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Peninsula Corridor Electrification Update Meeting


Atherton Community Meeting
January 18, 2018



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Agenda

- Caltrain System Overview
- Project Overview
- Electric Train Design
- Electrification Infrastructure
 - Atherton Activities
- Questions




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Caltrain System

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

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


Union Pacific owns



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Ridership

Year	Average Daily Ridership
1997	25,000
1998	26,000
1999	27,000
2000	28,000
2001	34,000
2002	28,000
2003	25,000
2004	24,000
2005	26,000
2006	29,000
2007	31,000
2008	35,000
2009	36,000
2010	34,000
2011	38,000
2012	42,000
2013	48,000
2014	55,000
2015	62,000





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.





Regional Transportation Needs

- US 101 and Interstate 280 Congested
- Corridor supports growing economy
- 75% Caltrain riders commute to work
- 60% are choice riders



Project Description

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



Note: Protophical Schedule, 54 Stops Per Day in Atherton





Service Benefits

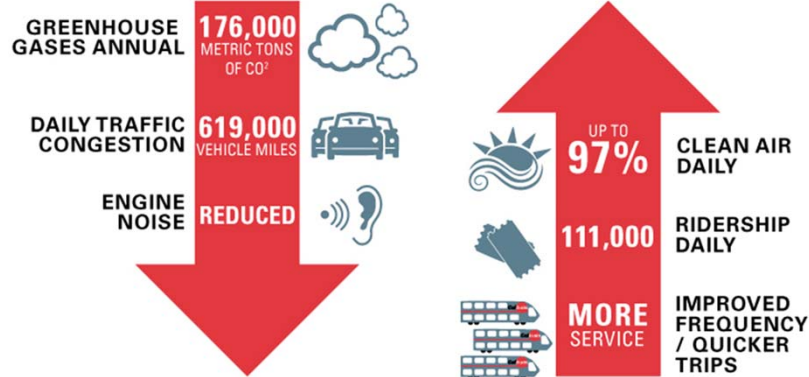
Metric	Today	PCEP
Example Baby Bullet Train		
Retain 5-6 stops	60 minutes	45 minutes
Retain SF to SJ 60 minutes	6 stops	13 stops
Example Redwood City Station		
Train stops / peak hour	3	5



Note: Prototypical Train and Schedule

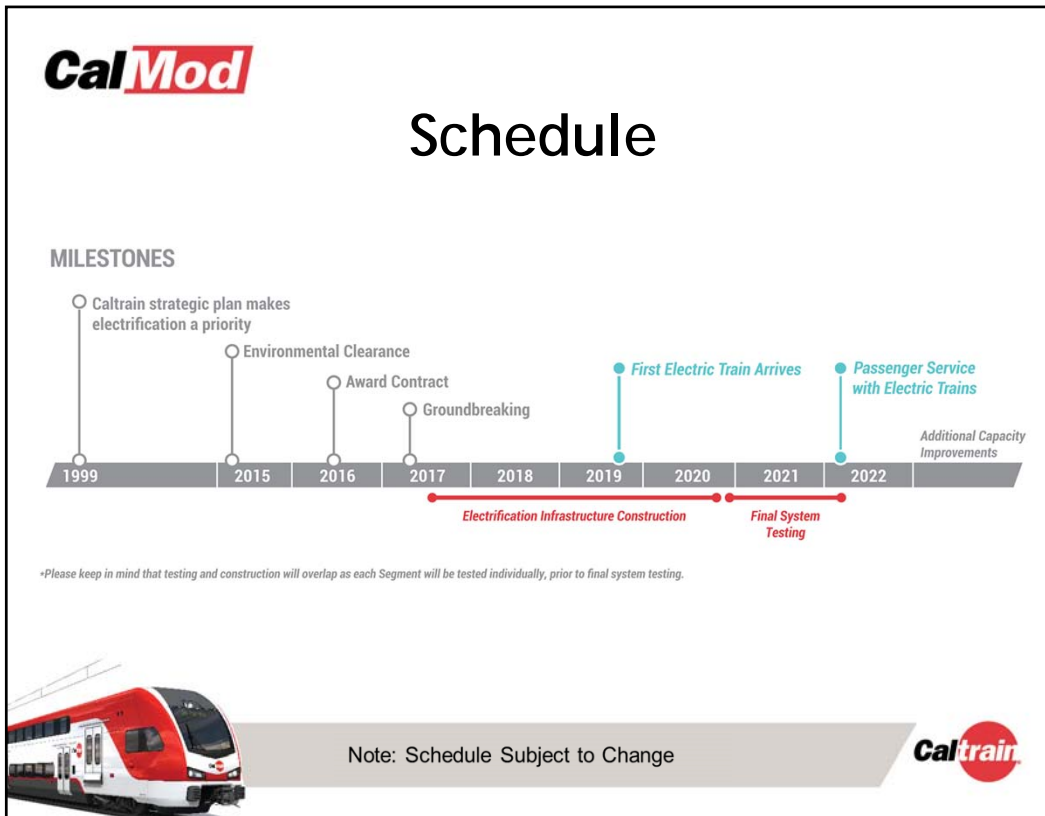


Key Regional Benefits (2040)



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





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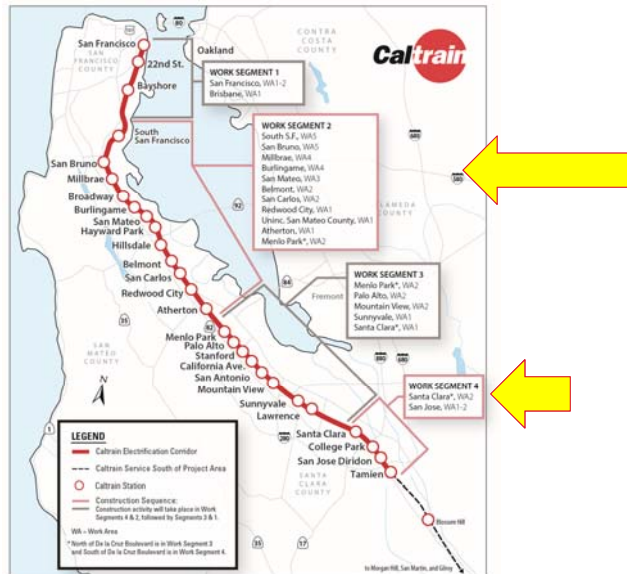
Electric Train

- 2016 Capacity Board Decision (bike to seat ratio, onboard bathrooms, upper doors 'not precluded')
- 2017 Design Progressing w/ Additional Public Input
 - Completed: Exterior design, Seat colors, Bike Storage, ADA restroom
- 2018 Virtual Reality 360 Tour

NEW PASSENGER CARS
A typical passenger car layout would have bike racks with between 20 and 100 seats per car. There would be some big seats, in addition to the regular seat seats. Most seats would have one direction and if there are any seats facing each other, they would be under the table. There would be one bathroom per car.

CalMod Construction Phasing

- 51 Miles Corridor
- 4 Work Segments
- 3,000 Poles
- 10 Power Substations



- Segments 2 & 4 followed by 1 & 3



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EIR Information (2015)

- Chapter 3.3, Impact BIO-5a, page 3.3-44: Pursuant to Mitigation Measure BIO-5, JPB will avoid and/or minimize impacts on trees along the ROW by locating Overhead Contact System (OCS) poles and alignment to minimize tree removal and pruning where consistent with safety, operations, and maintenance requirements.
- Chapter 2, Section 2.3.1, page 2-6: Pole heights range from 30 to 50 feet.



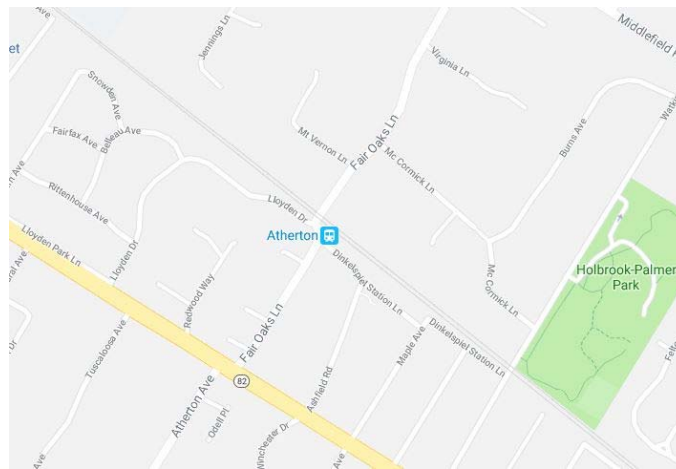


Field Work Progression

Pre-Construction Work Completed	<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"> • Potholing • Tree Pruning and Removal • Foundation Installation
Future Work	<ul style="list-style-type: none"> • Overhead Contact System Pole Installation • Overhead Contact System Wire Installation



Atherton – Work Segment 2



Atherton Project Area 0.8 miles





Future Construction Activities

Town of Atherton

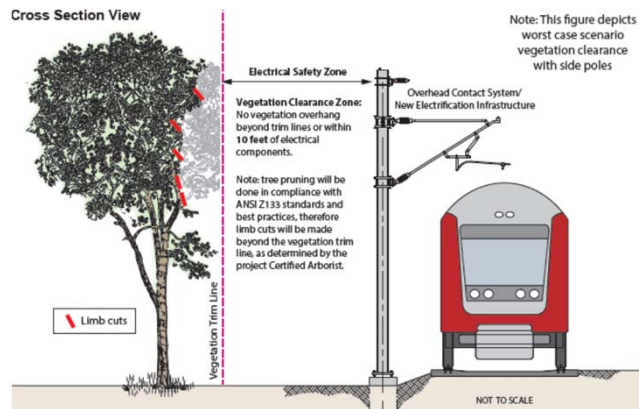
Date	Work Activity	Expected Duration*
February 2018	Tree Pruning/Removal	1-2 months
Spring 2018	Potholing	1-2 months
Summer 2018	Foundation Installation	1-2 months
Late 2018	Pole / Wire Installation	1-2 months



*Expected duration indicates first and last day of activity. Number of actual work days will be fewer.



Tree Pruning and Replacement



Vegetation cleared for Electrical Safety Zone





Town of Atherton: Tree Pruning and Replacement Plan

Town of Atherton			
	Caltrain Right of Way	Public Property	Private Property
Trees Removed	16	2	0
Trees Pruned >25%	10	8	45
Trees Pruned <25%	24	20	105

83 Trees will be replaced per the Atherton Tree Replacement Plan



Note: Information may change as the design progresses

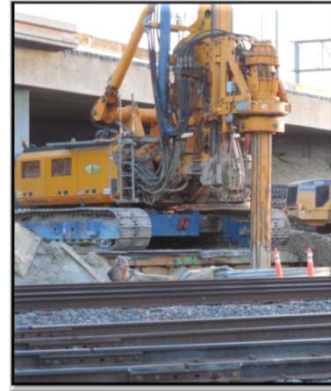


Potholing



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Foundation Installation



On and Off Track Equipment

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Pole Information

- 3,000 Installed throughout Corridor
 - 22 poles installed in Atherton
- Pole Types: Single Side (2), Center, Two-Track Cantilever, Headspan, Portals
- Pole Height: Varies from 30' to 50'
- Pole Spacing: ~180' apart
- Pole Color: Options at Stations



Note: All Mentioned Pole Types are Safe and Commonly Used

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Pole Installation Atherton



Single Track Side (1)



Center (16)



Two-Track Cantilever (5)



Example of Poles Currently Planned for Use in Atherton



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Existing Poles on ROW



Atherton Picture



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Stringing Wire



On-track Equipment

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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

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Public Outreach

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



Public Outreach

- Physical Notices

Caltrain
 P.O. Box 3000
 San Carlos, CA 94070-1300

Proyecto
 Red Clara del
 157 Tronco
 P&E
 August 16, 2017

Estimado Vecino de Caltrain,
 Durante los próximos tres meses, Caltrain estará trabajando en el corredor del ferrocarril en la zona para mejorar el servicio de Caltrain como parte del Programa Corredor Electrificación Proyecto. Las actividades previstas durante este tiempo incluyen la instalación de infraestructura de electrificación, el reemplazo de los conductores de la línea, la instalación de sistemas de señalización y comunicación, y la construcción de pilas de prueba para probar el corredor para la instalación y operación del servicio de transporte modernizado. Después del completamiento de algunas, algunas actividades se trabajarán en las bases para el sistema antes de concluir.

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. Nos disculpamos por cualquier inconveniente que esto pueda causar. Para mitigar el ruido y otros impactos durante las actividades de noche, el equipo utilizará métodos de barrido acústico y constructores serán ajustados de silencio a áreas residenciales de la zona.

El proyecto de electrificación permitirá que Caltrain opere más silenciosamente, más rápido, más frecuente, más seguro, y con servicios más rápidos del tren. Mayor capacidad y mejor servicio ayudará a Caltrain a satisfacer la creciente demanda de servicio más cómodo y rápido la longitud de todo el trayecto. Los nuevos trenes eléctricos están programados para operar en el 2021.

No se disculpamos por los inconvenientes que pueden sufrir mientras trabajamos para entregar estos beneficios críticos a nuestras comunidades.

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

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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. Installation and operation of modernized transit service. After tree trimming/removal occurs, crews will be overhead contact system.

Work will take place during the day and at night. Night activities will occur between 8:00 p.m. and 5:00 a.m. This may cause noise and other impacts during nighttime activities, to barrier districts, and 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, created capacity and improved service will help Caltrain meet the increasing ridership demand a tion. 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 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.

@Caltrain #CalModTrain
 Caltrain.com/PCEP
 650-399-9050
www.facebook.com/caltrain calmod@caltrain.com Para traducción llame al 1-800-438-6200

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CALTRAIN MODERNIZATION PROGRAM
 Test File Construction Activities

DAY TIME WORK
08/28/17 - 09/1/17

ANTICIPATED WORK HOURS
 7:00 a.m. - 5:00 p.m.

CREWS CONDUCTING WORK IN YOUR AREA TO INSTALL AND TEST FOUNDATION PILES
 During the week of August 28, Caltrain electrification crews will be working in your area to construct one test pile foundation for integrity testing. The piles will be installed within the Caltrain right-of-way.

Crews will be conducting the work over a two day period between Monday, August 28 and Friday, September 1, between the hours of 7 a.m. and 5 p.m. Crews will return at a later date to test the integrity of the installed piles.

Main construction activities include:

- Survey and layout of proposed pile test location
- Trucks and equipment working near Caltrain right-of-way
- Drill holes for placement of test piles
- Pour concrete and install rebar
- Backfill holes to cover work areas

We apologize for any inconvenience this may cause. The field team will work as quickly as possible. 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.



CalMod

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. - 5 p.m. Monday - Friday

www.caltrain.com/pcep

