

3.18 Regional Growth

The analysis in this section evaluates whether the California High-Speed Rail (HSR) Palmdale to Burbank Project Section would cause employment and/or population growth that substantially exceeds regional projections or planned growth. All six Build Alternatives would have similar construction costs and identical ridership projections, would result in similar near- and long-term regional growth, and would not result in substantial increased land use consumption due to long-term induced population growth. California Environmental Quality Act (CEQA) thresholds related to regional growth effects are addressed in Section 3.12, Socioeconomics and Communities, and Section 3.13, Station Planning, Land Use, and Development.

Regional Growth

In the context of transportation projects, a regional growth analysis examines whether a project could directly and/or indirectly exceed projected population and job growth in a given area.

3.18.1 Introduction

This section discusses the regional growth effects of the six Build Alternatives by analyzing regional employment and population growth trends to determine how the Build Alternatives could directly or indirectly influence these trends.

Population and employment growth are closely linked to land use regulations and economic activity, as analyzed in the following sections:

- Section 3.12, Socioeconomics and Communities, analyzes effects on community cohesion, displacement and relocation, children’s health, and economic impacts.
- Section 3.13, Station Planning, Land Use, and Development, discusses how land use development is addressed in local government regulations, as well as regional and local goals to encourage increased development density and HSR station area planning.
- Section 3.19, Cumulative Impacts, discusses effects associated with the six Build Alternatives plus other past, present, and reasonably foreseeable future projects.
- Chapter 6, Project Cost and Operations, provides assumptions regarding project capital costs including construction costs, train operations, maintenance of infrastructure, station and train cleaning, and general and administrative activities.

Appendix 3.18-A, RIMS II Modeling Details, provided in Volume 2, presents the detailed results of the Regional Input-Output Modeling System (RIMS II) modeling analysis supporting the analysis presented in this section. The RIMS II modeling performed in support of the construction analysis for evaluating regional growth is based on a set of capital cost estimates that have since been revised and adjusted between approximately 4% and 10% less (average of -6.6%). These revisions are relatively small and do not change the overall impact conclusions of the Palmdale to Burbank Draft EIR/EIS. Appendix C of the Palmdale to Burbank Project Section Community Impact Assessment (California High-Speed Rail Authority [Authority] and Federal Railroad Administration [FRA] 2019b) provides further detailed information on population and employment growth related to the Palmdale to Burbank Project Section, information about the investigation process, and a complete overview of pertinent elements of the affected environment.

In addition, the following appendices provide more detailed information:

- Appendix 2-E, Impact Avoidance and Minimization Features (IAMFs), lists IAMFs included as applicable in each of the Build Alternatives for purposes of the environmental impact analysis.
- Appendix 2-H, Regional and Local Policy Consistency Analysis, provides a Regional and Local Policy Consistency Table, which lists the regional growth goals and policies applicable to the Palmdale to Burbank Project Section and notes the six Build Alternatives consistency or inconsistency with each.

- Appendix 3.1-B, Unites States Forest Service (USFS) Policy Consistency Analysis, assesses the consistency of the Palmdale to Burbank Project Section with applicable laws, regulations, plans, and policies governing proposed uses and activities within the Angeles National Forest (ANF) including the San Gabriel Mountains National Monument (SGMNM).
- Appendix 6-B, Palmdale to Burbank Project Section: Preliminary Engineering for Project Definition (PEPD) Record Set Capital Costs Estimate Report (Authority 2022), presents the capital cost estimating methodology and summary of capital cost estimates.

The *Final Program Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Proposed California High-Speed Train System* (Authority and FRA 2005) concluded that the California HSR System would result in a small amount of induced population and employment growth statewide.

In 2012, the Authority prepared an economic study that provides updated information on the longer-term economic impacts of the California HSR System. The *California High-Speed Rail Project Economic Impact Analysis Report* (Authority 2012) explains:

In California, HSR has the potential to help create a new economic geography. In the past, the Los Angeles and San Francisco Bay Area metropolitan areas have acted as prominent but generally separate economic engines. However, adding HSR to the state's transportation network will create new opportunities for collaboration and innovation that are currently more difficult to achieve. High-speed rail will increase productivity and specialization by giving businesses access to larger labor markets. Larger labor pools lead to better matching of skills, which means that firms are better able to find workers with the right qualifications.

According to the *California High-Speed Rail and the Central Valley Economy Report* (Parsons Brinckerhoff 2015), construction of the California HSR System would directly employ thousands of Californians, with many of these jobs being created in Los Angeles County. Additionally, when the California HSR System extends from the San Francisco Bay Area to the Los Angeles basin, Los Angeles County would be linked to the state's other major metropolitan economies with fast, frequent, and reliable HSR service. Over time, enhanced connectivity and improved access to other prosperous economic mega-regions would lead to economic benefits for the region.

3.18.1.1 Definition of Resources

The following are definitions related to regional growth analyzed in this Draft EIR/EIS:

- **Employment** is the number of jobs in the Resource Study Area (RSA) that may be held by persons who may reside inside or outside the RSA and commute to jobs in the RSA. Increases in employment depend on increased demand for products and services from residents and businesses that may or may not be located in the RSA. As such, potential regional growth relating to the six HSR Build Alternatives would be caused by the increased demand for direct, indirect, and induced construction and operations jobs. Employment growth refers to temporary and permanent jobs that would be created either directly or indirectly by the HSR Build Alternatives during construction or operation.
- **Population** refers to the number of residents living in the RSA. Population increase is based on births, in-migration, out-migration, and deaths occurring within the RSA. This analysis presents population projections for the RSA to 2040 for the No Project Alternative and estimates the impact of the six HSR Build Alternatives on population growth during construction and operation.
- **Housing** considers the available units of housing in the RSA under the six HSR Build Alternatives and the No Project Alternative to determine if sufficient housing is anticipated to be available to meet projected demand from population growth.

3.18.2 Laws, Regulations, and Orders

3.18.2.1 Federal

NEPA Requirements to Analyze Growth

The Council on Environmental Quality (CEQ) regulations, which implement the National Environmental Policy Act of 1969 as amended (NEPA), require evaluation of the potential environmental consequences of all proposed federal activities and programs. This provision includes a requirement to examine both direct and indirect consequences that may occur in areas beyond the immediate influence of a Build Alternative and at some time in the future. Positive and negative growth (that is, change) is a potential consequence of the six Build Alternatives. Direct growth effects are those caused by the six Build Alternatives occurring at the same time and place (40 Code of Federal Regulations [C.F.R.] 1508.08). Direct growth effects include any permanent jobs directly associated with the six Build Alternatives, as well as any displacement of housing related to the construction and operations of the proposed rail facilities. Indirect growth effects are considered to be reasonably foreseeable effects caused by the six Build Alternatives, typically occurring later in time or farther in distance from the project (40 C.F.R. 1502.15(b) and 1508(b)). These include positive or negative growth in population numbers or patterns, positive or negative growth in local or regional economic vitality, and associated alterations in land use patterns that could occur with implementation of the California HSR System. Removal of existing obstacles to growth would also be considered an indirect growth effect. "Removal of obstacles to growth" would include the extension of public services and utilities to a previously undeveloped area where the provision of such services could cause a foreseeable increase in population or economic growth.

FRA Procedures for Considering Environmental Impacts (64 Federal Register 28545)

The FRA *Procedures for Considering Environmental Impacts* (FRA 1999) states that "the EIS should identify any significant changes likely to occur in the natural environment and in the developed environment. The EIS should also discuss the consideration given to design quality, art, and architecture in project planning and development as required by United States Department of Transportation Order 5610.4."

Section 16(n)(16) of these FRA procedures states that an EIS should consider possible impacts on the socioeconomic environment (such as the number and kind of available jobs, the potential for community disruption or cohesion, the possibility of demographic shifts, impacts on local government services and revenues, the need for and availability of relocation housing, and impacts on commerce, including existing business districts, metropolitan areas, and the immediate area of the project alternative).

United States Forest Service Authorities

Regional growth within the ANF, including the SGMNM, are guided by several federal laws and their implementing regulations, as well as policies, plans, and orders. The primary laws governing regional growth are the Federal Land Policy and Management Act, the National Forest Management Act, and the Antiquities Act of 1906. Appendix 3.1-B, USFS Policy Consistency Analysis, provides an analysis of project consistency of the six Build Alternatives with these laws, regulations, policies, plans, and orders.

3.18.2.2 State

California Environmental Quality Act Requirements to Analyze Growth

Section 15126.2(e) of the CEQA Guidelines (14 California Code of Regulations Section 15000–15387) mandates that an EIR evaluate the potential growth-inducing impacts of a proposed project. An EIR must discuss the ways in which the project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. A project that removes an obstacle to growth would have an indirect growth-inducing effect, whereas a project that would construct new housing would have a direct growth-

inducing effect. The CEQA Guidelines emphasize that “it must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.”

Sustainable Communities and Climate Protection Act of 2008 (Senate Bill 375)

The Sustainable Communities and Climate Protection Act of 2008 requires California’s 18 metropolitan planning organizations (MPO) to adopt a sustainable communities strategy (SCS) or alternative planning strategy (APS) as part of their regional transportation plans. The purpose of the SCS or APS is to reduce greenhouse gas emissions from automobiles and light trucks within each region to meet emissions targets set by the California Air Resources Board.

The Southern California Association of Governments (SCAG) covering six counties in the Los Angeles metropolitan area is the MPO that encompasses the regional growth RSA. SCAG’s emissions reduction targets are intended to reduce regional emissions by 8 percent per capita by 2020 and by 13 percent per capita by 2035. On April 7, 2016, SCAG set forth a plan to achieve these targets in adopting the *2016–2040 Regional Transportation Plan/Sustainable Communities Strategy: A Plan for Mobility, Accessibility, Sustainability, and a High Quality of Life* (SCAG 2016 RTP/SCS) (SCAG 2016). The SCAG 2016 RTP/SCS is discussed further in Section 3.18.2.3.

Pursuant to California Government Code 65080(b)(2)(B), the SCS will:

- (i) *Identify the general location of uses, residential densities, and building intensities within the region.*
- (ii) *Identify areas within the region sufficient to house all the population of the region, including all economic segments of the population, over the course of the planning period of the regional transportation plan, taking into account net migration into the region, population growth, household formation, and employment growth.*
- (iii) *Identify areas within the region sufficient to house an 8-year projection of the regional housing need for the region pursuant to section 65584.*
- (iv) *Identify a transportation network to service the transportation needs of the region.*
- (v) *Gather and consider the best practically available scientific information regarding resource areas and farmland in the region, as defined in subdivisions (a) and (b) of section 65080.01.*
- (vi) *Consider the state housing goals specified in sections 65580 and 65581.*
- (vii) *Set forth a forecasted development pattern for the region, which, when integrated with the transportation network, and other transportation measures and policies, will reduce the greenhouse gas emissions from automobiles and light trucks to achieve, if feasible, the greenhouse gas emission reduction targets approved by the state board.*
- (viii) *Allow the regional transportation plan to comply with Section 176 of the federal Clean Air Act (42 United States Code 7506).*

The RTP/SCS identifies the region’s transportation needs, including specific projects to meet those needs, and establishes the basis for distributing federal, state, and local funding to implement those projects. Senate Bill 375 is intended to require the MPOs to direct transportation funding toward investments that would reduce greenhouse gas emissions and away from investments that would not.

Senate Bill 375 grants no new land use powers to the MPOs. However, to meet the assigned emissions reduction targets, the SCS or APS is expected to call for more-compact development patterns that can be served by transit and other modes of transportation. These development patterns will be encouraged by the requirement that the SCS or APS both reduce greenhouse gas emissions (which are linked to vehicle miles traveled) and plan to accommodate regional housing needs (which are expected to continue to increase). Pursuant to Senate Bill 375, MPOs

are expected to work with city and county authorities responsible for adopting general plans to guide community development, including by adopting housing elements as described below.

State law mandates that preparation of the SCS and the ability of each SCS to meet the emissions reduction target for the SCAG area must be reviewed and approved by the California Air Resources Board. If implementation of the SCS would not meet the target, the MPO must adopt an APS that would. However, the APS is not a required component of the regional transportation plan, and therefore would be less likely to be implemented.

2015 State Environmental Goals and Policies

In November 2015, the State of California published *A Strategy for California @ 50 Million, the Governor's Environmental Goals and Policy Report* (EGPR; California Office of Planning and Research 2015). This report updates the 1978 *An Urban Strategy for California* (California Office of Planning and Research 1978), the last EGPR prepared and adopted. Assembly Bill 2070 (1970) directed the Governor's Office of Planning and Research to prepare and maintain an EGPR. The goals and objectives of the EGPR focus on land use, population growth and distribution, conservation of natural resources, and air and water quality. The 2015 EGPR broadens the scope of the goals and objectives to the state as a whole, not only to urban areas.

Achieving sustainable growth in California with 50 million residents requires a clear plan of action and sustained effort. The 2015 EGPR outlines five important goals:

- Increase the share of renewable energy in the state's energy mix to at least 50 percent by 2030
- Reduce petroleum use by up to 50 percent by 2030
- Increase the energy efficiency of existing buildings by 50 percent by 2030
- Reduce emissions of short-lived climate pollutants
- Steward natural resources, including forests, working lands, and wetlands, to ensure that they store carbon, are resilient, and enhance other environmental benefits

To achieve these long-term goals, California must implement effective growth management strategies that would require integrated actions that promote multiple benefits. The State Planning Priorities identify infill development in previously developed areas as the top priority for new development. To meet this priority, the EGPR includes additional state actions needed to support infill development, including specific transportation actions, which include the following:

- Develop a priority order for state transportation investment that includes investments in public transportation and other modes that are alternatives to single-occupant vehicles.
- Enhance support for infill development and transit-oriented development in communities along the HSR corridor. In particular, the State will prioritize investment in infill development and transit-oriented development in these communities and fund projects that promote California HSR System ties to, and support for, local public transportation systems.

California Housing Element Law (1969)

Since 1969, California has required that all local governments (cities and counties) adequately plan to meet the housing needs of everyone in the community. California's local governments meet this requirement by adopting housing plans as part of their general plan (also required by the State). General plans serve as the local government's blueprint for how the city and/or county will grow and develop and include seven elements: land use, transportation, conservation, noise, open space, safety, and housing.

California's housing element law acknowledges that, in order for the private market to adequately address the housing needs and demand of Californians, local governments must adopt plans and regulatory systems that provide opportunities for (and do not unduly constrain) housing development. As a result, housing policy in California rests largely on the effective implementation of local general plans and, in particular, local housing elements. The housing

element must demonstrate how the assigned housing need can be achieved through new construction, rehabilitation, or other means; the housing need includes specific allotments for low-income and very-low-income housing. Furthermore, the Regional Housing Needs Assessment (RHNA) is mandated by state housing law as part of the periodic process of updating local housing elements of the general plan, which quantifies the need for housing within each jurisdiction during specific planning periods.

3.18.2.3 Regional and Local

The following sections describe regional and local plans and policies related to regional growth relevant to the six Build Alternatives. The discussion of growth contained within this section is focused at the regional level.

Regional and Local Transportation Plans

2016–2040 Regional Transportation Plan/Sustainable Communities Strategy for Southern California

The SCAG 2016–2040 RTP/SCS is a long-range transportation plan that is developed and updated by SCAG every 4 years (SCAG 2016). It provides a vision for transportation investments for the six-county SCAG region, which includes Los Angeles, Orange, Riverside, San Bernardino, Ventura, and Imperial Counties. The SCS is a newly required element of the RTP that integrates land use and transportation strategies. Using growth forecasts and economic trends that project out through 2040, the RTP considers the role of transportation in the broader context of economic, environmental, and quality-of-life goals for the future. SCAG is involved with setting forth policies and strategies for transportation and regional growth throughout the region. Regional growth policies comprise the following:

- Developing long-range regional plans and strategies that provide for efficient movement of people, goods, and information; enhance economic growth and international trade; and improve the environment and quality of life.
- Providing quality information services and analysis for the region
- Using an inclusive decision-making process that resolves conflicts and encourages trust
- Creating an educational and work environment that cultivates creativity, initiative, and opportunity

To meet the challenge of an increasing population and transportation congestion, SCAG is planning intercity and interregional mobility improvements in collaboration with various state and regional stakeholders, including the Authority. SCAG, along with Metrolink, San Diego Association of Governments, the Los Angeles County Metropolitan Transportation Authority (Metro), the Riverside County Transportation Commission, and the City of Anaheim, entered into a Memorandum of Understanding with the Authority in 2012 to strengthen the working relationship between the Authority and SCAG to facilitate the development and implementation of passenger rail improvements that would improve local passenger rail service and operations, while preparing designated HSR corridors for eventual HSR operation to achieve regionwide systems integration of rail service in the SCAG area. The 2016–2040 RTP/SCS (SCAG 2016) includes programmed funding several projects to improve connectivity with future HSR infrastructure.

Antelope Valley Transit Authority Comprehensive Long-Range Transit Plan

The Antelope Valley Transit Authority is a Joint Powers Authority formed pursuant to California Government Code 6500 between Los Angeles County and the cities of Palmdale and Lancaster to provide transit services to the Antelope Valley region. The Antelope Valley Transit Authority maintains a long-range transit plan (Antelope Valley Transit Authority 2010), which identifies future transit needs for local Palmdale and Lancaster services, dial-a-ride services, and commuter connections with the city of Los Angeles. This plan was adopted in 2010. The long-range plan

includes the California HSR System for potential connection with a future bus rapid transit route and potential opportunity to pursue a locally based approach by advocating for a dedicated local tax.

Los Angeles County Metropolitan Transportation Authority Long Range Transportation Plan

The Metro Long Range Transportation Plan (Metro 2009) seeks to improve mobility, stimulate the local economy, and create jobs by providing alternative modes of travel to driving. As such, the plan supports continued investment in the bus system while also expanding the rail system by building 15 major transit corridor projects. In addition, the plan looks to address highway travel challenges by investing in improvements such as new carpool lanes. Other topics discussed in the plan include investments in arterial capacity and speed, transit operations, highway maintenance, bicycle and pedestrian improvements, carpool programs, transit services for the disabled, and support for the California HSR System.

Local Plans and Policies

Adopted local land use plans establish the extent, intensity, and pattern of future land uses within their planning areas. Table 3.18-1 lists the adopted local plans related to land use development.

Table 3.18-1 Summary of Regional, County, and City General Plans, Area Plans, Specific Plans, and Community Plans

Policy Title	Policy Summary
Los Angeles County	
Los Angeles County General Plan 2035 (2015) – Land Use Element and Mobility Element	<p>The <i>Los Angeles County General Plan</i> employs a regional strategy to guide growth toward more efficient and sustainable land use patterns that address climate change, mobility, and community development.</p> <p>The Land Use Element’s general conditions and standards for development clarify the general plan policy regarding regional land use and guide the decision-making process in the absence of applicable community-level planning.</p> <p>The Mobility Element includes specific policies and regional initiatives to support and improve the linkage of regional and community-level transportation systems and improve the efficiency of the public transportation system.</p> <p>Neither element discusses HSR.</p>
Santa Clarita Valley Area Plan Update – One Valley, One Vision (2012)	<p>This plan is a component of the <i>Los Angeles County General Plan</i>, providing goals and policies that guide future development and growth in the unincorporated areas of the Santa Clarita Valley. The Land Use, Conservation Space, and Open Space Elements of the Santa Clarita Valley Area Plan mimic those contained in Santa Clarita’s general plan. This coordinated effort is part of the “One Valley, One Vision” planning and policy guidance. The 2012 update includes policies encouraging the integration of the California HSR System with regional rail systems in the Santa Clarita Valley.</p>
City of Palmdale	
Palmdale General Plan (1993) – Land Use Element	<p>The Land Use Element addresses the rapid growth and resulting development patterns that have occurred in Palmdale and establishes a framework for focusing future growth in a logical manner. Issues on growth pattern and future growth have been addressed in all elements of the general plan. The document includes HSR in its long-range planning in its Circulation Element and includes policies supporting the connection of the Palmdale Regional Airport to the Los Angeles International Airport via HSR.</p>

Policy Title	Policy Summary
City of Santa Clarita	
City of Santa Clarita General Plan (2011) – Land Use Element, Circulation Element, and Conservation and Open Space Element	<p>The Land Use Element identifies goals and policies for promoting regional economies and regional commercial uses and enhancing regional parks and trail facilities. It also discusses meeting the challenges of regional growth.</p> <p>The Circulation Element plans for the continued development of efficient, cost-effective, and comprehensive transportation systems that are consistent with regional plans. This element includes policies supporting HSR planning.</p> <p>The Conservation and Open Space Element contains policies that aim to protect and enhance regional natural resources and recreational facilities.</p>
Canyon Park Specific Plan (1986)	This plan guides development over 988 acres of land straddling State Route 14 south of the Santa Clara River. The primary goal of this plan is to create a variety of residential, commercial, industrial, and open space uses. This plan does not discuss HSR.
City of Los Angeles	
Los Angeles General Plan (1996) – Mobility Element	<p>This plan consists of 11 elements that apply citywide, and a land use plan for each of the 35 community plan areas in the city. The plan sets forth a conceptual relationship between land use and transportation on a citywide basis.</p> <p>The Mobility Element (last updated in 2016) recognizes the collaborative approach for an effective regional transportation system. It discusses specific policies to promote regional transportation modes and improve the regional transit connections. The Mobility Element anticipates HSR as a project with an unknown timeline.</p>
Sylmar Community Plan (2012)	This community plan is part of the City of Los Angeles General Plan. The plan was developed in the context of promoting a vision in the Sylmar area as a community that maximizes the development opportunities of the future rail transit system and supports intermodal mass transportation planning to implement linkages to future rail service. The community plan does not discuss HSR.
Sun Valley-La Tuna Canyon Community Plan (1999)	This community plan is part of the City of Los Angeles General Plan. The plan covers approximately 17 square miles of land. The larger land use areas include single-family dwelling units, open space, and industrial space. The community plan does not discuss HSR.
Sunland-Tujunga-Lake View Terrace-Shadow Hills-East La Tuna Canyon Community Plan (1997)	This community plan is part of the City of Los Angeles General Plan. The planning area is predominantly composed of open space/vacant land with low-density residential stretching across the center and a small corridor of commercial land, with concentrations of multi-family residential intermixed with commercial uses near Foothill Boulevard. The plan contains policies to protect open space from incompatible uses as well as to preserve single-family residential neighborhoods. The community plan does not discuss HSR.

Policy Title	Policy Summary
City of Burbank	
Burbank 2035 General Plan (2013) – Land Use Element and Mobility Element	<p>The general plan area contains a mix of land uses including residential, commercial, industrial, open space, institutional, airport, and right-of-way purposes. The Land Use Element contains policies for enhancing the regional commercial centers that contribute to the local and regional economic vitality.</p> <p>The Mobility Element describes a comprehensive public transit network to address vehicle congestion and limited road capacity. The general plan recognizes that transit will increasingly be used to meet mobility needs, and a well-connected transit network with good regional connections and connections to other modes of travel (such as bicycle and pedestrian) can compete favorably with the private automobile in convenience, travel time, and cost. The general plan also states that Burbank will rely on a number of regional public transit networks to provide transit services within the city. Because of this dependence on outside agencies, regional cooperation is crucial to ensure that the transit network operates effectively. Providing seamless transfers between different transit agencies requires cooperation and is a critical step in providing a viable transit alternative. In addition, collaboration is needed to ensure the necessary construction and expansion of regional rail, bus, and light rail systems. Operating within the greater Los Angeles region, Burbank will actively seek partnerships with regional agencies to offer transit that serves the City and the region.</p> <p>The general plan recognizes that Burbank is located along the proposed HSR corridor, and states that this service is intended to offer an alternative to air travel, with travel times between Los Angeles and San Francisco forecasted to be less than 3 hours. The recommended statewide HSR corridor follows the existing Union Pacific/Metrolink right-of-way through Burbank. The general plan further states that the City supports this proposed location and will work with the Authority to ensure the mitigation of impacts and the construction of adequate connections to the local street and transit networks.</p>

Sources: City of Burbank, 2013; City of Lancaster, 2009; City of Los Angeles, 1996, 1997a, 1997b, 1999; City of Palmdale, 1993, 2006, 2007; City of Santa Clarita, 1986, 2011; Los Angeles County, 2012, 2015
 HSR = high-speed rail

3.18.3 Consistency with Plans and Laws

As indicated in Section 3.1.4.3, Consistency with Plans and Laws, the California Environmental Quality Act (CEQA) and the Council on Environmental Quality (CEQ) regulations require a discussion of inconsistencies or conflicts between a proposed undertaking and federal, state, regional, or local plans and laws. As such, this Draft EIR/EIS evaluates inconsistencies between the six Build Alternatives and federal, state, regional, and local plans, and laws to provide planning context.

The Authority, as the lead state and federal agency proposing to construct and operate the California 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 Build Alternative. Therefore, there would be no inconsistencies between the six Build 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 consistent with land use and zoning regulations. The Authority has also adopted statewide policies that seek to reduce regional growth impacts associated with new sources of short-term and long-term regional employment and population growth.

Appendix 2-H provides a Regional and Local Policy Consistency Table, which lists the regional growth goals and policies applicable to the Palmdale to Burbank Project Section and notes the Build Alternative consistency or inconsistency with each. The Authority reviewed 10 plans. The Refined SR14, SR14A, E1, and E1A Build Alternatives are consistent with all 16 policies

considered; the E2 and E2A Build Alternatives are consistent with 15 policies and inconsistent with one of the policies considered. The policy with which the E2 and E2A Build Alternatives is inconsistent is discussed below:

- **Policy 1-1.4 (Sunland-Tujunga-Lake View Terrace-Shadow Hills-East La Tuna Canyon Community Plan)**—The City of Los Angeles should promote neighborhood preservation in existing residential neighborhoods.
 - **Inconsistent for the E2 and E2A Build Alternatives.** Wherever possible, project features would use existing roads and previously developed areas, thereby minimizing inconsistent land uses. However, the E2 and E2A Build Alternatives would cross through residential neighborhoods (Lake View Terrace and Shadow Hills) and convert existing residential uses to transportation use to accommodate construction staging, rail alignment, utility easement, and access. Therefore, the E2 and E2A Build Alternatives would be inconsistent with this policy. However, the Refined SR14, SR14A, E1, and E1A Build Alternatives are consistent with this policy. Project features would preserve neighborhoods by using existing roads and previously developed areas wherever possible. The Refined SR14, SR14A, E1, and E1A Build Alternatives would not divide any neighborhoods in this planning area because the alignment would not pass at grade through residential areas. Therefore, these four Build Alternatives would be consistent with this policy.

Despite the inconsistency above, the project is consistent with the majority of regional and local policies and plans. Although it may not be possible to meet all local regional growth standards as outlined in Table 3.18-1, regional growth effects from the project would be limited or beneficial and would ultimately meet the overall objectives of the local policies.

3.18.4 Methods for Evaluating Impacts

NEPA and CEQA require the evaluation of impacts on regional growth. The following sections summarize the regional growth RSA and the methods used to analyze regional growth effects.

3.18.4.1 Definition of Resource Study Area

As defined previously in Section 3.1, Introduction, RSAs are the geographic boundaries in which the environmental investigations specific to each resource topic were conducted. Regional growth impacts would stem from activities taking place along the Palmdale to Burbank Project Section corridor (i.e., the area encompassing the six potential Build Alternative footprints), but also would affect the broader region. To capture employment and population growth induced by the Palmdale to Burbank Project Section on both a regional and localized level, the RSA for regional growth is the entirety of Los Angeles County. Short-term construction impacts are identified for the RSA, as well as the long-term induced employment and population affecting the RSA. Estimated construction costs include the Palmdale Station and Maintenance Facility, as well as employment estimates presented in this chapter. However, these facilities and their associated effects are evaluated as part of the Bakersfield to Palmdale Project Section EIR/EIS. County-level information is important for the land use consumption analysis, which considers the sub-county land use development trends. Within the RSA, consideration is given to those cities and unincorporated areas that intersect with the Palmdale to Burbank Project Section corridor.

3.18.4.2 Impact Avoidance and Minimization Features

IAMFs are project features the Authority has incorporated into each of the six Build Alternatives for purposes of the environmental impact analysis. The full text of the IAMFs that are applicable to the Palmdale to Burbank Project Section is provided in Volume 2, Appendix 2-E, Impact Avoidance and Minimization Features. There are no IAMFs specific to regional growth.

3.18.4.3 Methods for NEPA and CEQA Impact Analysis

This section describes the sources and methods the Authority used to analyze project impacts of each of the six Build Alternatives on regional growth. These methods apply to both NEPA and CEQA analyses unless otherwise indicated. Refer to Section 3.1.4.4, Methods for Evaluating Impacts, in Section 3.1, Introduction, for a description of the general framework for evaluating impacts under NEPA and CEQA. The introduction of additional workers and their families into communities within the RSA is an important consideration because of the potential increase in demand for public services, which could necessitate the development of new or improved government and public facilities. The objective of the impact analysis is to evaluate whether or not the California HSR System would cause regional growth substantially beyond what is already projected for the region.

This analysis presents a regional perspective of anticipated project impacts. Regional growth impacts of the six Build Alternatives would come from three primary sources: (1) initial project construction phase; (2) project operations and maintenance (O&M) phase on an ongoing annual basis; and (3) economic growth effects associated with improvements to accessibility caused by the California HSR System operations. The approaches taken to estimate impacts resulting from these three sources of employment growth are summarized below, based on construction-related impacts and O&M-related impacts. Short-term construction employment growth could occur with implementation of any of the HSR Build Alternatives. The location of such growth is difficult to predict. Growth would occur in areas considered convenient for workers to commute, but some workers may choose to commute long distances (see Section 3.18.5.1 for a discussion of typical commute times in the RSA). Long-term (O&M) employment and population growth caused by the Palmdale to Burbank Project Section would most likely be generally focused in the station areas in Palmdale and Burbank and the Maintenance Facility in Lancaster. This is because the stations and Maintenance Facility would be the primary drivers of long-term employment. All six Build Alternatives would be expected to cause regional growth effects in the same general locations. Accordingly, at the regional scale, the six Build Alternatives would be similar in terms of effects on regional growth. Therefore, the long-term operations impacts analysis compares the Palmdale to Burbank Project Section, regardless of which Build Alternative is implemented, against the No Project Alternative. However, because project construction cost data were available for each of the six Build Alternatives, short-term job creation estimates for construction are presented by Build Alternative.

If the regional labor force cannot provide enough workers, it is reasonable to assume any short-term or long-term employment gains caused by project construction, O&M, and improved accessibility also may result in some degree of population increase. The impacts of such population growth and land use consumption associated with such growth are summarized below. A discussion of the methodology used in this analysis is included in Appendix 3.18-A, RIMS II Modeling Details (Authority 2017).

The methodology presented in this section applies to both NEPA and CEQA. The analysis focuses on employment and associated population growth from construction and operations of the six Build Alternatives. CEQA thresholds related to impacts caused by regional growth are addressed in Section 3.12, Socioeconomics and Communities, and Section 3.13, Station Planning, Land Use, and Development. Section 3.12, Socioeconomics and Communities. These discussions summarize the regional growth impacts in the context of other growth-related issues to provide a more comprehensive analysis of socioeconomic and community impacts. No additional CEQA thresholds of significance exist related to the regional growth impacts of the six Build Alternatives. The summary of NEPA impacts for this section is presented in Section 3.18.8, NEPA Impacts Summary.

Construction Impacts

The construction impacts analysis estimates near-term employment that would result from California HSR System construction, both direct (i.e., jobs associated with actually building the Palmdale to Burbank Project Section) and indirect and induced (job growth due to construction activity and expenditures by workers and their families, respectively). To estimate employment

impacts resulting from construction activities, this analysis applies the Bureau of Economic Analysis' (BEA) Regional Input-Output Modeling System (RIMS II) to costs associated with construction. The RIMS II multipliers account for inter-industry relations within the region by considering purchases across industries to understand how regional economies are likely to respond to project and program changes. This approach is in line with industry standard practices for economic impact analysis. To estimate the number of near-term jobs that the Palmdale to Burbank Project Section would create, a BEA RIMS II multiplier (BEA 7, Construction) for the Los Angeles County RSA was applied to the anticipated construction expenditures over the construction period.¹ Appendix 3.18-A, RIMS II Modeling Details, provides detailed information about BEA's RIMS II methodology and the analysis.

Construction of the Palmdale to Burbank Project Section is estimated to last between 8 years (Refined SR14, SR14A, E1, and E1A Build Alternatives) and 9 years (E2 and E2A Build Alternatives). It is further presumed that construction expenditures would follow a normally distributed bell curve, with the peak year of construction for all alternatives being Year 4 (2023).² The calculated 2023 peak-year demand for workers required for construction is then compared to construction industry employment forecasted for Los Angeles County, based on data from the California Employment Development Department (EDD), to determine if such construction employment impacts would be substantial. By comparing calculated employment demand with regional employment projections, it can be determined if the construction employment demand would likely be fulfilled by the regional labor market. If not, the Palmdale to Burbank Project Section could cause workers and their families to move to the RSA for employment opportunities, thereby increasing the local population.

Operations Impacts

Long-Term Employment Growth

This section estimates long-term direct, indirect, and induced employment that would result from project O&M. Similar to near-term employment growth, a BEA RIMS II multiplier (BEA 33, Rail Transportation) was applied to estimated O&M budgets for the Palmdale to Burbank Project Section to estimate the number of long-term jobs that the project would create directly and indirectly. Appendix 3.18-A provides further details on BEA's RIMS II methodology. The calculated demand for workers required for O&M is then compared to applicable forecasted employment for the RSA in 2040 to determine if the projected workforce would likely be able to meet the Palmdale to Burbank Project Section's employment needs.

Beyond the direct, indirect, and induced jobs required for project O&M, this section conservatively estimates 2040 regional growth impacts associated with improved accessibility provided by the California HSR System, including the Palmdale to Burbank Project Section. These economic effects are presented in the *Project Level Environmental Methodology Guidelines, Version 5.09* (Authority 2017), which provides a statewide employment forecast associated with operations of the California HSR System of approximately 102,000 additional permanent jobs statewide above the baseline 2040 employment forecast for California. Los Angeles County would benefit by receiving approximately 4.8 percent of that growth, or approximately 4,900 jobs. Based on the proportion of total California HSR System miles within Los Angeles County, the Palmdale to Burbank Project Section is expected to receive about 49 percent of the Los Angeles County jobs. However, to conservatively estimate the number of jobs induced by increased accessibility, all estimated jobs allocated to Los Angeles County were added to the total number of direct and indirect jobs induced by O&M of the Palmdale to Burbank Project Section to conservatively understand the total effect on long-term employment growth.

¹ Near-term employment impacts are measured in job-years, defined as one year of employment for one employee.

² The construction schedule referenced here and throughout this Draft EIR/EIS is based on the assumed construction schedule provided when the analysis of regional growth impacts was initiated. The construction schedule, however, is subject to change, but the analysis is still accurate in terms of magnitude and context of the impacts.

Long-Term Induced Population Growth

Long-term employment gains caused by the six Build Alternatives could increase population where labor markets cannot absorb all the new jobs created. In such cases, it is anticipated that workers from other counties or states would move to the Palmdale to Burbank Project Section RSA to fill jobs not taken by local workers. The extent of this movement would depend on differentials in housing costs and supply, as well as labor market conditions. To estimate population changes associated with the long-term employment gains from direct, indirect, and induced employment growth and employment associated with improved statewide accessibility, this analysis uses a constant population-to-employment ratio (that is, the number of people by which the population would increase for each project-related job gained). To account for variations in regional family sizes and number of workers per household, a constant population-to-employment ratio of 2.17 was calculated for the RSA based on 2016 demographic data available for Los Angeles County (SCAG 2016). In other words, every long-term job associated with the Palmdale to Burbank Project Section would be expected to increase the population by 2.17 people. For the analysis of the Palmdale to Burbank Project Section, this population-to-employment ratio was multiplied by the total project-induced employment growth (that is, long-term direct, indirect and induced, and increased accessibility employment growth) to conservatively calculate an anticipated increase in population associated with the Palmdale to Burbank Project Section.

Operations of the California HSR System also could induce additional population growth in exurban communities such as Palmdale as a result of access to lower-cost housing in these communities relative to major urban employment centers such as Burbank, Los Angeles, and Anaheim. This analysis evaluates the tradeoffs between lower housing costs and higher transportation costs afforded by exurban communities with proposed HSR stations to determine whether or not households may consider relocation to exurban communities. Estimating the number, magnitude, or distribution of households that could relocate from metropolitan areas to exurban communities would be speculative due to the complexity of the various factors that affect these decisions. As such, this analysis includes a qualitative discussion of this type of growth.

Impacts of Long-Term Induced Population Growth on Land Use Consumption

Based on the estimated employment generated from construction, O&M, and the accessibility analysis described above, the impacts of the added employment and associated population were compared to the land development capacity of areas identified for future growth in city and county land use plans (i.e., infill and “greenfield” areas). This analysis was qualitatively evaluated. The analysis examines whether the adopted land use plans and regulations in the RSA could accommodate the increment of population growth related to the Palmdale to Burbank Project Section.

3.18.4.4 Methods for Determining Significance under CEQA

CEQA Guidelines Section 15126.2(d) requires an EIR to discuss potential growth-inducing impacts of a proposed project. Specifically, an EIR must discuss the ways in which a project could directly or indirectly foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. The CEQA Guidelines emphasize that “it must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.” The primary focus under CEQA is whether a project would induce substantial growth beyond levels planned by local jurisdictions. CEQA thresholds related to regional growth effects are addressed in Section 3.12, Socioeconomics and Communities, and Section 3.13, Station Planning, Land Use, and Development.

3.18.5 Affected Environment

The affected environment section is based on existing conditions within the RSA. For this regional growth analysis, the RSA is Los Angeles County. While growth is estimated and assessed for the RSA as a whole, discussions in this section are also presented for contextual purposes for the

four cities within the Palmdale to Burbank Project Section corridor (i.e., the areas in which surface portions of the various Build Alternatives would be located): Lancaster, Palmdale, Los Angeles, and Burbank. The six Build Alternatives are estimated (in the 2016 Business Plan [Authority 2016]) to attract the same ridership and levels of activity.

3.18.5.1 Overview

The historical development of the Antelope Valley in northeastern Los Angeles County started in 1876 with the completion of the Southern Pacific Railroad line from San Francisco to Los Angeles via the Antelope Valley. Many communities began to develop, including Lancaster, Palmdale, Rio del Llano, and Littlerock. All of these early communities were dependent upon livestock raising, dry farming, and fruit orchards. The economic bases of Palmdale and Lancaster developed ties to the aerospace industry during World War II with the development of Edwards Air Force Base and helped to double the Antelope Valley population (Los Angeles County 2015). More recently, the Palmdale Airport and United States Air Force Plant 42 have emerged as a national center for aerospace engineering (City of Lancaster 2009). Fluctuations in the world political landscape, economy, and federal program funding have affected the aerospace industry and has led to workers seeking jobs in other sectors. As of 2020, the five largest employers in the Antelope Valley were Northrop Grumman, Edwards Air Force Base, China Lake Naval Air Weapons Station, Los Angeles County, and Lockheed Martin (Greater Antelope Valley Economic Alliance 2020).

While the cities strive to diversify their economic bases, a notable proportion of Palmdale and Lancaster workers travel outside of these cities to seek employment. Approximately one-third of Palmdale residents and one-fifth of Lancaster residents spend at least 1 hour commuting to work. Of the Antelope Valley workforce that commutes 40 minutes or longer, most travel to the following cities (in order from highest percentage to lowest): Los Angeles, Simi Valley, Santa Clarita, Long Beach, Burbank, Pasadena, Glendale, and Bakersfield (Greater Antelope Valley Economic Alliance 2015). Despite continued growth in the Antelope Valley, the workforce of Palmdale and Lancaster combined represents only 2 percent of the total Los Angeles County workforce (Table 3.18-2).

Unlike Palmdale and Lancaster, which were not incorporated until 1977 and 1962, respectively, the City of Burbank was incorporated in 1911 and now supports over two jobs for every housing unit (City of Lancaster 2018; City of Palmdale 1993; City of Burbank 2013). More Burbank workers (12 percent) than Antelope Valley workers (10 percent) commute at least 1 hour to work; however, this is likely due to more intense traffic congestion in the Burbank area than it is to the need for workers to commute long distances to other employment centers. Of those who commute less than 1 hour from Burbank, approximately 54 percent commute less than 30 minutes, suggesting that the majority of Burbank residents are employed in Burbank (U.S. Census Bureau 2010). Burbank's large and diverse economy is supported by a core of motion picture and media-related industries, including the Walt Disney Company and Warner Brothers Entertainment. Other major employers in Burbank include Providence/St. Joseph Hospital, Burbank Unified School District, Hollywood Burbank Airport, and the City of Burbank.

3.18.5.2 Employment and Unemployment

Historic Labor Force and Employment Trends

Table 3.18-2 shows changes in the civilian labor force and unemployment rates for 2000, 2010, and 2015 for Los Angeles County, the state of California, and the cities of Lancaster, Palmdale, Los Angeles, and Burbank. Table 3.18-3 presents employment rate data for Los Angeles County compared to statewide data.

Table 3.18-2 Labor Force Characteristics – Los Angeles County and Major Cities

Area	2000	2010 ¹	2015
Los Angeles County			
Civilian Labor Force	4,312,300	4,917,400	5,011,700
Percent Unemployment Rate	5	13	7
City of Lancaster			
Civilian Labor Force	49,100	63,200	42,400
Percent Unemployment Rate	7	14	5
City of Palmdale			
Civilian Labor Force	48,300	64,200	64,300
Percent Unemployment Rate	6	16	9
City of Burbank			
Civilian Labor Force	52,700	56,700	57,900
Percent Unemployment Rate	4	10	6
City of Los Angeles			
Civilian Labor Force	1,690,300	1,970,000	2,011,100
Percent Unemployment Rate	6	13	7
State of California			
Civilian Labor Force	15,977,900	18,336,300	18,981,800
Percent Unemployment Rate	4	12	6

Sources: U.S. Census Bureau, 2000; EDD, 2016

¹ Higher unemployment rates in 2010 reflect the effects following the economic recession of December 2007 to June 2009.

Figures have been rounded to the nearest hundred.

EDD = (California) Employment Development Department

Table 3.18-3 Employment and Unemployment Rates (2015)

Jurisdiction	Number of Employed	Number of Unemployed	Annual Average Unemployment Rate (%)
Los Angeles County	4,668,200	332,400	7
State of California	17,700,100	1,200,100	6

Sources: BLS, 2016; EDD, 2016

Employed and unemployed statistics were obtained from BLS (2016); the annual average unemployment rate was obtained from EDD (2016).

Figures have been rounded to the nearest hundred.

BLS = United States Bureau of Labor Statistics; EDD = (California) Employment Development Department

Like much of the country, Los Angeles County experienced a spike in unemployment following the 2007 to 2009 recession, with a peak in unemployment rates in 2010 (Institute for Applied Economics 2017). However, the county has since recovered to pre-recession unemployment levels (United States Bureau of Labor Statistics 2016). Between 2000 and 2012, the County experienced a decline in the number of jobs in most major industries, resulting in the loss of approximately 92,000 jobs. The largest reductions occurred in manufacturing, information, and construction. In 2015, the County's unemployment rate was slightly higher than that of the state.

The historic and forecasted employment by industry for Los Angeles County is shown in Table 3.18-4. Employment centers intersected by the six Build Alternatives' footprint include the Antelope Valley—which comprises Palmdale and Lancaster—and Burbank. The city of Los Angeles as a whole has a very large employment base, but major employment centers within the city of Los Angeles are not in the Palmdale to Burbank Project Section corridor. The portions of the six Build Alternatives' footprint in the city of Los Angeles—including the neighborhoods of Pacoima, Sun Valley, Lake View Terrace, and Shadow Hills—are generally in communities and neighborhoods that are either largely residential in character or have smaller-scale commercial/industrial uses.

Forecast Growth

Los Angeles County's labor force is vital to California's economy, representing approximately one-quarter of the state's total workforce (Table 3.18-2). As shown in Table 3.18-5, Los Angeles County is expected to experience a smaller percentage of employment growth (11 percent) than the state of California (approximately 15 percent) between 2015 and 2040. As shown in Table 3.18-4, a broad mix of industries supports Los Angeles County's economy. Since recovering from the 2007 to 2009 recession, the number of jobs in the County is projected to increase in the period from 2015 to 2023 for all major industries except manufacturing. Unemployment rates have declined since 2010, also indicating growing employment opportunities in Los Angeles County. Between 2010 and 2015, unemployment in Los Angeles County dropped from 13 percent to 7 percent (EDD 2016).

As summarized in Table 3.18-4, retail trade, healthcare, and educational services are the largest industries within the RSA. During the anticipated peak year of the California HSR System construction (2023), approximately 144,000 jobs are projected in the construction sector for Los Angeles County (EDD 2016). In total, the Los Angeles County economy is projected to support approximately 5 million jobs during 2023 (EDD 2016). Employment in Los Angeles County, however, is expected to increase at a slower rate than in the state of California as a whole (0.4 percent and 0.6 percent, respectively).

Table 3.18-4 Historical and Forecasted Employment by Industry for Los Angeles County

Industry ¹	Historical				Forecasted			
	2010		2015		2023		2040	
	Number (thousands)	% of Total Employment						
Farm	6	<1	5	<1	5	<1	5	<1
Construction	104	3	126	3	142	3	133	3
Manufacturing	378	10	367	9	355	8	334	7
Transportation and Utilities	151	4	172	4	195	4	211	4
Wholesale and Retail Trade	590	15	645	16	667	15	704	14
Financial Activities	211	6	216	5	230	5	239	5
Professional Services	522	14	596	14	652	15	714	15
Information	192	5	208	5	247	5	288	6
Health and Education	671	18	741	18	855	19	1,065	22
Leisure	385	10	489	12	555	12	620	12
Government	580	15	569	14	592	13	624	13
Total²	3,790	100	4,132	100	4,495	100	4,938	100

Sources: Caltrans, 2017; EDD, 2016

¹ Industry categories are based on the North American Industry Classification System (NAICS).

² Total does not include employment in the NAICS – Other Services category. Therefore, total employment estimates presented here for a given year are lower than the total employment values listed above in Table 3.18-2.

Statistics for 2010, 2015, and 2040 were obtained from the *California County-Level Economic Forecast* (Caltrans 2017); EDD (2016) was used for 2023 projections.

Figures are rounded to the nearest whole number. Totals may not sum due to rounding.

Caltrans = California Department of Transportation; EDD = (California) Employment Development Department

Table 3.18-5 Long-Range Employment Projections (2015 and 2040)

Area	Employment		Change From 2015–2040 (%)	Annual Average Growth Rate (%)
	2015	2040		
Los Angeles County	4,700,200	5,226,000	11	0.4
State of California	17,719,100	20,802,000	15	0.6

Sources: BLS, 2016; SCAG, 2016

Figures have been rounded to the nearest hundred.

BLS = United States Bureau of Labor Statistics; SCAG = Southern California Association of Governments

3.18.5.3 Population

Table 3.18-6 shows the change in population from 2000 and 2015 for the state; Los Angeles County; unincorporated Los Angeles County; and the cities of Lancaster, Palmdale, Los Angeles, and Burbank. During this period, the cities of Palmdale and Lancaster each experienced an average annual increase in population of approximately 2 percent, with some of this growth being attributed to the growing aerospace industry in the Antelope Valley (Greater Antelope Valley Economic Alliance 2020). Approximately 75 percent of Lancaster and 71 percent of Palmdale residents commute less than 30 minutes to work—yet nearly 10 percent of Palmdale residents and Lancaster residents still commute over 1 hour to their primary jobs (U.S. Census Bureau 2010). Accordingly, some of the population growth in Palmdale and Lancaster could also be caused by workers employed in other economic centers, such as Los Angeles, seeking more affordable housing in the Antelope Valley. Section 3.12, Socioeconomics and Communities, contains additional discussion of housing prices in the RSA. Percent annual average population increases in Palmdale and Lancaster were substantially higher than those experienced within the established economic centers of Los Angeles (about 0.5 percent) and Burbank (0.3 percent) between 2000 and 2015. However, it should be noted that due to the city of Los Angeles's population size, its relatively small percentage growth from 2000 to 2015 still represents approximately 277,000 additional people—more than triple the population increase in Palmdale and Lancaster combined during the same period. The population in the unincorporated areas of Los Angeles County increased at an average annual increase of 0.4 percent, which is slightly less than that of Los Angeles County as a whole. The city of Burbank had the smallest population growth between 2000 and 2015 for cities within the Palmdale to Burbank Project Section corridor, increasing by about 5,000 people.

The 2016-2040 RTP/SCS (SCAG 2016) projected the population estimates for 2040. Table 3.18-7 shows the RSA's city and county population estimates for 2015 and projections for 2040. Over this 25-year period, the population is projected to increase in Los Angeles County by 13 percent, while the state's population is expected to increase by approximately 21 percent. Over the same period, the population in the cities of Palmdale and Lancaster are expected to increase by approximately 30 percent and 27 percent, respectively.

Table 3.18-6 Population Growth (2000 and 2015)

Area	Population 2000	Population 2015	Change 2000–2015		Annual Average Increase 2000–2015 (%)
			Population	% Change	
Los Angeles County	9,519,300 ¹	10,170,300 ²	651,000	7	0.5
City of Lancaster	118,700 ¹	161,100 ²	42,400	36	2.4
City of Palmdale	116,700 ¹	158,400 ²	41,700	36	2.4
City of Los Angeles	3,694,800 ¹	3,971,900 ²	277,100	8	0.5
City of Burbank	100,300 ¹	105,300 ²	5,000	5	0.3

Area	Population 2000	Population 2015	Change 2000–2015		Annual Average Increase 2000–2015 (%)
			Population	% Change	
Unincorporated Los Angeles County	998,100 ³	1,051,000 ³	52,900	5	0.4
State of California	33,871,600 ¹	39,144,800 ²	5,273,200	16	1.0

Sources: U.S. Census Bureau, 2000, 2015; CDOF, 2016

¹ Year 2000 population figures obtained from U.S. Census (U.S. Census Bureau 2000).

² Year 2015 population figures obtained from U.S. Census (U.S. Census Bureau 2015).

³ Year 2000 and year 2015 population figures for unincorporated Los Angeles County obtained from CDOF (CDOF 2016).

Figures have been rounded to the nearest hundred.

CDOF = California Department of Finance

Table 3.18-7 Projected Population Growth (2015 and 2040)

Area	Population 2015	Projected Population 2040	Change 2015–2040		Annual Average Increase (%)
			Population	% Change	
Los Angeles County	10,170,300 ¹	11,514,000 ²	1,343,700	13	0.9
City of Lancaster	161,100 ¹	209,900 ²	48,800	30	2.0
City of Palmdale	158,400 ¹	201,500 ²	43,100	27	2.0
City of Los Angeles	3,971,900 ¹	4,609,400 ²	637,500	16	1.0
City of Burbank	105,300 ¹	118,700 ²	13,400	13	0.8
Unincorporated Los Angeles County	1,051,000 ³	1,273,700 ²	222,700	21	1.0
State of California	39,144,800 ¹	47,233,200 ³	8,088,400	21	1.0

Sources: U.S. Census Bureau, 2015; SCAG, 2016; CDOF, 2016

¹ Year 2015 population statistics from U.S. Census (U.S. Census Bureau 2015).

² Year 2040 projections obtained from SCAG (SCAG 2016).

³ Year 2015 population in unincorporated Los Angeles County and 2040 population projections for state of California obtained from CDOF (CDOF 2016).

2016 SCAG data do not include state-level projections; therefore, the 2040 state population number is obtained from the CDOF.

Figures have been rounded to the nearest hundred.

CDOF = California Department of Finance; SCAG = Southern California Association of Governments

Population density is an indicator of the comparative intensity, scale, and character of a community. Los Angeles County covers approximately 4,000 square miles. Overall, the County has a population density of approximately 2,500 persons per square mile, but the County's subregions have very disparate population densities. The densely populated Los Angeles Basin and San Fernando Valley, which include the cities of Los Angeles and Burbank, stand in contrast with the Antelope Valley, which includes the cities of Palmdale and Lancaster. The population densities of the RSA and the four cities in the Palmdale to Burbank Project Section corridor are summarized in Table 3.18-8.

Table 3.18-8 Regional Population Density (2015)

Jurisdiction	Population	Area (square miles)	Density (persons per square mile)
Los Angeles County	10,170,300	4,000	2,500

Jurisdiction	Population	Area (square miles)	Density (persons per square mile)
City of Lancaster	161,100	100	1,700
City of Palmdale	158,400	100	1,500
City of Los Angeles	3,971,900	500	8,500
City of Burbank	105,300	20	6,100

Source: U.S. Census Bureau, 2010, 2015b
 Figures have been rounded to the nearest hundred.

As shown in Table 3.18-8, the cities in the northern portion of the Palmdale to Burbank Project Section corridor are substantially less densely populated than those in the southern portion. Burbank is an established urban center with a long-standing connection to the entertainment industry, while the cities of Palmdale and Lancaster made the transition from smaller towns to more urbanized cities during the 1980s and 1990s (City of Palmdale 1993; City of Lancaster 2009). Although Lancaster and Palmdale have relatively low population densities, both cities are expected to experience growth of approximately 30 percent by 2040, as shown in Table 3.18-7. Such growth is expected to occur, in part, due to the prominent aerospace industry in Palmdale (Los Angeles County 2015).

3.18.5.4 Housing

Table 3.18-9 shows the number of housing units in 2015 and the projected number of housing units needed to accommodate the 2040 population growth estimated in Table 3.18-7.

Table 3.18-9 Housing Units, Existing and Projected Need (2015 and 2040)

Area	Housing Units (2015) ¹	Average Number of Residents per Housing Unit (2015)	Projected Housing Need (2040) ²	% Change	Annual Average Increase (%)
Los Angeles County	3,504,100	2.9	4,000,000	13	0.5
State of California	13,981,900	2.8	17,000,000	21	0.8

Source: CDOF, 2016

¹ Figures have been rounded to the nearest hundred.

² 2040 housing estimates are based on SCAG (2016) population projections for 2040 (shown in Table 3.18-7) divided by the 2015 average number of residents per housing unit in each jurisdiction shown in this table.

CDOF = California Department of Finance; SCAG = Southern California Association of Governments

Housing need estimates for 2040 were calculated based on the population projections contained in Table 3.18-7, divided by the average number of residents per housing unit in each jurisdiction. The average number of residents per housing unit was obtained by dividing the population by the number of housing units, using data presented in Table 3.18-9. This figure is different from the average household size because it includes vacant housing units.

Based on the data in Table 3.18-7 and Table 3.18-9, housing needs are projected to increase by 13 percent (approximately 463,500 units) in Los Angeles County between 2015 and 2040. This percent of increase in the housing need is lower than the approximately 21 percent increase (approximately 3,454,300 units) projected for the state.

California's Housing Element law (California Government Code 65583) requires that each city and county develop local housing programs to meet its "fair share" of existing and future housing needs for all income groups, as determined by the jurisdiction's council of governments (SCAG for the RSA). This "fair share" allocation concept seeks to ensure that each jurisdiction accepts responsibility for the housing needs of not only its resident population, but also for a jurisdiction's

projected share of regional housing growth across all income categories. Regional growth needs are defined as the number of units that would have to be added in each jurisdiction to accommodate the forecasted number of households, as well as the number of units that would have to be added to compensate for anticipated demolitions and changes to achieve a normal market vacancy rate. The California Department of Housing and Community Development (HCD) defines a normal market vacancy rate as approximately 5 percent (HCD 2000). As a whole, California has a vacancy rate of approximately 4 percent (U.S. Census Bureau 2016). Table 3.18-10 shows the vacancy rates for Los Angeles County and relevant cities within the RSA.

Table 3.18-10 Vacancy Rates in Los Angeles County

Location	Percent Rental Vacancy Rate	Percent Homeowner Vacancy Rate
Los Angeles County	4	1
City of Lancaster	5	1
City of Palmdale	5	2
City of Burbank	6	3
City of Los Angeles	4	1

Source: U.S. Census Bureau, 2016
 Figures have been rounded to the nearest whole number.

SCAG also has determined the projected housing need for Los Angeles County for the 2014 to 2021 General Plan Housing Element cycle based on projections that extend through 2040 and has allocated this housing need to each jurisdiction by income category (SCAG 2016). The RHNA represents the minimum number of housing units that each community is required to provide through land use planning and zoning in order to accommodate projected growth between 2014 and 2021. The RHNA is updated periodically to allow communities to anticipate growth so that collectively the region can grow in ways that enhance quality of life, improve access to jobs, promote transportation mobility, and address social equity and fair share housing needs.

The HCD enforces the State’s Housing Element Law by requiring certified Housing Elements as part of every jurisdiction’s general plan that account for the jurisdiction’s “fair share” allocation. Table 3.18-11 summarizes the 2014 to 2021 RHNA allocations for jurisdictions within the Palmdale to Burbank Project Section corridor.

Table 3.18-11 Regional Housing Need Assessment Allocations (2014–2021)

Location	2014–2021 RHNA Allocation (number of units)
Los Angeles County (unincorporated portions only)	30,145
City of Lancaster	2,510
City of Palmdale	5,452
City of Burbank	2,684
City of Los Angeles	82,002
Total	122,793

Sources: Los Angeles County, 2014; City of Lancaster, 2013; City of Palmdale, 2014; City of Los Angeles, 2013; City of Burbank, 2013
 Note: Los Angeles County has identified an inventory of land suitable for residential development comprising specific plan areas that have been preplanned to accommodate a range of housing types and densities, as well as vacant and underutilized sites that allow multi-family and mixed-use residential developments administratively. Specifically, the County identified the Newhall Ranch, Marina del Rey, and Northlake Specific Plan areas as being able to provide 26,642 housing units or nearly 90 percent of the RHNA. The rest of the RHNA could be absorbed by existing vacant and underutilized sites throughout the county (Los Angeles County 2014).
 RHNA = Regional Housing Needs Assessment

3.18.6 Environmental Consequences

3.18.6.1 Overview

This section evaluates regional growth impacts for the No Project and the six Build Alternatives. The six Build Alternatives (Refined SR14, SR14A, E1, E1A, E2, and E2A) would generally cause similar impacts, given that they would be roughly the same length and would connect the same two stations. Because CEQA thresholds related to regional growth are addressed elsewhere in this document, this section does not include CEQA determination statements. Refer to Section 3.12, Socioeconomics and Communities, for further discussion and CEQA determinations regarding the impacts that California HSR System construction and operations would have on the local and regional economy, as well as impacts resulting from any displacements caused by the Palmdale to Burbank Project Section. Refer to Section 3.13, Station Planning, Land Use, and Development, for further discussion and CEQA determinations regarding land consumption effects associated with regional growth. Specific impacts evaluated in this section include the following:

- **Construction Impacts**
 - Short-Term Employment Impacts
- **Operations Impacts**
 - Long-Term Employment Impacts
 - Long-Term Induced Population Growth
 - Impacts of Long-Term Land Use Consumption

3.18.6.2 No Project Alternative

The No Project Alternative assumes the Palmdale to Burbank Project Section would not be built. This section describes short-term and long-term employment and population growth and resulting land use consumption anticipated to occur in the RSA under the No Project Alternative. The No Project Alternative includes known, programmed, and funded improvements to the intercity transportation system (highway, rail, and transit) and reasonably foreseeable local development projects (with funding sources already identified) expected to be developed as planned by 2040.

Construction Impacts

Anticipated growth under the No Project Alternative includes other transportation improvements (non-HSR) and land use development projects (described in Chapter 2, Alternatives), the construction of which could result in adverse effects from greenfield development and permanent displacement of residences and businesses. Because some of these future projects are in the early planning process, specific impacts cannot always be determined, but each project would typically require compliance with CEQA, as well as with NEPA for projects that involve federal funding or federal approvals. As demonstrated above in Section 3.18.5.2, Employment and Unemployment, the unemployed labor force in Los Angeles County is relatively large at 7 percent unemployment (EDD 2016), or approximately 332,400 unemployed people (BLS 2016). While the exact timing and labor needs of other projects under the No Project Alternative are not known at this time, individual projects would require fewer workers than the project and the timing of these projects would be spread out over many years. As such, the regional construction labor force is anticipated to be large enough that workers from outside Los Angeles County would not move to the area to meet demand for construction-related jobs. Table 3.18-2 shows the total civilian labor force for Los Angeles County was 5,011,700 in 2015. As displayed in Table 3.18-4, approximately 126,000 jobs were in the construction sector for Los Angeles County in 2015 (EDD 2016), representing just approximately 2.5 percent of the total labor force in the county.

While the specific locations in which growth would occur cannot be determined, certain portions of the RSA would be more susceptible to general development trends than others. Urban and suburban areas such as Palmdale, Los Angeles, and Burbank are highly developed and are expected to experience growth under the No Project Alternative. Transportation projects under

the No Project Alternative in these areas could have the potential to induce growth. Conversely, land use restrictions within the ANF would generally preclude development and growth within the boundaries of the ANF.

Operations Impacts

Under the No Project Alternative, employment in Los Angeles County is projected to increase from approximately 4,668,200 in 2015 to 5,226,000 in 2040 (Table 3.18-5). The population is projected to increase in Los Angeles County from the 2015 estimate of approximately 10,170,300 to 11,514,000 in 2040 (Table 3.18-7). Operational population increases under the No Project Alternative would result in corresponding land use consumption.

In order to accommodate projected population growth in the RSA, infill development and use of existing infrastructure would be guided by local land use plans and regulations to minimize impacts associated with land use consumption. Accordingly, the projects listed in the 2016 RTP/SCS adopted by SCAG are expected to result in both compact development and greater investment in local transit modes as a means of reducing greenhouse gas emissions. These plans include provisions aimed at reducing greenhouse gas emissions and are considered by cities and counties, including Los Angeles County, during planning and zoning deliberations to comply with the CEQA requirement to mitigate the impacts of planning and zoning decisions on greenhouse gas emissions.

The general plans for Palmdale and Burbank, the two urban centers within the Palmdale to Burbank Project Section corridor, anticipate growth associated with new and improved transportation hubs.³ The *City of Palmdale General Plan* (City of Palmdale 1993) encourages transit-oriented development (TOD) by designating planned areas for TOD to allow for higher density and development, and calls for increased infill development and consolidated development patterns that maximize the use of infrastructure (Policy L1.1.2). Likewise, the *Burbank 2035 General Plan* (City of Burbank 2013) calls for the expansion of existing transit centers, such as the Regional Intermodal Transportation Center at the Hollywood Burbank Airport (Mobility Policy 4.3) and allows density limits to be exceeded for TOD projects near these transportation centers (Land Use Policy 1.2).

The City of Burbank is in the process of preparing the Golden State Specific Plan (City of Burbank 2020), which includes the Golden State District, a 640-acre area east of Hollywood Burbank Airport. In addition, the Avion Project (included in the proposed Golden State Specific Plan Area) is proposed on 60 acres of vacant land adjacent to the Hollywood Burbank Airport. The Avion Project would include industrial, office, and retail space, as well as a potential hotel. No additional housing is proposed. The overall density of land uses in the area would increase with the addition of the Avion Project, but housing density would remain the same because the Avion Project would not add more housing. The No Project Alternative would not include any new HSR facilities between Palmdale and Burbank, or at the transit centers within these communities. Notwithstanding, the cities of Palmdale and Burbank are expected to implement their plans and policies independent of the approval and/or construction of the California HSR System.

For the entire RSA, a broad mix of industries supports Los Angeles County's economy, and the unemployment rates track relatively closely to those experienced in the state. Between 2000 and 2015, the number of jobs in the County increased by approximately 700,000 (Table 3.18-2). SCAG estimates an additional 600,000 jobs projected by 2040 under the No Project Alternative. Since Los Angeles County is a major employment center for the state, economic ties to other parts of the state, and to the global economy, would stimulate economic growth in the County through the foreseeable future.

³ The city of Los Angeles as a whole has a very large employment base, but major employment centers within the city of Los Angeles are not in the Palmdale to Burbank Project Section corridor. The portions of the Palmdale to Burbank Project Section corridor in the city of Los Angeles, including the neighborhoods of Pacoima, Sun Valley, Lake View Terrace, and Shadow Hills, are generally in communities and neighborhoods that are either largely residential in character or have smaller-scale commercial/industrial uses. Therefore, the city of Los Angeles is not considered an "urban center" in this analysis.

3.18.6.3 High-Speed Rail Build Alternatives

At the regional scale, the effects of each of the six Build Alternatives on regional growth would generally be similar due to similar length and the same number of HSR stations and projected ridership. The analysis compares the Palmdale to Burbank Project Section against the No Project Alternative. Project construction cost data were available by Build Alternative, so short-term job creation estimates for construction are presented by each Build Alternative. Additional discussion and modeling of the Palmdale to Burbank Project Section's economic effects on the RSA can be found in Appendix 3.18-A.

Construction Impacts

Construction of the six Build Alternatives would result in demand for new near-term construction-related employment but is not anticipated to result in a large temporary influx of people living in the RSA. Construction-related jobs are calculated based on construction expenditures. The estimated capital costs estimate of each of the Build Alternatives were used as inputs to the RIMS II model and are shown in Table 3.18-12. Table 3.18-12 shows capital costs in 2018 dollars.

The majority of project-related spending would be dedicated to track and track structures rather than stations, support facilities, or other construction expenditure categories. Therefore, it is anticipated that the majority of construction workers would be employed at different locations along the selected alternative alignment as construction progresses, as opposed to remaining at one construction site throughout the construction period.

Table 3.18-12 Estimated Capital Costs for High-Speed Rail Build Alternatives

Capital Costs by Build Alternative (2018\$ million)					
Refined SR14	SR14A	E1	E1A	E2	E2A
\$22,400	\$24,075	\$22,497	\$23,370	\$22,473	\$23,184

Source: Appendix 6-B, Palmdale to Burbank Project Section: PEPD Record Set Capital Costs Estimate Report
Capital costs represent the cost to build end-to-end Build Alternatives.

Using the RIMS II multipliers, the number of construction-related jobs that would be generated by each of the six Build Alternatives was calculated. Table 3.18-13 presents the number of near-term jobs that would be generated by construction of the six Build Alternatives. Over the entire 8- or 9-year construction period, depending on the Build Alternative selected, a total of approximately 80,000 to 85,000 direct, indirect, and induced construction jobs-years would be generated. As shown in Table 3.18-13, the SR14A Build Alternative would create the most construction jobs, while the E1 Build Alternative would create the fewest. Further information regarding direct and indirect job creation for each Build Alternative is included in Appendix 3.18-A.

For the purposes of this analysis, the 8- or 9-year construction period is assumed to occur between 2020 and 2028; this is the construction period when the analysis was conducted. However, the actual dates of construction will likely be delayed as the schedule develops. The magnitude of the employment impacts over the construction period and during the peak year would be similar despite such delays. During the peak year of construction in 2023, the six Build Alternatives would support an estimated 7,800 to 8,000 direct construction jobs, which represents approximately 5.4 to 5.6 percent of the approximately 144,000 construction industry employment forecasted in 2023 for Los Angeles County based on data from the California EDD (Table 3.18-4).

The Authority has implemented a variety of programs to increase both the number and ability of local workers and firms to compete for available HSR construction jobs. Through a cooperative partnership with skilled craft unions, the Authority is promoting and helping to develop education, pre-apprenticeship, and apprenticeship training programs. These activities in economically disadvantaged communities focus on helping lower-income persons, persons receiving public assistance, single parents, persons with no high school or a General Education Development diploma, and/or those who suffer from chronic unemployment to compete for available jobs.

Community organizations have implemented similar programs to get workers trained, retrained, and certified for upcoming construction work. Through the Community Benefits Agreement, the Authority would require each prime contractor of an awarded construction package to commit 30 percent of all construction dollars to hiring small businesses, including separate goals for the hiring of disadvantaged and disabled veterans' businesses.⁴ Moreover, many construction workers residing in the RSA may already have obtained HSR construction experience by working on one of the first several construction packages awarded by the Authority beginning in 2013.

Given that the number of construction jobs would be small compared to the available construction labor force in the RSA, the likelihood of workers from other counties moving into the RSA for job opportunities would be small. Construction activities, however, would likely require some very specialized workers who could come from outside of the RSA for a limited duration, but would not be likely to permanently relocate into the RSA. Additionally, project construction would result in indirect and induced employment demand, as shown in Table 3.18-13. Table 3.18-13 includes induced employment generated by construction of the Palmdale Station and Lancaster Maintenance Facility into account for reference and context. However, these facilities and their associated environmental effects are evaluated as part of the Bakersfield to Palmdale Project Section EIR/EIS.

Table 3.18-13 Employment Created during Construction (in job-years) by Build Alternative

Alignment	Year 1 2020	Year 2 2021	Year 3 2022	Year 4 2023	Year 5 2024	Year 6 2025	Year 7 2026	Year 8 2027	Year 9 2028	Total
Refined SR14 Build Alternative										
Direct	1,900	4,100	5,900	7,800	7,000	5,200	3,300	1,900	-	37,100
Indirect/ Induced	2,300	5,100	7,400	9,700	8,800	6,500	4,200	2,300	-	46,300
Total	4,200	9,200	13,300	17,500	15,800	11,700	7,500	4,200	-	83,400
SR14A Build Alternative										
Direct	1,900	4,200	6,000	7,900	7,200	5,300	3,400	1,900	-	37,800
Indirect/ Induced	2,400	5,200	7,500	9,900	8,900	6,600	4,200	2,400	-	47,100
Total	4,300	9,400	13,500	17,800	16,100	11,900	7,600	4,300	-	84,900
E1 Build Alternative										
Direct	1,800	3,600	5,700	7,900	6,800	5,000	3,200	1,800	-	35,800
Indirect/ Induced	2,200	4,500	7,100	9,800	8,500	6,200	4,000	2,200	-	44,500
Total	4,000	8,100	12,800	17,700	15,300	11,200	7,200	4,000	-	80,300
E1A Build Alternative										
Direct	1,800	3,600	5,800	8,000	6,900	5,100	3,300	1,800	-	36,300
Indirect/ Induced	2,300	4,500	7,200	10,000	8,600	6,300	4,100	2,300	-	45,300

⁴ The Community Benefits Agreement is a cooperative partnership and commitment between the Authority, contractors, and unions. The Agreement is designed to assist small businesses and employment seekers in finding or obtaining construction contracts, jobs, and training opportunities for residents who reside in disadvantaged areas and those designated as disadvantaged workers. See California High-Speed Rail Authority, Community Benefits Agreement website at: <https://hsr.ca.gov/business-opportunities/general-info/community-benefits-agreement/>.

Alignment	Year 1 2020	Year 2 2021	Year 3 2022	Year 4 2023	Year 5 2024	Year 6 2025	Year 7 2026	Year 8 2027	Year 9 2028	Total
Total	4,100	8,100	13,000	18,000	15,500	11,400	7,400	4,100	-	81,600
E2 Build Alternative										
Direct	1,400	3,600	5,800	7,900	6,900	4,700	2,500	1,800	1,400	36,000
Indirect/ Induced	1,800	4,500	7,200	9,900	8,500	5,800	3,200	2,200	1,800	44,900
Total	3,200	8,100	13,000	17,800	15,400	10,500	5,700	4,000	3,200	80,900
E2A Build Alternative										
Direct	1,500	3,700	5,800	8,000	6,900	4,700	2,600	1,800	1,500	36,500
Indirect/ Induced	1,800	4,600	7,300	10,000	8,700	5,900	3,200	2,300	1,800	45,600
Total	3,300	8,300	13,100	18,000	15,600	10,600	5,800	4,100	3,300	82,100

Source: Appendix 3.18, RIMS II Modeling Details
RIMS = Regional Input-Output Modeling System
Figures have been rounded to the nearest hundred.

Because construction jobs are anticipated to be filled by regional workers, the population within the RSA would not be expected to increase during construction beyond the forecasted regional growth. Therefore, effects on public services and utilities beyond those caused by forecasted growth in the region are not anticipated to occur.

The Palmdale to Burbank Project Section, however, is one of several HSR project sections expected to be under construction within a relatively short timeframe and in relative proximity. The RSA for the project is Los Angeles County, which is also one of the counties in the RSA for both the Bakersfield to Palmdale Project Section and the Burbank to Los Angeles Project Section. The Bakersfield to Palmdale Project Section construction period (assumed 2018–2025) and the Burbank to Los Angeles Project Section construction period (assumed 2020–2025) are anticipated to overlap the construction period anticipated for this project (assumed 2020–2028).⁵

Operations Impacts

Long-term regional growth induced by the Palmdale to Burbank Project Section would be similar for all six Build Alternatives because they would have similar O&M costs due to their similar length and same number of HSR stations. As such, the number of direct jobs generated by O&M of the California HSR System would be essentially the same for all six Build Alternatives. Additionally, the employment growth, population growth, and associated land use consumption that would occur due to the Palmdale to Burbank Project Section would be the same for all six Build Alternatives.

⁵ The construction schedules referenced here and throughout this Draft EIR/EIS are based on the assumed construction schedules provided when the analysis of regional growth impacts was initiated for each project section. The construction schedules, however, are subject to change.

Long-Term Employment Impacts

Table 3.18-14 compares 2040 employment estimates and projections of the six Build Alternatives to the No Project Alternative. As described previously in Section 3.18.4, employment growth associated with O&M of the Palmdale to Burbank Project Section is based on O&M cost projections. The O&M of each Build Alternative would be very similar; therefore, all six Build Alternatives would result in similar direct effects on employment, and impacts are presented for the Palmdale to Burbank Project Section as a whole.

Direct and Indirect Employment

Direct, indirect, and induced employment impacts for the regional growth RSA were calculated by applying RIMS II multipliers to forecasted local O&M expenditures for the Palmdale to Burbank Project Section. The direct, indirect, and induced growth employment impact associated with O&M of the Palmdale to Burbank Project Section would result in an increase of an estimated 500 jobs in Los Angeles County (Table 3.18-14). This represents the direct, indirect, and induced jobs generated by the California HSR System to operate and maintain the Palmdale to Burbank Project Section. For additional details on this analysis, see Appendix 3.18-A.

For context, the 2016 Business Plan estimates that between 1,300 and 1,500 O&M jobs related to station infrastructure and equipment O&M, and train crews would be created in all of Southern California during Phase 1 (Authority 2016). Given that 4,674,800 jobs are projected for the RSA in 2040 under the No Project Alternative, the 500 jobs induced by the Palmdale to Burbank Project Section would be a small increase and would likely be met by the region's projected workforce.

Employment Associated with Improved Access

In addition to direct and indirect project-induced employment growth that would be caused by project O&M, the Palmdale to Burbank Project Section as part of the California HSR System would increase regional accessibility by connecting Palmdale and Burbank via the HSR system and would provide connections to Los Angeles, the cities of the San Joaquin Valley, and the San Francisco Bay Area. Both of the planned HSR stations would operate as multimodal transportation hubs with connections to buses, ridesharing services, and other rail lines to improve first and last mile connectivity.⁶ Regional growth impacts associated with improved accessibility provided by the California HSR System, including the Palmdale to Burbank Project Section, would support an estimated 4,900 jobs in Los Angeles County (Table 3.18-14).⁷ This job creation is anticipated to increase the competitiveness of the region's industries and contribute to overall growth in the regional economy. Furthermore, due to the complex economy, high-value industry sector, and linkages to the global economy, this apportionment of jobs allocated to Los Angeles County is conservatively assumed to be associated with the Palmdale to Burbank Project Section.

Total Project-Induced Employment

The aggregate total of direct/indirect project-induced O&M employment and employment growth due to increased accessibility from the California HSR System would be approximately 5,380 jobs above the No Project Alternative projections (Table 3.18-14). Accordingly, with implementation of the Palmdale to Burbank Project Section, Los Angeles County would have approximately 5,231,400 jobs in 2040, which is a 0.1 percent increase above the No Project Alternative in 2040. The project-induced additional 0.1 percent contribution to employment growth is not substantially more than the projection for the region in the absence of the California HSR System.

⁶ First and last mile connectivity describes the beginning and end of individual trips made primarily by public transportation; the gap from the trip origin to public transit is termed a first mile connection, and the gap from public transit to destination is termed a last mile connection.

⁷ As explained in Section 3.18.4, Methods for Evaluating Impacts, impacts associated with improved accessibility for the California HSR System statewide were calculated based on research conducted by the Authority, which estimated a total gain of 102,000 jobs over the baseline employment forecast for the state by 2040 (Authority 2017).

Table 3.18-14 Regional Projected and Induced O&M Employment Growth

County	2015 Estimate ¹	2040 Projections (No Project Alternative) ¹	HSR Direct, Indirect, and Induced Growth ²	HSR Increased Accessibility Growth	Total HSR Induced Growth	Total 2040 HSR Build Alternative Projections	Growth over No Project Alternative (%)
Los Angeles	4,674,800	5,226,000	500	4,900	5,400	5,231,400	0.1

Sources: CDOF, 2016; SCAG, 2016;

¹ Figures rounded to nearest hundred. Similar ratio of population to jobs (2.17) assumed between 2015 and 2040 for Los Angeles County.

² O&M budget for Palmdale and Lancaster utilized for the direct, indirect, and induced jobs calculation were estimated based on a segment-wide O&M budget normalized on a per-route-mile basis.

Authority = California High-Speed Rail Authority; CDOF = California Department of Finance; HSR = high-speed rail; O&M = operations and maintenance; SCAG = Southern California Association of Governments

Given that the total number of jobs that would be induced by the California HSR System (approximately 5,380 jobs) is only 0.1 percent greater than the projected 2040 total workforce, it is anticipated that the projected workforce would be capable of absorbing the Palmdale to Burbank Project Section's demand for workers. Therefore, the Palmdale to Burbank Project Section would not create employment-related growth substantially beyond what is forecasted for the region. Overall, it is expected that employment growth from California HSR System operations would be a net benefit for the region because it would provide jobs in areas with a workforce capable of meeting the demand.

Long-Term Induced Population Growth

Population Growth Associated with Employment Growth

Long-term employment gains caused by the Palmdale to Burbank Project Section would result in some degree of population increase due to employment growth. Increases in population could result in environmental impacts including, but not limited to, increased demand for public services and utilities, recreational facilities, and/or increased traffic. These specific issues are analyzed in Section 3.6, Public Utilities and Energy; Section 3.15, Parks and Recreation; and Section 3.2, Transportation, respectively.

As discussed in Section 3.18.5, the RSA has a 2.17 population-to-employment ratio. This ratio estimates increases in population due to the aggregate long-term employment gains induced by the Palmdale to Burbank Project Section (5,380 jobs). Population estimates for the No Project Alternative and six Build Alternatives are presented in Table 3.18-15.

As shown in Table 3.18-15, the six Build Alternatives would contribute a relatively small (0.1 percent) increase in the projected 2040 population for Los Angeles County relative to No Project Alternative projections. While the six Build Alternatives would increase projected population by 0.1 percent, the California HSR System would also result in environmental benefits as compared to the No Project Alternative, including reduced automobile travel on major freeways and reduced long-term air pollutant emissions. In addition, the California HSR System stations would function as multimodal transportation hubs and would be designed as pedestrian friendly environments that encourage first and last mile connectivity. Therefore, the stations would provide Palmdale and Burbank with an opportunity to meet the TOD goals outlined in their respective general plans (refer to Section 3.13, Station Planning, Land Use, and Development, for further discussion).

Table 3.18-15 Regional Projected and Induced Population Growth in Los Angeles County

2015 Estimate ¹	2040 Projections (No Project Alternative) ¹	HSR Direct and Indirect Induced Growth	HSR Increased Accessibility Growth	Total HSR Induced Growth	Total 2040 HSR Build Alternative Projections	Growth over No Project Alternative (%)
10,155,100	11,514,000	1,058	10,636	11,693	11,525,693	0.1

Sources: CDOF, 2016; SCAG, 2016

¹ Figures rounded to nearest hundred.

CDOF = California Department of Finance; HSR = high-speed rail; SCAG = Southern California Association of Governments

Exurban Population Growth

The California HSR System could remove obstacles to growth because it would facilitate travel between areas of California by providing an additional mode of transportation. The California HSR System is designed for intercity travel to provide an alternative to the use of personal automobiles and airplanes for rapid travel between the state's major urban centers. At an average California HSR System ticket price that could be as much as half or more the price of airfare, it may not be cost-effective for most people living in one urban area, such as Bakersfield, to commute to work via the California HSR System to another urban area, such as Los Angeles.

Exurban cities and counties, however, could attract population in light of the high housing costs in California's heavily urbanized areas. People could relocate from the Los Angeles metropolitan areas to less expensive outlying communities. The Authority conducted research of this type of population growth, which is further discussed in Appendix C, Economic Analysis, of the Community Impact Assessment. Living in exurban communities currently may require some workers to make 2- and 3-hour, one-way commutes to their place of employment. For workers moving and purchasing housing in exurban communities but continuing to work in one of the metropolitan central cities, housing costs would decrease but transportation costs would likely increase. Nevertheless, the disparity in housing and transportation costs could encourage some people to consider using the California HSR System to access more affordable housing in exurban communities.

Of the total Antelope Valley workforce, approximately 51 percent of Palmdale working residents and 35 percent working residents from Lancaster already commute outside of the Antelope Valley (30 minutes or longer). Most travel to the following cities (in order from highest percentage to lowest): Los Angeles, Simi Valley, Santa Clarita, Long Beach, Burbank, Pasadena, Glendale, and Bakersfield (GAVEA 2015). Working residents from Antelope Valley using Metrolink's Antelope Valley Line experience travel times of 9 minutes between Lancaster and Palmdale, and 106 minutes between Palmdale and Los Angeles Union Station (Caltrans 2018). The planned California HSR System service with stations in exurban communities could provide a new, fast, and reliable transportation option for workers who live in these outlying areas and commute to jobs in the metropolitan central cities. Achieving this reduced travel time from home to work would, however, also require time-efficient and convenient transportation with reliable first and last mile connectivity to and from HSR stations and workers residences and places of work.

Annual commuting costs on HSR trains would vary. HSR service modeling assumes a one-way fare of \$33 (2015 dollars) from Palmdale to Los Angeles (Authority 2018). Annual commuting costs for this distance would be about \$15,800 per year or about \$12,700 if commuting only 4 days per week. At the low end, commuting 3 days a week from Burbank to Los Angeles would be less than \$7,800 per year.

While these annual costs are considerable, annual transportation costs for exurban communities can be much higher for workers living in the metropolitan central cities with access to transit. For example, the estimated average annual transportation costs for Los Angeles residents would be about \$12,300, as evaluated in Appendix C, Economic Analysis, of the Community Impact Assessment. In contrast, estimated average annual transportation costs for Bakersfield and Palmdale are \$14,700 and \$16,200, respectively. As such, some households could afford to use the California HSR System train for commuting on a daily or less frequent basis.

In conclusion, some individuals and their households may choose to relocate to exurban communities to purchase more affordable housing, especially if the individuals can access convenient affordable HSR train commute services. The number, magnitude, and distribution of households that may make this decision are difficult to estimate and involve many economic factors and individual preferences. Such households would likely relocate to these exurban communities over time, starting during construction, just prior to operations, or after HSR operations have been proven to be fast, reliable, and affordable. Local governments may take steps to accommodate this population growth and the increased demand for housing by updating their general plan policies, transit plans, zoning, and building codes. The increases in population within these exurban areas would not be stimulated by local economic growth, but rather would be a shift of some population growth from expensive metropolitan central cities to exurban communities. Therefore, the Palmdale to Burbank Project Section is not anticipated to induce substantial unplanned population growth beyond what is planned for the RSA.

Impacts of Long-Term Land Use Consumption

Operation of the Palmdale to Burbank Project Section would induce some population growth, which would increase the demand for housing, although it would be speculative to predict where such growth would occur. Population growth would generally not occur within the ANF where land use restrictions generally preclude development.

As discussed in Section 3.18.6.3, SCAG has determined the projected housing need for Los Angeles County from 2014 to 2021 and allocated this housing need to each jurisdiction by income category. The RHNA represents the minimum number of housing units each community must provide through land use planning and zoning in order to accommodate projected growth. These allocations are subject to periodic upgrades. RHNA allocations for jurisdictions in the RSA during the most recent planning period are summarized in Table 3.18-11. Jurisdictions within the RSA have adopted housing elements that plan for housing and the associated land use consumption required by their RHNA and would continue to update such plans as RHNA allocations are updated based on SCAG projections.

As discussed in this analysis of long-term induced growth, the California HSR System would result in about 0.1 percent increase in population in Los Angeles County beyond SCAG's population projections. The average number of people per housing unit in Los Angeles County is approximately 2.9 (California Department of Finance 2016). Using this ratio, it follows that the total project-induced population increase of approximately 11,700 people (Table 3.18-15) would require approximately 4,030 housing units. Accordingly, the six Build Alternatives would generate an additional 0.9 percent housing need beyond the No Project Alternative projections, which anticipate approximately 463,500 new housing units by 2040 in the RSA.⁸ Therefore, while new housing units may be needed to accommodate project-induced population growth, this development would not substantially exceed the housing development and associated land use consumption already projected for the RSA. In addition, this new housing developed to accommodate project-related growth would be consistent with the relevant adopted general plans, zoning ordinances, and other land use regulations, including CEQA.

3.18.7 Mitigation Measures

All regional growth impacts associated with the Palmdale to Burbank Project Section would be minimal. Therefore, no mitigation measures are required.

3.18.8 NEPA Impacts Summary

Effects of all six Build Alternatives are summarized and compared in Table 3.18-16. The discussion below elaborates on regional growth effects associated with the Build Alternatives

⁸ The 2040 housing estimates are based on population projections contained in Table 3.18-7, divided by the average number of residents per housing unit in each jurisdiction. The 463,495-unit housing need for Los Angeles County was calculated by subtracting the existing housing units from the 2040 project housing unit need, both of which are presented in Table 3.18-9.

Table 3.18-16 Summary of Regional Growth Impacts by Build Alternative

Impacts	Build Alternative						NEPA Conclusion before Mitigation (All Build Alternatives)	Mitigation	NEPA Conclusion post Mitigation (All Build Alternatives)
	Refined SR14	SR14A	E1	E1A	E2	E2A			
Construction									
Near-Term Construction-Related Impacts							No Adverse Effect	No mitigation needed	N/A See Section 3.18.8
Direct jobs created during peak year construction (2023)	7,800	7,900	7,900	8,000	7,900	8,000			
Direct jobs created as percent of projected construction industry jobs (2023)	5.4%	5.5%	5.5%	5.6%	5.5%	5.6%			
Total direct, indirect, and induced jobs created during construction (job-years)	83,400	84,900	80,300	81,600	80,900	82,100			
Operations¹									
Long-Term Employment Impacts²							No Adverse Effect	No mitigation needed	N/A See Section 3.18.8
HSR O&M direct and indirect employment growth (jobs)	500								
HSR increased employment due to improved accessibility (jobs)	4,900								
Total HSR-induced long-term employment growth (jobs)	5,400								
Percent increase over 2040 No Project Alternative employment projections (jobs)	0.1%								

Impacts	Build Alternative						NEPA Conclusion before Mitigation (All Build Alternatives)	Mitigation	NEPA Conclusion post Mitigation (All Build Alternatives)
	Refined SR14	SR14A	E1	E1A	E2	E2A			
Long-Term Induced Population Growth²							No Adverse Effect	No mitigation needed	N/A See Section 3.18.8
Total HSR-induced population growth	11,693								
Percent increase over 2040 No Project Alternative population projections	0.1%								
Impacts of Long-Term Land Use Consumption							No Adverse Effect	No mitigation needed	N/A See Section 3.18.8
The six Build Alternatives would generate an additional 0.9 percent housing need beyond the No Project Alternative projections. Growth resulting from the Palmdale to Burbank Project Section would be consistent with that already planned for the RSA; therefore, there would be no substantial increased land use consumption due to long-term induced population growth.									

¹ The differences among the six Build Alternatives are not great enough to affect operating costs or maintenance costs; therefore, O&M of any of the six Build Alternatives would result in similar direct effects on employment and population growth.

² Effects shown for long-term employment impacts and long-term induced population growth resulting from the Palmdale to Burbank Project Section would occur in Los Angeles County. HSR =high-speed rail; O&M = operations and maintenance; RSA = resource study area

Because the six Build Alternatives are similar in length and would use the same Burbank Airport Station site, regional growth effects of the six Build Alternatives would not differ with regard to O&M effects. However, effects would differ slightly with regard to construction jobs. The Refined SR14A Build Alternative would create the highest number of total construction job-years (84,900). The E1 Build Alternatives would create the fewest number of total construction job-years (80,300). Regardless of the Build Alternative chosen, the Palmdale to Burbank Project Section would result in a relatively small percentage of projected regional construction industry employment during the peak year of construction (2023). Accordingly, the Palmdale to Burbank Project Section would not likely result in a temporary influx of people living in the RSA. The projected construction workforce would likely absorb the added demand for construction workers.

Projections indicate that by 2040, long-term employment growth induced by the Palmdale to Burbank Project Section would support approximately 5,400 jobs, representing a 0.1 percent increase in the number of jobs anticipated for Los Angeles County relative to the No Project Alternative. Employment growth from project operations would be a net benefit for the region by providing jobs in areas with a large labor force capable of absorbing the employment demand.

Based on regional conditions, a people-to-jobs ratio of 2.17 was used to estimate the anticipated population growth associated with project-induced long-term employment. As a result of project-induced long-term employment gains, the six Build Alternatives would therefore result in a 0.1 percent increase (approximately 11,700 people) in the Los Angeles County population in 2040 compared to the No Project Alternative.

The Palmdale to Burbank Project Section would not cause substantial growth beyond SCAG's 2040 projections, upon which the RHNA is based. Therefore, the RHNA would ensure sufficient housing to accommodate projected growth, including growth induced by the California HSR System. The total project-induced growth would also require minimal extension of public infrastructure beyond that already reflected in local planning documents. Because effects related to regional growth would be limited or beneficial, no mitigation measures are proposed.

3.18.9 CEQA Significance Conclusions

CEQA thresholds related to regional growth effects are addressed in Section 3.12, Socioeconomics and Communities, and Section 3.13, Station Planning, Land Use, and Development. Therefore, there are no significance conclusions discussed in this section.

3.18.10 United States Forest Service Impact Analysis

This section summarizes growth effects associated with the six Build Alternatives on the ANF, including lands within the ANF that are part of the SGMNM.

3.18.10.1 Consistency with Applicable United States Forest Service Policies

Appendix 3.1-B, USFS Policy Consistency Analysis, contains a comprehensive evaluation of relevant laws, regulations, plans, and policies relative to portions of the Build Alternative alignments within the ANF, including SGMNM.

Because of land-use restrictions outlined in the *Angeles National Forest Management Plan* (2006) and *San Gabriel Mountains National Monument Management Plan* (2018), there are very few residences and employment centers on or adjacent to USFS lands, except within a limited number of private in-holdings. Policies in the Angeles National Forest Management Plan regarding regional growth are generally related to USFS's ability to accommodate growth within USFS facilities, including those providing recreation opportunities. However, policies in the Angeles National Forest Management Plan and San Gabriel Mountains National Monument Management Plan do not specifically address regional employment nor population growth trends on USFS lands. Therefore, regional employment and population growth effects resulting from the Palmdale to Burbank Project Section would not result in inconsistencies with these plans. As such, all six Build Alternatives are considered consistent with the policies in the ANF system.

3.18.10.2 United States Forest Service Resource Analysis

Construction and operations of each of the Build Alternatives would result in new jobs in Los Angeles County. The forecast workforce within the RSA (Los Angeles County) is anticipated to be sufficient to meet anticipated employment demand during project construction. Because a large number of workers would not be likely to move into the RSA from other counties to fill construction and operations jobs created by the Palmdale to Burbank Project Section, substantial growth is not anticipated to be induced by project construction.

Operations of the Palmdale to Burbank Project Section would induce population growth, requiring the construction of new housing units, although not substantially more than projected under the No Project Alternative. While it would be speculative to predict where such growth would occur, any development required to accommodate induced population growth would occur consistent with adopted local government general plans, zoning ordinances, and land use regulations. Moreover, the Angeles National Forest Management Plan and San Gabriel Mountains National Monument Management Plan generally preclude development of housing within the ANF, including the SGMNM, boundaries, except with respect to housing for USFS employees and private in-holdings. Therefore, project-related employment and population growth would not be located in the ANF, including the SGMNM, as the adopted land use management plans for these areas preclude this type of development.