

3.18 Regional Growth

3.18.1 Introduction

Section 3.18, Regional Growth, of the *Burbank to Los Angeles Project Section Environmental Impact Report/Environmental Impact Statement* (EIR/EIS) analyzes the potential impacts of the No Project Alternative and the HSR Build Alternative. This section also defines the resources related to regional growth within the region and describes the affected environment in the resource study areas (RSA).

Additional details on regional growth are provided in the following appendices in Volume 2 of this EIR/EIS:

- Appendix 3.1-B, Regional and Local Policy Inventory
- Appendix 3.18-A, RIMS II Modeling Details

Seven other resource sections in this EIR/EIS provide additional information related to regional growth:

- **Section 3.2, Transportation**—Construction and operations impacts of the HSR Build Alternative related to transportation and traffic.
- **Section 3.3, Air Quality and Global Climate Change**—Construction and operations impacts of the HSR Build Alternative related to air quality and its influence on a community's quality of life.
- **Section 3.6, Public Utilities and Energy**—Construction and operations impacts of the HSR Build Alternative related to energy and utility infrastructure, such as electricity.
- **Section 3.12, Socioeconomics and Communities**—Construction and operations economics-related impacts of the HSR Build Alternative on cities and counties.
- **Section 3.13, Station Planning, Land Use, and Development**—Construction and operations impacts of the HSR Build Alternative related to land use. This section includes discussion of how growth is addressed in local land use regulations and discusses in detail measures that would encourage increased development density around stations (e.g., grants to support station area planning). These measures also summarized at the end of this section in terms of how they related to regional growth.
- **Section 3.19, Cumulative Impacts**—Construction and operations impacts of the HSR Build Alternative and other past, present, and reasonably foreseeable future projects.
- **Chapter 6, Project Costs and Operations**—Assumptions about train operations, maintenance of infrastructure, station and train cleaning, and general and administrative activities.

3.18.1.1 Definition of Resources

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

- **Employment** is the number of jobs in the RSA (consisting of Los Angeles County) 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 HSR Build Alternative 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 Alternative during construction or operation.

Regional Growth

Regional growth in regards to transportation projects reflects the relationship between the proposed project and future growth within the project area. Growth inducement may be direct or indirect with the impacts potentially adverse or beneficial as determined by the analysis.

- **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 HSR Build Alternative on population growth during construction and operation.
- **Housing** considers the available units of housing in the RSA under the HSR Build Alternative and the No Project Alternative to determine if sufficient housing is anticipated to be available to match projected population growth.

3.18.2 Laws, Regulations, and Orders

This section describes the federal, state, regional, and local laws, regulations, orders, or plans that are relevant to regional growth.

3.18.2.1 Federal

National Environmental Policy Act (42 U.S.C. Section 4321 et seq.)

Council on Environmental Quality regulations (40 Code of Federal Regulations 1500 – 1508), which implement the National Environmental Policy Act (NEPA) of 1969 (as amended), 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 an action alternative and at some time in the future. Positive and negative growth (i.e., change) is a potential consequence of the HSR Build Alternative. Direct growth effects are those caused by the HSR Build Alternative occurring at the same time and place (40 Code of Federal Regulations 1508.08). Direct growth effects include any permanent jobs directly associated with the HSR Build Alternative, as well as any displacement of housing related to the construction and operation of the proposed rail facilities. Indirect growth effects are considered to be reasonably foreseeable effects caused by the HSR Build Alternative, typically occurring later in time or farther in distance from the project (40 Code of Federal Regulations 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 HSR Build Alternative. Removal of existing obstacles to growth would also be considered indirect growth effects. “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.

Federal Railroad Administration, Procedures for Considering Environmental Impacts (64 Federal Register 28545)

The Federal Railroad Administration Procedures for Considering Environmental Impacts 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 U.S. Department of Transportation Order 5610.4.”

These Federal Railroad Administration Procedures for Considering Environmental Impacts Section 16(n)(16) state 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 alternative). Section 3.12, Socioeconomics and Communities, of this EIR/EIS covers in detail the federal policies relating to the socioeconomic environment. The discussion of regional growth is closely related.

3.18.2.2 State

California Environmental Quality Act Requirements to Analyze Growth

The California Environmental Quality Act (CEQA) Guidelines (California Code of Regulations, Title 14, §§ 15000–15387) Section 15126.2(d) requires an EIR to 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, for example, 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) or alternative planning strategy (APS) as part of their regional transportation plans (RTP). The purpose of the SCS or APS is to reduce greenhouse gas (GHG) 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) is the MPO that governs the RSA for regional growth. Emissions targets set by SCAG in the 2016–2040 RTP/SCS would result in an 8 percent reduction in GHG emissions per capita by 2020, an 18 percent reduction by 2035, and a 21 percent reduction by 2040 (compared with 2005 levels). SCAG adopted the 2016–2040 RTP/SCS on April 7, 2016. For more information about SCAG and the RTP/SCS, refer to Volume 2, Appendix 3.1-B, Regional and Local Policy Inventory, of this EIR/EIS.

Pursuant to California Government Code 65080(b)(2)(B), the SCS or APS shall:

- (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 RTP, 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 eight-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 GHG emissions from automobiles and light trucks to achieve, if feasible, the GHG emission reduction targets approved by the state board.
- (viii) Allow the RTP to comply with Section 176 of the federal Clean Air Act (42 U.S. Code § 7506).

The RTP adopted by SCAG 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 (SB) 375 is intended to require the MPOs to direct transportation funding toward investments that would reduce GHG emissions and away from investments that would not.

SB 375 grants no new land use powers to the MPOs. However, in order 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 GHG emissions (which are linked to vehicle miles traveled) and plan to accommodate regional housing needs (which are expected to continue to increase). Pursuant to SB 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.

The regional housing needs allocation is statutorily linked to the housing element that must be adopted by each city and county as part of its general plan. The housing element must provide opportunities for the housing need assigned to the city or county to be filled through new construction or rehabilitation of housing. The housing need includes specific allotments for very low and low-income housing.

Preparation of the SCS is mandated by law and the ability of each SCS to meet the emissions reduction target for the planning area must be reviewed and approved by the Air Resources Board. If implementation of the SCS would not meet the target, then the MPO must adopt an APS that would. However, the APS is not a required component of the RTP and, therefore, would be less likely to be implemented.

3.18.2.3 Regional and Local

Table 3.18-1 lists county and city general plans and policies that contain policies relevant to the HSR Build Alternative. According to the California Office of Planning and Research, “a General Plan is the local government’s long-term blueprint for the community’s vision of future growth” (Governor’s Office of Planning and Research n.d.). Regional, general, and local plans contain goals and policies related to growth, although these most often only pertain to the specific jurisdiction. The discussion of growth contained within this section is focused at the regional level. However, relevant policies and guidelines pertaining to growth from applicable regional, general, and specific plans have been evaluated here.

Table 3.18-1 Regional and Local Plans

Policy Title	Summary
SCAG RTP/SCS 2016–2040 (2016)	The RTP/SCS is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. It embodies a collective vision for the region’s future development with input from across the region.
City of Burbank General Plan (2013)/ City of Burbank Housing Element (2014)	The Burbank 2035 General Plan is a “blueprint” for growth in which goals and policies affect a wide range of issues, including housing, traffic circulation and mobility, parks and recreation, resource conservation, and public safety. It anticipates and plans for changes in the community with a focus on the future.
City of Glendale General Plan/City of Glendale Housing Element (2014)	Glendale’s comprehensive general plan is prepared in accordance with state law to address community policies and objectives for growth and development. It establishes the policies for use and protection of resources to meet community needs and contains 11 elements addressing circulation, conservation, housing, land use, noise, open space, safety, air quality, community facilities, historic preservation, and recreation.

Policy Title	Summary
City of Los Angeles General Plan (2001)/City of Los Angeles Housing Element (2013)	The City of Los Angeles General Plan essentially serves as a “constitution for development” and is a document that provides foundations for all land use decisions. The Framework Element establishes the broad overall policy and direction for the entire general plan and provides citywide context and a comprehensive long-range strategy to guide the comprehensive update of the general plan’s other elements, including the 35 community plans that collectively comprise the Land Use Element. Of those 35 community plans, only those that are geographically applicable to the Burbank to Los Angeles Project Section are included in this table.
Northeast Los Angeles Community Plan (1999)	Part of the Land Use Element of the City of Los Angeles General Plan, the Northeast Los Angeles Community Plan, seeks to create an environment with diversity, balanced growth, identity, and historical continuity.
Los Angeles County Strategic Plan for Economic Development (2016–2020)	The Strategic Plan for Economic Development is a collaborative effort with regional stakeholders who represent public, private, business, government, labor, education, and community-based organizations, and Propel L.A. (the division within the LAEDC tasked with implementation of the strategic plan) to define priorities that will lead to the creation of well-paying jobs and help key industries and the workforce navigate the challenging transition to an Information Age economy. It serves as the region’s roadmap to increase shared prosperity and increase standards of living for our diverse residents from all regions of the county in the face of unprecedented economic change.

HSR = high-speed rail
 LAEDC = Los Angeles Economic Development Corporation
 RTP = regional transportation plan
 SCAG = Southern California Association of Governments
 SCS = sustainable communities strategy

3.18.3 Consistency with Plans and Laws

As indicated in Section 3.1, Introduction, CEQA and NEPA regulations require a discussion of inconsistencies or conflicts between a proposed undertaking and federal, state, regional, or local plans and laws.

Several federal and state laws, listed in Section 3.18.2.1, Federal, and Section 3.18.2.2, State, pertain to regional growth. As the lead state and lead federal agency (the Authority is the lead federal agency pursuant to 23 U.S. Code 327 and the terms of the Memorandum of Understanding between the Federal Railroad Administration and the State of California effective July 23, 2019) proposing to construct and operate the HSR system, the California High-Speed Rail Authority (Authority) 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 of the project. Therefore, there would be no inconsistencies between the HSR Build Alternative 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 build the Burbank to Los Angeles Project Section so that it is consistent with land use and zoning regulations. A total of 6 plans and 19 policies were reviewed (see Table 3.18-1 for relevant plans and policies). The HSR Build Alternative would be consistent with these plans and relevant policies.

Refer to Appendix 3.1-B, Regional and Local Policy Inventory, for a complete consistency analysis of local plans and policies.

3.18.4 Methods for Evaluating Impacts

The following sections summarize the RSA and the methods used to analyze growth-related impacts. As summarized in Section 3.18.1, Introduction, seven other sections in this EIR/EIS also provide additional information related to regional growth: Section 3.2, Transportation; Section 3.3, Air Quality; Section 3.6, Public Utilities and Energy; Section 3.12, Socioeconomics and Communities; Section 3.13, Station Planning, Land Use, and Development; Section 3.19, Cumulative Impacts, and Chapter 6, Cost and Operations.

3.18.4.1 Definition of Resource Study Area

As defined in Section 3.1, Introduction, RSAs are the geographic boundaries in which the Authority conducted environmental investigations specific to each resource topic. The direct RSA for regional growth includes Los Angeles County in its entirety and reflects the area in which employment and resulting population growth induced by the HSR Build Alternative would generally occur. Within the context of this section, the terms “region” and “county” both refer to Los Angeles County unless otherwise specified. Table 3.18-2 provides a general definition and boundary description for the RSA within the Burbank to Los Angeles Project Section, as shown on Figure 3.18-1.

Table 3.18-2 Definition of Resource Study Area

General Definition	Resource Study Area Boundary and Definition
Direct	County in which the project footprint is entirely contained (Los Angeles County)

RSA = resource study area

3.18.4.2 Impact Avoidance and Minimization Features

The HSR Build Alternative incorporates standardized HSR features to avoid and minimize impacts. These features are referred to as impact avoidance and minimization features (IAMF). The Authority would implement IAMFs during project design and construction. As such, the analysis of impacts of the HSR Build Alternative in this project section factors in all applicable IAMFs. Appendix 2-B, Impact Avoidance and Minimization Features, of this EIR/EIS provides a detailed description of the IAMFs included as part of the HSR Build Alternative design. Currently, there are no IAMFs applicable 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 potential impacts from implementing the HSR Build Alternative on regional growth. These methods apply to both NEPA and CEQA unless otherwise indicated. Refer to Section 3.1.3.4, Methods for Evaluating Impacts, for a description of the general framework for evaluating impacts under NEPA and CEQA. Laws, regulations, and local planning documents (see Section 3.18.2, Laws, Regulations, and Orders) that regulate regional growth were also considered in the evaluation of direct and indirect impacts on regional growth.

Analysts collected information on regional growth through review of the plans and policies referenced in Section 3.18.2.3, Regional and Local, and conducted data modeling. A regional modeling process was undertaken to forecast growth in Los Angeles County resulting from construction and operation of the HSR Build Alternative. The introduction of additional workers in the region is an important consideration because an influx of workers could increase the demand for public services and require new or altered government and public facilities to meet the increased demand in communities in the RSA. The methods used to analyze the potential increase in population resulting from jobs created during the construction (short-term) and operation (long-term) phases of the HSR Build Alternative, and the potential impacts of this increase are described below. All impact projections were rounded to the nearest tenth.



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PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
 SOURCE: National Geographic/Esri (2018), CHSRA (11/2019)

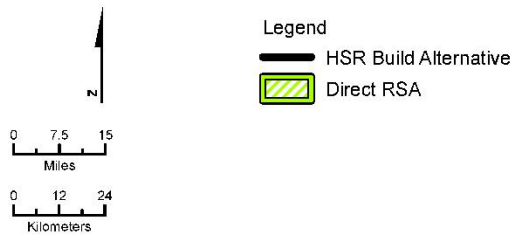


Figure 3.18-1 Resource Study Area for Regional Growth

The analysis determined the short-term construction-related employment impacts using the Regional Input-Output Modeling System (RIMS) II multipliers¹ for Los Angeles County. The RIMS II is a regional economic model and a tool used by investors, planners, and elected officials to objectively assess the potential economic impacts of various projects. In addition to the RIMS II multipliers for Los Angeles County, the primary inputs to the estimation of short-term employment impacts were the construction costs broken down by cost categories. The likelihood for construction-related population and employment growth was also assessed, including the likelihood of construction workers moving to the RSA to take advantage of employment opportunities. It should be noted that the analysis contained herein assumes HSR Build Alternative construction will begin in 2020, consistent with the Authority's 2016 Business Plan, which was the business plan in effect at the time the analysis was conducted. Actual construction will take place later and may have a different construction time period; however, this analysis remains valid in that any differences resulting from construction occurring during a later construction period would be minor, and the relative impacts would remain generally the same.

The analysis also determined the long-term impacts resulting from operation of the HSR Build Alternative. First, the analysis estimated the long-term employment impacts for the RSA related to operation and maintenance. In addition to the RIMS II multipliers for Los Angeles County, the primary inputs to the estimation of the long-term employment impacts were the annual operations and maintenance costs broken down by cost categories. Second, the analysis determined the long-term operations-related employment impacts resulting from increased accessibility by utilizing a methodology developed by the Authority. The primary inputs to the determination of long-term employment impacts from increased accessibility were estimates on a statewide basis for the number of induced jobs over time and accessibility indicator scores. Long-term employment impacts related to operation and maintenance were then added to the long-term operations-related employment impacts resulting from increased accessibility, for a comprehensive total of long-term employment impacts, and compared to the projected 2040 workforce to determine if impacts were substantial.

Long-term population impacts were estimated using the comprehensive total of long-term employment impacts and were calculated based on population-to-employment ratio of 1.95 currently found within the RSA (using the 2010–2014 ACS estimates, as that was the most recent data set available when the analysis commenced). That population increase was then compared against the total projected population for 2040 to determine if impacts were substantial.

After estimation of the short-term and long-term employment impacts, the analysis determined the employment impacts from induced growth based on the infill potential and magnitude of land needed to accommodate the population and employment growth. The analysis included consideration of the already heavily urbanized environment throughout the region and the likelihood of redevelopment of existing land uses and estimated the population and employment growth that could fit within the urban growth boundaries delineated by each city and county in their current general plans. The population, employment, and land consumption estimates were then reviewed to characterize the nature and magnitude of potential secondary impacts on the environment.

3.18.4.4 Method for Determining Significance under CEQA

CEQA requires that an EIR identify the significant environmental impacts of a project (CEQA Guidelines Section 15126). One of the primary differences between NEPA and CEQA is that CEQA requires a significance determination for each impact using a threshold-based analysis (see Section 3.1.3.4, Methods for Evaluating Impacts, for further information). By contrast, under NEPA, significance is used to determine whether an EIS will be required; NEPA requires that an EIS be prepared when the proposed federal action (project) as a whole has the potential to “significantly affect the quality of the human environment.” State CEQA Guidelines Section 15126.2(d) requires an EIR to evaluate the potential growth-inducing impacts of a proposed

¹ RIMS II multipliers are regional input-output multipliers used to estimate regional economic activity changes generated by changes in regional industries. Using these RIMS II multipliers, economists estimated short-term/temporary employment generated by construction of the HSR Build Alternative.

project. An EIR must discuss the ways in which a project could directly or indirectly foster economic or population growth, or through displacement of people or housing, would necessitate the construction of additional housing in the surrounding environment. For example, a project that would construct new housing would have a direct growth-inducing effect, whereas a project that removes an obstacle to growth would have an indirect growth-inducing effect. The State 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.”

Therefore, the focus of analysis in this section addresses the indirect ways the HSR Build Alternative could foster economic or population growth during construction and project operation. For analysis of the direct project impacts on the displacement of housing and people, refer to Section 3.12, Socioeconomics and Communities. Section 3.12 also summarizes the indirect regional growth impacts evaluated in this section to provide a comprehensive analysis for determining significance under CEQA. No additional CEQA thresholds of significance exist related to the potential regional growth impacts for the HSR Build Alternative.

3.18.5 Affected Environment

This section describes recent historic trends, existing and projected employment and unemployment rates, population, and housing in the RSA, comprising the affected environment for regional growth in the Burbank to Los Angeles Project Section RSA. This information provides the context for the environmental analysis and evaluation of impacts, which is described in Section 3.18.6, Environmental Consequences.

A summary of stakeholder issues and concerns from public outreach efforts can be found in Chapter 9, Public and Agency Involvement.

3.18.5.1 Employment

According to the Los Angeles Economic Development Corporation,² the Los Angeles County region ranks among the world’s largest economies with an output of more than \$700 billion. Notable industries established within the county include aerospace, entertainment, biomedical services and healthcare, consumer products, and tourism. International trade is the largest industry in Los Angeles by employment, bolstered by the presence of the Ports of Los Angeles and Long Beach (the two ports make up the largest port complex in the U.S.) and the Los Angeles International Airport, the sixth-busiest airport in the world. As of 2016, the largest employers in Los Angeles County included the County itself, the Los Angeles Unified School District, the City of Los Angeles, and the University of California, Los Angeles. The largest private employers included Kaiser Permanente, the University of Southern California, and Northrop Grumman Corporation.³ By 2017, the county had recovered the jobs lost during the Great Recession and is expected to continue a moderate growth rate. At peak unemployment in July 2010, the county experienced an unemployment rate of 13.2 percent.⁴

Table 3.18-3 shows State of California Employment Development Department data on regional employment by industry for Los Angeles County, including both historical data and projections of future employment. Total industry employment counts the number of jobs by the place of work. Between 2000 and 2015, total employment by industry increased by 171,200 jobs (4.1 percent) in Los Angeles County. The Employment Development Department projects that, between 2015 and 2022, employment will increase by 237,700 jobs (5.5 percent) in the county. The largest employment sectors in the county are currently, and will continue to be, the educational services, health care, and social assistance sector and the professional, scientific, and management sector. Manufacturing, transportation and warehousing, and public administration are the only sectors projected to experience an employment decrease from 2015 to 2022.

² <https://laedc.org/wtc/chooselacounty/regions-of-la-county/> (accessed May 9, 2019).

³ www.laalmanac.com/employment/em21e.php (accessed May 17, 2018).

⁴ <https://laedc.org/wp-content/uploads/2017/11/2017-LAC-Economic-Update.pdf> (accessed May 18, 2018).

Table 3.18-3 Regional Employment by Industry for Los Angeles County

Industry	2000	2015	Projected
Agriculture, forestry, fishing and hunting, and mining	11,100	7,900	10,400
Construction	131,800	126,100	142,000
Manufacturing	615,200	368,200	315,200
Wholesale trade	217,700	222,400	237,300
Retail trade	392,500	422,200	455,900
Transportation and warehousing, and utilities	174,800	177,600	170,400
Information	244,300	207,600	211,700
Finance and insurance, and real estate and rental and leasing	223,400	215,600	226,200
Professional, scientific, and management, and administrative and waste management services	590,700	591,000	675,900
Educational services, and health care and social assistance ¹	760,100	1,023,800	1,150,400
Arts, entertainment, and recreation, and accommodation and food services	345,000	486,600	495,900
Other services, except public administration	140,200	151,000	157,900
Public administration	286,100	304,100	292,600
Total employed civilian population 16 years and over	4,132,900	4,304,100	4,541,800

Sources: California Employment Development Department, 2014, 2015, and 2016a

This data set represents the total employed civilian population over the age of 16 by industry. Any person with more than one occupation is classified into their primary occupation and counted only once.

¹ Government jobs that were related to education were included in educational services. All other government jobs were assigned to the public administration sector.

Table 3.18-4 shows the projected 2040 total employment in Los Angeles County and California. The projections indicate that employment in the county will increase at a slightly slower pace than that of the state (0.3 percent per year compared to 0.5 percent per year overall in California). According to the EDD,⁵ job growth in Los Angeles County through 2024 is expected to occur in 12 of 13 non-farm industry sectors, but 75 percent of that growth will be concentrated in the educational services, leisure and hospitality, and professional and business services (particularly the professional, scientific, and technical services sector) industry sectors. This growth pattern is similar to that of California overall through 2024; however, the state is projected to also experience high rates of growth in the construction sector, which trends closely with home building permits.⁶

Table 3.18-4 Regional Long-Range Employment Projections, 2017 and 2040

Area	Employment		Change from 2017	Annual Average
	2017	2040		
Los Angeles County	4,940,200	5,226,000 ²	5.8%	0.3%
State	18,568,900 ¹	20,802,000 ³	12.0%	0.5%

Sources:

¹ California Employment Development Department, 2016b

² Southern California Association of Governments, 2016

³ California Department of Transportation and the California Economic Forecast, 2013

⁵ http://www.labormarketinfo.edd.ca.gov/file/indproj/LA_highlights.pdf (accessed May 18, 2018).

⁶ [http://www.labormarketinfo.edd.ca.gov/file/indproj/cal\\$indnarr-2014-2024.pdf](http://www.labormarketinfo.edd.ca.gov/file/indproj/cal$indnarr-2014-2024.pdf) (accessed May 18, 2018).

A broad mix of industries supports Los Angeles County’s economy, and the county’s unemployment rates track relatively close to those of the state. Between 2000 and 2012, the county experienced a decline in the number of jobs in most major industries, resulting in a total loss of 91,500 jobs (Table 3.18-3). The largest reductions occurred in the manufacturing, information services, and construction sectors. The EDD projects the number of jobs in the county will increase during the period from 2015 to 2022 for all major industries, with the exception of manufacturing, transportation and warehousing, and public administration. Unemployment rates have been declining since 2010, also indicating growing employment opportunities in the county. SCAG projects this trend will continue with 551,200 jobs added by 2040 under the No Project Alternative, amounting to a 5.79 percent increase in the number of jobs between 2017 and 2040 in Los Angeles County (Table 3.18-4).

Table 3.18-5 presents annual average unemployment data for the state, Los Angeles County, and the cities of Burbank, Glendale, and Los Angeles in 2010, 2015, and 2017, respectively. As can be seen in the table, unemployment rates are down substantially from 2010. Only 2 years removed from the economic recession that began in 2008, the 12.5 percent unemployment rate was the peak for Los Angeles County. Generally, unemployment rates have dropped below the pre-recession rate (6.3 percent in 2007), indicating that the region has fully recovered from the recession’s impact on employment.

Table 3.18-5 Unemployment (Annual Average, 2010, 2015 & 2017)

Location	2010 Unemployment	2015 Unemployment	2017 Unemployment
California	12.2	6.2	4.0
Los Angeles County	12.5	6.6	4.1
City of Burbank	10.3	5.4	3.4
City of Glendale	12.1	6.4	4.0
City of Los Angeles	13.2	7.0	4.4

Source: California Employment Development Department 2010, 2015, and November 2017 [preliminary data, not seasonally adjusted] Historical annual average rates were not available at the sub-county level; the values presented herein are the mean of the 12 monthly rates of 2010 for each city.

3.18.5.2 Population

Table 3.18-6 shows the population in 2000 and 2010 for the state, Los Angeles County, and the cities of Burbank, Glendale, and Los Angeles. The population increase of approximately 10 percent for the State of California overall during the 2000–2010 period is a slowdown from previous years (U.S. Census Bureau 2011), and likely reflects continued domestic migration from California to other states that often have lower costs of living and affordable housing. Similarly, increases in population in coastal California areas were outpaced by more affordable, inland areas such as Riverside and San Bernardino counties, which experienced growth rates substantially higher than that of the state overall (approximately 42 and 19 percent, respectively (Censusviewer 2012a, 2012b). Generally, with the exception of the city of Glendale, each of the jurisdictions grew at a slower pace than the growth rate of the state (generally 0.3 percent increases per year for each city and the county, compared to a 1.0 percent growth rate experienced by the state). This may potentially be attributed to the sharp decline in economic growth in Southern California at the beginning of the recession in 2008, as well as the differing sources of growth occurring within the region (natural increases and foreign and domestic migration). Glendale experienced an overall 2 percent population loss over the 10-year period. Per the City of Glendale website, it is “unclear why the [2010] population fell, though it is likely related to the poor economic conditions felt throughout the country in the last part of the previous decade” (City of Glendale n.d.).

Table 3.18-6 Population Increase in the Resource Study Area, 2000–2010

Location	2000 Population	2010 Population	Change from 2000–	Annual Average
Los Angeles County	9,519,338	9,818,605	3.1%	0.3%
City of Burbank	100,316	103,340	3.0%	0.3%
City of Glendale	194,973	191,719	-1.7%	-0.2%
City of Los Angeles	3,694,820	3,792,621	2.7%	0.3
State of California	33,871,648	37,253,956	10.0%	1.0%

Source: U.S. Census Bureau, 2010-2014a, Table DP-1; SCAG 2016, Adopted 2016 Regional Transportation Plan Growth Forecast.

The data used in this table were the most current data available at the time the analysis was initiated.

Annual average increase values are rounded.

SCAG = Southern California Association of Governments

Table 3.18-7 shows the population estimates for 2010 and projections for 2040 for the same jurisdictions as noted above.

Table 3.18-7 Population Projections in the Resource Study Area, 2010–2040

Location	2010 Population	2040 Projected	Change from 2010–	Annual Average
Los Angeles County	9,818,605	11,514,000	17.3%	0.6%
City of Burbank	103,340	118,700	14.9%	0.5%
City of Glendale	191,719	214,000	11.6%	0.4%
City of Los Angeles	3,792,621	4,609,400	21.5%	0.7%
State of California	37,253,956	45,747,645 ¹	22.8%	1.0%

Source: U.S. Census Bureau 2010, Table DP-1; SCAG 2016, Adopted 2016 Regional Transportation Plan Growth Forecast.

The data used in this table were the most current data available at the time the analysis was initiated.

¹ California Department of Transportation and the Economic Forecast, 2013

SCAG = Southern California Association of Governments

These projections indicate that the populations of Los Angeles County and the cities of Burbank, Glendale, and Los Angeles are all expected to grow at a slower rate than that of the state overall (1 percent annually over the 30-year period), despite having higher average annual rates of increase than those experienced during the first decade of the century (Table 3.18-7).

3.18.5.3 Housing

Table 3.18-8 shows the number of existing and projected housing units in Los Angeles County and the state for the years 2015 and 2040. According to 2010–2014 American Community Survey data, the predominant housing type in Los Angeles County is the single-family home, with both detached and attached types representing more than 56 percent of the housing stock within the county. The average household size for occupied housing units in Los Angeles County is 3.04 persons, and the county experiences a vacancy rate of 6.3 percent. Section 3.12, Socioeconomics and Communities, includes more detailed information on existing housing characteristics in the region.

Table 3.18-8 Existing and Projected Housing Units

Location	2010–2014	2040 ¹	Change	Annual Average Growth Rate
Los Angeles County	3,462,000	3,997,000	15.5%	0.6%
California	13,782,000	17,436,000	26.5%	1.0%

Sources: U.S. Census Bureau, 2010–2014a, Table B25001

Note: The 2010–2014 data were the most current data available at the time the analysis was conducted.

¹ The 2040 housing estimates are based on population projections contained in Table 3.18-7, divided by the average number of resident per housing unit in each jurisdiction, using the methodology described in Section 3.18.4, Methodology for Impact Analysis.

The projections in Table 3.18-8 indicate that housing in Los Angeles County will grow more than 15 percent over the 26-year period, less than that of the state overall (over 26 percent).

3.18.6 Environmental Consequences

3.18.6.1 Overview

This section evaluates how the No Project Alternative and the HSR Build Alternative could affect regional growth. As stated in Section 3.18.4.4, this discussion of environmental consequences does not include a discussion of CEQA conclusions. The impacts of the HSR Build Alternative are described and organized as follows:

- **Construction Impacts**
 - Impact RG#1: Short-Term Construction-Related Employment Effects
- **Operations Impacts**
 - Impact RG#2: Long-Term Operations-Related Employment Effects
 - Impact RG#3: Long-Term Induced Population Growth
 - Impact RG#4: Effects on Regional Growth from Permanent Land Use Consumption

3.18.6.2 No Project Alternative

Under the No Project Alternative, recent development trends within the RSA are anticipated to continue, leading to ongoing impacts related to regional growth. Section 2.5.1, No Project Alternative—Planned Improvements, describes the No Project Alternative. Under the No Project Alternative, SCAG forecasts employment would increase by 11.8 percent within Los Angeles County between 2017 and 2040 (Table 3.18-4) and that population would increase within the county by 17.3 percent between 2010 and 2040 (Table 3.18-7). The land use elements of the cities of Burbank and Los Angeles general plans encourage transit-oriented, high-density development in urban areas and thoughtful development of uses around transit corridors to provide more modal choices for residents and workers. These cities are moving forward with implementation of these elements regardless of whether or not the HSR Build Alternative is built. Under the No Project Alternative, new housing and commercial development in accordance with these plans and policies would accommodate projected population and employment growth.

Under the No Project Alternative, the 2016 RTP/SCS adopted by SCAG is expected to encourage both compact development and greater investment in local transit modes as a means of reducing GHG emissions. These plans include provisions aimed at reducing GHG emissions and are considered by cities and counties during planning and zoning decisions in order to comply with the CEQA requirement to mitigate the impacts of planning and zoning decisions on GHG emissions.

The No Project Alternative assumes that all currently known programmed and funded improvements to the intercity transportation system (highway, Amtrak, and regional rail) and reasonably foreseeable local land development projects (with funding sources identified) would be developed by 2040. The No Project Alternative includes many planned projects that would likely be implemented by the year 2040. Construction of planned development and transportation projects would generate some short-term construction employment in Los Angeles County and a

number of long-term, permanent jobs to maintain new and expanded facilities. Chapter 2, Alternatives, describes the No Project Alternative in depth. For a list of planned and pending development and transportation projects that could have effects on regional growth, refer to Appendix 3.19-A, Cumulative Projects.

3.18.6.3 High-Speed Rail Build Alternative

Construction and operation of the HSR Build Alternative could result in temporary and permanent impacts related to regional growth. Impacts potentially include impacts on population and employment. Generally, higher spending on construction leads to proportionally greater direct job creation as well as the associated indirect and induced employment. The economic and regional growth effects outlined below may occur sooner than projected should individual early action projects (described in Section 2.5.2.9, Early Action Projects) be constructed in advance of construction of the overall HSR Build Alternative; this could “flatten” the construction-related employment job years added as outlined in Table 3.18-9 if construction activities commence before 2020. However, the impacts outlined in the following section can be considered reasonably conservative scenarios in that they present the upper limit of the projections. The early action projects themselves would have no effect on long-term regional growth or land use consumption because the scope of these projects is less than that of the HSR Build Alternative as a whole project.

Table 3.18-9 High-Speed Rail Build Alternative Employment Growth During Construction (in Annual Job Years)

Employment	2020	2021	2022	2023	2024	2025	Total
Direct	1,150	2,450	3,600	3,600	2,450	1,150	14,410
Indirect and Induced	1,140	2,420	3,560	3,560	2,420	1,140	14,220
Total	2,290	4,870	7,160	7,160	4,870	2,290	28,630

Source: ICF International, 2019

Note: Totals may not add due to rounding.

Construction

Impact RG#1: Short-Term Construction-Related Employment Effects

As indicated previously in Section 3.18.4.3, short-term construction-related employment effects were evaluated using RIMS II multipliers. Construction of the HSR Build Alternative would result in new short-term construction-related employment but is not likely to result in a temporary influx of people living in the RSA because the existing workforce within Los Angeles County is anticipated to fill these jobs. Additional localized impacts that could have effects on regional growth are discussed in more detail in Section 3.12, Socioeconomics and Communities, and Section 3.13, Station Planning, Land Use, and Development.

This analysis evaluates short-term construction-related employment effects for the 6-year construction period (2020 to 2025) for the Burbank to Los Angeles Project Section between Burbank Airport Station and Los Angeles Union Station. Section 2.9 of Chapter 2, Project Alternatives, provides an overview of the construction plan and phase implementation plan for the Burbank to Los Angeles Project Section; Table 2-17 provides the construction schedule assumed at the time this analysis was conducted (consistent with the timeframe provided in the 2016 Business Plan). Actual construction may take place later and may have a different construction period. It should be noted that the final year of the construction period (assumed 2025) consists of testing and other associated start-up activities, which involve relatively few employees, many of whom are specialized and do not fall within the construction employment sector. Chapter 6, Project Costs and Operations, provides the capital cost estimates for the HSR Build Alternative.

Over the 6-year construction period, project expenditures under the HSR Build Alternative would result in the creation of approximately 14,410 direct and 14,220 indirect and induced job years, for a total of 28,630 job years. Table 3.18-9 shows the direct and indirect/induced job years that would be created in the RSA during each year of construction.

During the peak years of construction (2022 and 2023), the HSR Build Alternative is estimated to support approximately 3,600 direct and 3,560 indirect jobs, for a total of 7,160 jobs. Compared to the overall job projection contained in Table 3.18-3, the addition of 3,600 direct jobs in the peak construction years (2022 and 2023) would represent a 2.5 percent increase over the 142,000 construction jobs already projected for the year 2022. This increase is not substantial enough to draw workers to the region because the construction workforce within the RSA would be large enough to adequately meet this demand for construction workers, and the projected induced jobs during the construction period would be met by the supply of workers with matching skills who already reside in the RSA. The percentage of additional jobs as a relative percentage of the overall workforce would likely not be attractive to workers from outside the RSA, because competition to fill the available jobs would be high from workers who are already local. It is anticipated that specially skilled workers may come to the RSA to work for short periods. A limited number of workers with special skills that also may have an expectation of sustained work contracts at a single location may relocate temporarily. However, it is also likely that workers from outside the RSA may commute daily to the construction site and return home at the end of the day. Workers who travel to the RSA for short periods would likely stay in hotels, motels, or other temporary living quarters. The long-term relocation of workers and their families in large numbers is not anticipated, because relocation would cause upheaval to their social networks and institutions.

In addition, it should be noted that the Authority is undertaking several efforts to ensure that small businesses play a major role in building the HSR system. The Authority has enacted a Small and Disadvantaged Business Enterprise Policy and Program and strives to meet an overall 30 percent small business participation goal, representative of firms that reflect the diversity of California. That 30 percent goal is inclusive of a 10 percent disadvantaged business enterprise goal and a 3 percent disabled veteran business enterprise goal on federally assisted contracts. The Authority has also enacted a Community Benefits Policy, which directs the Authority and its contractors to adopt and implement programs designed to promote and advance construction employment and training opportunities for all individuals, especially those residing in extremely economically disadvantaged areas and veterans returning from military service. The emphasis on job training for local workers and contract requirements to use small businesses should provide employment opportunities for construction workers in the RSA.

Because Los Angeles County is assumed to be able to adequately absorb project short-term employment growth from construction of the HSR Build Alternative, and because the employment growth would occur generally in accordance with existing projected growth forecasts and applicable plans and policies, a beneficial effect would occur.

Operations

Impact RG#2: Long-Term Operations-Related Employment Effects

Long-term operation and maintenance of the HSR system, including the HSR Build Alternative, would result in direct, indirect, and induced employment effects; induced employment effects as a result of economic effects related to increased accessibility of the region; and increased population related to the increase in employment. Direct, indirect, and induced employment effects associated with operating and maintaining the HSR system relate directly to the cost of operating the system. Similarly, induced employment effects associated with increased accessibility provided by the HSR system are a result of the HSR system as a whole rather than of discrete HSR project sections, and so are not different for the HSR Build Alternative.

Operation of the HSR system would improve regional connectivity with the rest of the state while creating job opportunities across many sectors of the regional economy. Although unlikely for the HSR system, the created employment has the potential to draw workers to the region, as any

large construction project would. Overall, employment growth from project operation would be a net benefit for the county because it would spur additional economic activity in large areas such as Los Angeles, which may be experiencing below-average unemployment levels but still have substantial numbers of unemployed persons based on the substantial overall workforce.

Operations- and Maintenance-Related Direct, Indirect, and Induced Jobs

Long-term employment impacts of the HSR Build Alternative would result from two distinct factors. First, the ongoing operation and maintenance of the HSR Build Alternative would result in the direct creation of jobs, as well as additional indirect and induced jobs. Second, areas surrounding HSR stations are expected to experience increases in employment opportunities in other locations, due to improvements in accessibility.

Operations of the HSR Build Alternative would result in 100 total direct jobs working for HSR within the RSA, and 150 additional indirect and induced jobs created within the RSA, for a total of 250 jobs (Table 3.18-10). The total direct, indirect, and induced jobs created in 2040 that would occur in the RSA represent 0.01 percent of the total forecasted employment in the RSA in 2040 (Table 3.18-4). Even taking into account the additional jobs created in the RSA, the proportion of direct, indirect, and induced jobs to the overall forecasted workforce would be negligible. Taking into account the size of the workforce in the RSA, the increase in jobs associated with operation of the HSR Build Alternative would have a beneficial effect.

Table 3.18-10 Direct, Indirect, and Induced Jobs by 2040

County	Direct	Indirect and Induced	Total
Los Angeles County	100	150	250

Source: ICF International, 2019

Accessibility-Related Effects

The total effects of the HSR Build Alternative on employment by the year 2040 encompass the direct, direct, and induced jobs illustrated above, but also include induced jobs associated with increased transportation accessibility for the RSA to the rest of the state. Although Los Angeles County enjoys substantial existing connections to the rest of the state via multiple transportation modes, an employment gain would still be realized because the HSR system would increase connectivity. In total, anywhere from 4,900 to 5,880 jobs within Los Angeles County would be generated as a result of increased accessibility.

In addition to these direct accessibility-related jobs that would be created, the indirect impact of the economic stimulus from these additional jobs would consequentially spur the creation of further jobs. It is estimated that the indirect employment generated by increased accessibility ranges from 3,020 to 3,620 new jobs within Los Angeles County.

Total Employment Effects by 2040

Based on the analyses presented in the two subsections immediately preceding, the total projected employment effect by 2040 from operation of the HSR Build Alternative (Table 3.18-11) would be an increase of 8,960 jobs (assuming the approximate midpoint of the accessibility-related ranges given above). This total includes the direct jobs to operate and maintain the HSR Build Alternative in the RSA (100), indirect and induced jobs created to support new operations workers (150), additional jobs directly created because of the improved connectivity of the county (5,390 jobs, assumed to be the approximate midpoint of the potential range), and additional jobs indirectly created by the increased economic activity generated by the jobs directly created because of the improved connectivity of the county (3,320 jobs, also assumed to be the approximate midpoint of the potential range). These employment effects would likely contribute to overall continued economic growth in the county and represent less than a 0.2 percent increase above the 2040 employment projections for Los Angeles County.

Table 3.18-11 Regional Projected and Induced Operations and Maintenance Employment Growth

Area	Existing Setting (2014)	2040 No Project Projections	2040 No Project Growth ¹	HSR Project Induced Growth	Total 2040 HSR Project Projections	HSR Project Growth Inducement ¹
Los Angeles County	4,491,800	5,226,000	16.4%	8,960	5,234,960	<1%

Sources: California Employment Development Department, 2016a; Southern California Association of Governments, 2016; Bureau of Economic Analysis, 2015; California High-Speed Rail Authority, 2016a, 2017a, and 2017b

¹ The "2040 No Project Growth" shows the total growth in percentage terms from 2014 to 2040 while the "HSR Project Growth Inducement" shows the total additional growth attributable to the HSR project as a percentage of the "2040 No Project Projections."

HSR = high-speed rail RSA = resource study area

As previously stated in Section 3.18.4, these employment projections are based on the increased accessibility of each county as well as the dynamic economic structure of the metropolitan areas of Los Angeles County, which may experience higher employment benefits related to increased connectivity than other areas of the state. It is possible that Los Angeles County may experience additional job growth even beyond these projections. The size of the county's economy is so large relative to these projections that even a doubling of these estimates would still represent a less than 0.5 percent increase above the 2040 No Project employment projection. Therefore, these potential additional employment effects in Los Angeles County would have a negligible effect on total employment in the county.

Based on the analyses conducted, although long-term direct, indirect, and induced employment growth as a result of the HSR Build Alternative would occur, this growth would not be substantially beyond the growth currently projected by SCAG in the absence of the HSR Build Alternative. Existing workers in the area would fill many of these jobs because of the diverse skill sets possessed in the large Los Angeles County workforce; therefore, a beneficial effect would occur.

Impact RG#3: Long-Term Induced Population Growth

As illustrated in Table 3.18-12, the HSR Build Alternative would contribute a relatively small incremental increase in the projected population growth for the RSA. Compared to current projections, the HSR Build Alternative would result in an approximate population increase of 0.2 percent in Los Angeles County over the No Project Alternative (Table 3.18-12). The estimate of long-term population growth was calculated using a population-to-employment ratio of 1.95 (based on 2010-2014 ACS data) applied to the long-term direct, indirect, and induced employment estimates discussed in Impact RG#2.

Table 3.18-12 Regional Projected and Induced Population Growth

Area	Existing Setting (2015)	2040 No Project Projections	2040 No Project Growth ¹	HSR Project Induced Growth	Total 2040 HSR Project Projections	HSR Project Growth Inducement ¹
Los Angeles County	9,818,605 ²	11,514,000	17.3%	17,470	11,534,777	0.15%

Sources: California Employment Development Department, 2016a; California Department of Finance, 2016; Southern California Association of Governments, 2016; Bureau of Economic Analysis, 2015; California High-Speed Rail Authority, 2016a, 2017a, and 2017b

¹ The "2040 No Project Growth" shows the total growth in percentage terms from 2014 to 2040 while the "HSR Project Growth Inducement" shows the total additional growth attributable to the HSR project as a percentage of the "2040 No Project Projections."

² Decennial (2010) census data has been used to characterize total population and serves as the comparison point for 2015.

HSR = high-speed rail

Operation of the HSR Build Alternative would also result in environmental benefits over the No Project Alternative, including:

- Reduced automobile travel on major freeways (Section 3.2, Transportation)
- Reduced long-term air pollutant emissions (Section 3.3, Air Quality and Global Climate Change)
- Promotion of transit-oriented development (Section 3.13, Station Planning, Land Use, and Development)

Potential effects of population growth include increased demand for public services, including police and fire protection (Section 3.11, Safety and Security) and increased demand for water supply, wastewater services, and energy (Section 3.6, Public Utilities and Energy). As discussed in Section 3.11, Safety and Security, increased demand for public services may result in the need for new or expanded governmental facilities, but this impact would be negligible because development and expanded facilities would comply with local site development and permitting processes. Similarly, Section 3.6, Public Utilities and Energy, concluded that operation of the HSR Build Alternative would not result in an impact on utilities and utility services when viewed on a systemwide basis.

Because Los Angeles County is heavily urbanized and largely built out, high growth rates are not anticipated when compared to that of the state overall. Developments within these urbanized areas are generally limited to infill and redevelopment projects.

Under the conservative estimates outlined in more detail in Section 3.18.4.3, the HSR Build Alternative would induce population growth by less than 1.0 percent (17,470 persons) in Los Angeles County, amounting to a total increase of less than 1 percent over current projections. Compared to the overall growth expected under the No Project condition of approximately 17 percent, the additional growth inducement that is attributed to the HSR Build Alternative is negligible.

The HSR Build Alternative would serve the existing and future need for transportation options, would help provide employment opportunities in both the short and long term, and would support compact, higher-density, and pedestrian-oriented development around station areas as planned by local jurisdictions. This transit-oriented design would in turn support local efforts for transit-oriented developments and multimodal transportation hubs. The Authority is also assisting local governments by providing station-area planning grants and technical assistance to cities that apply for said grants. The cities of Burbank and Los Angeles have initiated these efforts. The HSR Build Alternative's capacity for the promotion of and support for transit-oriented design in station areas is a benefit of the project because it would help accommodate anticipated regional growth. Additionally, increased density of development in and around HSR stations would provide public benefits beyond the benefits of access to the HSR system itself. These benefits include, promotion of infill development, more affordable housing, and promotion of job opportunities. The HSR Build Alternative would not induce growth substantially beyond that which is already projected for the region, nor would it remove an obstacle to growth that would tax existing community services or facilities.

Potential to Induce Additional Population Growth in Exurban Counties

In analyzing the potential population growth associated with direct, indirect, and induced employment growth, the Authority has considered whether the planned HSR system could also result in a redistribution of population unrelated to economic growth (Authority 2018). In particular, suburban and exurban counties could attract population in light of the high housing costs in California's heavily urbanized areas. People could relocate from the Los Angeles metropolitan area to less expensive outlying communities, considering the median price of a single-family detached house now exceeds \$780,000 in the Los Angeles Basin. Monthly rents are also high, exceeding \$1,900, with some households paying as much as 40 to 50 percent of their monthly income for housing (U.S. Census Bureau 2017). In contrast, purchasing a home in suburban and exurban counties may be \$250,000 or less, and rent may be less than \$1,000.

Living in suburban and exurban communities may also require those workers to make 2- to 3-hour one-way commutes to their place of employment under current conditions. Even in the metropolitan areas, workers have long commutes. It is estimated that each weekday, more than 300,000 people commute from Los Angeles County to Orange County.

For workers moving and purchasing housing in suburban and exurban communities but continuing to work in one of the metropolitan central cities, housing costs will decrease but transportation costs will likely increase (Center for Neighborhood Technology 2017). This disparity in housing and transportation costs could encourage people to consider using the HSR system to access more affordable housing in suburban and exurban communities.

The planned HSR service with stations in suburban and 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. Using the HSR system for commuting would be expensive, but some individuals could consider it affordable. Annual commuting costs on HSR trains would vary. Commuting 5 days per week for a \$56 one-way fare would be almost \$27,000 per year, plus the additional cost to use connecting transportation links. With an only 3-day-per-week commute, the HSR train cost would be about \$16,000 per year. At the low end, commuting 3 days per week from Burbank to Los Angeles would cost less than \$7,800 per year.

While these annual costs are considerable, analysis by the Center for Neighborhood Technology shows average annual transportation costs for suburban and exurban communities can be much higher than for workers living in the metropolitan central cities with access to transit. Individuals who work at median or higher-paying jobs in the metropolitan central cities, but who choose to live in a suburban or exurban community, could reduce their household total average annual housing cost, pay somewhat higher transportation costs, and still reduce their total combined costs by about 5 percent or more.⁷ This savings could be used to purchase a home rather than rent, purchase a bigger home, and/or access more community amenities. Some of the savings might also be used to pay for more costly but faster commute transportation using the HSR system if the HSR train travel durations, frequencies, and connecting modes of transportation between home, HSR stations, and work destinations are convenient. As such, some households could afford to use the HSR train for commuting on a daily or less frequent basis.

In conclusion, some individuals and their households may choose to relocate to suburban and exurban communities to purchase more affordable housing because of convenient access to potentially affordable HSR commute services. The number, magnitude, and distribution of households that may make this decision is difficult to estimate because it involves many economic factors and individual preferences. Such households would likely relocate to these suburban and exurban communities over time, starting during construction, just prior to operation, or after HSR operations have proven to be fast, reliable, and affordable. Local governments would take steps to accommodate this potential population growth and increased demand for housing by updating their general plan policies, transit plans, and zoning and building codes. The increases in population within these suburban and exurban cities would not be stimulated by local economic growth, but rather would be a shift of some population growth from expensive metropolitan central cities to suburban and exurban communities.

Impact RG#4: Effects on Regional Growth from Permanent Land Use Consumption

Operation of the HSR Build Alternative would induce a small amount of additional population and employment growth, resulting in indirect effects on housing demand and urban development. As previously indicated, operation of the HSR Build Alternative would increase population in the RSA by far less than 1 percent (17,470 people) beyond what is currently projected for 2040. This increase in population would require additional housing, which may result in the conversion of

⁷ The change in percentage of household income comparison was estimated by calculating the percentage of average annual housing plus transportation (H+T) cost for central cities compared to suburban/exurban cities based on the same median household income for residents of San Francisco, Santa Clara, and Los Angeles counties. For example, the H+T cost for Los Angeles is 57 percent of the median household income for the Los Angeles County. The H+T cost for Bakersfield is 52 percent of the median household income for Los Angeles County, or about 5 percent less.

nonurban land (e.g., open space or other uses) to urban use. Based on the projected (conservative) population increase and the average number of residents per housing unit (3.04) in the RSA, operation of the HSR Build Alternative would result in the need for an additional 5,750 housing units in Los Angeles County by 2040 (Table 3.18-13). Although it is anticipated that current vacancy rates in the RSA could absorb new demand, additional housing would be required to accommodate the 2040 projected population growth under the No Project Alternative and HSR Build Alternative alike.

Table 3.18-13 Regional Projected and Induced Housing Growth

Area	Existing Setting (2014)	2040 No Project Projections	2040 No Project Growth ¹	HSR Project Induced Growth	Total 2040 HSR Project Projections	HSR Project Growth Inducement ¹
Los Angeles County	3,462,075	3,838,267	10.9%	5,750	3,845,193	0.15%

Sources: California Department of Finance, 2016; Southern California Association of Governments, 2016; Bureau of Economic Analysis, 2015; California High-Speed Rail Authority, 2016a, 2017a, and 2017b; U.S. Census Bureau, 2010–2014a and 2010–2014b.

¹ The “2040 No Project Growth” shows the total growth in percentage terms from 2014 to 2040 while the “HSR Project Growth Inducement” shows the total additional growth attributable to the HSR project as a percentage of the “2040 No Project Projections.”

HSR = high-speed rail

Although the population and employment growth projected for Los Angeles County and the cities of Burbank and Los Angeles is generally lower than that of the state under the No Project Alternative, the development and presence of HSR stations in these cities would help direct a portion of this growth along with the additional induced growth into high-density, sustainable development patterns. This concentration of growth at transit hubs would help achieve the goals of the SCAG RTP/SCS pursuant to SB 375, as well as the general plans for Los Angeles County and the cities of Burbank and Los Angeles. SCAG’s 2016 RTP/SCS includes discussion of future integration of the HSR system in the region’s transportation infrastructure. Hence, the HSR Build Alternative and the resulting concentration of population and employment growth the HSR Build Alternative is expected to support would be consistent with SB 375–related plans and programs. It would also assist Los Angeles County and the cities within the county in implementing the goals of those plans.

Under SB 375, the future housing needs to be addressed in the housing elements must reflect the RTP/SCS adopted in each county. As population increases, cities and counties would entitle development to meet the housing need in the area. Therefore, all jurisdictions in the RSA would be required to plan for and meet the housing need for the population as it increases. SCAG’s Regional Housing Needs Assessment (RHNA) is an evaluation of the future housing needs of a given jurisdiction, and every jurisdiction must plan for its RHNA allocation in the housing element of its general plan. The current RHNA allocation approved by SCAG is applicable to the 2013–2021 timeframe (and it is important to note that SCAG acknowledges that the RHNA allocation does not address the backlog of necessary housing that would address the current housing crisis), and identifies Los Angeles County as having an RHNA allocation of 179,881 units. Since the growth inducement of the HSR Build Alternative would be negligible when compared to the overall projected growth, the RHNA allocation would adequately absorb any additional growth.

Given the negligible population and economic growth that would ultimately occur beyond current projections as a result of the HSR Build Alternative, it is not anticipated that urbanization would accordingly increase to accommodate the growth beyond what is anticipated in adopted local land use plans. Adopted land use plans are therefore anticipated to accommodate the incremental population and employment growth induced by the project. It is not anticipated that development pressures associated with the HSR Build Alternative would cause development in excess of what can be accommodated by the existing land use plans in effect. As the HSR Build Alternative is wholly within heavily urbanized areas, it can be reasonably concluded that the concentration of growth at transit hubs and high-density, sustainable development patterns encouraged by the HSR Build Alternative would actually reduce the amount of land needed to

accommodate growth currently projected and growth associated with the HSR Build Alternative in Los Angeles County.

Under current city and county general plans in the SCAG planning area, communities in Los Angeles County have adequate space to accommodate planned growth by 2040 (under the No Project Alternative) and HSR-induced growth in their current spheres of influence. The RTP/SCS plans and programs that apply to these areas encourage infill development, concentrating growth in urban areas, and provision of transit options and connections for regional residents and workers. The land use patterns prescribed in SCAG's 2016 RTP/SCS have the capacity to accommodate 3.8 million more residents and 1.5 million more households in the SCAG region by 2040 (SCAG 2016). This capacity is beyond what would be required to support the increase of 1.7 million residents in Los Angeles County between 2014 and 2040 when considering anticipated growth without the HSR Build Alternative. As discussed above, the HSR Build Alternative would reduce the total amount of land required to accommodate both currently projected growth (under the No Project Alternative) and new regional population growth associated with the HSR Build Alternative in Los Angeles County. Therefore, there is adequate space available to accommodate planned growth by 2040 as well as HSR-induced growth in this county.

HSR-induced growth could require the development of more incremental energy production and/or transmission capacity to support higher population growth compared to the No Project Alternative. Given the availability of utility services to meet future service demands for the region, the impact on public utilities during operation of the HSR Build Alternative would not require an incrementally greater extension of utilities. See Section 3.6, Public Utilities and Energy, for more details on the long-term direct impacts related to the project.

The Burbank to Los Angeles Project Section would serve existing and future needs for transportation, would help to provide employment opportunities in a county with a large unemployed civilian workforce, and would support compact urban development around the station areas. Given that the HSR Build Alternative would support high-density development around stations to the degree that less total land would be developed than under the No Project Alternative in Los Angeles County, the HSR Build Alternative would decrease land use consumption. Only a negligible amount of additional growth beyond what is currently projected would occur with the HSR Build Alternative, and planned land use patterns have the capacity to support the projected increase in residents both with and without the HSR Build Alternative. Therefore, the HSR Build Alternative would not induce substantial unplanned growth and the HSR Build Alternative would have no effect on land use consumption.

3.18.7 NEPA Impact Summary

This section summarizes the impacts of the HSR Build Alternative and compares them to the anticipated impacts of the No Project Alternative.

Under the No Project Alternative, increasing population and employment opportunities in the RSA are expected to result in increased development and growth. The number of jobs is expected to grow by 5.8 percent between 2017 and 2040 under the No Project Alternative. The economy of the RSA is varied and diverse. Under the HSR Build Alternative, employment is projected to increase from 4,491,800 to 5,234,957 between 2015 and 2040, or an average annual increase of 0.6 percent.

Total population in the RSA is expected to increase from 9,818,605 in 2010 to 11,514,000 in 2040 (Table 3.18-7). This is an increase of 17.3 percent, or an average annual increase of 0.6 percent. The city of Los Angeles anchors this growth, with a 21.5 percent increase in population from 2010 to 2040. Local government land use planning and commitments to meet their share of allocated regional housing needs through the adopted Housing Needs Allocation Plans demonstrate the ability of local governments within the RSA to accommodate anticipated population growth in the coming decades (CDCH 2015a, 2015b, and 2015c).

The impacts of construction and operation of the HSR Build Alternative are anticipated to result in small increases in employment and population in the RSA.

Construction and operation of the HSR Build Alternative would increase the demand for workers above projected employment. As summarized in Table 3.18-9, construction-related employment based on local construction expenditures would create 3,600 new construction jobs during the peak year of construction in 2022. This demand for temporary construction workers is approximately 2.5 percent above forecasted construction-sector employment. Because this is a very small portion of the total construction employment in the RSA, and taking into consideration the ongoing established worker training and certification programs related to HSR system construction activities within the RSA, it is not anticipated that a large number of workers would move to the RSA looking for employment opportunities. In total, 14,410 annual construction job years would be created over the 6 years of construction. In addition, there would be an increase of 14,220 indirect and induced annual job years during the construction period in a variety of sectors of the economy.

These jobs would be only a small increase above forecasted total employment under the No Project Alternative. As such, construction under the HSR Build Alternative is not anticipated to result in regional growth that would require the construction of new housing or provision of new public services. Rather, construction would be a short-term benefit to the communities of the RSA in the early construction period, particularly considering historically high unemployment rates in the RSA.

The estimated operations impacts associated with the HSR Build Alternative would be small and would not result in regional growth considerably above forecasted employment. Operations jobs would be based at the HSR system stations and the heavy maintenance facilities. As summarized in Table 3.18-10, the Authority estimates operation of the HSR system would create up to 250 jobs within Los Angeles County. Potential regional growth arising from greatly improved statewide transportation accessibility provided by the HSR system was also evaluated. These jobs would total an estimated 8,960 jobs within the RSA. This incremental increase as a result of accessibility would be slightly greater than 0.1 percent above forecasted 2040 employment within the RSA.

Population growth would be associated with the estimated increase in operations employment associated with direct, indirect, and induced employment as well as employment stimulated by the operation of the HSR system. The operations-related population growth associated with direct, indirect, and induced employment would be about 17,470, or about 0.15 percent above the 2040 forecasted population for the RSA.

Under the No Project Alternative, increasing population and employment opportunities in the RSA are expected to result in increased development and growth. More specifically:

- The RSA's population is projected to grow at an annual rate of 0.6 percent (approximately 17 percent overall) from 2010 to 2040 (Table 3.18-7).
- The RSA's long-range employment projections show a total of 5,226,000 jobs in the RSA by 2040, which represents an approximate 5.8 percent change from 2017 to 2040 (Table 3.18-4).
- Housing units within the RSA are projected to increase by 15.5 percent between 2010 and 2040, for a total of 3,997,000 projected housing units in 2040. This is less than the rate projected for the state overall.

The HSR Build Alternative would have beneficial effects related to short-term construction-related employment effects and long-term operational employment effects due to economic activity related to construction and operation of the HSR Build Alternative. The HSR Build Alternative would induce housing demand in the RSA, which would be met with available land supply and housing capacity in the short and long term. The demand would be met given the existing and projected housing units.

3.18.8 CEQA Significance Conclusions

As stated in Section 3.18.4.4, please refer to Section 3.12, Socioeconomics and Communities, for an analysis of direct project impacts on the displacement of housing and people, and a summary of the indirect regional growth impacts evaluated in this section.