ERRATA: CHAPTER 1, PROJECT PURPOSE, NEED, AND OBJECTIVES

Errata No.	Draft EIR/EIS Reference		Errata Final EIR/EIS	
	Section	Page	Correction and Rationale	Errata Page Reference
1	Section 1.1.3.2	1-6	Revised discussion of HSR Business Plans to add the 2026 Business Plan	16-2
2	Section 1.1.5	1-11	Removed references to grant funding and added two agencies to clarify the list of CEQA responsible agencies	16-2
3	Section 1.1.6	1-12	Removed last two paragraphs of section.	16-3
4	Section 1.2.4.6	1-36	Revised economic and employment project benefits to reflect the 2026 Business Plan	16-3
5	Section 1.3.3	1-37	Revised with updated status of the Link Union Station Project environmental documents	16-3
6	Section 1.3.4	1-37	Clarified LOSSAN Corridor Agency's role in supporting the HSR system	16-4
7	Section 1.3.9	1-40	Revised description of Metrolink's SCORE program to describe planned 30-minute headways	16-4
8	Section 1.3.10	1-41	Clarified goals of Metrolink's Strategic Business Plan	16-4

CEQA = California Environmental Quality Act; EIR/EIS = environmental impact report/environmental impact statement; HSR = high-speed rail; LOSSAN = Los Angeles – San Diego – San Luis Obispo; No. = number; SCORE = Southern California Optimized Rail Expansion

1 PROJECT PURPOSE, NEED, AND OBJECTIVES

1.1 Introduction

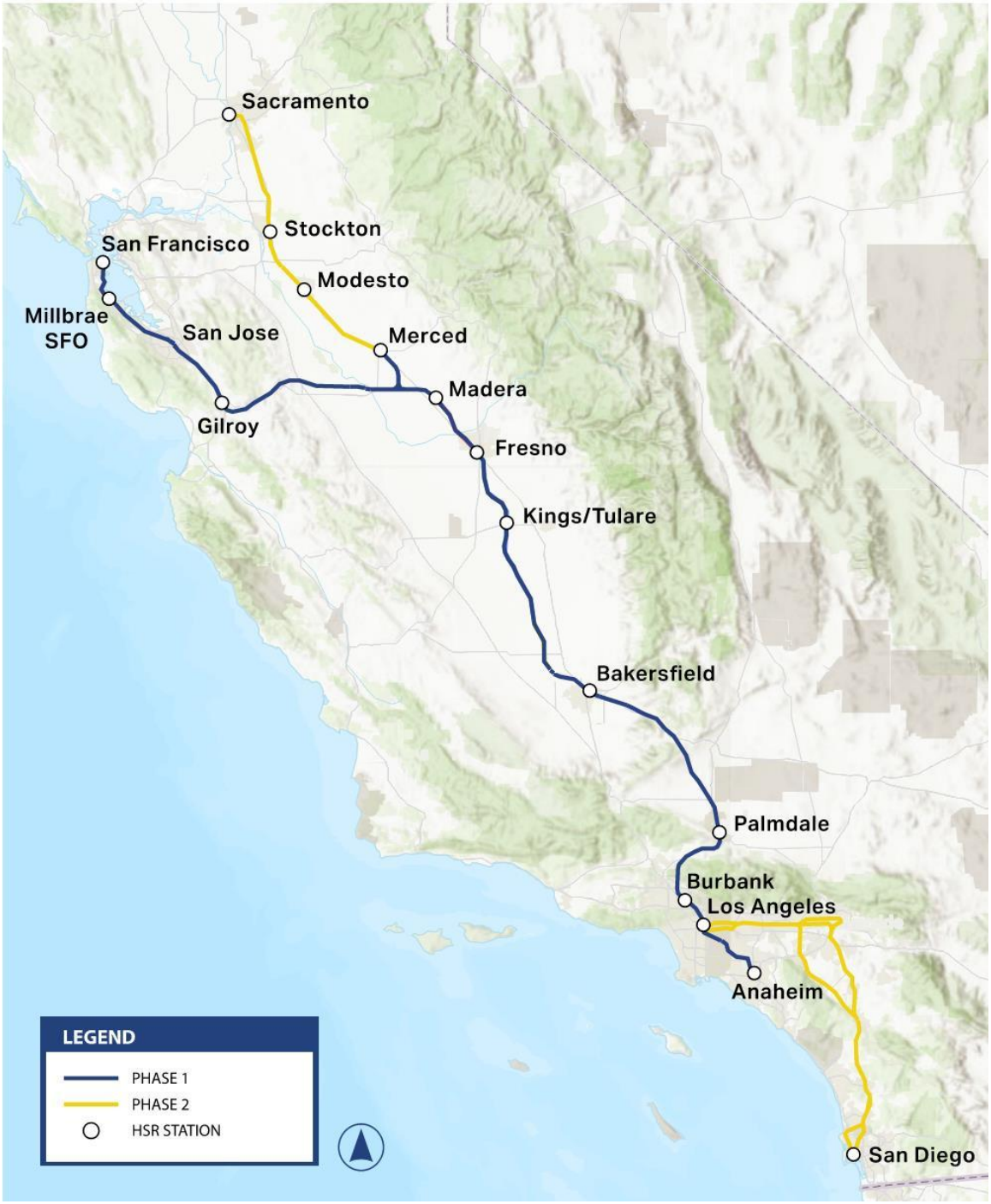
1.1.1 The High-Speed Rail System

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 lead responsibility for planning, designing, building, 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 build, 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. As estimated, 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 on 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 49 U.S. Code 24102(4) as "rail passenger transportation except, commuter rail passenger transportation." Commuter rail passenger transportation is defined at 49 U.S. Code Section 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." The number of trains on different parts of the HSR system will vary depending on schedules and ridership.



Source: Authority 2024b

Figure 1-1 Statewide High-Speed Rail System—Implementation Phases

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 a "Tier 1" environmental document, then analyzing the

details of individual projects within the larger program in subsequent project-specific or "Tier 2" environmental documents.

The *Final Program Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Proposed California High-Speed Train System* (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. The HSR alternative included consideration of different train technologies and vehicle types, as well as potential corridors and station locations. At the conclusion of the 2005 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 technology, and lower-speed diesel (nonelectrified) 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 the second tier, as part of project planning and development and environmental review

Source: Authority 2005
EIR/EIS = environmental impact report/environmental impact statement; HSR = high-speed rail

After completing the 2005 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 (i.e., the *Final Bay Area to Central Valley High-Speed Train (HST) Program Environmental Impact Report/Environmental Impact Statement* [2008 Bay Area to Central Valley Final Program EIR/EIS]) (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 (in the *Bay Area to Central Valley High-Speed Train (HST) Partially Revised Final Program Environmental Impact Report* (Authority and FRA 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 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 the second tier, as part of project planning and development and environmental review

Source: Authority and FRA 2008
EIR/EIS = environmental impact report/environmental impact statement

These Tier 1 decisions—which included the selection of the Los Angeles – San Diego – San Luis Obispo (LOSSAN) Rail Corridor as the HSR alignment between Los Angeles and Irvine, with station locations at Los Angeles Union Station (LAUS), Norwalk/Santa Fe Springs, Anaheim, and Irvine—established the broad framework for the HSR system that serves as the foundation for the Tier 2 environmental review of individual projects. For the Tier 2 environmental review, the Authority did not evaluate an Anaheim to Irvine subsection, because it was eliminated in the Statewide Program EIR/EIS (Authority and FRA 2005) because of potential high costs and construction and right-of-way complexities.

Between Los Angeles and Anaheim, the corridor advanced in the Tier 2 study was the LOSSAN Corridor. The station locations advanced for Tier 2 study were LAUS, Norwalk/Santa Fe Springs, and Anaheim Regional Transportation Intermodal Center (ARTIC).

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). USEPA and 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.

Electronic copies of the Tier 1 documents are available by calling the Authority office at (916) 324-1541. The Tier 1 documents may also be reviewed at the Authority's offices during business hours at 770 L Street, Suite 620, Sacramento, CA 95814 and 355 S Grand Avenue, Suite 2050, Los Angeles, CA 90071. The Authority recommends calling the Los Angeles office at (213) 457-8420 to reserve a time to review the documents at that location.

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, as discussed in the next subsection.

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 submitted The Safe, Reliable, High-Speed Passenger Train Bond Act for the 21st Century (Proposition 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 (refer to Section 1.1.3.4, The Federal Railroad Administration Grant Agreement) 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 2009, 2014, 2017, 2022a). 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 GHGs and other air pollutants" and provides "the foundation for a large-scale

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

transformation of California's transportation infrastructure" by reducing millions of vehicle miles traveled (VMT) by automobile and reducing the demand for air travel. In 2017, the Legislature extended the Cap-and-Trade program from 2020 to 2031. The 2022 Scoping Plan for Achieving Carbon Neutrality lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by AB 1279 (CARB 2022a).

1.1.3.2 Business Plans and Project Update Reports 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 approximately 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. Additionally, the Authority prepares a project update report every 2 years for the State Legislature, reporting on the status of the program. Because of availability of the plans and the refinement of the project operations, the 2023 Project Update Report is used in this Draft EIR/EIS as the basis for ridership assumptions.

The 2018 Business Plan, adopted May 15, 2018, describes the phased implementation of the HSR System. As depicted 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 compatible 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 past business plans, which prioritizes connecting the Silicon Valley to the Central Valley. To achieve that objective, the 2018 Business Plan calls for completing two initial lines, 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 built, it is anticipated that the system would be extended to complete all of Phase 1 and ultimately Phase 2.

The 2020 Business Plan was adopted on March 25, 2021, and it identifies major anticipated milestones for upcoming years, focusing on construction and program delivery. There are three key objectives and principles from the 2020 Business Plan:

- Expand economic development
- Meet the state's environmental objectives, particularly the reduction of GHG emissions
- Improve mobility for our citizens

The 2020 Business Plan supports concurrent investments to deliver early benefits to Southern California in the Burbank to Los Angeles to 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 2023.

The 2022 Business Plan was adopted in April 2022. The forecasts and estimates remained the same between 2020 and 2022.

In 2023, the Authority published the 2023 Project Update Report. The 2023 Project Update Report includes additional legislative requirements, including updates on costs, schedules,

[3] The California HSR Project Business Plan (https://hsr.ca.gov/about/high-speed-rail-business-plans/) discusses blended railroad systems and operations. This term refers to integrating the California HSR System with existing intercity, commuter, and regional rail systems through coordinated infrastructure (blended systems) and scheduling, ticketing, and other means (blended operations).

agreements, and milestones related to the 119-mile construction segment and the proposed 171-mile Merced to Bakersfield early operating segment. It also includes updates to the ridership model and estimates for each operating segment in Phase 1 of the project, which are used in this Draft EIR/EIS. For San Francisco to Los Angeles/Anaheim, ridership is projected to be 31.3 million riders by 2040. Finally, the report describes important project advancements and the multiyear grants strategy (Authority 2023c).

Following a 60-day public review and comment period on the February Draft 2024 Business Plan, the Authority published a Revised Draft Business Plan in April 2024. The draft business plan included new Phase 1 systemwide ridership projections. The projections rely on the California Rail Ridership Model, a new model prepared by the Authority in collaboration with the California Department of Transportation Division of Rail and Mass Transportation (Authority 2024b). Although the new model forecasts a slight increase in projected valley-to-valley ridership between San Francisco and Bakersfield, the Phase 1 systemwide forecast is roughly 30 percent lower than what was presented in the 2020 or 2022 Business Plans, and 9 percent lower than the 2023 Project Update Report, primarily because of a decrease in California population growth projections. The 2040 Phase 1 medium ridership is now forecast at 28.4 million (Authority 2024b). Despite this reduction, the Authority continues to conclude that building the electrified system in California remains economically beneficial, with farebox revenue projected to be $3.576 billion in 2040 (Authority 2024b).

The ridership forecasts presented in this Draft EIR/EIS are based on the 2023 Project Update Report. For the year 2040, the 2023 Project Update Report forecasts 31.3 million passengers. The 2040 forecasts correspond to the horizon year used for impacts analysis in this Draft EIR/EIS. Ridership forecasts are based on demographic forecasts, such as population and employment growth. Therefore, this Draft EIR/EIS focuses on the 2040 forecasts in the 2023 Project Update Report.

Because lower ridership levels are projected in the 2024 Business Plan compared to the 2023 Project Update Report, this would result in fewer trains operating in 2040. Therefore, the impacts associated with ridership and train operations in 2040 would be somewhat less than the impacts presented in this Draft EIR/EIS, and the benefits accruing to the project (e.g., reduced VMT, reduced GHG emissions, reduced energy consumption) also would be less than the benefits presented in this Draft EIR/EIS. Refer to Appendix 1-A, Changes in Project Benefits and Impacts, for more information.

1.1.3.3 The 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 this act, the State of California adopted the *California State Rail Plan* in 2013 (Caltrans 2013a). The 2013 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 2013a). The plan called for implementation of a statewide HSR system that is integrated into the existing intercity and commuter passenger rail network.

In September 2018, the California Department of Transportation (Caltrans) released the *2018 California State Rail Plan*, which emphasizes HSR as a foundational component of the statewide, integrated rail transportation network (Caltrans 2018). The 2024 California State Rail Plan was released on December 18, 2024, which continues to highlight the integral work of HSR and promotes economic development, enhances environmental sustainability, and advances equity by offering seamless mobility options for Californians (Caltrans 2024).[4]

[4] The State Rail Plan is available at https://dot.ca.gov/-/media/dot-media/programs/rail-mass-transportation/documents/california-state-rail-plan/2024-ca-state-rail-plan-a11y.pdf.

1.1.3.4 The 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 roughly $3.5 billion. In 2010, the Authority entered into cooperative agreements with the FRA under which the FRA committed to providing 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.[5]

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 evaluates a project section of the HSR system that serves a useful transportation purpose on its own and could function independently even if the adjacent project 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 project; considers public and agency participation in the screening process; and is developed in consultation with resource and regulatory agencies, including USEPA and USACE. Each Tier 2 EIR/EIS is intended to be sufficient to support USACE's permit decisions, as applicable. The Tier 2 project sections are depicted on Figure 1-2. On July 22, 2024, the State of California and FRA renewed the 2019 Memorandum of Understanding that assigned the FRA's responsibilities to the state to implement the National Environmental Policy Act (NEPA) and other federal statutes, regulations, and executive orders and to issue a record of decision for each of the Tier 2 reviews underway at that time.

To date, the FRA and the Authority have completed Tier 2 EIR/EISs for the following project sections:

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

In addition, the Authority completed the Merced to Fresno: Central Valley Wye Supplemental EIR/EIS, the Fresno to Bakersfield Section Final Supplemental EIR, and the Fresno to Bakersfield Section: Locally Generated Alternative Final Supplemental EIS.

[5] The grant agreements are available by request via the Authority's website: http://www.hsr.ca.gov/About/Funding_Finance/funding_agreements.html.



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

1.1.4 The Los Angeles to Anaheim Project Section

Compatible with the Tier 1 decisions, the Los Angeles to Anaheim Project Section (project section) would extend approximately 30 miles from Los Angeles to Anaheim, as depicted on Figure 1-3. The project section starts at the northern edge of U.S. Highway 101 and ends at ARTIC. The HSR project is closely interrelated with the Los Angeles County Metropolitan Transportation Authority's (Metro) Link Union Station (Link US) Project, of which the Authority is the federal lead agency. As part of the Link US Project, Metro would build platforms at LAUS, tracks, and the viaduct that crosses over U.S. Highway 101 and comes down to grade at First Street, which could be used by HSR trains. From north of U.S. Highway 101 to First Street, the Authority would only build the overhead contact system[6] over the shared tracks to power HSR trains; this portion of the overhead contact system is considered to be part of the Los Angeles to Anaheim Project Section and is included in this Draft EIR/EIS. The Burbank to Los Angeles Project Section included the Authority's construction of overhead contact system leading through LAUS to a point north of U.S. Highway 101. First Street is the match line where the Link US tracks stop and the Authority's Los Angeles to Anaheim Project Section's tracks begin. Starting from that point, the Authority's project includes the HSR project tracks and all other project infrastructure south to ARTIC.

This Draft EIR/EIS evaluates two locations for an HSR station option, at the Norwalk/Santa Fe Springs Metrolink Station and the Fullerton Metrolink/Amtrak Station. However, neither of these HSR station option locations are included as part of Shared Passenger Track Alternative A or B. Refer to Chapter 2, Alternatives, for a detailed description of the alignment and HSR station options. BNSF Railway (BNSF), Metrolink (of the Southern California Regional Rail Authority (SCRRA), and Amtrak (of the National Passenger Railroad Corporation) currently use the LOSSAN Corridor.

[6] The overhead contact system provides electrical power to HSR trainsets and is necessary for their operation along the entirety of the HSR system. It is a two-wire system, a messenger wire and a contact wire, with overhead wires supported by cantilevers and attached to poles alongside the tracks.



Source: Authority 2025
Draft alignments, elements not to scale

Figure 1-3 Los Angeles to Anaheim Project Section Corridor

1.1.5 Lead Agencies, Cooperating Agencies, and Responsible Agencies

Pursuant to U.S. Code (U.S.C.) Title 23 Section 327, under the renewed NEPA Assignment Memorandum of Understanding between the FRA and the State of California, effective on July 22, 2024, the Authority is the federal lead agency for NEPA and related environmental reviews and approvals for Authority Phase 1 and Phase 2 California HSR System projects, including this project section (FRA and State of California 2024).[7] In this role, the Authority is the project sponsor and the lead federal agency for compliance with NEPA and other federal laws. The FRA administers the High-Speed Intercity Passenger Rail Program and has awarded California $3.48 billion in grant funding for statewide HSR system environmental studies, as well as HSR construction in the Central Valley. The FRA has primary responsibility for developing and enforcing rail line safety regulations in accordance with 49 U.S.C., Subtitle V, Part A (49 U.S.C. 20101 et seq.) for conducting Government-to-Government consultation with Federally Recognized Tribes, as defined in 36 Code of Federal Regulations 800.16(m) and Executive Order 13175, and for performing general conformity determinations per Section 176 of the Clean Air Act (42 U.S.C. 7506), and other federal approvals retained by the FRA.

The following cooperating agencies are included in this NEPA review process for this project section.[8]

- USACE
- Surface Transportation Board[9]

USACE agreed by letter, dated December 30, 2009, to be a cooperating agency under NEPA, based on its special expertise and jurisdiction pursuant to Section 404 of the Clean Water Act and Sections 10 and 14 of the Rivers and Harbors Act. The Surface Transportation Board, by letter dated May 2, 2013, is also a cooperating agency under NEPA. Additionally, the Authority invited the Federal Highway Administration via a letter dated May 4, 2018; as of the date of this document, the Federal Highway Administration did not respond. NEPA allows 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.

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

Responsible agencies under the California Environmental Quality Act (CEQA) are defined in Public Resources Code Section 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 Los Angeles to Anaheim Project Section include the following agencies: California Department of Fish and Wildlife, Caltrans, California Public Utilities Commission, California State Water Resources Control Board, South Coast Air Quality Management District, California Department of Toxic Substances Control, Metro, Orange County Transportation Authority (OCTA), Riverside County Transportation Commission, and SCRRA (Metrolink). These agencies can use the Final EIR/EIS, either through the provisions of State CEQA Guidelines Section 15220

[7] On July 23, 2019, the Authority and FRA entered into a NEPA Assignment Memorandum of Understanding that authorized the Authority to serve as the federal lead agency for NEPA and related environmental reviews and approvals. This Memorandum of Understanding was renewed on July 22, 2024.

[8] The Federal Transit Administration agreed via email, dated January 12, 2011, to be a cooperating agency. However, it is not a cooperating agency for the Los Angeles to Anaheim Project Section, as determined by the Authority and Federal Transit Administration on January 25, 2025.

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

et seq. or State CEQA Guidelines Section 15096, to approve or permit aspects of the HSR project.

1.1.6 Compatibility with Federal Transportation Policy

In 2008, Congress enacted a major reauthorization of intercity rail passenger programs, 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 to these rail services. Congress provided an additional $2.5 billion for this program in the 2010 Department of Transportation Appropriations Act (Title I, Division A of the Consolidated Appropriations Act, 2010). The 2011 Full-Year Continuing Appropriations Act (Public Law 112-110) reduced available funding by $400 million. The FRA issued a strategic plan, *A Vision for High-Speed Rail in America* (FRA 2009), describing the agency's plan for intercity passenger rail development and subsequent program guidance to implement the High-Speed Intercity Passenger Rail Program with congressional funding.

The HSR system is also compatible with expressions of federal multimodal transportation legislation, including the Fixing America's Surface Transportation 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 and 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.

In 2021, President Joseph R. Biden signed into law the Infrastructure Investment and Jobs Act (Public Law 117-58, November 15, 2021), also known as the Bipartisan Infrastructure Law. This law is intended to rebuild and improve roads, bridges, rails, ports, airports, and more. This 5-year bill replaced the Fixing America's Surface Transportation Act, which expired in 2020 and was extended through fiscal year (FY) 2021. The Infrastructure Investment and Jobs Act authorizes more than a 40 percent increase over the Fixing America's Surface Transportation Act in guaranteed funding for public transportation. These funds are for local buses, subways, commuter rail, light rail, paratransit, ferries, and the HSR.

To date, the Authority has received nearly $3.3 billion from the U.S. Department of Transportation through the Bipartisan Infrastructure Law (Authority 2023a, 2023b). The funding is to ensure the advancement of construction in California's Central Valley, which is critical for the HSR system. The grant will advance work in California's Central Valley, including by:

- Funding design, right-of-way purchases, and construction of six grade separations in the city of Shafter (Kern County)
- Funding six electric trains for testing and use
- Funding design of train facilities
- Funding design and construction of the Fresno station

- Funding final design and early works, including right-of-way acquisition and utility relocation, on the extensions to Merced to Bakersfield
- Funding construction in the Central Valley

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

1.2.1 Purpose of the High-Speed Rail System

The 2005 Statewide Program EIR/EIS established the purpose of the statewide HSR system and identified and evaluated alternative HSR corridor alignments and stations as part of a statewide HSR system (Authority and FRA 2005).

> *The purpose of the statewide HSR system is to provide a reliable, electric-powered train system that links the major metropolitan areas of the state and 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.*

1.2.2 Purpose of the Los Angeles to Anaheim Project Section

The purpose of this project is to implement the Los Angeles to Anaheim Project Section of the California HSR System to provide the public with electric-powered HSR service that provides predictable and consistent travel times between major urban centers and connectivity to airports, mass transit, and the highway network in the Los Angeles-Orange Counties metropolitan region, and connects to the rest of the system.

The purpose and need for the project section was developed through a process established by the Authority, FRA, USACE, and USEPA pursuant to the November 2010 *Memorandum of Understanding – National Environmental Policy Act (42 U.S.C. 4321 et seq) and Clean Water Act Section 404 (33 U.S.C. 1344) and Rivers and Harbors Act Section 14 (33 U.S.C. 408) – Integration Process for the California High-Speed Train Program* (NEPA/404/408 MOU) that was intended to facilitate the integration of NEPA, Section 404 of the Clean Water Act, and Section 14 of the Rivers and Harbor Act (Section 408). The parties reached agreement on the purpose and need in July 2012. For Clean Water Act Section 404(b)(1) compliance, USACE must take into consideration the applicant's needs in the context of the geographic area of the proposed action and the type of project being proposed. Although the project section initially followed the NEPA/404/408 MOU, technical analysis confirms that the project section's impact on waters of the U.S. can be authorized under the Nationwide Permit program. As a result, only the NEPA/404/408 MOU's requirements with respect to Section 408 are applicable. USACE has determined that the overall project purpose (as stated above) allows for a reasonable range of alternatives to be analyzed, which is acceptable as the basis for the USACE 404(b)(1) alternatives analysis.

1.2.3 CEQA Project Objectives of the High-Speed Rail System in California and Within the Los Angeles to Anaheim 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 State CEQA Guidelines, 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 will be unmet by current transportation systems and increase capacity for intercity mobility.

- Maximize intermodal transportation opportunities by locating stations to connect with local transit, 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.
- Minimize conflicts between freight and passenger rail services.
- Maximize the use of existing transportation corridors and rights-of-way, 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 and agricultural resources and reduce emissions and VMT for intercity trips.

Although these CEQA project objectives are not directly incorporated into the project's 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 Los Angeles to Anaheim Project Section

The need for an HSR system is directly related to the expected growth in population and increase in intercity travel demand in California over the next 20 years and beyond. With growth in travel demand, there will be an increase in travel delays arising from the growing congestion on California's highways and at airports. In addition, there will be negative effects on the economy, quality of life, and air quality in and around California's metropolitan areas from a transportation system that will become less reliable as travel demand increases. The intercity highway system, commercial airports, and conventional passenger rail serving the intercity travel market are currently operating at or near capacity and will require large public investments for maintenance and expansion to meet existing demand and future growth.

The approximately 30-mile-long project section is an essential component of the statewide HSR system. It would provide access to a new transportation mode and contribute to increased mobility throughout California. As depicted on Figure 1-2, this project section would connect to the Burbank to Los Angeles Project Section, as well as the Los Angeles to San Diego corridor, the latter being part of Phase 2 program development.[10] The capacity of California's intercity transportation system, including within the Los Angeles-Long Beach-Anaheim Metropolitan Statistical Areas (MSA), which include the Los Angeles to Anaheim Project Section, is insufficient to meet existing and future travel demand. The current and projected future 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 increase in population, economic activity, and tourism in the state, including within the Los Angeles-Long Beach-Anaheim MSA. The interstate highway system, commercial airports, and passenger rail systems[11] serving the intercity travel market are operating at or near capacity and will require large public investments to meet existing demand and future growth over the next 25 years and beyond. 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, and other factors. The need for improvements to intercity travel in California—including intercity travel between the

[10] The Authority has not adopted a schedule for implementation of Phase 2.

[11] Passenger rail systems include commuter rail services like Metrolink and intercity rail services like Amtrak. These are not to be confused with rail transit systems that generally operate within a smaller sub-region (e.g., Los Angeles County's Metro Rail system).

Los Angeles-Long Beach-Anaheim MSA, the San Francisco Bay Area, the Central Valley, and Sacramento—relates to the following issues:

- Future growth in demand for intercity travel, including the growth in demand within the project section
- Capacity constraints that will result in increasing congestion and travel delays, including within the 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 section
- 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 section
- Poor and deteriorating air quality as a result of increasing vehicle and airport operational congestion, including within the project section
- Legislative mandates to moderate the effects of transportation on climate change, including required reductions in GHG emissions caused by vehicles powered by the combustion of carbon-based fuels

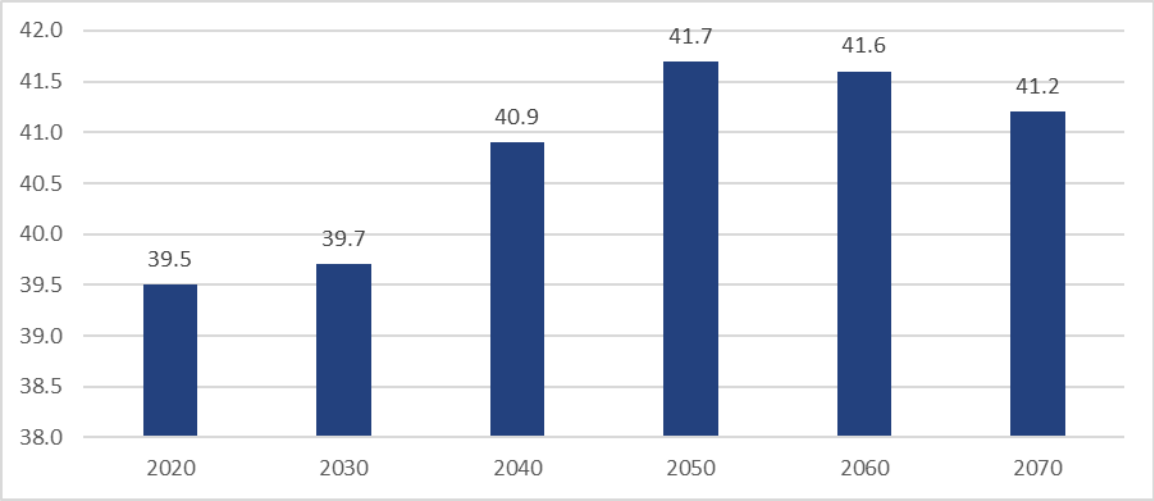
Figure 1-3 depicts the location of the project section in California. This region contributes substantially to the statewide need for a new intercity transportation service that connects major population and economic centers to other regions of the state. The following sections provide additional information about the factors contributing to the need for the project section.

1.2.4.1 Travel Demand and Capacity Constraints

Increased travel demand results in greater intercity travel in California, including travel within the Los Angeles-Long Beach-Anaheim MSA. Growing population, tourism, and economic growth generate this demand.

Population and Economic Growth

According to the California Department of Finance forecasts, California's population is expected to increase between 2020 and 2050, at which point population levels are expected to steadily decrease back to near 2040 levels. Figure 1-4 illustrates forecasted population growth in California during the 50-year period between 2020 and 2070 (California Department of Finance 2024a).



Source: California Department of Finance 2024a

Figure 1-4 Current and Future California Population (in Millions)

Much of this population growth will be accommodated in the metropolitan coastal areas, including Los Angeles and Orange Counties, or in Southern California's Inland Empire, which includes San Bernardino and Riverside Counties. However, growth and development in these regions are increasingly challenged because of environmental and quality-of-life issues, including high housing prices. These areas are finding it increasingly difficult to accommodate new development. Despite economic pressure to grow, the combination of rising costs and local opposition is likely to push a substantial number of people to seek homes and employment elsewhere. This push increases the importance of making regional connections across the state.

According to data from the California Department of Finance and the Southern California Association of Governments (SCAG),[12,13] the cities along the project section[14] have a total combined population of about 5 million and account for 12.9 percent of total statewide population (California Department of Finance 2024b; SCAG 2020c). Population forecasts for the cities along the project section indicate an increase of 14.7 percent to nearly 5.8 million by 2040. Table 1-1 presents current and estimated future population.

With more people and more jobs in the Los Angeles-Long Beach-Anaheim MSA, already congested roads, highways, airports, and transit systems will face unprecedented demand in the years ahead.

[12] SCAG is an association of local governments and agencies that voluntarily convene as a forum to address regional issues. Federal law designates SCAG a Metropolitan Planning Organization, and under state law it is a Regional Transportation Planning Agency and a Council of Governments.

[13] Because SCAG is the designated Metropolitan Planning Organization for six counties (Los Angeles, Orange, Imperial, Riverside, Ventura, and San Bernardino) and 191 cities in Southern California, federal and state laws mandate that SCAG develop long-range regional transportation plans (RTP). These plans include sustainable communities strategies (SCS) and growth forecasts, regional transportation improvement programs, regional housing need allocations, and a portion of the South Coast air quality management plans. State law requires SCAG to prepare and update the RTP/SCS every 4 years. For purposes of the analysis in this Draft EIR/EIS, the 2020–2045 RTP/SCS was primarily used. The 2020–2045 RTP/SCS represents the vision for Southern California's future, including policies, strategies, and projects for advancing the region's mobility, economy, and sustainability through 2045. The plan details how the region will address its transportation and land use challenges and opportunities to achieve its regional emissions standards and GHG-reduction targets. Refer to the SCAG website, https://scag.ca.gov/read-plan-adopted-final-connect-socal-2020, for the full plan.

[14] Within the Los Angeles-Long Beach-Anaheim MSA, the cities along the project section are Los Angeles, Vernon, Commerce, Bell, Montebello, Pico Rivera, Santa Fe Springs, Norwalk, La Mirada, Buena Park, Fullerton, Anaheim, and Orange. The unincorporated community of West Whittier-Los Nietos is also along the project section in Los Angeles County.

Table 1-1 Population Growth in California, the Los Angeles to Anaheim Project Section, and Los Angeles and Orange Counties

Area	Population		
	2021	2040	Percent Growth 2021 to 2040
Los Angeles County	9,908,772	9,693,049	-2.2%
Orange County	3,164,848	3,244,826	2.5%
Los Angeles to Anaheim Project Section[1,2]	5,043,869	5,786,000	14.7%
California	39,246,702	40,914,063	4.2%

Sources: California Department of Finance 2024b; SCAG 2020c
[1] The Los Angeles to Anaheim Project Section includes the cites of Los Angeles, Vernon, Commerce, Bell, Montebello, Pico Rivera, Santa Fe Springs, Norwalk, La Mirada, Buena Park, Fullerton, Orange, and Anaheim, as well as West Whittier–Los Nietos Census-Designated Place.
[2] The Southern California Association of Governments does not provide population projections for the West Whittier–Los Nietos Census-Designated Place or South Whittier Census-Designated Place.

The Southern California region is home to the state's largest concentration of population and economic activity; within this region, Los Angeles and Orange Counties are the primary economic and regional activity centers. Leading employment sectors in both Los Angeles and Orange Counties are health care and social assistance, retail trade, manufacturing, accommodation and food services, and educational services, based on the most recent Census data available (U.S. Census Bureau, Center of Economic Studies 2021). Cities along the project section are employment hubs for numerous corporations specializing in aerospace, banking, entertainment, fashion and apparel, health care, hospitality, light industry, manufacturing, petroleum, technology, and trucking/specialty vehicles.

Additionally, both counties are national and international tourism and entertainment centers. In 2022, Los Angeles County hosted a record 46.2 million visitors (Los Angeles Tourism and Convention Board 2023). Orange County hosted a record 24.9 million visitors (Visit Anaheim 2023). Anticipated growth of these activities will cause increased demand on roads, highways, airports, and transit systems.

Table 1-2 presents unemployment rates as reported by the California Employment Development Department in 2022, as well as per-capita income from 2022 according to the U.S. Census Bureau. In 2022, Orange County had a lower unemployment rate than Los Angeles County and higher personal per-capita income. Los Angeles County had a higher unemployment rate and lower personal per-capita income than the State of California.

Table 1-2 Unemployment and Income in California and in Los Angeles and Orange Counties

Area	Unemployment Rate (2022 Annual Average)	Per-Capita Income (2022)[2]
California	4.2	$45,591
Los Angeles County	4.9	$41,847
Orange County[1]	3.2	$50,683

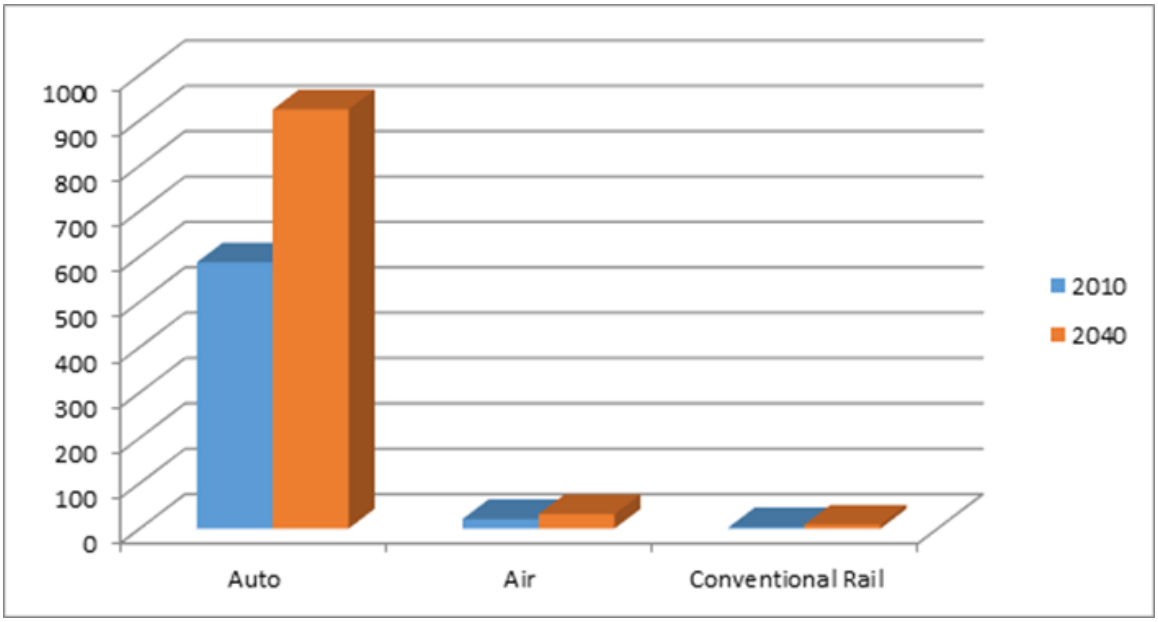
Sources: California Employment Development Department 2022; U.S. Census Bureau 2023a, 2023b, 2023c
[1] Unemployment data for Orange County are not seasonally adjusted.
[2] Per-capita personal income adjusted in 2022 dollars.

Travel Demand

As described in the 2023 Project Update Report, the rates at which population and employment are projected to increase have been flattening, compared to previous estimates. Nevertheless,

growth remains high, with 46.2 million people and 19.6 million jobs projected by 2040 (Authority 2023c). The combination of population and economic growth in Southern California places increasing travel demand on the region's freeways. Forecasts indicate intercity travel within California will increase by more than 58 percent between 2010 and 2040, from approximately 610 million trips to approximately 956 million trips (Authority 2016).

More specifically, in 2010, Californians made an estimated 610 million trips between metropolitan regions in Northern California, Southern California, and other metropolitan regions in between (Authority 2016). Approximately 209 million of these trips were estimated to be journeys of at least 100 miles; by 2040, forecasts indicate this number increasing to more than 271 million trips per year (Authority 2016). As depicted on Figure 1-5, forecasts indicate the automobile will continue to be the predominant mode of intercity travel, and by 2040 will account for more than 95 percent of all intercity travel, and close to 90 percent of longer intercity trips (Authority 2016).



Source: Authority 2016

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

Figure 1-6 illustrates the major routes and commercial airports[15] used for intercity travel between the markets potentially served by the HSR system. Within the Los Angeles-Long Beach-Anaheim MSA, driving accounts for over 82 percent of trips, and transit accounts for about 2 percent of trips (SCAG 2020f). With SCAG expecting traffic congestion to worsen, a need exists to provide options for regional and statewide travel. The Authority forecasts there will be 31.3 million riders predicted for the San Francisco to Los Angeles/Anaheim line by 2040 (Authority 2023c). Although the 2023 Project Update Report did not include forecasts for intercity travel within California, it can be assumed that trip trends will remain similar without substantial improvements to conventional rail and air transportation systems. HSR service between Los Angeles and Anaheim would reduce stress on the existing transportation systems by reallocating some travel demand from highways and airports.

[15] *Commercial Airports* are publicly owned airports that have at least 2,500 revenue passenger boardings each calendar year and receive scheduled passenger service. Passenger boardings at airports that receive scheduled passenger service are also referred to as *enplanements* (FAA 2024a).

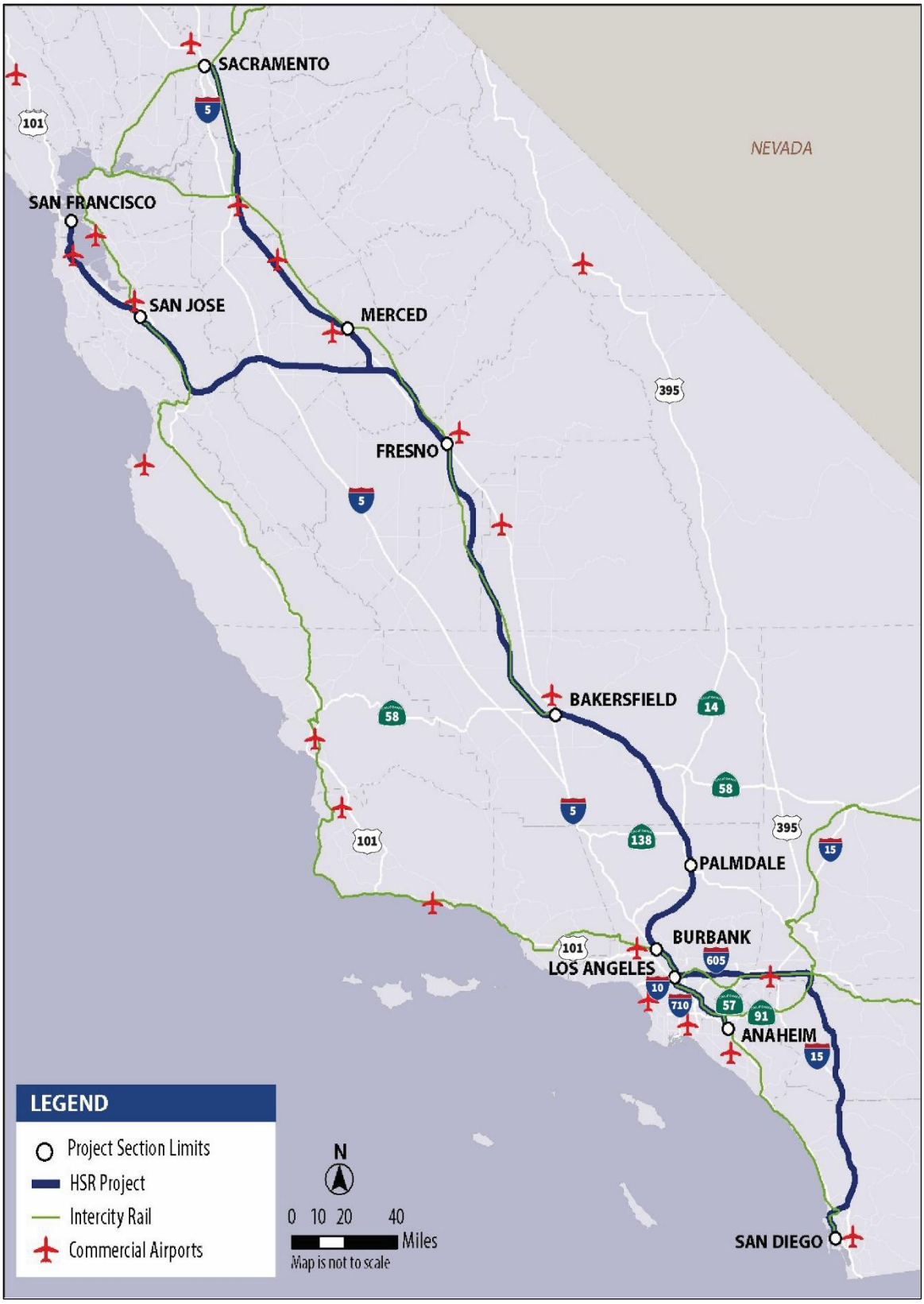


Figure 1-6 Major Intercity Travel Routes and Airports

Freeway Congestion and Travel Delays

On average, a driver in the SCAG region loses 100 hours a year because of roadway traffic delays (SCAG 2020e).[16] Roadway congestion, limited airport capacity, and growing intercity travel demand will adversely affect all forms of travel statewide. Increased automobile travel and growth in goods movement via trucks from the Port of Los Angeles and Port of Long Beach are additional sources of disruption and delay affecting transportation system reliability. Using performance measures identified by SCAG, forecasts indicate that daily person-hour delays will remain the same in Los Angeles in 2045 compared to 2016 but will increase in Orange County by 10 percent without full implementation of Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) improvements (SCAG 2020g). With RTP/SCS improvements fully implemented, forecasts suggest per-capita delay in 2045 will decrease 21.6 percent below 2016 levels for Los Angeles County and decrease by 20 percent in Orange County (SCAG 2020g).

According to the 2019 *Annual Urban Mobility Report* prepared by the Texas Transportation Institute (2019) of Texas A&M University:

- The Los Angeles-Long Beach-Anaheim MSA ranks the worst in the nation with the most annual delay hours per traveler (119 hours) and fourth in gallons of fuel wasted per traveler (35 gallons) annually.
- Travel time index is approximately 1.51, meaning that, during peak periods, travel in the Los Angeles-Long Beach-Anaheim MSA for the same trip takes 1.51 times as long as it would under free-flow conditions.

Person-hour delay

Person-hour delay is the cumulative delay experienced by each vehicle passenger relative to a predetermined optimal travel speed.

Vehicle Miles Traveled

Vehicle miles traveled is the total number of *miles* traveled by all vehicles within a defined area.

Vehicle Hours Traveled

Vehicle hours traveled is the total number of *hours* traveled by all vehicles within a defined area.

The widening gap between (1) the number of jobs and population and (2) roadway capacity means that a growing proportion of the region's residents will face longer periods of traffic congestion as more drivers adjust their time of travel to avoid the most heavily congested commute hours.

Los Angeles County generates the largest volume of annual vehicular person trips of any county in Southern California, with over half of the trips in the region occurring within the county's boundaries, and Orange County is second with 20 percent of the trips of the region (SCAG 2020e). Table 1-3 presents VMT for roadways in Los Angeles and Orange Counties, which is projected to increase from 2019 to 2045 (SCAG 2019).

Table 1-3 Vehicle Miles Traveled in Project Section Counties, from 2019 to 2045

Metric	2019[1]	2045	Percent Change
Los Angeles County	231,000	255,000	10.4
Orange County	80,000	86,000	7.5

Source: SCAG 2020g

[1] Data are from the program environmental impact report prepared for the 2020 SCAG RTP, which included 2019 and 2045 as model years. The 2020 RTP/SCS does not present VMT information by county.

SCAG projections assume implementation of only those projects currently under construction, undergoing right-of-way acquisition or environmental clearance, or with committed funding; therefore, these projections do not represent future conditions in which all investments and strategies detailed in the 2020–2045 RTP/SCS are fully implemented.

RTP = Regional Transportation Plan; SCAG = Southern California Association of Governments; SCS = Sustainable Communities Strategy; VMT = vehicle miles traveled

[16] SCAG projections assume implementation of only those projects currently under construction, undergoing right-of-way acquisition or environmental clearance, or with committed funding; therefore, these projections do not represent future conditions in which all investments and strategies detailed in the 2020–2045 RTP/SCS are fully implemented.

The project section reflects statewide growth patterns and trends; much of the intercity travel in California consists of trips of intermediate distance. Table 1-4 presents the Authority's statewide forecasting model results for expected growth in traffic volumes on major highways over a 25-year period. Travel growth for all intercity highways is projected to increase between 2015 and 2040 within the project section. For example, people traveling between Los Angeles and San Diego along Interstate (I-) 5 will observe growth of more than 19 percent in annual intercity trips. Although the 2023 Project Update Report did not include forecasts for intercity travel within California, it can be assumed that trip trends will remain similar without substantial improvements to conventional rail and air transportation systems.

Table 1-4 Travel Growth for Select Highways between California Cities

Trips on Major Highways between Cities	Average Daily Volume[1]		Percent Change
	2015[2]	2040	
I-5 between San Diego and Los Angeles (Orange County-Los Angeles County line)	238,167	284,000	19.2
I-5 between Los Angeles and Bakersfield (at Santa Clarita)[3]	196,833	271,000	37.7
SR 99 between Bakersfield and Modesto	120,667	174,000	44.2
US 101 between San Jose and Madera	84,000	114,000	35.7
SR 152 between San Jose and Madera	30,500	48,000	57.4
SR 99 between Bakersfield and Merced	27,167	43,000	58.3
I-5 between Bakersfield and Modesto	44,167	60,000	35.8
I-280 between San Jose and San Francisco	94,667	133,000	40.5
I-5 between Modesto and Sacramento	52,333	79,000	51
SR 99 between Modesto and Sacramento	61,000	81,000	32.8
SR 14 between Lancaster and Los Angeles	46,000	56,000	21.7
I-5 between Lancaster and Los Angeles	334,000	384,000	15

Source: Caltrans 2014
[1] Average daily volume represents average weekday traffic over a 24-hour period.
[2] 2015 volumes derived from 2010 figures from California Statewide Travel Demand Model - Version 2.0 (Caltrans 2014).
[3] Just north of the Y-junction where Interstate 5 splits into Highway 14.
I- = Interstate 5; SR = State Route; US 101 = U.S. Highway 101

Freeways serving the project section include I-5, I-10, U.S. Highway 101, I-605, I-710, State Route (SR) 57, and SR 91 (Figure 1-6). Plans to add capacity to these and several other major roadways serving the Los Angeles-Long Beach-Anaheim MSA are in various planning stages and will be completed over the next 10 to 15 years (SCAG 2020e). However, roadway capacity improvements alone are insufficient to offset travel demand induced by population and job growth. Moreover, SCAG finds that future opportunities to improve highway capacity are constrained by a number of factors, including declining funding sources and environmental justice concerns (SCAG 2020e). System expansion is considered to be the last option in SCAG's overall transportation system management approach, with other approaches such as transportation demand management, smart land use, intelligent transportation systems, and operational improvements encouraged as the first steps (SCAG 2020e). Transit projects and other more efficient and sustainable modes of travel are, therefore, encouraged by the SCAG 2020 RTP/SCS (SCAG 2020f), as well as Metro's *2020 Long Range Transportation Plan* (Metro 2020) and OCTA's 2024 OC Transit Vision Master Plan (OCTA 2024a).

Freight Movement

Los Angeles County and Orange 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), Long Beach International Airport, and Santa Ana's John Wayne Airport. The Port of Los Angeles is the largest port in California and the U.S. and is ranked the 16th largest in the world in terms of its container volume, moving nearly 9 million 20-foot container units a year (Port of Los Angeles 2024).The Port of Long Beach is the second largest port in California and is the 21st busiest port in the world, moving more than 9 million 20-foot container units a year (Port of Long Beach 2024). Freight deliveries by truck are an important component of the regional economy, connecting the Ports of Los Angeles and Long Beach to inland shipping and distribution facilities. Shippers make these deliveries by truck because short haul deliveries are more cost effective via truck than rail (SCAG 2020d). 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 (Port of Long Beach 2024).

As global trade and e-commerce continue to grow, regional truck VMT is anticipated to grow by more than 80 percent (SCAG 2020d). Because trucks consume a growing portion of highway capacity, the competition between freight and passenger roadway demand will lead to further congestion throughout the transportation system. Passenger vehicle travel in the region competes with freight movement along sections of I-710, SR 60, I-605, and I-5 and other local roads in the Los Angeles-Long Beach-Anaheim MSA, as presented in Table 1-5. Therefore, roadway travel delays resulting from growth in freight trucking will likely increase.

Table 1-5 Total Average Annual Daily Traffic of Vehicle and Truck Volumes by Freeway Corridor

Freeway[1]	Vehicle Total[2]	Truck Total[2]	Truck % of Total Vehicles
I-710	199,000	15,442	7.8
I-605	230,000	24,633	10.7
SR 60	201,000	9,527	4.7
SR 91	202,700	14,392	7.1
I-5	205,000	16,749	8.2
I-10	189,000	6,596	3.5
I-210	324,000	24,332	7.5
US 101	126,000	5,078	4.0
SR 57	190,600	17,154	9.0

Source: Caltrans 2022

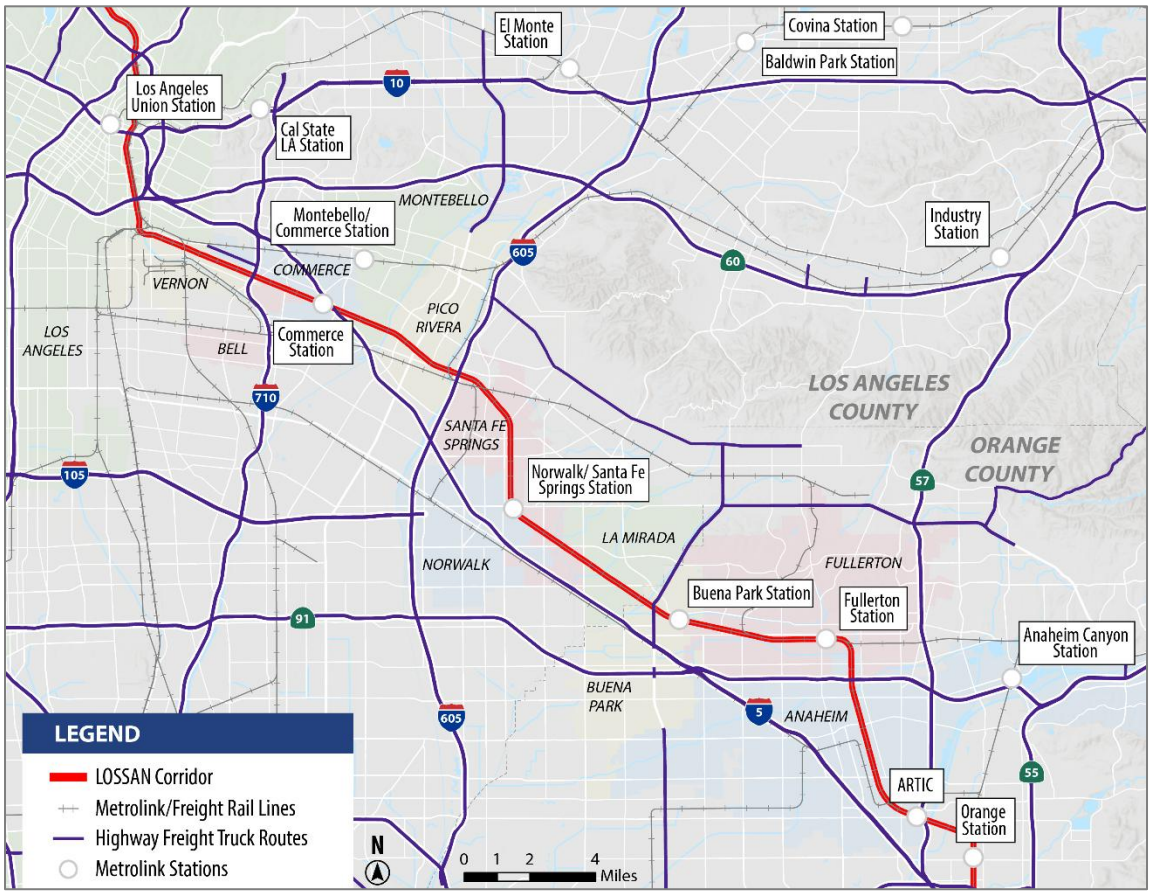
[1] I-710 data collected at Commerce, Jct Rte 5, Santa Ana Fwy Interchange; I-605 data collected at Santa Fe Springs, Jct Rte 5, Santa Ana Fwy Interchange; SR 60 data collected at Los Angeles, Jct Rte 5, Golden State Fwy, East Los Angeles Interchange; SR 91 data collected at Fullerton, Harbor Blvd; I-5 data from SR 134 (North Hollywood, Los Angeles) to Chapman Ave (Orange); I-10 data collected at Los Angeles, Jct Rte 5, Golden State Fwy Interchange; I-210 data collected at Pasadena, Lake Ave Interchange; US 101 data collected at Los Angeles, Jct Rte 5, Santa Ana Fwy, East Los Angeles Interchange; SR 57 data collected at Anaheim, Jct Rte 91, Riverside Fwy

[2] *Annual average daily traffic* is total traffic volume for the year divided by 365 days. Counting is done throughout the state in a program of continuous truck count sampling. The California Department of Transportation adjusted these counts to estimate annual average daily traffic compensating for seasonal influence, weekly variation, and other variables that may be present.

I- = Interstate; SR = State Route; US 101 = U.S. Highway 101

BNSF, which provides Class I freight rail service from the Ports of Los Angeles and Long Beach to destinations across the U.S., owns, operates, and maintains the freight rail tracks in the project section, between Los Angeles (Redondo Junction) and Fullerton (Fullerton Junction). This

segment forms part of BNSF's primary mainline track in the western U.S. Freight trains operate daily along this corridor.[17] Union Pacific Railroad also owns and operates several spur tracks in the area. These spurs are identified in Section 2.6.3.5 of Chapter 2. Trains generally consist of intermodal and manifest trains heading to and coming from other parts of the country; however, several local trains provide service to the industries along this corridor. Per the 2018 California State Rail Plan, the volume of freight trains operating within the project section was 32 trains per day (Caltrans 2018). This Draft EIR/EIS anticipates freight rail volumes increasing 2 percent annually (Authority 2024c). Figure 1-7 depicts the highway and rail freight networks in the region.



Sources: Caltrans 2013c, 2016; Metro 2015a

Figure 1-7 Regional Freight Network

Passenger Rail and Intercity Rail

Metrolink and Amtrak provide passenger rail service along the project section. SCRRA governs Metrolink, which is a Joint Powers Authority composed of five transportation planning agencies: Metro, OCTA, Riverside County Transportation Commission, San Bernardino Associated Governments, and Ventura County Transportation Commission. Since its service began in 1992, Metrolink has expanded to include seven lines and 62 stations with 11.9 million boardings as of FY 2019 across an approximate 540-route-mile network (SCRRA 2023). Figure 1-8 presents existing and planned passenger rail lines and transit services in the project section.

[17] The BNSF Transcontinental (Transcon) corridor, which runs east from the Ports of Los Angeles and Long Beach, is an integral part of the California freight rail network and links Southern California to markets in Kansas City, Memphis, and Chicago.



Sources: Caltrans 2013b, 2021a; Metro n.d.a., 2015b; OCTA 2015

Figure 1-8 Existing and Planned Passenger Rail Service in the Project Section

Within the project section, Metrolink operates two lines, the Orange County Line and the 91/Perris Valley Line. Both lines serve the project section, with stops at LAUS, Commerce (Orange County Line only), Norwalk/Santa Fe Springs, Buena Park, Fullerton, and ARTIC (Orange County Line only). Table 1-6 summarizes the annual and average weekday boardings for Metrolink service within the corridor. As presented in the table, there has been a decrease in ridership, attributed to the novel coronavirus (COVID-19) pandemic. Although Metrolink ridership has been slowly rising in recent years, ridership still remains much lower than in prepandemic years (SCAG 2023).

Table 1-6 Metrolink Line Boardings

Line	Daily Train Volumes	Annual Passenger Boardings (FY 2018/2019)	Average Weekday Boardings (FY 2018/2019)	Annual Passenger Boardings (FY 2020/2021)	Average Weekday Boardings (FY 2020/2021)
Orange County Line	9 SB, 10 NB	2,727,093	11,799	352,086	1,688
91/Perris Line	7 SB, 5 NB	893,079	175,043	3,861	814

Sources: SCRRA 2021, 2023
The decrease in ridership is attributed to the COVID-19 pandemic.
FY= fiscal year; NB = northbound; SB = southbound

In 2012, the LOSSAN Corridor Rail Corridor Agency prepared the *LOSSAN Corridorwide Strategic Implementation Plan*. In 2021, SCRRA adopted the *SCRRA Strategic Business Plan*, a conceptual planning document guiding Metrolink in meeting year 2030 ridership demand (SCRRA 2021). Both documents call for a range of improvements, including adding new services and trains and improving station access (LOSSAN Rail Corridor Agency 2012). The 2020–2045 RTP/SCS (2020) proposes numerous capital and safety improvements to the LOSSAN Corridor to benefit freight and passenger rail operations.

Amtrak operates two routes along the project section: the Pacific Surfliner Route from San Luis Obispo to San Diego, with stops in Los Angeles, Fullerton, and Anaheim; and the Southwest Chief, a long-distance train between Chicago and Los Angeles, which stops in Fullerton and Los Angeles. Of the 29 stations served by the route, Los Angeles was the busiest station in terms of annual boardings and deboardings (Rail Passengers Association 2023). Similar to Metrolink boardings and as depicted in Table 1-7, there has been a decrease in ridership, which is attributed to the COVID-19 pandemic, but Amtrak ridership has been slowly increasing in recent years (Amtrak 2023).

Table 1-7 Amtrak Boardings

Line	Daily Train Volumes	Annual Ridership (2018)	Annual Ridership (2023)
Pacific Surfliner	10 SB, 10 NB (between San Diego and Los Angeles)	2,946,239	1,517,425
Southwest Chief[2]	1 EB, 1 WB	331,239	253,838

Sources: Amtrak 2018, 2023
The decrease in ridership is attributed to the COVID-19 pandemic.
[1] Ridership for the Southwest Chief is for the entire route between Los Angeles and Chicago.
EB = eastbound; NB = northbound; SB = southbound; WB = westbound

In addition to existing Metrolink and Amtrak passenger rail service, Riverside County Transportation Commission is planning the Coachella Valley – San Gorgonio Pass Rail Corridor Service, which would run within the existing rail corridor between LAUS and Coachella in Riverside County. The passenger rail service is considering multiple alignments, including segments where service would operate in the LOSSAN Corridor between LAUS and Fullerton.

In many areas of California, passenger rail service and freight service share the same track infrastructure. Maintaining and increasing rail use for freight movement, as well as improving passenger rail service, are high priorities for Los Angeles and Orange Counties, according to the *2024 California State Rail Plan* (Caltrans 2024) and the *California Transportation Plan 2050* (Caltrans 2021a).[18] Increasing the use of railways for freight movement, as described above, will make maintenance and expansion of the passenger rail system difficult without separate passenger rail infrastructure.

Rail Transit

Metro operates several rail transit lines in the project section area, including the Metro A, B, C, D, E, and K Lines. Metro is currently studying an eastward extension of the E Line past its existing terminus,[19] a southern extension of the C Line past its existing terminus, and a rail transit line along the West Santa Ana Branch Transit Corridor, known as the Southeast Gateway Line.[20] In

[18] Refer to the Caltrans website, https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/ctp-2050-v3-a11y.pdf, for full plan.
[19] Refer to the Metro websites, www.metro.net/projects/eastside_phase2/ and www.metro.net/projects/foothill-extension/, for additional project information.
[20] Refer to Metro website, www.metro.net/projects/west-santa-ana/, for additional project information.

Orange County, OCTA is building a 4.15-mile streetcar extending west from the Santa Ana Regional Transportation Center.[21] Figure 1-8 depicts these existing and planned transit lines.

Bus

Multiple service operators provide local and intercity bus service within the project section. In the vicinity of the proposed HSR station and HSR station option locations, Metro, the Los Angeles Department of Transportation, Antelope Valley Transit Authority, Big Blue Bus, City of Santa Clarita Transit, Foothill Transit, LAX/Flyaway, Los Angeles County Department of Public Works, Long Beach Transit, Megabus, Norwalk Transit, and the OCTA provide local and commuter bus services. The OCTA, Anaheim Resort Transportation, Megabus, and Greyhound provide local and commuter bus service in the vicinity of ARTIC.

In addition to train routes, Amtrak operates numerous "Thruway" connecting routes via bus. The Amtrak Thruway Bus system operates in conjunction with the Amtrak train routes in California. A passenger must travel on a train segment to use the feeder bus system. Bus routes follow major highways between stations. However, the actual route taken is subject to the discretion of the driver and may change depending on road conditions.

Air Travel

Although air travel demand fell during the COVID-19 pandemic and has not yet reached prepandemic levels (Sacramento Bee 2024), it has been increasing in recent years. Overall, the SCAG region remains one of the most active and fastest-growing regions in the U.S., with a growth rate second only to the Bay Area (SCAG 2019). Air passengers in the SCAG region are forecasted to increase from 110.17 million annual passengers in 2017 to 197.14 million annual passengers in 2045 (SCAG 2020b). Figure 1-6 presents California's major commercial airports. Air travel between the Los Angeles and San Francisco metropolitan areas is one of the busiest air routes in the U.S., with nearly 6.4 million passengers traveling between the regions in 2023 (U.S. DOT 2024b).

There are three commercial service airports within or near the project section: LAX, John Wayne Airport, and Long Beach Airport. Table 1-8 presents recent annual enplanements at each airport.

Table 1-8 Commercial Air Traffic at Airports in the Los Angeles to Anaheim Project Section

Airport	Total 2023 Enplanements	Number of Carriers Providing In-State Service	In-State Airports Served
Los Angeles International Airport	36,676.975	7	FAT, MMH, MRY, OAK, SAN, SBA, SBP, SFO, SJC, SMF, STS
John Wayne Airport	5,706,292	4	CCR, OAK, SFO, SJC, SMF, STS
Long Beach Airport	1,837,622	2	OAK, SJC, SMF

Source: FAA 2024a
CCR = Buchanan Field Concord; FAT = Fresno Yosemite International Airport; MMH = Mammoth Yosemite Airport; MRY = Monterey Regional Airport; OAK = Oakland International Airport; SAN = San Diego International Airport; SBA = Santa Barbara Airport; SBP = San Luis Obispo County Regional Airport; SFO = San Francisco International Airport; SJC = Mineta San Jose International Airport; SMF = Sacramento International Airport; STS = Charles M. Schulz–Sonoma County Airport

Despite having the nation's largest regional airport system, Southern California residents experience constrained airport capacity and airport ground access.

LAX, between the neighborhoods of Westchester and El Segundo in Los Angeles, is owned and operated by Los Angeles World Airports, a department of the City of Los Angeles. In 2019, LAX was the second-busiest airport in the country and fourth busiest in the world, based on the

[21] Refer to OCTA website, http://www.octa.net/Projects-and-Programs/All-Projects/Rail-Projects/OC-Streetcar/, for additional project information.

number of passengers served (LAWA n.d.). LAX serves over 70 percent of the air passengers in Southern California (SCAG 2020b). According to the *Los Angeles World Airport 2023 Annual Comprehensive Financial Report* (LAWA 2023), 71 million passengers moved in and out of the airport on 243,000 flights. Annual passenger demand at LAX is forecasted to increase from 84.66 million annual passengers in 2017 to 127 million by 2045 (SCAG 2020b). With a land area of 3,500 acres, LAX is less than half the size of Chicago O'Hare International Airport and less than one-tenth the size of Denver International Airport. The airport is constrained by surrounding development that limits opportunities for expansion, but it has been undergoing modernization improvements to help alleviate congestion and provide additional capacity within the existing airport footprint. The Landside Access Modernization Program includes improvements such as an automated people mover, intermodal transportation facilities, and roadway improvements. The airport is also preparing for the Airfield and Terminal Modernization Program, which will include airfield, terminal, and landside improvements.

John Wayne Airport, in Santa Ana, is Orange County's only commercial service airport. The County of Orange owns and operates this airport, which was designed to serve 8.4 million passengers per year but currently operates above that capacity. According to SCAG, the airport served 10.42 million passengers in 2017 and is forecasted to have 12.5 million annual passengers by 2045 (SCAG 2020b). John Wayne Airport has strict limits on passenger volumes. The limits were set after a 1985 Settlement Agreement in which the County of Orange, the City of Newport Beach, and two community groups agreed to limit the airport to 10.8 million annual passengers through 2015 under a 20-year Airport Master Plan. Subsequent amendments have increased limits to 10.8 million annual passengers through 2020, 11.8 million through 2025, and 12.2 million to 12.5 million through 2030. These limits will remain in effect through 2035 (John Wayne Airport 2015). There are limited roadway and highway improvements planned around the airport, which will help with airport access (SCAG 2020b).

Long Beach Airport, owned by the City of Long Beach, serves a smaller number of passengers than other Southern California airports like LAX, John Wayne Airport, and Hollywood Burbank Airport. According to SCAG, Long Beach Airport saw 3.78 million annual passengers in 2017 and is forecasted to serve 5.5 million annual passengers by 2045 (SCAG 2020b). The airport operates under noise regulations developed in conjunction with the City of Long Beach. The Airport Noise Compatibility Ordinance (Long Beach Municipal Code 16.43), passed in 1995, makes Long Beach Airport one of the strictest noise-controlled airports in the U.S., limiting opportunities for expansion in the near future (Long Beach Airport 2017).

Because of limited capacity at airports in Los Angeles and Orange Counties, SCAG has adopted a Regional Aviation Decentralization Strategy aimed at shifting air travel demand to regional airports outside the SCAG area with available capacity. However, it is challenging to provide convenient access to these airports from Los Angeles and Orange Counties. Use of this region's airports by San Diego area residents further complicates the provision of adequate airport capacity. San Diego International Airport is nearing capacity and attempts at finding alternate airport locations have not been successful. Orange County's John Wayne Airport also serves residents of nearby San Diego County.

The HSR system, including the Los Angeles to Anaheim Project Section, would help alleviate capacity constraints at LAX, John Wayne Airport, and Long Beach Airport by providing a new intercity transportation mode and improving the transportation accessibility of Los Angeles and Orange Counties.

Travel Time

With growing demand for intercity travel and growing capacity constraints, overall automobile travel time will increase statewide. Air and rail travel time will remain basically the same, and HSR travel would be faster than or similar to 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 presents the approximate total travel time in 2024 for automobile, air, rail, and bus travel between various city pairs. These data are based on the ridership analysis completed for the HSR

forecasting model in the 2023 Project Update Report, with information from regional transportation planning agencies, Caltrans, and current air and conventional rail schedules.

Although 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. Automobile and bus travel time will likely increase, 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 2024). These improvements will provide some benefit to rail passengers but will not substantially increase passenger rail capacity within the project section.

Table 1-9 Estimated Total Travel Times (Door-to-Door in Hours and Minutes) between City Pairs by Auto, Air, Passenger Rail, Bus, and High-Speed Rail (Peak Conditions)

City Pair	Auto	Air[1]	Rail	Bus	HSR[2]
Los Angeles to San Francisco	6:20	5:10	13:15	8:55	3:25
Fresno to Los Angeles	3:45	4:35	5:05	5:25	2:00
Los Angeles to San Diego	2:30	4:20	3:15	3:15	N/A[3]
Burbank (Airport) to San Jose	5:25	3:35	10:20	6:55	2:25
Sacramento to San Jose	2:25	--	3:20	5:10	3:25

Source: Authority 2024a

[1] Air and passenger rail times include access/egress to main mode via transit, and terminal and wait time at the station or airport. When transit is unavailable, autos would provide access and egress.

[2] Travel times for 2024, with HSR travel times derived from 2023 Project Update Report ridership data.

[3] Los Angeles to San Diego is included in Phase 2 of HSR, and travel times have not yet been determined.

HSR = high-speed rail; N/A = not applicable

1.2.4.2 Safety and Reliability

Forecasted growth in California's people and goods movement 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 crashes 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, passenger rail, and automobile travel. Weather-related events are an additional source of disruption and delay that affect transportation reliability and safety. As noted under Section 1.2.4.1, Travel Demand and Capacity Constraints, congestion on freeways within the project section is projected to worsen.

Los Angeles County will have an estimated 483.5 million daily VMT by 2045, an increase of about 5 percent over 2016 estimates (SCAG 2020a). There are many causes of increased highway congestion. For example, crashes, roadwork, cars stranded along the roadside, or a routine traffic violation stop can create a bottleneck, potentially delaying commuters for miles. Poor weather conditions (rain, wind, and dense fog) also adversely affect the reliability of highway travel times. Rain and wind can make the roads dangerously slick, increasing accident rates. Fog, haze, and glare can distract drivers or cause them to slow.

The California Highway Patrol publishes an annual summary of crash data for state highways. According to those statistics, 4,285 fatalities occurred on California highways and roads in 2021, which corresponds to a fatality rate of 1.38 per 100 million VMT (California Office of Traffic Safety 2024).[22] The nationwide fatality rate per 100 million miles of travel in 2020 was 1.34 (NHTSA 2024). In Los Angeles County, there were 789 fatal crashes and 44,611 nonfatal injury collisions

[22] Data from the California Highway Patrol and Caltrans represent the most current information available for crashes (2021 and 2020, respectively) at the time of this Draft EIR/EIS publication.

in 2020, on all roadways. During the same time, there were 186 fatal crashes and 44,611 nonfatal injury collisions in Orange County on all roadways. With more vehicles on the intercity highways, the potential for crashes will likely continue to increase, resulting in greater travel delays. As delays on the freeways increase, overall system reliability will decrease. Implementation of HSR service in the project section would offer a reliable and predictable alternative transportation option to highway travel.

Traffic congestion on Los Angeles County and Orange County roads and highways affects the ability of passengers to access area airports. Travel delay is projected to increase in the region through 2045, resulting in even less reliable roadway conditions (SCAG 2020e). SCAG's Regional Aviation Decentralization Strategy has identified ground access improvements to relieve bottlenecks, provide improvements to intersections and interchanges, and improve transit access, and improvements are ongoing at LAX. Despite these efforts, access to the region's airports will continue to be a challenge because of growing congestion levels.

At the airports, weather conditions may also cause arrival and departure delays and flight cancellations. Aircraft delays cost both the airlines and the traveling public time and money, and the Federal Aviation Administration has identified the reduction of airport delay nationwide as one of its highest priorities (FAA 2023). Airport delays are a function of capacity, weather conditions, and safety conditions. Data from the U.S. Department of Transportation Air Travel Consumer Report reveal significant delays at both LAX and San Francisco International Airport, with roughly 15 percent of departures and arrivals delayed at LAX and about 40 percent of departures and 30 percent of arrivals delayed at San Francisco International Airport (U.S. DOT 2024a). LAX ranked ninth worst nationwide among major American airports for delay (U.S. DOT 2024c). However, the effect of weather conditions on delays at airports in the project section varies, and most delays at the airports were caused by runway and volume issues; of delayed flights in 2020, only 16.2 percent were caused by weather conditions at LAX, 23 percent at John Wayne Airport, and none at Long Beach Airport (FAA 2024b). Implementation of HSR service in the project section would offer a reliable intercity alternative transportation option to air travel.

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 as the presence of pedestrians and motor vehicles at grade crossings. In 2023, California ranked second for total highway-rail grade crossing collisions in the nation, first for highway-rail grade crossing fatalities with 38 fatalities, and second in pedestrian-rail injuries with 74 injuries (Operation Lifesaver 2024). Grade-crossing safety is a high priority for Metrolink, the FRA, the Authority, and the California Public Utilities Commission. Grade separations under consideration in the project section would improve safety at existing grade crossings by reducing pedestrian, rail, and vehicle conflicts, which would also increase the reliability of travel along this corridor.

1.2.4.3 Modal Connections

The region's population and employment growth will continue to increase demand for connections to other travel modes and the region's transportation hubs. Currently, LAUS is the major transportation hub for public transit, not just in the project section, but for all of Southern California. With national, regional, and local services provided by Amtrak, Metrolink, Metro bus and rail, and various other intercity and municipal bus operators centered at this transportation hub, travelers can connect to destinations across the U.S. and Southern California. LAUS provides a direct connection with LAX via LAX FlyAway shuttles, a nonstop bus service operated by Los Angeles World Airports.

Additionally, between Los Angeles and Anaheim, the project section would provide improved access to stops in Norwalk/Santa Fe Springs and Fullerton, with or without the HSR station options. The modifications proposed at the Norwalk/Santa Fe Springs Metrolink Station and Fullerton Metrolink/Amtrak Station would improve local access, as well as overall passenger rail service with the separation of freight and passenger trains. In addition to two Metrolink lines, Norwalk Transit serves the Norwalk Santa Fe Springs Metrolink Station, which offers connecting service between the station and Metro's Green Line Norwalk Station 3 miles away. Two Metrolink

lines, two Amtrak lines, and numerous OCTA bus routes serve the Fullerton Transportation Center in the city of Fullerton.

ARTIC in Anaheim, developed jointly by the OCTA and the City of Anaheim, opened in December 2014. It provides rail, bus, taxi, and other services for commuters and travelers in Orange County. It is within Anaheim's Platinum Triangle development district—adjacent to Angel Stadium of Anaheim and the Honda Center, both of which are major sports and entertainment venues—and it serves workers and visitors to the nearby Anaheim Resort, which includes properties commonly associated with Disney. The intent of the first phase of ARTIC was to serve Metrolink, Amtrak, and connections to other local and regional transit services. Orange County's Measure M Transit Revenue and Project T Bond proceeds, resulting from voter-approved ballot measures at the county level, funded this phase. Project T, particularly Phase 2, will fund additional passenger facilities and support services to accommodate future HSR service at Metrolink stations in Orange County. Orange County's Measure M is explained further in Section 1.3.11, Orange County Measure M2.

The Renewed Measure M program dedicates Project T funding to the conversion of Metrolink stations to regional gateways, which are Metrolink stations identified for station upgrades to accommodate HSR service. This effort emphasizes improving access to other transportation systems, such as local, fixed guideway bus and shuttle services that connect passengers to major activity centers. At full buildout of the project section, ARTIC would provide connections to the HSR, Metrolink, Amtrak, OCTA, and other local transit services.

The project section has a robust highway network, with I-5 directly connecting the cities of Los Angeles and Anaheim, and U.S. Highway 101, SR 57, SR 60, SR 91, SR 110, I-10, I-605, and I-710 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.

The addition of HSR service between Los Angeles and Anaheim will provide immediate linkages to a number of light rail, commuter rail, and bus services that allow intercity travelers access to multiple locations throughout the Los Angeles-Long Beach-Anaheim MSA. HSR would also connect passengers to bicycle and pedestrian paths along the project section. The following pedestrian and bicycle paths would provide linkages to the proposed HSR station and HSR station options:

- Norwalk/Santa Fe Springs: Existing bike lanes are adjacent to the Norwalk/Santa Fe Springs Metrolink Station, which would be modified as part of the build alternatives and could include an HSR station option. There is a proposed Class I bike path linking to the station location, and a proposed bike connection on Imperial Avenue.
- Fullerton: Proposed Class I bike paths would be adjacent to Fullerton Amtrak/Metrolink Station, which would be modified as part of the build alternatives and could include an HSR station option. A proposed Class III bike route on Commonwealth Avenue would also improve connections between the station and Fullerton College.
- ARTIC: ARTIC is adjacent to a Class I bike path running the length of the Santa Ana River from its mouth at the Pacific Ocean between Huntington Beach and Newport Beach in the south, and the city of Corona to the north.

1.2.4.4 Air Quality and Greenhouse Gas Emissions

Metropolitan areas will continue to be challenged to reduce emissions to acceptable levels from a 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 demand for trips 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 project section would support state and local goals of improving air quality and reducing GHG emissions. USEPA implements the Clean Air Act (42 U.S.C. 7401), as amended. Under the authority of this act, 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) represent the maximum allowable atmospheric concentrations for ozone, particulate matter (both respirable [10 microns or less in diameter] and fine [2.5 microns or less in diameter]), carbon monoxide, nitrogen dioxide, sulfur dioxide, and lead. The Clean Air Act defines nonattainment areas as geographic regions designated as not meeting one or more of the National Ambient Air Quality Standards. The Clean Air Act requires that a state implementation plan be prepared for each nonattainment area and a maintenance plan 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 USEPA has approved.

Nonattainment areas

The U.S. Environmental Protection Agency designates metropolitan areas and counties in rural areas as *nonattainment* if the area does not meet or contribute to ambient air quality standards defined in the Clean Air Act.

The U.S. Environmental Protection Agency classifies nonattainment areas as marginal, moderate, serious, severe, or extreme depending on the amount of particulate matter and other pollutants in the air.

U.S. Presidential Executive Order 14154, Unleashing American Energy, was signed on January 20, 2025, and establishes a goal to unleash America's affordable and reliable energy and natural resources to restore American prosperity. On May 5, 2025, Jeffrey Bossert Clark, Sr., Acting Administrator of the Office of Information and Regulatory Affairs, issued the Memorandum for Regulatory Policy Officers at Departments and Agencies and Managing and Executive Directors of Commissions and Boards, which implemented Section 6 of U.S. Presidential Executive Order 14154 by providing guidance on rulemaking. The memorandum also requires agencies when approving permits to "provide the minimal greenhouse gas analysis and consideration necessary for agencies to comply with statutory requirements." Consistent with recent federal executive orders and regulatory direction, the analysis of GHG emissions associated with the proposed project is limited to the minimum consideration required for evaluation of the reasonably foreseeable GHG emission effects of the project.

California has multiple air basins designated as nonattainment areas (refer to Section 3.3, Air Quality and Global Climate Change) ranging from severe to serious status, including the Sacramento Valley Air Basin, the San Joaquin Valley Air Basin, the South Coast Air Basin, and the Southeast Desert Air Basin (Coachella Valley). The project section resource study area includes the South Coast Air Basin (where the project will be built and operate within), San Joaquin Valley Air Basin (where construction-related truck trips will occur), and Mojave Desert Air Basin (where construction-related train trips will occur).

The California Clean Air Act designates the South Coast Air Quality Management District as the regional agency principally responsible for comprehensive air pollution control in Los Angeles and Orange Counties. The South Coast Air Quality Management District adopts rules and regulations for stationary sources of air pollution, establishes permitting requirements, inspects emission sources, and enforces compliance with such measures. The South Coast Air Quality Management District is required to produce plans for complying with ambient air quality standards in its jurisdiction. Every 3 years, the South Coast Air Quality Management District and SCAG update the Air Quality Management Plan. This plan takes into consideration the potential improvements in air quality provided by HSR as a transportation option, as described in this section. Similarly, the Mojave Desert Air Quality Management District and the San Joaquin Valley Air Pollution Control District have primary responsibility for controlling emissions from stationary sources of air pollution in their respective jurisdictions.

One statewide strategy adopted in the California State Implementation Plan is the development of multiuse transportation corridors, which include designated high-occupancy vehicle lanes, the addition of more transit, and rail modal options. Meeting federal and state air quality standards over the next 20 to 40 years will also require reductions in VMT, 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. Although the 2023 Project Update Report did not include forecasts for intercity travel within California, it can be assumed that trip trends will remain similar without substantial improvements to conventional rail and air transportation systems. Without the HSR system, auto trips are expected to account for more than 95 percent of intercity travel and close to 90 percent of longer intercity trips in California by 2035 (Authority 2016).

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 to 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. AB 32 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.*

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 GHGs 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. This plan was developed by CARB in 2008 as the *Climate Change Scoping Plan* (CARB 2009), California's road map to reaching the GHG-reduction goals required by AB 32. The plan includes implementation of an HSR system to provide more mobility choice and reduce GHG emissions. The *Approved Scoping Plan* was adopted by CARB at its December 11, 2008 meeting. The *First Update to the Scoping Plan* was approved by CARB on May 22, 2014. In December 2022, CARB adopted its Final 2022 Scoping Plan Update for Achieving Carbon Neutrality, which identifies a technologically feasible, cost-effective, and equity-focused path to achieve carbon neutrality by 2045, pursuant to AB 1279. The plan also aims to reduce emissions by 85 percent below 1990 levels by replacing dependency on petroleum with clean energy alternatives. The plan assesses the state's progress toward meeting the GHG emissions reduction goal called for in SB 32. 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 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* in December 2017 (CARB 2017), which includes plans to achieve goals set forth by SB 32. The California HSR System is a component of the statewide approach to GHG reductions from California's transportation system.

SB 375, which became law in September 2008, provides a new planning process to coordinate the community development and land use planning process with RTPs. SB 375 sets priorities to help California meet GHG reduction goals and requires the RTPs prepared by metropolitan planning organizations (including the Council of Governments for Los Angeles County) to include an SCS 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 2020–2045 RTP/SCS

identifies the region's GHG targets for an 8 percent per-capita reduction from 2005 by 2020 and 19 percent per-capita reduction by 2035 (SCAG 2020a).

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.

In September 23, 2020, the Zero-Emission by 2035 Executive Order (N-79-20) was signed by Governor Gavin Newsom (CARB 2022b). It calls for elimination of new internal combustion passenger vehicles by 2035. The executive order focuses on new vehicle sales for automakers and does not require residents to give up their existing cars and trucks. The primary mechanism for achieving the zero-emission-vehicle target for passenger cars and light trucks is the Advanced Clean Cars II regulation program, approved by CARB in August 2022. The Clean Miles Standard regulation, approved by CARB in 2021, will also help enable the goal of 100 percent zero-emission-vehicle sales in 2035 by creating demand for zero-emission vehicles. This regulation will have aggressive requirements for electric miles that will transition ride-hailing fleets to zero-emission operations starting in 2023 and ramping up through 2030.

The transportation sector is the state's primary contributor to climate change, with direct and upstream emissions accounting for 47 percent of California's GHG emissions in 2020 (CARB 2022c). 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). The projected population growth (refer to Section 3.18, Regional Growth) in the project section will result in an increase in VMT (refer to Section 3.2, Transportation) and the volume of pollutants emitted by motor vehicles. Particulate matter emission 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 matter 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. Three air quality management districts encompass the resource study areas (the geographic boundaries within which the Authority conducted environmental investigations) evaluated in this Draft EIR/EIS: the Mojave Desert Air Quality Management District (responsible for a portion of the Mojave Desert Air Basin), the South Coast Air Quality Management District (responsible for the South Coast Air Basin), and the San Joaquin Valley Air Pollution Control District (responsible for the San Joaquin Valley Air Basin). Table 1-10 presents monitored air quality levels in the resource study area.

Table 1-10 Federal and State Attainment Status of the Air Quality Resource Study Area

Pollutant	Attainment Status					
	South Coast Air Basin[1]		Mojave Desert Air Basin		San Joaquin Valley Air Basin	
	Federal	State	Federal	State	Federal	State
O_3 1-hour	N/A	Nonattainment	N/A	Nonattainment	N/A	Nonattainment
O_3 8-hour	Nonattainment/ extreme	Nonattainment	Nonattainment/ severe[2]	Nonattainment	Nonattainment/ extreme	Nonattainment
PM_{10}	Attainment/ maintenance	Nonattainment	Nonattainment/ moderate[3]	Nonattainment	Attainment/ maintenance	Nonattainment
$PM_{2.5}$	Nonattainment/ serious	Nonattainment	Attainment/ unclassifiable	Attainment	Nonattainment/ serious	Nonattainment
CO	Attainment/ maintenance	Attainment	Attainment	Attainment	Attainment	Attainment

Pollutant	Attainment Status					
	South Coast Air Basin[1]		Mojave Desert Air Basin		San Joaquin Valley Air Basin	
	Federal	State	Federal	State	Federal	State
NO_2 1-hour	Attainment/ unclassifiable	Attainment	Attainment/ unclassifiable	Attainment	Attainment/ unclassifiable	Attainment
NO_2 annual	Attainment/ maintenance	Attainment	Attainment/ unclassifiable	Attainment	Attainment/ unclassifiable	Attainment
SO_2	Attainment/ unclassifiable	Attainment	Attainment/ unclassifiable	Attainment	Attainment/ unclassifiable	Attainment
Lead	Nonattainment (partial Los Angeles County only), attainment (rest of SCAB)	Attainment	Attainment/ unclassifiable	Attainment	Attainment/ unclassifiable	Attainment
All others	N/A	Attainment	N/A	Attainment	N/A	Attainment

Sources: SCAQMD 2022; CARB 2024

[1] Attainment status applies to all counties in the SCAB except as noted.

[2] Severe means that the area has an O_3 design value of 0.105 part per million up to but not including 0.111 part per million.

[3] Moderate means that the area has a PM_{10} design value of 9.1 micrograms per cubic meter up to but not including 35.4 micrograms per cubic meter.

CO = carbon monoxide; N/A = not applicable; NO_2 = nitrogen dioxide; O_3 = ozone; PM_{10} = particulate matter 10 microns or less; $PM_{2.5}$ = particulate matter 2.5 microns or less; SCAB = South Coast Air Basin; SO_2 = sulfur dioxide

Compared to travel by traditional cars with internal combustion engines, an electric-powered HSR system supplied entirely by renewable energy would reduce carbon dioxide and GHG emissions. As described in Section 3.3, the project would result in an average annual savings of over 600,000 metric tons of carbon dioxide equivalent through 2040. These emissions benefits would begin accumulating after construction emissions are offset, which would occur within 1 month after operation of the project section begins, as discussed in Section 3.3.

1.2.4.5 Protection and Preservation of Natural Resources

California's natural resources, including wetlands and waterways, habitat areas for sensitive plant and animal species, and wildlife migration corridors, have been subject to both direct and indirect impacts as the population has increased and growth has occurred in the state's less-developed areas. In addition to improving or maintaining the state's air quality, the protection and preservation of natural resources by limiting potential impacts related to expanding freeway and airport facilities is also a critical need. The project section is in a densely developed urban area. The project would run parallel to the Los Angeles River for a short distance and cross some aquatic features. However, the alignment would be within an existing railroad right-of-way, and new bridges would be designed to comply with Section 404 of the Clean Water Act and Section 14 of the Rivers and Harbors Act of 1899 (commonly referred to Section 408), thus minimizing potential impacts on natural resources in the project section. Refer to Section 1.2.2, Purpose of the Los Angeles to Anaheim Project Section, for additional information on Sections 404 and 408. In California, new development has consumed an acre of land for every 9.4 people statewide (Thompson 2009). Southern California is the fastest urbanizing region in the state, with Los Angeles County as the third-highest county in terms of urban development from 2016 to 2018 (California Department of Conservation 2018). 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 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 and support transit centers in central business districts, where mixed land uses (e.g., residential, commercial, and business uses) and high urban densities are best suited. The pressure on

undeveloped land is a less-critical issue for the project section; because the project section is in an urbanized area, most of this development is occurring on developed land.

1.2.4.6 Public Benefits of the High-Speed Rail System to the Region

The project section would provide numerous benefits to the region, as summarized below. For more details on these summarized benefits, refer to Chapter 3 (specific sections identified below) for further information on benefits through construction and operation.

Transportation Benefits (Section 3.2)

- This project section is an essential building block to establish high-speed passenger rail service as part of Phase 1 of the California HSR System to meet the state's growing demands on its transportation system.
- Buildout of the project section with HSR service would add capacity to the state's transportation infrastructure via the new HSR transportation mode to reduce pressure on the existing transportation infrastructure, including highways and airports. It also maximizes intermodal transportation opportunities by locating stations to connect with local transit, airports, and highways.
- HSR service along the project section would meet future intercity travel demand that would not be met by current transportation systems, increasing capacity for intercity mobility. This would help to increase overall efficiency of California's intercity transportation system, because it would provide a sustainable reduction in travel time between major urban centers. HSR travel would be faster than conventional rail and competitive with air travel when considering added time needed for airport access and waiting times.
- The project section would improve the intercity travel experience for passengers by providing comfortable, safe, frequent, and reliable high-speed travel, helping resolve transportation safety and reliability issues of intercity travel caused by traffic congestion, weather conditions, and motor accidents.
- HSR service along the project section would improve and optimize operations in the LOSSAN Corridor, for both freight and passenger rail operators. By separating freight and passenger rail at constrained areas, such as Fullerton Junction, service would be improved for all operators and users of the systems.

Environmental Benefits (Section 3.3, Air Quality and Global Climate Change, and Section 3.6, Public Utilities and Energy)

- Buildout of the project section with HSR service would support the state's transportation goals reflected in SB 743 by reducing VMT and VMT per capita, promoting transit-oriented development, and promoting the reduction of GHG emissions. Projected population growth within Los Angeles and Orange Counties would otherwise cause regional VMT to increase.
- This project section would support the state's GHG reduction goals as described in AB 32, SB 32, and CARB's Scoping Plan (CARB 2022a). The HSR has become a key component of the state's strategy for reducing GHG emissions.
- HSR service along the project section would provide long-term improvements in regional air quality by reducing criteria pollutants and GHG emissions generated by automobiles, conventional rail, and aircraft. As of 2020, California's transportation sector has been responsible for 47 percent of its GHG emissions (CARB 2022c).
- Implementation of HSR service would provide long-term reduction in transportation-related energy requirements. The California HSR System would provide a more energy-efficient mode of travel, using one-third the energy of the equivalent trip by air, and one-fifth the energy of a trip by automobile (California Office of the Governor 2007).

Economic and Employment (Section 3.12, Socioeconomics and Communities, and Section 3.18, Regional Growth)

- This project section would increase sales tax revenue for counties and the state through taxable purchases made during construction. Increases in sales tax revenues are estimated at $1.0 million for Los Angeles County and $514,000 for Orange County.
- HSR service along the project section would offer employment benefits from construction, for an estimated 31,950 additional direct, indirect, and induced job-years in Los Angeles and Orange Counties.
- Buildout of the project section with HSR service would offer new long-term jobs, creating approximately 680 permanent direct, indirect, and induced jobs associated with the operations and maintenance in Los Angeles and Orange Counties. In the long term, the HSR system would result in job creation from improvements in accessibility in areas surrounding stations. This project section would serve the HSR program's goal of supporting central business districts, because the areas where HSR stations would be located (i.e., Anaheim's Platinum Triangle, and, potentially, Norwalk/Santa Fe Springs or downtown Fullerton if one of these HSR station option locations is selected) are already multimodal centers that draw high volumes of people engaging in business, commercial, or leisure activity. Moreover, these cities either have developed or are planning for transit-oriented developments around where there are proposed HSR station facilities. Offering a new transportation option provides an opportunity to enhance the existing and planned developments in these cities.

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. The following sections discuss plans and programs that were considered in the development of the project section alignment and station location options, or that already include recommendations for an HSR project.

1.3.1 California Transportation Plan 2050

The *California Transportation Plan 2050* (CTP 2050), 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 2050 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 2021a).

CTP 2050 was initiated in early 2020 in response to SB 391 (Caltrans 2021a). The California Interregional Blueprint accompanies CTP 2050 and is 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 2050, which concluded with the plan's approval by the Secretary of the California State Transportation Agency in 2021 (Caltrans 2021b).

CTP 2050 carries forward *California Transportation Plan 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 2050 goals, policies, and strategies by providing an efficient and reliable means of transportation that facilitates economic and job growth by providing electric-powered transportation that reduces GHG emissions and air pollutants that contribute to climate change, improving equity, and providing some relief to California's strained highway and rail systems (Caltrans 2021a).

1.3.2 LAUS Master Plan

The Metro-owned LAUS is a regional transit hub and serves as a point of connectivity for Amtrak, Metro and municipal buses/shuttles, Metro rail (Red, Purple, and Gold Lines), and Metrolink. After

purchasing LAUS in 2011, Metro began a 2-year process (2012 to 2014) to develop a master plan for the historic station. The *Union Station Master Plan* sought to implement three programmatic goals: transit optimization, creation of a great destination, and improved connectivity. In 2015, Metro released a synopsis of the 2-year master planning process titled *Transforming Los Angeles Union Station, a Summary Report.*[23]

1.3.3 Link Union Station Project

In October 2015, Metro approved an action that called for the Link US Project (formerly the Southern California Regional Interconnector Project) to incorporate the LAUS master plan's multimodal passenger concourse in its environmental analysis and for the Link US Project and master plan to accommodate HSR.

Metro is proposing the Link US Project to increase the regional and intercity rail service capacity of LAUS and to improve schedule reliability at LAUS through the implementation of a run-through-track configuration and elimination of the existing stub-end-track configuration while preserving current levels of freight rail operations, accommodating the planned HSR system in Southern California, increasing the passenger/pedestrian capacity, and enhancing the safety of LAUS. Additionally, the Link US Project includes a new passenger concourse that meets the multimodal transportation demands at LAUS (Metro 2024). The Metro Board of Directors certified the Final EIR in June 2019.[24] In October 2019, Metro and the Authority, as the federal lead agency under NEPA assignment, began preparation of the Draft EIS. In December 2022, Metro began preparing a Supplemental EIR to disclose minor additions or changes that occurred since the Final EIR certification. Metro released the joint Draft EIS/Supplemental EIR for public review and comment in June 2024. Metro is currently preparing a Final EIS/Supplemental EIR. The project has an anticipated opening year as early as 2026 for the first phase and as early as 2031 for the second final phase (Metro 2024).

1.3.4 Los Angeles – San Diego – San Luis Obispo Rail Corridor Improvement Plans

Several recent studies and plans detail potential near-term improvements to the LOSSAN Corridor. These include numerous grade-separation and crossing improvements between Fullerton and Irvine, as included in the *LOSSAN Business Plan, FY 2022–23/2023–24* (OCTA 2022).

The *2013 Pacific Surfliner South Corridor Service Development Plan*[25] evaluates the potential for transit-oriented development and joint-use and joint-development opportunities at each station along the LOSSAN Corridor. The report includes evaluations of additional transit-oriented development and joint-use/development potential beyond existing conditions at Fullerton, Anaheim, and Santa Ana Stations.

The 2012 *LOSSAN Corridorwide Strategic Implementation Plan*, as reflected later in the *LOSSAN Business Plan, FY 2022–23/2023–24*, expresses the desire of the County of Orange and OCTA to remove as many at-grade crossings as possible along the LOSSAN Corridor (LOSSAN Rail Corridor Agency 2012). This is especially important in light of the ridership growth forecast for Amtrak, Metrolink, and HSR operations by 2040. The plan also calls for enhanced connections between ARTIC and LAX, and Santa Ana Regional Transportation Center and John Wayne Airport.

Additionally, the *LOSSAN Corridorwide Strategic Implementation Plan* and *LOSSAN Business Plan, FY 2022-23/2023-24* (OCTA 2022) include the following new services:

[23] Refer to the Metro website, http://media.metro.net/projects_studies/union_station/images/LAUS_Design_Report-Final_10-9-15.pdf, for full report.
[24] Date as indicated on Link US Project website (www.metro.net/projects/link-us/). Dates are tentative and subject to change.
[25] Refer to the OCTA website, https://www.octa.net/pdf/Final_2013_Pacific_Surfliner_South_SDP.pdf, for full plan.

- New Coast Starlight service: one round trip per day
- New East Ventura to Santa Barbara commuter service: four round trips per day
- New Los Angeles to San Diego commuter service: five round trips per day split between Metrolink and Coaster
- New express service: four round trips per day split between Metrolink and Pacific Surfliner
- New Metrolink service to San Jacinto: eight round trips per day
- New Amtrak Coast Corridor ("Coast Route" Service) connecting San Luis Obispo and San Jose
- New Amtrak Coachella Valley – San Gorgonio Pass Rail Service connecting Los Angeles with the city of Coachella

1.3.5 Measure R (Los Angeles County)

Measure R is a 30-year, $40 billion tax-funded state 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 transit 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, U.S. Highway 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 Burbank Airport Station and LAUS.

1.3.6 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 that were funded through Measure M include the following, all of which are completed or are in progress:

- LAX/Metro Transit Station: Interface station to LAX-sponsored Automated People Mover, includes consolidated bus interface for Metro and municipal bus lines (completed)
- 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 the city of Azusa to the 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.

1.3.7 Long Beach-East LA Corridor Mobility Investment Plan

The Long Beach Freeway (I-710) is a vital transportation artery, linking the Ports of Long Beach and Los Angeles to major Southern California distribution centers and intermodal rail facilities. Studies are currently under way to find solutions to congestion and safety along this corridor. The LOSSAN Corridor and the project section run diagonally across the I-710 corridor, which traverses or passes adjacent to 15 cities and unincorporated areas in Los Angeles County. The improvement of the I-710 corridor would further facilitate the movement of people and freight in the area of the project section and would provide persons living south of Los Angeles better access to the HSR connection in Los Angeles.

In 2012, a Draft EIR/EIS for the I-710 Corridor Project identified a preferred alternative for the project. On further review of traffic patterns and new information gathered during public review of the Draft EIR/EIS, Metro began further evaluation of the alternatives for the I-710 Corridor Project. Because of this new data and information, Metro decided in March 2013 to prepare a Recirculated Draft EIR/EIS to analyze the range of possible improvement alternatives for the I-710 corridor. The *I-710 Corridor Project Recirculated Draft EIR/Supplemental EIS* studied 19 miles of I-710 between the Ports of Long Beach and Los Angeles and the Pomona Freeway (SR 60), encompassing 15 cities and unincorporated areas in Los Angeles County adjacent to the freeway corridor. Metro released the *I-710 Corridor Project Recirculated Draft EIR/Supplemental EIS* in July 2017 for public comment, which ended in October 2017. However, in fall 2021, the I-710 Corridor Project was suspended.

Following the suspension of the I-710 Corridor Project and in response to community interested parties who voiced a vision for mobility that advances equity and sustainability, Metro launched the Long Beach-East LA Corridor Mobility Investment Plan process. Its vision is to provide an equitable, shared Long Beach Freeway (I-710) South Corridor transportation system that provides safe, quality multimodal options for moving people and goods that will foster clean air (zero emissions), healthy and sustainable communities, and economic empowerment for all residents, communities, and users in the corridor (Metro 2022). The task force has developed an initial list of 218 candidate programs and projects for the corridor that include goods movement, active transportation, roadway and freeway improvements, travel demand management,

community programs, and transit. The *Draft Long Beach-East LA Corridor Mobility Investment Plan* was released in January 2024.

1.3.8 Metro 2028 Games Mobility Concept Plan

Metro's *2028 Games Mobility Concept Plan* is an agency-wide strategic plan for transforming mobility in Los Angeles County through the year 2028 (Metro 2023). In preparation for the 2028 Los Angeles Olympics, where there will be approximately 1 to 15 million tickets sold for more than 700 events, Metro completed a multidisciplinary needs assessment and identified the top 50 projects for Metro Board approval and Games Mobility Executives consideration. The Games Mobility Executives represent LA28 (the organizing committee of the 2028 Olympics) and transit operators in the region. The Games Mobility Executives then selected and presented to the U.S. Department of Transportation the priority mobility projects for the 2028 Los Angeles Olympics. These projects are:

- Countywide Bus Only Lanes and Transit Signal Priority Improvements
- Transit to Venue First/Last Mile
- Regional Mobility Hubs
- Key Station Improvements
- Light Rail Speed and Operational Improvements
- Supplemental Bus System
- Games Route Network Design and Implementation
- Open Streets Programs
- Phase I Zero-Emissions Bus Program
- Countywide and Freight Transportation Demand Management Program
- Universal Basic Mobility
- Access Services Electric Vehicle Fleet and Infrastructure
- Automated Traffic Surveillance and Control and Los Angeles Regional Transportation Management Center Integration and Operations Enhancements
- Inglewood Transit Connector
- Metrolink Fleet and Track Capacity Improvements: Southern California Optimized Rail Expansion Phase I Completion

1.3.9 Metrolink Southern California Optimized Rail Expansion

Metrolink's Southern California Optimized Rail Expansion program (SCRRA 2021) is a capital program to upgrade Metrolink's system with grade-crossing, station, and signal improvements as well as track additions and work. It will help Metrolink achieve a zero-emissions future, improve access for the growing population, and allow corridor cities to apply for quiet zones. The individual Southern California Optimized Rail Expansion projects are anticipated to be completed between 2023 and 2028, when the entire program will be completed. These improvements will also improve an existing sustainable alternative mode of transportation for the 2028 Los Angeles Olympics and Paralympics. The Southern California Optimized Rail Expansion program will continue the effort to eliminate GHG emissions, including 51.7 million metric tons of GHG emissions from 2023 to 2078. 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 and providing a zero-emissions alternative mode of transportation.

1.3.10 Metrolink Strategic Business Plan

The *Metrolink Strategic Business Plan* (SCRRA 2021) develops a vision to optimize and improve system performance and to gain regional consensus on operational and capital needs and priorities for the next 5, 10, and 30 years through strategic implementation (SCRRA 2021). The plan also includes Metrolink's Short-Range Transit Plan, which 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. 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 the 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 and increasing ridership.

1.3.11 Orange County Measure M2

Measure M2, which began in 2011 after the expiration of the 1990 voter-approved Measure M, continues to fund major transportation improvements. These include road and street upgrades, expansion of Metrolink commuter rail service, and fixed guideway connections between Metrolink stations and major activity centers such as Disneyland and ARTIC. The measure also funds environmental planning. Through Measure M2, the OCTA has provided over $7 million in funding for the planning, design, and environmental review of the project section.

The measure, set to continue until 2041, will deliver approximately $14.8 billion worth of transportation improvements to Orange County, including the following:

- Complete freeway enhancements on I-405, I-5, SR 55, and SR 91.
- Invest in street network improvements for capacity, repaving, and traffic signal synchronization.
- Expand Metrolink capacity and service; upgrade existing Metrolink station facilities.
- Invest in local fixed-guideway projects.
- Complete improvements to prepare for HSR in Orange County.
- Invest in bus system service and programs to optimize bus service, reduce fares for vulnerable populations, and improve mobility options for users, particularly seniors and persons with disabilities.
- Invest in transportation-related environmental mitigation and cleanup.

These specific improvements, as well as others under Measure M2, would increase regional connectivity to HSR stations served by the Metro public transit system, improve freeways, and create an active transportation network. As a result, HSR would be accessible to a greater number of potential riders.

1.3.12 Southern California Association of Governments 2020–2045 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 2020a). The 2020 RTP/SCS includes mobility as an important component of a much larger picture that emphasizes sustainability and integrated planning. The "Core Vision" focuses on maintaining and managing the existing transportation network to move people and goods while expanding mobility choices by locating housing, jobs, and transit closer together and increasing investment in transit and complete streets. The vision of the RTP/SCS encompasses six key principles for the region's future: sustainable development, system preservation and resilience, demand and system management, transit backbone, complete streets, and goods movement. The RTP/SCS focus areas include the following categories:

- Active Transportation
- Aviation and Airport Ground Access
- Congestion Management
- Demographics and Growth Forecast
- Economic and Job Creation Analysis
- Emerging Technology
- Environmental Justice
- Goods Movement
- Highways and Arterials
- Natural and Farm Lands Conservation
- Passenger Rail
- Performance Measures
- Project List
- Public Health
- Public Participation and Consultation
- Sustainable Communities Strategy
- Transit
- Transportation Conformity Analysis
- Transportation Finance
- Transportation Safety and Security

To augment the Core Vision of the plan, the 2020–2045 RTP/SCS includes new initiatives at the intersection of land use, transportation, and technology to close the gap and reach SCAG's GHG-emission-reduction goals.

Major goals of the plan include focusing growth near destinations and mobility options, promoting diverse housing choices, leveraging technological innovations, supporting implementation of sustainability policies, and promoting a green region (SCAG 2020a). These goals are then used to identify key transportation priorities throughout the region that, in turn, determine the need for specific system improvements. The transportation strategies are broken into two categories: preserving and optimizing current and future system, and capital improvements by mode for completion of SCAG's system. A top priority is to maintain and preserve the transportation infrastructure through a "Fix it First" principle. Funding provided by SB 1 offers an opportunity to strategically reinvest in the transportation network to improve the existing system. SCAG's strategies for improving and expanding the modes of transportation that make up the regional network are integrated closely with its strategies for how it uses land. Transit is the backbone of this strategy. The 2020–2045 RTP/SCS builds on extensive local investment in the transit and rail

network by increasing resources for frequent and reliable bus service and closing gaps in the fixed guideway system. The plan also includes four main elements for the passenger rail strategy: increase ridership, provide more frequent and new services, improve connectivity, and secure funding.

To assess both the ability of proposed improvements to meet the established goals and the plan's overall performance, 8 anticipated performance outcome categories and 43 associated performance measures have been developed. According to the RTP/SCS, 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/SCS's proposed improvements. The financially constrained plan 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 HSR system would support the RTP/SCS's 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 project section.

1.3.13 Riverside County Transportation Commission Short Range Transit Plan (Fiscal Year 2022/23–2026/27)

The Riverside County Transportation Commission Short Range Transit Plan serves to guide the service improvements and the capital project priorities of the Riverside County Transportation Commission for the 5 years following the plan's approval (RCTC 2022). To receive funding from local, state, and federal sources for the first fiscal year of the plan, an updated Short Range Transit Plan must be submitted annually to determine allocations and programming of the funds. The Riverside County Transportation Commission oversees the Western County Vanpool Program and the Coachella Valley and Western County Rail Programs, is a member of Metrolink, and lays out objectives for each service in the Short Range Transit Plan. Some of the objectives listed in the Short Range Transit Plan are:

- Continue corridor planning for the Coachella Valley – San Gorgonio Pass Rail Project and complete the Service Development Plan
- Return service to prepandemic levels as ridership continues to increase
- Increase service on the 91/Perris Valley Line, Inland Empire-Orange County Line, and Riverside Line of Metrolink once there has been full service recovery from the pandemic

1.4 Relationship to Other Transportation Projects in the Los Angeles to Anaheim Study Area

The objectives of the HSR system include interfaces between the HSR system and major commercial airports, mass transit, and the highway network. The following sections describe key transportation projects within the Los Angeles to Anaheim area that offer intercity travel benefits and could enhance intermodal connections to the proposed HSR system. The Authority considered these projects in the planning and development of the project section. Included are projects that are planned and funded, currently under construction, or recently completed. Figure 1-8 displays the location of these projects.

1.4.1 Metro Purple (D) Line Extension

The Metro Purple (D) Line Extension Project will expand the existing Metro Purple Line subway westward from its current western terminus at Wilshire/Western for approximately 9 miles to the Veterans Affairs Medical Center in Westwood, Los Angeles (Metro n.d.b.). The extension will provide seven new stations. In April and May 2012, the Metro Board of Directors approved the project and certified its Final EIS/EIR. Construction began in 2019 and is proceeding in three

phases. Section 1 is expected to open in 2025, Section 2 is expected to open in 2026, and Section 3 is expected to open in 2027.

The expanded service area of the Metro public transit system and resulting transit-oriented development efforts around new stations, would improve mobility options and regional accessibility for potential HSR passengers. The Metro Purple Line would particularly improve regional accessibility for potential HSR passengers as it connects to LAUS, a major proposed HSR station.

1.4.2 Santa Ana-Garden Grove Fixed Guideway Project

The Santa Ana-Garden Grove Fixed Guideway Project (also known as the “OC Streetcar”) is a $289 million, Measure M2-initiated, streetcar project being led by the OCTA. The OCTA intends to begin operation in 2025 (OCTA 2024b). The approximately 4-mile route will travel from the Santa Ana Regional Transportation Center to a new multimodal hub in Garden Grove at the corner of Harbor Boulevard and Westminster Avenue. The project’s primary purpose is to provide “last-mile” connections to Orange County’s Metrolink and Amtrak service at the Santa Ana Regional Intermodal Transportation Center. The streetcar will travel along a combination of local streets and a dedicated OCTA right-of-way that once formed part of the defunct Pacific Electric Railway. The streetcar will serve downtown Santa Ana and the Civic Center, which includes government offices; federal, state, and local courthouses; restaurants and shops; several colleges; and a variety of community-enrichment organizations. The City of Santa Ana certified the Revised Environmental Assessment/Final EIR in January 2015, and the Federal Transit Administration approved a Finding of No Significant Impact in March 2015. In May 2015, the Federal Transit Administration approved the project for entry into project development. The project began construction in October 2018 and is anticipated to be complete in 2025.

This project connects directly to the Santa Ana Regional Transportation Center, which includes the Santa Ana Metrolink Station served by the Orange County and Inland Empire–Orange County lines. ARTIC, the proposed southern terminus of this project section, is two stops away from Santa Ana on the Metrolink Orange County Line. There is an existing rapid bus service that will connect the terminus of the streetcar at Harbor Boulevard in Santa Ana to a potential HSR station option at the Fullerton Metrolink/Amtrak Station. These improvements would further connect to the HSR station at ARTIC and the HSR station option at the Fullerton Metrolink/Amtrak Station.