Peninsula Corridor Electrification Project
Draft Environmental Impact Report

Citizen Advisory Committee
March 19, 2014

Context
Caltrain Modernization Program

- ~$1.5 Billion Early Investment Program
  - CBOSS PTC (2015)
  - Peninsula Corridor Electrification Project (2019)

- Caltrain/HSR Blended System

Project History

- JPB Strategic Plan (1999, 2004)
- Conceptual Design (2002)
- 35% design complete (2008)
- State clearance postponed
# Delivery Milestones*

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<tr>
<td>Stakeholder Outreach</td>
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<td>Establish Owner’s Team</td>
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<td>Environmental Clearance</td>
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<td>Procure/Select Contractor Team</td>
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<td>Design/Manufacture/Build</td>
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*Schedule subject to change

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**PCEP DEIR**
CEQA Requirements

- Identify environmental baseline
- Analyze direct, indirect and cumulative impacts
- Compare impacts to significance criteria
- Identify feasible mitigation for significant impacts
- Consider alternatives
- “Reasonable worst-case” assumptions as conservative approach

Project Purpose and Need

- Improve Caltrain system performance
- Increase service & ridership
- Increase revenue & reduce cost
- Reduce environmental impacts
- HSR compatible electrical infrastructure
## Project Description

<table>
<thead>
<tr>
<th>Area</th>
<th>Project</th>
<th>Service*</th>
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<tbody>
<tr>
<td>51+ miles</td>
<td>Electrification:</td>
<td>Up to 79 mph</td>
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<tr>
<td>San Francisco to San Jose</td>
<td>• Overhead Contact System (OCS)</td>
<td>More service:</td>
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<tr>
<td>(Tamien Station)</td>
<td>• Traction Power Facilities</td>
<td>• 6 trains/per peak hour/per direction</td>
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<td></td>
<td>Electric Multiple Units (EMUs)</td>
<td>(12 trains per hour)</td>
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<td></td>
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<td>• Restore Atherton &amp; Broadway service</td>
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<td></td>
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<td>Mixed diesel / EMU fleet</td>
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<td></td>
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<td>Cont. Caltrain diesel service to Gilroy</td>
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<td></td>
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<td>Cont. tenant service</td>
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</table>

* Based on prototypical schedule produced for DEIR

## Visual Simulation

![Visual Simulation Image](image_url)
**Right of Way Needs**

- Most in Caltrain ROW
- Traction Power Facilities
  - 2 substations
  - Up to ~1.5 acres total
- OCS (Poles/Wires)
  - Based on 35% design
  - Just outside of the ROW
  - ~2 out of 102 miles of OCS alignment

**Electric Safety Zone Need**

- Easement for safety
  - No trees within 10 ft. of OCS
  - No structures within 6 ft. of OCS
- Guidance
  - 25kV properties
  - Industry standards
- Up to ~18 acres along 51+ mile corridor
  - ~22 miles out of 102 miles along both sides of ROW
### DEIR Structure

<table>
<thead>
<tr>
<th>DEIR</th>
<th>Environmental Clearance</th>
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<tr>
<td>Project Analysis (2020)</td>
<td>Yes</td>
</tr>
<tr>
<td>Cumulative Analysis (2040)</td>
<td>No</td>
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Note: 2013 JPB/CHSRA New Agreement identifies JPB as lead agency for environmental clearance of the PCEP and CHSRA as lead agency for environmental clearance of the HSR Blended System.

### Key Regional Benefits

<table>
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<tr>
<th>Benefit</th>
<th>2020</th>
<th>2040 (all EMU + DTX)</th>
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<tbody>
<tr>
<td>Total Ridership (Daily)</td>
<td>69,000</td>
<td>111,000</td>
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<tr>
<td>Reduced Vehicle Miles Travelled (Daily)</td>
<td>235,000</td>
<td>619,000</td>
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<tr>
<td>Reduced Air Pollution (Daily)</td>
<td>56% to 84%</td>
<td>77% to 96%</td>
</tr>
<tr>
<td>Reduced Greenhouse Gases (Annual)</td>
<td>68,000 Metric Tons of CO₂ equivalent</td>
<td>177,000 Metric Tons of CO₂ equivalent</td>
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</table>
Stakeholder Key Concerns

- Tree / Vegetation
- Overhead Contact System
- Noise
- Electromagnetic Fields/Interference
- Local Traffic
- Station Access
- Freight

Trees / Vegetation

- Along Caltrain route (SF to Gilroy): ~19,000
- Worst-Case Impact
  - Removal of 2,200 trees/vegetation
  - Pruning of 3,600 trees/vegetation
- Mitigation Strategies
  - Avoidance and Minimization (OCS Pole Options)
  - Replacement Plan
  - Significant after mitigation (aesthetics)
Overhead Contact System

- Poles and Wires
  - Poles ~200 feet apart along rail corridor
  - Poles 30 to 50 feet tall
  - Wires between poles

- Project Impact
  - Changes in visual aesthetics along tracks and at Caltrain stations

- Mitigation Strategies
  - OCS design & treatments
  - Less than significant after mitigation (aesthetics)

Visual Simulation
Noise

• Project Noise
  – EMUs quieter than diesel locomotives
  – More trains result in more horn soundings*
  – TPF (Traction Power Facilities)

• Noise Study Results
  – 49 locations analyzed
  – Significant impact at one TPF in SSF (FTA thresholds)

• Mitigation Strategies
  – Design treatment
  – Less than significant after mitigation

* Note: Train horns required by federal law

Electromagnetic Fields/ Electromagnetic Interference

• EMF: Electrical and magnetic fields
  – Generated from OCS, electric trains, and TPF
  – EMF levels less than health thresholds for General Public exposure along ROW

• EMI: Effect on equipment
  – Potential effects on sensitive electronic equipment
  – Design treatment mitigation
  – Less than significant after mitigation
Local Traffic

• Overall Traffic Congestion Reduction

• Project Impacts*
  – More trains increase gate down time
  – EMUs decrease gate down time
  – More riders increase local traffic at stations
  – 82 intersections studied (21 impacted)

• Mitigation Strategies
  – Signal improvements
  – Local roadway improvements
  – Significant impact at 9 intersections after mitigation

*Note: CBOSS, which minimizes gate down time, is assumed to be in place

Station Access / Egress

• Bicycle Access
  – Continuation of bikes on board program
  – Continuation of wayside facility improvements

• Pedestrian Access
  – All stations adequate except at the 4th and King Terminus
  – Access improvements in partnership with San Francisco

• Parking Demand
  – Demand exceeds supply at 7 stations
  – ~1,000 riders may not be realized due to parking deficit

• On-Going Improvements with Local Agencies
  – Caltrain Access Program Policy
  – Caltrain Bicycle Access and Parking Plan
**Freight Rail**

- Existing Tunnel and Bridge Constraints
- Project Evaluation
  - Vertical clearance impact from OCS
  - Constrained operating window from FRA waiver temporal separation requirement*
- No Project-Level Impact
  - Tunnel notching /track lowering mitigation
  - Existing freight can be accommodated

*Note: May not be needed if FRA rulemaking on Alternative Compliant Vehicle in place

**Alternatives**

- 51 Scoping Alternatives
- Screened Alternatives
  - Feasibility
  - Project purpose and need
  - Environmental effect

- Analyzed in DEIR
  - The No Project Alternative
  - Diesel Multiple Unit Alternative *(public interest)*
  - Dual-Mode Multiple Unit Alternative *(public interest)*
  - OCS Construction Alternative: Factory Train
Cumulative Analysis

• Project Contributions to Cumulative Impacts

• Cumulative Projects
  – Rail Projects in Caltrain Corridor
  – Other Transportation Projects
  – Local Development along Corridor

• Key Rail Projects
  – High Speed Rail (HSR) Blended Service
  – SF Downtown Extension and Transbay Transit Center
  – Tenant railroad service expansions
HSR Blended System

• Conceptual cumulative analysis only

• HSR service
  – 2 to 4 trains per peak hour/per direction
  – Up to 110 mph

• Improvements
  – Stations at SJ (Diridon), Millbrae, SF (Transbay Transit Center)
  – RWC Station TBD
  – System improvements, grade separations, passing tracks, maintenance yard

Key Cumulative Effects

• Beneficial Effects
  – Air Quality/Reduced GHG
  – Regional Traffic

• Potential Adverse Effects
  – Aesthetics/Land Use
  – Noise and Vibration
  – Local Traffic
  – Freight Rail

• Mitigation of Caltrain funding contribution on a fair-share basis / existing agreements
Next Steps

Key Milestones

- Notice of Preparation (1/31/13 – 3/18/13)
  - Circulated widely
  - 4 public meetings

- Develop DEIR (Mar 2013 – Feb 2014)
  - Reviewed comments
  - Surveys / technical analysis
  - Riders / community outreach
  - Agency coordination
  - Stakeholder/cities coordination
Key Milestones, Continued

DEIR Comment Period (2/28/14 – 4/29/14)
- Notice of Availability, circulated widely
- DEIR available website, libraries, clearinghouse
- 4 public meetings
- 60-day comment period (longer than required)
- www.caltrain.com/electrification

• Final EIR (Fall 2014)
• JPB Certification /Adoption (Winter 2014)

Public DEIR Meetings

Caltrain Office
1250 San Carlos Ave., San Carlos
Tuesday, March 18, 2014
Public Meeting: 6pm-8pm

San Jose Main Library
150 E San Fernando St, San Jose
Monday, April 7, 2014
Public Meeting: 6pm-8pm

Redwood City Library
1044 Middlefield Rd, Redwood City
Wednesday, April 2, 2014
Public Meeting: 6pm-8pm

UCSF Mission Bay
Genentech Hall Room N114
600 16th St, San Francisco
Wednesday, April 9, 2014
Public Meeting: 6pm-8pm