

3.13 Station Planning, Land Use, and Development

3.13.1 Introduction

This section describes the regulatory setting and affected environment for land use, and identifies the potential effects of the project, both beneficial and negative, on land use associated with the alignment alternatives, stations and station areas, and the HMFs. NEPA and CEQA require evaluation of impacts on land use. This analysis focuses on how the project would affect adjacent land uses and the effects on the downtowns of Merced and Fresno as a result of the proposed stations. The HST stations in these two cities would provide opportunities for infill development and redevelopment that would revitalize the downtown areas as well as reduce pressures to continue development outward. This section also addresses whether the project would be consistent with regional goals and policies. The Merced to Fresno Section of the California HST System includes rural areas in unincorporated Merced and Madera counties and urban areas in Atwater, Merced, Chowchilla, Madera, and Fresno. In urban areas, land uses primarily are residential (single-family and multifamily), industrial, commercial, institutional, and parks and recreational. In rural areas, agriculture is the primary land use.

The development of the HST project involves collaboration with the Merced and Fresno jurisdictions on upcoming updates to local general plans and land use planning processes to establish opportunities for enhanced transit-oriented development (TOD) around stations. In this process, the HST project minimizes incompatibility issues with adjacent lands uses and helps foster a mutually beneficial transportation and land use plan. By following existing transportation corridors as much as possible, the design of the HST project reduces land use conflicts. In some locations, the HST project incorporates an elevated guideway into its design, which reduces right-of-way impacts and minimizes traffic impacts that could affect land use.

What is Transit-Oriented Development?

A transit-oriented development (TOD) is a pattern of dense, diverse, pedestrian-friendly land uses located near transit nodes that, under the right conditions, translates into higher transit patronage (Transit Cooperative Research Program 2004).

The following sections provide additional information related to land use and development:

- Section 3.2, Transportation, provides information regarding parking.
- Section 3.12, Socioeconomics, Communities, and Environmental Justice, includes information regarding demographics, property, economic, and minority and low-income population effects.
- Section 3.14, Agricultural Lands, provides information regarding impacts on agricultural land.
- Section 3.15, Parks, Recreation, and Open Space, provides information regarding park impacts.
- Section 3.18, Regional Growth, provides information regarding regional growth and the project's potential to induce growth.

The following sections discuss mitigation measures that would minimize project impacts on adjacent land uses: Sections 3.2, Transportation; 3.3, Air Quality and Global Climate Change; 3.4, Noise and Vibration, 3.12, Socioeconomics, Communities, and Environmental Justice; and 3.15, Parks, Recreation, and Open Space.

3.13.2 Laws, Regulations, and Orders

The following sections outline key regulations for local development and growth, station planning, and land use most relevant to the HST project. The project would comply with applicable federal and state laws and regulations regarding land use. The consistency of the project with regional and other plans is also considered in this evaluation to identify potential environmental impacts on land use flowing from inconsistencies.

3.13.2.1 Federal

Farmland Protection Policy Act [7 U.S.C. Sections 4201 to 4209 and 7 CFR 658]

Requires that, before taking or approving any federal action that would result in conversion of farmland, the agency of project jurisdiction must examine the effects of the action using the criteria set forth in the Act, and, if there are adverse effects, must consider alternatives to lessen them in coordination with the Natural Resources Conservation Service.

3.13.2.2 State

California Land Conservation Act [California Government Code Sections 51200 to 51295]

Provides incentives to deter the early conversion of agricultural and open space lands. These incentives are possible because of reduced property taxes.

Senate Bill 375, Chapter 728

Requires regional planning agencies to develop regional land use plans (called *Sustainable Community Strategies*) that will reduce greenhouse gas emissions by reducing sprawl, by co-locating uses to shorten necessary trips (e.g., home to work, home to store, etc.) and by coordinating land use and transportation/transit planning. Coordination is enforced by requiring transportation planning projects to comply with the sustainable community strategies to receive state funding. SB375 also allows projects that meet regional sustainable community strategies to qualify for CEQA exemptions or streamlining.

California State Planning and Zoning Law [California Government Code Sections 65000 to 66037]

Delegates most of the state's local land use and development decisions to cities and counties. It describes laws pertaining to land use regulations by local governments, including the general plan requirement, specific plans, subdivisions, and zoning. Relevant general plans are described in Section 3.13.2.3.

3.13.2.3 Regional and Local Plans and Policies

The following regional and local plans and policies were identified and considered in the preparation of this analysis.

San Joaquin Valley Blueprint Planning Process (2010)

The San Joaquin Valley Blueprint Planning Process is a plan for the future of the San Joaquin Valley and is used to guide growth over the next 50 years. The San Joaquin Valley Blueprint Program was created by the California Department of Transportation's California Regional Blueprint Planning Program. The planning process involves seven councils of government and one regional transportation planning agency:

- Council of Fresno County Governments.
- Kern Council of Governments.
- Kings County Association of Governments.
- Madera County Transportation Commission.
- Merced County Association of Governments.
- San Joaquin Council of Governments.
- Stanislaus Council of Governments.
- Tulare County Association of Governments.

The Blueprint process promotes less land used for development, more resources for preservation, enhancing distinctive communities, and greater availability of more travel choices. The San Joaquin Valley Blueprint identified and evaluated growth scenarios, including one growth scenario that assumes an HST system, and selected a preferred scenario which includes an HST system. The San Joaquin Valley

Regional Policy Council adopted the preferred growth scenario and the 12 Smart Growth Principles to be used as the basis of the Blueprint planning process in the San Joaquin Valley in April 2009. The 12 Smart Growth Principles represent the core values of the San Joaquin Valley and reflect the regional outlook. The 12 Smart Growth Principles are:

1. Create a range of housing opportunities and choices.
2. Create walkable neighborhoods.
3. Encourage community and stakeholder collaboration.
4. Foster distinctive, attractive communities with a strong sense of place.
5. Make development decisions predictable, fair, and cost-effective.
6. Mix land uses.
7. Preserve open space, farmland, natural beauty, and critical environmental areas.
8. Provide a variety of transportation choices.
9. Strengthen and direct development toward existing communities.
10. Take advantage of compact building design.
11. Enhance the economic vitality of the region.
12. Support actions that encourage environmental resource management.

The next steps in implementing the San Joaquin Valley Blueprint include developing an implementation program, preparing a schedule and set of milestones, and preparing a Planners Toolkit that will provide the Valley's cities and counties with strategies and tools allowing them to incorporate the Smart Growth Principles and move toward the preferred scenario. In 2010, the Fresno Council of Governments began preparation of the Blueprint Roadmap, which will act as a policy guide for implementing the Blueprint.

2011 Regional Transportation Plan for Merced County (Adopted)

The *2011 Regional Transportation Plan for Merced County* (Merced County Association of Governments 2010) provides a comprehensive long-range view of transportation needs and opportunities over a 20- to 25-year period. The Regional Transportation Plan (RTP) discusses problems related to the movement of goods and people by auto, truck, bus, train, airplane, bicycle, and walking. The plan includes information regarding (1) specific policies, projects, and programs needed to maintain, manage, and improve the transportation system; (2) the actions to achieve goals; and (3) funding and options to implement the plan's actions. The plan includes the following project-relevant goals:

- Support orderly and planned growth that enhances the integration and connectivity of various transportation modes.
- Provide a variety of transportation choices that strengthen and direct development toward existing communities, thus preserving open space, farmland, natural beauty, and critical environmental areas.
- Coordinate future land use patterns and transportation systems (e.g., aviation, rail, light rail, high-speed rail, transit, bike and pedestrian paths, and roads) to foster economic prosperity, environmental protection and mitigation, trip reduction, and the creation of efficient, integrated mixed-use communities.
- Encourage land use and growth patterns that enhance the livability of communities and maximize the productivity of transportation investments.

In addition, the following goal, objective, and policy are related to the project:

- Goal: Develop a rail system that provides safe and reliable service for passengers.
- Objective: 3.2. Establish an HST system connecting Merced and Los Banos to Sacramento and the Bay Area.
- Policy: 3.2.1. Support the HST planning process and actively provide comments and input.

Madera County 2011 Regional Transportation Plan (Adopted)

The *Madera County 2011 Regional Transportation Plan* (Madera County Transportation Commission 2010) provides a comprehensive long-range view of transportation needs and opportunities to the year 2035. The RTP provides that the county transportation system and implementation of the policies will safely and efficiently accommodate anticipated growth within Chowchilla and Madera, and Madera County. The RTP does not include any goals or policies directly relevant to the project.

2011 Fresno County Regional Transportation Plan (Adopted)

The *2011 Regional Transportation Plan* (Council of Fresno County Governments 2010) provides a comprehensive, long-range plan and identifies the needs for travel and movement of goods until the year 2035. The RTP includes four elements: the Policy Element provides information on the transportation goals, policies, and objectives; the Action Element identifies how to achieve the goals; the Air Quality Element addresses air quality issues (a new element in the 2011 RTP); and the Financial Element provides information regarding funding for the actions identified in the Action Element. The following are directly related to the project:

- Goal: Develop a safe, efficient, and convenient rail system that serves the passenger and freight needs of the region, and is integrated with and complementary to the total transportation system.
- Objective: Promote the growth of rail passenger and freight usage.
- Policy: Support the planning and construction of an HST system in the San Joaquin Valley which directly connects the major population centers within the valley.
- City and County General Plans.

Merced, Fresno, and Madera counties and Atwater, Merced, Chowchilla, and Fresno have adopted general plans. Some have community and specific plans. (Appendix 3.13-A provides detailed descriptions of these plans, goals, and policies.)

California law requires that counties and cities adopt general plans, and each general plan must include seven elements: Circulation, Conservation, Housing, Land Use, Noise, Open Space, and Safety and Seismic Safety. Optional elements include Air Quality, Economic Development, Hazardous Waste, and Parks and Recreation. The general plans must describe goals, objectives, and policies for the county or city to guide long-range growth, development, and redevelopment.

The following sections summarize local plans that specifically consider the project.

City of Merced Vision 2030 General Plan (Draft)

The *Merced Vision 2030 General Plan* (City of Merced 2010a) is being updated, with the goal of adoption in early 2011. Based on information in the current draft, the update likely will include new land use policies directly related to the project, including the following:

- Policy L-3.5: Develop a "Transit-Oriented Development" Overlay Zone Adjacent to the Planned HST Station in Downtown Merced:
 - Implementing Action 3.5.a – Develop a "Transit-Oriented Development" Overlay Zone for the area adjacent to the planned HST station in Downtown Merced.
 - Implementing Action 3.5.b – Review and update as necessary the Downtown Strategy, Economic Development Strategy, and other planning documents after the selection of the HST station location to reflect the City's development goals adjacent to this important facility.
 - Implementing Action 3.5.c – Consider changes to the City's Urban Village Concept better to reflect its status as "Transit-Ready Development" instead of "Transit-Oriented Development."

- Policy T-3.5: Support Enhanced Railroad Passenger Service for Merced:
 - Implementing Action 3.5.b – Support efforts to provide HST passenger service to the Central Valley, including a stop in Merced. Work with the Authority to determine the appropriate location for the Merced Station.

Draft City of Chowchilla 2040 General Plan Update (Draft)

Chowchilla is updating its general plan. Although no specific project-related goals and policies exist in the draft update (October 2009), the general plan discusses the project and opposes any alternative following the UPRR through the city because of the impacts it would have on the city. The city has taken the position that the alignment should be located on the south side of SR 152. The alignment of the UPRR/SR 99 Alternative would be adjacent to SR 99, which lies east of the downtown area and includes two design options. One option would locate the elevated guideway approximately 0.25 mile from downtown and adjacent to SR 99, and would maintain circulation in Chowchilla. The other option would locate the guideway west of Chowchilla and outside of the city limits. Chapter 2, Alternatives, provides additional information on these design options.

The general plan supports the construction of an HMF that would include either the Harris-DeJager, Kojima Development, or Fagundes site, which are all approximately 5 miles from Chowchilla and outside of the city's sphere of influence. Chowchilla collaborated in the proposals offering these potential HMF sites within its planning area consistent with the Authority's general guidelines for locating and designing HMFs for the HST system.

City of Madera General Plan Update (Adopted)

Madera updated and adopted the *City of Madera General Plan* (City of Madera 2009) in October 2009. The update includes a new policy in the Circulation Element that is directly related to the Merced to Fresno Section of the HST System:

Policy CI-38: The City supports the development of the statewide HST system with the following attributes:

- The HST system through (or in the vicinity of) the General Plan Planning Area should be established within a rail corridor which is located west of the city limits and located so as to minimize impacts on agricultural lands outside the Growth Boundary. To the extent such an alignment is determined to be infeasible and an alternative alignment must be utilized, the HST project should specifically avoid the placement of facilities adjacent to the UPRR tracks which bisect the City.
- The design and final alignment of the HST system through the General Plan Planning Area should take into consideration, and reflect the need for, compatibility with existing and planned land uses and circulation features.
- The construction of the HST system through the General Plan Planning Area should include all necessary features to ensure the operability of all existing and planned transportation corridors as called for in the General Plan Circulation Element.

2025 Fresno General Plan (Adopted)

The *2025 Fresno General Plan* (City of Fresno 2002) guides development of and investment in public infrastructure. Goals, policies, and objectives specific to land use and relevant to the project include the following:

- Goal 6: Coordinate land uses and circulation systems to promote a viable and integrated multimodal transportation network.

- Goal 9: Provide activity centers and intensity corridors within plan areas to create a mix of land uses and amenities to foster community identity and reduce travel.
- Policy C-3-b: Conduct a comprehensive update of the zoning ordinance to facilitate the implementation of intensity corridors. These zoning ordinance amendments should address mixed uses, expedited administrative zoning procedures, shared parking, underground and multistory parking structures incorporated into buildings, transit facilities, open space, and aesthetic considerations.
- Objective C-8: Facilitate the development of mixed uses to blend residential, commercial, and public land uses on one site.
- Policy C-16-a: The City shall review its planning principles, development regulations, and public service, transit and infrastructure policies and programs to incorporate "Transit Oriented Development" and "Traditional Neighborhood Development" approaches.
- Objective C-17: Encourage and facilitate urban infill by building and upgrading community and neighborhood public infrastructure and services that will enhance public health and convenience and the overall experience and quality of city living.
- Policy C-17-b The City shall identify and pursue measures to lower auto-dependence and encourage public transit (including pursuit of fixed guideway systems such as a monorail or people mover), bicycle use, and walking consistent with other transit-oriented development concepts and principles.
- Objective E-5: Promote continued growth of rail passenger and freight travel through a safe, efficient, and convenient rail system that is integrated with, rather than in conflict with, other modes of travel.
- Objective E-7: Serve future population concentrations with feasible alternative transportation modes that are efficient and safe, and that minimize adverse environmental impacts.
- Policy E-7-c: Pursuant to resolution of the City Council of December 18, 2001, support the planning and construction of HST in the San Joaquin Valley using the UPRR Railway alignment, which would directly connect the major population centers within the valley and include a station stop in Downtown Fresno.
- Policy E-7-d: Support the development of a multimodal transportation terminal facility in or in close proximity to the Central Area.
- Policy E-9-aa: Support the HST corridor in the vicinity of the UPRR corridor connecting Los Angeles and the San Francisco Bay Area.

Fresno Central Area Community Plan (Adopted)

The *Central Area Community Plan* (City of Fresno 1989) focuses on restoring and revitalizing the city's central core. The plan was developed to help direct the revitalization of Fresno's central area and restore the area as the urban center of Fresno. The plan promotes the mixed-use concept to encourage diversity of development and calls for development of a comprehensive transportation center in the central area.

City of Fresno Fulton Corridor Specific Plan and Downtown Neighborhoods Community Plan (Drafts)

In early 2010, Fresno initiated the preparation of two new plans, the *Fulton Corridor Specific Plan* and the *Downtown Neighborhoods Community Plan*. Fresno anticipates adopting these in mid-2012. The Authority has coordinated and will continue to coordinate with the City of Fresno on the development of these plans as they relate to the proposed Fresno station. The plans will incorporate extensive outreach and will focus on revitalization, aesthetics, infrastructure, incorporation of an HST station, and attraction and

expansion of businesses (City of Fresno 2010). The project would identify ways for the HST station to stimulate downtown development.

3.13.3 Methods for Evaluating Impacts

Data collected from local municipalities include local and regional land use plans and other relevant planning documents. The geographic information system (GIS) database includes electronic information from local and regional government sources. Land uses for the counties and cities were generalized into the dominant land use categories so that the land use could be presented consistently among the areas to the extent possible.

This analysis based the compatibility of the HST alternatives on (1) the potential sensitivity of various land uses to the changes that likely would result from project implementation and (2) the potential impact of these changes on the pattern and intensity of existing and planned land uses. GIS tools and aerial photographs facilitated the assessment of land use compatibility and helped identify and locate sensitive land uses (e.g., single-family residences and schools). The analysts used quantitative analysis and GIS tools to determine direct impacts related to the conversion of land uses to a transportation-related use and the required property acquisitions for the project. The analysts reviewed local plans and zoning to determine indirect impacts.

Station alternatives have been planned in collaboration with the cities and with substantial public input to help identify key HST station design, placement, access, and other pertinent issues. For a review of outreach activities, see Chapter 7, Agency and Public Involvement. In brief, outreach activities for the Merced and Fresno HST stations have included the following:

- Technical working group meetings with agency, city, and county staff.
- Station workshop meetings with city and county staff.
- Community educational workshops.

The impact analysis for HST station planning and land use includes a qualitative analysis of (1) this project's compatibility with regional and local land use plans, goals, and policies to identify any related environmental effects (incompatibility by itself is not an environmental effect) and (2) the potential impacts, particularly around the HST stations. For example, the analysis considered what type of development and redevelopment opportunities are anticipated with the implementation of an HST station in the downtown areas of Merced and Fresno.

3.13.3.1 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 station planning, land use, and development, the terms are defined as follows:

Negligible is defined as changes in land use that would be measurable but not perceptible. *Moderate* is defined as those impacts that would require acquisitions but would not change existing land uses, would not result in any induced growth, and would be consistent with applicable plans. *Substantial* is defined as those impacts that would result in changes in the existing land use patterns due to acquisitions; indirect impacts related to induced growth; and land uses less sensitive to impacts related to noise, visual, and transportation; and uses not consistent with applicable plans.

3.13.3.2 CEQA Significance Criteria

Based on CEQA Guidelines, the project would result in a significant impact on land use and development if it would:

- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.
- Cause a substantial change in pattern or intensity of land use incompatible with adjacent land uses.

3.13.3.3 Study Area

The study area comprises those areas where the project components, including stations and HMFs, could result in changes or impacts on land use type, density, and patterns of development. For the direct effects on land use, the study area includes the construction footprint as described in Section 3.1, Introduction, and the area of the five proposed sites for an HMF. For indirect effects on land use, the study area includes the land adjacent to and outside of the construction footprint. The study particularly focuses on station areas, which have the greatest probability of being affected by changes or impacts on land use type, density, and patterns of development. More distant land use effects also were considered, such as where roadway intersection impacts would influence land use decisions.

3.13.4 Affected Environment

3.13.4.1 UPRR/SR 99 Alternative

In much of the rural area traversed by the HST System, the alignment would run parallel to the existing UPRR and SR 99 transportation corridor. Land uses adjoining the north-south alignment in these rural areas are predominantly agricultural, with small pockets of single-family residential and commercial uses. Refer to Section 3.14, Agricultural Lands, for information about and location of agricultural lands. The following describes the land uses adjacent to the north-south alignment beginning in Merced and traveling south to Fresno.

In the northern part of Merced, industrial uses adjoin the proposed alignment. In Downtown Merced, land use is predominantly commercial, interspersed with vacant land. Between the cities of Merced and Chowchilla, in unincorporated Merced and Madera counties, land uses are primarily agricultural. In Chowchilla adjacent to SR 99, land uses are primarily freeway commercial oriented and industrial. The West Chowchilla design option would be west of Chowchilla, in an area of agricultural land uses. South of Chowchilla, in unincorporated Madera County, land uses are primarily agricultural except in a portion of the unincorporated community of Fairmead. Land uses in Fairmead are residential and agricultural. South of Fairmead, the HST alignment parallels UPRR and SR 99; adjacent land uses are agricultural.

Entering Madera from the north, land uses change from agricultural to industrial and then primarily to commercial uses through the downtown area. The adjacent land uses transition to agriculture-related uses as the alignment leaves the city. Through Madera, the alignment is adjacent to the UPRR tracks.

Between Madera and Fresno, the alignment is adjacent to the UPRR tracks and SR 99. Crossing from Madera County into Fresno County, the land uses change from generally agricultural to predominantly industrial and commercial uses. As the alignment enters Fresno, land uses to the east are open space with interspersed areas of single-family homes. Land uses to the west are predominantly industrial. As the alignment travels south, existing land uses become predominantly industrial, with areas of mostly commercial uses.

Continuing toward the Downtown Fresno Station, the existing land uses west of the alignment include primarily industrial, commercial, and open space, including Roeding Park. East of the alignment, existing land uses are primarily single-family residential with areas of commercial uses. As the alignment enters the Downtown Fresno Station study area adjacent land uses are industrial.

Downtown Merced Station

The Downtown Merced Station would be located south of the downtown commercial district and adjacent to the UPRR. Existing land uses within the proposed HST station footprint are commercial and residential; within 0.5 mile of the station, land uses are predominantly commercial with areas of residential and institutional. Figure 3.13-1 illustrates the existing land uses and Figure 3.13-2 shows the current zoning within the 0.5-mile radius of the Downtown Merced Station. There are vacant parcels in the downtown area of Merced, and the Land Use section of the City of Merced Draft General Plan (City of Merced 2010) identifies redevelopment areas of Merced, including Downtown Merced, that need revitalization. As illustrated in Figure 3.13-1, the higher-density residential uses lie primarily south of SR 99, which forms a boundary between the residential and commercial land uses. Northeast of the station is an area of single-family residential uses approximately 1,000 feet from the station. Overall, residential land uses transition from higher densities (i.e., multifamily) to lower densities (i.e., single-family) with increasing distance from SR 99 and the proposed HST station. As illustrated in Figure 3.13-2, zoning in the station area is commercial adjacent to the station with single-family and multifamily occurring beyond the commercial area and primarily south of SR 99. The City of Merced is currently updating its general plan to include an overlay zone in the station area that would allow for higher densities not currently addressed in the general plan.

In Downtown Merced, approximately 2,150 parking spaces exist, including on-street parking and public parking lots (surface and structure). Of these parking spaces, approximately 900 are time-restricted (ranging from 30 minutes to 8 hours). According to the transportation analysis (see Section 3.2, Transportation), of the 2,150 parking spaces, vehicles were parked in 856 spaces and 1,295 were available during a survey; of the 1,295 available parking spaces, 427 spaces were not time-restricted.

Downtown Fresno Station

The Downtown Fresno Station alternatives would be located west of the downtown commercial district and adjacent to the UPRR. As described in Chapter 2, Alternatives, the station would be located west of the UPRR tracks for both station options. Existing land uses within the proposed HST station footprint are primarily commercial, including Chukchansi Park, and industrial; within 0.5 mile of the station land uses are predominantly commercial and industrial with areas of residential land use located to the southwest of SR 99 and institutional land use located to the northeast including the Fresno County Courthouse and a civic and convention center. Figure 3.13-3 shows the existing land uses and Figure 3.13-4 shows the current zoning within the 0.5-mile radius study area of the stations. Within the study area, many parcels adjacent to the UPRR tracks are vacant or underutilized. In the area between the UPRR tracks and SR 99, existing land uses are primarily industrial and commercial. West of SR 99, land uses are primarily single-family residential interspersed with multifamily uses and commercial uses along arterial roads. As illustrated in Figure 3.13-4, the majority of the study area is zoned commercial and industrial. The areas zoned single-family and multifamily are primarily located south of SR 99.

According to information in Section 3.2, Transportation, Fresno owns and operates 10 parking lots and garages that have a total of more than 4,700 downtown parking spaces for event, monthly, and daily parking. These parking lots and garages provide hourly parking and monthly permits. Most of the parking is located in the vicinity of H Street and Van Ness Avenue less than a 0.5 mile from the proposed station locations. In addition, approximately 2,200 parking meters lie in the downtown area. Most of these meters allow 2-hour parking, but some meters have time limits ranging from 30 minutes to 10 hours.

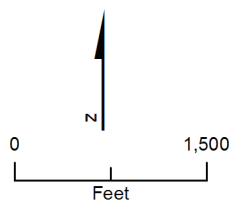
Wye Design Options

The Ave 24 Wye would be located in unincorporated Madera and Merced counties, running parallel to and approximately 0.5 mile north of SR 152. Existing land uses are primarily agricultural. The Ave 21 Wye would be approximately 2 miles south of SR 152 in unincorporated Madera County. Land use in this part of the county is primarily agricultural, with some rural residential uses.



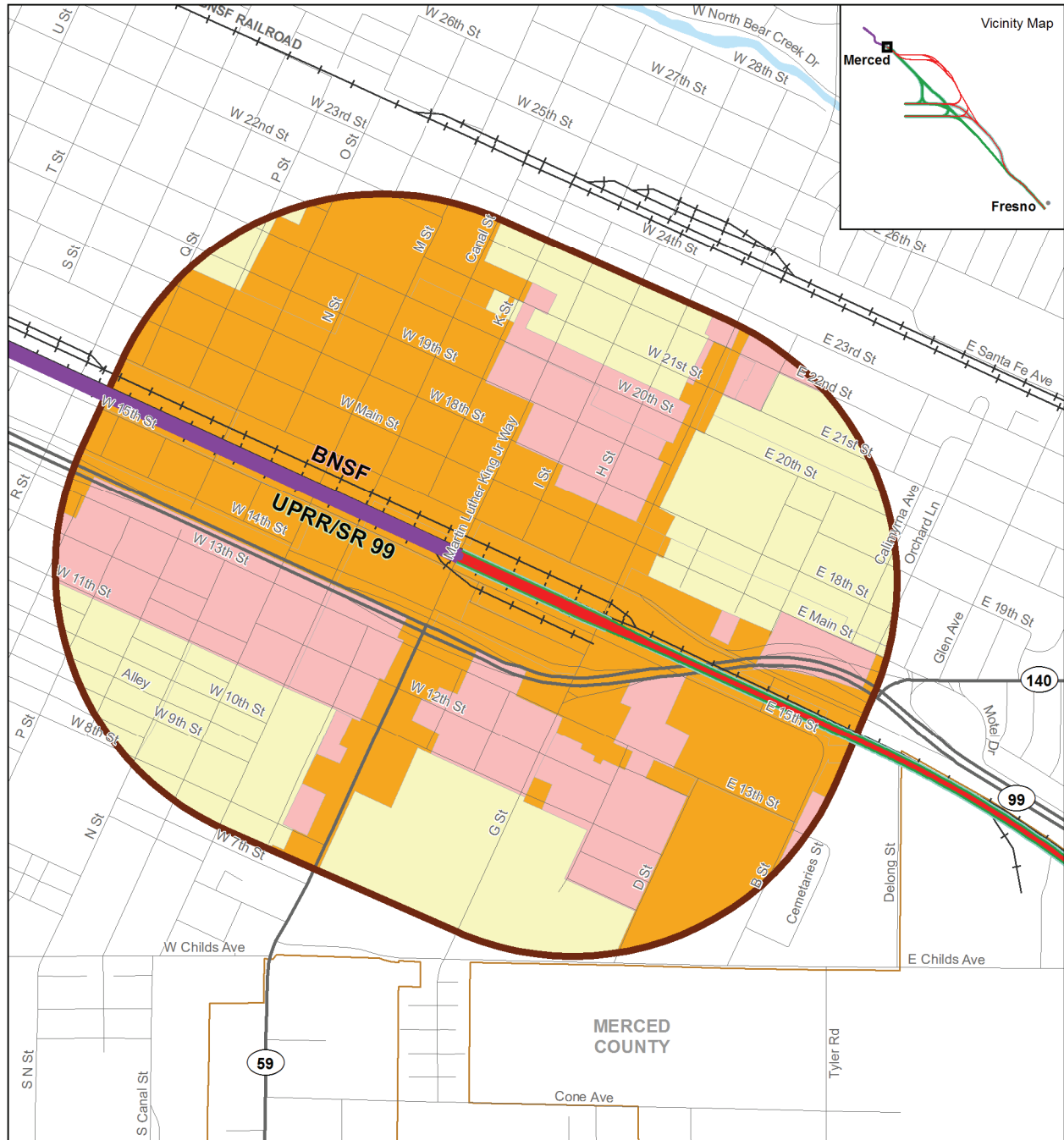
Source: Harbison (2009).

MF_EIS_LU_01 Jul 20, 2011



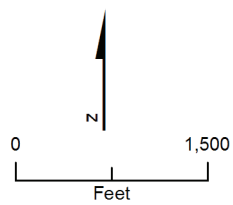
- | | | |
|--------------------------------------|----------------------|---------------------------|
| UPRR/SR 99 Alternative | Commercial | Single-family residential |
| BNSF Alternative | Industrial | Institutional |
| Hybrid Alternative | Institutional | Multifamily residential |
| Potential Heavy Maintenance Trackway | Parks and Recreation | Vacant |
| Station Study Area | | |
| City Limit | | |
| Railroad | | |

Figure 3.13-1
 Existing Land Uses in the Downtown Merced
 Station Study Area



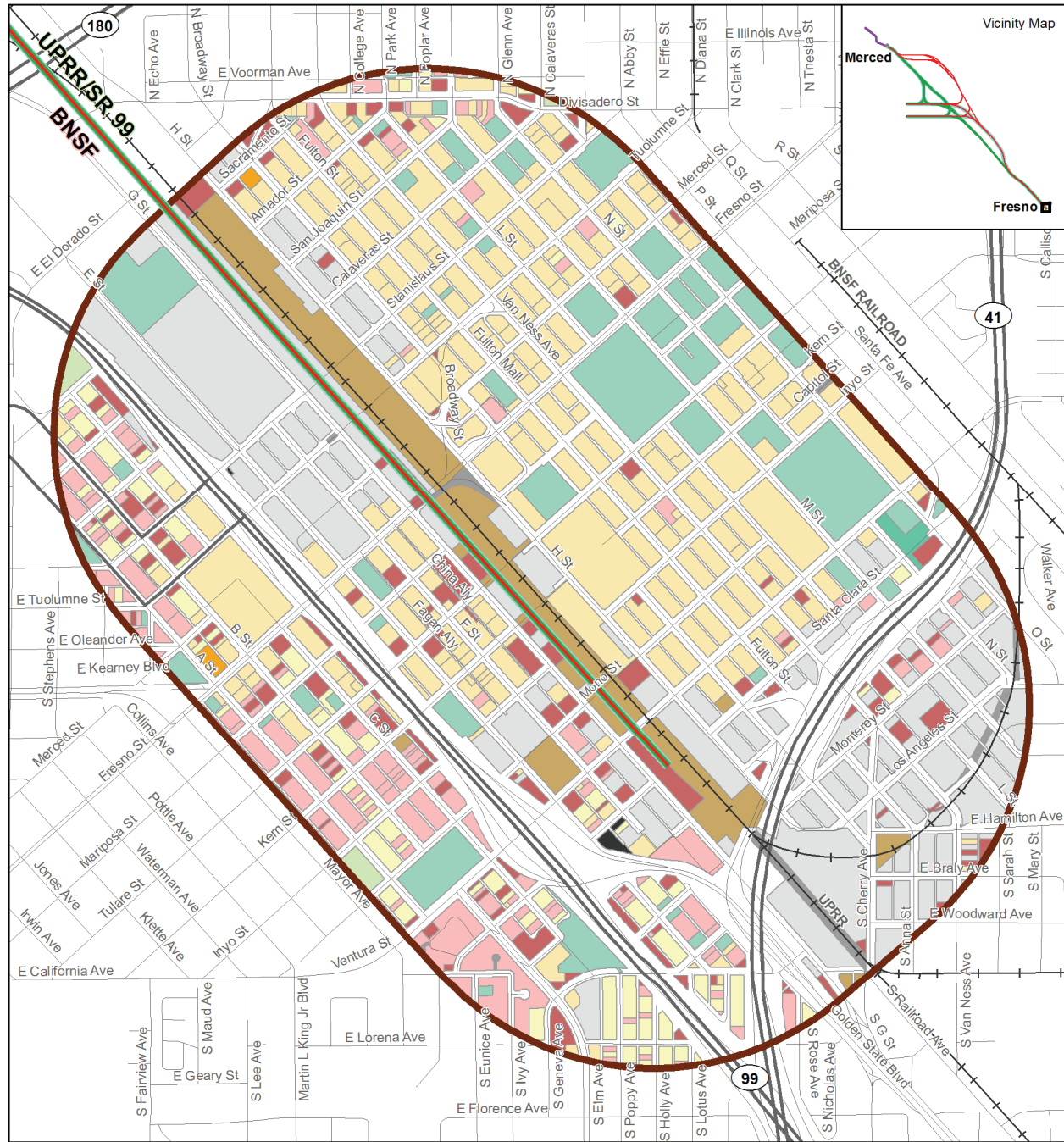
Source: City of Merced (2003).

MF_EIS_LU_02 Jul 20, 2011



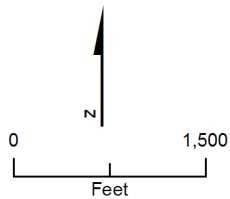
- UPRR/SR 99 Alternative
- BNSF Alternative
- Hybrid Alternative
- Potential Heavy Maintenance Trackway
- Station Study Area
- City Limit
- Railroad
- Commercial
- Multifamily residential
- Single-family residential

Figure 3.13-2
 Current Zoning in the Downtown Merced
 Station Study Area



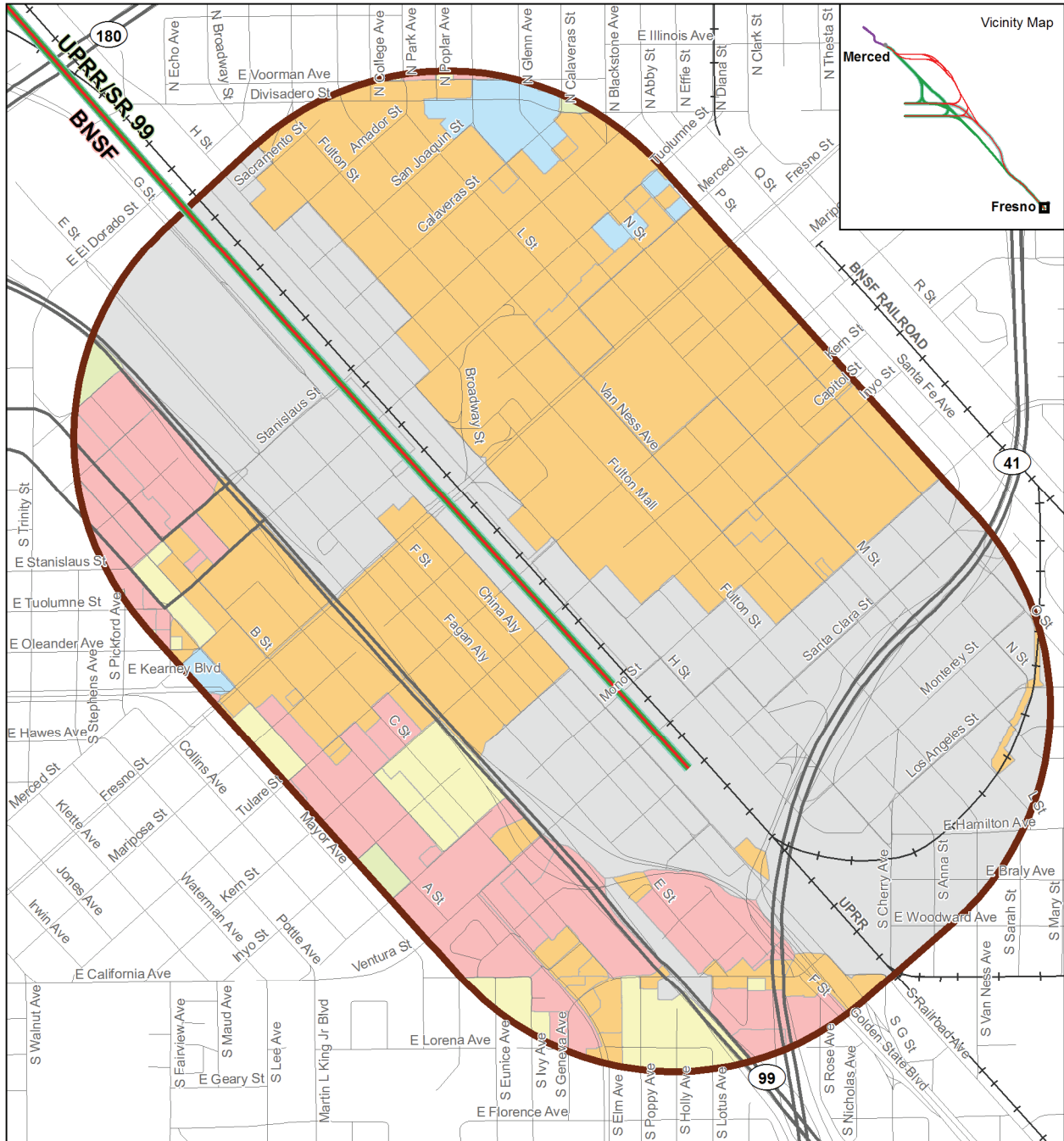
Source: City of Fresno (2009a).

MF_EIS_LU_03 Jul 20, 2011



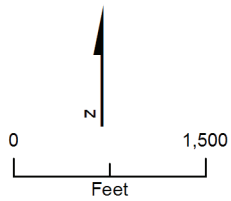
- | | | |
|------------------------|------------------------|--------------------|
| UPRR/SR 99 Alternative | Commercial | Public/Part Vacant |
| BNSF Alternative | Commercial/Part Vacant | Recreation |
| Hybrid Alternative | Industrial | Single Family |
| Station Study Area | Industrial/Part Vacant | Transportation |
| Railroad | Multi-Family | Utility |
| | Public | Vacant |

Figure 3.13-3
 Existing Land Uses in the Downtown
 Fresno Station Study Area



Source: City of Fresno (2009b).

MF_EIS_LU_04 April 4, 2011



- UPRR/SR 99 Alternative
- BNSF Alternative
- Hybrid Alternative
- Station Study Area
- Railroad
- Open Space
- Commercial
- Industrial
- Multifamily
- Office
- Single Family

Figure 3.13-4
 Current Zoning in the
 Downtown Fresno Station
 Study Area

3.13.4.2 BNSF Alternative

Land uses in the Merced and Fresno HST station study areas and the study area associated with the north-south alignment in the City of Fresno are the same for all HST alternatives. Land uses are also the same for the Ave 24 and Ave 21 wyes, except that under the BNSF Alternative the wyes would extend farther east, past the UPRR and SR 99 corridor, to connect with the north-south alignment along the BNSF corridor. In addition, the Ave 24 Wye would be primarily located in unincorporated Madera County; a small portion of the northbound leg would be in unincorporated Merced County.

South of Merced, the BNSF Alternative turns east and parallels the BNSF tracks through unincorporated areas of Merced and Madera counties. It then turns west to join the UPRR corridor approximately 1 mile before reaching the San Joaquin River.

As discussed in Chapter 2, Alternatives, four design options would connect the north-south alignment of the BNSF Alternative to the BNSF corridor in Merced County: (1) Mission Ave, (2) Mission Ave East of Le Grand, (3) Mariposa Way, and (4) Mariposa Way East of Le Grand. The design options connecting the UPRR/SR 99 and BNSF alternative tracks lie in unincorporated Merced County, where the existing land use is agricultural. The Mission Ave and Mariposa Way design options curve to run parallel to the BNSF tracks and travel through a portion of the community of Le Grand, in Merced County. Land uses through Le Grand include predominantly residential and some commercial uses primarily west of the BNSF tracks, and industrial uses adjacent to the BNSF tracks. The design options that would extend farther east to bypass Le Grand would remain in areas where the existing land uses are agricultural.

South of Le Grand and parallel to the BNSF tracks, the adjacent existing land use is agricultural. Land uses remain agricultural until the alignment enters unincorporated Madera Acres, northeast of Madera. Land use in Madera Acres is single-family residential. Outside Madera Acres, land uses are mostly single-family residential and agricultural. There is an area of industrial uses where the alignment curves to transition back toward the UPRR corridor. Land uses change back to agricultural as the alignment joins the UPRR corridor.

3.13.4.3 Hybrid Alternative

Land uses in the Downtown Merced and Downtown Fresno station study areas and the study area associated with the north-south alignment through Fresno are the same for all three alternatives. The Hybrid Alternative with Ave 24 Wye is the same as the UPRR/SR 99 Alternative with West Chowchilla design option and Ave 24 Wye between Merced and the Ave 24 Wye connection. The Hybrid Alternative with Ave 21 Wye is the same as the UPRR/SR 99 Alternative with East Chowchilla design option and Ave 21 Wye between Merced and the Ave 21 Wye connection. Land use is agricultural throughout these two portions of the alignment.

The Hybrid Alternative generally follows the same alignment as the BNSF Alternative from both the Ave 21 Wye and Ave 24 Wye connections south to the Downtown Fresno Station. Land uses remain agricultural between Chowchilla and Madera. The alignment then enters unincorporated Madera Acres, northeast of Madera, where land use is single-family residential. After leaving Madera Acres, land uses are mostly single-family residential and agricultural. Where the alignment curves to transition back toward the UPRR corridor is an area consisting of industrial uses. Land uses change back to agricultural uses as the alignment joins the existing UPRR corridor.

3.13.4.4 Heavy Maintenance Facility Alternatives

Land uses where the Castle Commerce Center HMF would be located are industrial and commercial. An HST trackway would connect the Castle Commerce Center site to the Merced HST Station, passing through single-family residential and commercial uses in the City of Atwater; agricultural, commercial, and residential (single-family and a mobile home park) uses in unincorporated Merced County; and commercial and industrial land uses in the City of Merced, north of the Downtown Merced HST Station.

Existing land uses in the areas around the other four proposed HMF sites are all agricultural. The Harris-DeJager site lies in an unincorporated part of Merced County; the other three potential HMF sites are in unincorporated parts of Madera County. The Harris-DeJager, Fagundes, and Kojima Development sites are within 5 miles of Chowchilla, and the Gordon-Shaw site is within 5 miles of Madera. These sites are all outside of the spheres of influence for Chowchilla and Madera.

3.13.4.5 Planned Development

The areas surrounding the proposed HST stations in Merced and Fresno include underutilized and vacant parcels. Little planned development or redevelopment has occurred in either location. The cities of Merced and Fresno are planning for new, increased land use density opportunities related to the HST stations in their downtown areas. The updated General Plan for Merced and the community plan and specific plan for Fresno call for land use changes in the station areas. Merced and Fresno expect to adopt their plans in 2011 and 2012, respectively. Currently, no development proposals cover the Downtown Merced Station. In the Downtown Fresno Station study area there are a number of development proposals for primarily mixed-use developments, the largest being a 200-unit development in the Chinatown neighborhood southwest of the station. Other developments are located northwest and northeast of the station and consist of smaller mixed-use developments planning to open in 2011.

3.13.5 Environmental Consequences

3.13.5.1 Overview

The Merced and Fresno downtown centers are developed around historical train stations, with agriculture as the most common land use in Merced, Madera, and Fresno Counties. Few differences would occur among project alternatives because all alignment options lie mostly adjacent to existing transportation corridors and would not result in large variations from existing development patterns. Also, locations of the HST stations in Merced and Fresno are the same for all alternatives. Based on the direction of local planning documents and the Authority's adopted Station Area Development Policies, the stations would encourage beneficial high-density TOD in those urban areas and discourage the potential for development at urban boundary edges (also called *sprawl*). The presence of an HMF would have greater potential for indirect land use changes than other alternative elements because many of the HMF alternatives would be located in rural areas and approximately 5 miles from urban areas that could provide services (i.e., gas stations and restaurants) to HMF employees. The exception would be the Castle Commerce Center site, which already contains mixed land uses and service-type development. Also, plans at Castle Commerce already call for additional mixed-use development. Refer to Section 3.12, Socioeconomics, Communities, and Environmental Justice; Section 3.14, Agricultural Lands; and Section 3.15, Parks, Recreation, and Open Space, for impacts and mitigation measures related to the displacement of residential, businesses, and community facilities and the acquisition of agricultural and parks land.

While consistency with local plans and policies is not required, the analysis did include a review of the goals and policies of the local land use plans, as well as other plans, to identify conflicts that could result in potential environmental impacts.

3.13.5.2 No Project Alternative

The No Project Alternative includes many planned projects that will likely be implemented by the year 2035. Chapter 2, Alternatives, describes the No Project Alternative. Section 3.19, Cumulative Impacts, describes foreseeable future projects in the Merced to Fresno Section. These projects include shopping centers, large residential developments, and quarries. The planned expansion of SR 99 will include full access interchanges and additional auxiliary lanes by 2020. Growth would result in congestion that, based on experience in other parts of California, is likely to exert pressure for expansion and new roadways. The SR 99 Business Plan (Caltrans 2009) to change SR 99 into a full freeway facility may result in unplanned or induced growth. The Business Plan predicts that congestion would still result after

improvements are in place. Road capacity expansion increases accessibility to adjacent land and therefore puts pressure on local governments to permit development of those lands.

Section 3.19, Cumulative Impacts, lists the specific development projects that could affect land use, including transportation changes such as the widening of SR 99. The projected population growth is anticipated to require almost 93,000 acres, taking into account the comparable supporting land uses, such as commercial, industrial, schools, parks, other services, and infrastructure. Thus, population is projected to grow substantially by 2035. Refer to Chapter 2, Alternatives, for complete information on the anticipated growth in the three counties. Local jurisdictions are currently working to address what this growth means for their communities. One planning tool is the previously described San Joaquin Valley Blueprint Process that engaged Merced, Madera, and Fresno Counties. The San Joaquin Valley Blueprint committee recently adopted smart growth principles and worked with each county to identify their preferred scenario to influence general plans development. While infill development could occur without the HST to act as a catalyst, it is unlikely that TOD would be attracted in the downtown areas of Merced and Fresno. As an example, the majority of the newly planned residential development proposed in Madera County is in the southeast portion of the County—outside of urban growth boundaries. The current pattern of low density development (four to eight dwelling units per acre) would likely persist until an incentive to do otherwise develops.

The isolated development and roadway transportation projects would not provide the same opportunities for redevelopment within the downtown areas of Merced and Fresno as the development of HST stations. Roadway projects would likely extend growth outward toward rural areas; land use development patterns would respond to increases in auto travel and would likely follow existing patterns of lower-density development at urban boundary edges that are automobile-oriented. The HST project provides an opportunity to improve and expand local transit systems leading to the HST stations and offers additional job and housing growth at key central locations around stations. The general plans of the cities of Merced and Fresno include goals and policies that support development of an HST system to achieve their economic development goals and regional plans also support the development of an HST system. The No Project Alternative would not support these general and regional plans.

3.13.5.3 High-Speed Train Alternatives

Construction Period Impacts

Common Land Use Impacts

All three alternatives would affect land uses during construction, but in different areas. Construction can cause hardship on businesses and residents, which may temporarily influence land use activities. Also, the project would acquire land for project construction. Both construction and land acquisitions have the potential to alter land use patterns.

Potential for Construction to Alter Land Use Patterns

The project alternatives would result in temporary construction impacts, including increases in noise levels, dust, traffic congestion, visual changes, and disrupted access to properties and neighborhoods. Residential, park, and open space land uses are more sensitive than other types of land uses to construction noise, dust, and visual impacts; however, construction would primarily occur in agricultural, commercial, and industrial surroundings, which are less affected by construction activities. Construction would affect residential land uses in unincorporated Merced and Madera counties and in the cities of Madera and Fresno. Businesses could experience hardship during construction because of access disruptions and traffic congestion; however, this would not affect land use types unless those properties become vacant, primarily resulting from construction impacts. The project would include measures to help maintain open and accessible conditions in adjacent lands, which would reduce the impacts associated with construction.

Construction impacts would be temporary, or occur intermittently and, in general, would occur during the designated construction hours and timeframe; therefore, construction impacts on land use are considered

negligible under NEPA and are less than significant under CEQA. Chapter 2, Alternatives, includes information regarding the methods of construction. Sections 3.2, Transportation; 3.3, Air Quality and Global Climate Change; 3.4, Noise and Vibration; 3.12, Socioeconomics, Communities, and Environmental Justice; 3.14, Agricultural Lands; 3.15, Parks, Recreation, and Open Space; and 3.16, Visual and Aesthetic Resources, provide more information regarding construction impacts.

For the most part, the UPRR/SR99, BNSF, and Hybrid alternatives would follow existing transportation corridors where the land use patterns are already related to transportation; therefore, construction impacts related to land use patterns would be minimized. Because construction by itself would not cause abutting businesses or other land uses to permanently vacate or change, the land use alterations or land use pattern impacts during the construction period are considered negligible under NEPA and less than significant under CEQA.

Construction of any of the three project alternatives would result in the conversion of existing land uses to transportation-related land uses. Most of the acquired property would become a public right-of-way (i.e., a transportation-related land use) for construction and operation of the HST system, but some portions may be returned to prior uses after construction.

As described in Chapter 2, Alternatives, compared with other project elements, the HST stations would likely require the longest construction time. Because of station construction duration and size, localized dust, visual and noise impacts, access disruption, and traffic congestion would likely occur. Sections 3.2, Transportation; 3.3, Air Quality and Global Climate Change; 3.4, Noise and Vibration; and 3.16, Aesthetics and Visual Resources of this EIR/EIS address these direct effects. These occurrences are not anticipated to affect land use surrounding the proposed HST stations, and as a result, land use alteration or land use pattern impacts during the construction period are considered negligible under NEPA and less than significant under CEQA.

All of the proposed HMF sites would acquire land that would result in a conversion to a transportation related use. Except for the Castle Commerce Center site, the HMF sites are located in primarily rural areas where adjacent land uses are associated with agricultural uses. Construction of the Castle Commerce Center HMF would include a trackway to the Downtown Merced Station. Construction of this trackway would result in similar impacts as those described above under the UPRR/SR 99, BNSF, and Hybrid alternatives. Each of the counties and cities where the proposed HMF sites would be located want the site because of the economic benefits during operation. The project may use any of the proposed sites during construction as a possible staging area. After construction, the land not needed for the project would return to existing agricultural use. Because land could be returned to agricultural use, the land use alteration or land use pattern impacts during the construction period are considered negligible under NEPA and less than significant under CEQA.

Project Impacts

Common Land Use Impacts

All three project alternatives would result in permanent conversion of existing land uses to a transportation-related use.

Permanent Conversion of Existing Land Uses to Transportation Use

Table 3.13-1 provides information on the estimated acreage for each land use that the three alternatives would likely convert to a transportation-related use. The ranges in the table are due to the differences associated with design options, wyes, and the Downtown Fresno Station. The estimated acreage was calculated in GIS using the permanent footprint of the three alternatives. Most of the land that would be converted for all three alternatives is agricultural, followed by commercial and industrial uses. Refer to Section 3.14, Agricultural Lands, for complete information on impacts on agricultural lands.

The acquired land would constitute a small portion of the total land in the three counties, and would not result in material changes in regional or local land uses or development patterns. The combined size of

the three counties is approximately 6.5 million acres (1.27, 1.38, and 3.85 million acres, respectively, for Merced, Madera, and Fresno counties). The footprint of the entire project would require less than 0.05% of the three-county area and is not anticipated to result in any negative impacts on land use patterns. Because the project would not cause a substantial change in land use patterns or intensity that would be incompatible with adjacent land uses, these direct impacts are considered moderate under NEPA and less than significant under CEQA.

Table 3.13-1
 Permanent Land Use Impacts by Alternative (acres)

Alternative	Single-family	Multi-family	Commercial	Industrial	Institutional	Agricultural	Parks & Open Space ^a	Total Acres ^b
UPRR/SR 99	33 to 40	12	105 to 130	238 to 259	59	1,060 to 1,114	33 to 46	1,576 to 1,619
BNSF	73 to 91	77 to 78	82 to 114	295 to 302	48 to 92	1,338 to 1,526	27 to 28	1,962 to 2,179
Hybrid	74 to 88	71 to 78	86 to 94	287 to 293	56 to 59	1,195 to 1,439	35 to 38	1,815 to 2,078

^a The number reflected in the Parks and Open Space column is greater than the number in Section 3.15, Parks, Recreation, and Open Space, because it includes land use in Madera County and the City of Fresno that is considered open space in their zoning code but is not considered park or public facilities.

^b Total of all acres required for the project, not the total of the land use conversions, because multiple zoned areas, such as vacant lands and transportation-related land uses, are not represented.

UPRR/SR 99 Alternative

Table 3.13-1 illustrates the potential land use conversion for the UPRR/SR 99 Alternative (including roadway improvements), depending on the chosen wye option and design options. The lower acreage change is associated with the UPRR with the East Chowchilla design option, including the Ave 24 Wye. The north-south alignment would primarily convert commercial and industrial land uses in the community of Fairmead and the cities of Merced, Chowchilla, Madera, and Fresno to a transportation use. The amount of land that would be acquired would constitute a small portion of the total commercial and industrial land in Fairmead or these cities, and would not result in any material changes in local or regional land uses or development patterns. The West Chowchilla design option would not affect land uses in Chowchilla. The station areas in Merced and Fresno (both the Mariposa Street Station and Kern Street Station alternatives) would convert commercial and industrial land to a transportation-related use.

BNSF Alternative

Table 3.13-1 illustrates the potential land use conversion under the BNSF Alternative, depending on the chosen design option. The two design options that travel through Le Grand would convert almost as much land as the two design options that travel east of Le Grand; however, the two design options that travel east would convert more land zoned agricultural. The Mission Ave East of Le Grand design option with the Ave 24 Wye would result in the most land conversion, and the Mariposa Way design option with the Ave 21 Wye would result in the least. The alternatives would convert residential land uses to transportation use in Madera Acres. Following southward, the BNSF Alternative would avoid Madera Community College and traverse areas of light industrial use, and would mostly convert agricultural land uses to transportation use. Land use impacts in the cities of Merced and Fresno, including the station areas, would be the same as those discussed under the UPRR/SR 99 Alternative.

Hybrid Alternative

Table 3.13-1 illustrates the potential land use conversion under the Hybrid Alternative. Differences from the UPRR/SR 99 and BNSF alternatives occur where the north-south alignment diverges from the UPRR/SR 99 alignment (East Chowchilla design option) and then connects back to the alignment of the BNSF Alternative along Ave 21 Wye, north of Madera. The Hybrid Alternative would not result in land use impacts in Le Grand, Chowchilla, or Fairmead. Impacts in Madera Acres and south of the city of Madera would be the same as those described under the BNSF Alternative. Impacts in the cities of Merced and Fresno and in the station areas would be the same as those described under the UPRR/SR 99 Alternative.

Heavy Maintenance Facility Alternatives

Table 3.13-2 shows land use conversion acreages for the HMF sites. The Castle Commerce Center site and trackway connection to the Downtown Merced Station, which is in urban and developed areas, converted more land use zones than the other HMF sites. The other HMF sites are all in areas of agricultural zoning except Gordon-Shaw which would also convert an area zoned industrial. Of the five potential locations, an HMF at the Gordon-Shaw and Kojima Development site would require the most land conversion, and the Fagundes site would require the least.

Table 3.13-2
 Permanent Land Impacts by Potential HMF Site (acres)

HMF Site	Single-family	Multi-family	Commercial	Industrial	Institutional	Agricultural	Parks and Open Space ^a	Total Acres
Castle Commerce Center	5	5	13	21	145	100	0	289
Harris-DeJager	0	0	0	0	0	313	0	313
Fagundes	0	0	0	0	0	178	1	179
Gordon-Shaw	0	0	0	33	0	295	4	332
Kojima Development	0	0	0	0	0	327	5	332

^a The number reflected in the Parks and Open Space column is greater than the number in Section 3.15, Parks, Recreation, and Open Space because it includes land use in Madera County that is considered open space in their zoning code but is not considered park or public facilities.

Indirect Land Use Effects

All three alternatives would result in indirect changes to surrounding land uses in the station areas. The HST stations would potentially increase densities and provide opportunities for TOD in Downtown Merced and Downtown Fresno. Increased development density in and around the HST stations would provide public benefits beyond the access benefits to the system itself. These include relief from traffic congestion, improved air quality, promotion of infill development and job opportunities, natural resource preservation, more affordable housing, less energy consumption, and better use of public infrastructure. The revitalized downtowns would attract residents who would not ride the HST (as well as those who would).

Potential for Future Increased Density and Transit-Oriented Development at High-Speed Train Stations

Experience in the United States indicates that new transit facilities development has been concurrent with major changes in land development near stations (typically within 0.25 mile of the station). Jurisdictions

with supportive policies, land use controls, and direct incentives can facilitate TOD near transit stations (Transit Cooperative Research Program 2004). These policies concern development within 0.25 mile of the station for the typical light rail transit project, but the higher ridership attraction and interconnectivity with larger economic centers, an HST project would have a stronger influence on land use and therefore HST Station Area Development Guidelines developed by the Authority focus on development occurring within 0.5 mile of the station.

As discussed below, generally, TOD occurs under three conditions:

- Policies and regulations of local agencies encourage or allow TOD in station areas. Other regional agencies and transit providers have started to adopt policies that bring together funding for transit expansion with land use.
- Stations are located in prime regional and community activity centers that are attractive to typical market forces.
- Regional and local real estate markets are active.

The Authority has developed *Urban Design Guidelines* (Authority 2011), which describes six core principles embodying the essential characteristics of a successful TOD and that directly influence the land use, circulation, and urban form around the stations:

- Development density greater than the community average
- Mixed land uses
- Compact, high-quality, pedestrian-oriented environment
- An active, defined center
- Limited, managed parking
- Public leadership

The *Transit Oriented Development Design Report for Fresno Final Report* (UC Berkeley 2010) and *The Transit Oriented Development for High Speed Rail in the Central Valley, California: Design Concepts for Stockton and Merced* (UC Berkeley 2008) analyzed the effects of an HST station in Downtown Fresno and in Downtown Merced. Both reports identified tremendous opportunities to revitalize the downtowns through urban design, diversity of higher densities, mixed use development, and improved transit, bike, and pedestrian connectivity. The reports identified a number of vacant and underutilized parcels (i.e., surface parking lots) adjacent to the UPRR corridor available for infill development in both downtown areas and the how the existing wide streets in both downtown areas provide opportunities for widened sidewalks, streetscapes, and bicycle lanes. The higher densities in the station area would translate into higher levels of transit and the stations could become major transit hubs. Office development would be attracted to the area because of the improved access to the larger markets of Los Angeles and the Bay Area and the stations could become 18-hour destinations as more commercial businesses are drawn to the area. Residential growth is expected to occur because of the increases in retail, nightlife, and improved multimodal connectivity—not because of residents wanting to commute to Los Angeles or the Bay Area (Authority and FRA 2008).

The reports also identified certain actions that would need to be taken for HST to be successful:

- Transit-supportive land use designations and zoning in the station areas.
- Downtown revitalization efforts.
- Proactive parking policies.
- Construction of TOD.
- Strategies to encourage compact growth and infill along with strategies to reduce conversion of farmland to suburban use.

- Early station area planning.

In addition, reports by independent agencies also examine policies that cities can implement to coordinate regional land use and transportation planning. *Thinking Ahead: High-Speed Rail in Southern California* (Center for Urban Infrastructure 2010) explores strategies such as streamlining zoning and implementing land use codes that support intensive development that would allow cities to cluster housing, retail, and office space in areas around the HST stations.

To maximize benefits from HST, the HST Station Area Development Policies (Authority and FRA 2011) for land use around the stations suggest a high density development pattern in the surrounding area that: includes a mixture of land uses (i.e., retail, office, and open space) and mix of housing types (i.e., apartments, condominiums, and townhomes); maintains a grid street pattern and compact pedestrian-oriented design that promotes walking, biking, and transit access; coordinates the design for both street-level and upper-level architectural detailing; limits the amount of parking to that which is essential for system viability; and places parking in structures with retail or other land uses. The buildings in the area should be designed to complement and mutually support public spaces, including plazas and other open space areas, and would also take into consideration context-sensitive building design. A grid street pattern would include streets with landscaping features and small parks or open space and a pedestrian-oriented design to promote alternative forms of transportation (i.e., walking, bicycle, and transit). While some parking would be needed around station locations, the HST station development would encourage the use of transit and other modes. More information regarding the approach to parking can be found in Chapter 2, Alternatives.

More on Station Area Land Use

To learn more about potential land uses in the HST station areas, go to www.cahighspeedrail.ca.gov/gallery/centralvalley_05.aspx.

Policies and Local Regulations Are in Place.

The counties and cities in the study area control the location and intensity of development through general plans, zoning regulations, and land use ordinances. The adopted general plans for Merced and Fresno counties and the cities of Merced and Fresno include policies related to infill development, development of mixed uses, improving mobility, and enhancing the downtown areas. The cities of Merced and Fresno are updating their general plans to reflect the addition of an HST station in their downtown areas. Updates to the general plan for Merced likely will allow a higher density of development and greater diversity in land uses in the HST station area than presently identified, including an overlay zone once the station location is selected. Updates in the specific plans for Fresno also address an HST station in the downtown area and how the station could be used to leverage new development.

Current zoning around both HST station sites is primarily commercial, industrial, and multifamily. Land use in Downtown Merced is primarily zoned commercial; several vacant and underutilized properties fall within the HST station study area. According to the draft general plan, (adoption is expected in 2011), opportunities exist for increasing development densities consistent with TOD in the proposed HST station area. In addition, other plans and policies for Downtown Merced support growth and encourage mixed uses, walking, biking, transit, and a compact urban form. Land use in Downtown Fresno is also predominantly commercial and industrial with vacant and underutilized properties, similar to Downtown Merced. The City of Fresno is currently updating the specific and community plans for the HST station area to support greater development densities and mixed uses consistent with TOD. Fresno anticipates adopting these plans in 2012.

- As shown in Table 3.13-3, the current zoning around both station sites allows higher densities of commercial and multifamily uses than currently exist. The HST stations would promote the infill development and redevelopment opportunities that the cities of Merced and Fresno are addressing in the updates to their plans. Figures 3.13-1 and 3.13-3, respectively, show the commercial and industrial uses in the center of the 0.5-mile-radius Merced and Fresno HST station study areas. Single-family residential land uses lie at the outer edges of the station study areas and because of their location would be less susceptible to changes in land use patterns or intensity.

Table 3.13-3
 Percentage of Existing Land Uses and Current Zoning Opportunities within the
 HST Station Study Areas

HST Station	Existing Land Uses	Zoning	Changes
Downtown Merced Station	Commercial 27% Industrial 1% Institutional 15% Multifamily residential 18% Single-family residential 12% Parks and recreational space 10% Transportation and utility 13% Vacant 4%	Commercial 53% Multifamily residential 28% Single-family residential 19%	Increased density of commercial uses and multifamily residential uses likely
Downtown Fresno Station	Commercial 30% Industrial 25% Public 14% Multifamily residential 9% Single-family residential 5% Parks and recreational space 1% Transportation and Utility 1% Vacant 15%	Commercial 43% Industrial 41% Multifamily residential 12% Single-family residential 4% Open Space 1%	Increased density of commercial uses and multifamily residential uses likely
Note: Stations are the same for all alternatives. Sources: City of Merced (2010b, c); City of Fresno (2009a, b)			

This analysis shows that both Merced and Fresno have planned and are planning to increase densities near and around the proposed HST station areas and increase density of mixed uses in the downtown areas. In addition, as described earlier, the cities are updating their general plans to address HST stations. In Downtown Merced this includes the use of overlay zones.

Activity Centers Are Attractive to Typical Market Forces.

Merced and Fresno are poised to become strong activity centers with the addition of HST. First, the projected growth for this region is nearly an additional 1 million people by 2035, with comparable growth in employment even before adding HST to the Central Valley. Fresno is already the economic hub of the Central Valley. Both Merced and Fresno have major State universities that are expanding in size. In addition, the HST project is estimated to bring up to 7,600 and 8,400 daily passengers to Merced and Fresno, respectively, which translates into nearly 5 million people arriving at or departing from the Downtown Merced and Downtown Fresno stations per year. This, in combination with nearly 1 million additional inhabitants projected in this valley, means that there would be a large presence of people in the downtown areas.

Real Estate Force Is Projected to be Strong Again.

The necessary investment in the region would equally strengthen market forces. Growth is projected to continue in Merced, Madera, and Fresno counties, and there will be high levels of investment to accommodate the housing necessary. Just developing enough housing for the projected population, factoring a low average of 500 square feet per person at a low estimate of \$110 per square foot (a low square footage price, in 2007\$), would mean that this three-county region would experience an investment of \$53.9 billion of construction activity without HST and before factoring in roads, schools, and commercial establishments, or even the development of the HST itself. This type of investment

provides the assurance of market forces for infill development opportunities. HST would provide a catalyst to concentrate the market energy at station centers that provide inter-regional connectivity with other metropolitan centers, just as airports do except with more convenience of destination to destination connection.

The HST stations would be compatible with local zoning for higher density development. The stations would build upon existing activity centers with a large number of passengers, and effective regional connectivity and growth to this region would be promoted, bringing investment and the potential to change or influence future land use patterns. With proper coordination, the HST planning and the station area land use planning would lead to revitalized and vibrant downtown cores in both Merced and Fresno that act as destinations for area residents. The Downtown Merced and Downtown Fresno stations would be catalysts for development investment and focal points where high-density downtown development and redevelopment could be fiscally viable. The HST stations would encourage the creation of new mixed-use centers with commercial and retail stores, hotels, offices, high-density residential developments, major civic facilities, and open space. TOD would occur not only on individual parcels surrounding the HST station, but throughout the entire district influenced by the station.

To reinforce this direction, the Authority has developed guidelines for station area development as identified in the Bay Area to Central Valley HST Program final and revised final EIR/EIS documents (Authority and FRA 2008 and 2010) and plans to work closely with the communities where an HST station is being constructed to ensure that policies related to TOD are adopted and implemented. The guidelines also discuss how the project would use its resources to encourage the local governments with jurisdiction over the station area (i.e., the cities of Merced and Fresno) to develop a station area plan; use a community planning process to plan the streets, pedestrian, bicycle, parks and open space, and other amenities; incorporate the station area plan; and use the community planning process to develop regional plans to focus development in existing areas to protect farmland, habitat, and open space.

Ultimately, the cities of Merced and Fresno would be responsible for developing local land use requirements that would focus the growth in the HST station areas; but as described above, the project would encourage the cities to take full advantage of the HST station potential. To help accomplish this, the Authority and the FRA are providing funding to assist cities such as Merced and Fresno in undertaking the studies, research, and planning needed for the station areas and to develop station area plans reflective of their unique local situations.

The area affected by the potential for TOD and the surrounding region would realize beneficial effects, including increased employment, recreation, and community cohesion; no incompatible changes in land use patterns or intensities are anticipated. Because of these beneficial effects, the HST station effects related to increased density and TOD would be beneficial under NEPA and less than significant under CEQA.

Land Use Effects of Parking Demand at HST Station Sites

According to the Authority's projections on ridership for the Downtown Merced Station, up to 7,000 parking spaces may be needed during Phase 1 development because it would be a terminus station and would attract riders from cities to the north. During Phase 2, the number of parking spaces that may be needed is expected to decrease to approximately 2,500 because passengers in the northern cities would travel to closer stations instead of the Downtown Merced Station. Constructing enough parking spaces for Phase 1 when fewer parking spaces are needed in Phase 2 could result in underutilized land uses in the downtown area during Phase 2. Because the HST station may not require as many parking facilities during Phase 2, the city has worked with the HST station design team on strategies to increase downtown parking to accommodate future demand without requiring full station parking. Approximately 2,150 parking spaces in Downtown Merced exist, but some are used on a daily basis and are not available for HST parking. Strategies identified to date include dispersing parking throughout the city and shuttling passengers to the HST station, and constructing more parking adjacent to the HST station for Phase 1. The project would continue to work with the City of Merced to determine parking needs and would continue to identify alternatives to meet the needs.

Unlike the Downtown Merced Station, the Downtown Fresno Station would not be a terminus station in Phase 1. Fresno ridership and parking demand would experience the same changes as Merced in the transition to the full HST system. Fresno ridership would be expected to continue to rise incrementally with population growth. Up to 6,500 parking spaces are forecast for Fresno in Phase 1, and 7,400 in Phase 2. Approximately 5,000 parking spaces exist in Downtown Fresno; some parking spaces are used on a daily basis. Additional parking areas are being identified in the downtown area to accommodate both passengers and visitors to the station area, and to encourage land uses that would support other development types.

Parking for both HST stations would be located near the HST stations or dispersed throughout the downtown areas. Construction of any new parking garages would not result in land use changes because current zoning allows parking structures in downtown Merced and Fresno. However, dispersed parking options would better encourage TOD by allowing more intensive land uses closer to the station. In addition, the street network in the proposed HST station areas is a grid that provides access to SR 99 and arterial and collector streets that would serve the HST stations, making the areas compatible with multimodal development.

The development of parking to accommodate demand at station locations would be consistent with applicable plans and would be compatible with adjacent land uses because current zoning supports this development; because of this, the effect is considered negligible under NEPA and less than significant under CEQA. Section 3.2, Transportation, provides additional information on the effects associated with increased parking demand and the methods for mitigating those effects.

Surrounding Land Uses

UPRR/SR 99, BNSF, and Hybrid Alternatives

Changes in transportation systems can influence nearby land uses. Although the project would convert land to transportation-related uses (less than 0.05%), it would not adversely affect surrounding land uses. Impacts related to noise, visual and aesthetic resources, air quality, and agricultural lands are discussed in separate sections of this EIR/EIS. Where the alignment alternatives are adjacent to existing transportation corridors, existing land uses and current zoning are predominantly agricultural in unincorporated areas and commercial or industrial in urban areas. These land uses are less sensitive to the potential impacts of noise, visual changes, and transportation operations than residential, park, and open space uses. In communities where stations are not proposed, there are substantial concerns about the effects of HST on adjacent land uses.

All alternatives would be located near some residential areas, but are not expected to result in changes in residential land use patterns because the alternatives would not create new physical divisions or barriers between residential areas; many of the residential areas are already adjacent to SR 99, UPRR, or BNSF rights-of-way. In these areas, the HST would add to an existing transportation corridor, but would not change the function or interaction of adjacent land uses. Noise levels are already high in these areas, and the HST would contribute to this situation, but this would not change the land use designation. Although visual impacts would be substantial in some areas where the guideway would be elevated, they would not change land use patterns and would likely result in improvements in the station area.

The wye design options cannot always follow transportation corridors because of the curves required for northbound and southbound connections. The wyes would be located away from areas of intense land use where the guideways may interfere with developed land use activities. Road closures and road overcrossings may inconvenience agricultural activities but are not expected to change the adjacent land uses. The wyes would also be located outside of the current urban growth boundaries for the cities of Chowchilla and Madera.

Because the alternatives would not result in any adverse indirect effects on surrounding land uses, the effects would be negligible under NEPA and less than significant under CEQA. Section 3.18, Regional Growth, discusses the project's effects on regional growth, including impacts related to induced growth.

Downtown Merced and Fresno Stations

Both HST stations would be located in areas where the cities of Merced and Fresno are updating plans to address the potential for infill development and increased densities associated with the HST stations. The HST stations would induce desired infill development and minimize growth impacts associated with sprawl. Infill development may reduce development pressure on surrounding agricultural land, especially around the cities of Merced and Fresno. No planned development projects exist in the Downtown Merced Station study area, and only limited planned development projects exist in the Downtown Fresno Station study area. HST station development would not affect planned development in Fresno because those developments are planned for the station study area edges and include higher-density residential uses that would be compatible with TOD around stations. Because the indirect impacts on surrounding land uses would be beneficial, encouraging more efficient land use patterns that are in agreement with Merced and Fresno planning goals, the effects would be beneficial under NEPA and less than significant under CEQA.

Heavy Maintenance Facility Alternatives

Except for the Castle Commerce Center site, the HMF sites under consideration are primarily in areas associated with agricultural land uses. Because of the size of the HMF and the number of employees who would be working there, an HMF could potentially result in unanticipated development from the demand for services by facility employees. This development could include new gas stations, restaurants, and other service-type businesses near the HMF. The provision of utility services (e.g., electricity, water, and sewer) to these sites could also induce nearby development (e.g., service stations and restaurants). However, county planning departments require that development comply with existing zoning. In areas where zoning does not allow commercial development, induced development would not occur unless zoning were changed. Because there is the potential impact of induced development in the areas around the HMF sites, where zoning allows it, the HMF impacts are considered moderate under NEPA; these impacts would be less than significant under CEQA because the land use changes would comply with county zoning codes and because such development would be compatible with adjacent agricultural land uses (because these types of land uses currently co-exist with agricultural land across the Central Valley).

Impacts on land use surrounding the Castle Commerce Center site would be less than those at the other sites because land use surrounding the site is commercial and industrial, and because Atwater would provide services to HMF employees. The other four potential HMF sites would be in rural parts of Merced and Madera counties but within approximately 5 miles of either Chowchilla or Madera. The proximity of these HMF sites to Chowchilla and Madera would minimize induced development and associated land use changes because employees would have access to services. Providing a cafeteria and other employee services at the HMF site would help minimize the demand for new services near the site.

Consistency with Land Use Plans

As identified in the 2008 Bay Area to Central Valley HST Program EIR/EIS (Authority and FRA 2008), significant growth is expected in areas of California, including the Central Valley, with or without an HST system. There are no federal or state plans that are applicable to land use for the HST project. The San Joaquin Valley Blueprint is the only regional plan for the Merced to Fresno HST study area. Although there are no adopted policy documents the San Joaquin Valley Council of Governments has adopted 12 Smart Growth Principles, a density commitment, and a series of maps. Of the 12 Smart Growth Principles identified in Section 3.13.2.3, a majority are relevant to the HST project, including principles 1, 2, 4, 6, 7, 8, 9, 10, 11, and 12.

UPRR/SR 99, BNSF, and Hybrid Alternatives

The UPRR/SR 99, BNSF, and Hybrid alternatives would connect employment centers in Merced and Fresno with each other and with the full system, including the major metropolitan employment centers in the San Francisco Bay Area and Los Angeles. Each of the alternatives would be consistent with all but one of the San Joaquin Valley Blueprint Principles. The alternatives would be adjacent to existing transportation corridors, including SR 99 and the UPRR and BNSF railways, to the greatest extent feasible. This circumstance would help to preserve open space, avoid critical environmental areas, and

support environmental resource management by limiting development of a transportation facility to areas of existing development. Each of the alternatives would require the conversion of agricultural lands because the alternatives are located adjacent to an existing transportation corridor, minimizing the inconsistency with the smart growth principle. The highest potential for inconsistency with occurs with the wyes because the curvature requirement would force bisecting some agricultural areas. Although design has minimized the extent to which agricultural lands are converted the alternatives would not be consistent with the principle related to preserving farmland. Within the station areas the HST project would act as a catalyst for TOD, which would direct development toward the downtown areas of the cities of Merced and Fresno, enabling a mixture of uses and a range of housing opportunities within walkable neighborhoods that would also include a variety of transportation choices. Because the HST is not consistent with all of the San Joaquin Valley Blueprint Principles, but would act as catalyst for TOD in the station areas, effects would be negligible under NEPA and less than significant under CEQA.

Local and regional plans related to the Merced to Fresno Section identify the need to improve mobility in the Central Valley and reduce dependency on automobile travel by improving transit accessibility and encouraging the use of alternative transportation modes. General Plans for the cities of Merced and Fresno include policies that specifically support the implementation of a high-speed rail, as well as the regional transportation plans for Merced and Fresno counties. Refer to Appendix 3.13-A for complete information.

Local plans focus on permitted land uses and development scale within land use zones. Because the alternatives are adjacent to the existing transportation corridors, the majority of the adjacent land uses are related to commercial or industrial uses. Where the alternatives would be located within areas zoned for residential there would be an inconsistency, but the alignment would be adjacent to the existing corridors and as discussed in Section 3.12, Socioeconomics, Communities, and Environmental Justice, there are no community cohesion impacts. In addition, mitigation is identified in Sections 3.4, Noise and Vibration, and 3.16, Aesthetics and Visual Quality, to minimize impacts.

All of the alternatives would convert agricultural lands to a transportation-related use, which would not be consistent with the local plans and policies that are related to the protection and conservation of agricultural lands. As described above, the design of the alternatives has been adjacent to existing transportation corridors to the extent possible to minimize agricultural impacts and the HST station areas would encourage higher densities, which would protect agricultural lands by reducing sprawl. Impacts on agricultural lands are described in Section 3.14, Agricultural Lands.

The cities of Merced and Fresno are both in the process of updating plans that will specifically address higher development density (including medium- and high-density mixed use consisting of multifamily residential, commercial, and office development) in the HST station areas that will result in beneficial effects for the cities. Merced and Fresno, where HST stations are proposed, have begun to define land use opportunities for TOD planning by using land use overlay zones and identifying supporting services for transit passengers (i.e., restaurants and retail). The adoption of the goals and policies in Merced and Fresno related to the HST station would bring additional incentive for infill development that would encourage the higher densities that would help to protect the areas' agricultural lands. Because the alternatives are not consistent with some of the local land use plans, the impacts related to consistency with local land use plans would be negligible under NEPA and less than significant under CEQA.

Heavy Maintenance Facility Alternatives

The general plans for Merced County and Atwater support the construction and operation of an HMF at Castle Commerce Center site, which is zoned for industrial development. The guideway that would connect the Castle Commerce Center site to the Downtown Merced Station would require the conversion of residential land and the relocation of an elementary school which would not be consistent with local plans and policies. Impacts are considered moderate under NEPA and less than significant under CEQA. The other four potential sites (i.e., Harris-DeJager, Fagundes, Gordon-Shaw, and Kojima Development sites) are located in Merced and Madera counties in areas currently zoned for agriculture. The general plan for Chowchilla is the only plan that expressly supports the construction of an HMF; the Chowchilla general plan includes all of the sites except the Castle Commerce Center site. However, all of the cities

and counties support the construction of an HMF facility. The Harris–DeJager, Fagundes, Gordon–Shaw, and Kojima Development sites would not be fully consistent with local plans, but would not conflict with elements of those plans that were adopted to minimize or avoid environmental impacts; because of this, the impacts are considered moderate under NEPA. The impacts do not meet the CEQA significance criteria and would be less than significant under CEQA.

3.13.6 Project Design Features

Between the Statewide and the Bay Area to Central Valley Program EIR/EIS (Authority and FRA 2005; 2008) and the project EIR/EIS, refined planning (i.e., *HST Station Area Development: General Principles and Guidelines* [Authority 2008]) has resulted in fewer anticipated conflicts regarding land use and planning. The program design strategies of involving the local jurisdictions in the development of station planning and alignment design considerations, identification of issues, and avoidance measures and solutions, as well as providing information to assist the local jurisdictions to accommodate the proposed HST and TOD opportunities around stations in the updates of local general plans, collectively reduce the potential for land use conflicts. By working with the local jurisdictions it is possible to identify any potential land use conflicts and work to avoid or minimize the issues. The Authority would continue to engage the local jurisdictions in continued planning and TOD opportunities. The alignments for all three alternatives follow existing transportation corridors to the extent possible in order to reduce land use impacts related to conversion of existing land uses to a transportation-related use. Many related impacts on other resources would be mitigated by measures that work to further reduce the likelihood of impacts on land uses. For example, mitigation measures for transportation are found in Section 3.2.6, community resources in Section 3.12.6, agricultural lands in Section 3.14.6, and parks in Section 3.15.6. The regional growth discussion in Section 3.18.6 provides information on how growth would occur with and without the HST project.

3.13.7 NEPA Impacts Summary

Direct and indirect land use effects have been identified under NEPA for the project. Land use alteration during construction is considered a negligible direct effect because all alternatives would primarily be located next to other transportation uses. Permanent conversion of land to transportation-related land uses is considered a moderate effect because the new transportation land uses would be adjacent to existing transportation corridors and would not result in substantial impacts on land use patterns. Lands changed to transportation-related land uses encompass less than 0.05% of the total land area in Merced, Madera, and Fresno counties.

Effects related to increased density around the HST stations would minimize sprawl and promote TOD, and would revitalize the downtown areas of Merced and Fresno; they would not result in adverse effects and are considered beneficial. Development of parking to accommodate demand at the HST stations would be consistent with applicable plans and would be compatible with adjacent land uses. The additional parking would therefore result in negligible impacts.

Indirect impacts on surrounding land uses are considered negligible for the UPRR/SR 99, BNSF, and Hybrid alternatives and the Castle Commerce Center HMF. An HMF at the Harris–DeJager, Fagundes, Gordon–Shaw, and Kojima Development sites could potentially result in unplanned development from the demand for services by facility employees. Impacts would be reduced by providing some services within the HMF site, and the cities of Chowchilla and Madera are within 5 miles and provide many of the services the employees would likely need. This impact is considered potentially moderate because land uses could change, but any development would need to be in compliance with county zoning codes.

The UPRR/SR 99, BNSF, and Hybrid alternatives and the Castle Commerce Center HMF would be consistent with regional plans, and impacts related to the regional plan would be negligible. An HMF at the Harris–DeJager, Fagundes, Gordon–Shaw, or Kojima Development sites would not be fully consistent with local plans and zoning; however, the nearby counties and cities want the facility in or near their jurisdiction, and therefore impacts from development of those sites would be considered moderate.

3.13.8 CEQA Significance Conclusion

No impacts on land use have been identified that would be significant or potentially significant under CEQA. All three alternatives and the HMF sites are consistent with local and regional land use plans, policies, and regulations adopted for the purpose of avoiding or mitigating an environmental effect. The alternatives and the HMF sites would not cause significant changes in land use patterns or intensities that would be incompatible with adjacent land uses. Station effects related to increased density and TOD are considered beneficial and would result in infill development and redevelopment of the downtown centers, which would reduce pressures on the surrounding agricultural lands.