

## Preface

### What Is This Document?

The California High-Speed Rail Authority (Authority) proposes to construct, operate, and maintain an electric-powered high-speed rail (HSR) system in California. When completed, the 800-mile HSR system would provide new passenger rail service to California’s major metropolitan areas and through the counties that are home to more than 90 percent of the state’s population. The approximately 49-mile-long San Francisco to San Jose Project Section (Project Section or project) would 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 systems, the highway network in the San Francisco Bay Area (Bay Area), and the rest of the statewide HSR system.

The Project Section would provide HSR service from the Salesforce Transit Center (SFTC) in San Francisco to the San Jose Diridon Station. The Project Section includes approximately 43 to 49 miles of blended<sup>1</sup> system infrastructure with Caltrain and up to 6 miles of dedicated HSR infrastructure (depending on the alternative and viaduct option), extending through San Francisco, San Mateo, and Santa Clara Counties. HSR trains would stop at the 4th and King Street Station in San Francisco (an interim station until the completion of the Downtown Rail Extension project), the Millbrae Bay Area Rapid Transit/Caltrain Intermodal Station, and the San Jose Diridon Station. Once the Transbay Joint Powers Authority’s Downtown Rail Extension project extends the electrified Peninsula rail corridor from the 4th and King Street Station to the SFTC, HSR trains would use the track built for the Downtown Rail Extension project to reach SFTC (the ultimate terminal station in San Francisco). Two project alternatives and the No Project Alternative are analyzed in this *San Francisco to San Jose Project Section Final Environmental Impact Report (EIR)/Environmental Impact Statement (EIS)* (Final EIR/EIS).

Pursuant to 23 United States Code (U.S.C.) Section 327, under the National Environmental Policy Act (NEPA) Assignment Memorandum of Understanding between the Federal Railroad Administration (FRA) and the State of California, effective July 23, 2019, the Authority is the project sponsor and the federal lead agency for compliance with NEPA and other federal

environmental laws for the California HSR System, including the San Francisco to San Jose Project Section. The Authority is also the state lead agency under the California Environmental Quality Act (CEQA).

The Council on Environmental Quality provides for NEPA (42 U.S.C. § 4321 et seq.; 40 Code of Federal Regulations [C.F.R.] § 1502.20)<sup>2</sup> decision making through a phased process known as *tiering*. This phased process supports a broad-level programmatic decision using a first-tier EIS. The first-tier process is followed by more specific decisions at the second tier, with one or more second-tier EISs. The NEPA tiering process allows incremental decision making for large projects that would be too extensive and cumbersome to analyze in one

#### *Sequence of California HSR Tiered Environmental Documents*

##### Tier 1/Program Documents

- Final Program EIR/EIS for the Proposed California High-Speed Train System (2005)
- San Francisco Bay Area to Central Valley High-Speed Train Final Program EIR/EIS (2008)
- Bay Area to Central Valley High-Speed Train Partially Revised Final Program EIR (2012)

##### Tier 2/Project Documents

- San Jose to Merced Project Section Final EIR/EIS (2022)
- San Francisco to San Jose Project Section Final EIR/EIS (this document)

<sup>1</sup> *Blended* refers to operating the HSR trains with existing intercity and commuter and regional rail trains on common infrastructure.

<sup>2</sup> The Council on Environmental Quality (CEQ) issued new regulations, effective September 14, 2020, updating the NEPA implementing procedures at 40 C.F.R. Parts 1500–1508. However, because this project initiated the NEPA process before September 14, 2020, it is not subject to the new regulations. The Authority is relying on the regulations as they

traditional project EIS. CEQA (California Public Resources Code § 21000 et seq.) also encourages tiering and provides for first-tier and second-tier EIRs.

The San Francisco to San Jose Project Section EIR/EIS is a second-tier EIR/EIS that tiers off of first-tier program EIR/EIS documents and provides project-level information for decision-making on this portion of the HSR system. The Authority and the FRA prepared the 2005 *Final Program Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Proposed California High-Speed Train System* (Authority and FRA 2005), which provided a first-tier analysis of the general effects of implementing the HSR system across two-thirds of the state. The 2008 *Bay Area to Central Valley High-Speed Train Final Program Environmental Impact Report/Environmental Impact Statement (EIR/EIS)* (Authority and FRA 2008) and the Authority's 2012 *Bay Area to Central Valley High-Speed Train Partially Revised Final Program Environmental Impact Report* (Authority 2012) were also first-tier programmatic documents, but they focused on the Bay Area to Central Valley region. These first-tier EIR/EIS documents provided the Authority and FRA with the environmental analyses necessary to evaluate the overall HSR system and make broad decisions about general HSR alignments and station locations for further study in the second-tier EIR/EISs. Between San Francisco and San Jose, the existing Caltrain corridor was advanced for second-tier analysis. The station locations advanced for the second-tier analysis included a station in downtown San Francisco, a potential mid-Peninsula station, a San Francisco International Airport Station at Millbrae, and a station at the San Jose Diridon Station.

The San Francisco to San Jose Project Section EIR/EIS analyzes the environmental impacts and benefits of the HSR system in the more geographically limited area between San Francisco and San Jose and is based on more detailed project planning and engineering. The analysis therefore builds on the earlier decisions and program EIR/EISs and provides more site-specific and detailed analysis.

This Final EIR/EIS does the following:

- Describes two project alternatives and the No Project Alternative and their potential impacts
- Provides environmental information to assist decision makers in selecting the project alternative to be built
- Identifies measures to avoid and minimize adverse impacts and, when necessary, to compensate for adverse impacts
- Considers cumulative impacts as part of the environmental review process

The Authority widely circulated the Draft EIR/EIS to affected local jurisdictions, state and federal agencies, tribes, community organizations, other interest groups, and interested individuals. The document was also made available on the Authority's website ([www.hsr.ca.gov](http://www.hsr.ca.gov)) and at Authority offices, public libraries, and county clerk offices (refer to Chapter 10, Distribution List, for a complete list of repository locations). The Draft EIR/EIS was originally made available for review to the public by the Authority in accordance with its responsibility as the lead agency for review and comment, as required, for a minimum of 45 days beginning on July 10, 2020, and ending on August 24, 2020, pursuant to CEQA and NEPA. Due to the uncertainty caused by the outbreak of COVID-19, the Authority elected to extend the public review period by 15 days to September 9, 2020. During this period, the Authority hosted a virtual public hearing and virtual open houses. The public hearing provided an opportunity for the public to submit oral or written comments on the Draft EIR/EIS and the alternatives under consideration. The Authority published the Revised/Supplemental Draft EIR/EIS on July 23, 2021, and the document was made available for a 45-day public review period ending on September 8, 2021. Advertisements were placed in the same newspapers (with the addition of the San Francisco Bay View) and materials were distributed in the same manner and to the same recipients as was done for the Draft EIR/EIS.

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existed prior to September 14, 2020. Therefore, all citations to CEQ regulations in this environmental document refer to the 1978 regulations, pursuant to 40 C.F.R. Section 1506.13 (2020) and the preamble at 85 *Federal Register* 43340.

This document, the San Francisco to San Jose Project Section Final EIR/EIS, incorporates the whole of the Draft EIR/EIS and the Revised/Supplemental Draft EIR/EIS. Volume 4, Responses to Comments on the Draft EIR/EIS and Revised/Supplemental Draft EIR/EIS, of this Final EIR/EIS includes the Authority's responses to all comments received during the public circulation of the Draft EIR/EIS and the Revised/Supplemental Draft EIR/EIS, while Volume 1, Report, and Volume 2, Technical Appendices, have been revised to reflect changes and clarifications, including those based on comments received. These revisions are described in greater detail in the Final EIR/EIS Summary.

The Authority is issuing this document in June 2022. The document will be available electronically on the Authority's website; the Authority will also distribute electronic copies to interested parties. The Authority will make paper copies of the document available for public review at the Authority's Sacramento and San Jose offices, and at various local library facilities during hours the facilities are open (open days/hours may be reduced for compliance with COVID-19 public health and safety directives).

## How Do I Use This Document?

The purpose of environmental documents prepared under CEQA and NEPA is to disclose information about a proposed project to decision makers and the public. While the science and analysis that support this Final EIR/EIS are complex, this document is intended for the general public. Every attempt has been made to limit the use of technical terms and acronyms. Where this cannot be avoided, the terms and acronyms are defined the first time they are used in each chapter. This Final EIR/EIS has been prepared in accordance with Section 508 of the Rehabilitation Act of 1973, as amended, and the Web Content Accessibility Guidelines, as required under Section 11546.7 of the California Government Code, and can be found on the Authority's website.

Volume 1 of this Final EIR/EIS is organized into 15 chapters and a Summary. Translated versions of the Summary are available in Spanish, Vietnamese, Mandarin, and Tagalog. Volume 2 contains technical appendices. Throughout Volumes 1 and 2, to the extent practical and for the convenience of the reader, a vertical line in the left- and right-hand margins indicates areas where substantive edits to text, tables, or graphics were made between the Draft EIR/EIS and the Final EIR/EIS. Minor editorial changes and clarifications are not identified. In addition, substantive changes are summarized at the beginning of each chapter and resource topic section of Chapter 3, and in each relevant technical appendix in Volume 2. Volume 3, Preliminary Engineering Plans, provides design plans and other relevant engineering drawings and includes any changes since publication of the Draft EIR/EIS. Volume 4 is newly added and includes responses to comments received on the Draft EIR/EIS and the Revised/Supplemental Draft EIR/EIS. For a reader with limited time to devote to this document, the Summary is the place to start. It provides an overview of all of the substantive chapters in this document and includes a table listing the potential environmental impacts for each environmental resource topic, and it summarizes the substantive changes in each section since publication of the Draft EIR/EIS. If the reader begins here but wants more information, the Summary directs the reader to more detailed discussion elsewhere in the document. The following is a list of the chapters and a short summary of each chapter.

**Chapter 1, Project Purpose, Need, and Objectives**, explains the project Purpose and Need for the San Francisco to San Jose Project Section, provides a history of the planning process, and describes the project's relationship to other plans, programs, and transportation projects.

**Chapter 2, Alternatives**, describes in detail the two project alternatives and the No Project Alternative that the Authority is considering in this Final EIR/EIS. It contains illustrations and maps and provides a review of construction activities. These first two chapters help the reader understand what is being analyzed in the remainder of the document.

**Chapter 3, Affected Environment, Environmental Consequences, and Mitigation Measures**, is where the reader can find information about the existing transportation, environmental, and social conditions in the project area. This chapter provides the findings of the analysis of potential environmental impacts, along with methods to reduce these impacts (called mitigation measures). Chapter 3 is divided into the following sections:

- Section 3.1, Introduction
- Section 3.2, Transportation\*
- Section 3.3, Air Quality and Greenhouse Gases\*
- Section 3.4, Noise and Vibration\*
- Section 3.5, Electromagnetic Fields and Electromagnetic Interference
- Section 3.6, Public Utilities and Energy
- Section 3.7, Biological and Aquatic Resources\*
- Section 3.8, Hydrology and Water Resources\*
- Section 3.9, Geology, Soils, Seismicity, and Paleontological Resources\*
- Section 3.10, Hazardous Materials and Wastes\*
- Section 3.11, Safety and Security
- Section 3.12, Socioeconomics and Communities\*
- Section 3.13, Station Planning, Land Use, and Development
- Section 3.14, Parks, Recreation, and Open Space
- Section 3.15, Aesthetics and Visual Quality\*
- Section 3.16, Cultural Resources\*
- Section 3.17, Regional Growth
- Section 3.18, Cumulative Impacts
- Section 3.19, Design Variant to Optimize Speed (since publication of the Draft EIR/EIS, the content from this section has been incorporated throughout the Final EIR/EIS)
- Section 3.20, Millbrae Station Reduced Site Plan Design Variant

\* separate technical report available

**Chapter 4, Section 4(f)/6(f) Evaluation**, provides the analysis to support the Authority's preliminary determinations to comply with the provisions of Section 4(f) of the Department of Transportation Act of 1966 and Section 6(f) of the Land and Water Conservation Fund Act.

**Chapter 5, Environmental Justice**, discusses whether the project alternatives would have a disproportionately high and adverse effect on minority populations or low-income populations.

**Chapter 6, Project Costs and Operations**, summarizes the estimated costs for building, operating, and maintaining each project alternative evaluated in this Final EIR/EIS.

**Chapter 7, Other CEQA/NEPA Considerations**, summarizes the unavoidable adverse effects under NEPA, the significant and unavoidable impacts under CEQA, the relationship between short-term uses of the environment and long-term productivity, and the significant irreversible or irretrievable commitments of resources that would result from the project alternatives.

**Chapter 8, Preferred Alternative**, describes the Preferred Alternative and the basis for identifying it.

**Chapter 9, Public and Agency Involvement**, describes the public and agency involvement efforts conducted for the preparation of this Final EIR/EIS.

**Chapter 10, Distribution List**, identifies the public agencies, tribes, and organizations that were informed of the availability of, and locations to review, this Final EIR/EIS.

**Chapter 11, List of Preparers**, provides the names and roles of the preparers of this Final EIR/EIS.

**Chapter 12, References**, lists the references used in writing this Final EIR/EIS.

**Chapter 13, Glossary of Terms**, provides definitions of certain terms used in this Final EIR/EIS.

**Chapter 14, Index**, provides a tool to cross-reference major topics in this Final EIR/EIS.

**Chapter 15, Acronyms and Abbreviations**, defines the acronyms and abbreviations used in this Final EIR/EIS.

**Volume 2, Technical Appendices**, provides additional details on the project alternatives; the EIR/EIS process; and resource-specific background information, data, and other evidence supporting the analyses. Technical appendices are primarily related to the affected environment and environmental consequences analyses. These appendices are numbered to match their corresponding section in Chapter 3, as well as Chapter 2, of this Final EIR/EIS (e.g., Appendix 3.7-A is the first appendix for Section 3.7, Biological and Aquatic Resources).

**Volume 3, Preliminary Engineering Plans**, presents the design drawings, including trackway and roadway crossing designs.

**Volume 4, Responses to Comments on the Draft EIR/EIS and Revised/Supplemental Draft EIR/EIS**, presents a list of all commenters on the Draft EIR/EIS and Revised/Supplemental Draft EIR/EIS, reproductions of the original written comments, and responses to comments received on the Draft EIR/EIS and Revised/Supplemental Draft EIR/EIS. The responses are organized into chapters based on commenter type. In addition, this volume provides standard responses that address the most frequently raised issues.

**Technical Reports** provide more detailed technical analyses and data on some of the environmental resources evaluated in Chapter 3 of the Final EIR/EIS. The asterisks (\*) in the list of Chapter 3 sections above indicate topics for which a separate technical report has been prepared. Technical reports are not included in the Final EIR/EIS with the exception of the technical reports for Air Quality and Greenhouse Gases, Noise and Vibration, and Environmental Justice, which are included in Volume 2. For information on how to access and review technical reports, please refer to the Authority’s website ([www.hsr.ca.gov](http://www.hsr.ca.gov)) or call (800) 435-8670.

You may request a copy of the EIR/EIS and the technical reports by calling (800) 435-8670. Printed copies of the Summary and Volume 1 of the Final EIR/EIS and/or electronic versions of the entire EIR/EIS (Volumes 1–4) are also available for review during business hours at the following locations (these locations may be closed and/or have limited hours due to the ongoing COVID-19 situation):

- San Francisco—100 Larkin Street, San Francisco, CA 94102 (San Francisco Library, Main Branch)
- Brisbane—250 Visitacion Avenue, Brisbane, CA 94005 (Brisbane Library)
- South San Francisco—840 W. Orange Avenue, South San Francisco, CA 94080 (South San Francisco Library)
- San Bruno—701 Angus Avenue West, San Bruno, CA 94066 (San Bruno Library)
- Millbrae—1 Library Avenue, Millbrae, CA 94030 (Millbrae Library)
- Burlingame—480 Primrose Road, Burlingame, CA 94010 (Burlingame Library)
- San Mateo—55 W. Third Avenue, San Mateo, CA 94402 (San Mateo Library, Main Branch)
- Belmont—1110 Alameda de las Pulgas, Belmont, CA 94002 (Belmont Library)
- San Carlos—610 Elm Street, San Carlos, CA 94070 (San Carlos Library)
- Redwood City—1044 Middlefield Road, Redwood City, CA 94063 (Redwood City Library, Downtown Branch)
- Atherton—150 Watkins Avenue, Atherton, CA 94027 (Town Government Building)
- Menlo Park—800 Alma Street, Menlo Park, CA 94025 (Menlo Park Library)
- Palo Alto—270 Forest Avenue, Palo Alto, CA 94301 (Palo Alto Library, Downtown Branch)

- Mountain View—585 Franklin Street, Mountain View, CA 94041 (Mountain View Library)
- Sunnyvale—665 W. Olive Avenue, Sunnyvale, CA 94086 (Sunnyvale Library)
- Santa Clara—2635 Homestead Road, Santa Clara, CA 95051 (Central Park Branch, Santa Clara County Library)
- San Jose—150 E. San Fernando Street, San Jose, CA 95112 (Dr. Martin Luther King, Jr. Library)

Printed and/or electronic copies of the Final EIR/EIS are also available for review during business hours at the Authority's Northern California Regional Office at 100 Paseo de San Antonio, Suite 300, San Jose, CA 95113 and the Authority's Headquarters at 770 L Street, Suite 620 MS-1, Sacramento, CA 95814.

Authority offices may have reduced open days/hours, as required by coronavirus public health and safety directives. Please consult [www.hsr.ca.gov](http://www.hsr.ca.gov) or call (800) 435-8670 for up-to-date information.

### What Happens Next?

The Authority will consider certifying the Final EIR/EIS for compliance with CEQA and making a final decision on selecting the Preferred Alternative. If the Authority certifies the Final EIR/EIS and makes a decision on the Preferred Alternative, it will file a Notice of Determination with the State Clearinghouse. Pursuant to its responsibilities under NEPA as assigned by the FRA, the Authority will consider whether to select an alternative and issue a Record of Decision. The Record of Decision would describe the project and alternatives considered; describe the selected alternative; make environmental findings and determinations as may be required by the federal Endangered Species Act, Section 106 of the National Historic Preservation Act, Section 4(f) of the Department of Transportation Act of 1966, and U.S. Presidential Executive Order 12898 regarding environmental justice; and describe required mitigation measures. Separately, the FRA would make findings and determinations with regard to air quality conformity under the federal Clean Air Act.