



Peninsula Corridor Electrification Update Meeting

Sequoia High School
November 01, 2017



CalMod

Agenda

- Caltrain System Overview
- Project Overview
- Electric Multiple Unit (EMU) Design
- Redwood City and North Fair Oaks Construction Activities
- Questions





Caltrain System

JBP owns right-of-way from SF to San Jose

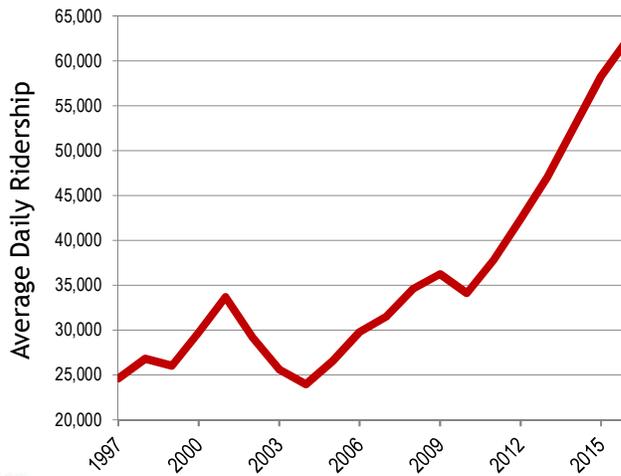


- 32 Stations Gilroy to San Francisco
- 92 Weekday Trains
- At-Grade Crossings, viaducts, and bridges
- Intermodal Connections
- Bike Commuters

Union Pacific owns



Ridership





At Capacity Today



Bi-directional commute with riders standing on trains going southbound and northbound



Aging Fleet

Table 1.2: Caltrain Fleet Inventory

SERIES	QUANTITY	NUMBER OF SEATS	YEAR OF MANUFACTURE	MAKE	RETIRE DATE
Locomotives					
F40 PH-2	5	na	1985	GM - EMD	2015
F40PH-2-CAT	15	na	1985-1987	GM - EMD	2015-2017
F40 PH-2C	3	na	1998	Boise Locomotive	2028
MP36PH-3C	6	na	2003	Motive Power	2033
Passenger Cars					
Gallery Trailer	26	142	1985-1987	Nippon Sharyo	2015-2017
Gallery Trailer	16	148	1985-1987	Nippon Sharyo	2015-2017
Gallery Trailer	14	120	1999-2000	Nippon Sharyo	2030
Gallery Cab (Bike)	10	108	1985-1987	Nippon Sharyo	2015-2017
Gallery Cab (Bike)	6	78	1999-2000	Nippon Sharyo	2030
Gallery Cab (Bike)	21	97	1985	Nippon Sharyo	2015
Bi-Level Trailer*	16	149	1997	Bombardier	2027
Bi-Level Trailer	9	144	2002	Bombardier	2032
Bi-level Trailer (Bike)	2	114	2002	Bombardier	2032
Bi-level Trailer (Bike)	5	114	2001-2002	Bombardier	2031-2032
Bi-level Trailer (Bike)	2	114	2008	Bombardier	2038
Bi-level Trailer (Bike)	1	127	2002	Bombardier	2032
Bi-Level Trailer	6	140	2008	Bombardier	2038

*Trailers recently acquired from Metrolink with refurbishment ongoing.



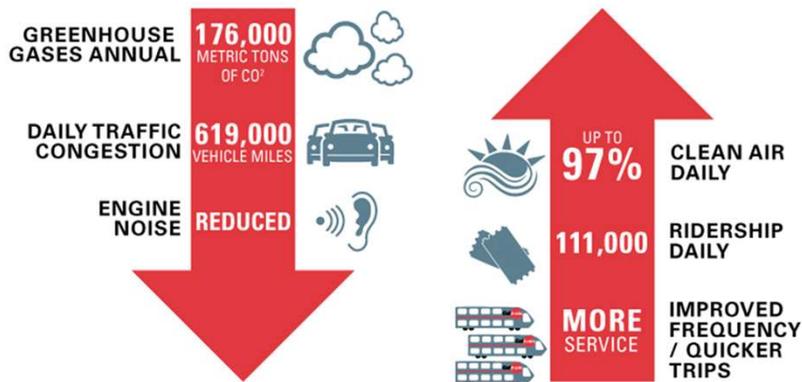


Project Description

Area	Project	Service
51 miles San Francisco to San Jose (Tamien Station)	Electrification: <ul style="list-style-type: none"> Overhead Contact System (OCS) Traction Power Facilities Electric Trains (EMUs) <ul style="list-style-type: none"> 75 percent of fleet 	Up to 79 mph Service Increase <ul style="list-style-type: none"> 6 trains / hour / direction More station stops / reduced travel time Restore Atherton & Broadway service Mixed-fleet service (interim period) Continue tenant service <ul style="list-style-type: none"> ACE, Capital Corridor, Amtrak, Freight



Key Regional Benefits (2040)



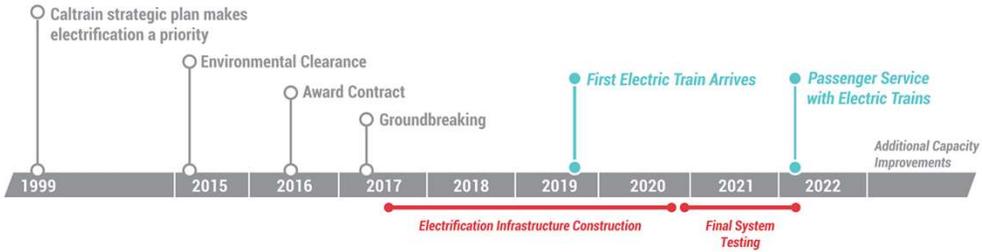
Note: 2013 BAC Report, generates \$2.5B economic activity and 9,600 jobs





Schedule

MILESTONES



*Please keep in mind that testing and construction will overlap as each Segment will be tested individually, prior to final system testing.

Note: Schedule Subject to Change



Electric Train Design & Public Input

Peninsula Corridor Electrification Project



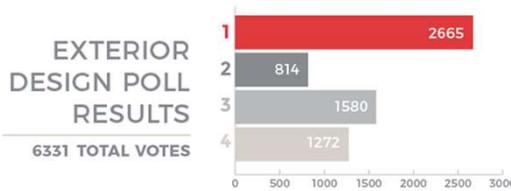


Electric Train Outreach: Phased

- 2016 Capacity Board Decision (bike to seat ratio, onboard bathrooms, upper doors)
- ➔ • 2017 Design Progressing: Additional Public Input
- 2018 Virtual Reality 360 Tour



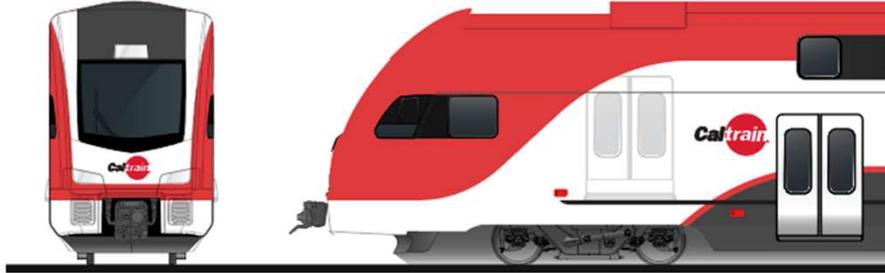
Electric Train Exterior Design Public Poll



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Electric Train Exterior Design

WINNING DESIGN: **OPTION 1**



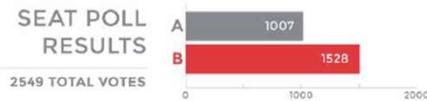
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Electric Train Seat Design

WINNING DESIGN: **OPTION B**



SEAT POLL RESULTS



2549 TOTAL VOTES





Electric Train Onboard Bike Storage Outreach

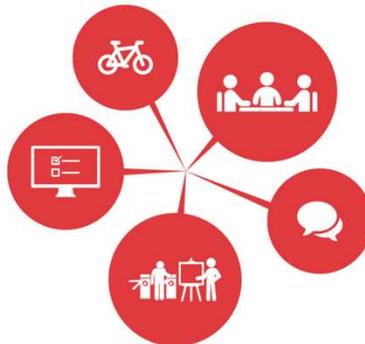


Station Outreach with Samples: August 8 to September 1



Electric Train Onboard Bike Storage Outreach

FEEDBACK COLLECTION PROCESS



- + BICYCLE ADVISORY COMMITTEE (BAC)
- + BIKE COALITION INPUT
- + ONLINE BIKE POLL
- + STATION OUTREACH
- + RIDER COMMENTS



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Electric Train Onboard Bike Storage Design

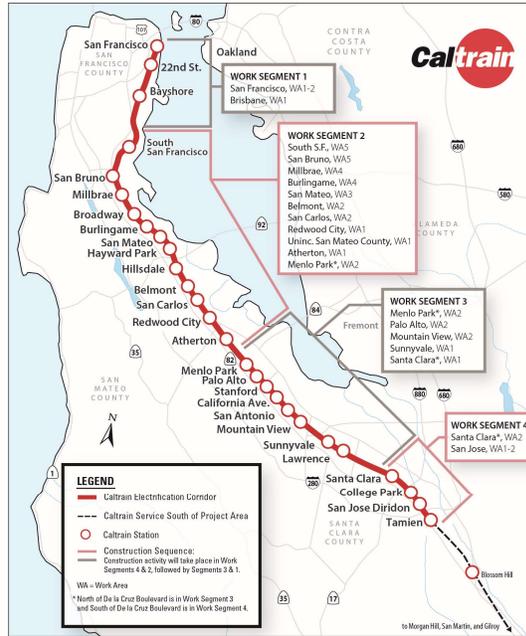


- Maximizes capacity
- Accommodates variety of bike types
- Recommended by:
 - Bicycle Advisory Committee
 - Bike Coalitions (SF and Silicon Valley)

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Construction

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Work Segment 2, Area 1

- Redwood City
- North Fair Oaks





Field Work Status

Work Completed to Date	<ul style="list-style-type: none"> • Utility Survey • Geotechnical Investigations • Disposal of Soil from Geotechnical Investigations • Soil Resistivity Testing • Site Surveys • Signal Cable Inspections
Work In Progress and Upcoming	<ul style="list-style-type: none"> • OCS Foundation Potholing • Signal Cable Potholing • Tree Pruning and Removal • OCS Foundation Construction
Future Work	<ul style="list-style-type: none"> • OCS Pole Installation • OCS Wire Installation



Potholing





Future Construction Activities

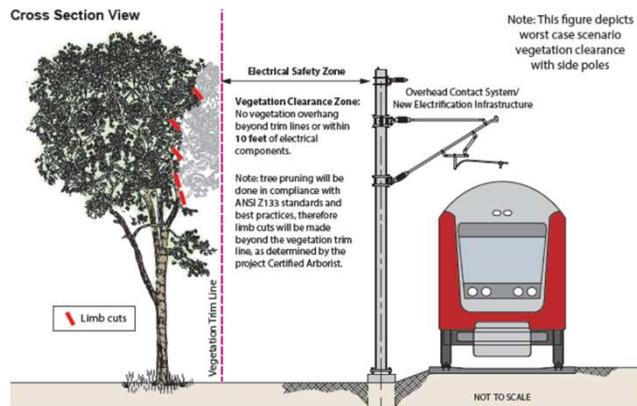
Redwood City and North Fair Oaks

Date	Work Activity	Expected Duration
Late 2017/Early 2018	Tree Pruning/Removal	1-2 months
Summer 2018	Foundation Construction	3-4 months
Late 2018	Overhead Wiring Pole and Wire Installation	3-4 months



Tree Pruning and Replacement

- Vegetation cleared for Electrical Safety Zone



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Redwood City : Tree Pruning and Replacement Plan

City of Redwood City			
	Caltrain Right of Way	Private Property	Public Property
Trees Removed	16	0	2
Trees Pruned >25%	4	6	6
Trees Pruned <25%	28	7	37



Note: Information may change as the design progresses 

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North Fair Oaks: Tree Pruning and Replacement Plan

North Fair Oaks			
	Caltrain Right of Way	Private Property	Public Property
Trees Removed	17	13	0
Trees Pruned >25%	1	29	3
Trees Pruned <25%	55	11	12



Note: Information may change as the design progresses 



Foundation Work

- Excavation
- Rebar and Anchor Installation
- Electrical Grounding
- Concrete Fill



Foundation Specifics

- Approx. 130 poles installed in Redwood City
- Approx. 80 poles in North Fair Oaks
- Foundation size varies from 30" to 42"
- Foundation spacing approx. 180' apart



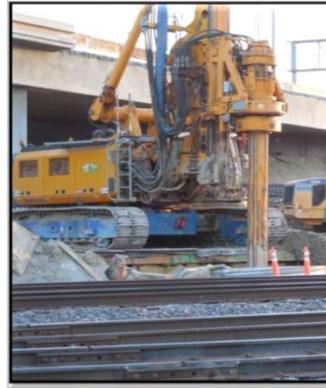
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Pole Foundation Work

Will take place on and off track



DrillTech on track foundation train



DrillTech off-track OCS Drill Rig



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Pole Installation



On/off-track crane for installation



Wide flange & square poles



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Overhead Contact System (OCS)

Will take place on-track

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Construction Impacts

- Daytime work and night work from 8 p.m. - 6 a.m.
- Some 24 hour weekend work
- Crews will utilize acoustical barrier blankets and position lights away from homes
- Dedicated hotline for construction complaints

**Caltrain**



Public Outreach

- Subscribe to Weekly Updates
 - Visit caltrain.com/pcepconstruction
- Additional Community Meetings
 - Pole and Wire Installation
- Construction Outreach Office



Public Outreach

- Physical Notices



710 Box 3000
San Carlos, CA 94070-1300

Printed:
Paul Chen Mail
11/1/2017
PCEP
AMS
Adobe Inc.

Estimado vecino de Caltrain,

Durante los próximos tres meses, Caltrain estará trabajando en el corredor del ferrocarril en su área para mejorar el servicio de Caltrain como parte del Programa Corredor de Electrificación (CEP). Las actividades previstas durante este tiempo incluyen la instalación de infraestructura de electrificación, el mantenimiento de la línea, inspección de la línea para la instalación y operación del servicio de transporte modernizado. Después del mantenimiento de la línea, se instalarán los cables de energía para el sistema de alimentación de energía.

Los trabajos tendrán lugar durante el día y la noche. Actividades de noche se realizarán entre las 8:00 p.m. y las 5:00 a.m. No dude en llamar por cualquier inconveniente que usted pueda tener. Por favor, llame al 800-399-9850 durante las actividades de noche, o al equipo de trabajo de la línea de trabajo y contacte a través de cualquier medio de comunicación de emergencia.

El proyecto de electrificación mejorará el servicio de Caltrain con más velocidad, más trenes, más frecuencia, más capacidad y un servicio más seguro y confiable. El proyecto también mejorará la capacidad y el servicio de Caltrain a largo plazo. El proyecto de electrificación mejorará el servicio de Caltrain con más velocidad, más trenes, más frecuencia, más capacidad y un servicio más seguro y confiable. El proyecto también mejorará la capacidad y el servicio de Caltrain a largo plazo. El proyecto de electrificación mejorará el servicio de Caltrain con más velocidad, más trenes, más frecuencia, más capacidad y un servicio más seguro y confiable. El proyecto también mejorará la capacidad y el servicio de Caltrain a largo plazo.

Por favor visite nuestro sitio web en www.caltrain.com/PCEP para más detalles de construcción. Gracias por su paciencia y comprensión.



Dear Caltrain Neighbor:

Over the next three months, Caltrain will be performing work on the railroad corridor in your area of the Peninsula Corridor Electrification Project. The anticipated activities during this time include testing soil conditions, inspecting signal/communication equipment, and tree trimming/removal to allow for the installation and operation of modernized transit service. After tree trimming/removal occurs, crews will be installing overhead contact systems.

Work will take place during the day and at night. Night activities will occur between 8:00 p.m. and 5:00 a.m. To mitigate noise and other impacts during nighttime activities, we will position lights away from residential, roadways, and business areas.

The electrification project will allow Caltrain to operate quieter, cleaner, more frequent and/or faster service and improved service will help Caltrain meet the increasing ridership demand at this time. The new electric trains are scheduled to be operational in 2021.

We apologize for any inconvenience you might experience while we work to deliver these critical improvements to our communities. Thank you for your patience and understanding as we deliver these critical benefits to our communities.

Please visit our website at www.caltrain.com/PCEP for weekly construction notice updates. Thank you for your patience and understanding as we deliver these critical benefits to our communities.

Please visit our website at www.caltrain.com/PCEPconstruction to sign-up for weekly construction updates.

We appreciate your patience during construction.







Construction Contact Information
Email: calmod@caltrain.com Phone: 650.399.9659 Toll Free: 800.660.4287
2121 S. El Camino Real, Suite A-100 San Mateo, CA 94403 9 a.m. - 6 p.m. Monday-Friday
www.caltrain.com/pcepconstruction

