each elementary school. All schools (except River Bluff Elementary in Fresno County) are Title I schools, which receive funding supplements based on the high proportion of students who qualify for free and reduced-price lunches.

Table 3.12-8
 Elementary Schools – Percent of Minority Students and Percent of Students Receiving Free or Reduced-Price Lunch in 2008–2009

Area or Alternative	Total Students	Minority (%)	Students Receiving Free Lunch (%)	Students Receiving Reduced-Price Lunch (%)
UPRR/SR 99 Alternative ^a	16,768	82	67	13
BNSF Alternative ^a	12,029	84	68	13
Hybrid Alternative ^a	11,363	83	66	12
Merced County ^b	56,153	76 ^c	69 ^d	13 ^d
Madera County ^b	29,409	70 ^c	70 ^d	14 ^d
Fresno County ^b	193,838	76 ^c	70 ^d	11 ^d

^a NCES (2010); data as of October 2009.
^b California Department of Education (CDOE) (2009); kindergarten through 12th-grade students in public schools.
^c CDOE (2009); 2008–2009 school year data.
^d CDOE (2010).

Elementary school data were evaluated because the school attendance boundaries are smaller and more consistent with study area boundaries. However, the attendance boundaries for the schools may be outside of the study area. Consequently, the minority and low-income population data in Table 3.12-8 are

representative of students who may live within the attendance boundaries but not necessarily within the study area. In addition, because this information is based on only the portion of the general population that attends public school, these data may not accurately reflect the number of students who actually reside in the study area. However, this information helps provides a general demographic characterization of the population in the study area.

All public schools in California collect information on race and ethnicity of students and on the percentage of students who are eligible for free and reduced-price lunches. The lunch data provide information on the number of low-income students, because eligibility is based on family income level. Elementary schools were selected because of the attendance boundary overlap with the study area. For the 2008–2009 school year, elementary schools in the alternative three study areas had higher concentrations of minority students than the three counties and similar levels of students participating in free or reduced-price lunch programs. In addition, the percentage of minority students is higher for all three areas when compared to the 2000 Census information. This indicates an increase in the concentration of the minority population. Low-income families that are not below the poverty level may qualify for free or reduced-price lunches, and as such, the percentage of students who qualify for free or reduced-price lunches is higher than the percentage of low-income population. However, higher percentages of students participating in the lunch program may indicate an increase in the low-income populations.

The following sections provide information on the communities of concern within the three alternative study areas. Information is similar for all three HST alternatives because they are all within the same urbanized areas of the cities of Merced and Fresno.

UPRR/SR 99 Alternative

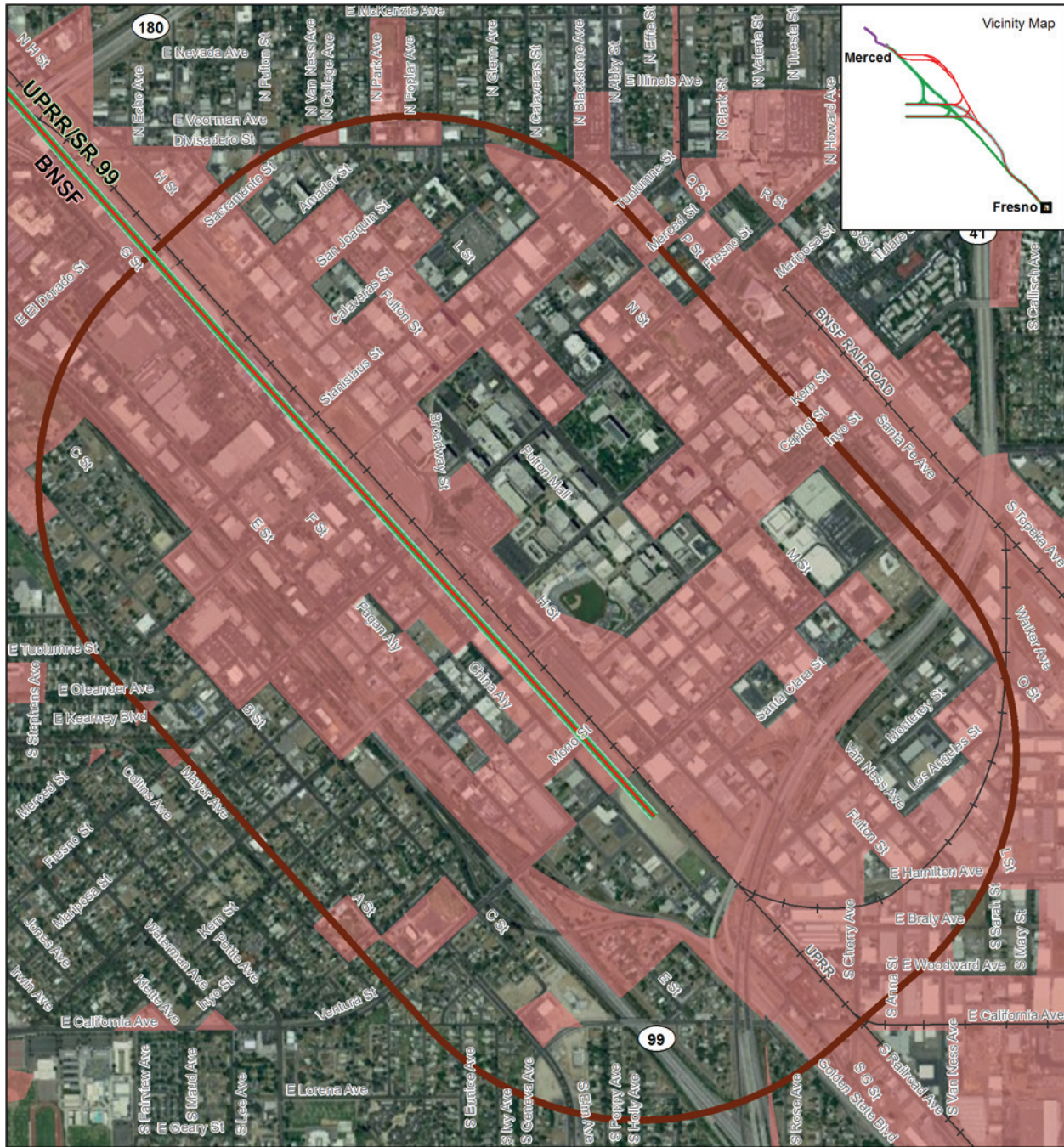
North-South Alignment

As shown in Table 3.12-7, the UPRR/SR 99 Alternative study area has higher percentages of minority and low-income populations than the thresholds identified in Section 3.12.3.1. The largest concentrations of minority populations are Hispanic and Asian (mainly Hmong). The ACS data indicate the regional minority percentage has increased since the 2000 Census, and the regional low-income percentage has decreased in all areas except one, the City of Atwater. Data for the UPRR/SR 99 Alternative study area is a subset of the regional data, and regional trends likely apply within the study area also. Communities of concern tend to be located adjacent to the eastern boundary of the alignment and include areas north and south of Downtown Madera, the unincorporated communities of Fairmead and Herndon, and the area within the City of Fresno where the alignment is adjacent to Weber Avenue.

Downtown Merced and Downtown Fresno Stations

The potential for environmental justice impacts is great in residential areas and greater in urbanized areas, where higher numbers of residences exist. As illustrated in Figures 3.12-3 and 3.12-4, many of the census block groups adjacent to the HST station sites have zero population based on the 2000 Census data. These areas have existing freight rail tracks and are surrounded primarily by industrial or commercial areas.

The *Merced to Fresno Section Community Impact Assessment* (Authority and FRA 2011) provides complete information and figures showing the percentage of minority and low-income populations by census block group in the HST station study areas. Residential areas are concentrated west of SR 99 in the cities of Merced and Fresno, at the outer edges of both HST station study areas. The Downtown Merced Station study area includes resources that serve communities of concern, including a homeless shelter, the Merced Senior Center, the McCombs Youth Center, and the Merced Lao Family Community. In the Downtown Fresno Station study area, resources include the Fresno Rescue Mission and the Poverello House (a women's shelter).



Source: U.S. Census Bureau (2000).

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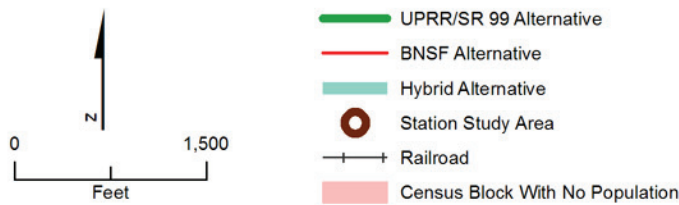


Figure 3.12-4
 Fresno Downtown Station – Areas
 with Zero Population

BNSF Alternative

As shown in Table 3.12-7, the BNSF Alternative study area has higher percentages of minority and low-income populations than the thresholds identified in Section 3.12.3.1. Because the BNSF Alternative avoids the City of Madera, this study area has a lower percentage of low-income populations than the UPRR/SR 99 Alternative study area. The BNSF Alternative instead travels through unincorporated Madera Acres, which is associated with a higher median household income and a lower percentage of the population below the poverty level. Communities of concern adjacent to the BNSF Alternative alignment include the unincorporated communities of Le Grand, Madera Acres, Herndon, and the area within the City of Fresno where the alignment is adjacent to Weber Avenue.

Hybrid Alternative

As shown in Table 3.12-7, the Hybrid Alternative study area has higher percentages of minority and low-income populations than the thresholds identified in Section 3.12.3.1. The Hybrid Alternative with both the Ave 21 Wye and Ave 24 Wye is similar to the BNSF Alternative because it would also travel through the Madera Acres and not the City of Madera. Communities of concern adjacent to the BNSF Alternative alignment include the unincorporated community of Madera Acres, Herndon, and the area within the City of Fresno where the alignment is adjacent to Weber Avenue. In addition to the communities of concern under both wyes, the Hybrid Alternative with the Ave 21 Wye would also include the unincorporated community of Fairmead.

Heavy Maintenance Facility Alternatives

Of the five proposed HMF sites, only the Castle Commerce Center site is close to populated areas where low-income populations exceed the thresholds identified in Section 3.12.3.2. The study area for the Castle Commerce Center includes resources that serve communities of concern, including the Merced Senior Center, the McCombs Youth Center, and the Merced Lao Family Community, which are all associated with the guideway. The other potential HMF sites are located in areas with little or no population and no communities of concern.

3.12.5 Environmental Consequences

This section describes the impact analysis relating to socioeconomic, communities, and environmental justice for the proposed project. It describes the methods used to determine the impacts of the project and lists the criteria used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion. Analysts reviewed the following sections prepared for this EIR/EIS to determine impacts related to socioeconomic, communities, and environmental justice:

- 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 Land.
- Section 3.15, Parks, Recreation, and Open Space.
- Section 3.16, Aesthetics and Visual Quality.
- Section 3.17, Cultural and Paleontological Resources.
- Section 3.18, Regional Growth.

3.12.5.1 Overview

All of the HST alternative alignments would pass through the cities of Merced and Fresno. The HST stations in these cities would encourage redevelopment, attract new businesses, and revitalize the downtown areas, resulting in primarily beneficial social impacts. The HST alternatives would provide

increased employment opportunities and economic benefits that would not occur under the No Project Alternative. In the City of Merced, the HST station and the guideway associated with the Castle Commerce Center HMF would require the acquisition of facilities used by residents in the surrounding area, including communities of concern.

Because they would pass through fewer communities, the Hybrid Alternative and the BNSF Alternative with the Mission Ave East of Le Grand design option or Mariposa Way East of Le Grand design option would have fewer impacts on communities and communities of concern than the UPRR/SR 99 Alternative or the BNSF Alternative with the Mission Ave design option or Mariposa Way design option. The BNSF Alternative with the Ave 24 Wye and the Hybrid Alternative with the Ave 24 Wye would encroach on CCWF property, resulting in moderate effects on prison operations, including revenue flow. The Castle Commerce Center HMF alternative would have more social impacts than the other four HMF alternatives. The guideway between the Merced HST station and the Castle Commerce Center HMF would bisect a small community and require residential displacements.

Social impacts include the effects of property acquisitions, visual changes, noise, and changes in community cohesion. Alternatives that pass through more communities would cause more social impacts. In communities without HST stations or an HMF, direct social impacts would typically be negligible or adverse due to the visual changes. As discussed in Section 3.18, Regional Growth, the HST alternatives would result in direct impacts on employment and induce population and employment growth throughout the region, including in communities that would not have an HST station. The direct and indirect impacts would result in increased employment opportunities and economic benefits throughout the region that would not occur under the No Project Alternative. Employment opportunities indirectly generated by the HST alternatives tend to be high-wage jobs. The jobs would likely be filled by regional workers but would not accrue benefits to a greater degree for the communities of concern, unless they have the necessary skills or are provided training or other programs to assist with employment.

Generally, the entire Merced to Fresno Section is home to communities of concern. The majority of impacts, both adverse and beneficial, would be predominantly borne by communities of concern in the study area. Out the 38 census block groups evaluated for all HST alternatives, 5 do not have low-income or minority population percentages that exceed the thresholds described in Section 3.12.3.1.

Without mitigation, disproportionately high and adverse effects would occur for communities of concern in the unincorporated communities of (1) Le Grand, under the BNSF Alternative with Mission Ave or Mariposa Way design options, (2) Fairmead, under the UPRR/SR 99 Alternative, and (3) Franklin-Beachwood, under the Castle Commerce Center HMF alternative. An adequate supply of replacement housing is not currently available for displaced residents in those communities. An adequate supply of replacement housing exists in Merced and Madera counties and the cities of Atwater, Merced, Chowchilla, and Madera. However, people who must relocate outside of the Le Grand, Fairmead, or Franklin-Beachwood communities (because of the lack of an adequate supply of replacement housing) would be isolated from their communities. Mitigation measures could include avoiding residential displacements or providing replacement housing in Le Grand, Fairmead, or Franklin-Beachwood. In Madera Acres, substantial visual impacts and residual severe noise effects would be predominantly borne by a community of concern population.

Under all HST alternatives, benefits associated with the project would likely accrue to a greater degree to communities of concern because they compose a large percentage of the region. These benefits would include improved mobility within the region, improved traffic conditions on freeways as people increasingly use HSTs, and improvements in air quality within the region. The project would economically benefit cities and counties by attracting new employment opportunities and those who live and work near the HST stations. The project would create a new destination that would improve cohesion in the area and increase the property values near the HST stations. Infill development and redevelopment opportunities in the cities of Merced and Fresno would result in greater development densities and reduce pressures to develop agricultural lands.

3.12.5.2 No Project Alternative

The No Project Alternative includes planned projects that will likely be implemented by the year 2035. Chapter 2, Alternatives, provides a complete description of the No Project Alternative. Section 3.19, Cumulative Impacts, discusses foreseeable future projects including shopping centers, large residential developments, quarries, and expansion of SR 99 between Merced and Fresno to provide full-access interchanges and additional auxiliary lanes by 2020. Section 3.19, Cumulative Impacts, also lists specific development projects, other than the widening of SR 99, that could affect population, housing, and economic activity.

Disruption or Severance of Community Interactions or Division of Established Communities

Community Cohesion and Neighborhoods

Currently planned projects would widen SR 99 and add new interchanges between the cities of Merced and Fresno. These projects would not create barriers that would disrupt or sever community interactions or divide established communities. The SR 99 corridor is primarily associated with commercial and industrial development and acts as a boundary between most of the established communities and neighborhoods in the study area. Widening SR 99 would not create additional barriers, and new interchanges would provide safer and more efficient access to the highway. Future planned growth and associated development would occur in accordance with general plans and land use plans, which aim to strengthen community cohesion.

Community Facilities

The planned projects under the No Project Alternative would undergo or have already undergone project-specific environmental review. Under the No Project Alternative, community facilities would not be affected or would be mitigated to less than significant impacts. Emergency response times and access would be improved because of the SR 99 improvements. No direct or indirect adverse impacts on Section 4(f) lands (e.g., public school facilities open for public recreation) are anticipated.

Displacement of Local Residents or Businesses

The No Project Alternative would require fewer property acquisitions and displacements to accommodate transportation improvements than would the HST alternatives.

Economic Impacts

Under the No Project Alternative, the anticipated growth and development would result in increased employment opportunities and sales tax revenues. The No Project Alternative would not lose as much property tax revenue as the HST alternatives because fewer property acquisitions would occur under the No Project Alternative. However, there would be no HST-station-generated appreciation of property values under the No Project Alternative.

Environmental Justice Effects

Existing highway congestion would continue with the expansion of SR 99, and air quality would not improve. More options for inter-regional travel would not occur, and there would be few incentives to link multimodal transit opportunities. According to the Bay Area to Central Valley HST Program EIR/EIS (Authority and FRA 2008), the interstate highway system, commercial airports, and conventional passenger rail system serving the intercity travel market are operating at or near capacity. Without the mode shift to HST, traffic congestion would contribute to higher air pollution, longer travel times, and increasing transportation costs in comparison to the HST alternatives. These impacts would affect all populations with or without a vehicle, including low-income and minority populations, in the same manner. The No Project Alternative would continue regional reliance on automobiles for travel.

3.12.5.3 HST Alternatives

This section evaluates direct and indirect impacts that would result from construction and operation of each HST alternative. Impacts during the construction period are considered to be temporary (such as the use of land for construction staging) because those impacts would cease after construction. Operations impacts, such as acquisition of properties necessary for the HST alignment and associated facilities, are considered permanent because these lands would remain dedicated to the project.

Construction Period Impacts

The construction period of the project also includes purchasing of the right-of-way and testing of HST vehicles, in addition to the heavy construction (e.g., grading, excavating, and laying the HST railbed and guideway). Refer to Chapter 2, Alternatives, for information on the construction period timeframe. Although property acquisitions would occur prior to construction, the impacts would be permanent and are discussed in the Project Impacts section below. The assumption that displacements would be permanent provides a conservative, worst-case estimate.

Common Community and Neighborhood Impacts

Construction for any of the HST alternatives would result in temporary impacts on communities, such as additional demand for services due to construction purchases and construction workers; temporary use of properties for project construction; and temporary impacts (e.g., dust and noise) on minority and low-income populations as well as the general population. The effects for each of the HST alternatives are discussed below.

Disruption or Severance of Community Interactions or Division of Established Communities

The degree of intensity for the heavy construction disturbance would vary among the proposed alignments. Construction duration would likely be longer in the HST station areas in Merced and Fresno because of the infrastructure requirements. Activities related to building the project would include receiving, storing, and moving equipment and materials; clearing and exposing soils; and installing lights for nighttime work, which would generally change the visual landscape. As much as possible, construction would occur within the right-of-way acquired for the project.

Construction impacts would include temporary increases in noise and dust, visual changes, and traffic congestion related to road closures or detours. Potential construction noise impacts on residential properties would be greater during nighttime construction. However, because the overall noise impacts on both residential and commercial properties would not result in adverse impacts, the impacts are expected to be negligible under NEPA and less than significant under CEQA. Refer to Section 3.4, Noise and Vibration, for complete information on construction noise. There is also the potential for ground-borne vibration impacts during construction, most notably from pile driving. Because of the potential for ground-borne vibration, the vibration impacts would be moderate under NEPA and less than significant under CEQA. Additional vibration evaluation will be performed during the final design.

Adverse construction impacts related to roadway modifications and construction may temporarily disrupt circulation patterns. Although access to some neighborhoods would be disrupted and detoured for short periods of time during construction, access would continue to be available to neighborhoods. To minimize impacts, roadways that would need to be moved because of the HST project right-of-way requirements would be realigned prior to the closure of the existing roadway. Construction would also require an increase in truck traffic, which could increase congestion and affect pedestrians, bicyclists, and transit systems. Construction of the HST alternatives could increase driver risk during construction because lane closures, detours, and the movement of construction vehicles would present an added challenge for drivers. This risk could also affect pedestrians and bicyclists, particularly in urban areas, because drivers would be potentially distracted by construction activities.

Construction would require a large number of employees, but is not expected to have negative effects related to temporary population increases or the need for housing and services. As of 2010,

unemployment in the three counties averaged 17%. The increased number of construction jobs is anticipated to be filled by residents in the region who have the needed skills and would not result in the need for any additional government or emergency services. Construction of an HST alternative would have a beneficial impact on the economies of the communities in the associated study areas. Because many of the jobs are anticipated to be filled by area residents, there are no impacts related to additional housing or services.

Emergency ingress and egress would be maintained at all times. Construction would not affect police and fire protection services. 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. Delays would be longer in rural areas than in urban areas because rural roads cross SR 99 and UPRR at infrequent intervals, and closure of one road could result in long detours to cross SR 99 and UPRR.

Adverse construction impacts related to roadway modifications and construction could temporarily obstruct pedestrian and vehicular access to community facilities within the study area, especially those with ingress and egress located on roadway segments that are under construction. Although access to these facilities would be modified during construction, the impact would not be eliminated. Noise, dust, and glare could affect community facilities, including parks.

In general, construction would occur primarily outside of (but in some areas adjacent to) established neighborhoods in areas associated with agricultural, commercial, or industrial uses. The alignment would be adjacent to existing transportation corridors, and construction would not bisect or isolate established communities or change the existing community character. Impacts on pedestrian and vehicular circulation are not considered a barrier to interaction, because the HST project is primarily adjacent to existing transportation corridors. Although project construction would affect individuals and property owners, these impacts would be temporary and would not divide neighborhoods or affect the integrity of the neighborhoods. Because the impacts would not divide or affect the integrity of neighborhoods, the construction impacts related to disruption or severance of community interactions or division of established communities would be moderate under NEPA and less than significant under CEQA.

UPRR/SR 99 Alternative

In addition to the construction impacts previously described in the Common Community and Neighborhood Impacts section, the UPRR/SR 99 Alternative would result in construction impacts in the communities of Chowchilla, Fairmead, and Madera. Through Chowchilla with the East Chowchilla design option, construction would occur adjacent to SR 99 and away from downtown, and no additional adverse impacts related to disruption or severance of community interactions or division of established communities are anticipated (other than the impacts described in the Common Community and Neighborhood Impacts section). With the West Chowchilla design option, construction would occur west of the city, minimizing the impacts described in the Common Community and Neighborhood Impacts section above. Through Fairmead, construction activities would occur next to residential areas, affecting the quality of life in the community and potentially affecting the only church in Fairmead. Through the City of Madera, construction activities would occur adjacent to a residential area and the downtown business district, and impacts would be similar to those previously described. Construction activities would require temporary disruptions to park access in the City of Madera and Madera County, but would not result in substantial impacts, because temporary access would be provided from other nearby roadways. Construction impacts related to disruption or severance of community interactions or division of established communities in Fairmead and Madera would be moderate under NEPA and less than significant under CEQA. Construction impacts related to disruption or severance of community interactions or division of established communities in Chowchilla, with either the East Chowchilla or West Chowchilla design option, would be negligible under NEPA and less than significant under CEQA. The construction impacts would be less than significant under CEQA because the project's social effects during construction would not create any secondary adverse physical impacts.

The UPRR/SR 99 Alternative would generally allow faster emergency response times than the BNSF and Hybrid alternatives because construction activities would be close to SR 99 and there are numerous law

enforcement, fire, and emergency services concentrated along the SR 99 corridor. The BNSF and Hybrid alternatives are outside of the urban areas and would be further from emergency services.

BNSF Alternative

In addition to the construction impacts described in the Common Community and Neighborhood Impacts section, construction impacts would occur in the unincorporated communities of Le Grand and Madera Acres and would be the same as those previously described in the Common Community and Neighborhood Impacts section. In Le Grand, if either the Mission Ave design option or Mariposa Way design option is implemented, construction activities would occur nearer to residences and community resources than with the other design options. This would result in a greater level of impact than if either of the design options that travel east of Le Grand were implemented. Construction impacts related to disruption or severance of community interactions or division of established communities in Le Grand would be moderate under NEPA for the Mission Ave and Mariposa Way design options and negligible under NEPA for the Mission Ave East of Le Grand and Mariposa Way East of Le Grand design options because of the distances from the community and the design options. Construction impacts would be less than significant under CEQA for all design options because the project's social effects are not treated as significant effects on the physical environment under CEQA. Construction impacts related to disruption or severance of community interactions or division of established communities in Madera Acres would be moderate under NEPA because of the proximity of the construction activities and less than significant under CEQA because the project's social effects during construction would not create any secondary adverse physical impacts.

Hybrid Alternative

In addition to the construction impacts described in the Common Community and Neighborhood Impacts section, construction impacts would occur in the communities of Chowchilla, Fairmead, and Madera Acres. These impacts would be the same as those previously described in the Common Community and Neighborhood Impacts section. Impacts on Chowchilla and Fairmead would only occur with the connection to the Ave 21 Wye and would be the same as those described under the UPRR/SR 99 Alternative. Construction impacts related to disruption or severance of community interactions or division of established communities in Madera Acres would be moderate under NEPA because of the proximity of the construction activities and less than significant under CEQA because the project's social effects during construction would not create any secondary adverse physical impacts.

Heavy Maintenance Facility Alternatives

Construction associated with the Harris-DeJager, Fagundes, Gordon-Shaw, or Kojima Development HMF sites would not alter or block access to any communities or community facilities. These sites are located in rural areas with sparse populations, and no community facilities or communities of concern have been identified in these areas. In addition, the amount of land purchased for each facility would be greater than what is actually required, and the surrounding area would buffer construction impacts. Construction impacts related to disruption or severance of community interactions or division of established communities around these rural HMF sites would be negligible under NEPA because there are no facilities or residents in proximity and less than significant under CEQA because the project's social effects during construction would not create any secondary adverse physical impacts.

Construction impacts at the Castle Commerce Center HMF site would be similar to those previously described in the Common Community and Neighborhood Impacts section. Construction of the guideway linking the HMF to the Merced HST station would occur within the Franklin-Beachwood community in Merced County. Construction activities would occur close to residences, including a mobile home community, affecting the quality of life in the community. Because the guideway would bisect the mobile home community and construction would occur within the community instead of at the edge of it, impacts related to disruption or severance of community interactions or division of established communities in Franklin-Beachwood would be substantial under NEPA and significant under CEQA.

Common Economic Impacts

All of the HST alternatives would realize similar construction-related economic benefits because of increased sales tax revenues and job creation due to project spending. Jobs would be created through construction of the HST project and through other sectors that provide materials, equipment, and services.

Construction-Related Tax Revenues

This section describes the potential loss of property tax revenues and the tax revenues that would be generated during construction of the project. Unless specifically exempted, all transactions related to the project would be subject to sales tax. Annual sales tax revenues during construction were derived from the sales tax rates for each county (as of April 1, 2010) and the local expenditures on materials and supplies for each year of construction.

Construction activities could result in the loss of property tax revenues during the construction period due to the potential for lower property values for properties near the construction footprint. The price of properties sold prior to or during construction may be assessed at lower values compared to their current values. Because property tax is assessed based on property value, a drop in value could result in lower property tax revenues. The potential impact cannot be quantified because the number of property sales, the potential property values, and contribution of property value decrease associated with project construction relative to other market factors is speculative. As described above in Section 3.12.4.3, the economic downturn has resulted in decreased property values in many areas of the Central Valley and a number of foreclosures, which has affected property tax revenues. If there is any reduction in property value, this would occur only while construction is in the vicinity of any given property and not during the entire construction period of the HST project. Because the decrease in property tax revenue cannot be quantified, the decrease in property tax revenues is considered moderate under NEPA.

The annual sales tax revenues that would be realized during each year of construction for Merced, Madera, and Fresno counties under each HST alternative (including design options, HST stations, and an HMF) would result in beneficial economic effects. Tables 3.12-9 and 3.12-10 show the expenditures and local sales tax revenues over 5 years for the three HST alternatives, the Merced and Fresno HST stations, as well as the Castle Commerce Center HMF and a generic HMF. The sales tax rates are 8.25%, 8.75%, and 8.975% for Merced, Madera, and Fresno counties, respectively (California Board of Equalization [CBOE] 2010). However, the sales tax rate indicates that only 0.75% of the taxes actually go toward city and county operations. Therefore, the estimated sales tax revenues calculated for this analysis are based on 0.75% (CBOE 2010).

Table 3.12-9
 Annual Local Project Expenditures and Sales Tax Revenues during Construction

HST Alternative and Feature	Annual Local Project Expenditures (Million 2010\$)	Annual Local Sales Tax Revenues (Million 2010\$)
UPRR/SR 99 Alternative	887 to 1,134	6.7 to 8.5
BNSF Alternative	729 to 806	5.5 to 6.0
Hybrid Alternative	632.39 - 809.31	4.74 - 6.07
HST Stations	62.2	0.5
Castle Commerce Center HMF	311.5	2.3
Generic HMF	181	1.4
Source: Authority and FRA (2011).		

To evaluate the contribution of the project to local sales tax revenues at the end of the construction period, the total local sales tax revenues generated from local purchases (e.g., lumber for miscellaneous built-in-place form work, aggregate, Portland cement, asphalt, steel, and electrical equipment) during the construction period under each HST alternative were compared to the FY 2009/2010 total sales tax revenues for the cities of Merced, Chowchilla, Madera, and Fresno. The proportion of local purchases that are likely to be purchased in each of the four cities is assumed to be proportional to the size of the city (see Section 3.18, Regional Growth). Because Fresno is the largest of the cities in the project study area, a larger proportion of the local purchases are assumed to be made in Fresno. According to 2010 population estimates, the percentage of the population that resides in the cities of Merced, Chowchilla, Madera, and Fresno is 12%, 2%, 11%, and 72%, respectively. Table 3.12-10 shows the project's contribution to local sales tax revenues for the HST alternatives, HST stations, and HMF, as determined by these percentages. These additional, though temporary, sales tax revenues range from 7% to 22% of each city's FY2009/2010 total sales tax revenues under the UPRR/SR 99 Alternative and from less than 1% to 6% of each city's FY 2009/2010 total sales tax revenues for the HST stations and HMFs. These additional sales tax revenues, though temporary, are beneficial effects for the city and county economies, and therefore considered a beneficial effect under NEPA. A negative effect on sales tax revenues that may occur during construction would result from business displacements. Although there are suitable locations for the businesses to relocate, there may be a temporary loss of revenue during relocations and some businesses may close rather than relocate. This would be considered a moderate effect under NEPA.

Table 3.12-10
 Contribution of Sales Tax Revenues during Construction

HST Alternative and Feature	City of Merced (Million 2010\$)	City of Madera (Million 2010\$)	City of Chowchilla (Million 2010\$)	City of Fresno (Million 2010\$)
UPRR/SR 99	0.8 to 1.03	0.75 to 0.97	0.15 to 0.19	4.94 to 6.33
BNSF	0.66 to 0.73	0.62 to 0.69	0.11 to 0.13	4.07 to 4.49
Hybrid	0.57 to 0.73	0.54 to 0.69	0.11 to 0.14	3.53 to 4.51
HST Stations	0.06	0.05	0.01	0.35
Castle Commerce Center HMF	0.28	0.27	0.05	1.74
Generic HMF	0.16	0.15	0.03	1.01

Source: Authority and FRA (2011).

Employment Growth

Section 3.18, Regional Growth, discusses direct, indirect, and induced construction-period employment impacts. Direct total employment during the construction period within Merced, Madera, and Fresno counties for the HST alternatives, including the stations, is estimated to range from 2,910 to 5,040 total direct annual job years, with the higher estimate associated with the UPRR/SR 99 Alternative and the lower estimate associated with the Hybrid Alternative. Indirect and induced employment jobs are estimated to be between 6,671 and 11,999 total indirect and induced annual job years, with the higher estimate associated with the UPRR/SR 99 Alternative and the lower estimate associated with the Hybrid Alternative. As discussed in Section 3.18, Regional Growth, project-related direct annual job years would provide major employment opportunities in the mining, logging, and construction sector of the three counties.

The average unemployment rate for Merced, Madera, and Fresno counties was 17.8% in 2010, with 104,367 unemployed (CEDD 2010a). A study by Eberhardt School of Business (2009) indicates that CEDD reported a loss of 32,300 construction jobs in the San Joaquin Valley between June 2006 and August 2009. As with any large construction project, an influx of population is expected; however, because of the high unemployment level and the number of construction workers that have been lost, many of these new construction jobs could be filled by residents in the region. This would be considered a beneficial effect under NEPA.

Environmental Effects Disproportionately Borne by a Minority or Low-Income Population

Construction impacts would be the same as those previously described in the Disruption or Severance of Community Interactions or Division of Established Communities section. The construction impacts would affect all populations, including communities of concern, and because the study area is composed largely of communities of concern, any impacts would affect them to a larger degree. Areas where the communities of concern could be affected include residences adjacent to the following construction areas: Le Grand under the BNSF Alternative, Fairmead under the UPRR/SR 99 Alternative and the Hybrid Alternative with the Ave 21 Wye, Madera Acres under both the BNSF and Hybrid alternatives, Fresno under all HST alternatives, and Franklin-Beachwood with the HMF at Castle Commerce Center.

Disproportionately high and adverse effects on communities of concern were determined by reviewing the construction impacts associated with the environmental elements addressed in the Project EIR/EIS (Transportation; Air Quality and Global Climate Change; Noise and Vibration; EMI/EMF; Public Utilities and Energy; Hazardous Materials and Waste; Safety and Security; Land Use; Agricultural Lands; Parks, Recreation, and Open Space; Aesthetics and Visual Resources; Cultural and Paleontological Resources; and Cumulative Impacts). Construction activities would result in adverse effects on some of the environmental elements, including Transportation; Air Quality and Global Climate Change; Noise and vibration; Hazardous Materials and Waste; and Parks, Recreation, and Open Space; however, with mitigation measures the effects would be reduced and there would be no disproportionately high and adverse effects on communities of concern.

Transit routes are not expected to be negatively affected during construction, but drivers may experience increased travel times. For transit-dependent individuals, including low-income persons, travel times on routes near the Merced and Fresno HST stations may increase because of detours or lane closures during construction of the stations and guideway. Although this would increase travel time for transit-dependent individuals, drivers would also experience impacts. The impacts would be the same for transit-dependent and non-transit-dependent individuals.

Project Impacts

Common Community and Neighborhood Impacts

Implementation of any of the HST alternatives would result in beneficial and adverse effects on communities; displacement of residences and businesses; economic impacts including impacts on tax revenues and the agricultural industry; and impacts on minority and low-income populations, such as property acquisitions and visual changes (which would also affect the general population). The following sections describe these effects for each HST alternative. Because none of the HST alternatives would close existing pedestrian or bicycle facilities, those facilities are not discussed further in this section.

Permanent Disruption or Severance of Community Interactions or Division of Established Communities

The project would primarily be adjacent to the UPRR/SR 99 and BNSF corridors. The UPRR/SR 99 corridor is associated with commercial and industrial development. The BNSF corridor is less developed. Both corridors create boundaries between established communities and neighborhoods in the study area. Communities provide opportunities for interaction in residential neighborhoods and with the business community; community facilities support community interactions. Transportation facilities support community interaction, but they can also be a barrier. The proposed north-south HST alignments would

not create any new or additional barriers or disruptions that would negatively affect interactions or the quality of life in established communities and neighborhoods. As described in Section 3.13, Station Planning, Land Use, and Development, the land uses adjacent to the project are primarily agricultural in the unincorporated areas and primarily commercial and industrial in the urban areas. Where the alternatives are at-grade in the urban areas overpasses would be constructed to ensure access is maintained and in areas where the overpass would also cross the existing railway the overpass would also remove a barrier to access. Another benefit to nearby residences and community facilities where overpasses would span the existing railway would be from trains no longer having to sound their horns. Common to all HST alternatives, relocations would occur along edges of residential areas, but the alignments would not bisect communities or neighborhoods. Property acquisitions common to all HST alternatives, primarily in the cities of Merced and Fresno, represent a small portion of the land available in adjacent neighborhoods and would not result in changes in the existing neighborhoods' intactness or character. Permanent impacts related to disruption or severance of community interactions or division of established communities in Merced and Fresno would be negligible under NEPA and less than significant under CEQA because the project does not divide neighborhoods or communities and does not affect community interactions.

The project has the potential to positively affect neighborhood quality. The proposed HST service would improve transportation linkages to the surrounding region and the state. Neighborhoods (particularly those near the HST stations) may experience increased vitality in terms of improved access, residential infill, employment growth, and greater patronage of local businesses. The area around the HST stations could improve community cohesion because improvements in the area with the development of the stations could provide new meeting places for residents from the surrounding neighborhoods.

For communities that are farther from the HST station areas, including Le Grand, Chowchilla, Fairmead, Madera, and the Tower District in Fresno, there is a potential for physical deterioration adjacent to the HST corridor that could result in negative impacts. The new rail corridor has the potential to negatively affect communities by physically dividing neighborhoods, causing noise and visual impacts, and decreasing property values. Additional information regarding property values is discussed under Common Economic Impacts. However, as described for the affected environment, existing communities in the study area that are next to existing railway corridors already experience these impacts. As these communities built-up around the railroad corridors over time and expanded beyond the corridors, investments have been de-emphasized along the corridors. This has already led to degraded buildings and underused land. The HST guideway would not create any new physical barriers, and the removal of some degraded buildings may improve the area. However, the presence of HST may reduce interest in new development and cause land to be underused, perpetuating a void in these communities. There are few anticipated impacts in the remaining rural and unincorporated areas of the study area because few residences or businesses are close to the proposed alignments.

The introduction of the new HST corridor that is not adjacent to the existing railway corridors may result in additional areas where physical deterioration could occur and negatively affect property values. This would result from the negative perception of being near a railway corridor and because of impacts related to noise and visual resources. These impacts would be most noticeable for the elevated guideway and would primarily be related to visual impacts because of the introduction of new large-scale infrastructure. However, for much of the alignment outside of the communities, the adjacent area is rural agricultural with no residences or businesses adjacent or close by, thereby minimizing these impacts. Additionally, there is no evidence to indicate the potential for physical deterioration, but consideration may be required in the rural communities where the HST corridor may affect the community character. The impact would be moderate under NEPA and less than significant under CEQA because it would not be a new impact on most of these communities and neighborhoods.

In general, the areas around the HST stations in Merced and Fresno (both the Mariposa Street and Kern Street alternatives) would benefit from increased regional transit access and from potential development within station areas in a manner consistent with the general plans' goals. Neighborhoods (particularly those near HST station areas) may experience increased vitality in terms of improved access, residential

infill, increased employment, and greater patronage of local businesses. Residents in the areas surrounding the stations would also realize benefits associated with increased property values.

The HST stations would promote transit-oriented development (TOD) on vacant and underutilized properties in Downtown Merced and Downtown Fresno. The HST stations would act as a catalyst for planned growth in the downtown areas and revitalize surrounding neighborhoods. Indirect impacts of TOD, consisting of high-density residential and mixed-use development around the HST stations, would be beneficial, improving community cohesion and attracting new businesses and residential development. Redevelopment opportunities would occur where allowed by comprehensive and neighborhood plans and where stations can support TOD. The Common Economic Impacts section provides additional information regarding property, and Section 3.13, Station Planning, Land Use, and Development, describes improvements in the HST station areas.

Impacts on transportation, visual resources, noise and vibration, air quality, and safety and security could affect community character and cohesion; Table 3.12-11 summarizes these resource impacts that are common to all HST alternatives.

Table 3.12-11
 Resource Impacts Potentially Affecting Community Character and Cohesion –
 Impacts Common to All Alternatives

Resource	Potential Impact
Transportation	<p>There would be no new barriers to access in urban areas because the guideway would be grade separated and existing road networks would be maintained. Some existing roads would be closed in rural areas; many of these access points are associated with the Ave 24 and Ave 21 wyes. Traffic would be diverted, and access points would be maintained at least every 2 miles, which would minimize impacts. Because traffic volumes are low and there are no neighborhoods or communities along the wyes, no impacts on communities are anticipated. Traffic impacts outside of the Merced and Fresno HST station areas would be negligible.</p> <p>Potential benefits are associated with improvements to regional access, reduced travel times, and reduced traffic congestion.</p> <p>Parking would be provided in the HST station areas. The additional traffic associated with the stations would affect some nearby intersections. Mitigation measures would minimize or avoid permanent adverse traffic impacts.</p>
Visual and Aesthetics	<p>Visual changes would be noticeable to residents living nearby or who have views of the HST guideway and facilities, especially in areas where the guideway is elevated or where vegetation is removed. When possible, vegetation removed for the project would be replaced, and landscaping would screen sensitive visual environments and sensitive viewers, which would minimize the visual impacts. Visual changes would be noticeable to viewers near the HST facilities, but these changes would occur within an existing transportation corridor and would be compatible with the visual elements in the corridor (e.g., railroads, freeway infrastructure, and power lines). Common impacts related to visual quality generally would not adversely affect neighborhood character and cohesion for entire neighborhoods in the cities of Merced or Fresno. No adverse visual impacts on surrounding neighborhoods would be anticipated within the HST station study areas.</p>
Noise and Vibration	<p>The number and severity of noise impacts would vary depending on the type of guideway (i.e., elevated versus at-grade) and the speed of the HST. Severe noise impacts would continue to occur at several isolated residences along the alignments but would not affect entire neighborhoods or sizeable groups of homes. Nearly all of the severe impacts could be effectively mitigated under all HST alternatives; however, mitigation may cause secondary, unwanted visual impacts. Communities may choose to have an increase in noise impacts where conditions are already noisy, such as areas adjacent to existing railroads. No</p>

Resource	Potential Impact
	vibration impacts would affect neighborhoods or communities.
Air Quality	All HST alternatives have the potential to improve air quality by reducing regional automobile travel and associated emissions. Operation of any the HST alternatives would have a beneficial or less than significant impact on air quality, except for operation of the HMF, which would have a less than significant impact on air quality after mitigation. Construction of the HST alternatives would have significant impacts, many (but not all) of which would be reduced to less than significant after mitigation.
Safety and Security	<p>The project would always 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, no impacts related to response or travel times for emergency service vehicles are anticipated.</p> <p>Maintaining safety and security at the HST stations and park-and-ride lots is an important consideration for many residents in surrounding neighborhoods. The HST System would provide safety and security benefits under the HST alternatives. Security enforcement officers would be needed at the HST stations. Security requirements and the appropriate agency or agencies that would provide security need to be determined. Typically, crime at train stations reflects the crime rate of the surrounding area; however, implementing identified mitigation measures and providing security at the HST stations and associated parking areas could reduce crime rates.</p>

One community facility, a homeless shelter in downtown Merced, would be acquired under all three HST alternatives. This acquisition would result in adverse impacts on the community if there are no suitable locations for relocation. Suitable areas have been identified in the surrounding area where the facility could be relocated before demolition. Therefore, there would be no loss of access by the residents, and the adverse impact would be minimized. All three HST alternatives could affect some buildings in Fresno that are within the construction footprint, and are used by the Children’s Wraparound Program, which is associated with the Mental Health Systems. As the design progresses, the design team will investigate design modifications to avoid the buildings associated with the Mental Health Systems facility in Fresno. Because the homeless shelter would be relocated and any impacts on the Children’s Wraparound Program would be minimized, these impacts would be moderate under NEPA and less than significant under CEQA.

All HST alternatives would require acquisition of a portion of Camp Pashayan for the columns that support the elevated guideway. This acquisition would not affect the current use of the park or substantially reduce its value because the area is not associated with active use.

None of the HST alternatives would affect public facilities or result in negative impacts related to maintaining acceptable service ratios, response times, or other performance objectives. Because the guideway would be elevated through urban areas, it would not negatively affect response times or travel times. Preliminary research identified adequate available replacement sites for the affected facilities in the cities of Merced and Fresno. Because there are available locations for affected facilities and no impacts on response times or service ratios, the impacts on services and facilities would be moderate under NEPA and less than significant under CEQA.

UPRR/SR 99 Alternative

Under the UPRR/SR 99 Alternative with the East Chowchilla design option, there would be an elevated guideway on the eastern edge of Chowchilla. Although there are access points, the existing UPRR and SR 99 corridors act as a barrier between Downtown Chowchilla and development to the east. The UPRR/SR 99 Alternative would not result in any new barriers to access because the guideway would be elevated to allow access underneath. The East Chowchilla design option shifts the guideway away from

the UPRR corridor toward the SR 99 corridor, away from Downtown Chowchilla to an area associated with highway commercial uses on the opposite side of SR 99 from residential neighborhoods. Because of this move away from the downtown area, no negative impacts associated with physical deterioration or reduced property values are anticipated. However, the Ave 24 Wye would construct an HST guideway west of Chowchilla, outside the current sphere of influence. This would place the city in the middle of a triangle of HST guideways. Although the majority of road crossings over the HST guideway would be maintained, the wye connection would create a barrier west of Chowchilla where none currently exists. The City believes the guideways would separate Chowchilla from the rest of the county. However, the guideways would not isolate neighborhoods or activity centers. Impacts related to disruption or severance of community interactions or division of established communities in Chowchilla under the East Chowchilla design option would be moderate under NEPA and less than significant under CEQA because of the potential barrier due to the Ave 24 Wye would not physically divide Chowchilla.

The West Chowchilla design option would pass west of Chowchilla rather than follow SR 99 through town and would not surround the city with HST guideways. Impacts related to disruption or severance of community interactions or the physical division of established communities in Chowchilla under the West Chowchilla design option would be negligible under NEPA and less than significant under CEQA because the West Chowchilla design option would avoid Chowchilla.

In Fairmead, the UPRR/SR 99 Alternative would displace residents who likely could not relocate within the community because of the lack of available replacement housing; however, adequate replacement housing exists in Madera County and the nearby cities of Chowchilla and Madera. The elevated HST guideway adjacent to the community of Fairmead would cause a significant adverse visual impact on the community and could negatively affect property values at some residences. Although the alternative would not disrupt or sever community interactions or divide the community, impacts on community character would occur. The UPRR/SR 99 Alternative would be located in proximity to the Galilee Missionary Baptist Church, but would not require the acquisition of the church and would not result in noise impacts. Impacts on community cohesion in Fairmead would be moderate under NEPA because of the displacements and visual impacts and less than significant under CEQA because the project would not divide the community or displace a large number of houses and people.

The UPRR/SR 99 Alternative would construct an elevated guideway through Madera that would have substantial visual impacts on residential neighborhoods and the downtown area because the elevated guideway would be the largest structure in the area. Although this alternative would maintain the existing roadway network underneath the elevated guideway, it could create the perception of a barrier. Without mitigation, the area may become unattractive for redevelopment. This could influence the desirability of the area for future development and could negatively affect property values. This could result in physical deterioration in Downtown Madera. With mitigation measures, such as aesthetic designs that use the area underneath the elevated guideway for business parking or new businesses, Downtown Madera could become an attractive setting for economic development or recreational uses. Impacts related to disruption or severance of community interactions or division of established communities in the City of Madera would be moderate under NEPA because of visual impacts and the perception of the HST guideway as a barrier. The impact would be less than significant under CEQA because the alternative would not physically divide the established community or disrupt access across the community.

In Madera, the UPRR/SR 99 Alternative would result in potential visual impacts on three parks (Sharon Avenue Linear Park, Riverside Park, and Road 27³/₄ Linear Park) because of the nearby elevated guideway and would need to acquire portions of two of these parks (Riverside Park and Road 27³/₄ Linear Park). This would be mitigated by acquiring replacement land adjacent to the parks. The long-term use of the parks would not be affected, and the elevated guideway would provide shade in the parks, which would be beneficial to the many park users during hot summer months. Resulting impacts on community facilities would be negligible under NEPA and less than significant under CEQA because the parks acquisition can be mitigated and the visual impacts would not be adverse.

BNSF Alternative

The BNSF Alternative would have similar impacts on community cohesion as those previously described in the Common Community and Neighborhood Impacts section. Differences would occur in the unincorporated communities of Le Grand and Madera Acres. Under the Mission Ave and Mariposa Way design options, an elevated guideway would parallel the BNSF corridor through Le Grand, bisecting a portion of the community. The land to the east that would be bisected by the alignment is primarily agricultural, but does include some residences and industrial-related usage and the majority of the residences and businesses in Le Grand are west of the proposed alignment. The guideway through Le Grand would be elevated and would not create a barrier to transportation access across the BNSF corridor. However, it would create a visual barrier in the community, which could result in negative impacts on property values in Le Grand and the potential for physical deterioration. Impacts related to disruption or severance of community interactions or division of established communities under the Mission Ave and Mariposa Way design options would be moderate under NEPA because of the visual impacts and less than significant under CEQA because the project's social effects are not treated as significant effects on the physical environment under CEQA.

The Mission Ave East of Le Grand and Mariposa Way East of Le Grand design options would travel east and avoid the community of Le Grand. Impacts related to disruption or severance of community interactions or division of established communities under these two design options would be negligible under NEPA because the design options avoid Le Grand and less than significant under CEQA because the project's social effects are not treated as significant effects on the physical environment under CEQA.

Implementation of the BNSF Alternative with the Ave 24 Wye would affect the VSPW and CCWF by encroaching on the state prison property. Section 3.11, Safety and Security, discusses potential security effects on the VSPW properties and associated mitigation, and Section 3.14, Agricultural Lands, discusses impacts on farmlands. CDCR expressed concerns regarding the facilities' ability to expand and to provide meaningful activities to inmates as well as regarding CALPIA's revenue stream (CDCR 2011). The BNSF Alternative with the Ave 24 Wye would sever approximately 30 acres from CCWF, representing less than 5% of the total CCWF area. Severing the area from the CCWF property would affect prison operations, including CALPIA's revenue stream, CDCR's ability to provide meaningful activity and income to inmates, and CCWF's ability to expand in the future. Because these effects would occur on only a small portion of the property, they are considered moderate under NEPA. There would be no impact under CEQA because the project would not physically alter the prison facilities.

The BNSF Alternative alignment would through Madera Acres would require that existing roadways cross over the guideway. The overpasses would also cross the existing BNSF railway. This would remove an existing barrier to access and improve community cohesion. No community facilities would be affected by this alternative other than those previously described in the Common Community and Neighborhood Impacts section. Impacts related to disruption or severance of community interactions or the physical division of established communities in Madera Acres would be negligible under NEPA because the HST project would remove a barrier to access and less than significant under CEQA because the project's social effects would not create any secondary adverse physical impacts.

Hybrid Alternative

No community facilities would be affected by this alternative other than those previously described in the Common Community and Neighborhood Impacts section. The Hybrid Alternative that connects to the Ave 21 Wye would have the same impacts on Chowchilla as the UPRR/SR 99 Alternative with the East Chowchilla design option and Fairmead as described under the UPRR/SR 99 Alternative. The Hybrid Alternative would also result in the same impacts on Madera Acres as described under the BNSF Alternative. Impacts in Chowchilla and Fairmead would be moderate under NEPA because of the potential barrier in Chowchilla and the displacements and visual impacts in Fairmead. In Madera Acres, the impacts would be negligible under NEPA because the HST project would remove a barrier to access and less than significant under CEQA because the project's social effects would not create any secondary adverse physical impacts.

Impacts on CCWF from the Hybrid Alternative with the Ave 24 Wye would be as described above for the BNSF Alternative.

Heavy Maintenance Facility Alternatives

Four of the proposed HMF sites (Harris-DeJager, Fagundes, Gordon-Shaw, and Kojima Development) would not be located in an established community or neighborhood. An HMF at any of these sites would not alter community facilities or displace parking. Access to the surrounding arterial road network would be maintained. Impacts related to disruption or severance of community interactions or division of established communities for an HMF at any of these four sites would be negligible under NEPA because the sites would not be near any communities or neighborhoods and less than significant under CEQA because the project's social effects are not treated as significant effects on the physical environment under CEQA.

The Castle Commerce Center HMF site would require the partial acquisition of one community facility, the Castle Air Museum. An area where some of the planes are displayed, including pathways and a portion of the parking lot, would be acquired for some of the HMF trackway used to move the trains. The planes could be moved to other areas of the museum, but this could limit the space for new additions. No other impacts are anticipated because the main operations of the HMF facility would be located approximately 1,500 feet from the museum. The Merced Adult School, Castle Learning Center, is within the construction footprint of the HMF site and the building is bisected by the footprint. As the design progresses, the design team will investigate design modifications to avoid the building since it is located along the edge of the footprint. Impacts related to the acquisition of community facilities within the Castle Commerce Center HMF site would be moderate under NEPA because of the impact on the community facilities and less than significant under CEQA because the project's social effects would not create any secondary adverse physical impacts.

The guideway between an HMF at Castle Commerce Center and the Merced HST station would bisect the unincorporated community of Franklin-Beachwood. The guideway would require several property acquisitions and would affect more than half of a mobile home park. Because the loss of the mobile homes could result in the park no longer being feasible due to the loss of income, the acquisition may result in closure of the mobile home park. These acquisitions would likely result in adverse impacts on the mobile home park unless the number of mobile homes within the construction footprint is substantially reduced. Preliminary research indicates that the supply of available acceptable replacement mobile homes is insufficient in the relocation area, and displaced residents would need to be relocated to other types of housing in the nearby cities of Atwater and Merced. Under this scenario, residents of the mobile home park would no longer belong to the same community, which could result in significant impacts. The alignment would also introduce a new visual element that would act as a barrier, dividing the community of Franklin-Beachwood. This could result in physical deterioration and reduced property values, which would negatively affect the community. The guideway would also bisect a community facility, a public elementary school in the Merced City School District. The guideway would be located on the grounds of the Joe Stefani Elementary School, adjacent to the school buildings. Although the guideway would not require the acquisition of any buildings, the school would likely need to be relocated because of the close proximity of the guideway. The open space and playgrounds associated with the school ground are considered public and can be used by the area residents for recreation activities. If the school is acquired, a new school would need to be built within the same general area to minimize impacts on school attendance boundaries and school bus routes. The guideway between the Downtown Merced Station and the Castle Commerce Center HMF would also require acquisition of three community facilities: Merced Lao Family Community, Merced Senior Center, and McCombs Youth Center. The outreach team met with members of the Merced Lao Family Community, and meetings regarding the project were held at the Merced Senior Center. Additional outreach will be conducted with the affected facilities. These impacts would be substantial under NEPA and significant under CEQA because of the bisection of the mobile home park and the number of mobile home units affected and the impact associated with the displacement of Joe Stefani Elementary School.

Overpasses would need to be constructed for the roadways in downtown Merced for the at-grade guideway. The overpasses would also span the existing railway, removing a barrier to access, and would eliminate the need for train horns, which would result in a benefit.

Impacts on transportation, visual resources, noise and vibration, air quality, and safety and security could affect the community setting. Table 3.12-12 summarizes the impacts of the HMF on those resources regarding community character cohesion, neighborhoods, and community resources during operation of the HST System.

Table 3.12-12
 Potential Impacts on Community Cohesion, Neighborhoods, and Community Resources
 during Operation – Proposed HMF Sites

Resource	Potential Impact
Transportation	The HMF sites would require modifications to surrounding roads but would not result in impacts on the surrounding communities.
Visual and Aesthetics	Impacts on the visual environment and visual resources are not anticipated for any of the proposed HMF sites, with the exception of the Castle Commerce Center site, where the impacts could affect the character of the Franklin-Beachwood community. The guideway would travel through Franklin-Beachwood and could be seen as a barrier. The other four proposed sites are primarily in agricultural areas, and an HMF at any of those sites would not be entirely visible from adjacent areas or roadways. Development of an HMF at these sites would not have a negative impact on the visual environment because they would not obstruct views or vistas.
Noise and Vibration	Moderate noise impacts may continue at sensitive receptors along the access guideway. No vibration impacts would affect neighborhoods or communities.
Air Quality	No air quality impacts are expected at any of the proposed HMF sites during operation.
Safety and Security	The HMF design would comply with safety standards. Operating and maintenance procedures would be developed to meet safety and security requirements, and workers would be trained regarding those procedures. No negative impacts related to safety are anticipated at any of the HMF sites.

Displacement of Local Residents or Businesses

The Merced to Fresno Section of the HST System is approximately 60 miles long (between the cities of Merced and Fresno) and crosses urban and rural lands. To comply with Authority guidance to use existing transportation corridors when feasible, the Merced to Fresno Section would be primarily sited adjacent to the existing UPRR and BNSF corridors. In some cases, engineering constraints and avoidance of environmental impacts require deviation from those corridors. In these cases, particularly in urban areas, there is a potential need for property acquisitions (and relocations) to construct the HST guideway, maintenance facilities, detours, overpasses, and associated structures. This would result in a direct impact from construction, although property acquisitions would occur prior to construction. Therefore, displacements are considered permanent and are discussed in this section rather than the Construction Period Impacts section.

A preliminary analysis shows that there would be impacts on mobile homes, senior housing facilities, and single-family and multifamily residences under all HST alternatives. Displacement impacts on parks, churches, day-care centers, city and county agencies, warehouse distribution centers, manufacturing facilities, and retail establishments would also occur under all HST alternatives. As shown in Table 3.12-13, the lowest range of residential and business displacements would be less under the Hybrid Alternative than the other two HST alternatives, because the Hybrid Alternative would pass through more rural, less populated areas. Although the UPRR/SR 99 Alternative would more closely follow an existing

transportation corridor, that corridor would travel through the City of Madera and in an area that is heavily commercialized, which would result in a greater number of business displacements. Displacement information is the same for all HST alternatives for the Merced and Fresno HST stations. The *Merced to Fresno Section Community Impact Assessment* (Authority and FRA 2011) provides complete information on displacements.

Table 3.12-13
 Range of Residential and Business Displacements

Alternative	Residential Units and Number of People Displaced (units/number of people^a)	Businesses and Number of People Displaced (units/number of people^a)
UPRR/SR 99 Alternative	311/991 to 343/1,093	311/7,876 to 323/8,214
BNSF Alternative	302/936 to 331/1,036	245/6,786 to 260/7,103
Hybrid Alternative	291/901 to 320/993	228/6,566 to 249/6,906
Castle Commerce Center HMF	39/129	27/1,186
Harris-DeJager HMF	0/0	0/0
Fagundes HMF	7/22	0/0
Gordon-Shaw HMF	4/13	4/157
Kojima Development HMF	2/6	0/0
^a Number of people displaced rounded to the nearest whole number. Source: Authority and FRA (2011).		

Residential and business displacements around the Merced and Fresno HST stations would be the same under all HST alternatives. The Merced HST station would affect up to 44 residences and 58 businesses. Among the two Downtown Fresno HST station alternatives, the Kern Street Station Alternative would result in the fewest business displacements. Neither of the Downtown Fresno HST station alternatives would result in any residential displacements.

Among the HMF alternatives, an HMF at the Castle Commerce Center site would result in the greatest number of residential and business displacements. The majority of the displacements are associated with the access guideway between the HMF and the Merced HST station. An HMF at the Harris-DeJager site would not result in any residential or business displacements.

The percentage of population over age 65 is 8.6% in the UPRR/SR 99 Alternative study area and 8.2% in the BNSF Alternative study area. The percentage of the disabled population over age 5 is approximately 22% in all three study areas. These populations, particularly the disabled population, would likely need special services to assist with relocation.

A preliminary analysis of replacement facilities confirmed that there are a sufficient number of suitable residential and business properties for nearly all displaced occupants in the cities of Atwater, Merced, Le Grand, Chowchilla, Madera, and Fresno, and in the rural areas of Merced and Madera counties. Within Merced County, Madera County, and the City of Fresno, approximately 3,900 residential properties are available of comparable price, size, and type. Within the cities of Merced, Chowchilla, Madera, and Fresno, there are 2,625 residential properties available (1,670 of those are in Fresno). In addition, residential properties are for rent in the cities of Merced, Madera, and Fresno that are comparable in

price, size, and type. Because there are a sufficient number of suitable residential properties, no construction of replacement housing would be required.

The displacement of residential properties is not anticipated to negatively affect schools or school district funding because of a decrease in school district attendance. The residential displacements would occur over a large area in several school districts and there are suitable locations for relocation. The number of people affected by the residential displacements ranges from a low of approximately 901 under the Hybrid Alternative with a connection to the Ave 24 Wye to a high of 1,093 under the UPRR/SR 99 Alternative with the East Chowchilla design option and a connection to the Ave 21 Wye. The BNSF Alternative would result in residential displacements slightly lower than the UPRR/SR 99 Alternative. These estimates represent the total number of residents affected; the number of school students would be lower because the residential displacements are based on households. The numbers would include other family members who would either be too young or are no longer in school. Because the displacements occur over a very large area and there are suitable relocation opportunities for displaced resident the overall school attendance in any of the school districts is not anticipated to decrease to a level where school district funding would be reduced.

Preliminary research also indicates that there is a sufficient supply of available sites in the counties to accommodate displaced businesses. Because of siting requirements and land availability constraints, agricultural enterprises, farm businesses, and specialized industries including quarries, granaries, and processor facilities may be unable to relocate or will require more time to relocate. Impacts on these types of businesses would be substantial under NEPA because relocation would be disruptive, and some businesses might not be able to relocate. Impacts on these businesses would be less than significant under CEQA because the project's economic effects are not treated as significant effects on the physical environment under CEQA.

None of the HST alternatives would result in the displacement of a substantial number of residences that would necessitate the construction of replacement housing. Residential displacements would occur in all three counties and, as previously described, there are a suitable number of relocation opportunities.

The project would comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Relocation Act). The Uniform Relocation Act and its amendments provide mandatory rules and requirements on how federal, state, and local agencies compensate for impacts on property owners or tenants who need to relocate if they are displaced by a federally funded project. In addition, housing of last resort would be available, if required. Housing of last resort may require replacement housing payments that exceed the maximum amounts allowed under the Uniform Relocation Act or other methods of providing comparable decent, safe, and sanitary housing within the displaced person's financial means. At the regional level, the overall impacts of property acquisitions would be moderate under NEPA and less than significant under CEQA because of the number of housing displacements within the three counties and there are a number of suitable relocation opportunities.

UPRR/SR 99 Alternative

The majority of the residential and business displacements identified in Table 3.12-13 would occur in the cities of Madera and Fresno. The remaining displacements would be in the City of Chowchilla and in rural, unincorporated portions of Merced and Madera counties, including Fairmead. Similar to the residential displacements, a majority of the business displacements would occur in the cities of Chowchilla, Madera, and Fresno. The West Chowchilla design option would result in fewer displaced residences and businesses than the East Chowchilla design option, because the West Chowchilla option would travel through agricultural lands.

BNSF Alternative

The majority of the residential and business displacements identified in Table 3.12-13 would occur in Le Grand, Madera Acres, and the City of Fresno. Additional rural residential displacements would occur primarily between Merced and Le Grand, along the Mission Ave and Mariposa Way design options. The East of Le Grand design option would result in fewer displaced residences and businesses than the design

options that go through Le Grand, because the East of Le Grand design option would not travel through town.

Hybrid Alternative

The majority of the residential and business displacements identified in Table 3.12-13 would occur in Madera Acres and the cities of Madera and Fresno. The Hybrid Alternative would result in fewer displacements than the other HST alternatives, because the alignment would not travel through the City of Madera, which would be affected by the UPRR/SR 99 Alternative, and the unincorporated community of Le Grand, which would be affected by the BNSF Alternative.

Heavy Maintenance Facility Alternatives

Table 3.12-13 provides information on the residential and business displacements associated with the HMF sites. There would be no residential displacements with construction of an HMF at the Harris-DeJager site. An HMF at the other proposed sites would all require a small number of residential displacements; only the Castle Commerce Center site would result in business displacements.

The majority of the residences that would be displaced by an HMF at the Castle Commerce Center site are associated with the guideway that would connect the HMF to the Downtown Merced Station. Acquisition of half of a mobile home park would affect the property owner, who would lose half of the income generated by the park. The mobile home park might not be able to remain in business.

Common Economic Impacts

Economic impacts during operations were evaluated for the entire Merced to Fresno project (i.e., guideways, HST stations, and an HMF). The economic impacts are based on preliminary cost estimates developed for the project. Section 3.18, Regional Growth, discusses impacts on employment and regional economic vitality. The project would improve regional access, reduce travel times, and reduce traffic congestion on many local roadways. This would provide an economic benefit to the region (see Section 3.2, Transportation). Key economic benefits from the project include the potential for increased in property tax and sales tax revenue and new employment. *The Economic Impact of the California High Speed Rail in the Sacramento/Central Valley Area* (Kantor 2008) determined that the HST Project would provide several economic benefits to the region. The study evaluated the effects for the all project components including the guideway, HST stations, and HMF. Benefits include positive effects on services, communications, utilities, finance, insurance, and real estate sectors in the Central Valley. Section 3.18, Regional Growth, provides additional information on HST effects related to employment and describes regional economic activities. Because project operations would result in positive economic effects, this is considered a beneficial effect under NEPA.

Operations-Related Tax Revenues

This section describes the tax revenues that would be generated during operation of the project. Unless specifically exempted, all transactions related to the project would be subject to sales tax. Annual sales tax revenues during operation were estimated by using the sales tax rates for each of the counties (as of April 1, 2010) and the local expenditures on materials and supplies. Table 3.12-14 shows the annual local expenditures for materials and supplies and the sales tax revenues during operation of the project. Some materials are assumed to be purchased locally (e.g., gasoline, oil, paint, and electrical equipment). The sales tax rates are 8.25%, 8.75%, and 8.975% for Merced, Madera, and Fresno counties, respectively (CBOE 2010). However, only 0.75% of these tax rates actually go towards city and county operations. Therefore, the estimated sales tax revenues shown in Table 3.12-14 are based on 0.75% (CBOE 2010).

Table 3.12-14
 Annual Sales Tax Revenues during Operation

Annual Total O&M Expenditures (Million 2010\$)	Annual Local Project Expenditures (Million 2010\$)	Annual Local Sales Tax Revenues (Million 2010\$)
208.3	31.2	0.23
Source: Authority and FRA (2011).		

To evaluate the contribution of the project to local sales tax revenues during the operation phase of the project, the total local sales tax revenues generated during the operation were compared to the FY 2009/2010 total sales tax revenues for the four major cities in the study area (Merced, Chowchilla, Madera, and Fresno). The proportion of the local purchases that are likely to be made within each of the cities is assumed to be proportional to the size of the city. Because Fresno is the largest city in the project area, a larger proportion of the local purchases are assumed to be made in Fresno. According to the 2010 population estimates for the cities (refer to Section 3.18, Regional Growth), the approximate percentage of the population residing in the cities of Merced, Chowchilla, Madera, and Fresno is 12%, 2%, 11%, and 74%, respectively. Table 3.12-15 shows the project's contribution to local sales tax revenues, as determined by these percentages. The additional and permanent sales tax revenues account for less than 1% (between 0.25% and 0.61%) of each city's FY2009/2010 total sales tax revenues. These additional sales tax revenues would benefit the city and county economies. Because project operations would result in additional sales tax revenues, this is considered a beneficial effect under NEPA.

Table 3.12-15
 Contribution of Sales Tax Revenues during Operation

Expenditure/Revenue	City of Merced (Million 2010\$)	City of Madera (Million 2010\$)	City of Chowchilla (Million 2010\$)	City of Fresno (Million 2010\$)
Annual Local Project Expenditures	3.76	3.54	0.69	23.23
Annual Local Sales Tax Revenues	0.03	0.03	0.01	0.17
Annual Sales Tax Revenues as a Percentage of City's FY 2009/2010 General Fund Sales Tax Revenues	0.43	0.57	0.61	0.25
Source: Authority and FRA (2011).				

Because the HST alternatives would require property acquisitions, all three counties would lose property tax revenues. The extent of the loss would depend on the property tax rate used, which varies by jurisdiction and by associated special districts. In the case of rural properties, especially agricultural lands, the rate would also depend on whether the property is contracted under the Williamson Act. Because the actual property tax rates applicable to all the properties identified for acquisition are likely to vary, the current analysis uses an assumed rate of 1%.

The 1% property tax rate was applied to the total assessed value of all the partial and full property acquisitions for each county. These property tax revenues were then compared to each county's most recent (FY 2009/2010) general fund property tax revenues. Table 3.12-16 summarizes property tax revenue losses for Merced, Madera, and Fresno counties (based on data from the county assessor for

each county). All HST alternatives would have the same property tax revenue impact in Fresno County because the alignment would be same for all HST alternatives. The UPRR/SR 99 Alternative with the West Chowchilla design option would potentially have the least impact in Madera County. The UPRR/SR 99 Alternative with the East Chowchilla design option would potentially have the greatest impact in Madera County, because it would affect more commercial and industrial properties. The BNSF Alternative would have the greatest impact in Merced County because it travels through Le Grand. Overall, the Hybrid Alternative would have the least impact on all three counties. With regards to school district funding, as discussed above under Displacement of Local Residents and Businesses, there are suitable locations for residents and no property tax impacts related to school district are anticipated. For all of the alternatives, the loss of property tax revenue from acquisitions would be small when compared to the total property tax revenues collected by the counties, which would be considered a negligible effect under NEPA.

For the proposed HMF sites, there would only be impacts in Merced and Madera counties, where the proposed sites are located. Because the HMF sites would be provided at no cost or include other incentives, the analysis did not include the impact of lost property tax revenues. The information in Table 3.12-16 only identifies the potential lost property tax revenues associated with additional property requirements. Of the five potential HMF sites, the Castle Commerce Center site would have the greatest property tax impact because the guideway connection to the Downtown Merced Station would require additional property acquisitions.

Table 3.12-16
 Property Tax Revenues during Operation^a

Property Value/Revenues	Merced County	Madera County	Fresno County
UPRR/SR 99 Alternative – Range of Impact			
Property Value (Million 2010\$) ^a	62 to 86.4	8.24 to 49.50	107.27
Property Tax Revenues (Million 2010\$) ^a	0.62 to 0.86	0.08 to 0.50	1.07
Lost Property Tax Revenues (Percentage of FY 2009/2010 County General Fund Property Tax Revenues)	1.3 to 1.8	0.3 to 1.6	0.6
BNSF Alternative – Range of Impact			
Property Value (Million 2010\$) ^a	109.49 to 115.63	14.2 to 14.41	107.27
Property Tax Revenues (Million 2010\$) ^a	1.09 to 1.16	0.14	1.07
Lost Property Tax Revenues (Percentage of FY 2009/2010 County General Fund Property Tax Revenues)	2.2 to 2.4	0.5	0.6
Hybrid Alternative			
Property Value (Million 2010\$) ^a	65.61	3.95	107.27
Property Tax Revenues (Million 2010\$) ^a	0.66	0.04	1.07
Lost Property Tax Revenues (Percentage of FY 2009/2010 County General Fund Property Tax Revenues)	1.3	0.1	0.6

Property Value/Revenues	Merced County	Madera County	Fresno County
HMF Sites			
Lost Property Tax Revenues (Percentage of FY 2009/2010 County General Fund Property Tax Revenues)			
Castle Commerce Center	0.1	NA	NA
Harris-DeJager	0.02	NA	NA
Fagundes	NA	0.02	NA
Gordon-Shaw	NA	0.02	NA
Kojima Development	NA	0.02	NA
<p>^a Property tax is an average of the property values for the following categories: urban, dense urban, suburban, dense suburban, and rural including agricultural. NA = Not applicable. Source: Authority and FRA (2011).</p>			

In the case of partial acquisitions of agricultural land, the loss in property tax revenues may need to take into account the possibility that some farming operations could lose their viability as farming enterprises if parts of the land are acquired. In such instances, the project may acquire the entire farm even though only a small part of it is actually needed for the project. The total assessed value of acquisitions includes these types of acquisitions.

Property Values

There is also the potential for the project to increase the property tax base by generating increases in property values in the region. Although these values cannot be quantified, studies show that the potential exists for the values of residential and commercial properties to increase. Property value increases can result from both the new access to HST and the stations acting as a catalyst for new development and redevelopment in the station area. This section discusses the impacts related to property values associated with railroad projects. As previously discussed, railways have been a major factor in the development of cities in the study area. Growth has focused around the railway stations; however, most of the railroad stations are no longer used and the areas adjacent to the railways are now associated with industrial and commercial development. The HST alternatives in the Merced to Fresno Section are primarily adjacent to either the UPRR or BNSF, and many of the negative impacts associated with the railways already occur and will continue to occur.

The analysis of property values included a literature review on the impacts of rail transit projects on property values; however, the majority of these studies focus on the area around transit stations and not along the railroads between the stations. Additionally, these studies are associated with light rail and commuter rail; there have been no studies on the property value impacts with HST projects, which involve greater distances between stations.

Impacts of Rail Transit on Property Values (Diaz 1999) and *Reconnecting America* (Federal Transit Administration 2008) provide information on residential property values for 22 rail transit projects and commercial property values for 10 rail transit projects. The projects are in several cities including Sacramento, San Diego, San Jose, and Toronto, Canada. The studies occurred between 1972 and 2004, and all of the studies focused on the area around the stations, not the area between the stations where the likelihood of negative impacts on property values is more likely. In all but five of the studies, both the residential and commercial property values were positively affected. The timeframe of the five studies that did not identify positive effects was in the early 1990s. The potential reasons for the negative or no discernable outcome are related to either the economic recession or because there was not enough

information on real estate transactions since the railways had been in operation to realize a positive change in the property values. These studies show that the potential exists for increased property values for residential and commercial properties. Increased values are a function of the proximity of the properties to the HST stations, access, and the potential for new development and redevelopment at higher densities. The studies did not take into account the potential for impacts related to noise and visual resources in areas outside of the station area; however, as previously described, there is the potential for physical deterioration, and it is possible that some properties could decrease in value.

The property acquisitions would likely result in a small permanent loss of property tax revenues in all three counties. However, it is possible that these losses could be offset in the future by increased property tax revenues as development on private property around the HST stations might lead to higher values. For example, the construction and operation of an HMF in Merced County or Madera County would result in beneficial impacts on taxes due to increases in sales tax revenue. There is also the possibility of reductions in property values in areas that are not near the HST stations, because of the impacts associated with the HST (e.g., noise and visual impacts). Property values may decrease in areas that are farther from the HST stations but close to the HST guideway, particularly residences close to elevated sections of the guideway. As previously discussed, in the communities of Le Grand, Madera, and Fairmead, there is also the potential for physical deterioration; however, the existing rail corridors have already resulted in areas of degraded buildings and underutilized land in those areas. The loss of property values could result in overall lower property tax revenues; however, in most areas, the alternatives are located adjacent to either the UPRR or BNSF railway corridor, and these impacts have already occurred. Outside of the communities, the adjacent land uses are primarily associated with rural agriculture, and few residential or businesses are located nearby. This further minimizes the overall impact of reduced property values because those land uses would not be negatively affected by visual or noise impacts. Indirect impacts 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 TOD into the surrounding downtown core. Section 3.13, Station Planning, Land Use, and Development, provides additional details on the effects of the HST stations on the downtown areas of Merced and Fresno. The new development would likely result in higher property values in Downtown Merced and Downtown Fresno than would occur under the No Project Alternative. The impacts caused by property acquisitions would be moderate under NEPA because of the loss of property tax revenues, and the impacts on property values would be negligible under NEPA because the potential of lower property values is low and further minimized because a large portion of the alternatives is located in rural areas associated with agricultural.

Employment Growth

The economic growth study conducted for the Bay Area to Central Valley Program EIR/EIS (Authority and FRA 2008) found that the additional population growth under the HST alternatives would be driven by regional job growth (that is, internal to Merced, Madera, and Fresno counties) induced by the presence of the HST System, rather than by population shifts from the Bay Area and Southern California. In general, the HST station areas would offer a more attractive market for commercial and office development than the same areas under the No Project Alternative. 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 that would be 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 any of the three HST alternatives, it is estimated that approximately 32,000 jobs would be created by 2035 within the three counties as a result of the operation of the HST project. This total would include the direct jobs to operate and maintain the project in the three-county region (approximately 1,300 jobs), as well as the indirect and induced jobs created to support these new workers and the additional jobs created as a result of the improved connectivity and growth in the overall regional economy. The total number of new jobs estimated to be created as a result of the HST would be an approximate 3.8% increase in total employment above the 2035 estimate of the 845,986 total jobs in the region under the

No Project Alternative (Cambridge Systematics 2010). The HST alternatives would provide an additional employment growth of 6% in Merced County, 5% in Madera County, and 3% in Fresno County. The HMFs would attract high-skill and high-wage technical jobs (e.g., welders and mechanics), professional jobs, and other jobs in the service, government, and financial sectors.

Potential effects from a NEPA perspective are examined from the standpoint of both the intensity and context of the effect. As described above, the intensity would be slight given the size of the region's labor force. Therefore, the effect would be moderate under NEPA in the short term and there would be no effect under NEPA in the long term.

Business Impacts

For all three HST alternatives, most of the businesses that would likely be affected are within the alignment rights-of-way, including the HST station footprints. These businesses include auto dealerships, restaurants, gas stations, motels, businesses that serve the surrounding agricultural community, and industrial and warehouse facilities. The majority of the businesses that would be affected are located in the downtown areas of Merced, Madera, and Fresno. There are no business districts (e.g., a cluster of stores) within these downtown areas that would be negatively affected by the acquisitions. In the urban areas, where such businesses are located, the guideway would be elevated, minimizing the amount of required right-of-way to construct the project. It is also likely that businesses would be able to relocate under the guideway after construction is complete, which would minimize impacts. In rural areas, the guideway would pass through agricultural land. The largest industries, based on the number of employees, in the three counties are associated with agriculture, services, and government.

In addition to the potential direct impacts on businesses, the HST alternatives may result in physical deterioration of areas if property values decline because of the project. Physical deterioration is not expected in the downtown areas of Merced and Fresno, because the HST stations would likely be a catalyst for new development and redevelopment in those areas. In areas where there is no HST station, such as downtown Madera, the elevated guideways could have a negative impact on businesses; however, as previously discussed, implementation of mitigation measures may result in beneficial effects for the downtown area.

Impacts on the Agricultural Industry

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. Agricultural areas would be converted to a transportation-related use as a result of the project, which would result in the permanent loss of agricultural lands. Section 3.14, Agricultural Lands, provides more information about the areas that would be affected by property acquisitions. Although it is likely much of this production would relocate, there would be some production that 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). Moreover, some relocated agricultural production would take time to re-establish full production levels. In addition, there would be effects on dairy and livestock operations as well as on associated waste ponds and other onsite facilities. In addition, any reduced agricultural production would have an additional multiplier effect on the region's economy and could affect businesses involved in agricultural services, food processing, and the transportation of goods. Because no agricultural land would be acquired within Fresno County, only Merced and Madera counties are discussed.

All of the HST alternatives would result in a short-term reduction in agricultural production for the total value of agricultural production in each of the two counties. The loss of agricultural production from Merced and Madera counties as a result of the property acquisitions of agricultural land would range from approximately 1,000 to 1,500 acres, depending on alternative. The amount of land required would be less than 0.1% of the agricultural land in production (approximately 1.7 million acres). Additionally, much of the land that would be required is linear slivers of land located along the edges of the farms; therefore, the impact would be negligible. As described in the affected environment section, agriculture was a \$3.4 billion industry in 2009 and the loss of land would result in a slight reduction of this value.

Employment in the agricultural sector accounted for about 16% and 24% of the total industry employment in 2008 in Merced and Madera counties, respectively (CEDD 2010b). In 2008, farm earnings accounted for about 9% and 7% of the total personal income in Merced and Madera counties, respectively (U.S. Department of Commerce 2010). The loss of agricultural land could result in a reduction of farm workers who could be negatively affected if the acquisition results in permanent job losses or they are unable to find work on another farm in the region. This effect would also be minimized if the agricultural production relocated elsewhere in the region.

Conversion of land with dairy operations would include the loss of structures and facilities, as well as removal of associated land from growing forage crops or receiving waste. The conversions of partial property would result in secondary impacts. For example, changes to land areas that receive dairy waste would require modification of the dairy waste management and nutrient management plans, and would result in the need to increase offsite waste disposal or reduce the number of cattle. Relocation or a substantial change in dairy operations would result in the need to obtain a new or modified conditional use permit from the local jurisdiction or new air and water quality permits from regulatory agencies. Dairies are not classified as Important Farmland, and therefore the impact would not result in farmland conversion.

Overall, the amount of land that would be removed from agricultural production in the two counties is a very small percentage of two county total production. Farm owners would be compensated under the Uniform Relocation Act, as amended. Even so, there would be potential for temporary disruption to agricultural operations as production is reallocated between owners and as facilities are relocated. Related economic sectors, such as processing facilities, could also experience some short-term multiplier effects from reduced production. Because of the effect of the HST alternatives on agricultural operations, the effect under NEPA would be moderate in the short term because of this adjustment period. In the long term, the effect under NEPA would be negligible because the loss of agricultural land from the HST project would be less than 0.1% of the agricultural land in production and much of the land that required is linear slivers of land located along the edges of the farms; therefore, the impact would be negligible.

In addition to the permanent property acquisitions the project would also have the potential to result in road closures in the rural area where the alignment would be at-grade. Because agriculture is central to the economy of the region, permanent road closures resulting from the project were examined to identify potential effects on regional access for agricultural operations. The 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 deliver products to processing facilities and markets. For all HST alternatives and HMF locations, the road closures associated with the project would be dispersed and detours to alternative routes would be approximately 2 miles or less, so regional access for agricultural operations (e.g., moving workers and equipment to cultivate and harvest fields and deliver products to processing operations and markets) is not expected to be restricted, and therefore, effects would be negligible under NEPA.

Environmental Effects Disproportionately Borne by Communities of Concern

This section describes the potential impacts on communities of concern within the study area. An analysis identified impacts within census block groups that have communities of concern. These areas and the impacts were reviewed to determine the potential for adverse impacts that may be predominantly borne by communities of concern or cause disproportionately high and adverse impacts on those populations. Impacts unique to each alternative based on the presence of communities of concern are described in the text following Table 3.12-17.

Table 3.12-17 summarizes impacts common to all three HST alternatives and their relevance to communities of concern. The information in Table 3.12-17 is based on the information provided from the other sections in this EIR/EIS.

Residential displacements associated with the Merced HST station would occur in areas where there are communities of concern. These residences are scattered in a mixed commercial area and are not

associated with a residential neighborhood. Currently, there is an adequate supply of available residential properties within the City of Merced. As previously described in the Property section, these displaced individuals would be compensated; with mitigation, impacts on communities of concern would not be disproportionately high or adverse.

Table 3.12-17
 Impacts Common to All Alternatives on Communities of Concern

Environmental Element	Impacts Summary	Relevance to Environmental Justice
Transportation	<p>The HST alternatives would improve regional travel times, reliability, and convenience for all populations. Operation of the HST System would shift some people from automobiles to HSTs, reducing traffic volumes on the surrounding roadways.</p> <p>HST service would provide a new intercity, interregional, and regional passenger mode that would improve mobility, connectivity, and accessibility to other existing transit modes and airports. The HST stations would be multimodal transportation hubs that would reinforce existing local transit systems. There would be no impacts on non-motorized facilities.</p> <p>In rural areas, some existing roadways would be closed, but access would be maintained at least every 2 miles. Many of the closures would be associated with the wyes. Traffic would divert to other routes. Because traffic volumes are low, impacts are expected to be negligible.</p>	<p>Improvements in the transportation system with the addition of the HST System would accrue to all populations. No adverse impacts on communities of concern are anticipated.</p>
Property Acquisitions	<p>All HST alternatives would require property acquisitions and displacements. Residential relocations would occur in areas where communities of concern are located. The project would follow the provisions of the Uniform Relocation Act, as amended. Property owners and tenants would receive relocation assistance and would be compensated. If required, housing of last resort will be used, which may involve payments for replacement housing costs that exceed the maximum amounts allowed under the Uniform Relocation Act, or other methods of providing comparable decent, safe, and sanitary housing within a displaced person's financial means.</p>	<p>Nearly every urban area along the HST alignments has communities of concern, and acquisitions would be predominantly borne by those populations. However, with mitigation, the effects of displacements and relocations on communities of concern in the cities of Merced and Fresno would not be appreciably more severe or greater in magnitude than the adverse effects on non-communities of concern.</p> <p>Preliminary research indicates an adequate available supply of decent, safe, and sanitary replacement housing within the neighborhoods where displacements would occur. All displaced residents in the cities of Merced and Fresno would be relocated, likely within their current neighborhoods; therefore, no adverse impacts are anticipated.</p>
Economics	<p>Displaced businesses (which could be owned by minorities or employ minorities) would receive relocation assistance. Most businesses would</p>	<p>The loss of jobs, especially those filled by communities of concern, is anticipated to be minor. Businesses</p>

Environmental Element	Impacts Summary	Relevance to Environmental Justice
	<p>likely relocate, with no jobs lost and no anticipated long-term impacts on employees or owners. Some agricultural lands would be acquired, and few or no replacement lands are available. The loss of agricultural land could result in the loss of jobs, depending on the amount of land acquired and the availability of other similar agricultural jobs in the area. Specialized industries, such as quarries, granaries, and processing facilities, may be unable to relocate because of siting requirements and land availability constraints.</p>	<p>would be relocated and the jobs would not be lost. Agricultural jobs that are lost and not replaced may result in an adverse impact if the employees are unable to find other employment. Job creation associated with operation of the HST would provide new employment opportunities for all populations including communities of concern. Many of the new jobs would require certain skills or training. The benefits of new employment opportunities might not accrue to communities of concern. Impacts of employment losses would be negligible and would not result in adverse impacts on communities of concern.</p>
<p>Social, Neighborhood, and Community Impacts</p>	<p>The project would not result in the physical division of communities. The placement of the guideway alongside existing highway and railroad corridors through urban areas, often in existing industrial areas, would lessen the impacts on communities and neighborhoods adjacent to the HST alignment.</p> <p>The wyes would be located in sparsely populated areas adjacent to existing roads and are expected to have few social, neighborhood, and community impacts.</p> <p>The Downtown Merced Station would result in the acquisition of a facility that provides a unique service to communities of concern.</p>	<p>The project would result in the acquisition of community facilities, including some that are unique to communities of concern. Preliminary research indicates adequate replacement properties for these facilities can be found within current neighborhoods. With implementation of mitigation measures, no adverse impacts are anticipated.</p>
<p>Land Use</p>	<p>Property acquisitions would convert existing land uses to a transportation-related use. The cities of Merced and Fresno are in the process of updating general and specific plans with goals and policies related to the HST alternatives and stations. The HST stations could be a catalyst for higher-density development and greater levels of redevelopment.</p>	<p>No adverse impacts on communities of concern are expected.</p>
<p>Agricultural Lands</p>	<p>The HST alternatives would convert lands currently used for agriculture to a transportation-related use.</p>	<p>The loss of farms may result in the loss of agricultural jobs. As described in Section 3.12.4, Affected Environment, these jobs employ migrant workers who tend to be in a community of concern; a high percentage of these workers live below the poverty level or are a minority.</p>
<p>Visual Impacts</p>	<p>The HST alternatives would construct elevated guideways in urban areas where none currently exist. In rural areas, visual impacts would include vegetation loss along the alignment, the overhead catenary system, and fencing along</p>	<p>No adverse impacts on communities of concern in the cities of Merced and Fresno are expected. The HST stations are anticipated to improve visual quality in these areas as the</p>

Environmental Element	Impacts Summary	Relevance to Environmental Justice
	the guideways. Landscaping and vegetation removed in urban areas would be replaced as part of the project.	areas redevelop.
Air Quality	Air quality in the valley would improve under any of the HST alternatives. Some people would travel on HSTs instead of using private vehicles or airplanes, both of which produce localized pollution. The HSTs would be fully electric, using energy from the existing electric infrastructure and reducing localized air quality impacts.	All residents in the San Joaquin Valley would benefit from the decrease in air pollutants associated with the projected shift in transportation modes. No adverse impacts are expected on communities of concern.
Noise and Vibration	Nearly all the noise impacts would be effectively mitigated for all HST alternatives with the construction of sound barriers. Additional mitigation measures, such as installation of building insulation, may be necessary to eliminate the remaining noise impacts. No vibration impacts would affect neighborhoods or communities.	No adverse impacts on communities of concern are expected after implementation of mitigation measures.
Safety and Security	The HST alternatives are not expected to result in a negative impact on the overall crime rates in surrounding neighborhoods. Increased response times for emergency services are not anticipated, because the project would be grade-separated and access would not be affected.	No adverse impacts on communities of concern are anticipated.

A homeless shelter would be displaced south of the Downtown Merced Station. Relocating this facility would not result in any adverse impacts, because there are numerous locations in Downtown Merced where the shelter could relocate.

Other areas with potential communities of concern in the City of Fresno include two mobile home parks and several older motels. The mobile home parks would not experience any displacements, and no adverse impacts are anticipated. Motels often serve as temporary housing for low-income people who do not have access to permanent housing. Motels often employ low-skilled workers in service positions, and some employees may earn wages below the poverty level. Within the study area in Fresno, there are several motels (Fresno Motor Lodge, Storyland Inn, Flamingo Inn, Paradise Inn Motel, Sands, Relax Inn, Holiday Motel, Town House Motel, and Fresno Motel) that would all be potentially affected or displaced by the project. Preliminary research indicates adequate available replacement sites for relocation. Permanent residents of displaced motels could relocate to other motels in Fresno.

UPRR/SR 99 Alternative

The UPRR/SR 99 Alternative would affect communities of concern in Chowchilla, Fairmead, and Madera. No adverse impacts on communities of concern would be expected in Chowchilla because the East Chowchilla design option would follow SR 99 along the eastern edge of the city, through industrial and commercial land uses, and the West Chowchilla design option avoids the city.

In Fairmead, an elevated guideway would be adjacent to the community and would require the acquisition of residential properties. Preliminary research indicates that available replacement properties currently exist in Madera County and the nearby cities of Chowchilla and Madera, but not within Fairmead. The displacements are not considered significant adverse property impacts because adequate available housing exists within the relocation area. However, these displacements would be predominantly borne by a community of concern. Impacts would be considered disproportionately high

and adverse because people who must relocate outside of Fairmead would be isolated from their community.

The elevated HST guideway would create a substantial adverse visual impact in Fairmead because of the size of the structure and its close proximity to the small community may result in reduced property values. These impacts would be predominantly borne by a community of concern. Aesthetic designs would reduce visual impacts but not avoid them.

Property acquisitions would occur in Madera, but adequate available replacement sites exist within the city to accommodate displaced residents and businesses. The elevated HST guideway would result in substantial visual impacts on residential neighborhoods and Downtown Madera. However, with mitigation measures such as aesthetic designs, the area underneath the elevated guideway could become an attractive setting for economic development or recreational uses. Noise impacts may remain, depending on community input regarding the specific noise mitigation measures. Although moderate to substantial impacts on community cohesion and visual resources would be predominantly borne by communities of concern, these impacts would not be appreciably more severe or greater in magnitude than the adverse effects on non-communities of concern. The use of aesthetic design guidelines would minimize visual impacts. There may be moderate noise impacts on adjacent residences; however, these residences are in areas adjacent to existing transportation corridors. The HST noise may not result in disproportionate impacts.

BNSF Alternative

The BNSF Alternative would affect the communities of Le Grand and Madera Acres, which have minority communities of concern. The guideway would be adjacent to a community of concern and would require the acquisition of residential properties for the Mission Ave or Mariposa Way design options. Preliminary research indicates that available replacement properties currently exist in Merced and Madera counties and the nearby cities of Merced, Chowchilla, and Madera, but not in Le Grand. The displacements are not considered significant adverse property impacts, because adequate available housing exists within the relocation area. However, these displacements would be predominantly borne by a community of concern and would be disproportionately high and adverse because people who must relocate outside of Le Grand would be isolated from their community.

The elevated guideway through Le Grand would minimize impacts on the transportation network, but it would create significant adverse visual impacts. Implementing aesthetic design guidelines would reduce the visual impacts but not avoid them. The elevated guideway may also result in negative impacts on property values for nearby residents. Impacts on communities of concern would not occur with the Mission Ave East of Le Grand and Mariposa Way East of Le Grand design options because the HST guideway would bypass Le Grand to the east. The elevated guideway may also result in negative impacts on the value of nearby properties.

The BNSF Alternative would pass through Madera Acres and would affect single-family residences. There is an adequate supply of available replacement residences in the area, and displaced residents would be compensated.

Hybrid Alternative

The Hybrid Alternative with the Ave 21 Wye connection would affect Chowchilla the same as the UPRR/SR 99 Alternative with the East Chowchilla design option and Fairmead the same as the UPRR/SR 99 Alternative. Madera Acres in the same way as previously described under the BNSF Alternative. No other communities of concern would be affected that are unique to the Hybrid Alternative.

Heavy Maintenance Facility Alternatives

The area to be acquired for the potential facilities is larger than the actual footprint of the HMF. The extra land would provide a buffer between the HMF and adjacent areas. Many of the HMF sites are located on agricultural land and in rural areas, where the impacts would be small. An HMF would provide approximately 1,500 jobs to the region, including a variety of technical jobs (e.g., welders and

mechanics), and professional jobs. Jobs at the HMF site would likely be filled by workers in the region, resulting in employment benefits. These new jobs would not result in any benefits that would accrue to a greater degree to the communities of concern unless they have the necessary skills or they are provided training or some other type of program that would enable employment.

The Harris-DeJager, Fagundes, Gordon-Shaw, and Kojima Development HMF sites are in sparsely populated areas. There would be no adverse impacts associated with HMF operations at any of these locations; therefore, these sites would not result in any disproportionate effects on communities of concern.

Through acquisitions, the Castle Commerce Center HMF would affect more than half of the dwelling units in Merced Mobile Estates, which is in the Franklin-Beachwood community. It is likely that many of those in the park own their mobile home. Preliminary research indicates that there is an insufficient supply of available decent, safe, and sanitary mobile homes and vacant mobile home lots in the area. Displaced residents could be relocated to other types of housing, most likely in the nearby cities of Atwater or Merced. Because half of the mobile home park would be acquired and residents could not relocate within the park, the acquisitions would result in the loss of community cohesion, and displaced residents would be isolated from their community. The guideway would also introduce a new visual element that would create a visual barrier, dividing the community. The guideway may result in negative effects on nearby property values. These impacts would be predominantly borne by a community of concern in the mobile home park and would be disproportionately high and adverse on that population. It is likely that the mobile home park provides modest cost housing and many of the residents would be expected to be low-income. Because of this, these impacts would be predominantly borne by the community of concern in the mobile home park and would be disproportionately high and adverse on that population.

The guideway connecting the Castle Commerce Center HMF to the Downtown Merced Station would displace the Merced Lao Family Community, Merced Senior Center, and McCombs Youth Center, all of which serve communities of concern. There are adequate available replacement sites within the Downtown Merced to accommodate these facilities. Because the facilities could be relocated in the same general area, the impacts are not expected to result in disproportionately high and adverse impacts.

Environmental Justice Conclusion

The project would result in impacts on communities of concern that are primarily related to property acquisitions and visual impacts. These impacts would be predominantly borne by communities of concern and would be disproportionately high and adverse compared to impacts on the general population.

According to EO 12898, the offsetting benefits associated with the project should be considered as part of the environmental justice analysis. The project would provide benefits that would accrue to all populations, including communities of concern populations. These benefits would include improved mobility within the region, improved traffic conditions on freeways as modes divert to HST, improvements in air quality within the region, and new employment opportunities during construction and operation. Because much of the study area population has communities of concern, these project benefits are likely to accrue to a greater degree to the communities of concern.

Jobs created by construction and operation of the project would likely be filled by workers in the region. The new jobs would not result in any benefits that would accrue to a greater degree to the communities of concern unless they have the necessary skills or they receive training or some other type of program that would enable employment.

3.12.6 Project Design Features

The Authority has considered avoidance and minimization measures that are consistent with the Statewide Program EIR/EIS (Authority and FRA 2005) and Bay Area to Central Valley Program EIR/EIS commitments (Authority and FRA 2008). 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 apply to all acquisitions of real property or displacements of persons resulting from federal or federally assisted programs and projects. The Uniform Act provides for the fair and equitable treatment of those displaced persons. Additionally, the Fifth Amendment of the United States Constitution provides that private property cannot be taken for public use without payment of "just compensation."

The Uniform Act requires that the owning agency notify all affected owners of the acquiring agency's intent to acquire an interest in their property, including a written offer letter of just compensation specifically describing those property interests and assign a right-of-way specialist to each property owner to assist them with the process. The Uniform Act also provides for benefits to displaced individuals to assist them both financially and with advisory services to help them relocate their residences or businesses. 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 will be determined on an individual basis and explained in detail by an assigned right-of-way specialist.

Similarly, the project must adhere to California Relocation Assistance Act Requirements. Owners of private property have federal and state constitutional guarantees that their property will not be taken or damaged for public use unless they first receive just compensation. Just compensation is measured by the "fair market value" of the property, which is considered to be "the highest price on the date of valuation that would be agreed to by a seller, being willing to sell, but under no particular or urgent necessity for so doing, nor obliged to sell; and a buyer, being ready, willing and able to buy but under no particular necessity for so doing, each dealing 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.

3.12.7 Mitigation Measures

Additionally, 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 the following sections:

- 3.2, Transportation.
- 3.3, Air Quality and Global Climate Change.
- 3.4, Noise and Vibration.
- 3.13, Station Planning, Land Use, and Development.
- 3.15, Parks, Recreation, and Open Space.
- 3.16, Aesthetic and Visual Resources.
- 3.18, Regional Growth.

These sections include mitigation measures that will minimize or avoid some of the social, economic, and environmental justice impacts identified in this analysis. Those mitigation measures are assumed for impacts on those resources. The following mitigation would apply to reduce substantial adverse environmental impacts resulting from implementation of the HST project.

3.12.7.1 Construction Period

SO-MM#1: Develop and implement a construction management plan. The Authority 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 and to maintain access to local businesses, residences, and emergency services. The plan will maintain access to local businesses during construction and use signs to instruct customers regarding access to businesses during construction. In addition, the plan will include efforts to coordinate with local transit providers to minimize impacts on local and regional bus routes in affected communities.

SO-MM#2: Develop a relocation mitigation plan. Before any acquisitions occur, coordinate with affected communities and counties to develop a relocation mitigation and enhancement plan that will (1) arrange for meetings with affected property and business owners and tenants to provide counseling and assistance in applying for funding, including research to summarize loans, grants, and federal aid available, and research of demographically similar areas; and (2) collaborate with affected communities to develop enhancements and address indirect social and psychological impacts on communities. Provide housing of last resort if required.

3.12.7.2 Project

SO-MM#3: Implement measures to reduce impacts associated with the division of existing communities. Minimize impacts associated with the Castle Commerce Center HMF guideway to the Merced Estate mobile home park. Make every effort to locate suitable replacement housing for displaced residents. In cases where residents wish to remain in their neighborhoods, the purchase and development of infill lots or other real estate, relocation of existing buildings to vacant lots, and coordination with city staff regarding zoning and permit issues may be required.

SO-MM#4: Implement measures to reduce impacts associated with the relocation of community facilities. Minimize impacts associated with the acquisition of the homeless shelter in Merced, which is affected by all alternatives, and Joe Stefani Elementary School, Merced Lao Family Community, Merced Senior Center, McCombs Youth Center, which are affected by the Castle Commerce Center HMF, by conducting outreach and coordinating with the facility prior to acquisition. Coordinate with the respective parties prior to land acquisition to reconfigure or relocate facilities, as necessary, to minimize disruption to activities. To reduce disruption to the use of these community facilities, reconfiguring of land uses or buildings or relocating community facilities is completed before the demolition of any existing structures. Work with the City of Merced and Merced City School District to facilitate the construction of the facilities prior to demolition of the existing structures. During the design process, the Outreach Team would conduct targeted outreach efforts for these facilities to understand and determine their needs for siting criteria.

SO-MM#5: Continue outreach to disproportionately and negatively affected environmental justice communities of concern. Conduct substantial environmental justice 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, 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.

SO-MM#6: Investigate avoidance of displacements or consider other replacement housing options in Franklin-Beachwood, Le Grand, and Fairmead. Investigate design modifications that

avoid residential displacements in these communities. Displaced residents in these minority communities would be unable to relocate within the same community because replacement housing is currently not available. Consider other replacement housing options to allow displaced residents to remain in their communities, including rehabilitation of existing housing or construction of new housing within the communities. For any large parcels, determine if relocating the structure or structures on the property is feasible or consider moving them to nearby vacant parcels.

SO-MM#7: Development of measures to minimize the potential for physical deterioration.

Implement long-term management of the area beneath the elevated rail guideway. Work with the communities to develop and implement aesthetic design guidelines and consider using the area underneath the elevated guideway as a trail or for business parking for new and existing businesses, making the area underneath the guideway an attractive setting for economic development or recreational uses. Any uses under the elevated guideway will be coordinated with the FRA Office of Safety and the Department of Homeland Security.

SO-MM#8: Provide access modifications to affected farmlands. In cases where partial property acquisitions result in the division of farmlands, consider providing overcrossings or undercrossings of the HST guideway to allow continued access and use of farmlands. This would include the design of overcrossings or undercrossings to allow the passage of farm equipment. Refer to Section 3.14, Agricultural Lands, for additional information.

Secondary effects of mitigation measures that are unique to this section are not anticipated.

3.12.8 NEPA Impacts Summary

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

3.12.8.1 Construction Period Impacts

Disruption or Severance of Community Interactions or Division of Established Communities

Construction impacts related to noise, dust, visual changes, and changes in traffic patterns would not affect overall community integrity but would affect the quality of life in the communities. All of the HST alternatives would result in moderate impacts on community interactions in the cities of Merced and Fresno during construction as a result of the construction impacts.

The Castle Commerce Center HMF alternative would result in substantial impacts on community interactions in Franklin-Beachwood because construction of the guideway between the HMF and the Merced HST station would bisect a mobile home community. The impacts of the other four HMF alternatives on community cohesion would be negligible because the alternatives are not located in proximity to any communities.

Economic Impacts

Overall, construction of the project would result in beneficial effects on tax revenues and employment. Moderate effects on city and county revenues could result from loss of property tax and sales tax revenues. Construction activities could lower property taxes on those properties in close proximity to the HST, resulting in lower property tax revenues. If businesses were unable to relocate within the same jurisdiction, there may be a negative effect on sales tax revenues. Although there are suitable locations, there would still be a temporary loss while the businesses relocated. In addition, business owners may close rather than relocate, which would affect sales tax revenues.

Environmental Effects Disproportionately Borne by a Minority or Low-Income Population

Construction impacts on communities of concern would not result in impacts that are disproportionately high and adverse. Communities of concern populations may experience impacts that would not affect non-communities of concern, but the impacts would be negligible. For example, low-income residents may not have the resources to relocate during periods of nighttime construction if they are bothered by construction activities, and they may not be able to purchase air conditioners if construction activities force them to close their windows in the summer.

3.12.8.2 Project Impacts

Disruption or Severance of Community Interactions or Division of Established Communities

Permanent impacts related to disruption or severance of community interactions or division of established communities in the cities of Merced and Fresno would be negligible under all HST alternatives because access would still be maintained. The HST guideway would not create a barrier in these communities because it would follow existing transportation corridors and would be elevated to maintain access. All of the HST alternatives would require the relocation of a facility in Downtown Merced, and there are suitable locations in the downtown area where these facilities could relocate prior to acquisition. Impacts on community facilities in the cities of Merced and Fresno would be moderate because adequate available replacement sites currently exist for affected facilities and design would further minimize the impacts.

The BNSF Alternative with the Ave 24 Wye and the Hybrid Alternative with the Ave 24 Wye would encroach on CCWF, resulting in a moderate effect on prison operations, including revenue flow. The Castle Commerce Center HMF site would divide a mobile home park in Franklin-Beachwood, requiring many property acquisitions and causing visual impacts. These would result in substantial impacts on community interactions in Franklin-Beachwood. The guideway associated with the Castle Commerce Center would also require the acquisition of facilities in Downtown Merced, but there are suitable locations in the downtown area where they could relocate.

Displacement of Local Residents or Businesses

At the regional level, the overall impacts of property acquisitions would be moderate because preliminary research indicates an adequate available supply of replacement sites for displaced residents and businesses within the relocation area. Agricultural businesses and some specialized businesses (e.g., quarries and granaries) may be unable to relocate because of siting requirements and land availability; impacts on those businesses could be substantial because of the site requirements for these types of businesses. The acquisition of residential displacements is spread around throughout the cities and counties in the study area and would not result in any negative impacts on school district funding due to property acquisitions and relocation of students.

Economic Impacts

Operation of any of the HST alternatives would result in beneficial direct and indirect impacts on tax revenues and employment in the region. Impacts on the agricultural industry would be negligible because the amount of farmland required is not anticipated to result in a major loss of existing agricultural land and access would be maintained to the extent possible. The amount of agricultural land lost would not result in substantial impacts on the overall agricultural economy because the loss of land is minimal compared to the total agricultural land in the three counties. Farm owners would be compensated under the Uniform Relocation Act, but farm workers might be negatively affected if they are unable to find other employment.

Environmental Justice Effects

Under all HST alternatives, moderate noise impacts and displacements and relocations in the cities of Merced and Fresno would be predominantly borne by communities of concern because those communities have large minority or low-income populations. With mitigation, the effects of displacements

and relocations on communities of concern would not be substantial and would not be appreciably more severe or greater in magnitude than the adverse effect on the general population.

The Castle Commerce Center HMF site would cause disproportionately high and adverse impacts on a minority population in the Franklin-Beachwood community. Half of a mobile home park would be acquired, and displaced residents would be relocated elsewhere because of the lack of available housing within the community. These displaced people would be isolated from their community. The guideway would also require the acquisition of three community facilities that serve communities of concern.

Under all HST alternatives, benefits would likely accrue to a greater degree to communities of concern because they comprise a large percentage of the population in the study areas. These benefits would include improved mobility within the region, improved traffic conditions on freeways, improvements in air quality within the region, and new employment opportunities during construction and operation. Jobs created by construction and operation of the project would likely be filled by workers in the region. The new jobs would not result in any benefits that would accrue to a greater degree to the communities of concern unless they have the necessary skills or they receive training or some other type of program that would enable employment.

3.12.9 CEQA Significance Conclusions

Table 3.12-18 summarizes significant physical changes to communities under CEQA thresholds, associated mitigation measures, and the level of significance after mitigation.

Table 3.12-18
 Summary of Significant Physical Changes to Communities and Mitigation Measures

Impact	Level of Significance before Mitigation	Mitigation Measure	Level of Significance after Mitigation
<p>SO#1: Division of Merced Estates Mobile Home Park. The guideway between the Castle Commerce Center HMF and the Merced HST station would bisect an existing mobile home community, displacing approximately 50% of the homes.</p>	<p>Significant</p>	<p>SO-MM#2: Develop a relocation mitigation plan; SO-MM#3: Implement measures to reduce impacts associated with the division of existing communities; SO-MM#5: Continue outreach to disproportionately and negatively affected environmental justice communities of concern; SO-MM#6: Investigate avoidance of displacements or consider other replacement housing options in Franklin-Beachwood, Le Grand, and Fairmead.</p>	<p>Significant</p>

Impact	Level of Significance before Mitigation	Mitigation Measure	Level of Significance after Mitigation
<p>SO#2: Displacement of Community Facilities. The guideway between the Castle Commerce Center HMF and the Merced HST station would require the acquisition of three community facilities.</p>	Significant	<p>SO-MM#2: Develop a relocation mitigation plan;</p> <p>SO-MM#4: Replace community facilities;</p> <p>SO-MM#5: Continue outreach to disproportionately and negatively affected environmental justice communities of concern.</p>	Less than significant
<p>SO#3: Displacement of Community Facility. All of the HST alternatives would result in the acquisition of a homeless shelter in the City of Merced.</p>	Significant	<p>SO-MM#4: Replace community facilities;</p> <p>SO-MM#5: Continue outreach to disproportionately and negatively affected environmental justice communities of concern.</p>	Less than significant