

3 Affected Environment, Environmental Consequences, and Mitigation Measures

3.13 Land Use and Development

3.13.1 Introduction

Section 3.13, Land Use and Development, of this *Merced to Fresno Section: Central Valley Wye Supplemental Environmental Impact Report (EIR)/Environmental Impact Statement (EIS)* (Draft Supplemental EIR/EIS) updates the *Merced to Fresno Section California High-Speed Train Final Project EIR/EIS* (Merced to Fresno Final EIR/EIS) (California High-Speed Rail Authority [Authority] and Federal Railroad Administration [FRA] 2012) with new and revised information relevant to land use and development, analyzes the potential impacts of the Central Valley Wye alternatives (and the No Project Alternative), and describes impact avoidance and minimization features (IAMF) that would avoid, minimize, or reduce these impacts. Where applicable, mitigation measures are proposed to further reduce, compensate for, or offset impacts of the Central Valley Wye alternatives. Section 3.13 also defines the resource study area (RSA) for land use and development and describes the affected environment in the RSA.

The analysis herein has similarities to and differences from the analysis conducted in the Merced to Fresno Final EIR/EIS. Both analyses use the same methods of data collection from local municipalities through geographic information system (GIS) tools, quantitative analysis of state and regional databases, and review of local plans and zoning. Land uses for the counties and communities in the land use and development RSA were generalized into the dominant land use categories. Where information has changed or new information has become available since the Merced to Fresno Final EIR/EIS was prepared in 2012, this Draft Supplemental EIR/EIS analysis uses the updated versions of these sources or datasets. However, relevant portions of the Merced to Fresno Final EIR/EIS that remain unchanged are summarized and referenced in this section but are not repeated in their entirety. The analysis for this Draft Supplemental EIR/EIS differs from the Merced to Fresno Final EIR/EIS analysis in the following ways:

- The Central Valley Wye alternatives do not include a station; therefore, station planning and transit-oriented development are not discussed in this section.
- The Merced to Fresno Final EIR/EIS evaluated “Consistency with Land Use Plans” as an impact, but after publication, the Authority determined that this should not be considered an impact. This determination was made because the California Environmental Quality Act (CEQA) and Council on Environmental Quality (CEQ) regulations only require a discussion of inconsistencies or conflicts between a proposed undertaking and plans and policies, but do not consider inconsistencies or conflicts at the regional or local level an impact. Section 3.13.3, Compatibility with Plans and Laws, provides further information.

Additional details on land use and development are provided in the following appendices in Volume II of this Draft Supplemental EIR/EIS:

- Appendix 3.13-A, Land Use and Development Local and Regional Plans and Laws Consistency Analysis, provides a discussion of inconsistencies or conflicts that may exist between the Central Valley Wye alternatives and regional or local plans and laws.

Land use and development, including land use patterns, conversion of lands, and compatibility of adjacent land uses are important because they are connected to a wide range of societal and environmental processes. Five other resource sections in this Draft Supplemental EIR/EIS provide additional information related to land use and development:

- **Section 3.12, Socioeconomics and Communities**—Impacts of the Central Valley Wye alternatives on changes to demographics, property, economic factors, and affected communities and neighborhoods as a result of land conversions. This section also assesses the physical division of communities by the Central Valley Wye alternatives.

- **Section 3.14, Agricultural Farmland**—Impacts of the Central Valley Wye alternatives on conversion of agricultural lands to transportation-related land.
- **Section 3.15, Parks, Recreation, and Open Space**—Impacts of the Central Valley Wye alternatives on parks and recreation areas.
- **Section 3.18, Regional Growth**—Impacts of the Central Valley Wye alternatives on regional growth, construction and operation employment, and the potential for the Central Valley Wye alternatives to induce growth related to population and employment.
- **Section 4(f) and Section 6(f) Evaluations**—Impacts of the Central Valley Wye alternatives on land use conversions that could result in changes to protected park resources (Section 4(f)), and changes to recreation resources funded by the Land and Water Conservation Fund (LWCF) Act (Section 6(f)).

Definition of Resources

The following definitions for land use and development are used in this Draft Supplemental EIR/EIS. These definitions have not changed since adoption of the Merced to Fresno Final EIR/EIS (Authority and FRA 2012):

- **Land Use Types**—Land use types include existing land uses along the proposed Central Valley Wye alternatives including agriculture, commercial, industrial, residential, open space, and mixed-use land uses.¹

3.13.2 Laws, Regulations, and Orders

This section identifies laws, regulations, and orders that are relevant to the analysis of land use and development in this Draft Supplemental EIR/EIS. As indicated in the Merced to Fresno Final EIR/EIS, there are no federal or state plans that are applicable to land use for the high-speed rail (HSR) project. However, new or updated laws, regulations, and orders that have occurred since the publication of the Merced to Fresno Final EIR/EIS are summarized as follows.

3.13.2.1 Federal

The Farmland Protection Policy Act (7 U.S.C. §§ 4201–4209 and 7 C.F.R. § 658) is the same as described in Section 3.13.2.1, Federal, of the Merced to Fresno Final EIR/EIS (Authority and FRA 2012: page 3.13-2).

3.13.2.2 State

The following state laws, regulations, orders, and plans are the same as those described in Section 3.13.2.2, State, of the Merced to Fresno Final EIR/EIS (Authority and FRA 2012: page 3.13-2):

- California Land Conservation Act of 1965 (Gov. Code, §§ 51200–51295)
- California State Planning and Zoning Law (Gov. Code, §§ 65000–66037)

New, additional, or updated state laws, regulations, and orders follow.

Sustainable Communities and Climate Protection Act of 2008 (SB 375, Chapter 728, Statutes of 2008)

Senate Bill (SB) 375 was included in the Merced to Fresno Final EIR/EIS (Authority and FRA 2012: page 3.13-2), but has since been updated. SB 375 requires regional planning agencies to include a *sustainable communities strategy* or *alternative planning strategy* in the next version of their regional transportation plan (RTP). The sustainable communities strategy coordinates land use, housing needs, and transportation and transit planning to meet the regional target for the reduction of greenhouse gas emissions from automobiles and light trucks established by the

¹ Land uses described in this Draft Supplemental EIR/EIS can be further broken down from these categories to include agriculture-residential and urban reserve agriculture (agriculture uses); and rural residential, village residential, low-density residential, low/medium-density residential, high/medium-density residential, and high-density residential (residential uses).

California Air Resources Board. Coordination is enforced by requiring transportation projects identified in the RTP to comply with the sustainable communities strategy in order to receive state and federal funding through the regional housing needs allocation. The requirements of SB 375 are reflected in the 2014 RTPs adopted by the Merced County Association of Governments (MCAG 2014) and the Madera County Transportation Commission (MCTC 2014). Details of the Merced and Madera County 2014 RTPs can be found in Table 3.13-1.

3.13.2.3 Regional and Local

The Madera County General Plan (1995) is the same as described in Section 3.13.2.3, Regional and Local Plans and Policies, of the Merced to Fresno Final EIR/EIS (Authority and FRA 2012: pages 3.13-2 through 3.13-7). New, additional, or updated state laws, regulations, and orders follow.

General Plan Policies and Ordinances

Table 3.13-1 lists local, city, county, and regional general plans, policies, and objectives relevant to land use and development. Refer to Section 3.13.2.3 of the Merced to Fresno Final EIR/EIS for more information.

Table 3.13-1 Regional and Local Plans and Policies

Policy Title	Summary
Stanislaus County	
<i>Stanislaus County General Plan (2016)</i>	Stanislaus County adopted the <i>Stanislaus County General Plan</i> on August 23, 2016. The general plan includes the following goals and policies: <ul style="list-style-type: none"> ▪ Agricultural Element, Goal 2: Conserve our agricultural lands for agricultural uses. ▪ Policy 2.5: To the greatest extent possible, development shall be directed away from the County's most productive agricultural areas.
<i>Waterford Vision 2025 General Plan (2006)</i>	The Waterford City Council adopted the <i>Waterford Vision 2025 General Plan</i> on October 26, 2006. The general plan includes the following pertinent goals and policies: <ul style="list-style-type: none"> ▪ Land Use Element, Goal Area L-1: Residential and neighborhood development ▪ Policy L-1.5: Protect existing neighborhoods from incompatible developments.
Merced County	
<i>2030 Merced County General Plan (2013)</i>	Merced County adopted the <i>2030 Merced County General Plan</i> on December 10, 2013, updating the previous version of the general plan that was included in Section 3.13.2.3 (page 3.13-4) of the Merced to Fresno Final EIR/EIS. The general plan includes the following goals and policies: <ul style="list-style-type: none"> ▪ Policy LU-2.3: Limit allowed land use within Agricultural and Foothill Pasture areas to agricultural crop production, farm support operations, and grazing and open-space uses. ▪ Policy AG-2.2: Protect productive agricultural areas from conversion to nonagricultural and urban uses by establishing and implementing an agricultural mitigation program that matches acres converted with farmland acres of the same quality to those converted, preserved at a 1:1 ratio. Coordinate with the six cities in Merced County and the Merced Local Agency Formation Commission (LAFCo), consistent with LAFCo's statutory mission to preserve agricultural land and open space, to establish consistent standards and mitigation for the loss of farmland. In addition, the Land Evaluation and Site Assessment Model may be used to determine whether the value of the conservation land is equal to or greater than the value of the land being converted.

Policy Title	Summary
	<ul style="list-style-type: none"> ▪ Policy AG-2.4: Encourage property-owner participation in programs that preserve farmland, including the Williamson Act, conservation easements, and U.S. Department of Agriculture-funded conservation practices. ▪ Policy AG-2.8: Support the efforts of public, private, and nonprofit organizations to preserve agricultural areas in the County through dedicated conservation easements, and rangeland held as environmental mitigation. ▪ Policy AG-2.9: Oppose the extension of urban services, such as sewer lines, water lines, or other urban infrastructure, into areas designated for agricultural use, unless necessary to protect public health, safety, and welfare. ▪ Policy AG-2.16: Coordinate with the California High-Speed Rail Authority (Authority) to locate the high-speed rail lines along existing major transportation corridors, such as State Routes 99 or 152, to minimize the conversion of productive agricultural land to nonagricultural uses. ▪ Policy CIR-5.5: Work with other agencies to plan railroad corridors that facilitate the preservation of important rail line right-of-way for further rail expansion or other appropriate transportation facilities.
Merced County Municipal Code, Chapter 18	<p>Chapter 18 of the Merced County Municipal Code pertains to zoning issues; its purposes are to implement the goals, objectives, and policies of the County general plan; assure compatibility between land uses; and encourage development that protects and promotes the public health, safety, and general welfare of the unincorporated areas of the county.</p> <ul style="list-style-type: none"> ▪ Chapter 18.02 A-1, A-1-40, and A-2 designate agricultural zones to preserve, develop, and grow agriculture in the county.
<i>2014 Regional Transportation Plan for Merced County (2014)</i>	<p>The Merced County Association of Governments (MCAG) adopted the <i>2014 Regional Transportation Plan for Merced County</i> (MCAG 2014) on September 25, 2014, which updated the previous version of the transportation plan that was included in Section 3.13.2.3 (page 3.13-3) of the Merced to Fresno Final EIR/EIS. Amendment 1 of this transportation plan was adopted on May 19, 2016. Seven “Vision Themes” provide the foundation of the transportation plan; goals associated with each vision theme that pertain to land use and development follow:</p> <ul style="list-style-type: none"> ▪ Preserve and enhance agricultural resources by implementing transportation improvements that avoid, minimize, or mitigate negative impacts on productive agricultural land. ▪ Provide a variety of transportation choices that strengthen and direct development towards existing communities, thus preserving open space, farmland, natural beauty, and critical environmental areas. ▪ Coordinate future land use patterns and transportation systems (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 our communities and maximize the productivity of transportation investments. ▪ Support orderly and planned growth that enhances the integration and connectivity of various modes of transportation.
<i>Merced Vision 2030 General Plan (2012)</i>	<p>The <i>Merced Vision 2030 General Plan</i> was adopted by the City Council on January 3, 2012. The <i>Merced Vision 2030 General Plan</i> includes the following goals and policies:</p> <ul style="list-style-type: none"> ▪ Land Use Element, Goal Area L-1: Residential and Neighborhood Development ▪ Policy L-1.5 Protect existing neighborhoods from incompatible developments

Policy Title	Summary
Madera County	
Madera County Code of Ordinances, Title 18	Title 18 of the Madera County Code of Ordinances designates agricultural zones to preserve, develop, and grow agriculture in the county. It also includes dairy operations standards and regulatory standards that identify procedures and management practices for implementation that provide pollution protection for surface and groundwater resources.
<i>Madera Countywide Airport Land Use Compatibility Plan (2015)</i>	The <i>Madera Countywide Airport Land Use Compatibility Plan</i> promotes and establishes compatibility between each airport in the county and surrounding land uses. The plan sets forth criteria by which the surrounding land use actions, master plans of existing airports, and plans for new airports or heliports are compatible with the land use zones. It includes discussions of the Chowchilla Municipal Airport and its surrounding land use compatibility zones.
<i>Madera County 2014 Regional Transportation Plan (2014)</i>	<p>Madera County Transportation Commission adopted the its regional transportation plan in 2014, updating the previous version of the transportation plan that was included in Section 3.2.2.3 (page 3.2-2) of the Merced to Fresno Final EIR/EIS. The regional transportation plan includes the following goals, policies, and objectives:</p> <ul style="list-style-type: none"> ▪ To promote Intermodal Transportation Systems that are fully accessible, encourage quality growth and development, support the region’s environmental resource management strategies, and are responsive to the needs of current and future travelers. ▪ To promote and develop transportation systems that stimulate, support, and enhance the movement of people and goods to foster economic competitiveness of the Madera Region. ▪ To enhance transportation system coordination, efficiency, and intermodal connectivity to keep people and goods moving and meet regional transportation goals. ▪ To maintain the efficiency, safety, and security of the region’s transportation system. ▪ To improve the quality of the natural and human-built environment through regional cooperation of transportation systems planning activities. ▪ To maximize funding to maintain and improve the transportation network. ▪ To identify reliable transportation choices that support a diverse population. ▪ To protect the environment and health of residents by improving air quality and encouraging active transportation (non-motorized transportation, such as bicycling and walking). ▪ Establishes minimum standards of LOS D for analysis of the county’s transportation system (local streets and roads) and LOS C for state routes (MCTC 2014).
City of Chowchilla	
<i>City of Chowchilla 2040 General Plan (2011)</i>	<p>The City of Chowchilla adopted the new general plan on May 2, 2011, updating the previous version of the general plan that was included in Section 3.8.2.3 (page 3.13-6) of the Merced to Fresno Final EIR/EIS. The general plan includes the following objectives and policies:</p> <ul style="list-style-type: none"> ▪ Objective LU 7: Minimize conflicts between residential uses and other incompatible land uses. ▪ Policy LU 7.3: New development on the fringes of the City shall recognize the right of agriculture to exist and continue to operate in proximity to the development.

Policy Title	Summary
	<ul style="list-style-type: none"> ▪ Policy OS 1.3: Coordinate with Madera County to maintain viable agricultural land on the periphery of the City of Chowchilla Sphere of Influence boundary for purposes of resource and view protection, and establish standards to protect views of these lands. ▪ Policy OS 1.4: Support preservation of existing agricultural lands at the periphery of the City of Chowchilla Sphere of Influence. ▪ Policy OS 2.2: The City shall work with the County to preserve lands dedicated as “Agriculture” within and adjacent to the City Sphere of Influence boundaries.
City of Chowchilla Municipal Code, Title 18	Title 18 of the City of Chowchilla Municipal Code, pertains to the zoning ordinance of the City of Chowchilla and designates all relevant zoning districts.

Sources: City of Chowchilla, 2011; City of Merced, 2012; City of Waterford, 2006; Madera County, 2015a; Madera County, 1995; Madera County Transportation Commission, 2014; Merced County, 2013; MCAG, 2014; MCTC, 2014; Stanislaus County, 2016

LAFCo = Local Agency Formation Commission

LESA = Land Evaluation and Site Assessment Model

USDA = U.S. Department of Agriculture

3.13.3 Compatibility with Plans and Laws

As indicated in Section 3.1.3.3, Compatibility with Plans and Laws, the CEQA and National Environmental Policy Act (NEPA) regulations² require a discussion of inconsistencies or conflicts between a proposed undertaking and federal, state, regional, or local plans and laws. As such, this Draft Supplemental EIR/EIS describes the inconsistency of the Central Valley Wye alternatives with federal, state, regional, and local plans and laws to provide planning context.

There are a number of federal and state laws and implementing regulations, listed in Section 3.13.2.1, Federal, and Section 3.13.2.2, State, that regulate land use and development and are applicable to this Draft Supplemental EIR/EIS. A summary of the federal and state requirements considered in this analysis follows:

- Federal and state acts that deter the development of agricultural lands and open spaces, including the federal Farmland Protection Policy Act and the California Land Conservation Act.
- State laws that require local and regional agencies to develop land use strategies, including SB 375 Chapter 728, the California State Planning and Zoning Law, and the Sustainable Communities and Climate Protection Act of 2008.

The Authority, as the lead state agency proposing to construct and operate the HSR system, is required to comply with all federal and state laws and regulations and to secure all applicable federal and state permits prior to initiating construction on the selected alternative. Similarly, FRA, as federal lead agency, is required to comply with all federal laws and regulations. Therefore, there would be no inconsistencies between the Central Valley Wye alternatives and these federal and state laws and regulations.

The Authority is a state agency and therefore is not required to comply with local land use and zoning regulations; however, it has endeavored to design and construct the HSR project so that it is compatible with land use and zoning regulations. For example, the Central Valley Wye alternatives incorporate IAMFs to avoid or minimize impacts on agricultural land and to address multimodal connectivity. A total of 12 plans and 41 policies were reviewed. The Central Valley Wye alternatives are consistent with 29 policies and ordinances and inconsistent with 12 policies and ordinances within the following regional and local plans and laws:

² NEPA regulations refer to the regulations issued by the Council on Environmental Quality located at 40 CFR Part 1500.

- **Merced County General Plan**—Policy LU-2.3, AG-2.2, AG-2.4, AG-2.8 and AG-2.9. The Central Valley Wye alternatives would be inconsistent with these policies pertaining to conversion of existing land uses.
- **Merced County Municipal Code**—Title 18 Zoning, Chapter 18.02 Agricultural Zones. The Central Valley Wye alternatives would be inconsistent with Chapter 18.02 to designate agricultural zones.
- **Madera County General Plan**—Madera County Municipal Code Chapter 18, Policy 5.A.1 and Policy 5.A.6. The Central Valley Wye alternatives would be inconsistent with Policy 5.A.1 to maintain agriculturally designated areas for agricultural uses and Policy 5.A.6 to encourage continued and increased agricultural activity.
- **Madera County Code of Ordinances**—Title 18. The Central Valley Wye alternatives would be inconsistent with Title 18, which designates agricultural zones to preserve, develop, and grow agriculture in Madera County.
- **City of Chowchilla 2040 General Plan** (City of Chowchilla 2011)—Policy OS 1.3, Policy OS 1.4, and Policy OS 2.2. The Central Valley Wye alternatives would be inconsistent with these policies pertaining to maintaining viable agricultural land.

Further details and reconciliations are discussed in Appendix 3.13-A. As a state agency the Authority is not required to comply with local land use and zoning regulations, and the Authority does not propose to voluntarily seek local permits. Therefore, the inconsistencies would not be reconciled. Although the Central Valley Wye alternatives would be inconsistent with these specific provisions, they would be consistent with the land use and development objectives of these ordinances and plan policies. For example, the Central Valley Wye alternatives would include LU-IAMF#2, Improve Pedestrian and Bicycle Safety, which requires the Authority to identify street enhancements for pedestrian and bicycle access such as improved sidewalks, multi-use pathways, trails, bike lanes, and shared parking sites. AG-IAMF#3, Farmland Consolidation Program, requires the Authority to establish a farmland consolidation program to assist owners of remnant parcels in selling those remnants to adjacent landowners.

3.13.4 Methods for Evaluating Impacts

The evaluation of impacts on land use and development is a requirement of NEPA and CEQA. The following sections summarize the RSAs and the methods used to analyze impacts on land use and development resources. Section 3.13.1, Introduction, identifies five other resource sections in this Draft Supplemental EIR/EIS that provide additional information related to land use and development.

3.13.4.1 Definition of Resource Study Area

As defined in Section 3.1, RSAs are the geographic boundaries in which the environmental investigations specific to each resource topic were conducted. The RSA for land use and development encompasses those areas where components of the Central Valley Wye alternatives could result in direct and indirect and temporary and permanent impacts on land use type (e.g., conversion of agricultural lands to transportation-related land use), altered land use patterns resulting from transportation-related land use, or development impacts from temporary and permanent road closures. The RSA for direct land use and development impacts is defined as the project footprints of the Central Valley Wye alternatives. The Central Valley Wye alternatives have the potential to permanently alter the existing land uses within this RSA.

The RSA for indirect land use and development impacts (e.g., construction-related noise and vibration, transportation, aesthetics and visual quality) is defined as the area within 0.5 mile of the Central Valley Wye alternatives' right-of-way boundary and work areas associated with electrical infrastructure, because the impacts of increased noise levels, dust, and visual changes could be experienced within this area. The RSA includes the community of Madera Acres, although the Central Valley Wye alternatives terminate north of that community. Table 3.13-2 describes the RSA for land use and development.

Table 3.13-2 Definition of Resource Study Areas

Source	General Description
Land Use and Development	
Construction and Operations	Project footprint for each of the Central Valley Wye alternatives where components could result in impacts on land use type, development density, or development patterns
Direct Impacts	Central Valley Wye alternatives' infrastructure and right-of-way areas
Indirect Impacts	Area within 0.5 mile of the Central Valley Wye alternatives' right-of-way and work areas associated with electrical infrastructure that might be affected by construction-related noise or dust, or experience impacts on transportation and access, and aesthetics and visual quality

Source: Authority and FRA, 2018

3.13.4.2 Impact Avoidance and Minimization Features

As noted in Section 2.2.3.7, Impact Avoidance and Minimization Features, the Central Valley Wye alternatives would incorporate standardized IAMFs to avoid and minimize impacts. The Authority would incorporate IAMFs during project design and construction, and, as such, the analysis of impacts of the Central Valley Wye alternatives in this section factors in all applicable IAMFs. Appendix 2-B, California High-Speed Rail: Impact Avoidance and Minimization Features, provides a detailed description of IAMFs that are included as part of the Central Valley Wye alternatives design. IAMFs applicable to land use and development include:

- AG-IAMF#1, Restoration of Important Farmland Used for Temporary Staging Areas
- AG-IAMF#3, Farmland Consolidation Program
- AQ-IAMF#1, Fugitive Dust Emissions
- LU-IAMF#1, Local Agency Coordination
- LU-IAMF#2, Improve Pedestrian and Bicycle Safety
- NV-IAMF#1, Noise and Vibration
- SO-IAMF#1, Construction Management Plan
- TR-IAMF#2, Construction Transportation Plan

3.13.4.3 Methods for NEPA and CEQA Impact Analysis

This section describes the sources and methods the Authority and FRA used to analyze potential impacts from implementing the Central Valley Wye alternatives on land use and development resources. These methods apply to both NEPA and CEQA unless otherwise indicated. Refer to Section 3.1.3.4, Methods for Evaluating Impacts, for a description of the general framework for evaluating impacts under NEPA and CEQA. As described in Section 3.13.1 and in the following discussions, the Authority and FRA have applied the same methods and many of the same data sources from the Merced to Fresno Final EIR/EIS, and, as appropriate, also use additional sources described in this section. Laws, regulations, and agency jurisdictional and management guidance (Section 3.13.2, Laws, Regulations, and Orders) that regulate land use and development were also considered in the evaluation of impacts on land use and development.

This Draft Supplemental EIR/EIS uses the data sources described in the Merced to Fresno Final EIR/EIS to evaluate potential impacts on land use and development resources. Additional sources consist of data collected from updated local and regional land use, transportation, and subarea plans, and other relevant planning documents (see Section 2.2.2.2, Planned Land Use; Section 3.13.1; and Section 3.13.2). Analysts used existing city and county plans and GIS data to characterize land uses for the counties and communities in the land use and development RSA. These data were used to develop dominant land use categories so that land uses could be presented consistently among the areas to the extent possible. In addition, analysts conducted extensive visual surveys of the

agricultural areas and communities throughout the RSA to reinforce the understanding and characterization of land uses in the RSA produced using the GIS data.

For many years, the Authority has engaged with stakeholders at the local level to understand the land uses in the RSAs and has coordinated with local governments and the public to identify key land use issues relating to the design and alignment of the HSR system. Public meetings, workshops, and open houses have been held in these communities to engage with community members and to develop a design that is compatible with this input to the extent possible. Outreach activities specific to this Draft Supplemental EIR/EIS have included technical working group meetings with agency, city, and county staff; tribes and other local groups; and site visits to accurately document existing conditions in the RSAs. For a review of outreach activities, refer to Chapter 9, Public and Agency Involvement.

Implementing the Central Valley Wye alternatives would result primarily in impacts on agricultural lands within the RSA, as described in Section 3.14. Section 3.14 describes in detail where the Central Valley Wye alternatives pass through areas where the land use is predominantly agricultural; agricultural lands are included in the direct impact RSA (Figure 3.13-1). The only nonagricultural land use categories (i.e., commercial, industrial, and residential) within the RSA are located in the Waterford, Merced, and Chowchilla planning areas and in the community of Fairmead. Existing electrical infrastructure proposed to be reconducted or reconfigured and one new tie-line are located in Merced and Waterford. Accordingly, this section focuses on direct and indirect impacts on land use and development in the Waterford, Merced, and Chowchilla planning areas and in the community of Fairmead. These improvements and the potential change in land use were assessed with the review of the *Waterford Vision 2025 General Plan* (City of Waterford 2006); *Merced Vision 2030 General Plan* (City of Merced 2012); *City of Chowchilla 2040 General Plan* (City of Chowchilla 2011) Land Use Element, and the draft *Fairmead Colony Area Plan* (Madera County Planning Department 2012).

Analysts used GIS tools and aerial photographs to evaluate temporary and permanent construction impacts, to assess altered land use patterns and land use compatibility, and to identify and locate sensitive land uses such as single-family residences and schools. Altered land use patterns refer to the potential for construction activities to change the current patterns of land use, whereas land use compatibility impacts refer to changes in land use resulting from the Central Valley Wye alternatives that could be incompatible with existing and projected land uses. GIS tools were also used to conduct a quantitative analysis to determine direct impacts related to the conversion of existing land uses to transportation-related use, and the required acquisitions for the Central Valley Wye alternatives. Local plans and zoning designations were reviewed to determine indirect impacts.

3.13.4.4 Determining Significance under CEQA

CEQA requires that an EIR identify the significant environmental impacts of a project (CEQA Guidelines § 15126). One of the primary differences between NEPA and CEQA is that CEQA requires a significance determination for each impact using a threshold-based analysis (see Section 3.1.3.4, Methods for Evaluating Impacts, for further information). By contrast, under NEPA, significance is used to determine whether an EIS will be required; NEPA requires that an EIS is prepared when the proposed federal action (project) as a whole has the potential to “significantly affect the quality of the human environment.” Accordingly, Section 3.13.9, CEQA Significance Conclusions, summarizes the significance of the environmental impacts on land use and development for each Central Valley Wye alternative. The Authority is using the following thresholds to determine if a significant impact on land use and development would occur as a result of the Central Valley Wye alternatives. A significant impact is one that would:

- Result in conflicts 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 or specific plan) adopted for the purpose of avoiding or mitigating an environmental impact.
- Result in a substantial change in pattern or density of land use incompatible with adjacent land uses as a result of construction and operations activities.

The above describes the model approach to analyzing the significance of land use impacts that is recommended in Appendix G of the CEQA Guidelines (i.e., “Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project...”). As described in Section 3.13.3, the Authority is required to comply with all federal and state laws and regulations and to secure all applicable federal and state permits, and FRA is required to comply with all federal laws and regulations. Therefore, there would not be any conflict with any federal or state plan, policy, or regulation.

Regional policies and plans are evaluated in each resource section of Chapter 3 in the subsections entitled “Compatibility with Plans and Laws.” This analysis found that there are no regional habitat conservation plans, natural community conservation plans, or other regional land use plans that encompass areas within the Central Valley Wye alternatives’ project footprints. The San Joaquin River Restoration Program is a multi-agency effort to restore water flows to the San Joaquin River to support fish habitat, and would be considered a regional plan with which the Central Valley Wye alternatives would interact. However, as documented in Section 3.7, Biological Resources and Wetlands, it has been determined that the Central Valley Wye alternatives’ design would not conflict with the San Joaquin River Restoration Program. The Central Valley Wye alternatives would also be subject to the air quality attainment plans discussed in Section 3.3, Air Quality and Global Climate Change, and compatibility with these plans and mitigation measures to attain consistency is discussed in detail in this section. Therefore, there would not be any conflicts with any federal, state or regional plans, policies or regulations with jurisdiction over the Central Valley Wye alternatives.

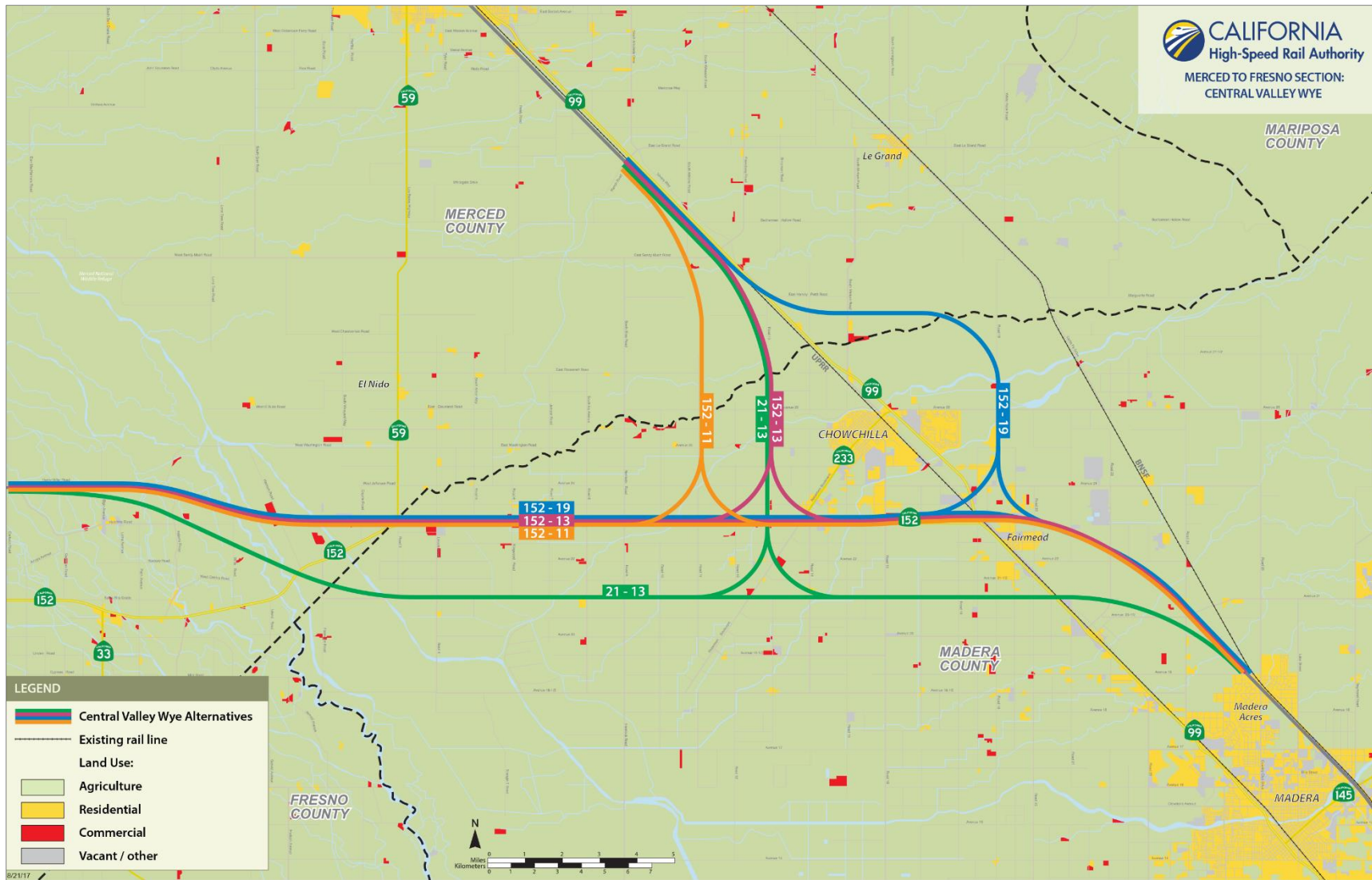
County and local government land use plans are not applicable to the HSR project because the HSR project is a state and federal government project, and, as such, is not subject to local governments’ jurisdictional issues of land use. Consequently, a city or county is not “an agency with jurisdiction over the project” as described in Appendix G of the CEQA Guidelines. Although this Draft Supplemental EIR/EIS describes the Central Valley Wye alternatives’ consistency with local plans in order to provide context (see Section 3.13.3 and Appendix 3.13-A), inconsistency with such plans is not considered an environmental impact. Therefore, inconsistencies with plans, policies, and regulations adopted for the purpose of avoiding or mitigating an environmental impact are not considered further in this analysis.

With regard to the potential for the Central Valley Wye alternatives to cause a substantial change in pattern or intensity of land use that would be incompatible with adjacent land uses, a significant impact would occur if the Central Valley Wye alternatives substantially changed the pattern or intensity of adjacent land uses incompatible with existing land uses. Therefore, where the HSR would not cause adjacent land to change uses, or where the HSR project would cause adjacent land to change uses but those uses would be compatible with existing land uses, impacts would be less than significant.

3.13.5 Affected Environment

This section describes the affected environment for land use and development in the RSA. It also discusses changes to existing land uses in the San Joaquin Valley since publication of the Merced to Fresno Final EIR/EIS. This information provides the context for the environmental analysis and evaluation of impacts.

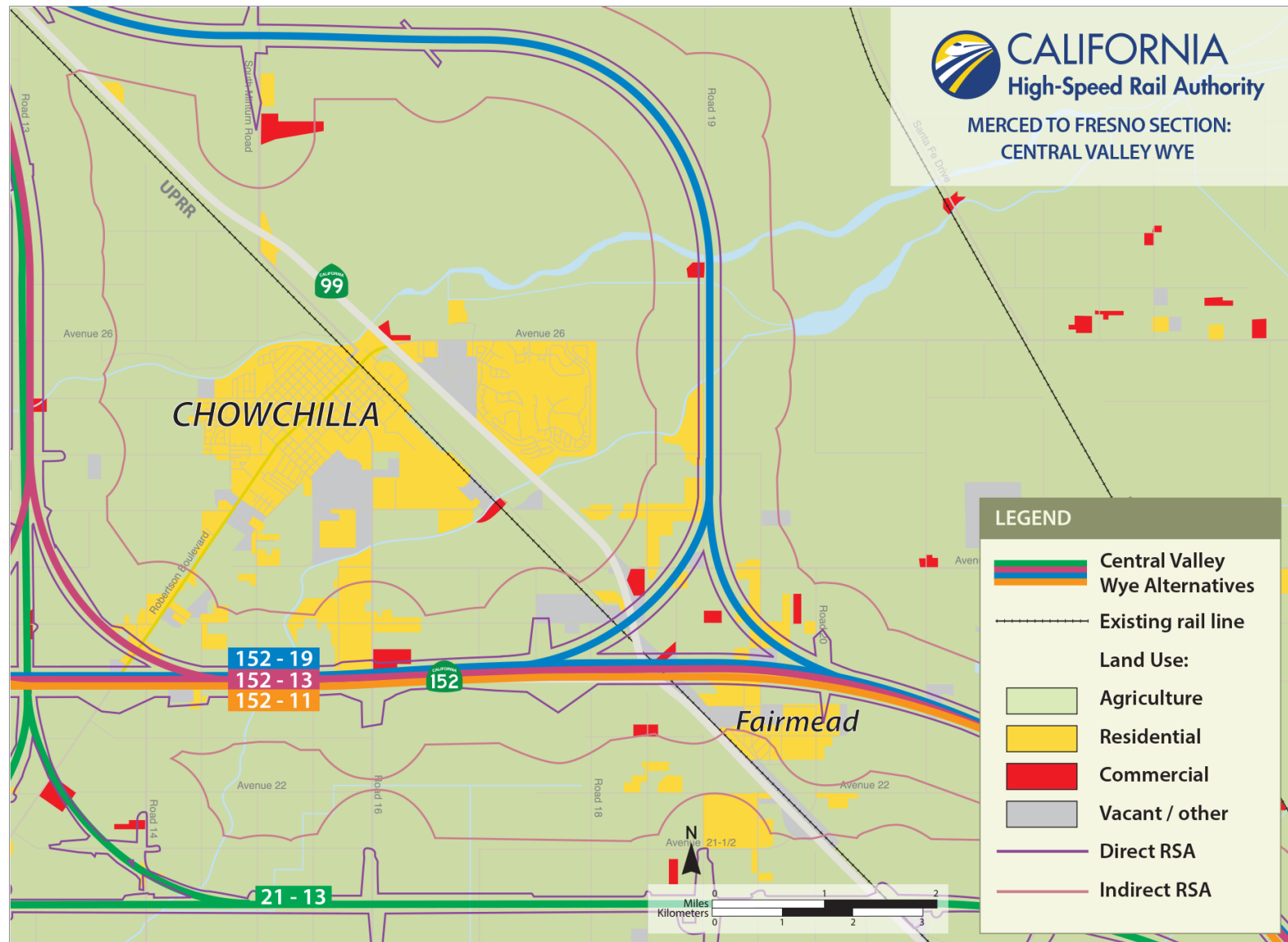
Existing land uses along the proposed Central Valley Wye alternatives are described in this section and shown on Figures 3.13-1 through 3.13-11. Figure 3.13-2 specifically shows how SR 152 terminates at SR 99 and does not extend eastward through the community of Fairmead. Figures 3.13-3, 3.13-6, and 3.13-7 show the entire lengths of the Site 7—Le Grand Junction/Sandy Mush Road, Warnerville-Wilson 230 kV Transmission Line, Wilson—Dairyland (idle) 115 kV Power Line, and the Site 6—El Nido, Los Banos-Oro Loma-Canal and Oro Loma-Panoche Junction Power Lines, a 0.5-mile buffer zone (indirect impact RSA), and existing land uses that fall within the 0.5-mile buffer zone. Figures 3.13-4 and 3.13-5 show the electrical interconnections and network upgrades (EINU) that are located within the city limits of Waterford and Merced, along with the indirect impact RSA (0.5 mile) and existing land uses that fall within the RSA.



Sources: ESRI, 2013; CAL FIRE, 2004; ESRI/National Geographic, 2015

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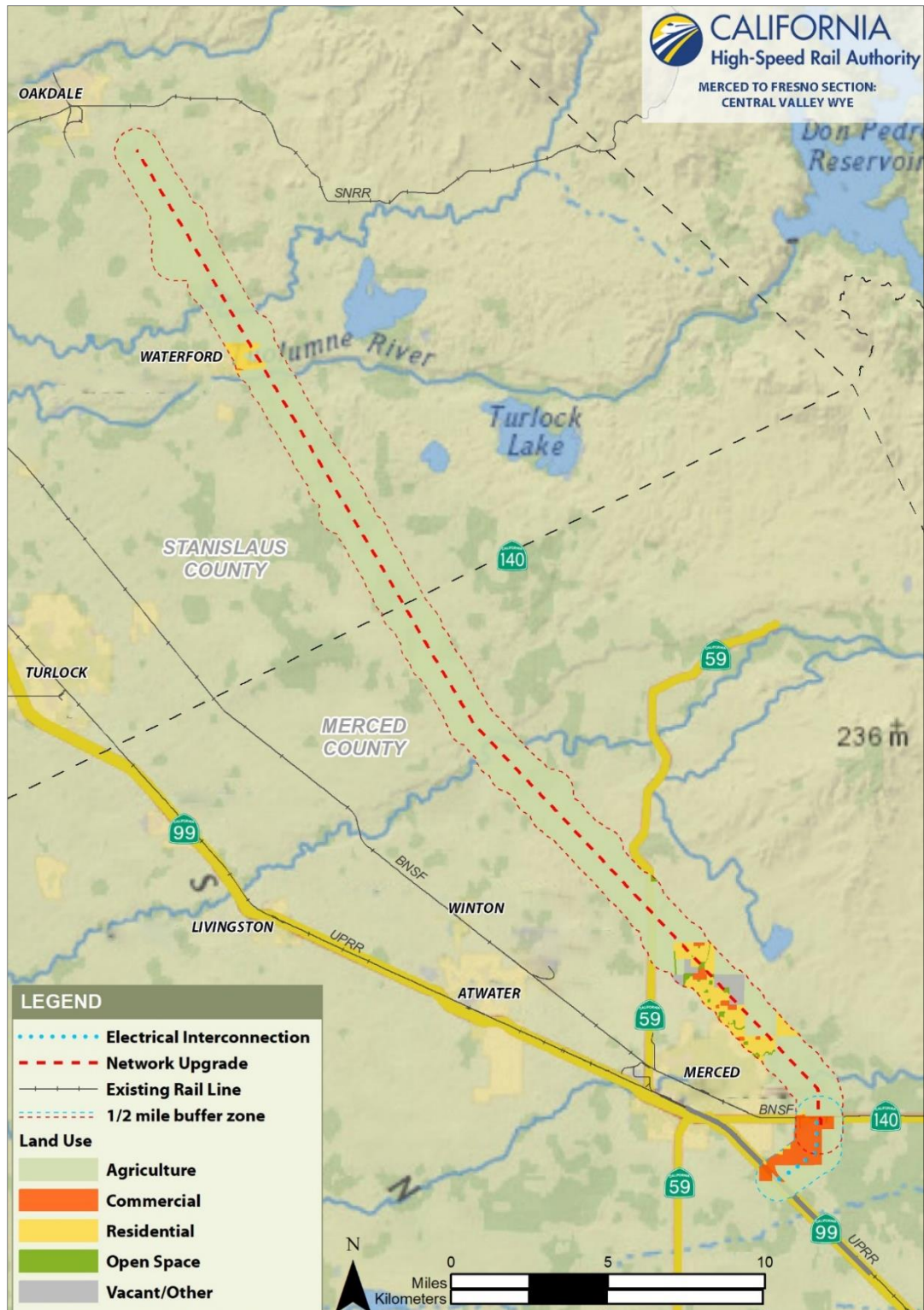
Figure 3.13-1 Central Valley Wye Alternatives—Existing Land Uses



Sources: ESRI, 2013; CAL FIRE, 2004; ESRI/National Geographic, 2015

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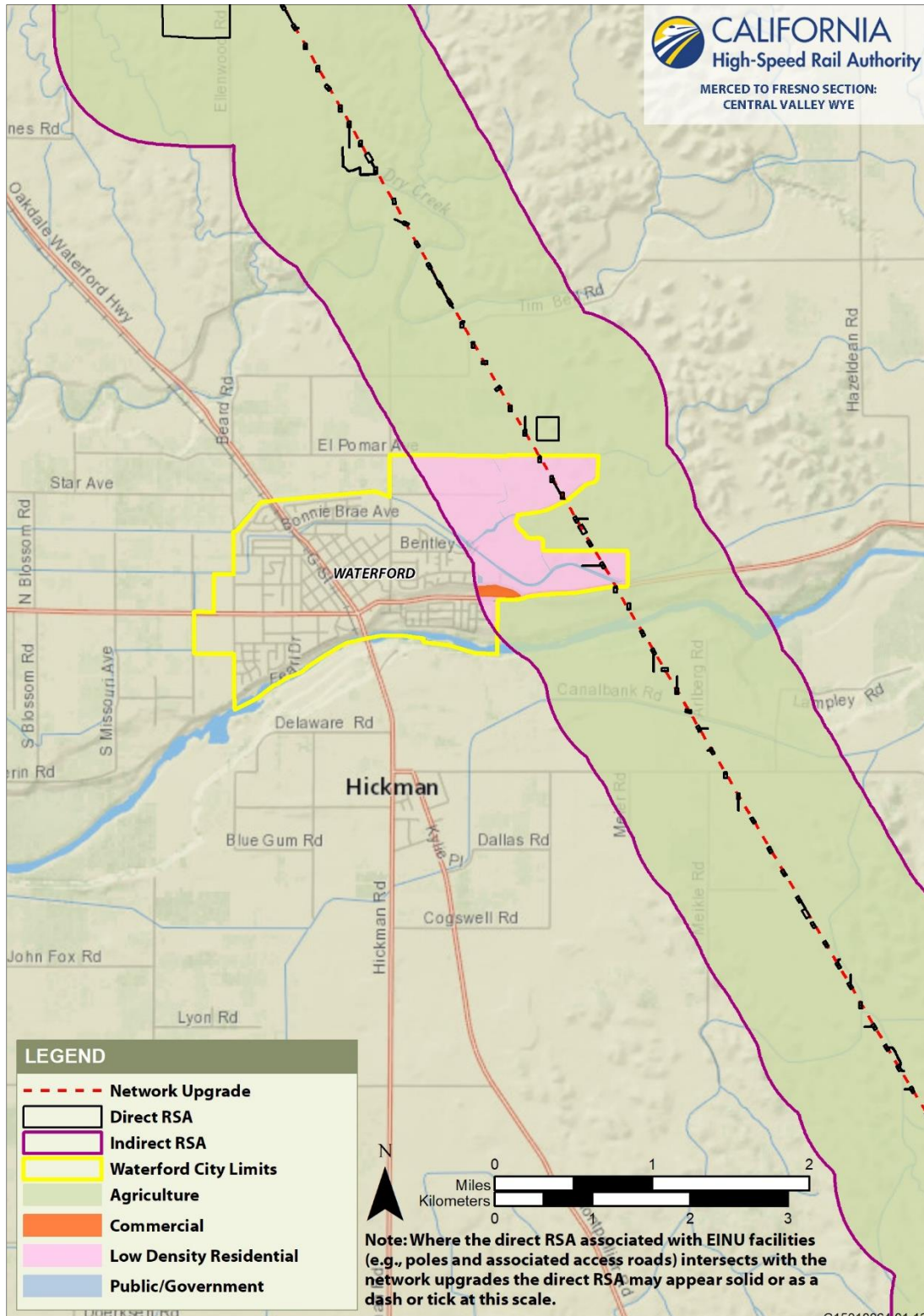
Figure 3.13-2 Existing Land Uses—Chowchilla and Fairmead



Sources: ESRI, 2013; CAL FIRE, 2004; ESRI/National Geographic, 2015

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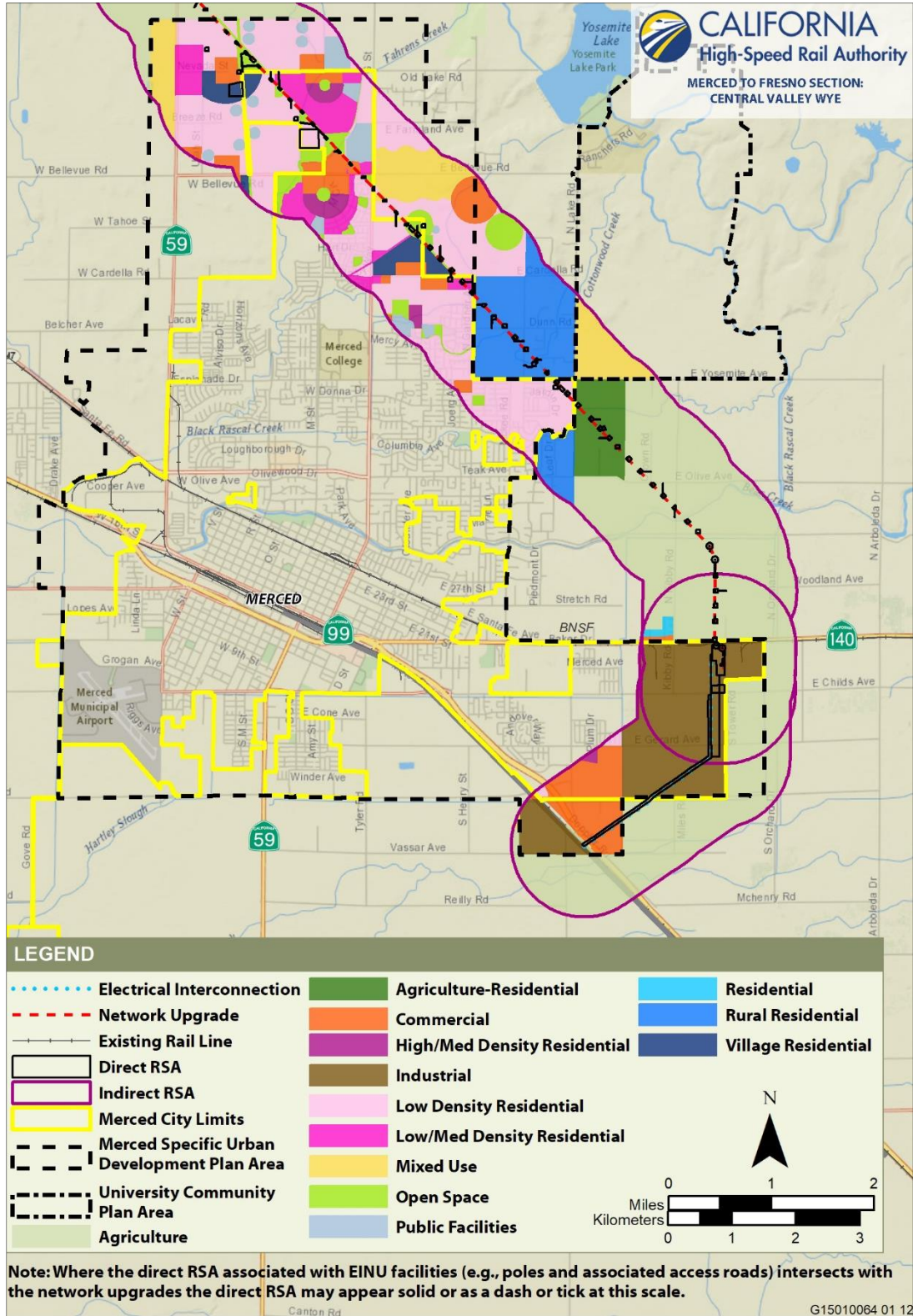
Figure 3.13-3 Existing Land Uses—Site 7—Le Grand Junction/Sandy Mush Road, Warnerville-Wilson 230 kV Transmission Line and Site 7—Wilson, 230 kV Tie-Line



Sources: City of Waterford 2006; Stanislaus County 2016

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Figure 3.13-4 Existing Land Uses—Site 7—Le Grand Junction/Sandy Mush Road, Warnerville-Wilson 230 kV Transmission Line (City of Waterford)



Sources: City of Merced 2015; Merced County 2010

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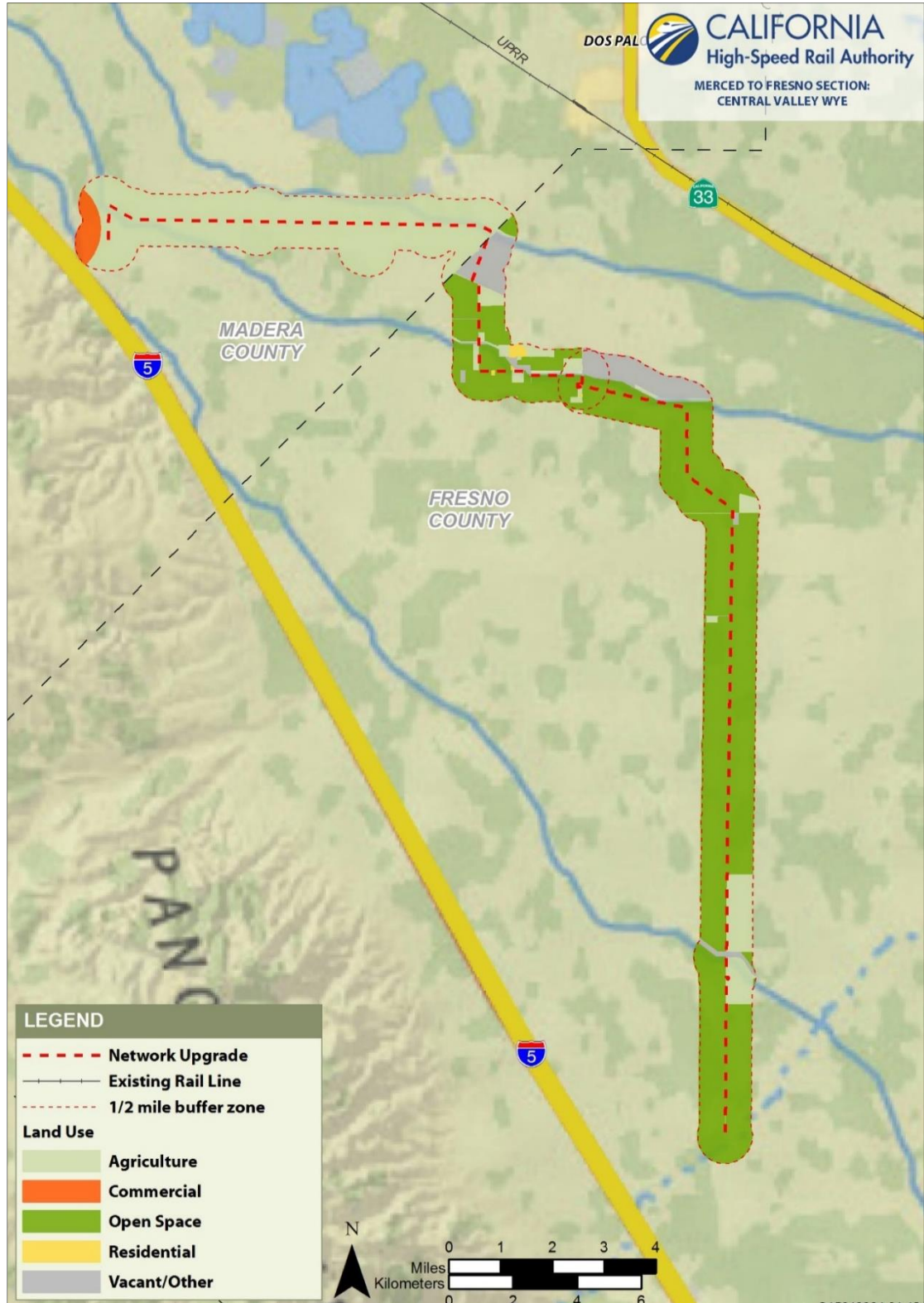
Figure 3.13-5 Existing Land Uses— Site 7—Le Grand Junction/Sandy Mush Road, Warnerville-Wilson 230 kV Transmission Line and Site 7—Wilson, 230 kV Tie-Line (City of Merced)



Sources: ESRI, 2013; CAL FIRE, 2004; ESRI/National Geographic, 2015

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Figure 3.13-6 Existing Land Uses—Site 6—El Nido Substation and Site 7—Le Grand Junction/Sandy Mush Road, Dutchman Switching Station, 115 kV Tie-Line, Wilson—Dairyland (idle) 115 kV Power Line



Sources: ESRI, 2013; CAL FIRE, 2004; ESRI/National Geographic, 2015

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Figure 3.13-7 Existing Land Uses—Site 6—El Nido, Los Banos-Oro Loma-Canal 70 kV Power Line and Oro Loma - Panoche Junction 115 kV Power Line

The Central Valley Wye alternatives are all located within the San Joaquin Valley, where agriculture is a major economic base (Section 3.14). Agriculture is the land use that would be most affected by each of the Central Valley Wye alternatives. Other land uses include commercial, industrial, residential, and mixed use. Generally, the counties and cities along the Central Valley Wye alternatives aim to preserve agricultural land while also planning for new growth areas and transit options.

The SR 152 (North) to Road 13 Wye Alternative would extend approximately 52 miles through unincorporated areas of Merced and Madera Counties, traverse the southern side of the city of Chowchilla, and extend southeast through the community of Fairmead. The electrical interconnections are located within Merced County as well as in the city of Merced; the network upgrades are located in parts of Merced and Fresno Counties. Approximately 27 miles of this alternative would be in a new right-of-way adjacent to existing transportation rights-of-way, and approximately 25 miles would extend across other non-transportation land uses in a new right-of-way where no transportation rights-of-way currently exist. The electrical interconnections would be located in or adjacent to existing electrical line corridors or roadways; however, the network upgrades are associated with existing powerline alignments and an existing substation. The SR 152 (North) to Road 13 Wye Alternative would pass through predominantly agricultural areas, including orchards, row crops, and dairy farms. Other land uses in the vicinity of the alignment include scattered residential, commercial, community facility, and vacant or other uses.

The SR 152 (North) to Road 19 Wye Alternative would extend through approximately 55 miles of unincorporated areas of Merced and Madera Counties, which is the greatest linear distance of all the Central Valley Wye alternatives. This alternative would traverse the southeastern portion of Chowchilla, and then extend southeast through the community of Fairmead. The electrical interconnections are located within Merced County, and the network upgrades are located in parts of Merced, Madera, Fresno and Stanislaus Counties, as well as the cities of Waterford and Merced. Compared with the SR 152 (North) to Road 13 Wye Alternative, a greater proportion of this alternative would extend through non-transportation land uses in a new right-of-way rather than be aligned adjacent to existing transportation rights-of-way. Approximately 27 miles of the SR 152 (North) to Road 19 Wye Alternative would be in a new right-of-way adjacent to existing transportation rights-of-way, and approximately 29 miles would pass through predominantly agriculture-related land uses in a new right-of-way where none currently exists. The electrical interconnections would be located in or adjacent to existing electrical line corridors or roadways; however, the network upgrades are associated with existing transmission/powerline alignments and an existing substation. Land uses in the vicinity of the SR 152 (North) to Road 19 Wye Alternative would be comparable to those described for the SR 152 (North) to Road 13 Wye Alternative.

The Avenue 21 to Road 13 Wye Alternative would extend approximately 53 miles through unincorporated areas of Merced and Madera Counties. East of Chowchilla, this alternative would curve north toward the Union Pacific Railroad/SR 99 corridor and extend southeast along the southern side of the community of Fairmead. The electrical interconnections are located within Merced County and in the city of Merced. The network upgrades are located in parts of Merced and Fresno Counties. Approximately 26 miles of the Avenue 21 to Road 13 Wye Alternative would be in a new right-of-way adjacent to existing transportation rights-of-way, and approximately 26 miles would pass through predominantly agriculture-related land uses in a new right-of-way where none currently exists. The electrical interconnections would be located in or adjacent to existing electrical line corridors or roadways, and the network upgrades are associated with existing powerline alignments and an existing substation. Land uses in the vicinity of the Avenue 21 to Road 13 Wye Alternative would be comparable to those described for the SR 152 (North) to Road 13 Wye Alternative.

The SR 152 (North) to Road 11 Wye Alternative would extend through the least amount of unincorporated areas of Merced and Madera Counties; approximately 51 miles. This alternative would skirt the southern side of Chowchilla and turn southeast through the community of Fairmead. The electrical interconnections are located within Merced County and in the city of Merced. The network upgrades are located in parts of Merced and Fresno Counties. Approximately 25 miles of this alternative would be in a new right-of-way adjacent to existing transportation rights-of-way, and approximately 26 miles would extend across other non-

transportation land uses in a new right-of-way where none currently exists. The electrical interconnections would be located in or adjacent to existing electrical line corridors or roadways. The network upgrades are associated with existing powerline alignments and an existing substation. Land uses in the vicinity of the SR 152 (North) to Road 11 Wye Alternative would be comparable to those described for the SR 152 (North) to Road 13 Wye Alternative.

In addition to the existing condition, the affected environment for Chowchilla and the community of Fairmead includes the future planned land uses as assessed through review of the *Chowchilla 2040 General Plan* (City of Chowchilla 2011) Land Use Element, and the draft *Fairmead Colony Area Plan* (Madera County Planning Department 2012).

The City of *Chowchilla 2040 General Plan* (City of Chowchilla 2011) identified a primary planning area, including a proposed Sphere of Influence,³ which was determined to be the boundary that could accommodate the City of Chowchilla's growth and development projections to the year 2040 while retaining 50 percent land vacancy. The planning area encompasses approximately 14,000 acres (3,891 acres within the existing city limits and 10,109 acres outside of the existing city limits) and is generally bound by SR 152 to the south and Ash Slough to the west. The California Department of Corrections Central Valley Women's Facility, the Valley State Prison for Women, and a planned wastewater treatment facility (located west of Chowchilla at the junction of SR 152 and Ash Slough), although not contiguous with the City of Chowchilla's planning boundary, are also included within the planning area. Land beyond the planning area boundaries, but within the City's Sphere of Influence, is largely designated by Madera County as agricultural or open space to prohibit planned intersections along highways and associated commercial development beyond the City's planned water and sewer systems, to protect major recreation areas, and to discourage rural-residential development between the planning area and the Chowchilla River and the BNSF Railway railroad corridor. As a result, urban development is focused within the city where public services and facilities are available.

Additionally, in September 2011, the Madera Local Agency Formation Commission approved a Sphere of Influence expansion for the City of Chowchilla (Madera County Local Agency Formation Commission 2011) that added a secondary planning area of 16,332 acres within its Sphere of Influence. The City of Chowchilla may consider growth within the secondary planning area when constraints within the planning area prevent necessary growth of Chowchilla or where an integrated master plan development requires additional land beyond the planning area boundaries. In total, the Sphere of Influence for the City of Chowchilla now contains 30,332 acres; 14,000 acres is considered the City of Chowchilla's primary planning area with 3,891 acres of this falling within city limits.

The secondary planning area is designated primarily as urban reserve agriculture (15,150 acres). This designation allows for future flexibility in addressing potential growth pressures and other needs, including the potential for growth limitations due to the HSR right-of-way, the potential development incentives of a major new business park or supply facilities, or the possible need to relocate the Chowchilla Airport. The secondary planning area also includes the community of Fairmead southeast of Chowchilla. In 2010, the community of Fairmead had vacant commercial areas, and undeveloped park space. However, the draft *Fairmead Colony Area Plan* proposes much more development in the area that will include varying residential densities and commercial uses, an industrial component, public uses, open space, and agricultural areas (Madera County Planning Department 2012). The Fairmead planning area in this plan overlaps with portions of the City of Chowchilla's secondary planning area and is located along SR 99. Developments within the Fairmead planning area are anticipated to drive future growth in this community.

³ The City of Chowchilla 2040 General Plan (City of Chowchilla 2011) designates types of acceptable land uses within the city limits, but also identifies desired land uses in surrounding unincorporated Madera County for which the City of Chowchilla has no actual jurisdiction. This area in the unincorporated county is called the City of Chowchilla's Sphere of Influence and is an area that the City of Chowchilla coordinates with Madera County on land use and development issues. Within the Sphere of Influence, there is a smaller area that "rings" the existing city limits called the City of Chowchilla's planning area. It is the planning area that the City of Chowchilla anticipates to annex and provide urban services to accommodate future urban development within the coming 25 years.

Table 3.13-3 identifies the overall acreage by land use category within the existing city limits of Chowchilla, the City of Chowchilla's planning area, the secondary planning area, and the draft *Fairmead Colony Area Plan* (Madera County Planning Department 2012) development area.

Table 3.13-3 Land Uses within the City of Chowchilla, Planning Area, Secondary Planning Area, and Draft Fairmead Colony Area Plan (acres)

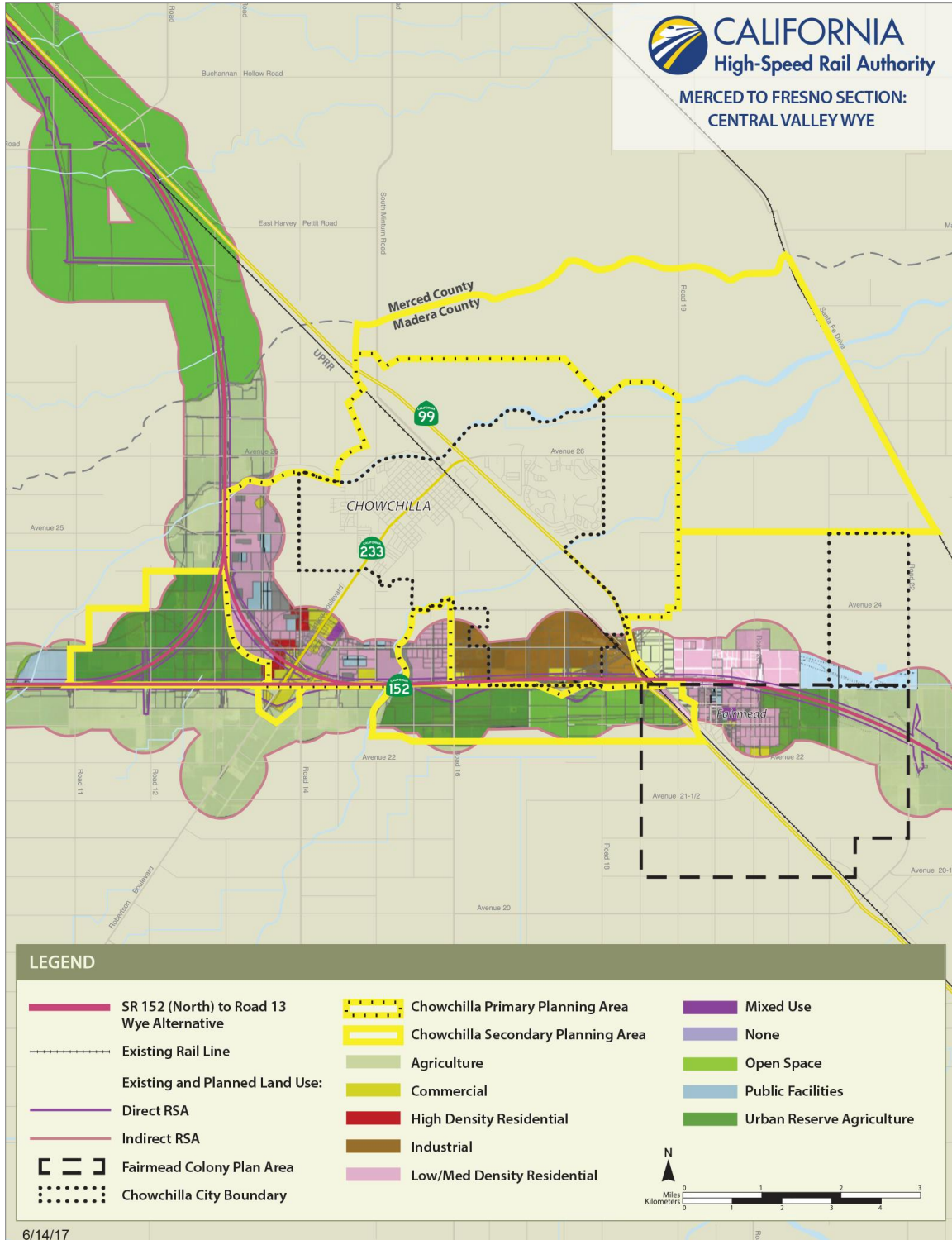
Land Use Category	City Limits	Planning Area (excluding land in City Limits)	Secondary Planning Area	Total within Sphere of Influence	Draft Fairmead Colony Area Plan ¹
Agriculture					
Agriculture	0	0	0	0	2,455
Urban Reserve Agriculture	0	0	15,150	15,150	561
Agriculture Subtotal	0	0	15,150	15,150	3,016
Development					
Commercial	367	816	27	1,210	230
Industrial	632	2,027	0	2,659	359
High-Density Residential	89	763	0	852	0
Low/Med-Density Residential	1,471	4,511	339	6,321	315
Mixed Use	0	412	0	412	27
Medical Arts	11	0	0	11	0
Development Subtotal	2,570	8,529	366	11,465	931
Other					
None/Transportation	538	746	661	1,945	697
Public Facilities	783	834	155	1,772	34
Other Subtotal	1,321	1,580	816	3,717	731
Grand Total	3,891	10,109	16,332	30,332	4,678

Sources: City of Chowchilla, 2011; Madera Local Agency Formation Commission 2011; Madera County Planning Department, 2012

¹ The draft Fairmead Colony Area Plan falls partially within the current City of Chowchilla Sphere of Influence and is therefore shown separately.

Figures 3.13-8 through 3.13-11 show land uses presented in the *City of Chowchilla 2040 General Plan* (City of Chowchilla 2011), *Madera County General Plan* (Madera County 1995), and the draft *Fairmead Colony Area Plan* (Madera County Planning Department 2012) within 0.5 mile of the Central Valley Wye alternatives' right-of-way and work areas.

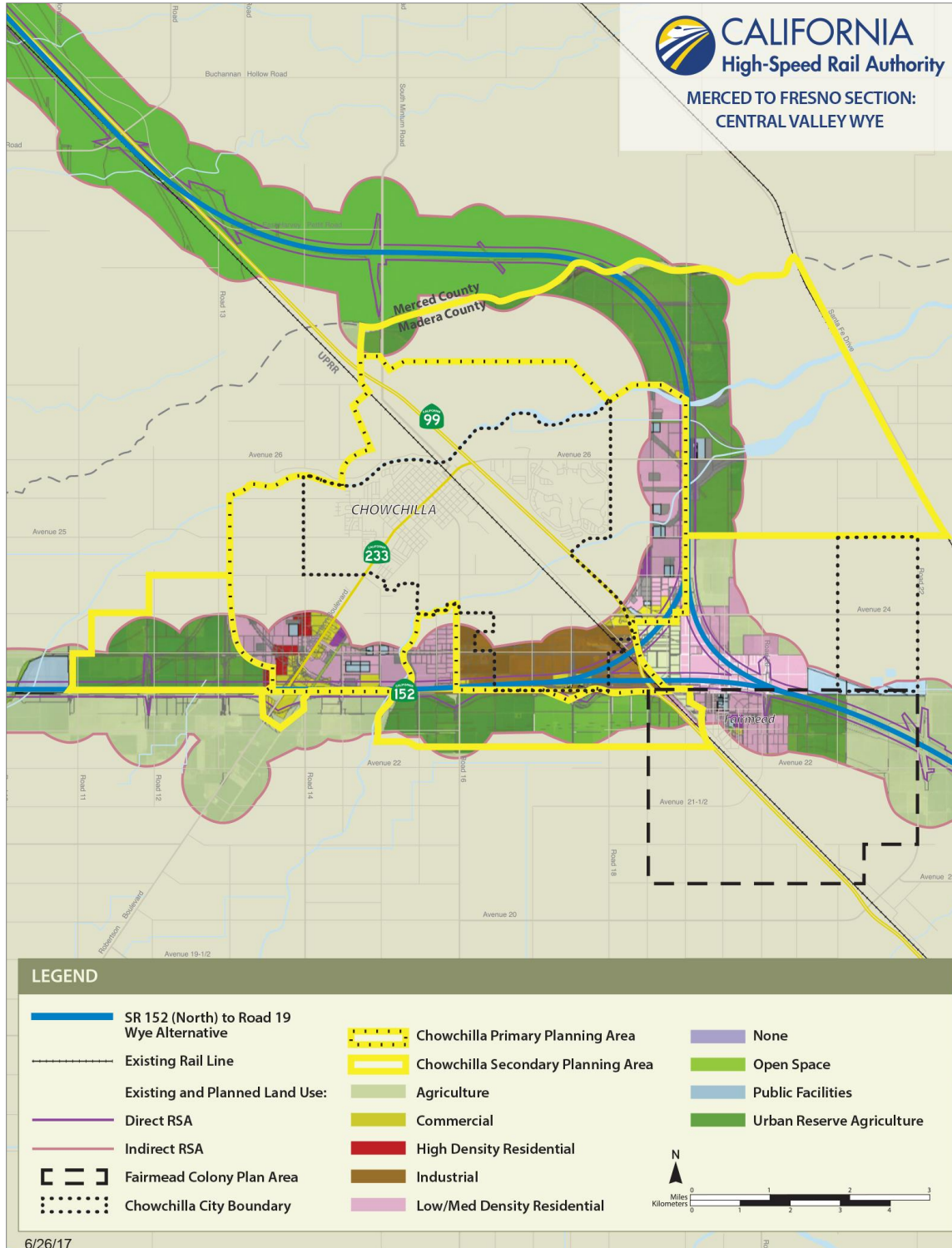
Electrical interconnection components would be located in Merced and a network upgrade would traverse the cities of Merced and Waterford; however, because these components are within an existing substation and electrical line corridor, the affected environment discussion is limited to the land use types within the area of direct and indirect impacts. The Site—7 Wilson, Wilson Substation, and 230 kV Tie-Line are located in the eastern portion of Merced. The primary land use within the RSA for this portion of the corridor is manufacturing industrial; other uses include agriculture and commercial reserve. Several single-family rural residences and agricultural processing facilities are also scattered throughout the RSA. The Site 7—Le Grand Junction/Sandy Mush Road, Warnerville—Wilson 230 kV Transmission Line is located within small portions of the cities of Merced and Waterford. The primary land use within the RSA in Merced is low-density residential, followed by manufacturing industrial. Several single-family rural residences, agricultural processing facilities, schools, and park facilities are also located throughout the RSA. The primary land use within the RSA in Waterford is low-density residential and agriculture. There are a few scattered rural residences in the RSA (see Figures 3.13-4 and 3.13-5).



Sources: City of Chowchilla, 2011; Merced County Assessor's Office, 2014; Madera County, 2015b; ESRI, 2015; Authority 2016

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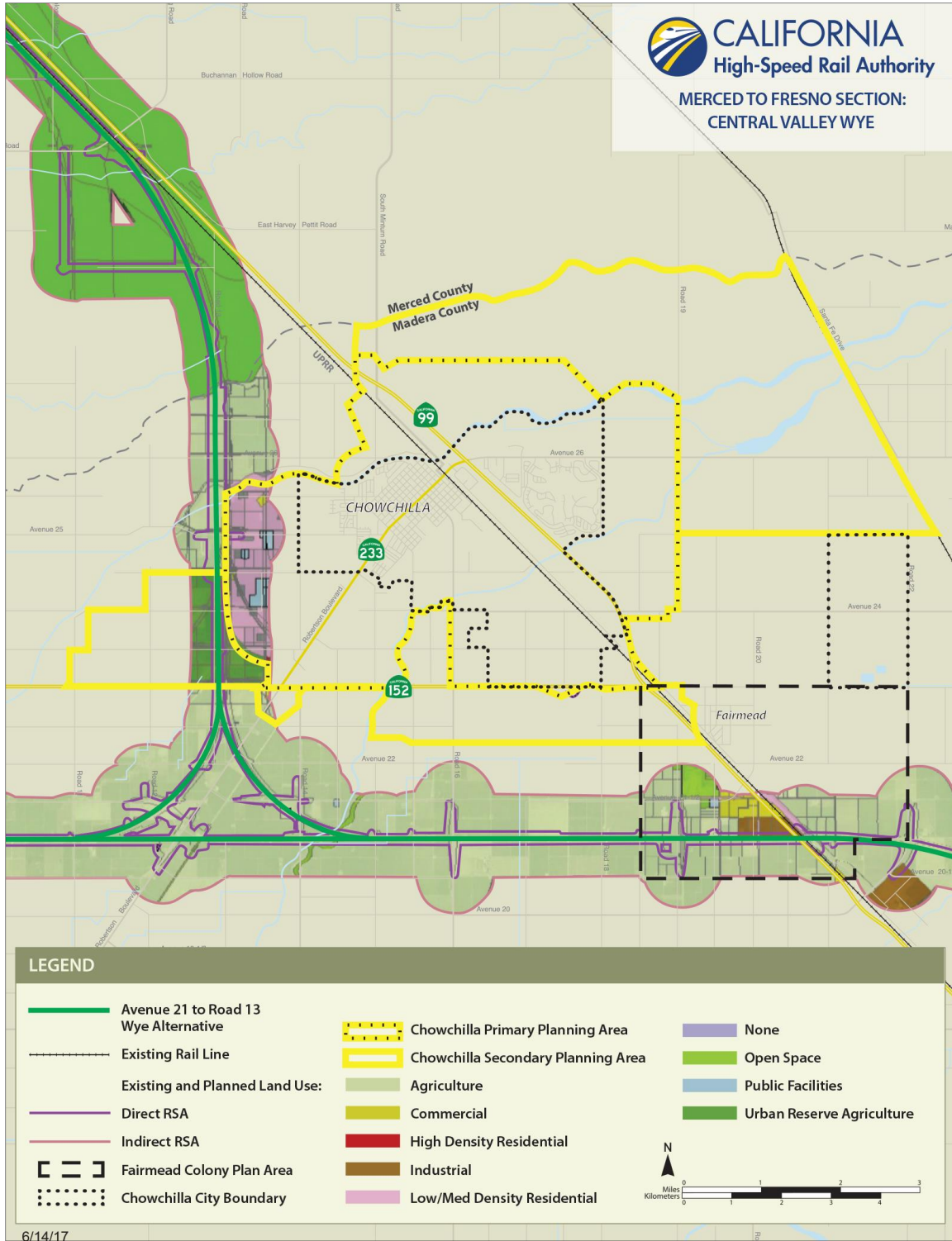
Figure 3.13-8 SR 152 (North) to Road 13 Wye Alternative Land Use



Sources: City of Chowchilla, 2011; Merced County Assessor's Office, 2014; Madera County, 2015b; ESRI, 2015; Authority 2016

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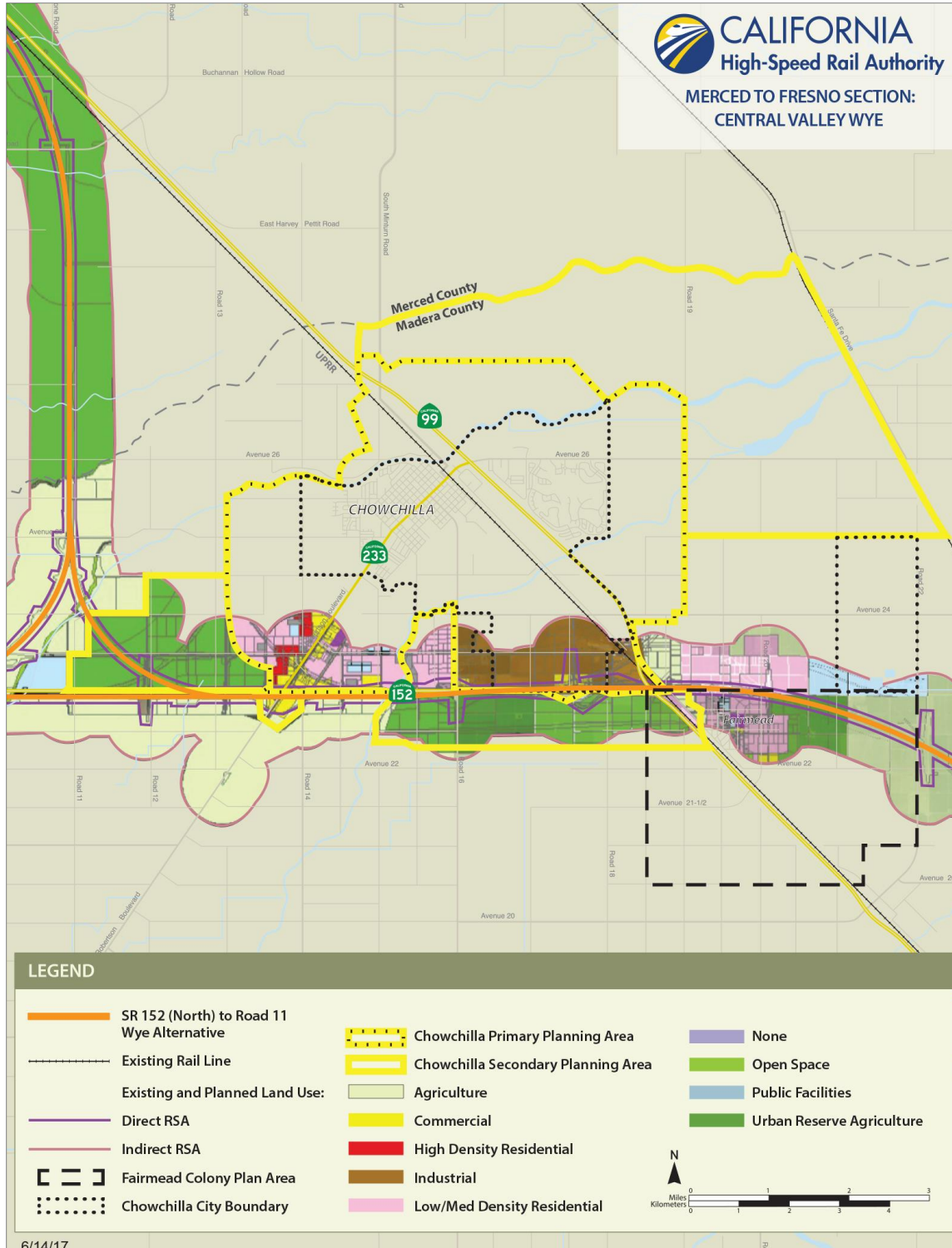
Figure 3.13-9 SR 152 (North) to Road 19 Wye Alternative Land Use



Sources: City of Chowchilla, 2011; Merced County Assessor's Office, 2014; Madera County, 2015b; ESRI, 2015; Authority 2016

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Figure 3.13-10 Avenue 21 to Road 13 Wye Alternative Land Use



Sources: City of Chowchilla, 2011; Merced County Assessor's Office, 2014; Madera County, 2015b; ESRI, 2015; Authority 2016

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Figure 3.13-11 SR 152 (North) to Road 11 Wye Alternative Land Use

3.13.6 Environmental Consequences

3.13.6.1 Overview

This section evaluates how the No Project Alternative and the Central Valley Wye alternatives could affect land use and development. The impacts of the Central Valley Wye alternatives are described and organized as follows:

Construction Impacts

- Impact LU#1: Temporary Direct Impacts on Land Use Patterns Related to Areas Used for Construction
- Impact LU#2: Temporary Indirect Impacts on Land Use Patterns Related to Construction Disruption
- Impact LU#3: Permanent Direct Impacts on Land Use Patterns
- Impact LU#4: Permanent Indirect Impacts on Land Use Patterns Related to Road Closures
- Impact LU#5: Permanent Conversion of Existing Land Uses to Transportation or Electrical Utility Resulting in Adjacent Incompatible Uses

Operations Impacts

Operations of any of the Central Valley Wye alternatives would not result in continued changes to land use and development because permanent land use impacts and conversion would already have occurred during construction of the infrastructure for the Central Valley Wye alternatives.

3.13.6.2 No Project Alternative

The population in the San Joaquin Valley is expected to grow through 2040 (see Section 2.2.2.2, Planned Land Use). Development in the San Joaquin Valley to accommodate the population increase would continue under the No Project Alternative and result in associated direct and indirect impacts on land use and development. Such planned projects that are anticipated to be constructed by 2040 include residential, commercial, industrial, recreational, transportation, and agricultural projects.⁴ Agriculture is the land use that would be most affected by the No Project Alternative. Future development activities would continue a historical trend of agricultural conversion in the region; see Section 3.14 for more information.

As described in Section 3.13.5, Affected Environment, the City of Chowchilla's General Plan 30-year planning horizon (City of Chowchilla 2011) allows for an additional growth within its 14,000 acre planning area; this is due to an anticipated average annual population growth rate of 5.3 percent. Development within the area designated in the draft *Fairmead Colony Area Plan* is also anticipated to increase residential development in this timeframe (Madera County Planning Department 2012). In addition, as described in Section 3.14.5.1, Regional Agriculture, the estimated rate of agricultural land conversion could result in nearly 18,000 acres of land converted to nonagricultural uses within Merced and Madera Counties (DOC 2008, 2014; American Farmland Trust 2013). These development pressures and potential land conversions would lead to changes in land use and development under the No Project Alternative.

As discussed in Section 3.18.5.3, Housing Demand, the long-term demand for housing is forecast to require construction of a substantial number of housing units through 2040 to meet the needs of anticipated population growth. Overall, almost 190,000 housing units would be needed in the region to meet this demand (Table 3.18-7).

⁴ As described in Section 3.1, Introduction, there are no future Pacific Gas & Electric projects proposed in portions of Stanislaus, Merced, Madera, and Fresno Counties that would occur if one of the Central Valley Wye alternatives is not approved. Therefore, the analysis of the No Project Alternative only considers the impacts of current land use and transportation plans in the land use RSA in Merced and Madera Counties where the HSR alternatives would be located.

Future development projects in Merced and Madera Counties include dairy farm expansions, implementation of airport development and land use plans, and implementation of general and specific plans throughout both counties. Planned projects under the No Project Alternative would also include transportation projects such as the expansion of SR 99, reconstruction of interchanges, overcrossing construction, road widenings and lane additions, road realignment and extensions, airport pavement improvements, and recreational bike/pedestrian trail construction; residential, commercial and industrial developments; agricultural facility expansion projects; utility, renewable energy, and mining facility construction projects; and residential development projects. A full list of anticipated future development projects is provided in Appendix 3.19-A, Cumulative Plans and Non-Transportation Projects List, and Appendix 3.19-B, Cumulative Transportation Projects Lists. The residential and commercial growth expected in and around Chowchilla, as described in the Introduction and Land Use sections of the City of Chowchilla 2040 General Plan (*City of Chowchilla 2040 General Plan*; pages I-1 through L-69) (City of Chowchilla 2011), is anticipated to alter land use patterns, convert existing land uses to transportation land uses, and result in incompatibility between adjacent land uses.

Under the No Project Alternative, recent development trends are anticipated to continue, leading to impacts on land use and development. Existing land would be converted for residential, commercial, and industrial development, as well as for transportation infrastructure, to accommodate future growth, placing potential pressures on existing land uses. Planned development and transportation projects that would occur under the No Project Alternative would likely include various forms of mitigation to address impacts on land use and development.

3.13.6.3 Central Valley Wye Alternatives

Construction of the Central Valley Wye alternatives would result in temporary and permanent direct and indirect impacts on land use. Impacts could include temporary or permanent changes to land use patterns and permanent conversion of lands that would directly result in incompatibility with adjacent land uses, or indirectly by resulting in growth and development that was unplanned and incompatible with adjacent land uses. The impacts apply to all Central Valley Wye alternatives unless otherwise indicated.

Construction Impacts

Implementation of the Central Valley Wye alternatives would involve, for example, demolition of existing structures; clearing and grubbing; handling, storing, hauling, excavating, and placing fill; possible pile driving; and construction of aerial structures, bridges, road modifications, utility upgrades and relocations, HSR electrical systems, and railbeds. Construction activities are described in Chapter 2, Alternatives.

Construction of the Central Valley Wye alternatives would result in temporary direct and indirect, and permanent direct and indirect, changes to land use patterns. Altered land use patterns refer to the potential for construction activities to change the current patterns of land use (i.e., use of land for agricultural, industrial, or residential purposes) as a result of increases in noise or dust, visual changes, changes to transportation rights-of-way, temporary road closures, and temporary uses of land for construction.

Impact LU#1: Temporary Direct Impacts on Land Use Patterns Related to Areas Used for Construction

Construction of any of the Central Valley Wye alternatives would temporarily use land outside of the permanent rights-of-way for construction staging, laydown, and fabrication areas. The acreage of land temporarily used would vary by alternative and is displayed in Table 3.13-4.

Table 3.13-4 Temporary Use of Land outside of the Right-of-Way by Central Valley Wye Alternative (acres)

Alternative	Acres
SR 152 (North) to Road 13 Wye	653
SR 152 (North) to Road 19 Wye	1,208
Avenue 21 to Road 13 Wye	476
SR 152 (North) to Road 11 Wye	471

Sources: Authority, 2016; DOC, 2014; NRCS, 2015; City of Merced, 2015; City of Waterford, 2006; Fresno County Assessor's Office, 2015; Madera County, 1995; Merced County, 2013; Stanislaus County, 2016

Acres are rounded to the nearest whole number.

SR = State Route

As shown in Table 3.13-4, the SR 152 (North) to Road 19 Wye Alternative would result in the most temporary use of land outside of the right-of-way (1,208 acres) and the SR 152 (North) to Road 11 Wye Alternative and Avenue 21 to Road 13 Wye Alternative would result in the least (471 acres and 476 acres, respectively). Relative to the other alternatives, the SR 152 (North) to Road 13 Wye Alternative would result in an intermediate area of temporary use of land outside of the right-of-way, with 653 acres affected.

Land needed for temporary construction use would be leased from the landowner, taken out of agricultural use, and used for 1–3 years for construction at any given location. Although construction of any of the Central Valley Wye alternatives would temporarily disrupt property access and neighborhoods, including road closures; and disrupt farm operations, such as through the use of land for construction fabrication, laydown, and staging areas, these temporary construction impacts would cease when construction is complete. Design characteristics of the Central Valley Wye alternatives include measures requiring that the design-build contractor restores affected important farmland to as close to its preconstruction condition as possible (AG-IAMF#1). Consequently, land use conversions, alterations, and disruptions would be temporary and would revert to as close as possible the preconstruction conditions once construction has ceased, thus not permanently altering land use patterns.

CEQA Conclusion

The impact under CEQA would be less than significant because the use of agricultural land for construction would be temporary and would not result in substantial direct changes to land use patterns or density outside of the permanent rights-of-way that would be incompatible with adjacent land uses. The design characteristics of the Central Valley Wye alternatives require the construction contractor to restore any temporary disruptions or conversions of land outside of the permanent rights-of-way to the uses in place before construction. Therefore, CEQA does not require any mitigation.

Impact LU#2: Temporary Indirect Impacts on Land Use Patterns Related to Construction Disruption

Construction of any of the Central Valley Wye alternatives would involve major construction activities (e.g., clearing, grading, track installation) outside of the permanent rights-of-way that could generate increased noise levels, dust and other air pollutants, and traffic, and could result in temporary visual changes because of the presence of construction equipment for the construction of elevated rail features. Construction impacts would affect rural residences, agricultural lands, and businesses within 0.5 mile of the project footprint of each of the Central Valley Wye alternatives in Stanislaus, Fresno, Merced, and Madera Counties, the cities of Merced and Waterford, and within the rural-residential communities of Fairmead and Madera Acres. These temporary increases in noise and dust, and the visual and aesthetic changes caused by construction, are expected to last for a period of 1–3 years at any given location and could be considered a hardship on residences, farms, and businesses adjacent to the project footprints. Construction activities associated with reconducting of existing power/transmission lines and installation of new tie-lines would generally only last up to one week at each structure location.

The area of temporary use of land for construction outside of the right-of-way can be used to indicate the level of indirect impacts on adjacent properties. More direct use of land is likely to indirectly affect more adjacent land as a result of noise, dust, traffic, and aesthetic impacts as well as by reducing access to irrigation ditches and causing potential crop damage on adjacent lands. As discussed for Impact LU#1, the SR 152 (North) to Road 19 Wye Alternative would result in the most temporary use of land outside of the right-of-way, and therefore, the highest potential for indirect impacts on land use patterns. The SR 152 (North) to Road 11 Wye Alternative and Avenue 21 to Road 13 Wye Alternative would result in the fewest temporary indirect impacts, and, relative to the other alternatives, the 152 (North) to Road 13 Wye Alternative would result an intermediate level of impacts.

Features of the Central Valley Wye alternatives would make certain that changes to important farmland from staging areas is temporary and that this farmland is restored to its prior condition so that farming can be resumed after construction is complete (AG-IAMF#1). The Central Valley Wye alternatives would also include measures to minimize the amount of fugitive dust and noise related to construction (AQ-IAMF#1) (NV-IAMF#1), to reduce traffic conflicts caused by construction, the contractor would prepare a construction transportation plan (TR-IAMF#2) as well as a construction management plan (SO-IAMF#1) to minimize impacts of construction activities and maintain traffic flow and access. These design characteristics of the Central Valley Wye alternatives would minimize temporary construction impacts, including hardship on adjacent businesses and residences such as increases in noise and dust, and the aesthetic changes caused by construction. With these IAMFs, no hardships on affected residences, farms, or businesses adjacent to the project footprints of the Central Valley Wye alternatives that would cause people to relocate, change the use of their land, or abandon properties are anticipated. Therefore, the features of the Central Valley Wye alternatives would minimize hardships on affected farm operations and temporary disruptions to residences and businesses, preventing changes in the land use patterns outside of the permanent rights-of-way.

CEQA Conclusion

The impact under CEQA would be less than significant because temporary hardships on property owners adjacent to the project footprints of the Central Valley Wye alternatives would not result in temporary or permanent substantial changes to land use patterns that would be incompatible with adjacent land uses. The Central Valley Wye alternatives include effective measures that would avoid and minimize hardships to property owners during construction. Therefore, CEQA does not require any mitigation.

Impact LU#3: Permanent Direct Impacts on Land Use Patterns

Construction activities associated with the Central Valley Wye alternatives would permanently convert existing land uses to transportation uses within the permanent rights-of-way. Numerous road closures would occur, potentially resulting in reductions and restrictions in access between portions of the community. However, permanently closed segments of road would typically be less than 1 mile and access to properties adjacent to these closed roads would be maintained. In addition, the Central Valley Wye alternatives would include new grade-separated interchanges approximately every 2 miles, which would maintain access throughout communities and avoid any changes to the current patterns of land use. While existing land uses could continue to exist along the new rights-of-way, this conversion of land and reductions and restrictions in access to city or community centers could result in direct impacts through altered land use patterns and corresponding changes in land use and zoning designations.

Merced is the largest city in the RSA. The reconductoring of the Site 7—Le Grand Junction/Sandy Mush Road, Warnerville—Wilson 230 kV Transmission Line, associated with the SR 152 (North) to Road 19 Wye Alternative, would include replacement of existing conductors and potential raising/replacement of up to 15 existing self-supporting lattice steel towers within an existing utility right-of-way. The installation of the Site 7—Wilson, 230 kV Tie-Line associated with the SR 152 (North) to Road 13, Avenue 21 to Road 13 Wye, and SR 152 (North) to Road 11 alternatives, would include new conductors being installed on new self-supporting lattice steel towers. Neither

of these components would cause changes in land use patterns because they would not result in a change from baseline conditions.

Chowchilla is the second-largest city in the RSA. Within the area encompassed by its Sphere of Influence (the primary and secondary planning areas shown on Figure 3.13-2 and Figures 3.13-8 through 3.13-11), the presence of SR 152 results in an existing division of developed areas of Chowchilla from residential and agricultural land to the south of SR 152. The lands to the east and west of Chowchilla are undeveloped farmland at the present time. The construction of the SR 152 (North) to Road 13 Wye Alternative, SR 152 (North) to Road 19 Wye Alternative, and SR 152 (North) to Road 11 Wye Alternative would widen the existing corridor of SR 152 south of Chowchilla, but would not cause changes in land use patterns.

Waterford is the third-largest city in the RSA. The reconductoring of the Site 7—Le Grand Junction/Sandy Mush Road Warnerville—Wilson 230 kV Transmission Line, associated only with the SR 152 (North) to Road 19 Wye Alternative, would include the replacement of existing conductors and potential raising/replacement of two existing self-supporting lattice steel towers within an existing utility right-of-way. There would be no direct permanent conversion of land use within Waterford; therefore, this component would not result in altered land use patterns.

The community of Fairmead is the largest community within unincorporated areas of the RSA. The SR 152 (North) to Road 13, SR 152 (North) to Road 19 Wye and SR 152 (North) to Road 11 Wye Alternatives would result in the physical conversion of portions of the community of Fairmead to transportation-related uses. This conversion would also convert large portions of land (58 acres for the SR 152 [North] to Road 13 Wye Alternative, 75 acres for the SR 152 [North] to Road 19 Wye Alternative, 148 acres for the Avenue 21 to Road 13 Wye Alternative, and 111 acres for the SR 152 [North] to Road 11 Wye Alternative) identified for future development in the draft *Fairmead Colony Area Plan* (Madera County Planning Department 2012), which could alter current and planned land use changes occurring within the community.

Construction of the Central Valley Wye alternatives would also permanently convert existing land uses to transportation uses outside of existing cities and communities. In all, the SR 152 (North) to Road 13 Wye Alternative would convert 2,799 acres to transportation uses, the SR 152 (North) to Road 19 Wye Alternative would convert 3,035 acres, the Avenue 21 to Road 13 Wye Alternative would convert 2,599 acres, and the SR 152 (North) to Road 11 Wye Alternative would convert 2,739 acres. Most of the land that would be permanently converted to transportation-related uses under the Central Valley Wye alternatives (approximately 79–88 percent) is currently in agricultural use, followed by community and other facilities, residential, industrial, and commercial land uses. While the construction of the Central Valley Wye alternatives would be disruptive to existing adjacent land uses for the duration of construction activities, the areas adjacent to the project footprints are expected to remain primarily in agricultural use during and after construction, and it is not anticipated that incompatible land uses adjacent to the Central Valley Wye alternatives would result.

CEQA Conclusion

The impact under CEQA would be significant for SR 152 (North) to Road 13 Wye, SR 152 (North) to Road 19 Wye, and SR 152 (North) to Road 11 Wye alternatives in Fairmead because land use conversion within an established community resulting from construction of these Central Valley Wye alternatives would reduce and restrict access between portions of the community, and could potentially result in a substantial change in the pattern or density of land use in this community that would be incompatible with existing and planned land uses. These Central Valley Wye alternatives would not result in changes to land use patterns that would be incompatible with existing and planned land uses in areas presently used primarily for agriculture. The Authority would implement mitigation measures to minimize impacts on access to city and community centers. SO-MM#1, Implement Measures to Reduce Impacts Associated with the Division of Residential Neighborhoods, and SO-MM#2, Implement Measures to Reduce Impacts Associated with the Division of Communities, would entail special outreach to affected homeowners, residents, business owners, and community organizations in affected neighborhoods and communities to understand relocation needs, and to identify options that strengthen community

cohesion and that are compatible with the existing community character. AVR-MM#3, Incorporate Design Criteria for Elevated and Station Elements that Can Adapt to Local Context, would establish a process with the city or county with jurisdiction over the guideway design to advance the final design through a collaborative, context-sensitive solutions approach. With implementation of SO-MM#1, SO-MM#2, and AVR-MM#3, the impact under CEQA would be less than significant.

The impact under CEQA for the Avenue 21 to Road 13 Wye Alternative would be less than significant because this alternative would not convert land to transportation uses within an existing city or community center, and changes to land use patterns that would be incompatible with existing land uses are not anticipated in areas presently used primarily for agriculture. Therefore, CEQA does not require any mitigation.

Impact LU#4: Permanent Indirect Impacts on Land Use Patterns Related to Road Closures

Construction of any of the Central Valley Wye alternatives would involve major construction activities and changes resulting from the construction of elevated rail features. These impacts would occur in the rural agricultural lands within 0.5 mile of the project footprint of each of the Central Valley Wye alternatives in Merced and Madera Counties, and the rural-residential communities of Fairmead and Madera Acres.

Permanent road closures and the construction of overcrossings or undercrossings could result in changes to land use by altering access for residents and others (e.g., customers, employees, delivery drivers) to businesses and lands connected to these road closures. Permanent changes in land use patterns adjacent to the Central Valley Wye alternatives could result if construction activities lead to a large number of temporary closures, relocations of businesses or residents, or the abandonment of lands or housing. Residential relocations and economic impacts on businesses are discussed in detail in Section 3.12.

Construction of any of the Central Valley Wye alternatives would require permanent closure of roads at selected locations and the construction of overcrossings or undercrossings in lieu of closure. Table 3.13-5 shows the number of anticipated roadway closures and the number of overcrossings and undercrossings that would be constructed under each alternative. Refer to Chapter 2 and the *Merced to Fresno Section: Central Valley Wye Transportation Technical Report* (Authority and FRA 2016) for more information about permanent road closures and new crossings.

Table 3.13-5 Permanent Road Closures, Overcrossings, and Undercrossings by Central Valley Wye Alternative

Alternative	Permanently Closed Roads ¹	Overcrossing and Undercrossing
SR 152 (North) to Road 13 Wye	38	24
SR 152 (North) to Road 19 Wye	36	29
Avenue 21 to Road 13 Wye	30	28
SR 152 (North) to Road 11 Wye	33	24

Source: Authority and FRA, 2016

¹ Includes state highways and local public roads

SR = State Route

The road overcrossings and undercrossings would be built at the same locations as the existing roads. Permanently closed road segments typically would be short (less than 1 mile) and access to properties adjacent to these closed roads would be maintained. Access to some properties would not be maintained following construction of a Central Valley Wye alternative, and those properties have been identified as acquisitions and incorporated into the impact analysis. Access to all other properties would be maintained. The design of the Central Valley Wye alternatives includes new grade-separated interchanges at intervals of approximately every 2 miles, which

would reduce traffic delay and improve the safety of the intersections for motorists, bicyclists, and pedestrians. Additional travel required to cross the new grade-separated HSR system would not be enough of a change relative to existing conditions such that it would result in the abandonment of properties or the closure of a large number of businesses. Therefore, there would be no change to land use patterns related to road closures or construction.

CEQA Conclusion

The impact under CEQA would be less than significant because permanent road closures would not cause a substantial change in land use patterns. Access disruption to residents, businesses, customers, delivery vehicles, and buses would be minimized to the extent practicable when permanent road closures are required. It is possible that even with the access across the HSR right-of-way provided as part of the design, there could be some property access disruption sufficient to indirectly cause a change in land use in individual properties. However, the frequency of access across the HSR right-of-way provided by grade-separated crossings, which reduces the out-of-way travel required to cross the right-of-way, would avoid large-scale changes in land use and would therefore not result in the introduction of incompatible land uses. Therefore, CEQA does not require any mitigation.

Impact LU#5: Permanent Conversion of Existing Land Uses to Transportation or Electrical Utility Resulting in Adjacent Incompatible Uses

Construction of any of the Central Valley Wye alternatives would require acquisition and permanent conversion of land that is not currently in transportation-related or electrical utility-related use, potentially resulting in adjacent incompatible land uses. Building the Central Valley Wye alternatives would convert existing land uses; however, the Authority designed the Central Valley Wye alternatives to follow existing transportation and electrical utility rights-of-way/facilities to the maximum degree feasible. Construction of the Central Valley Wye alternatives adjacent to or near existing transportation/electrical utility corridors and facilities would minimize but not completely avoid changes to existing land uses patterns. As a result, it is anticipated that the conversion of existing land uses to transportation-related uses could affect adjacent development patterns due to land uses that are incompatible with transportation uses. Such a change in land use patterns is not anticipated in regards to electrical interconnections or network upgrades because there would be no permanent conversion associated with network upgrades and minor permanent conversion associated with electrical interconnections.

Table 3.13-6 summarizes the maximum acreage of each land use type that the Central Valley Wye alternatives would permanently convert to transportation and electrical utility-related uses. The acreages were calculated in GIS using the permanent features of the alternatives' project footprints and noneconomic remnant parcels;⁵ this analysis does not include temporary use of land that would be required for construction or temporary use of land adjacent to the alternatives. The permanent conversion of land uses would range from 3,035 acres under the SR 152 (North) to Road 19 Wye Alternative to 2,599 acres under the Avenue 21 to Road 13 Wye Alternative. The majority (approximately 79–88 percent) of land that would be permanently converted to transportation-related uses under the Central Valley Wye alternatives is in agricultural use, followed by community and other facilities, residential, industrial, and commercial land uses. Refer to Section 3.14 for further information on impacts on agricultural lands.

⁵ Remnant parcels are the result of an alternative's project footprint creating two or more remnant and unconnected parcels that are too small to continue their former use.

Table 3.13-6 Maximum Amount of Land Use Permanently Converted by Central Valley Wye Alternative (acres)

Land Use Category	SR 152 (North) to Road 13 Wye	SR 152 (North) to Road 19 Wye	Avenue 21 to Road 13 Wye	SR 152 (North) to Road 11 Wye
Agricultural	2,209	2,490	2,277	2,219
Commercial	8	5	1	7
Industrial	72	2	73	73
Community Facilities and Other ¹	442	431	233	390
Residential	68	107	15	51
Total	2,799	3,035	2,599	2,739

Sources: DOC, 2012; Merced County Assessor's Office, 2014; Madera County, 2015b; City of Merced, 2015; City of Waterford, 2006; Fresno County Assessor's Office, 2015; Madera County, 1995; Merced County, 2013; Stanislaus County, 2016
Acreages are rounded to the nearest whole number.

¹Community Facilities and Other include transportation facilities, public utilities, and water.
SR = State Route

The Central Valley Wye alternatives would result primarily in permanent land use conversion impacts on agricultural lands (described in Section 3.14) within the RSA. Nonagricultural categories of land use (i.e., commercial, industrial, residential) are confined to the Waterford, Merced, and Chowchilla planning areas, and the community of Fairmead. Table 3.13-7 identifies the potential direct impacts of the Central Valley Wye alternatives on existing land uses within each of Chowchilla's planning areas. The SR 152 (North) to Road 13 Wye Alternative would affect approximately 758 acres, about half of which would be an impact on agricultural land and the other half on development areas. The SR 152 (North) to Road 19 Wye Alternative would affect approximately 914 acres, 371 of which would be within development areas. This alternative would affect more acres within Chowchilla's planning areas than the other three alternatives. The Avenue 21 to Road 13 Wye Alternative would affect approximately 275 acres and would not pass within Chowchilla city limits. This alternative would have the least impact on land uses within Chowchilla's planning areas. The SR 152 (North) to Road 11 Wye Alternative would affect approximately 625 acres: 305 acres on agricultural lands and 225 acres on development areas.

Additionally, approximately 2 miles of the three SR 152 (North) Wye alternatives would border the southern edge of the recently annexed land that forms the southern boundary of Chowchilla. At the time of annexation, the area was mostly farmland, with several residential units, and is designated as urban reserve agriculture in the general plan; as of September 2016, the City of Chowchilla had not received any formal applications for development projects (Hicks pers. comm.). Therefore, this is not considered an indirect impact because the community has not yet been established and changes to patterns or density would not result from the Central Valley Wye alternatives.

The Central Valley Wye alternatives would also permanently convert land to transportation uses within the community of Fairmead and, as a result, could directly affect this community and create incompatible uses. The Avenue 21 to Road 13 Wye Alternative would directly affect the most land within the draft *Fairmead Colony Area Plan* (Madera County Planning Department 2012: approximately 148 acres, of which 117 acres (79 percent) are agricultural lands and 31 acres (21 percent) are development lands (Table 3.13-7). The SR 152 (North) to Road 11 Wye Alternative would affect the second greatest amount of land in the draft *Fairmead Colony Area Plan*: approximately 111 acres, of which 53 acres (48 percent) are agricultural lands and 8 acres (7 percent) are development lands (Table 3.13-7). The SR 152 (North) to Road 19 Wye Alternative would affect the second least amount of land in the draft *Fairmead Colony Area Plan*: approximately 75 acres, of which 68 acres (91 percent) are agricultural lands and 7 acres (9 percent) are development lands. The SR 152 (North) to Road 13 Wye Alternative would affect the least amount of land in the community of Fairmead: approximately 58 acres, of which 50 acres (86 percent) are agricultural lands and 8 acres (14 percent) are development lands.

Table 3.13-7 Direct Impacts on Existing Land Uses within the City of Chowchilla Planning Boundaries, by Central Valley Wye Alternative (acres)

Land use Category	SR 152 (North) to Road 13 Wye					SR 152 (North) to Road 19 Wye					Avenue 21 to Road 13 Wye					SR 152 (North) to Road 11 Wye				
	City Limits	Non-City Planning Area ¹	Secondary Planning Area (excluding Fairmead) ²	Draft Fairmead Colony Area Plan	SR 152 (North) to Road 13 Wye Total Impacts	City Limits	Non-City Planning Area ¹	Secondary Planning Area (excluding Fairmead) ²	Draft Fairmead Colony Area Plan	SR 152 (North) to Road 19 Wye Total Impacts	City Limits	Non-City Planning Area ¹	Secondary Planning Area (excluding Fairmead) ²	Draft Fairmead Colony Area Plan	Avenue 21 to Road 13 Wye Total Impacts	City Limits	Non-City Planning Area ¹	Secondary Planning Area (excluding Fairmead) ²	Draft Fairmead Colony Area Plan	SR 152 (North) to Road 11 Wye Total Impacts
Agricultural Land Use																				
Agriculture	0	12	0	18	30	0	12	0	24	36	0	0	0	117	117	0	12	0	21	33
Urban Reserve Agriculture	0	0	292	32	324	0	0	362	44	406	0	0	35	0	35	0	0	240	32	272
Agriculture Subtotal	0	12	292	50	354	0	12	362	68	442	0	0	35	117	152	0	12	240	53	305
Development Land Use																				
Commercial	19	91	0	0	110	33	82	0	0	115	0	8	0	0	8	16	78	0	0	94
Industrial	54	45	0	0	99	81	81	0	0	162	0	0	0	31	31	41	40	0	0	81
High-Density Residential	0	16	6	0	22	0	0	3	0	3	0	0	0	0	0	0	0	2	0	2
Low/Med-Density Residential	0	95	20	8	123	0	54	30	7	91	0	84	0	0	84	0	18	22	8	48
Mixed Use	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Medical Arts	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Development Subtotal	73	247	26	8	354	114	217	33	7	371	0	92	0	31	123	57	136	24	8	225
Other Land Use																				
Golf Course	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
None/Transportation	0	26	4	0	30	0	26	37	0	63	0	0	0	0	0	0	19	4	50	73
Public Facilities	7	13	0	0	20	7	16	15	0	38	0	0	0	0	0	7	15	0	0	22
Other Land Use Subtotal	7	39	4	0	50	7	42	52	0	101	0	0	0	0	0	7	34	4	50	95
Total	80	298	322	58	758	121	271	447	75	914	0	92	35	148	275	64	182	268	111	625

Sources: City of Chowchilla, 2011; Madera County Planning Department, 2012; Authority, 2016

¹ This is the City of Chowchilla's planning area within its Sphere of Influence, minus the area within Chowchilla city limits.

² These calculations exclude the portion of the draft Fairmead Colony Area Plan that overlaps with the City of Chowchilla's Sphere of Influence

These impacts would reduce the amount of land available within the community of Fairmead for future development as planned in the draft *Fairmead Colony Area Plan*. In addition, construction of the Central Valley Wye alternatives could affect the quality of the existing development for residents by introducing new sources of noise and visual impacts. Impacts related to the physical division of the community of Fairmead and to residential relocations associated with the Central Valley Wye alternatives are addressed in detail in Section 3.12.

Although land uses would be permanently converted to transportation uses in Chowchilla and in the community of Fairmead, construction of the Central Valley Wye alternatives would not cause incompatibility in adjacent land uses. Development exists and would continue to exist around transportation corridors. SR 99 is a major transportation corridor that is at least as disruptive to adjacent land uses in terms of noise and access issues as the Central Valley Wye alternatives would be. Access within the community and to adjacent areas, such as the city of Chowchilla, would be maintained. Other changes to the environment, such as to the visual and noise environment, would not inhibit development or result in incompatible land uses. The SR 152 (North) to Road 13 Wye Alternative, SR 152 (North) to Road 19 Wye Alternative, and SR 152 (North) to Road 11 Wye Alternative would each result in direct changes in specific land uses as a result of conversion of non-transportation land uses to a transportation use; however, these alternatives would not result in land use incompatibilities. The presence of an additional transportation corridor is unlikely to inhibit development or cause incompatible land uses.

The construction of all alternatives adjacent to existing transportation rights-of-way could add incrementally to those rights-of-way by a width of approximately 100 feet where the alignment is at grade and approximately 50 feet where the alignments are elevated. However, these additions would not change the function or interaction of adjacent land uses with new transportation land uses that arise from the Central Valley Wye alternatives. LU-IAMF#1 would facilitate coordination between local transit agencies, cities, the Authority, and FRA to develop connectivity to neighboring communities.

The Central Valley Wye alternatives vary in where they would deviate from existing transportation corridors, and the associated land conversion could result in the disruption of existing land use patterns, especially where agricultural parcels are severed by the alignments. The three SR 152 alternatives would maximize the use of existing transportation corridors as they would be adjacent to SR 152. The Avenue 21 to Road 13 Wye Alternative would not follow an existing major transportation corridor and would therefore affect the greatest amount of rural agricultural land uses, but would result in the least amount of impact on residential land uses (Table 3.13-8). The SR 152 (North) to Road 19 Wye Alternative would traverse the most miles of non-transportation land uses overall, 50.5 miles, as compared to the SR 152 (North) to Road 13 Wye Alternative with the fewest miles of non-transportation land uses traversed at 46.1 miles (Table 3.13-8).

Table 3.13-8 Miles of Land Use Types Traversed by Central Valley Wye Alternatives

Land Use Categories	SR 152 (North) to Road 13 Wye	SR 152 (North) to Road 19 Wye	Avenue 21 to Road 13 Wye	SR 152 (North) to Road 11 Wye
Agricultural	43.5	47.0	48.1	47.0
Commercial	0.1	0.1	0	0.2
Industrial	0.1	0.1	0	0.1
Public Utilities	0	0	<0.1	0
Residential	1.9	2.7	0.3	1.5
Water	0.5	0.6	0.7	0.5
Total	46.1	50.5	49.1	49.3

Sources: DOC, 2012; Merced County Assessor's Office, 2014; Madera County, 2015b
SR = State Route

Each of the Central Valley Wye alternatives would convert important farmland to a nonagricultural use. In addition, the alternatives would sever farmland parcels because portions of the alternatives and components of the design traverse areas that are not adjacent to transportation corridors, resulting in remnant parcels that, depending on their size, shape, access, and location, may become uneconomical to farm. Impacts from severance of agricultural parcels include disrupting agricultural activities and permanently restricting access across farm parcels. Implementation of the Central Valley Wye alternatives would change the land uses within each of the project footprints through the conversion of existing non-transportation land uses to a transportation use, but it would not cause an inherent incompatibility with adjacent land uses. Agricultural activities currently exist and can continue to operate along existing and future transportation corridors. Refer to Section 3.14 for more information about impacts on agricultural and important farmland.

No adjacent incompatibility would occur in relation with the EINU required for any of the alternatives. For Site 7—Wilson, 230 kV Tie-Line, based on industry standards regarding the footprint and distance of self-supporting lattice steel towers, permanent conversion of land use in Merced would likely be less than one acre, primarily on lands designated as manufacturing industrial. Although land uses associated with the project footprints would be permanently converted to electrical utility uses, current land uses could continue within the electrical right-of-way, thereby avoiding adjacent incompatible land uses. The expansion of the Site 6—El Nido, El Nido Substation by approximately 3 acres would occur adjacent to the existing El Nido Substation. Given that the expansion is localized and existing land uses around the substation could continue, implementation would not result in a change to the land use patterns in the RSA and would avoid adjacent incompatible land uses. The reconfiguration of the Site 7—Wilson, Wilson Substation would occur within the fence line of the existing substation; therefore, no conversion from the existing land use would occur such that land use patterns in the RSA would change. The Site 7—Le Grand Junction/Sandy Mush Road, Dutchman Switching Station and 115 kV Tie-Line would be new features requiring the acquisition of approximately 6 acres of land; however, these components are located within unincorporated Merced County, far from any city or community. Although agricultural land would be acquired, surrounding agricultural operations within the RSA would be able to continue to operate as they do under existing conditions. Therefore, the adjacent land uses would not change and there would be no incompatibility in adjacent land uses. Rural-residential and agricultural operations exist and would continue to exist within and around these EINU components.

One private school (Chowchilla Seventh-Day Adventist School), four public schools (Fairmead Elementary School, Alview Elementary School, Washington Elementary School, and El Capitan High School), and a day care (Fairmead Head Start) are located within 0.25 mile of the project footprints. As discussed in Section 3.4, Noise and Vibration, schools are considered a noise-sensitive land use and therefore could potentially be affected by construction and operations of the Central Valley Wye alternatives. At the Chowchilla Seventh-Day Adventist School, Fairmead Elementary School, Washington Elementary School, El Capitan High School, and Fairmead Head Start, no direct impacts, such as temporary or permanent acquisition of land from schools, would occur under any of the Central Valley Wye alternatives. Although Chowchilla Seventh-Day Adventist School is within the project footprint of the Avenue 21 to Road 13 Wye Alternative, it is within a farmland mitigation buffer; therefore, no temporary or permanent acquisition of land would result. At Alview Elementary School, a permanent utility easement would be required from school property under the Avenue 21 to Road 13 Wye Alternative; relocation of the school or any buildings would not be required. Although the Central Valley Wye alternatives would convert agricultural, residential, commercial, and industrial land uses (Table 3.13-7), they would not result in an incompatible land use with regard to schools because Chowchilla Seventh-Day Adventist School, Fairmead Elementary School, Washington Elementary School, El Capitan High School, and Fairmead Head Start are far enough away from the alternatives to avoid direct impacts. Under the Avenue 21 to Road 13 Wye Alternative, Alview Elementary School could be subject to incompatible uses by intensifying the transportation use of the area and increasing noise levels. The design of Central Valley Wye alternatives would include noise controls during construction to minimize noise levels for sensitive receptors (NV-IAMF#1). With these noise controls in place,

and the temporary nature of construction activities, long-term land use incompatibilities would be avoided. Additional analysis for potential impacts on schools is provided in Section 3.3, Air Quality and Global Climate Change; Section 3.2, Transportation; Section 3.4, Noise and Vibration; Section 3.5, Electromagnetic Fields and Electromagnetic Interference; Section 3.11, Safety and Security; Section 3.12, Socioeconomics and Communities; and, Appendix 3.12-C, Children's Health and Safety Risk Assessment.

CEQA Conclusion

The impact under CEQA would be less than significant because construction of the Central Valley Wye alternatives would require the permanent conversion of existing land uses to transportation-related use, but this would not result in adjacent incompatible land uses. This permanent conversion of land to transportation-related use would not cause an inherent incompatibility in land use because development and agricultural land uses currently exist and agricultural operations can continue to function adjacent to existing and future transportation corridors. Similarly, this permanent conversion of land would not directly or indirectly result in the introduction of incompatible land uses adjacent to existing schools. The design characteristics of the Central Valley Wye alternatives include coordination between local transit agencies, cities, the Authority, and FRA to develop connectivity to neighboring communities. As a result, a significant change in pattern or density of land use incompatible with adjacent land uses from construction and operations would not occur. Therefore, CEQA does not require any mitigation.

Operations Impacts

Operations of the Central Valley Wye alternatives would involve scheduled train travel along the HSR line through the Central Valley Wye alternatives. In addition, operations of the Central Valley Wye alternatives would include inspection and maintenance along the track and railroad right-of-way, as well as on structures, fencing, power system, positive train control, and communications. Operations and maintenance activities are described in Chapter 2. Operations of the Central Valley Wye alternatives would introduce new sources of noise and visual impacts within the RSA (discussed in Section 3.4 and Section 3.16, Aesthetics and Visual Resources, respectively). Existing land uses in the RSA are predominantly agricultural in unincorporated areas; this land use is less sensitive to the potential impacts of noise and visual changes than residential, park, and open space uses. In addition, the Central Valley Wye alternatives would parallel existing transportation and utility corridors, such as SR 152, in some areas that currently contribute sources of noise and visual impacts in the RSA. As a result, operations noise and visual impacts of the Central Valley Wye alternatives would not result in adjacent land use changes.

3.13.7 Mitigation Measures

Direct impacts including land conversion and reductions and restrictions in access to city centers resulting in permanent altered land use patterns would be mitigated with the objective of reducing these impacts. The Authority would implement the following mitigation measures:

- SO-MM#1: Implement Measures to Reduce Impacts Associated with the Division of Residential Neighborhoods (see Section 3.12.7 for details on this Mitigation Measure).
- SO-MM#2: Implement Measures to Reduce Impacts Associated with the Division of Communities (see Section 3.12.7 for details on this Mitigation Measure).
- AVR-MM#3: Incorporate Design Criteria for Elevated and Station Elements that Can Adapt to Local Context (see Section 3.16.7 for details on this Mitigation Measure).

3.13.8 Impacts Summary for NEPA Comparison of Alternatives

This section summarizes the impacts of the Central Valley Wye alternatives and compares them to the anticipated impacts of the No Project Alternative. Table 3.13-9 provides a comparison of the potential impacts of the Central Valley Wye alternatives, summarizing the more detailed information provided in Section 3.13.6, Environmental Consequences. A comparison of the impacts on land use and development of different Central Valley Wye alternatives follows Table 3.13-9.

Table 3.13-9 Comparison of Central Valley Wye Alternative Impacts

Impacts	SR 152 (North) to Road 13 Wye	SR 152 (North) to Road 19 Wye	Avenue 21 to Road 13 Wye	SR 152 (North) to Road 11 Wye
Construction				
Impact LU#1: Temporary Direct Impacts on Land Use Patterns Related to Areas Used for Construction				
Temporary use of land outside of the right-of-way (acres)	653	1,208	476	471
Impact LU#2: Temporary Indirect Impacts on Land Use Patterns Related to Construction Disruption	Construction of all Central Valley Wye alternatives could generate increased noise levels, dust, and other air pollutants, and traffic, and could result in temporary visual changes due to the presence of construction equipment. IAMFs would prevent hardships on affected residences, farms, or businesses adjacent to the project footprints that would cause people to relocate, change the use of their land, or abandon properties, which would preclude changes in the land use patterns outside of the permanent rights-of-way for all alternatives.			
Impact LU#3: Permanent Direct Impacts on Land Use Patterns				
Maximum amount of land use permanently converted to transportation or electrical utility uses (acres)	2,799	3,035	2,599	2,739
Amount of land identified in the draft <i>Fairmead Colony Area Plan</i> for future development permanently converted to transportation use (acres)	58	75	148	111
Impact LU#4: Permanent Indirect Impacts on Land Use Patterns Related to Road Closures				
Number of permanently closed roads	38	36	30	33
Number of overcrossings and undercrossings	24	29	28	24
Impact LU#5: Permanent Conversion of Existing Land Uses to Transportation or Electrical Utility Resulting in Adjacent Incompatible Uses				
The SR 152 (North) to Road 13 Wye Alternative, SR 152 (North) to Road 19 Wye Alternative, and SR 152 (North) to Road 11 Wye Alternative would each result in direct changes in specific land uses as a result of conversion of non-transportation land uses to a transportation use, however these alternatives would not result in land use incompatibilities. The Avenue 21 to Road 13 Wye Alternative would not result in land use incompatibilities.				
Direct impacts on existing land uses within Chowchilla planning boundaries (acres)	758	914	275	625
Miles of land converted to transportation uses	46.1	50.5	49.1	49.3
Operations and Maintenance				
Operations and maintenance of any of the Central Valley Wye alternatives would not result in continued changes to land use and development because permanent land use impacts and conversion would already have occurred during construction of the infrastructure for the Central Valley Wye alternatives.				

Source: Authority and FRA, 2018

As discussed in Chapter 2, under the No Project Alternative, development pressures resulting from an increasing population in Merced and Madera Counties would continue to lead to associated direct and indirect impacts on land use and development. The No Project Alternative is anticipated to result in a continuation of recent development trends that have led to the conversion of land to nonagricultural uses throughout the San Joaquin Valley. From 2008 to 2014, more than 4,300 acres of agricultural land were converted to nonagricultural uses in Merced and Madera Counties (DOC 2008, 2014). Chowchilla and the community of Fairmead would also continue to increase residential, commercial, and industrial developments. These trends are anticipated to continue under the No Project Alternative. Development under the No Project Alternative would result in similar types of impacts on land use and development as the Central Valley Wye alternatives. Planned residential, commercial, industrial, recreational, transportation, and agricultural projects would lead to impacts on land use and development from temporary and permanent construction activities, permanent conversion of existing land uses to transportation land uses, and indirect impacts on the compatibility of adjacent land uses.

The Merced to Fresno Final EIR/EIS concluded that development of the HSR system would result in potential impacts on land use and development. Implementing the Central Valley Wye alternatives could similarly result in impacts on land use and development from temporary and permanent construction activities, permanent conversion of existing land uses to transportation land uses, and indirect impacts from incompatibility with adjacent land uses.

The Central Valley Wye alternatives would incorporate IAMFs to reduce impacts on land use and development. These IAMFs would include coordination between local transit agencies, cities, the Authority, and FRA to develop connectivity to neighboring communities, restoring farmland to its prior condition, reducing traffic conflicts, and minimizing impacts involving air quality, noise control, and communications that could affect communities.

The Central Valley Wye alternatives could result in construction-related impacts on land use patterns through temporary use of land outside of the permanent right-of-way. Temporary direct use of land uses for the Central Valley Wye alternatives would range from 471 acres under SR 152 (North) to Road 11 Wye Alternative to 1,208 acres under SR 152 (North) to Road 19 Wye Alternative (Table 3.13-4 and Table 3.13-9). These temporary impacts would include disruptions to property access and neighborhoods and indirect impacts related to increased noise levels, dust and other air pollutants, traffic, and visual changes as well as by reducing access to irrigation ditches and causing potential crop damage on adjacent lands.

Construction of all the alternatives would result in permanent conversion of land that is not currently in transportation-related or electrical utility-related use, constituting a direct impact on land use and development patterns. The maximum amount of land permanently converted would range from 2,599 acres under the Avenue 21 to Road 13 Wye Alternative to 3,035 acres under the SR 152 (North) to Road 19 Wye Alternative (Table 3.13-6 and Table 3.13-9). Conversion of nonagricultural land uses would be least under the SR 152 (North) to Road 13 Wye Alternative and greatest under the SR 152 (North) to Road 19 Wye Alternative. Although land would be permanently converted, it would not cause adjacent incompatible uses.

Construction of any of the Central Valley Wye alternatives would require permanent closure of roads at selected locations and the construction of overcrossings or undercrossings in lieu of closure. The number of permanently closed roads would range from 30 under the Avenue 21 to Road 13 Wye Alternative to 38 under the SR 152 (North) to Road 13 Wye Alternative. The number of overcrossings and undercrossings would range from 24 under the SR 152 (North) to Road 13 Wye Alternative and SR 152 to Road 11 Wye Alternative to 29 under the SR 152 (North) to Road 19 Wye Alternative. New grade-separated interchanges (overcrossings and undercrossings) would be provided at intervals of approximately every 2 miles, which would reduce traffic delay and improve the safety of the intersections for motorists, bicyclists, and pedestrians. Additional travel required to cross the new grade-separated HSR system would not be enough of a change relative to existing conditions that it would result in the abandonment of properties, the closure of a large number of businesses, or a resulting impact on land use patterns or compatibility with adjacent land uses.

Construction of the Central Valley Wye alternatives would result in permanent conversion of land that is not currently in transportation-related or electrical utility-related use. Construction of the Central Valley Wye alternatives adjacent to or near existing transportation and electrical utility facilities would minimize but not completely avoid changes to existing land uses patterns, and could affect adjacent development patterns due to land uses that are incompatible with transportation uses.

The Central Valley Wye alternatives would result in impacts on existing land uses within Chowchilla's planning areas, ranging from 275 acres for the Avenue 21 to Road 13 Wye Alternative to 914 acres for the SR 152 (North) to Road 19 Wye Alternative. The Central Valley Wye alternatives would also permanently convert land to transportation uses within the draft *Fairmead Colony Area Plan* planning area and, as a result, could directly affect this community and create incompatible uses. The Avenue 21 to Road 13 Wye Alternative would directly affect the most land within the draft *Fairmead Colony Area Plan* planning area: approximately 148 acres, of which 117 acres (79 percent) are agricultural lands and 31 acres (21 percent) are development lands (Table 3.13-7) and the SR 152 (North) to Road 13 Wye Alternative would affect the least amount of land in the draft *Fairmead Colony Area Plan* planning area: approximately 58 acres, of which 50 acres (86 percent) are agricultural lands and 8 acres (14 percent) are development lands. The SR 152 (North) to Road 13 Wye Alternative, SR 152 (North) to Road 19 Wye Alternative, and SR 152 (North) to Road 11 Wye Alternative each would result in direct changes in specific land uses as a result of conversion of non-transportation land uses to a transportation use; however, these alternatives would not result in land use incompatibilities.

The features of the Central Valley Wye alternatives minimize the extent to which agricultural lands would be converted to nonagricultural uses and reduce or mitigate impacts on adjacent agricultural land uses (see Section 3.14), which would prevent incompatible land uses. The three SR 152 alternatives would be adjacent to SR 152 and, therefore, would maximize the use of existing transportation corridors. The Avenue 21 to Road 13 Wye Alternative would not follow an existing major transportation corridor and would affect the greatest amount of rural agricultural land uses; however, it would result in the least amount of impacts on residential land uses (Table 3.13-8). The SR 152 (North) to Road 19 Wye Alternative would traverse the most miles of non-transportation land uses overall, 50.5 miles, as compared to the SR 152 (North) to Road 13 Wye Alternative, with the fewest miles of non-transportation land uses traversed at 46.1 miles (Table 3.13-8).

3.13.9 CEQA Significance Conclusions

Table 3.13-10 provides a summary of the CEQA determination of significance for all construction and operations impacts discussed in Section 3.13.6. If there are differences in impacts before or after mitigation between the four Central Valley Wye alternatives, it is noted in the table. Where there is no difference in the CEQA level of significance before and after mitigation for a particular impact, the level of significance for that impact is the same for all Central Valley Wye alternatives.

Table 3.13-10 CEQA Significance Conclusions for Land Use and Development for the Central Valley Wye Alternatives

Impacts	CEQA Level of Significance before Mitigation	Mitigation Measure	CEQA Level of Significance after Mitigation
Construction			
Impact LU#1: Temporary Direct Impacts on Land Use Patterns Related to Areas Used for Construction	Less than significant for all alternatives	No mitigation measures are required	Not applicable
Impact LU#2: Temporary Indirect Impacts on Land Use Patterns Related to Construction Disruption	Less than significant for all alternatives	No mitigation measures are required	Not applicable
Impact LU#3: Permanent Direct Impacts on Land Use Patterns	Significant: Permanent direct impacts on land use patterns would occur for the following Central Valley Wye alternatives: SR 152 (North) to Road 13 Wye SR 152 (North) to Road 19 Wye SR 152 (North) to Road 11 Wye	SO-MM#1: Implement Measures to Reduce Impacts Associated with the Division of Residential Neighborhoods SO-MM#2: Implement Measures to Reduce Impacts Associated with the Division of Communities AVR-MM#3: Incorporate Design Criteria for Elevated and Station Elements that Can Adapt to Local Context	Less than significant for SR 152 (North) to Road 13 Wye, SR 152 (North) to Road 19 Wye, and SR 152 (North) to Road 11 Wye alternatives.
	Less than significant for the Avenue 21 to Road 13 Wye Alternative	No mitigation measures are required	Not applicable
Impact LU#4: Permanent Indirect Impacts on Land Use Patterns Related to Road Closures	Less than significant for all alternatives	No mitigation measures are required	Not applicable
Impact LU#5: Permanent Conversion of Existing Land Uses to Transportation or Electrical Utility Resulting in Adjacent Incompatible Uses	Less than significant for all alternatives	No mitigation measures are required	Not applicable

Source: Authority and FRA, 2018