Agenda

1. Key Points for Today’s Presentation
2. Project Section Overview
3. Development of Alternatives
4. Background on San Francisco to San Jose Project Section
5. Key Topics of Stakeholder Interest
San Francisco to San Jose

Key Points for Proposed Project:

• Final EIR/EIS studies necessary infrastructure for blended high-speed rail service beyond what is being built by the Caltrain Electrification Project.

• Blended service takes advantage of the existing rail right-of-way; reduces impacts to surrounding communities; provides safety improvements including modifications at at-grade crossings; upgrades corridor from 79 mph diesel operations to 110 mph electrified service.

• Connects major employment centers of the San Francisco Bay Area to the Central Valley and Southern California, decreasing travel time, improving mobility, and supporting housing/job balance.

• Final EIR/EIS is a thorough evaluation of the project’s environmental effects and is based on extensive outreach with communities along the rail corridor.
Project Section Overview
High-Speed Rail in Northern California

Project Development Stages

- Planning
  - Diridon Integrated Station Concept

- Environmental
  - San Francisco to San Jose

- Advanced Design
  - San Jose to Merced

- Pre-Construction
  - Downtown Extension (DTX)

- Construction
  - Caltrain Electrification

- Operations
  - Salesforce Transit Center

San Francisco to San Jose Project Section
Interim high-speed rail terminal. Connection to Salesforce Transit Center completes NorCal system.

Connects to Caltrain, BART, SFO, and more.

Blended service on Caltrain corridor.
Project Background

Important Milestones

2016 Revised Scoping for Blended System

2019 Identification of the Preferred Alternative

2020 Draft EIR/EIS

2021 Revised Draft EIR/Supplemental Draft EIS

2022 Final EIR/EIS
Community Engagement Activities 2016 - 2022

570+
Meetings with the general public, stakeholders, and agencies and tabling at local events

100+
Stakeholder Working Group Meetings

25+
Open Houses and Hearings

Materials translated into Spanish, Mandarin, Tagalog and Vietnamese

Stakeholder Working Groups

Community Working Groups:
Neighborhood, Business, and Community Organizations

Engagement Tools:
• Project website
• Surveys
• Telephone hotline
• Facilitated discussions on project design

San Francisco to San Jose Project Section
Preferred Alternative (Alternative A)
Alternative A – Preferred Alternative

Effects compared to Alternative B

- Fewer displacements
- Fewer impacts on wetlands and aquatic habitats
- Fewer air quality impacts during construction
- Fewer road closures
- Fewer impacts on natural resources
- Lower capital cost
- Faster Caltrain peak hour travel time
- Better alignment with Caltrain Service Vision
Throughout the environmental review process, the EPA has appreciated the commitment of the California High Speed Rail Authority to work closely with state and federal resource and regulatory agencies to address concerns early and avoid and minimize impacts to environmental resources.

– United States Environmental Protection Agency

Connecting these major economic regions with high-speed rail will change the way people travel throughout the state and foster more equitable employment and housing opportunities.

– California Assemblymember Matt Haney, District 17

Ensuring that major economic regions are connected by electrified high-speed rail, rather than vehicular roadways and air travel alone, is key to ensuring that California can meet its climate goals.

– SPUR/Bay Area Council/Silicon Valley Leadership Group
Development of Alternatives
Alternatives Considered and Eliminated
In the 2008 Program EIR/EIS

Altamont Pass Alternative

• Impacts to wetlands, waterbodies and environment
• Operational challenges
• Longer travel time between South Bay and Southern California
Alternatives Considered and Eliminated
In the 2008 Program EIR/EIS

Highway 101 and I-280 Alternatives (2008)

- Environmental and socioeconomic impacts
- Constructability
- Right-of-way
Alternatives Considered

2010 Preliminary Alternatives Analysis and Supplemental Alternatives Analysis

Fully grade-separated, four-track system
• Additional community impacts
• Substantially higher costs
• Substantial construction impacts

Blended System
• Northern California 9-Party MOU
• Legislation (SB 1029, SB 557)
Stations and Passing Tracks Considered
During Blended System Planning (2012-2016)

Eliminated
- Optional Mid-Peninsula Station eliminated based on community feedback
- Middle 3-Track (16 miles)
- Long Middle 4-Track (8 miles)

Carried Forward:
- Short Middle 4-Track (6 miles)
LMF Site Evaluation Process

13 site options evaluated

Factors considered:

• **Operational Considerations**
  » Proximity to SF Terminal Station
  » Site Size ~100 acres
  » Proximity to Mainline tracks
  » Double-ended Lead Tracks

• **Site Availability**

• **Environmental Factors**
  » Circulation
  » Community Disruption
  » Biological Resources
  » Cultural Resources
  » Other Environmental Impacts (Noise, 4(f), etc.)
<table>
<thead>
<tr>
<th>LMF Sites Eliminated in the Evaluation Process</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operational Deficiencies</strong></td>
</tr>
<tr>
<td></td>
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<tr>
<td>San Francisco Yard at Caltrain 4th and King Station/Terminal</td>
</tr>
<tr>
<td>Port of San Francisco Piers 90-94</td>
</tr>
<tr>
<td>Cow Palace East-West Site</td>
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<tr>
<td>Cow Palace North-South Site</td>
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<tr>
<td>Georgia Pacific Site South San Francisco, east of 101, north of Colma Creek</td>
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<tr>
<td>North Side of San Francisco International Airport (SFO)</td>
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<tr>
<td>Hayward Park San Mateo east of Caltrain ROW, north of SR-92</td>
</tr>
<tr>
<td>Redwood City Wye south of SR-84</td>
</tr>
<tr>
<td>Newhall Yard north of I-880, east of Caltrain ROW</td>
</tr>
<tr>
<td>Gilroy two LMF concepts</td>
</tr>
</tbody>
</table>
Site Evaluation Process

Reasons Brisbane Bayshore Sites Advanced:
- Meets Operational Requirements
- Site Availability
- Low Environmental Impacts

11 sites eliminated
Two site alternatives advanced for consideration in the EIR/EIS
LMF Alternatives Evaluated in the EIR/EIS

Alternative A (Preferred Alternative)

Alternative B

San Francisco to San Jose Project Section
Millbrae Station Options

Millbrae – SFO Station Design (Preferred Alternative)

Millbrae – SFO Reduced Site Plan Design Variant
Alternatives A & B

Alternative A Features
- East Option Light Maintenance Facility
- No Additional Passing Tracks

Alternative B Features
- West Option Light Maintenance Facility
- Additional Passing Tracks

Safety Modifications
- At-Grade Crossings
  - Four-Quadrant Gates
  - Vehicle Detection
  - Median Channelization
- Perimeter Fencing

San Francisco to San Jose Project Section
- HSR Stations
- Maintenance Facilities
- San Jose to Merced Project Section
- Downtown Extension

(Resolved April 2022)

Alternative A remains Preferred Alternative in Final EIR/EIS

No Additional Passing Tracks (Alt A)
Additional Passing Tracks (Alt B)
Relocation of San Carlos Station
## Important Infrastructure Already Under Construction

<table>
<thead>
<tr>
<th>Components</th>
<th>Peninsula Corridor Electrification Project (Operating up to 79 mph)</th>
<th>Additional Changes for HSR (Operating up to 110 mph)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PG&amp;E Substation Upgrades</td>
<td>2 Substations</td>
<td>May be enhanced for future HSR and Caltrain service expansions</td>
</tr>
<tr>
<td>Traction Power Substations</td>
<td>2 Substations and interconnections</td>
<td></td>
</tr>
<tr>
<td>Switching and Paralleling Substations</td>
<td>8 total</td>
<td></td>
</tr>
<tr>
<td>Overhead Catenary System (poles, wires, etc.)</td>
<td>~3,000 catenary poles. Caltrain modified poles in ROW and less than 2-feet from original location based on HSR request.</td>
<td>~600 poles added or modified to accommodate track straightening and increase speeds</td>
</tr>
<tr>
<td>Tunnel Modifications</td>
<td>Modifications for overhead catenary system</td>
<td></td>
</tr>
<tr>
<td>Track Straightening</td>
<td>None</td>
<td>15.8 route miles at 45 locations</td>
</tr>
<tr>
<td>At-grade Crossings</td>
<td>Signaling modifications to prevent interference with overhead catenary system</td>
<td>Safety improvements at 38 crossings</td>
</tr>
<tr>
<td>Perimeter Fencing</td>
<td></td>
<td>7.3 miles</td>
</tr>
</tbody>
</table>
San Jose Diridon Station Approach Subsection

Status
San Jose Diridon Station Approach Subsection was approved by the Authority Board in April 2022 as part of San Jose to Merced Project Section.
Environmental Process

Draft EIR/EIS
Draft Release and Public Comment Period Began July 10, 2020
151 Submissions
2,121 Comments

Revised/Supplemental Draft EIR/EIS
Draft Release and Public Comment Period Began July 23, 2021
25 Submissions
136 Comments

Final EIR/EIS
Final EIR/EIS Published June 10, 2022
Board Consideration of Final EIR/EIS and ROD August 17-18, 2022

Public Comment Period Ended September 9, 2020
Public Comment Period Ended September 8, 2021

San Francisco to San Jose Project Section
CALIFORNIA High-Speed Rail Authority
27
Changes Between Draft and Final EIR/EIS

• Incorporated design refinements for the Brisbane LMF and surrounding area with respect to the East Brisbane LMF lead track, the Tunnel Avenue Overpass, the design for the relocated Brisbane Fire Station (Alt A), and construction assumptions
• Added information about the Authority’s LMF site evaluation process
• Added site-specific traffic mitigation measures
• Incorporated analysis of a design variant for the Millbrae Station
• Incorporated analysis and mitigation measures for monarch butterfly; refined several biological resource mitigation measures
  Refined air quality modeling, incorporated refined emissions results, and added new air quality mitigation measure
• Clarified noise mitigation regarding quiet zones
• Refined safety and security mitigation measures
Measures to Avoid or Address Impacts

- The project incorporates programmatic commitments to advance design and implement construction practices that avoid or minimize impacts (called Impact Avoidance and Minimization Features)

- When impacts remain after consideration of IAMFs, the Authority has included mitigation measures (MMs)

- The Authority’s Mitigation Monitoring and Enforcement Plan (MMEP) includes IAMFs and mitigation measures, and identifies:
  » The party responsible for implementation
  » The timing of implementation
  » The implementation mechanism
Resources Considered in the EIR/EIS

CEQA Impacts for Preferred Alternative

3.2 Transportation
3.3 Air Quality and Greenhouse Gases
3.4 Noise and Vibration
3.5 Electromagnetic Interference and Electromagnetic Fields
3.6 Public Utilities and Energy
3.7 Biological and Aquatic Resources
3.8 Hydrology and Water Resources
3.9 Geology, Soils, Seismicity, and Paleontological Resources
3.10 Hazardous Materials and Waste
3.11 Safety and Security
3.12 Socioeconomics and Communities
3.13 Station Planning, Land Use, and Development
3.14 Parks, Recreation, and Open Space
3.15 Aesthetics and Visual Quality
(3.16 Cultural Resources)
3.17 Regional Growth
3.18 Cumulative Impacts
4.0 Section 4(f)/Section 6(f)*
5.0 Environmental Justice*

Legend
Bold: CEQA significant and unavoidable impact for the Preferred Alternative
Bold and Parenthesis: CEQA significant and unavoidable impact for the Preferred Alternative only in the San Jose Diridon Approach Subsection
*Asterisk: Federal law topics
## Key CEQA Effects, Impact Avoidance and Minimization Features (IAMF), Mitigation Measures, and Commitments

<table>
<thead>
<tr>
<th>Key CEQA Effects</th>
<th>IAMFs, Mitigation Measures, and Commitments</th>
</tr>
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</table>
| **Bus transit and services**    | • Intersection improvements, including signal timing modifications, installation of new traffic signals, and restriping  
• Installation of bus transit signal priority at certain traffic signals                                                                                           |
| **Air quality (temporary and localized)** | • Use of zero-emission and/or near-zero emission light-duty on-road vehicles and off-road equipment, including a commitment to prioritize the use of electric-powered equipment and vehicles as they become available  
• Minimization and control of fugitive dust emissions and exhaust emissions during construction through use of best available on-site controls  
• Use of lower-emission materials and fuels in construction                                                                                                           |
| **Increase in noise & vibration levels** | • Use of sound barriers, sound insulation, or noise easements near sensitive populations  
• Additional noise analysis during final design, and vehicle noise specifications  
• Support potential implementation of quiet zones by local jurisdictions  
• Site-specific vibration propagation tests; use of special trackwork, special track support, vibration easement, building modifications, or vehicle suspension. |
## Key Effects, IAMFs, Mitigation Measures, and Commitments

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<tr>
<th>Key Effects</th>
<th>IAMFs, Mitigation Measures, and Commitments</th>
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<tr>
<td>Safety and Security, emergency vehicle response times</td>
<td>• Installation of emergency vehicle response improvements near the 4th and King Street and Millbrae Stations, and at several at-grade crossing locations in Burlingame, Redwood City, Menlo Park, and Mountain View intersections&lt;br&gt;• Intersection improvements, including signal timing modifications and installation of new traffic signals</td>
</tr>
<tr>
<td>Alteration of existing and planned land uses associated with the Brisbane LMF and Millbrae-SFO Station</td>
<td>• Collaborative Final Design with the City of Brisbane to maximize development at the Brisbane Baylands adjacent to the LMF&lt;br&gt;• Collaborative Final Station Design Process with the City of Millbrae</td>
</tr>
<tr>
<td>Cumulative Impacts (Bus Transit, Air Quality, Noise, Vibration, Safety and Security)</td>
<td>• Intersection improvements, including signal timing modifications, installation of new traffic signals, and restriping&lt;br&gt;• Use of zero-emission and/or near-zero emission light-duty on-road vehicles and off-road equipment&lt;br&gt;• Minimization and control of fugitive dust emissions and exhaust emissions during construction&lt;br&gt;• Use of sound barriers, sound insulation, or noise easements near sensitive populations</td>
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</table>
Regulatory Agency Coordination

Secured Agency Approvals

✓ National Marine Fisheries Service, Biological Opinion – March 18, 2022
✓ U.S. Fish and Wildlife Service, Biological Opinion – April 22, 2022
✓ U.S. Army Corps of Engineers and Environmental Protection Agency,
  Checkpoint C Concurrence Letters - June 29, 2020 and June 26, 2020
✓ State Historic Preservation Officer Memorandum of Agreement – June 22, 2022
✓ Federal Railroad Administration, Final General Conformity Determination
  Federal Register notice published on July 28, 2022
Key Topics of Stakeholder Interest
Key topics of stakeholder interest

- Light Maintenance Facility in Brisbane
- At-Grade Crossings and Grade Separations
- Millbrae-SFO Station
- Caltrain 2040 Service Vision
Alternative A minimizes impacts to areas that allow housing on the west side of Baylands Site (based on 2018 General Plan Amendment).
Final EIR/EIS Analysis of LMF sites

East Brisbane Baylands site (Alternative A) remains the preferred alternative

- Minimizes impacts to areas that allow housing on the west side of Baylands Site (based on 2018 General Plan Amendment), and
- Has fewer impacts to wetlands and sensitive butterfly habitat on Icehouse Hill.
Refinements Between Draft and Final EIR/EIS

Alternative A: Brisbane East LMF

1. Valley Drive to Old County Road Extension removed
2. Additional analysis of construction traffic at the site and a phased approach to construction of roadway modifications
3. Updated information on construction and operations of the LMF
4. Updates to reflect revision to the design for the Relocated Brisbane Fire Station
5. Clarification of design at Visitacion Creek
6. Lagoon Road relocation
7. LMF lead track realignment
8. Bayshore Caltrain Station modifications

Bold = Changes in response to City of Brisbane comments
Importance of Millbrae-SFO Station

- Convenient transfers with intermodal connections to Caltrain, BART, San Mateo County Transit District (SamTrans) buses, and private buses/shuttles
- Important link for San Mateo County residents, visitors, and employees to access regional transit services and SFO
- One of the critical connections in both the regional and statewide rail network
Benefits of the Preferred Alternative

Compared to Reduced Site Plan Design Variant

- More efficient pedestrian travel routes within the station
- Direct multimodal station access adjacent to the station hall via overhead concourse
- Separation of pedestrian and vehicular access routes to the station

- Full build out of California Drive to El Camino Real consistent with Authority design criteria
- Direct vehicular access southbound from El Camino Real to California Drive
- Better emergency egress evacuation from platforms
Integration with Development

“Implementation of the HSR modifications would not preclude future development of an integrated and mutually-supporting mixed-use development at the site, with Millbrae Station as its anchor and focal point..., such development would be consistent with the City of Millbrae's desire for TOD at the site and with state and Authority policies supportive of infill development, as a means to achieve GHG emissions and VMT reductions.”

Source: 3.13 Station Planning, Land Use, and Development
Example of Development on Parking Lots

Gateway at Millbrae Station

2018

Aerial view of BART Parking lot at Millbrae Station

BART Parking lot at Millbrae Station
Example of Development on Parking Lots
Gateway at Millbrae Station

2022

Aerial view of Gateway at Millbrae Station
Gateway at Millbrae Station under construction
Corridor At-Grade Crossings

Safety upgrades at each at-grade crossing based on FRA and CPUC requirements

14 site-specific traffic mitigation measures for the Preferred Alternative

Revised mitigation measure on emergency vehicle response times to allow for more flexibility in implementation and mitigation options

Contributed $84 million to 25th Avenue Grade Separation in San Mateo

Continue to coordinate with local jurisdictions on traffic issues
At-Grade Crossing Features

- Station Fence
- Channelization
- Pedestrian Gates
- Quad Road Barriers
- Pedestrian Gates
- 8ft Right-of-Way Fence
Grade Separations Plans in the Caltrain Corridor

- Caltrain corridor has 39 at-grade crossings between San Francisco and San Jose

- Many local jurisdictions are in various stages of grade separation development

- The Authority and Caltrain have supported these efforts
San Mateo 25th Avenue Grade Separation Project

- First bookend project to open to the public
- Provides grade separation at:
  - 25th Avenue
  - 28th Avenue
  - 31st Avenue
- Rebuilt Caltrain Hillsdale Station
Caltrain 2040 Service Vision

**Trains per Hour, per Direction**
- Peak: 8 Caltrain + 4 HSR
- Off-Peak: 6 Caltrain + 3 HSR

**Stopping Pattern**
- Local / Express with timed transfer at Redwood City

**Travel Time, STC-Diridon**
- 61 Min (Express)
- 85 Min (Local)

**New Passing Tracks**
- Millbrae, Hayward Park-Hillsdale, Redwood City, Northern Santa Clara County, Blossom Hill

**Service Plan Description**
- Local and Express trains each operating at 15-minute frequencies with timed cross-platform transfer at Redwood City
- Skip stop pattern for some mid-Peninsula stations; some origin-destination pairs not served at all
- Trains serve Capitol and Blossom Hill every 15 minutes and Morgan Hill and Gilroy every 30 minutes

Conceptual 4 Track Segment or Station to be refined through further analysis and community engagement.
Benefits

Mobility and Connectivity
- Advances and expands electrified passenger rail service where only diesel service exists today
- Reduces travel times and increases statewide accessibility
- Modernizes and expands regional rail capacity
- Increases intermodal connectivity
- Improves safety of the rail corridor and stations
- Increases transit capacity

Economic
- Statewide network enables regional employment and income growth
- Increases attractiveness for tourism
- Lays foundation for new domestic high-speed rail industry
- Increases economic activity around high-speed rail facilities

Environmental
- Reduces local, state and regional vehicle miles traveled (VMT) and greenhouse gas (GHG) emissions
- Reduces long-term energy use
- Avoids and minimizes adverse impacts by utilizing existing rail corridor
- Fewer natural and community impacts compared to other transportation alternatives
- Frees up capacity at SFO for long distance travel
Next Steps
Prior to Board Deliberation and Action

TODAY

• Listen to public comments
• Board identifies issues for staff to address further

TOMORROW

• Staff presents on issues identified by Board
• Counsel remarks to the Board for consideration of the approval documents
• Board deliberation and proposed action:
  » Certification of the Final EIR/EIS as CEQA Lead Agency
  » Approve the Preferred Alternative and related CEQA decision documents
  » Direct the Authority CEO to issue the Record of Decision under the Authority’s NEPA Assignment