1 PROJECT PURPOSE, NEED, AND OBJECTIVES

1.1 Introduction

1.1.1 The High-Speed Rail System

The California Legislature passed the High-Speed Rail Act in 1996, forming the California High-Speed Rail Authority (Authority) as a state governing body with responsibility for planning, designing, constructing, and operating the California High-Speed Rail (HSR) System. In establishing the Authority, the Legislature found that the state's transportation facilities were insufficient to meet the needs of the state's existing population, that the state's population and the travel demands of its citizens would continue to grow, and that the development of an HSR system is a necessary and viable alternative to automobile and air travel in the state. The Authority's mandate under the High-Speed Rail Act is to develop an HSR system that coordinates with the state's existing transportation network, which includes intercity rail and bus lines, regional commuter rail lines, urban rail and bus transit lines, highways, and airports.

The Authority proposes to construct, operate, and maintain an electric-powered HSR system in California, connecting the San Francisco Bay Area and Central Valley to Southern California. When completed, the nearly 800-mile train system would provide new passenger rail service to more than 90 percent of the state's population. More than 200 weekday trains would serve the statewide intercity travel market.[1] The system would use state-of-the art, electrically powered, steel-wheel-on-steel-rail technology, including contemporary safety, signaling, and automated train control systems, with trains capable of operating at speeds of up to 220 miles per hour in HSR sections that are fully grade-separated and on a dedicated track alignment.

The HSR system, as illustrated in Figure 1-1, would be implemented in two phases. Phase 1 would connect San Francisco to Los Angeles and Anaheim via the Pacheco Pass and the Central Valley. Phase 2 would extend the HSR system from the Central Valley (starting at the Merced Station) to the state's capital in Sacramento and from Los Angeles to San Diego.

[1] "Intercity rail passenger transportation" is defined at U.S. Code Title 49, Section 24102(4), as "rail passenger transportation except commuter rail passenger transportation." "Commuter rail passenger transportation" is defined at 49 U.S. Code 24102(3) as "short-haul rail passenger transportation in metropolitan and suburban areas usually having reduced fare, multiple ride, and commuter tickets and morning and evening peak period operations."

Source: California High-Speed Rail Authority and Federal Railroad Administration, 2017

Figure 1-1 Statewide High-Speed Rail System, Program Alignments and Stations

1.1.2 The Decision to Develop a Statewide High-Speed Rail System

The Authority and Federal Railroad Administration (FRA) used a tiered environmental review process to support tiered decisions for the HSR system. Tiering of environmental documents means addressing a broad program in "Tier 1" environmental documents, then analyzing the details of individual projects within the larger program in subsequent project-specific or "Tier 2" environmental documents.

The Statewide Program Environmental Impact Report/Environmental Impact Statement (EIR/EIS) (Statewide Program EIR/EIS; Authority and FRA 2005) provided a programmatic analysis of implementing the HSR system across the state and compared it to the impacts of a No Project Alternative and a modal alternative that involved expanding airports, freeways, and conventional rail to meet the state's future transportation needs. It also evaluated an HSR alternative, which included consideration of different train technologies and vehicle types, as well as potential corridors and station locations. At the conclusion of that Statewide Program EIR/EIS, the Authority and FRA made the following decisions:

2005 Tier 1 Decisions	
Selection of Transportation Option	Selected the HSR Alternative over the modal alternative (expanded airports and freeways) and the No Project Alternative (do nothing) to serve California's growing transportation needs.
Selection of Train Technology	Selected very high-speed, electrified steel-wheel-on-steel-rail technology over magnetic levitation; lower speed, electrified steel-wheel-on-steel-rail; and lower-speed diesel (non-electrified) steel-wheel-on-steel-rail technology.
Selection of Preferred Alignment Corridors	Selected preferred corridors for most of the statewide system to be studied in more detail in Tier 2 EIR/EISs. Deferred selection of preferred corridors for Bay Area to Central Valley to a second Tier 1 EIR/EIS process.
Selection of Preferred Station Locations	Selected station locations along the preferred corridors to be studied in more detail in Tier 2 EIR/EISs.
Adoption of Mitigation Strategies	Adopted broad mitigation strategies to be refined and applied at Tier 2, as part of project planning and development and environmental review.

Source: California High-Speed Rail Authority and Federal Railroad Administration, 2005
EIR = environmental impact report HSR = high-speed rail
EIS = environmental impact statement

After completing the Statewide Program EIR/EIS, the Authority and FRA prepared a second Program EIR/EIS to identify corridor and station locations for the HSR connection between the Bay Area and the Central Valley, examining connections through the Pacheco Pass, the Altamont Pass, or both (Authority and FRA 2008). In 2008, the Authority and FRA selected a Pacheco Pass connection, with corridors and station locations for further examination in Tier 2 environmental reviews. As a result of litigation, the Authority prepared additional programmatic environmental review for the Bay Area and the Central Valley section, and again selected the Pacheco Pass connection (Authority 2012).

2008/2012 Tier 1 Decisions	
Selection of Preferred Alignment Corridors	Selected preferred corridors for connecting the Bay Area to the Central Valley north of Fresno to be studied in more detail in Tier 2 EIR/EIS.
Selection of Preferred Station Locations	Selected stations locations along the preferred corridors to be studied in more detail in Tier 2 EIR/EISs.
Adoption of Mitigation Strategies	Adopted broad mitigation strategies to be refined and applied at Tier 2, as part of project planning and development and environmental review.

Source: California High-Speed Rail Authority and Federal Railroad Administration, 2008
EIR = environmental impact report EIS = environmental impact statement

These Tier 1 decisions established the broad framework for the HSR system that serves as the foundation for the Tier 2 environmental review of individual projects. Between Burbank and Los Angeles, the corridor advanced for Tier 2 study was the MTA/Metrolink corridor. The station locations advanced for Tier 2 study included Los Angeles Union Station (LAUS) and a Burbank Metrolink Media City downtown station. The Burbank to Los Angeles Project Section was initially considered a part of the Palmdale to Los Angeles Project Section. The Authority and FRA announced their intention to prepare a joint Tier 2 EIR/EIS for the Palmdale to Los Angeles Project Section in March 2007. Over the next several years, the Authority and FRA conducted project scoping and prepared alternatives analysis documents that evaluated alignment and station locations. The Authority and FRA elected to split the Palmdale to Los Angeles Project Section, resulting in the currently proposed Burbank to Los Angeles Project Section.

The Authority and FRA prepared these Tier 1 documents in coordination with the U.S. Environmental Protection Agency (USEPA) and the U.S. Army Corps of Engineers (USACE). The USEPA and the USACE concurred that the corridors selected by the Authority and FRA in Tier 1 were most likely to yield the least environmentally damaging practicable alternative under Section 404 of the Clean Water Act.

1.1.3 Implementation of the Statewide High-Speed Rail System

Since completion of the Tier 1 documents, the State of California has taken a series of steps to advance the implementation of a statewide HSR system. These efforts have resulted in securing dedicated funding for construction of the initial part of the system in the Central Valley and have further defined the State's vision for completing the system. The HSR system has also become a key component of the State's strategy for reducing greenhouse gas (GHG) emissions.

1.1.3.1 California State Legislation and Funding

In August 2008, the California Legislature adopted Assembly Bill (AB) 3034, finding "it imperative that the state proceed quickly to construct a ... high-speed passenger train system to serve the major metropolitan areas," and submitting The Safe, Reliable, High-Speed Passenger Train Bond Act for the 21st Century (Prop 1A) to the voters. In November 2008, California voters approved Proposition 1A, making $9.95 billion in bond funds available to the Authority for initiating construction of the HSR system from San Francisco to the Los Angeles Basin and linking the state's major population centers. Proposition 1A includes provisions for continuing legislative oversight and requires the Authority to follow certain procedures to access bond funds. In 2012, the Legislature passed Senate Bill (SB) 1029, which appropriated $7.9 billion in federal funds (see Section 1.1.3.4 below) and Proposition 1A bond funds to begin construction of the HSR system.

The HSR system is identified as an integral GHG-reduction measure in the Climate Change Scoping Plan prepared by the California Air Resources Board (CARB) pursuant to AB 32, the California Global Warming Solutions Act of 2006, which required a reduction in GHG emissions to 1990 levels by 2020 (CARB 2008, 2014, 2017). In 2014, the Legislature passed SB 862, which continuously appropriated 25 percent of specified cap-and-trade auction proceeds to Phase 1 (San Francisco to Anaheim) of the HSR system.[2] The Legislature found that the HSR system, once completed and operational, "will contribute significantly toward the goal of reducing emissions of GHG and other air pollutants" and provides "the foundation for a large-scale transformation of California's transportation infrastructure" by reducing millions of vehicles miles traveled by automobile and reducing the demand for air travel. In 2017, the Legislature extended the cap-and-trade program from 2020 to 2031.

[2] "Cap-and-trade" refers to the market-based mechanism established by CARB for achieving the GHG-reduction requirements in AB 32.

1.1.3.2 Business Plans for the Statewide High-Speed Rail System

The High-Speed Rail Act requires the Authority to prepare, adopt, and submit a business plan to the State Legislature every 2 years describing its implementation approach for the statewide HSR system. Since 2008, the Authority has adopted business plans in accordance with this requirement. Most recently, the Authority adopted its 2018 Business Plan, on May 15, 2018, and submitted it to the Legislature on June 1, 2018 (Authority 2018).

The 2018 Business Plan identifies major anticipated milestones for upcoming years, focusing on construction and program delivery. The key objectives and principles from prior business plans remain the same:

- Initiate HSR passenger service as soon as possible.
- Make strategic, concurrent investments throughout the system that will be linked together over time.
- Position the Authority to construct additional increments of the HSR system as funding becomes available.

Like the previous business plans, the 2018 Business Plan describes the phased implementation of the California HSR System. As shown on Figure 1-1, Phase 1 would connect the state's major metropolitan areas, extending from San Francisco and Merced to Los Angeles and Anaheim (the San Francisco Bay Area and Los Angeles Basin regions are considered the "bookends" of the HSR system). Phase 2 would complete extensions to Sacramento and San Diego. Phased implementation of the HSR system is consistent with the provisions of Proposition 1A. The 2018 Business Plan also continues to incorporate the concept of "blended" service[3] in certain shared corridors in Northern and Southern California, including between San Francisco and San Jose and between Burbank and Anaheim.

With regard to the timing of implementation of Phase 1, the 2018 Business Plan continues the overall approach presented in 2016, which prioritizes connecting the Silicon Valley to the Central Valley. To achieve that objective, the 2018 Business Plan calls for completing two lines initially—one in the Central Valley, from an interim station in Madera to Bakersfield, and one in the Bay Area/Silicon Valley, from San Francisco and San Jose to Gilroy—and then completing the connection from the Silicon Valley to the Central Valley via the Pacheco Pass tunnels. Completion of this "valley-to-valley" connection would provide continuous HSR service from San Francisco to Bakersfield. After that portion of the system is constructed, it is anticipated that the system would be extended to complete all of Phase 1 and, ultimately, Phase 2.

The 2018 Business Plan supports concurrent investments to deliver early benefits to Southern California in the Burbank-Los Angeles-Anaheim corridor and to Northern California in the San Francisco to San Jose corridor, as well as completion of the environmental review for all Phase 1 project sections statewide from Merced/San Francisco to Los Angeles/Anaheim by 2022.

The Authority released a Draft 2020 Business Plan in February 2020 for public review and comment. The plan's final adoption is expected at the April 2020 Board meeting for submittal to the Legislature by May 1, 2020.

1.1.3.3 California State Rail Plan

The federal Passenger Rail Investment and Improvement Act of 2008 requires states to develop state rail plans no less frequently than every 5 years as a condition of eligibility for federal funding for HSR and intercity passenger rail programs. In accordance with the Passenger Rail Investment and Improvement Act, the State of California adopted the *California State Rail Plan* in 2013 (California Department of Transportation [Caltrans] 2013d). The 2013

[3] The California HSR Project Business Plan (www.hsr.ca.gov/About/Business_Plans/) discusses blended railroad systems and operations. This term refers to integrating the HSR system with existing intercity, commuter, and regional rail systems through coordinated infrastructure (blended systems) and scheduling, ticketing, and other means (blended operations).

California State Rail Plan stated that it "establishes a statewide vision and objectives, sets priorities, and develops implementation strategies to enhance passenger and freight rail service in the public interest" (Caltrans 2013d). The *California State Rail Plan* called for implementation of a statewide HSR system that is integrated into the existing intercity and commuter passenger rail network.

Caltrans released the final draft 2018 *California State Rail Plan* in September 2018, which continues to emphasize HSR as a foundational component of statewide, integrated rail transportation network (Caltrans 2018).

1.1.3.4 Federal Railroad Administration Grant Agreement

In 2009, the FRA announced a competitive grant program to fund HSR projects under the American Recovery and Reinvestment Act of 2009 through its High-Speed Intercity Passenger Rail Program. The State of California, acting through the Authority, successfully competed for these grant funds and received awards totaling approximately $3.5 billion. In 2010, the Authority entered into cooperative agreements with the FRA under which the FRA committed to provide the grant funds to support initial construction of the first phase of the HSR system in the Central Valley, as well as related efforts for continued planning, engineering, and right-of-way preservation for the rest of the Phase 1 system between San Francisco and Anaheim.

1.1.3.5 Project-Level Environmental Reviews

In accordance with the tiered approach to environmental review described above, the Authority is preparing Tier 2 (project-level) EIR/EISs for individual sections of the statewide HSR system. Each Tier 2 EIR/EIS includes a section of the HSR system that serves a useful transportation purpose on its own and could function independently even if the adjacent sections were not completed. Each Tier 2 EIR/EIS evaluates proposed alignments and stations in site-specific detail to provide a complete assessment of the direct, indirect, and cumulative effects of the proposed action; considers public and agency participation in the screening process; and is developed in consultation with resource and regulatory agencies, including the USEPA and USACE. The Authority intends each Tier 2 EIR/EIS to be sufficient to support the USACE's permit decisions where applicable. The Tier 2 project sections are shown on Figure 1-2.

To date, Tier 2 EIR/EISs have been completed for the following sections:

- Merced to Fresno
- Fresno to Bakersfield

Tier 2 EIR/EISs for the other Phase 1 project sections, listed below, are all in progress.

- San Francisco to San Jose
- San Jose to Merced
- Bakersfield to Palmdale
- Palmdale to Burbank
- Burbank to Los Angeles
- Los Angeles to Anaheim

In October 2018, the Authority certified a Final Supplemental EIR and gave approval for the Fresno to Bakersfield Locally Generated Alternative. A Final Supplemental EIS was also prepared, and in October 2019, the Authority issued a Record of Decision.

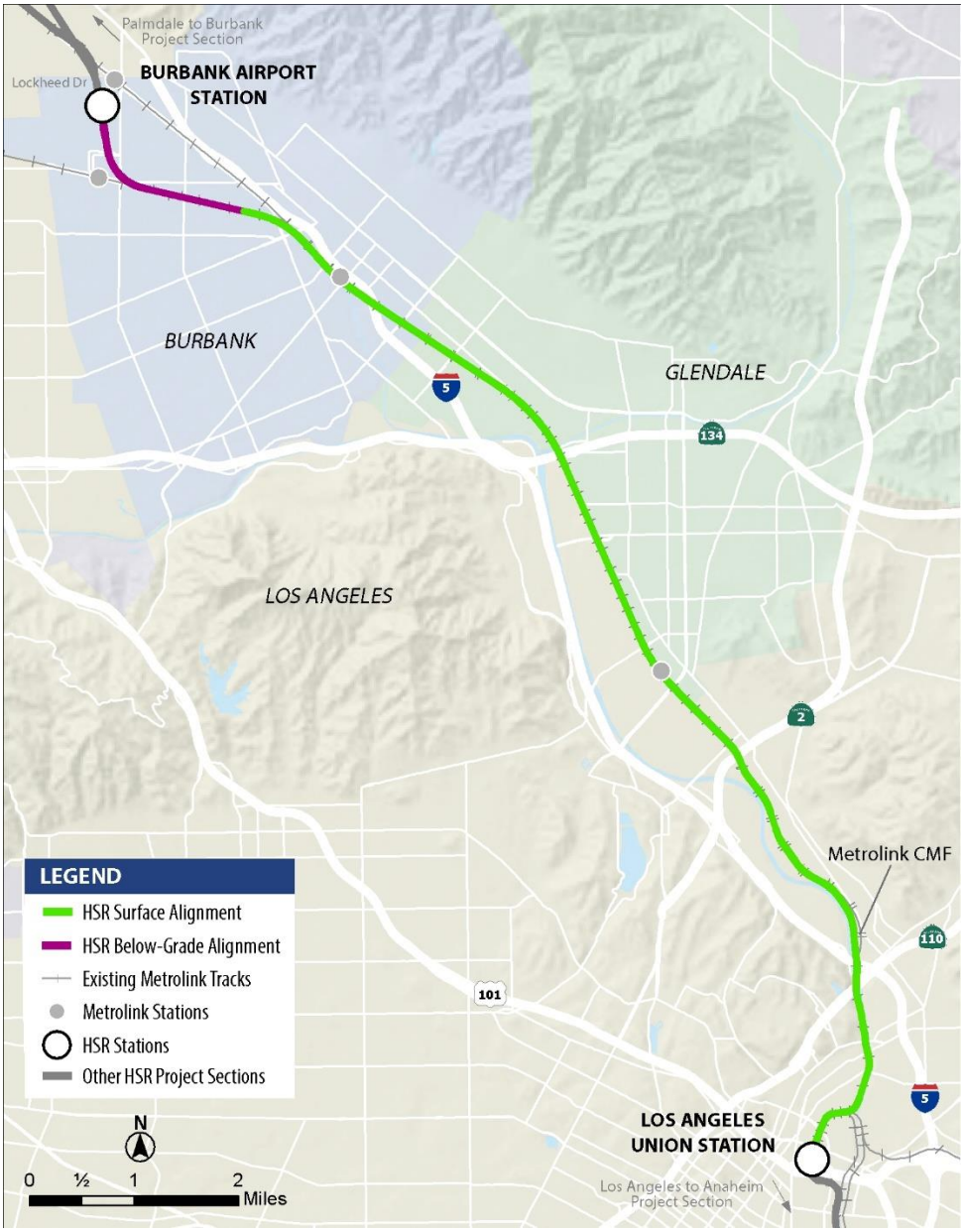
In addition, the Authority is preparing a Supplemental EIR/EIS for the Merced to Fresno: Central Valley Wye section. The *Merced to Fresno: Central Valley Wye Draft Supplemental EIR* was released on May 3, 2019, for public and public agency review under the California Environmental Quality Act (CEQA). The *Merced to Fresno: Central Valley Wye Draft Supplemental EIS* was released on September 13, 2019, for public and agency review under the National Environmental Policy Act (NEPA).

Source: California High-Speed Rail Authority and Federal Railroad Administration, 2017

Figure 1-2 Statewide High-Speed Rail System – Project Sections

1.1.4 Burbank to Los Angeles High-Speed Rail Project Section

Compatible with the Tier 1 decisions, the Burbank to Los Angeles Project Section is approximately 14 miles in length, crossing through the cities of Burbank, Glendale, and Los Angeles primarily within an existing railroad corridor (Figure 1-3). The HSR system for this project section would be within a narrow (70 to 100 feet wide) and constrained urban environment, crossing major streets and highways, and in some portions it would be adjacent to the Los Angeles River. The Los Angeles County Metropolitan Transportation Authority (Metro) owns the existing railroad right-of-way, the Southern California Regional Rail Authority (SCRRA) owns the existing track and operates the Metrolink commuter rail service, and the National Railroad Passenger Corporation (Amtrak) provides intercity passenger service on the existing tracks. In addition, the Union Pacific Railroad (UPRR) holds track access rights and operates freight rail within this section.



Source: California High-Speed Rail Authority, 2018

Figure 1-3 Burbank to Los Angeles Project Section Corridor

1.1.5 Lead Agencies, NEPA Cooperating Agencies, CEQA Responsible Agencies

Pursuant to U.S. Code Title 23 Section 327, under the NEPA Assignment Memorandum of Understanding between FRA and the State of California, effective July 23, 2019, the Authority is the federal lead agency for environmental reviews and approvals for all Authority Phase 1 and Phase 2 California HSR System projects. In this role, the Authority is the project sponsor and the lead federal agency for complying with NEPA and other federal laws for the California HSR System, including the Burbank to Los Angeles Project Section. The FRA administers the High-Speed Intercity Passenger Rail Program and has awarded California $3.48 billion in grant funding for HSR system construction in the Central Valley. The FRA has primary responsibility for developing and enforcing railroad safety regulations in accordance with U.S. Code Title 49 Subtitle V, Part A (49 U.S. Code § 20101 et seq.) and for performing Clean Air Act Conformity determinations and other federal approvals retained by the FRA.

The following cooperating agencies are included in this NEPA review process for this project section:

- USACE
- Federal Transit Administration
- Surface Transportation Board (STB)[4]

The USACE agreed by letter, dated December 30, 2009, to be a cooperating agency under NEPA, based on its special expertise and jurisdiction by law pursuant to Section 404 of the Clean Water Act and Sections 10 and 14 of the Rivers and Harbors Act. The Federal Transit Administration agreed via email, dated January 12, 2011, to be a cooperating agency. The STB, by letter dated May 2, 2013, is also a cooperating agency under NEPA. Additionally, the Authority invited several other agencies to be cooperating agencies but has not received a response; these agencies include the Federal Highway Administration via a letter dated May 4, 2018, and the Federal Aviation Administration via a letter dated September 30, 2019.

Multiple other federal agencies have been involved and contributed to the NEPA process, including the USEPA, the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, the National Park Service, and the Advisory Council on Historic Preservation.

Responsible agencies under CEQA are defined in Public Resources Code § 21069 as “any public agency, other than the lead agency, which has responsibility for carrying out or approving a project.” Responsible agencies under CEQA for the Burbank to Los Angeles Project Section include the following agencies:

- California Department of Fish and Wildlife
- Caltrans
- California Public Utilities Commission, Los Angeles Office
- California State Lands Commission
- State Water Resources Control Board
- Los Angeles County Flood Control Board

These agencies can use the Final EIR/EIS either through the provisions of CEQA Guidelines Section 15220 et seq. or CEQA Guidelines Section 15096 to approve or permit aspects of the HSR project. Similarly, the Council of Environmental Quality’s NEPA regulations allow for cooperating agencies to adopt the Final EIS and issue a record of decision to fulfill their independent NEPA compliance responsibilities and to support their respective federal actions, including permit decisions and other project approvals.

[4] The STB is an independent federal agency with jurisdiction over the construction and operation of new rail lines (49 U.S. Code §§ 10502, 10901). In 2013, the STB determined it has jurisdiction over all sections of the proposed California HSR System, including the Burbank to Los Angeles Project Section, because of the HSR system’s connection to the existing interstate rail network (STB, Docket No. FD 35724, April 18, 2013).

1.1.6 Compatibility with Federal Transportation Policy

In 2008, the U.S. Congress enacted a major reauthorization of intercity rail passenger legislation, creating a new priority for rail passenger services in the nation's transportation system. The Passenger Rail Investment and Improvement Act of 2008 (Division B of Public Law 110-432) authorized the appropriation of federal funds to support HSR and intercity rail passenger service implementation, including authority for the Secretary of Transportation to establish and implement an HSR corridor development program. In the American Recovery and Reinvestment Act of 2009 (Public Law 111-5), Congress appropriated $8 billion in capital assistance for HSR corridors and intercity rail passenger service. Congress provided an additional $2.5 billion for this program in the Department of Transportation Appropriations Act (Title I, Division A of the Consolidated Appropriations Act, 2010). The Full-Year Continuing Appropriations Act of 2011 (Public Law 112-110) reduced available funding by $400 million. In addition, the FRA issued a Strategic Plan, *A Vision for High-Speed Rail in America* (FRA 2009), which described the agency's plan for intercity passenger rail development and subsequent program guidance to implement the High-Speed Intercity Passenger Rail Program with funding provided by Congress through the appropriations acts.

In addition to the intercity rail passenger legislation discussed above, the HSR system is also consistent with recent expressions of federal multimodal transportation legislation, most notably the Fixing America's Surface Transportation Act (FAST) Act (Public Law 114-94, December 4, 2015); the Moving Ahead for Progress in the 21st Century Act (Public Law 112-141, July 6, 2012); the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users; the Transportation Equity Act for the 21st Century (Public Law 109-59, August 10, 2005); and the Intermodal Surface Transportation Efficiency Act of 1991 (Public Law 102-240, December 18, 1991). These laws encourage public transportation investment that increases national productivity and domestic and international competition while improving safety, as well as social and environmental conditions. These laws encourage investments that offer benefits such as the following:

- Link all major forms of transportation
- Improve public transportation systems and services
- Provide better access to seaports and airports
- Enhance efficient operation of transportation facilities and service

As the most current expression of federal multimodal transportation policy, the FAST Act seeks to improve surface transportation infrastructure, including roads, bridges, transit systems, and the passenger rail network. It provides long-term funding certainty for surface transportation, meaning states and local governments can move forward with critical transportation projects, such as new highways and transit lines, with the confidence that they will have a federal partner over the long term. Overall, the FAST act maintains current program structures and shares funding between highways and transit. The law also makes changes and reforms to many federal transportation programs, including streamlining the approval processes for new transportation projects and financing, providing new safety tools, and establishing new programs to advance critical freight projects.

1.2 Purpose of and Need for the High-Speed Rail System and the Burbank to Los Angeles Project Section

1.2.1 Purpose of the High-Speed Rail System

The Statewide Program EIR/EIS established the purpose of the HSR system and identified and evaluated alternative HSR corridor alignments and stations as part of a statewide HSR system.

> *The purpose of the statewide HSR system is to provide a reliable high-speed electric-powered train system that links the major metropolitan areas of the state, and that delivers predictable and consistent travel times. A further objective is to provide an interface with commercial airports, mass transit, and the highway network and to relieve capacity constraints of the existing transportation system as increases*

in intercity travel demand in California occur, in a manner sensitive to and protective of California's unique natural resources (Authority and FRA 2005).

1.2.2 Purpose of the Burbank to Los Angeles Project Section

The purpose of the project is to implement the Burbank to Los Angeles HSR Project Section of the California HSR system to provide the public with electric-powered high-speed rail service that provides predictable and consistent travel times between major urban centers and connectivity to airports, mass transit systems, and the highway network in the San Fernando Valley and the Los Angeles Basin, and to connect the Northern and Southern portions of the Statewide HSR system.

The FRA, the Authority, USACE, and USEPA signed a Memorandum of Understanding (NEPA-404-408 MOU) in November 2010 to integrate NEPA with the permitting processes under Section 14 of the Rivers and Harbors Act (Section 408) and Section 404 of the Clean Water Act. Although the Burbank to Los Angeles Project Section initially followed the NEPA-404-408 MOU, technical analysis confirms that the proposed project's impacts on waters of the U.S. can be authorized under the Nationwide Permit program. As a result, only the requirements of Section 408 are applicable.

1.2.3 CEQA Project Objectives of the High-Speed Rail System in California and in the Burbank to Los Angeles Project Section

The Authority's statutory mandate is to plan, build, and operate an HSR system coordinated with California's existing transportation network, particularly intercity rail and bus lines, commuter rail lines, urban rail lines, highways, and airports. In accordance with Section 15124 of the CEQA Guidelines,[5] the Authority has responded to this mandate by adopting the following objectives and policies for the proposed HSR system:

- Provide intercity travel capacity to supplement critically overused interstate highways and commercial airports
- Meet future intercity travel demand that would be unmet by current transportation systems and increase capacity for intercity mobility
- Maximize intermodal transportation opportunities by locating stations to connect with local transit systems, airports, and highways
- Improve the intercity travel experience for Californians by providing comfortable, safe, frequent, and reliable high-speed travel
- Provide a sustainable reduction in travel time between major urban centers
- Increase the efficiency of the intercity transportation system
- Maximize the use of existing transportation or utility corridors to the extent feasible
- Develop a practical and economically viable transportation system that can be implemented in phases and generate revenues in excess of operations and maintenance costs
- Provide intercity travel in a manner sensitive to and protective of the region's natural resources, and reduce emissions and vehicle miles traveled for intercity trips

Additional objectives that the Authority is pursuing for the Burbank to Los Angeles Project Section include:

- Incorporate HSR project section into the intermodal transportation hubs at Burbank and Los Angeles, thereby providing interfaces with airports (Hollywood Burbank Airport), mass transit (Metro, Metrolink, and Amtrak), and highways, resulting in local and regional transit and transportation hubs

[5] Section 15124 of the CEQA Guidelines requires that an EIR describe a proposed project in a way that will be meaningful to the public, to other reviewing agencies, and to decision-makers.

- Capture a large base of riders in the densely populated San Fernando Valley and the Los Angeles Basin
- Provide station locations with existing and planned transit-oriented development potential

While these CEQA project objectives are not directly incorporated into the purpose and need under NEPA, an alternative's ability to achieve these CEQA project objectives will be considered in evaluating the reasonableness of an alternative under NEPA.

1.2.4 Statewide and Regional Need for the High-Speed Rail System in the Burbank to Los Angeles Project Section

The approximately 14-mile-long Burbank to Los Angeles Project Section is an essential component of the statewide HSR system. It will provide access to a new transportation mode and contribute to increased mobility throughout California. This project section would connect to both the Palmdale to Burbank and Los Angeles to Anaheim Project Sections.

The capacity of California's intercity transportation system, including within the greater Los Angeles area, is insufficient to meet existing and future travel demands. The current and projected system congestion will continue to result in deteriorating air quality, reduced reliability, and increased travel times. The current transportation system has not kept pace with the tremendous increase in population, economic activity, and tourism in the state, including that in Southern California. The interstate highway system, commercial airports, and the conventional passenger rail system[6] serving the intercity travel market are operating at or near capacity and will require large public investments for maintenance and expansion to meet existing demand and future growth. Moreover, the feasibility of expanding many major highways and key airports is uncertain; some necessary expansions may be impractical or are constrained by physical, political, environmental, and other factors. The need for improvements to intercity travel in California, including intercity travel between the Burbank to Los Angeles Project Section, the Bay Area, and Sacramento, relates to the following issues:

- Future growth in demand for intercity travel, including the growth in demand in Southern California
- Capacity constraints that will result in increasing congestion and travel delays, including those within the Burbank to Los Angeles Project Section
- Unreliability of travel stemming from congestion and delays, weather conditions, accidents, and other factors that affect the quality of life and economic well-being of residents, businesses, and tourism in California, including within the project vicinity
- Increased frequency of accidents on intercity highways and passenger rail lines in congested corridors of travel, including within the project vicinity
- Reduced mobility as a result of increasing demand on limited modal connections between major airports, transit systems, and passenger rail in the state, including within the project vicinity
- Poor and deteriorating air quality and pressure on natural resources and agricultural lands due to expansion of highways and airports, as well as continued urban development, including in Southern California
- Legislative mandates to moderate the effects of transportation upon climate change, including required reductions in GHG emissions caused by vehicles powered by the combustion of carbon-based fuels

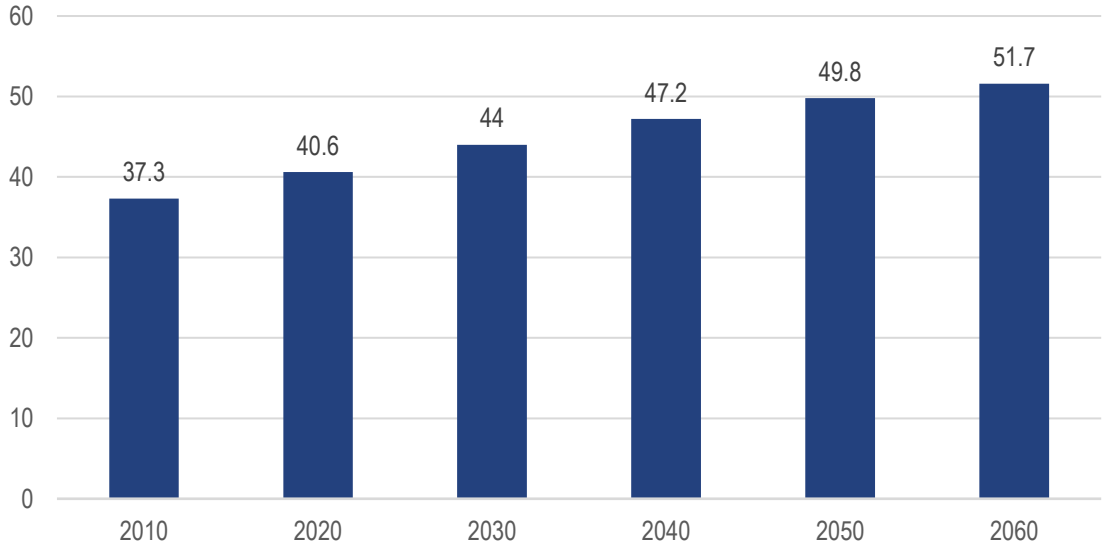
[6] Conventional passenger rail systems include inter-regional commuter rail services such as Amtrak and Metrolink. These are not to be confused with local, light, and heavy rail transit systems that generally operate within a smaller sub-regional area (e.g., Los Angeles County's Metro Rail system).

1.2.4.1 Travel Demand and Capacity Constraints

Intercity travel in California, including travel within this portion of Southern California, is driven primarily by growth in population, goods movement, tourism, and the economy. The anticipated growth of the region necessitates transportation improvements. Population and economic growth will increase demand for a transportation system that is already under considerable pressure. HSR would increase the capacity, connectivity and efficiency of the current intercity travel system. The Burbank to Los Angeles Project Section would maximize existing transportation facilities with improvements that will extend beyond just HSR travel. The HSR system, including this Project Section, would interface at hubs with many modes of travel, thereby relieving pressure on the region's transportation system in a manner that would reduce emissions and vehicle miles traveled for intercity trips.

Population and Economic Growth

According to the California Department of Finance, California's population is expected to increase by over 26 percent from 2010 to 2040, from 37.3 million people to 47.2 million people. Figure 1-4 illustrates this forecasted population growth. The population is expected to grow steadily to approximately 52 million people by 2060 (California Department of Finance 2014).



Source: California Department of Finance, 2014

Figure 1-4 Existing and Future California Population (in millions)

The Burbank to Los Angeles Project Section lies within the Los Angeles Basin, which consists of dense urban areas surrounded by large open space areas (the Verdugo, Santa Monica, and San Gabriel Mountains). The constraining topography, densely built environment, and high housing costs limit outward expansion within the corridor cities, and development mostly consists of greater densification. The development trend throughout the state has been an increase in multifamily housing, but Los Angeles County far outstrips other counties in terms of dense residential development; over 12,000 new multifamily units were added in 2016, which is more than twice that of the next three counties combined (California Department of Finance 2016). In surrounding areas, much of the projected population growth will occur within the Inland Empire (such as San Bernardino and Riverside Counties) as well as Imperial County farther south (Southern California Association of Governments [SCAG] 2016e). As Los Angeles becomes even denser and the surrounding areas experience population growth, it becomes increasingly important to provide the Southern California region with an alternate mode of intercity travel.

The Burbank to Los Angeles Project Section is entirely within the planning area of SCAG,[7] which is the designated metropolitan planning organization of six counties in Southern California (Los Angeles, Orange, Imperial, Riverside, Ventura, and San Bernardino). According to SCAG's 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), Los Angeles County is home to approximately 9.9 million people, and the population is projected to grow to approximately 11.5 million people by 2040 (Table 1-1). The county's population is projected to grow at a much slower rate compared to that of the state. Within the Burbank to Los Angeles Project Section, the cities' growth rates vary, with the City of Los Angeles expected to have a growth rate higher than that of the state, while both Burbank and Glendale have lower growth rates. The lower projected growth rates in Burbank and Glendale are expected because these areas are already densely populated and built out, and net migration is predicted to be very low; natural increase is expected to be the primary population growth factor (Caltrans 2015).

Table 1-1 Population Growth in California, Los Angeles County, and the Cities of Los Angeles, Burbank, and Glendale (2015–2040)

Area	2015 Population[1]	2040 Population	Percent Change
California	38,896,969	47,233,240	21
Los Angeles County	10,093,193	11,514,800	14
City of Los Angeles	3,927,346	4,609,400	17
City of Burbank	104,950	118,700	13
City of Glendale	195,429	214,000	10

Sources: California Department of Finance, 2014; Southern California Association of Governments, 2016b
[1] 2012 was the baseline year for the 2016 Southern California Association of Governments Regional Transportation Plan/Sustainable Communities Strategy; 2015 population estimates were derived from the Regional Transportation Plan/Sustainable Communities Strategy estimates.

The "Great Recession" of 2008 has had a lasting impact on household growth in the SCAG region, with few households added relative to the increase in population. This could be explained partly by demographic factors, such as population age and household formation, as well as a stagnating growth of housing supply in the SCAG region after the recession (SCAG 2016c). Table 1-2 shows household growth in the project vicinity, with the city of Los Angeles anticipated to have the highest percentage increase in households of the cities in the project corridor, and the city of Glendale the lowest.

Table 1-2 Household Growth in Los Angeles County and the Cities of Los Angeles, Burbank, and Glendale (2015–2040)

Area	2015 Household Units[1]	2040 Household Units	Percent Change
Los Angeles County	3,331,421	3,946,600	19
City of Los Angeles	1,364,586	1,690,300	24
City of Burbank	45,132	48,400	12
City of Glendale	73,332	81,100	11

Sources: California Department of Finance, 2014; Southern California Association of Governments, 2016b
[1] 2012 was the baseline year for the 2016 Southern California Association of Governments Regional Transportation Plan/Sustainable Communities Strategy; 2015 population estimates were derived from the Regional Transportation Plan/Sustainable Communities Strategy estimates.

[7] By state law, SCAG must prepare and regularly update an RTP/SCS, which is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. The most recent update was adopted by SCAG in April 2016. The 2016 RTP/SCS proposes $556.5 billion in transportation and capital investments over the plan's lifetime.

The Burbank to Los Angeles Project Section vicinity has historically included a diverse range of employment sectors. The city of Burbank has a large entertainment industry and is home to the Walt Disney Company, Warner Brothers Entertainment, and NBC Universal, along with many other smaller production facilities. Additionally, Hollywood Burbank Airport is the county's second busiest airport. The city of Glendale is home to several global and nationally known corporations, such as Nestle USA, AT&T Interactive, and Americas United Bank, and is also an entertainment production center, housing Steven Spielberg's DreamWorks Studios and several divisions of the Walt Disney Company. Additionally, there is a sizable healthcare and medical sector in Glendale. The city of Los Angeles is known for its entertainment industry in Hollywood, and it is also a major employment hub for several other sectors. Business services, education, and retail are among the top employment sectors in Los Angeles, while manufacturing, hospitality, and the apparel industries are also major sectors (California Employment Development Department 2014).

The 2008 recession greatly affected employment in the SCAG region, with 800,000 jobs lost between 2007 and 2010 (SCAG 2016c). However, the employment growth rate in the SCAG region has returned to pre-recession levels, and employment within Los Angeles County is expected to increase by about 23 percent from 2012 to 2040. Table 1-3 summarizes the projected employment growth between 2012 and 2040 for the county and corridor cities. Growth is expected to occur mostly in construction, information, education, health services, and leisure and hospitality services (SCAG 2016c). Tourism is a major economic growth factor; Los Angeles hosted 45.5 million visitors in 2015 (LA Tourism & Convention Board 2016). However, the three corridor cities have considerably lower employment growth projections, at less than half of the county's growth rate. Economic growth is projected to be concentrated in other, less-developed areas of Los Angeles County, such as in the Santa Clarita Valley and Antelope Valley to the north of the Burbank to Los Angeles Project Section (SCAG 2016b).

Table 1-3 Employment Growth in Los Angeles County and the Cities of Los Angeles, Burbank, and Glendale (2015–2040)

Area	2015 Jobs[1]	2040 Jobs	Percent Growth
California	38,896,969	47,233,240	21
Los Angeles County	4,351,604	5,225,800	20
City of Los Angeles	1,747,046	2,169,100	24
City of Burbank	110,893	145,000	31
City of Glendale	112,982	127,000	12

Sources: California Department of Finance, 2014; Southern California Association of Governments, 2016b
[1] 2012 was the baseline year for the 2016 Southern California Association of Governments Regional Transportation Plan/Sustainable Communities Strategy; 2015 population estimates were derived from the Regional Transportation Plan/Sustainable Communities Strategy estimates.

Table 1-4 presents unemployment rates as reported by the California Employment Development Department in November 2016, as well as per capita income from 2014. Los Angeles County has a lower unemployment rate, yet also lower per capita income compared to that of the state of California. When comparing the three corridor cities to Los Angeles County, both Glendale and Burbank have lower unemployment rates and higher per capita incomes, while Los Angeles has a higher unemployment rate and higher per capita income. The city of Los Angeles is presently the largest employment center in Los Angeles County and California, with over 5 million people in the labor force (California Employment Development Department 2016a). When comparing the three corridor cities to the state of California, all three cities have lower unemployment rates, while only Burbank has a higher per capita income. HSR service between Burbank and Los Angeles would support projected regional job growth by alleviating potential barriers to local and regional employment centers.

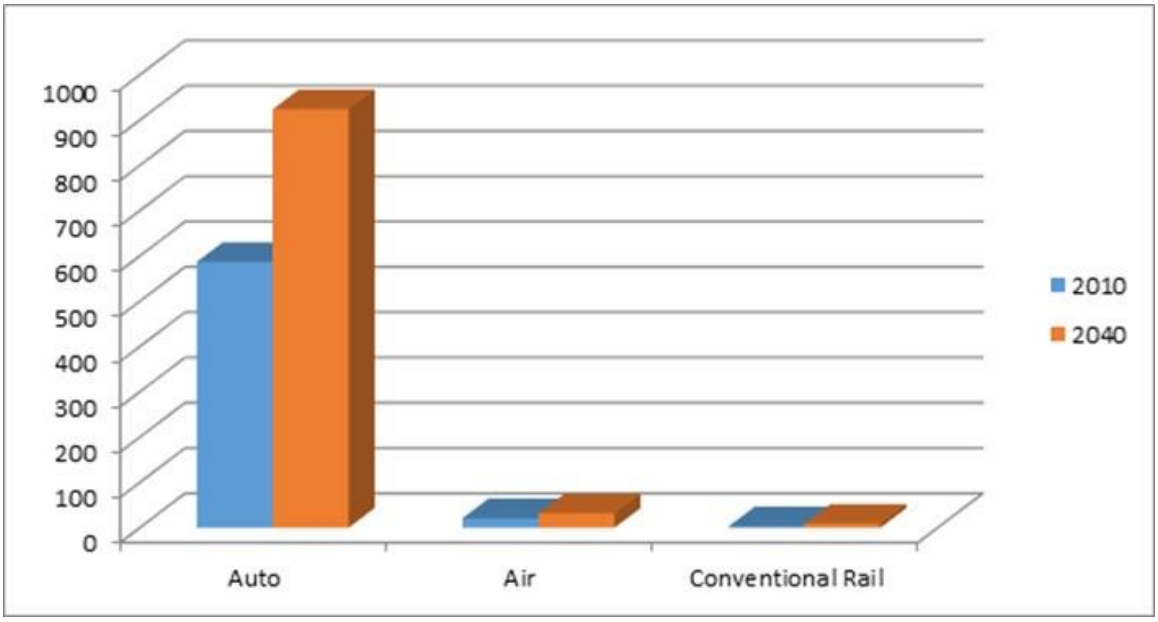
Table 1-4 Unemployment and Income in California, Los Angeles County, and the Cities of Los Angeles, Burbank, and Glendale

Area	Unemployment Rate (2016) (percent)	Per Capita Personal Income (2014)
California	5.3	$29,906
Los Angeles County	4.8	$27,987
City of Los Angeles	5.1	$28,320
City of Burbank	3.9	$33,882
City of Glendale	4.7	$29,264

Sources: California Employment Development Department, 2016a, 2016b; American Community Survey, 2014

Travel Demand

The steady population and economic growth within Southern California contributes to increasing travel demand, placing pressure on the region's freeways. Overall within the state, intercity travel is forecast to increase by more than 58 percent between 2010 and 2040, from 610 million trips to approximately 965 million trips (Authority 2016a), as illustrated on Figure 1-5. According to the Authority's 2007 ridership and revenue forecast, Californians were estimated to make 610 million trips in 2010 between the state's metropolitan regions in Northern and Southern California, as well as the regions between (Cambridge Systematics 2007). Approximately 209 million of these trips were forecast to be journeys of at least 100 miles; by 2040, this number is expected to increase to more than 271 million trips per year (Cambridge Systematics 2007).



Source: California High-Speed Rail Authority, 2016a

Figure 1-5 Intercity Trips in California (in millions)

As shown on Figure 1-5, the automobile will continue to predominate in intercity travel and, by 2040, is expected to account for more than 95 percent of all intercity travel and close to 90 percent of longer intercity trips (Cambridge Systematics 2007). Figure 1-6 illustrates the major

routes and commercial airports[8] used for intercity travel between the markets the HSR system would potentially serve.

Within Los Angeles County, driving accounts for nearly 70 percent of total trips, while transit trips account for about 4 percent of total trips, with the remainder covered by bicycle (approximately 2 percent) and pedestrian (approximately 24 percent) trips (SCAG 2016f). However, the overall mode share for transit is much higher for commute trips, which occur during peak congestion periods, than for overall trips. Los Angeles County has a particularly high transit commute mode share. Transit comprises 7.2 percent of all work trips countywide, which compares favorably with the statewide mode share of 5.2 percent and the national mode share of 5 percent (SCAG 2016f). As population and employment continue to increase within Southern California, there is a great need to provide a variety of options for regional and statewide travel. HSR service in the Burbank to Los Angeles Project Section would reduce stress on the existing transportation systems by reallocating some of the regional demand from the highways and airports to HSR.

[8] Commercial airports are publicly owned airports that have at least 2,500 passenger boardings each calendar year and receive scheduled passenger service (Federal Aviation Administration 2016a).

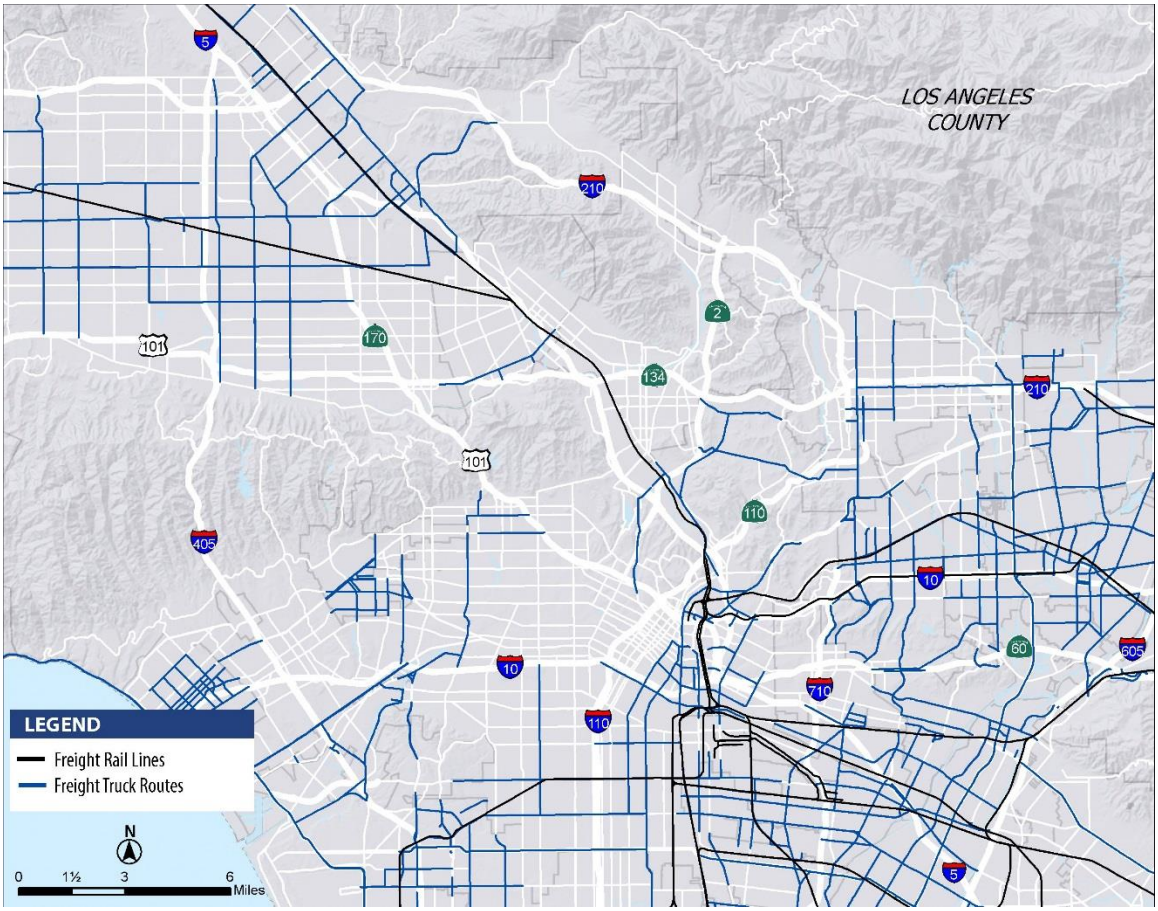
Source: California High-Speed Rail Authority and Federal Railroad Administration, 2018

Figure 1-6 Major Intercity Travel Routes and Airports

Freeway Congestion and Travel Delays

The SCAG region experiences more than 3 million hours of delay annually resulting from congested traffic conditions, which equates to 15 minutes of delay daily for each person in the region (SCAG 2016a). The greater Los Angeles area has some of the worst traffic congestion among the nation's metropolitan areas; in 2015, the average traveler in the greater Los Angeles area experienced an annual travel delay of 80 hours—the second highest travel delay for any metropolitan area in the U.S. (Texas Transportation Institute 2015). In 2014, freeway travel time during the peak period in the greater Los Angeles area was 1.6 times as long as during low-volume conditions; this was the worst in the state of California and also the worst nationally (Texas Transportation Institute 2015).

Los Angeles County generates by far the largest volume of annual trips per person of any SCAG county, with nearly 35 million of its 63 million trips occurring within county boundaries. The regional congestion has been increasing despite considerable investments in subway, light rail transit, and high-occupancy vehicle (HOV) lane systems in recent decades. Caltrans and Metro plan to implement several improvements to the major freeways along and within the vicinity of the Burbank to Los Angeles Project Section, including Interstate (I-) 5, I-210, I-405; U.S. Highway (US) 101, State Route (SR) 14, SR 134, and SR 170. (Figure 1-7 below displays intercity highways within the region.) However, despite these improvements, freeways have not been able to keep up with the region's population and transportation demands, which have consequently resulted in increased congestion and delays, excessive fuel consumption, and decreased air quality.



Sources: California Department of Transportation, 2013f; Los Angeles Metropolitan Transit District, 2015

Figure 1-7 Regional Freight Network

Table 1-5 represents the travel demand forecasted for Los Angeles County. As shown in the table, the daily vehicle miles traveled are expected to reach over 220 million and the daily vehicle hours traveled are expected to reach 6.8 million by the year 2040. Delay hours are expected to increase by over 25 percent, and travel speed is expected to decrease. Roadway expansion is not a viable option for this region; by 2040, Los Angeles County will only be able to increase roadway capacity by roughly 1 percent, or by only 181 centerline miles (SCAG 2016e).

Table 1-5 Current and Projected Vehicle Miles Traveled, Vehicle Hours Traveled, Delay, and Speeds in Los Angeles County

Travel Metric	2012	2040 (projected)	Percent Change
Vehicle Miles Traveled (thousands)	204,905	222,883	7.8
Vehicle Hours Traveled (thousands)	6,026	6,822	11.6
Delay hours (thousands)	1,603	2,010	22.1
Speed (miles per hour)	34	32.7	-3.4

Source: Southern California Association of Governments, 2016e

Caltrans' goal for state highway facilities is level of service (LOS)[9] B through D on a scale of A to F, where A is unencumbered travel and F is stop-and-go traffic flow. I-5 operated at LOS F for the entire portion of I-5 from I-10 to SR 170 in 2008. In 2035, even with planned improvements, I-5 LOS is anticipated to remain at LOS F throughout the entire stretch of I-5 within the Burbank to Los Angeles Project Section (Caltrans 2013a). Similarly, both SR 110 and the SR 134 currently operate at LOS F in the project vicinity. In 2035, even with planned improvements, the entire portions of the SR 110 and SR 134 in the project vicinity will remain at LOS F (Caltrans 2013b, 2013c). The capacity improvements planned for I-5 would in several cases require property acquisition, reconstruction of roadways, and other infrastructure improvements requiring substantial capital expenditures.

The Burbank to Los Angeles Project Section exemplifies the statewide growth patterns and trends, where much of the intercity travel in California consists of trips of intermediate distance. Table 1-6 shows the statewide forecasting model results for expected growth in traffic volumes on major highways within the next 25 years. Travel growth for all intercity highways is projected to increase between 2010 and 2040 within the Burbank to Los Angeles Project Section. For example, people traveling between Los Angeles and the Santa Clarita Valley along I-5 will observe the most travel growth, with 49 percent more annual intercity trips.

[9] LOS is an indicator of traffic conditions and ranges from LOS A to LOS F, with LOS A representing the best traffic flow conditions, and LOS F the worst congested conditions.

Table 1-6 Travel Growth for Intercity Highways

Major Highways	Average Daily Volume, 2010	Average Daily Volume, 2040	Percentage Change
I-5 between San Diego and Los Angeles	229,000	284,000	24
I-5 between Los Angeles and Bakersfield (at Santa Clarita)*	182,000	271,000	49
SR 99 between Bakersfield and Modesto	110,000	174,000	58
US-101 between San Jose and Madera	78,000	114,000	46
SR 152 between San Jose and Madera	27,000	48,000	78
SR 99 between Bakersfield and Merced	24,000	43,000	79
I-5 between Bakersfield and Modesto	41,000	60,000	46
I-280 between San Jose and San Francisco	87,000	133,000	53
I-5 between Modesto and Sacramento	47,000	79,000	68
SR 99 between Modesto and Sacramento	57,000	81,000	42
SR 14 between Lancaster and Los Angeles	44,000	56,000	27
I-5 between Lancaster and Los Angeles	324,000	384,000	19
I-5 between Santa Clarita and Orange County Line	294,000	309,000	5
US-101 from Ventura County Line to Pasadena	296,000	319,000	8
SR 134 from Ventura County Line to Pasadena	254,000	283,000	11
SR 170	151,000	180,000	19
I-210 between Sylmar and Pasadena	88,000	112,000	27
SR 2 between Glendale and Echo Park	189,000	205,000	8
SR 110 between Pasadena and San Pedro	161,000	168,000	4
I-110 between Pasadena and San Pedro	142,000	160,000	13
I-10 between Santa Monica and Ontario (at Santa Monica)	140,000	150,000	7
I-10 between Santa Monica and Ontario (at Ontario)	218,000	245,000	12
SR 60 between Los Angeles and Pacoima	177,000	201,000	14
SR 134 between Studio City and Pasadena	231,000	249,000	8
SR 118 between Pacoima and Mission Hills	170,000	197,000	16
SR 58 between Bakersfield and Mojave	12,00	26,000	117

Source: California Department of Transportation, 2014d
Average daily volume represents average weekday traffic over a 24-hour period
* North of the I-5 and SR 14 junction
I = Interstate
SR = State Route
US = U.S. Highway

Freight Movement Growth

Freight deliveries by truck are an important component of the regional economy, particularly for transporting products between suppliers and manufacturers and between regional distribution centers and stores (Metro 2014). The Los Angeles County roadway and rail networks serve the Ports of Los Angeles and Long Beach, as well as major regional airports, such as Los Angeles International Airport (LAX) and Hollywood Burbank Airport. Most imported goods arriving at the Ports of Los Angeles and Long Beach are consumer goods such as toys, electronics, furniture, clothing, and automobiles. Primary exported goods include raw materials such as petroleum and chemicals, food products, waste paper, and recycled materials (Metro 2014). In 2014, the Ports of Los Angeles and Long Beach handled the largest volume of container traffic and third largest volume of cargo among all ports in the United States (USACE 2014a, 2014b). In 2012, the Ports of Los Angeles and Long Beach were directly responsible for approximately 55,000 daily truck trips—representing 5 percent of all regional truck trips. This figure is expected to grow by 58 percent by 2040 to 87,000 daily trips (SCAG 2016d). According to Metro's *Los Angeles County Strategic Goods Movement Arterial Plan* (2015), the average daily truck volume is 536 trips in the North Los Angeles County subregion, which covers the Lancaster, Palmdale, Santa Clarita, San Fernando Valley, and Arroyo Verdugo areas (Metro 2015). In the Central Los Angeles subregion, which is focused on downtown Los Angeles, the average daily truck volume is 757 trips (Metro 2015). Overall truck volumes are expected to increase on all key regional highway corridors by 2040 (SCAG 2012).

Vehicle travel into, out of, and within the region competes with freight movement along I-5 and other local roads. In 2011, six of the top major freight chokepoints and bottlenecks in the nation were in Los Angeles (Caltrans 2012). Freight trucks operating along highways such as SR 134 at SR 2 contribute to significant levels of traffic congestion in Los Angeles County (ATRI 2011). In 2016, two high-priority bottlenecks were identified within the Burbank to Los Angeles Project Section: (1) I-5 between the cities of Burbank and Glendale; and (2) US-101 between SR 110 and I-5 adjacent to LAUS (SCAG 2016d). As trucks consume a growing portion of total highway capacity, the competition between freight and passenger roadway demand leads to further inefficiencies throughout the transportation system. Substantial improvements in roadway capacity in Los Angeles County are limited by the existing high level of urban development, allowing only limited physical improvements to the region's roadways. Thus, travel delays from growth in freight trucking will also increase.

Two major rail companies, UPRR and BNSF Railway, serve Los Angeles County, but only UPRR operates freight rail service throughout the Burbank to Los Angeles Project Section. These trains carry many types of commodities, including food products, electronics, raw materials, and chemicals (Caltrans 2008a). UPRR freight trains operate along the Los Angeles-San Diego-San Luis Obispo (LOSSAN) rail corridor, on the Coast line toward Santa Barbara and on the Antelope Valley line from the San Fernando Valley to Palmdale. UPRR also owns and operates several spur tracks within the Burbank to Los Angeles Project Section. In 2014, UPRR operated an average of 11 total train trips per day through the Burbank to Los Angeles Project Section. By 2030, this number is projected to grow to 18 total train trips, representing a 63 percent increase in service growth (LOSSAN 2012). These freight rail lines operate with Metrolink and Amtrak in the second busiest intercity rail corridor in the nation. The increase in freight traffic by rail will cause significant hours of delay at grade crossings along the railroad corridor. Improvements in rail infrastructure are needed to keep up with future demand. The roadway and rail freight networks in the Burbank to Los Angeles Project Section vicinity are shown in Figure 1-7.

Conventional Passenger Rail

The Burbank to Los Angeles Project Section is within the existing LOSSAN corridor. Metro owns the right-of-way. Conventional rail operators within the corridor include the SCRRA, which operates the Metrolink system, and Amtrak. The HSR project proposes to share the existing corridor with these operators. Figure 1-8 shows the conventional rail routes within the Burbank to Los Angeles Project Section.

Sources: California Department of Transportation, 2013f, 2013g

Figure 1-8 Conventional Rail Routes in the Burbank to Los Angeles Project Section

Metrolink

The Metrolink system is a commuter rail system operating throughout Southern California. Its Antelope Valley Line runs between LAUS and Lancaster Metrolink Station, passing through Burbank at the Downtown Burbank Metrolink Station. The Ventura County Line runs between LAUS and the Ventura Metrolink Station, stopping at the Downtown Burbank and Burbank Airport Metrolink stations. There are 31 daily Metrolink trips traveling in each direction between Burbank and Los Angeles. The number of Metrolink trains operating in the Burbank to Los Angeles Project Section is expected to grow by 17 percent by 2030 (LOSSAN 2012). In 2017, ridership on the Ventura County Line grew to 1,085,453 passengers, which was an increase of 10.5 percent over the previous year and an increase of 2.4 percent over fiscal year 2012; the 2017 ridership on the Antelope Valley Line was 1,719,251 passengers, a 7 percent decrease from the previous year and a 0.2 percent increase over fiscal year 2012 (SCRRA 2013, 2017, 2018). The introduction of HSR service in the Burbank to Los Angeles Project Section would improve the existing corridor's rail infrastructure and would build grade separations, which would greatly improve Metrolink service and grow ridership.

Amtrak

Amtrak operates intercity passenger rail service, with two lines running to Northern California. The Pacific Surfliner runs between LAUS and San Luis Obispo, passing through Burbank at the Burbank Airport Metrolink Station. The Coast Starlight runs from LAUS to Seattle, passing through Burbank and stopping northwest of the Burbank Airport Station in Van Nuys. Three long-distance lines run west out of LAUS: the Southwest Chief to Chicago, the Sunset Limited to New Orleans, and the Texas Eagle to Chicago via San Antonio. Amtrak also operates connecting Thruway bus service from LAUS to the Bakersfield Amtrak Station, as well as other points in Southern California.

Amtrak operates seven daily northbound trips and six southbound trips between Burbank and LAUS (LOSSAN 2018). In fiscal year 2017, ridership on the Pacific Surfliner grew to 2,990,000 passengers, which was an increase of 2.3 percent over the previous year and an increase of 13.2 percent over 2012; the fiscal year 2017 ridership for the Coast Starlight was 439,000 passengers, which was a decrease of 3.1 percent over the previous year and a decrease of 3.4 percent over fiscal year 2012 (Amtrak 2013, 2019).

As an integral part of the Pacific Surfliner route, Amtrak operates connecting Thruway bus service from LAUS to Santa Barbara. Connecting Thruway bus service is also provided for the San Joaquin route from the Bakersfield Amtrak Station to LAUS, as well as to other points in Southern California. Many of these buses essentially run parallel to the proposed Burbank to Los Angeles Project Section HSR alignment and connect passengers to Amtrak trains in Bakersfield and Los Angeles.

Two Thruway bus routes meet Pacific Surfliner and San Joaquin trains:

- Amtrak Thruway Bus Route 1 – Los Angeles Basin (Los Angeles–Bakersfield)
- Amtrak Thruway Bus Route 4 – South Coast (Los Angeles–Santa Barbara)

Freight train operations can adversely affect passenger train service under certain circumstances (e.g., freight lines using limited rail capacity and thereby minimizing the availability of track for passenger train service), resulting in longer travel times and less schedule predictability for train passengers. To increase ridership on the Pacific Surfliner, the *2018 California State Rail Plan* (Caltrans 2018) seeks to improve the frequency of travel and on-time performance by implementing capital and operational improvements. Rail infrastructure improvements with HSR in some portions of the alignment would include new tracks within the existing railroad right-of-way that could be shared with other passenger trains. Along with the planned grade separations, HSR improvements would help Amtrak achieve its stated goals of improved frequency and on-time performance of service.

Local and Commuter Bus Services

Several different service operators provide local and intercity bus service within the Burbank to Los Angeles Project Section. Within the vicinity of the Burbank Airport Station, Metro, Burbank Bus, and Megabus provide local and commuter bus services. At the Los Angeles HSR station location, Metro, the Los Angeles Department of Transportation, Antelope Valley Transit Authority, Big Blue Bus, City of Santa Clarita Transit, Foothill Transit, LAX/Flyaway, Megabus, Bolt Bus, and OCTA provide local and commuter bus services. Interfacing with HSR service at LAUS and Hollywood Burbank Airport stations would provide greater multimodal connectivity to these local and commuter bus services.

Air Travel

Air travel demand has been growing steadily in California and nationwide; federal, state, and regional transportation plans forecast continued growth in air travel over the coming decades. In 2019, nearly 11 million passengers traveled between the Los Angeles and San Francisco metropolitan areas[10] (Bureau of Transportation Statistics 2020). In addition, there are commercial air trips to and from the Inland Empire (Ontario International Airport) and the Central Valley (Fresno Yosemite International, Meadows Field, Merced Regional, Stockton Metropolitan, and Visalia Municipal Airports). Without the HSR system, more than 3 percent of all intercity travel throughout the state and approximately 10 percent of longer intercity trips (those in excess of 100 miles) will be by air (Authority 2014a).

The Southern California region contains the nation's largest and most complex regional airport system, consisting of seven commercial airports with scheduled passenger service, five additional airports with infrastructure to accommodate scheduled service, seven active military fields, and over 40 general aviation airports (SCAG 2016b).

[10] Data was extrapolated from the Bureau of Transportation Statistics Airline Origin and Destination Survey, which is a 10 percent sample of airline tickets from reporting carriers.

There are two commercial service airports within or near the Burbank to Los Angeles Project Section: LAX and Hollywood Burbank Airport (Table 1-7).

Table 1-7 Commercial Air Traffic at Airports in the Burbank to Los Angeles Project Section

Airport	Total 2015 Enplanements	No. of Carriers Providing In-State Service	In-State Airports Served
Hollywood Burbank Airport	1,973,897	2	▪ San Francisco International (SFO) ▪ Oakland International (OAK) ▪ Mineta San José International (SJC) ▪ Sacramento International (SMF)
Los Angeles International Airport	36,351,272	7	▪ San Francisco International (SFO) ▪ Oakland International (OAK) ▪ Mineta San José International (SJC) ▪ Sacramento International (SMF) ▪ San Diego International (SAN) ▪ Mammoth (MMH) ▪ Monterey Regional (MRY) ▪ Charles M. Schulz–Sonoma County (STS)

Sources: Federal Aviation Administration, 2016a; Burbank-Glendale-Pasadena Airport Authority, 2019; Los Angeles World Airports, 2019

Hollywood Burbank Airport is in Burbank and serves the San Fernando Valley, San Gabriel Valley, and northern Los Angeles County area. Hollywood Burbank Airport is owned and operated by the Burbank-Glendale-Pasadena Airport Authority, a separate government agency created under a joint powers agreement between the three cities. In 2015, Hollywood Burbank Airport had over 1.9 million enplanements (defined as a passenger boarding), which was an increase of over 2 percent from the previous year (Federal Aviation Administration 2016).

LAX is in the southwest Los Angeles area, approximately 18 miles from downtown Los Angeles and 29 miles from downtown Burbank. LAX is the third-busiest airport in the country and seventh-busiest in the world, based on passengers served (Los Angeles World Airports 2016). With a 3,500-acre area, LAX is less than half the size of Chicago's O'Hare Airport and less than one-tenth of Denver International Airport (SCAG 2012). The airport connects to 87 domestic and 69 international destinations across the world, with 7 carriers providing in-state service to 8 locations (Table 1-7). In 2015, LAX had more than 36 million enplanements, which was an increase of 6 percent from the previous year (Federal Aviation Administration [FAA] 2016b). Table 1-8 shows the number of passengers per year between the airports within Los Angeles County and Orange County to various cities throughout the state.

Table 1-8 2009 California Intercity Air Travel

From	To	Passengers per Year
Los Angeles-Orange County Regional Airports	San Francisco – Oakland	19.34 million
Los Angeles-Orange County Regional Airports	San Jose	4.05 million
Los Angeles-Orange County Regional Airports	Sacramento	4.42 million
Los Angeles-Orange County Regional Airports	San Diego	8.45 million

Sources: Research and Innovative Technology Administration/Bureau of Transportation Statistics, 2009

As shown in these tables, populations in the Burbank to Los Angeles Project Section vicinity can fly to other cities within the state using the two major airports offering commercial service. However, access to those airports is a challenge in the Burbank to Los Angeles Project Section. Hollywood Burbank Airport offers service to fewer destinations than LAX, but travel to LAX from Burbank, Glendale, and the northern part of the Los Angeles County is constrained, with an automobile travel time of an hour or more and no direct rail-to-airport connections. The SCAG 2012 RTP/SCS identified ground access improvements to relieve bottlenecks, provide improvements to intersections and interchanges, and improve transit access. Other regional agencies have also taken initiatives in improving airport ground access. Metro studied transit connections to the regional airports through the *Regional Airport Connectivity Plan* (Metro 2013). The Burbank-Glendale-Pasadena Airport Authority and Los Angeles World Airports have also conducted studies in improving and developing transportation options in areas in and near the airports (SCAG 2016b). Despite these efforts and accessibility improvements such as LAX/FlyAway airport shuttles, access to the region's airports will continue to be a challenge. HSR would fulfill the need for a more easily accessible regional transportation option.

Additionally, HSR would address the issue of limited airport capacity and growing demand for air travel. Airfield capacity at both airports is constrained, with 7.3 million annual passengers at Hollywood Burbank Airport and 82.9 to 96.6 million annual passengers at LAX (SCAG 2016b). Unconstrained passenger volume projections would exceed the airports' capacity and lead to further delays and worsening on-time performance. However, expanding the airports is not considered a realistic option because they are both constrained by surrounding urban uses. The HSR system, including the Burbank to Los Angeles Project Section, would help to alleviate airport capacity constraints by providing a new intercity transportation mode and improving transportation accessibility within the greater Los Angeles region.

Travel Time

With growing demand for intercity travel and capacity constraints, the total automobile travel time will increase statewide. Air and rail travel time will remain basically the same, while HSR travel would be faster than conventional rail and would be competitive with air travel, when taking into account the time needed for airport access, waiting, and egress. Table 1-9 shows the approximate total travel time in 2010 and the projected total travel time in 2040 for automobile, air, and rail travel between various city pairs. These data are based on the ridership analysis completed for the HSR forecasting model, with information from regional transportation planning agencies, Caltrans, and current air and conventional rail schedules.

While air travel time will not change, the number of desired flights to a given destination may be limited by runway capacity, which reduces flexibility in travel dates available. Projected increases in automobile travel time will be caused largely by growing travel demand and resulting congestion on highways used for intercity travel. Some rail capacity improvement projects have been funded for Southern California, but these are mostly equipment enhancements intended to improve reliability rather than travel time (Caltrans 2018). These improvements will provide some benefit to rail passengers but will not substantially increase passenger rail capacity within the Burbank to Los Angeles Project Section.

Table 1-9 Estimated Total Travel Times (Door-to-Door in Hours and Minutes) between City Pairs by Auto, Air, and Conventional Rail (Peak Conditions)[1],[2]

City Pair	Auto[3]		Air[4],[5]		Conventional Rail[5],[6]	
	2010	2040	2010	2040	2010	2040
Los Angeles downtown to San Francisco downtown	6:27	6:53	4:37	4:32	11:40	11:29
Fresno downtown to Los Angeles downtown	3:37	3:51	4:03	4:23	5:49	5:55
Los Angeles downtown to San Diego downtown	2:24	2:28	4:11	3:55	3:02	3:24
Burbank (Airport) to San Jose downtown	5:22	5:43	3:43	3:43	10:31	10:40
Sacramento downtown to San Jose downtown	2:22	2:18	4:12	4:25	4:04	3:32

[1] All travel times assume implementation of currently planned capacity improvement projects before 2040, which serve to positively affect travel times.
[2] Peak conditions for short distance travel are considered between 6:00 a.m. and 10:00 a.m., and between 3:00 p.m. and 7:00 p.m. Short distance travel is defined as fewer than 100 miles in a straight line between a home location and a destination. Peak conditions for long distance travel are considered "outbound," occurring generally earlier in the day, and "return," occurring generally in later parts of the day. Source: California Department of Transportation, 2014b.
[3] Travel times come from the California Statewide Travel Demand Model (California Department of Transportation, 2014b)
[4] Main-mode level of service assumptions are the same for 2010 and 2040, and are based on 2009 level of service conditions from *U.S. DOT 10% O&D Survey* airline data from Bureau of Transportation Statistics (U.S. Department of Transportation 2016b). Total travel time differences based on changes in access/egress over time.
[5] Air and conventional rail times include access to main mode via transit, egress to main mode via transit, and terminal and wait time at station/airport. When transit is unavailable, automobiles would provide access and egress.
[6] *Source: Year 2040 San Joaquin operating plan developed from the 2013 State Rail Plan (California Department of Transportation 2013a).*

1.2.4.2 Safety and Reliability

Projected growth in the movement of California's population and goods by automobile, air, and rail over the next two decades also underscores the need for improved travel safety. With more vehicles on intercity highways, the potential for accidents increases. Travel demand will continue to outpace future highway capacity, resulting in increased travel delays. Roadway congestion, limited airport capacity, passenger train delays from freight train traffic, and a growing intercity travel market adversely affect the travel-time reliability of air, conventional passenger rail, and automobile travel. Weather-related events are an additional source of disruption and delay that affect transportation reliability and safety. As noted previously under Section 1.2.4.1, Travel Demand and Capacity Constraints, Caltrans expects that the freeways within the Burbank to Los Angeles Project Section will continue to operate at a poor LOS. Many causes of increased highway congestion rates exist in California. For example, accidents, road work, cars stranded along the roadside, or routine traffic violation stops create bottlenecks, potentially delaying commuters for miles. As delay on the freeway increases, the overall reliability of the system tends to decrease (Cambridge Systematics 2007).

The California Highway Patrol publishes an annual summary of accident data for state highways. According to those statistics, 3,104 fatalities and 156,909 nonfatal injury collisions occurred on California highways and roads in 2013, which corresponds to a fatality rate of 0.94 per 100 million vehicle miles traveled (California Highway Patrol 2013). In Los Angeles County, there were 585 fatalities and 50,917 nonfatal injury collisions in 2013. Compared to the state, the fatality rate on state highways in Los Angeles County is lower than the statewide average, at 0.74 fatalities per 100 million vehicle miles traveled (Caltrans 2014a). With more vehicles on the intercity highways, the potential for accidents will continue to increase, resulting in increased travel delays as incidents are cleared. Implementation of HSR in the Burbank to Los Angeles Project Section would offer a reliable and predictable alternative transportation option to highway travel.

Airport delays are a function of capacity, weather conditions, and safety conditions. However, weather conditions are not a significant factor affecting airport reliability in the Burbank to Los Angeles Project Section. In 2015, only 15.2 percent of delayed flights at LAX and 2.1 percent of

delayed flights at Hollywood Burbank Airport were caused by weather conditions (FAA 2017). This compares favorably to the 2015 national average of 57.4 percent of delayed flights due to weather conditions (FAA 2017). Airport reliability in the Burbank to Los Angeles Project Section is attributed more to limited capacity. In 2015, over 75 percent of delayed flights were caused by volume constraints at LAX and Hollywood Burbank Airport (FAA 2017).

When demand at an airport exceeds the capacity on the airfield at that time, flights are delayed until they can be safely accommodated. Delayed flights sometimes compound problems for other flights and can result in cancelled flights. Because the FAA Ground Delay Program holds flights at their point of departure until the destination airport can accept the demand, and because short flights (e.g., Los Angeles to San Francisco) are more easily adjusted than longer flights (e.g., the East Coast or Midwest to the West Coast), short flights are more likely to experience holding delays. Consequently, intercity air travel within California can experience major delays because of the total airport demand. Data from the U.S. DOT's *Air Travel Consumer Report* show a greater percentage of delayed flights at San Francisco International Airport and LAX compared to the national average (U.S. DOT 2015c). In 2015, about one-third of all flights departing from LAX were delayed (U.S. DOT 2015c).

Finally, the reliability of rail travel along the LOSSAN corridor is adversely affected by collisions and fatalities, which are primarily associated with the joint use of the rail corridor by both passenger and freight rail services, as well by as the presence of pedestrians and motor vehicles at grade crossings. In 2015, California was ranked second for most highway-rail grade-crossing collisions in the nation, and first for trespasser casualties (Operation Lifesaver, Inc. 2016). Grade-crossing safety is a priority for Metrolink, the FRA, the Authority, and the California Public Utilities Commission. Grade separations incorporated into the Burbank to Los Angeles Project Section would improve safety at existing grade crossings by reducing pedestrian, rail, and vehicle conflicts, which would increase the reliability of travel along this corridor.

1.2.4.3 Modal Connections

Currently, the Burbank to Los Angeles Project Section is well served by transportation facilities connecting to the rest of the state, including air, rail, bus, and automobile. As discussed in Section 1.2.4.1, Travel Demand and Capacity Constraints, each mode has its share of challenges. For air travel, Hollywood Burbank Airport offers limited service to cities within the state; while LAX has a wider range of choices, its distance from the Burbank to Los Angeles Project Section may be inconvenient for travelers. Regional rail service is available through Amtrak and Metrolink, with routes throughout all of Southern California and northward; however, schedules can be limited or are focused primarily on serving commuters, and the existing systems often suffer from delays. Figure 1-8 provides an overview of regional passenger (conventional) rail service within the Burbank to Los Angeles Project Section. Finally, the greater Los Angeles area has a robust highway network, with I-5 directly connecting the cities of Burbank and Los Angeles, and SR 110, US-101, I-10, and SR 2 providing additional regional connectivity. Automobiles are the dominant mode of travel in the region, but there are limited opportunities to expand roadway capacity, even as travel demand increases. I-5 is the major north-south freeway running through the Burbank to Los Angeles Project Section that connects to other parts of the state, but the freeway has consistently been rated as the most congested in all of California (U.S. DOT 2014).

With the expected increase in population and employment, demand for more travel options at the region's transportation hubs will also increase. Currently, LAUS is the largest transit hub in the Burbank to Los Angeles Project Section and in Southern California. With regional and local services provided by Amtrak, Metrolink, and Metro Bus/Rail, and with other municipal transit agencies and intercity shuttle operators all centered at this location, travelers can connect to areas all over Southern California. LAUS provides a direct connection to LAX via LAX Flyaway shuttles, which is a nonstop bus service operated by Los Angeles World Airports.

The Downtown Burbank Metrolink Station is second only to LAUS in terms of its variety of transportation options. The station offers service to 2 Metrolink lines (the Ventura County and Antelope Valley lines), Amtrak's Pacific Surfliner, and 16 different bus routes operated by Metro,

Burbank Bus, the Los Angeles Department of Transportation, Glendale Beeline, and Santa Clarita Transit.

The Hollywood Burbank Airport Metrolink Station provides a limited number of transit services and the new regional intermodal transportation center provides direct connections to Metrolink and Amtrak trains, Metro, Burbank Bus, various shuttle buses, and a rental car center. Burbank Bus offers connecting service between the station and the North Hollywood Station of Metro's Red and Orange Lines.

Despite the multiple transit modes available at the transit hubs discussed above, only the Hollywood Burbank Airport Metrolink Station offers a direct rail connection to the airport. Passengers prefer transportation systems with connections that perform similarly with respect to the convenience and speed of door-to-door service by automobile. If multiple mode changes (e.g., from car to shuttle to plane to train) are needed to reach a destination, travelers might prefer to travel by car, even if travel times are comparable. The addition of HSR service from Burbank to Los Angeles will provide immediate linkages between local transit and intercity rail, allowing intercity travelers to more easily connect between multiple modes.

HSR will also connect passengers to active transportation networks in Burbank and Los Angeles. As recommended in the *Burbank Bob Hope Airport Multimodal Ground Access Planning Study (MGAPS) & Land Use Study* (known as linkBurbank), proposed pedestrian and bicycle improvements will be integrated with the Burbank Airport Station (City of Burbank 2014). Improvements will include pedestrian linkages to Hollywood Way and Buena Vista Street and extending the existing bicycle network with proposed Class I, II, and III[11] bike paths. Bike facilities at LAUS will connect users to Metro's bike-share system, bike lanes throughout downtown Los Angeles, and a proposed Class I bike path along the Los Angeles River.

1.2.4.4 Air Quality and Greenhouse Gas Emissions

Under the Clean Air Act, the USEPA established nationwide air quality standards to protect public health and welfare with an adequate margin of safety. The federal standards (National Ambient Air Quality Standards or NAAQS) represent the maximum allowable atmospheric concentrations for ozone, particulate matter (particulate matter smaller than or equal to 10 microns in diameter [PM_{10}] and particulate matter smaller than or equal to 2.5 microns in diameter [$PM_{2.5}$]), carbon monoxide, nitrogen dioxide, sulfur dioxide, and lead. The Clean Air Act defines nonattainment areas as geographic regions, such as metropolitan areas and other counties in rural areas, designated as not meeting one or more of the National Ambient Air Quality Standards. The Clean Air Act requires a state implementation plan to be prepared for each nonattainment area and a maintenance plan to be prepared for each former nonattainment area that subsequently demonstrates compliance with the standards. A state implementation plan is a compilation of a state's air quality control plans and rules that the USEPA has approved.

Metropolitan areas will continue to be challenged to reduce emissions to acceptable levels because of the growing number of vehicles and to maintain air quality standards by encouraging more efficient use of land resources, improving mobility, and providing alternative transportation facilities and services. Policies aimed at reducing the trip demand in single-occupant vehicles are integral to all transportation plans and programs to help areas currently in nonattainment status to conform to federal air quality standards.

The South Coast Air Basin, which includes Los Angeles and Orange Counties, is a severe nonattainment area for federal air quality standards for ozone, a serious nonattainment area for fine particulate matter (PM_{10}), and a nonattainment area for respirable particular matter ($PM_{2.5}$). The basin is in nonattainment and exceeded the levels of federal and state standards for ozone, $PM_{2.5}$, and nitrogen dioxide in 2015. Orange County and the urban portions of Los Angeles, Riverside, and San Bernardino Counties comprise the smoggiest region in the nation (South

[11] Class I bike paths provide bicycle travel on a paved right-of-way completely separated from any street or highway. Class II bike paths are lanes designated solely for bicycle use on an arterial or local street. Class III bike paths are designated for bicycle use in lanes shared with automobiles.

Coast Air Quality Management District 2016). The area's projected population growth will result in increases in vehicle miles traveled, and there will be an associated increase in the volume of pollutants emitted by motor vehicles, such as particulate matter emissions from tailpipes and road dust. Motor vehicle exhaust is a major source of fine particulates and a precursor to ozone, and the continued increase in traffic will exacerbate the existing air quality problem and impede the region's ability to attain state and federal ambient air quality standards.

One statewide strategy adopted in the California State Implementation Plan is the development of multiuse transportation corridors, including designated HOV lanes, the addition of more transit, and the inclusion of rail modal options. Meeting federal and state air quality standards over the next 20 to 40 years will also require reduction in vehicle miles traveled, integration of land use and transportation planning and development, development of transportation demand strategies, implementation of operational improvements, and use of new technologies that improve transportation efficiencies and increase transportation alternatives to the single-occupant automobile. Without the HSR system, automobile trips are expected to account for more than 95 percent of all intercity travel and close to 90 percent of longer intercity trips in California by 2035 (Authority 2016a).

In 2005, California set statewide targets for reducing GHG emissions. Executive Order S-3-05 requires that state agencies reduce their GHG emissions to 2000 levels by the year 2010, to 1990 levels by the year 2020 and 80 percent below 1990 levels by the year 2050. Shortly after the issuance of Executive Order S-3-05, the California State Legislature adopted AB 32, the Global Warming Solutions Act of 2006. It recognizes that California is the source of substantial amounts of GHG emissions. Legislative findings in the law state the following:

> *The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to the marine ecosystems and that natural environment, and an increase in the incidences of infectious diseases, asthma, and other health-related problems (California Health and Safety Code Section 38500–38599 [2006]).*

To avoid these consequences, AB 32 requires CARB, the state agency charged with regulating air quality, to create a plan and implement rules to achieve real, quantifiable, cost-effective reductions of GHG emissions in California. AB 32 requires CARB to design and implement emissions limits, regulations and other measures to reduce statewide GHG emissions to 1990 levels by 2020. CARB developed this plan in 2008 as the *Climate Change Scoping Plan* (CARB 2008), the state's road map to reaching the GHG reduction goals required by AB 32. The plan supports the implementation of an HSR system to provide more mobility choices and reduce GHG emissions. CARB adopted the approved scoping plan at its December 11, 2008, meeting. The *First Update to the Scoping Plan* was approved by the CARB on May 22, 2014.

In 2015, Executive Order B-30-15 set an interim GHG emissions reduction goal for California to reduce GHG emissions to 40 percent below 1990 levels by 2030. Executive Order B-30-15 was written to help make it possible for California to reach the ultimate goal of reducing GHG emissions to 80 percent below 1990 levels by 2050, as set forth under Executive Order S-3-05.

SB 32, which became law in September 2016, codifies Executive Order B-30-15 and extends the GHG emissions reduction goals of the California Global Warming Solutions Act of 2006. SB 32 requires CARB to ensure statewide GHG emissions reductions of at least 40 percent below 1990 levels by 2030. CARB adopted the *2017 Climate Change Scoping Plan Update* (CARB 2017) in December 2017, which includes plans to achieve goals set forth by SB 32. HSR is a component of the statewide approach to GHG reductions from California's transportation system.

SB 100, the 100 Percent Clean Energy Act of 2018, makes it a policy of the state that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045.

SB 375, which became law in September 2008, provides a new planning process to coordinate the community development and land use planning process with the RTP. SB 375 sets priorities to help California meet GHG reduction goals and requires the RTPs prepared by metropolitan planning organizations to include a "sustainable communities strategy" or, if infeasible, an "alternative planning strategy" that would support the GHG emission reduction targets for automobiles and light trucks set by CARB. SCAG's 2016-2040 RTP/SCS identifies the region's GHG targets of an 8 percent per capita reduction from 2005 by 2020 and an 18 percent per capita reduction by 2035 (SCAG 2016a).

Carbon dioxide is the transportation sector's primary contribution to climate change, accounting for 37 percent of California's GHG emissions from 2000 to 2013 (CARB 2015). Carbon dioxide emissions from motor vehicles are essentially proportional to the amount of fuel consumed—each 1 percent increase in fuel consumption results in a corresponding 1 percent increase in carbon dioxide emissions (USEPA 2008). Particulate emissions levels are a direct function of the amount of driving, with road dust caused by moving vehicles accounting for 60 to 80 percent of particulate emissions from mobile sources. Motor vehicle exhaust is a major source of fine particulates and the precursors to ozone. The continued increase in traffic will exacerbate the existing air quality problem and impede the region's ability to attain state and federal ambient air quality standards. Because emissions are directly proportional to the amount of fuel burned, offering effective transportation choices that can reduce driving will be critical for reducing these emissions.

Compared with travel by car with its internal combustion engine, an electric-powered HSR system would reduce carbon dioxide emissions. When Phase 1 of the California HSR System is operational, the resulting GHG reductions will be almost 120,000 metric tons of carbon dioxide emissions in the first year (Authority 2016b). The HSR system would also provide a more energy-efficient travel mode. A trip on the HSR system would use one-third the energy of a similar trip by air and one-fifth the energy of a trip made by car (California Office of the Governor 2007).

1.2.4.5 Protect and Preserve Natural Resources

California's natural resources, including wetlands and waterways, habitat areas for sensitive species of plants and animals, and wildlife migration corridors, have been subject to both direct and indirect impacts as the state's population has increased and growth has occurred in less developed areas. Avoiding and minimizing impacts on sensitive natural resources is a guiding criterion in the environmental review process of the HSR system. The Burbank to Los Angeles Project Section is in a densely developed urban area, with the Los Angeles River running parallel to a portion of the project. However, the HSR alignment would be primarily within the existing railroad right-of-way, and the project would have little or no impact on natural resources in the Burbank to Los Angeles Project Section. The Authority has taken the initiative to design crossings for all regulated aquatic features to comply with the Nationwide Permit program, thereby avoiding and minimizing adverse effects to the maximum extent practicable.

In California, new development has consumed an acre of land for every 9.4 people statewide (Thompson 2009). Conversion of open lands has also led to inefficient urban development patterns that have resulted in increased cost for providing public services to the newly developed areas. The HSR system would ease the pressure on the state's open space, and thereby on its natural resources, by reducing the need for expanding airports and freeways. By offering a new transportation option throughout the state, the HSR system provides an opportunity to create transit centers in central business districts best suited to mixed land uses (residential, commercial, and business uses) and urban densities. While pressure on open space is a less critical issue for the Burbank to Los Angeles Project Section, which is already densely developed and has slower growth forecasts compared to the rest of the state, building the HSR line in established rail corridors would reduce pressure on open space in the project section. As displayed in Table 1-1, population growth in Los Angeles County is projected to grow to 14 percent in 2040, compared to 21 percent for the state. The Burbank to Los Angeles Project Section would meet the project's goal of supporting central business districts because the proposed HSR stations would be located in downtown Los Angeles and near Hollywood Burbank Airport, areas that are already multimodal centers drawing many people for entertainment,

business, and commerce purposes. The Cities of Burbank and Los Angeles are planning for transit-oriented developments around the proposed HSR stations, and offering a new transportation option provides an opportunity to enhance the existing and planned developments in these cities.

The presence of high volumes of people can continue to induce economic investments within walkable distances of the HSR stations in downtown Los Angeles and near Hollywood Burbank Airport. As more people collect in these multimodal centers, more jobs would gather there as well, raising both wages and economic productivity over time. Additionally, the accumulation of people and jobs in urban areas can help protect and preserve natural resources over time by reducing consumption of resources, such as fuel for private automobile trips, and development in open spaces.

1.3 Relationship to Other Agency Plans, Policies and Programs

The objectives of the California HSR System include providing an interface between the HSR system and major commercial airports, mass transit, and the highway network. Plans and programs that have been considered in the development of the Burbank to Los Angeles Project Section alignment and station location options, or that already include recommendations for an HSR project, are discussed below.

1.3.1 California Transportation Plan 2040

The California Transportation Plan 2040 (CTP 2040), prepared by Caltrans, provides a long-range policy framework for guiding transportation decisions and investments by all levels of government and the private sector. CTP 2040 defines goals, performance-based policies, and strategies to achieve the collective vision for California's future statewide, integrated, multimodal transportation system, envisioning a sustainable system that improves mobility and enhances quality of life. Federal and state laws require developing and preparing a state transportation plan and an update every 5 years (Caltrans 2016).

CTP 2040 was initiated in early 2010 with the development of the California Interregional Blueprint in response to SB 391 (Caltrans, 2012). The California Interregional Blueprint was a state-level transportation blueprint that articulated the state's vision for an integrated multimodal transportation system that complements RTPs and land use visions and provided the foundation for CTP 2040, which concluded with the plan's approval by the Secretary of the California State Transportation Agency in 2016 (Caltrans, 2016).

With CTP 2040 completed, Caltrans has initiated development of CTP 2050, which would carry forward CTP 2040's focus on meeting emerging trends and economic and job growth, climate change, freight movement, and public health challenges. The HSR system would support CTP 2040 goals, policies, and strategies by providing an efficient and reliable means of transportation that facilitates economic and job growth; by reducing GHG emissions and air pollutants that contribute to climate change; and by providing some relief to California's strained highway and rail systems.

1.3.2 Measure R (Los Angeles County)

Measure R is a 30-year, $40 billion state tax-funded transportation investment plan program. Funds received from the tax will be used for the following in Los Angeles County:

- Developing new rail and bus systems
- Enhancing existing rail and bus systems
- Accelerating existing transportation projects
- Improving highways, carpool lanes, goods movement, grade separations, and sound walls
- Suspending scheduled fare increases for 1 year and freezing all Metro student, senior, disabled, and Medicare fares (was effective through 2013)

- Resurfacing, rehabilitating, and reconstructing streets
- Improving or adding left-turn signals, bicycle and pedestrian facilities, streetscapes, and signal synchronization
- Repairing potholes
- Making rail and bus system and yard improvements

In addition to the improvements described above, some specific improvements designated in the Measure R program are listed below (some of which have already been completed):

- Extend light rail with airport connections including Green Line service to LAX and the South Bay Corridor, the Purple Line from Western/Wilshire to Westwood, Exposition Boulevard Light Rail Transit from Culver City to Santa Monica, and the 24-mile Gold Line Foothill Extension to Claremont, as well as develop a West Santa Ana branch transportation corridor and a rapid transit option through the I-405/Sepulveda Pass
- Accelerate completion of Canoga Corridor Orange Line to Chatsworth, as well as completion of San Fernando Valley East North-South Rapidways
- Link local rail lines through a regional connector (Long Beach/Pasadena, Culver City/East Los Angeles lines)
- Improve freeway traffic flow (I-5, I-10, SR 14, SR 60, US-101, I-110, SR 138, I-210, I-405, I-605, and I-710)

The projects mentioned above would support the HSR system by offering connections to regional multimodal transit services and easing traffic conditions to the Burbank Airport Station and LAUS.

1.3.3 Measure M (Los Angeles County)

In November 2016, Los Angeles County voters approved another sales tax ballot initiative titled the Los Angeles County Traffic Improvement Plan, or Measure M. Like the previous sales tax measures, Measure M is a new half-cent sales tax that began in 2017 and will increase to a 1 cent sales tax in 2039, when the Measure R sales tax is set to expire. During the first year, Measure M generated more than $780 million for transportation-related improvements throughout Los Angeles County. The measure funds several new projects throughout Los Angeles County and expedites projects previously approved under Measure R. Specific improvements funded through Measure M over the next 10 years include:

- Airport Metro Connector 96th Street Station/Green Line Extension LAX—Interface station to LAX-sponsored Automated People Mover, includes consolidated bus interface for Metro and municipal bus lines
- Westside Purple Line Extension Phase 3—Project acceleration to Department of Veterans Affairs Health Campus in West Los Angeles
- Metro Gold Line Foothill Extension—An 11-mile extension of Metro Gold Line current terminus in city of Azusa to city of Claremont
- West Santa Ana Transit Corridor—Approximately 20-mile light rail line connecting southeast Los Angeles County to downtown Los Angeles
- Los Angeles River Waterway and System Bike Path/Complete Los Angeles River Bike Path

These projects would provide similar benefits to the Measure R projects because they offer connections to regional multimodal transit services from the HSR system.

1.3.4 2016–2040 Southern California Association of Governments Regional Transportation Plan/Sustainable Communities Strategy

The RTP/SCS is a long-range transportation plan that SCAG updates every 4 years. The RTP/SCS identifies strategic goals ranging from maximizing the system's mobility and accessibility to protecting

the environment and improving air quality. The RTP/SCS provides a vision for transportation investments throughout the region. Using 20-year growth forecasts and economic trends, the RTP/SCS considers the role of transportation in the broader context of economic, environmental, and quality-of-life goals for the future, identifying regional transportation strategies to address all mobility needs (SCAG 2016a). The 2016 RTP/SCS includes mobility as an important component of a much larger picture that adds emphasis on sustainability and integrated planning. The SCS integrates land use and transportation strategies that would meet the CARB emissions-reduction targets. The vision of the RTP/SCS encompasses three key principles for the region's future: mobility, economy, and sustainability. The RTP/SCS focus areas include the following categories:

- Aviation
- Environmental mitigation
- Goods movement
- Growth forecast
- High-speed regional transport
- Highways and arterials
- Land use
- Nonmotorized transportation
- Transit
- Transportation demand management
- Transportation finance
- Transportation safety and security

Major goals of the RTP include improving regional economic development, maximizing mobility and accessibility for the region, ensuring travel safety and reliability, protecting the environment, maximizing the productivity of the regional transit system, and encouraging land use and growth patterns that facilitate transit and nonmotorized transportation (SCAG 2016a). These goals are then used to identify key transportation priorities throughout the region that in turn determine the need for specific system improvements in the following categories:

- Highway improvements—Mixed flow lanes and interchanges/ramps, HOV lanes, toll lanes, and arterials
- Transit improvements—Commuter rail, heavy rail, light rail, bus rapid transit, bus and other transit;
- High-speed regional transport
- Goods movement strategies—Mainline rail capacity improvements, highway-rail grade separations, upgrade to diesel engines with reduced emissions, alternative technology-based goods movement system, dedicated lanes for clean-technology trucks, and truck climbing lanes

In order to assess both the ability of proposed improvements to meet the established goals and the plan's overall performance, 8 anticipated performance outcomes and 41 associated performance measures have been developed. According to the RTP, these measures are crucial in evaluating progress overtime and identifying the most effective investments for the region.

Funding plays a large role in the implementation of the RTP's proposed improvements. As such, the plan has been divided into two sections. The first is a financially constrained plan that includes only those improvements with "committed, available, or reasonably available revenue sources" that could be accessed at some point in the plan's 24-year time frame. These revenue sources are generated at the federal, state, and local levels, with the largest portion coming from local sales taxes. The second section of the plan, referred to as the Strategic Plan, consists of improvements requiring further study to determine whether funding should be committed. The HSR system would support the RTP/SCS strategic goals by providing a clean-air alternative to regional travel by automobile and by air, and by ensuring transportation reliability and productivity with rail infrastructure upgrades that would improve service for all passenger rail in the Burbank to Los Angeles Project Section.

1.3.5 Los Angeles Union Station Master Plan

Between 2012 and 2014, Metro undertook a master planning process for LAUS, which developed Metro's vision for the station to guide future development, including transit operations and new private and public real estate development. A synopsis of the planning process was released in 2015, titled *Transforming Los Angeles Union Station, a Summary Report,* which included programs to improve the LAUS passenger experience, such as upgraded signage, improved transfers, and expanded services, as well as programs and improvements that enhance and support the station's rich history, and to provide improvements for the HSR project.

In October 2015, Metro approved an action that called for the Link Union Station (Link US) project (see Section 1.4.6, Link Union Station) to incorporate the master plan multimodal passenger concourse in its environmental analysis and for the Link US and master plan to accommodate HSR at the rail yard. Because of the complexity of the Link US project, as well as Metro's desire to accommodate HSR service at the LAUS rail yard, Metro decided to allow the Link US and HSR projects to pursue project-level clearances separately.

1.3.6 Metro Antelope Valley Line Infrastructure Improvement Strategy

In April 2011, Metro initiated a feasibility study to enhance the Antelope Valley Line corridor and to identify infrastructure improvements that would enable Metrolink service to operate faster, more safely, and more reliably between LAUS and Lancaster. A major study objective was to identify necessary infrastructure improvements to reduce travel time by 50 percent in the corridor. Another key objective was to identify safety improvements for pedestrian and vehicular traffic at existing at-grade crossings. The study also included a cost-benefit analysis for capital projects. The initial phase of the study was completed in March 2012 and concluded that some infrastructure and grade crossing safety improvement projects should be pursued. The Final Report was completed and released October 2019. It confirmed the projects' compatibility with HSR, and recommended continued coordination with the Authority for the portions of the corridor that may be shared with the HSR system.

1.3.7 Metrolink 5-Year Short Range Transit Plan

The *Metrolink 5-Year Short-Range Transit Plan* (SCRRA 2016) assesses the current Metrolink system based on projected growth and proposed improvements between 2015 and 2020. The Short-Range Transit Plan advances the SCRRA toward achieving the long-term goals identified in its 10-Year Strategic Plan. The Short-Range Transit Plan provides an analysis of financial resources, proposes action plans for commuter rail, and includes other project and program initiatives. It also addresses future funding strategies and measures the plan's performance. Although the timeline of this Plan would not overlap with HSR implementation in the Project Section, HSR would support Metrolink's goal of increasing regional mobility.

1.3.8 Metrolink 10-Year Strategic Plan

In 2015, the SCRRA adopted the *SCRRA Strategic Assessment*, a conceptual planning document aimed at aiding Metrolink in meeting future ridership demands through 2025. The Strategic Assessment forecasts Metrolink will grow from 165 current daily trains to 240 by 2025 systemwide (SCRRA 2015). The plan aims to:

- Strengthen core institutional functions, focused on fiscal sustainability, system reliability, and customer communications and responsiveness
- Focus initial investment in the rehabilitation of the system (vehicles and infrastructure) to ensure a state of good repair that can provide a base for supporting the growth scenarios
- Evaluate the potential for additional reverse-commute trips to address the growth balance of travel patterns in the region
- Initiate discussions with host railroads on potential for reverse-peak services on corridors that are governed by shared-use agreements

- Establish strategic partnerships to tap new sources of funds, encourage rail-friendly development, and enable Metrolink to better serve markets within its existing network

The HSR system would support Metrolink growth strategies by expanding regional connectivity within the Project Section, where HSR interfaces with six of the seven Metrolink routes. HSR service in the Project Section would also improve rail infrastructure and build grade separations, thereby improving service to increase ridership.

1.4 Relationship to Other Transportation Projects in the Project Vicinity

The objectives of the proposed Burbank to Los Angeles Project Section include providing interfaces between HSR and major commercial airports, mass transit, and the highway network. The following sections describe other key transportation projects in the Burbank to Los Angeles area that offer intercity travel benefits and enhance intermodal connections to the proposed HSR system. These projects have been considered in the planning and development of the Burbank to Los Angeles Project Section and station location options. Figure 1-9 shows each key transportation project in the vicinity of the Burbank to Los Angeles Project Section.

Sources: California Department of Transportation 2013g, 2013h; Los Angeles Metropolitan Transit District, 2016

Figure 1-9 Other Transportation Projects in Los Angeles County

1.4.1 Regional Intermodal Transportation Center at Hollywood Burbank Airport

In June 2014, the Burbank-Glendale-Pasadena Airport Authority completed construction on a 520,000-square-foot Regional Intermodal Transportation Center at Hollywood Burbank Airport. The Regional Intermodal Transportation Center allows air, rail, bus, taxi, and rental car travelers to converge seamlessly at one central point, reducing private vehicle travel by facilitating greater use of public transportation by airport patrons. The Regional Intermodal Transportation Center also includes a three-level parking structure for rental cars, a rental car customer service building, and a bus station. The bus station serves local and regional bus lines and accommodates shuttles to the Metro subway station in North Hollywood (which serves the Red and Orange Lines); the new Metrolink station on the Antelope Valley line at San Fernando Boulevard and Hollywood Way; the Metrolink station on the Ventura County line at the airport; and the Metrolink station in downtown Burbank, which serves both the Antelope Valley and Ventura County lines. An elevated, covered 1,100-foot moving walkway carries rental car customers and bus passengers to and from the airport terminal. The Regional Intermodal Transportation Center offers key HSR benefits to the Burbank Airport Station location: circulator connection with the airport itself, access to parking and rental car facilities, and circulator connection with the Ventura County Metrolink line. An additional intermodal connectivity opportunity includes I-5 (access within 0.5 mile).

1.4.1 Elevate Hollywood Burbank Airport

The City of Burbank and the Burbank-Glendale-Pasadena Airport Authority are also pursuing a 14-gate replacement terminal at Hollywood Burbank Airport in an adjacent 49-acre parcel. The Final EIR was completed in July 2016 (Burbank-Glendale-Pasadena Airport Authority 2016.) In November 2016, voters in the city of Burbank approved a measure to build the project. The replacement terminal would include updates to meet current runway and earthquake safety standards. Aside from these primary objectives, the new terminal design would be energy efficient, would consolidate operations into a single building, would meet requirements for Americans with Disabilities Act-compliant accessibility, would provide an enhanced passenger experience including more restaurant and concession options and more spacious corridors and waiting areas, will provide connectivity between the terminal and passenger rail and bus options, and will improve the airfield for safer and more efficient aircraft movements on the ground.

In December 18, 2018, the FAA began the EIS process by publishing the Notice of Intent, and scoping began in January 2020. The Draft EIS is underway, with completion of the Final EIS expected in early 2021. Construction is anticipated to begin in late 2021, and the replacement terminal is expected to open in 2024.

1.4.2 linkBurbank

The City of Burbank and the Burbank-Glendale-Pasadena Airport Authority have established the *Bob Hope Airport Area Ground Transportation and Land Use Study* to analyze potential transportation and related land use development in the airport area (known as linkBurbank). The goals of the study were to develop ground transportation improvements that will allow the airport to serve as a multimodal regional transportation hub and to identify transit-oriented development opportunities in the airport area to take advantage of its transportation connections. The Burbank Airport Station would be within the linkBurbank study area. The final report was completed in 2014 (City of Burbank 2014).

1.4.3 Buena Vista Street and Empire Avenue Grade Separation

As part of the I-5 HOV lane construction, Metrolink is developing an improvement to remove the N Buena Vista Street at-grade crossing by elevating the rail line over the street. Additionally, this grade separation will allow Empire Avenue to be extended underneath the rail corridor. This project includes an extension northward of the twin track section of the Antelope Valley Line from the Burbank Junction to N Hollywood Way. Construction began in mid-2014, with anticipated completion in mid-2021. Because grade-crossing improvements for HSR are also needed in this

area, coordination with Caltrans could reduce duplicate planning efforts and help the Authority and Caltrans effectively accomplish the objectives of both projects.

1.4.4 Interstate 5 HOV Project

Within the cities of Burbank and Los Angeles, Caltrans plans to construct a series of freeway enhancements on I-5, from SR 134 to SR 170, which will reduce congestion and improve traffic flow within this segment of the freeway. The first enhancement will be the addition of one HOV lane or carpool lane in each direction of I-5 (expand from 8 to 10 lanes). The other freeway improvement will widen the Burbank Boulevard overpass and modify the on- and off-ramps of the Burbank Boulevard interchange just north of the proposed HSR station location. While the second improvement may not have the same level of impact on the HSR station as the HOV widening, it is still important to note as it is within half a mile of the proposed station. Additional enhancements outside of a 1-mile radius from the proposed HSR station location include:

- A full freeway interchange at Empire Avenue, which opened in September 2019
- A new freeway and railroad crossing allowing access to the Empire Center
- A grade separation of the existing railroad crossing at Buena Vista Street, which will allow the Metrolink tracks to pass over Buena Vista Street and the new Empire Avenue connection

In addition to these improvements, Caltrans plans to widen I-5 between SR 170 and SR 118 from 10 to 12 lanes, including an HOV lane in each direction. The Empire Avenue interchange improvements will enhance access to the proposed Burbank Airport Station. Additionally, because improvements are needed for all grade crossings as part of the Burbank to Los Angeles Project Section, coordination with Caltrans could reduce duplicate planning efforts and help the Authority and Caltrans effectively accomplish the objectives of both projects.

1.4.5 SR 2 Freeway Terminus Improvement

The SR 2 terminus is within the area of the Burbank to Los Angeles Project Section near Glendale Boulevard and Duane Street. The project will improve traffic flow and reduce congestion at the SR 2 terminus, provide pedestrian enhancement at the terminus, and ensure compatibility with existing residential and commercial uses. This project will also improve traffic flow onto I-5, reducing vehicle travel time to either the Burbank Airport Station or the LAUS station of the HSR system. Phase 1A was completed in November 2013, and Phase 1B was completed in 2016. Phase 2 of the project is currently not funded; therefore, final design will begin after funding is programmed for this work.

1.4.6 Link Union Station

The Metro Board of Directors has approved funding for the engineering and construction of “Run-Through” tracks at LAUS under the Link US project, which was formerly known as the Southern California Regional Interconnector Project. The Link US project would transform LAUS, which is currently a “stub end” station, to a run-through station by extending tracks south of US-101, resulting in reduced passenger wait times and reduced GHG emissions from idling trains. Additionally, the Link US project includes a new passenger concourse. Metro, in collaboration with the Authority, is integrating the services and facilities that will environmentally clear the respective program pieces. The project schedule calls for construction to be complete by 2031. Metro released a Draft EIR for public and agency comment in January 2019, with a 45-day public review period ending in March 2019. The Metro Board certified the Final EIR in June 2019 and approved the project, under CEQA. Metro and the Authority, as the lead NEPA agency for the Link US project (pursuant to the NEPA Assignment Memorandum described in Section 1.1.5), are currently preparing a Draft EIS for the Link US project. The Draft EIS includes additional information regarding offsets to Link US’s impacts to BNSF Railway operations at the West Bank Yard. Metro and the Authority are working in collaboration to integrate the services and facilities needed for Link US and the HSR system.

.

1.4.7 Metro Regional Connector

The Metro Regional Connector Project, a 1.9-mile underground light rail system, will connect the Metro Gold Line Little Tokyo/Arts District Station to the 7th Street/Metro Center Station. The new connector will also result in three new light rail stations in downtown Los Angeles and will improve access to local and regional connections served by Metro to provide a one-seat ride for travel across Los Angeles County. The Authority has worked to achieve early approval and release of Proposition 1A bond funding for construction of this regionally significant connectivity project. The project is currently under construction and is expected to be completed by 2022.

1.4.8 Metro Westside Purple Line Extension

The Metro Westside Purple Line Extension Project will expand the existing Metro Purple Line subway from its current western terminus at Wilshire/Western westward approximately 9 miles and will provide seven new stations. In April and May 2012, the Metro Board of Directors approved the project and certified its Final EIS/EIR. As displayed in Figure 1-8, this project would offer a connection with the HSR system at LAUS, providing a one-transfer ride to the Los Angeles Westside region (specifically to Beverly Hills, Century City, and Westwood). The project is expected to be built in three phases in order to allow for project funding. The construction of the first and second phases (6.5 miles of the segment) has already begun. The third and last phase (2.6 miles of the segment) began construction late in 2019. The first phase is expected to begin operations in 2023. The second phase is expected to begin operations in 2025. All three phases are anticipated to be open for operation in 2026.

1.4.9 Metro East San Fernando Valley North/South Corridor

In March 2013, Metro and the Federal Transit Administration began the preparation of an EIS/EIR for the East San Fernando Valley North/South Corridor project. The project includes north-south transit improvements that are primarily located along the Van Nuys Boulevard corridor in the east San Fernando Valley and is expected to offer connections to the local and regional transportation network, including the Burbank to Los Angeles Project Section. Technical reports and public workshops have occurred to solicit public opinion and refine and analyze six different alternatives. The Draft EIS/EIR was released in September 2017.

In June 2018, Metro's Board of Directors selected light rail transit as the preferred alternative for the East San Fernando Valley North/South Corridor project. The alignment will operate in the median of Van Nuys Boulevard for 6.7 miles to San Fernando Road. At San Fernando Road, the light rail trains will transition onto the existing railroad right-of-way adjacent to San Fernando Road, and they will share the existing railroad right-of-way with Metrolink for 2.5 miles to the Sylmar/San Fernando Metrolink Station. The Final EIS/EIR is scheduled to be completed in 2020, with construction beginning in 2022 and concluding in 2027.

1.4.10 Metro Gold Line Foothill Extension

The Metro Gold Line Foothill Extension is extending the existing Metro Gold Line light rail east from Pasadena to Montclair. This project would offer a connection with the HSR system at LAUS, providing a one-transfer ride to six cities in eastern Los Angeles County and San Bernardino County. Figure 1-9 identifies this project and its connection with the Burbank to Los Angeles Project Section at LAUS. The project, which has been approved and certified by the Metro Board of Directors, features two phases. The first phase was completed in 2016 and added 11 miles of new tracks and six new stations. The second phase, which began preliminary engineering in summer of 2014, will add 12 additional miles of track. The majority of the funds needed to complete the Los Angeles County portion of the second phase will come from Metro's Measure M half-cent sales tax (see Section 1.3.3 for more information) as well as a nearly $300 million grant from California SB 1. In November 2018, the Foothill Gold Line Construction Authority initiated a Supplemental EIR to evaluate new Project Modifications along this second phase of the Extension. The Final Supplemental EIR, certified July 2019, includes track realignments, improved roadway capacity on White Avenue, and a new construction plan which splits the Glendora to Montclair Project into two phases: Glendora to Pomona (9.1 miles of track and 4

stations) and Pomona to Montclair (3.2 miles of track and 2 stations).Funding is secure for the Glendora to Pomona phase, which is anticipated to begin major construction in 2020 and be completed in 2025. The second phase to Montclair is expected to be completed in 2028, provided that additional funding is secured.

1.4.11 Metro Crenshaw/LAX Transit Extension Project

In January 2014, Metro began construction of the Crenshaw/LAX Transit Extension Project. The project, which features an 8.5-mile light rail line and eight new stations, will run between the Expo Line on Exposition Boulevard/Crenshaw Boulevard and the Metro Green Line near LAX. This project would benefit the HSR system by introducing a new light rail connection to LAX from LAUS. Figure 1-8 provides an overview of this project and its connection with the Burbank to Los Angeles Project Section. Service is expected to begin in 2020.

1.4.12 Metro Doran Street and Broadway/Brazil Safety and Access Project

Metro, in coordination with the City of Los Angeles, City of Glendale, Metrolink, and the Authority, is looking into grade-separation options for the Doran Street crossing and the nearby Broadway/Brazil Street crossing. A combined grade-separation option is being considered that would allow the closure of both existing crossings. The project completed conceptual engineering and environmental clearance in December 2018, and interim improvement designs were completed in June 2019.. The interim improvements are anticipated to start construction in June 2021, while Metro advances final design of the grade separation.

1.4.13 Patsaouras Plaza Expansion

Patsaouras Plaza is on the east side of LAUS and serves as a bus transfer and layover facility for local and regional bus services. As a part of the expansion, the bus plaza underwent several upgrades, including a new passenger pick-up/drop-off facility (opened to the public in October 2016) and the replacement of pavers, waterproofing, draining systems, and pedestrian safety fencing. A new transit station was also added along the El Monte Busway, which allows for easy transfers from the busway to other bus and rail operators at LAUS. Construction was completed in October 2016. LAUS is a station in the Burbank to Los Angeles Project Section of the HSR project. Improvements to this portion of the station will directly benefit the HSR project, as well as the broader transit network into which the HSR system would connect. Figure 1-9 shows the location of this project relative to the Burbank to Los Angeles Project Section.