




**Peninsula Corridor Electrification  
Project**

**Draft Environmental Impact Report**

Board of Directors  
March 6, 2014

The slide features a red background with a white Caltrain logo in the top left. The main text is centered in white. A faint image of a train is visible in the background.



**Context**

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The slide features a white background with a red border. The Caltrain logo is in the top left. The word 'Context' is centered in black. A faint image of a train is visible in the bottom left corner.



## Caltrain Modernization Program

- ~\$1.5 Billion Early Investment Program
  - CBOSS/PTC (2015)
  - Peninsula Corridor Electrification Project (2019)
- Caltrain/HSR Blended System




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## Project History

- Conceptual Design (2002)
- Draft EA/EIR (2004)
- 35% design complete (2008)
- Final EA/EIR & Finding of No Significant Impact (FONSI)
- State clearance postponed

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## Policies

- JPB Strategic Plans
- 2012 CHSRA Business Plan\*
- 2012 Regional 9-party Funding MOU
- 2013 JPB/CHSRA New Agreement
  - JPB lead agency for PCEP EIR
  - CHSRA lead agency for Blended System environmental evaluation

\* Note: 2014 CHSRA Draft Business Plan Released Feb. 7, 2014

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## Delivery Milestones\*

Activity	2013	2014	2015	2016	2017	2018	2019
Stakeholder Outreach							
Establish Owner's Team							
<b>Environmental Clearance</b>							
Procure/Select Contractor Team							
Design/Manufacture/Build							

\*Schedule subject to change


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**PCEP DEIR**

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This slide features the Caltrain logo in the top left corner. The main content is the text "PCEP DEIR" centered on the page. A faint image of a train is visible in the background on the left side. A red decorative line runs along the top and bottom edges of the slide content area.




**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

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This slide features the Caltrain logo in the top left corner. The main content is the text "CEQA Requirements" followed by a bulleted list of six items. A faint image of a train is visible in the background on the left side. A red decorative line runs along the top and bottom edges of the slide content area.



## Project Purpose and Need

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

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## Project Description

Area	Project	Service*
51+ miles  San Francisco to San Jose (Tamien Station)	Electrification: <ul style="list-style-type: none"> <li>• Overhead Contact System (OCS)</li> <li>• Traction Power Facilities</li> </ul> Electric Multiple Units (EMUs)	Up to 79 mph  More service: <ul style="list-style-type: none"> <li>• 6 trains/per peak hour/per direction (12 trains per hour)</li> <li>• Restore Atherton &amp; Broadway service</li> </ul> Mixed diesel / EMU fleet  Cont. Caltrain diesel service to Gilroy  Cont. tenant service

\* Based on prototypical schedule produced for DEIR

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## Visual Simulation




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## Right of Way Needs

- Most in Caltrain ROW
- Traction Power Facilities
  - 2 substations
  - Up to ~1.5 acres total
- OCS (Poles)
  - Based on 35% design
  - Just outside of the ROW
  - Up to ~1 acre


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## 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

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## DEIR Structure

DEIR	Environmental Clearance
Project Analysis (2020)	Yes
Cumulative Analysis (2040)	No

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## Key Regional Benefits

Benefit	2020	2040
Total Ridership (Daily)	69,000	111,000 (Downtown Extension)
Reduced Vehicle Miles Travelled (Daily)	235,000	619,000 (All-EMU Fleet)
Reduced Air Pollution	56% to 84%	77% to 96%
Reduced Greenhouse Gases	68,000 Metric Tons of CO <sup>2</sup> equivalent	177,000 Metric Tons of CO <sup>2</sup> equivalent

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## Stakeholder Key Concerns

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

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## Trees / Vegetation

- Along Caltrain ROW: ~19,000 trees/vegetation
- Worst-Case Impact
  - Removal of 2,200 trees/vegetation
  - Pruning of 3,600 trees/vegetation
- Mitigation Strategies
  - Avoidance
  - Minimization
  - Replacement Plan
  - Significant after mitigation (aesthetics)

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## 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)

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## Visual Simulation



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## 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


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## Electromagnetic Fields/ Electromagnetic Interference

- EMF: Physical field produced by electrically and magnetically charged objects
  - Generated from OCS, EMUs, and TPF
  - Less than Significant Impact
- EMI: Effect on equipment
  - Potential effects on sensitive electronic equipment
  - Design treatment mitigation
  - Less than significant after mitigation

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## Local Traffic

- 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 before electrification.

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## 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 is put in place



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## Alternatives

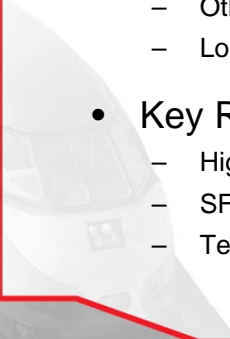

- 51 Scoping Alternatives
- Screened Alternatives
  - Feasibility
  - Project purpose and need
  - Environmental effect
- Analyzed in DEIR
  - The No Project Alternative
  - Diesel Multiple Unit Alternative (*public interest*)
  - Dual-Mode Multiple Unit Alternative (*public interest*)
  - OCS Construction Alternative: Factory Train

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## Cumulative Analysis


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## 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


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## HSR Blended System

- Conceptual cumulative analysis only
- HSR service
  - 2 to 4 trains per peak hour/per direction
- Improvements
  - Stations (SJ, Millbrae, RWC (TBD), SF Transbay Transit Center)
  - System improvements, grade separations, passing tracks, maintenance yard

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## 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

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## Next Steps


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## 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

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## 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)

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

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## Public DEIR Meetings

<p><u>Caltrain Office</u> 1250 San Carlos Ave., San Carlos</p> <p><b>Tuesday, March 18, 2014</b> Public Meeting: 6pm-8pm</p>	<p><u>Redwood City Library</u> 1044 Middlefield Rd, Redwood City</p> <p><b>Wednesday, April 2, 2014</b> Public Meeting: 6pm-8pm</p>
<p><u>San Jose Main Library</u> 150 E San Fernando St, San Jose</p> <p><b>Monday, April 7, 2014</b> Public Meeting: 6pm-8pm</p>	<p><u>UCSF Mission Bay</u> Genentech Hall Room N114 600 16<sup>th</sup> St, San Francisco</p> <p><b>Wednesday, April 9, 2014</b> Public Meeting: 6pm-8pm</p>

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## Comments on DEIR

- All substantive comments (oral/written) will be considered
- Substantive written comments will receive written responses in Final EIR
- Encourage stakeholders to attend public meetings
- Written comments can be submitted to:
  - Email: [electrification@caltrain.com](mailto:electrification@caltrain.com)
  - Mail: Caltrain, Attn: Stacy Cocke, P.O. Box 3006 San Carlos, CA 94070