CalMod

Peninsula Corridor Electrification Update Meeting

San Bruno Public Library
July 13, 2017

Caltrain

CalMod

Caltrain System

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

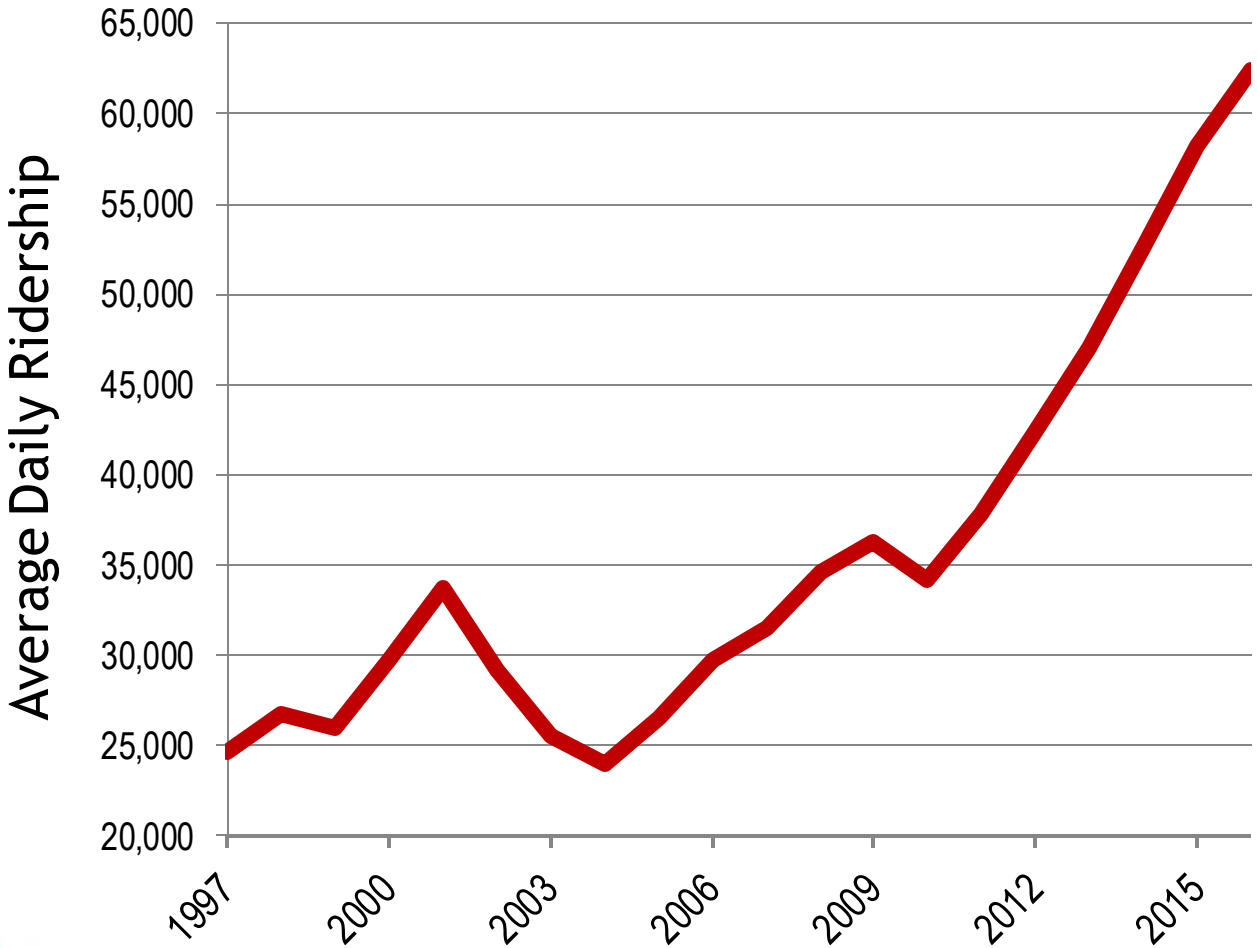
- 32 Stations Gilroy to San Francisco
- 92 Weekday Trains
- At-Grade Crossings, viaducts, and bridges
- Intermodal Connections
- Bike Commuters

Union Pacific owns

Caltrain

CalMod

Ridership



Caltrain

CalMod

At Capacity Today

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

Caltrain

CalMod

Aging Fleet

Table 1.2: Caltrain Fleet Inventory

SERIES	QUANTITY	NUMBER OF SEATS	YEAR OF MANUFACTURE	MAKE	RETIRE DATE
Locamotives					
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.

Caltrain

CalMod

Regional Transportation Needs

- US 101 and Interstate 280 Congested
- Corridor supports growing economy
  - 14% CA GDP; 52% CA patents; 20% CA tax revenue
- Caltrain Commuter Coalition (formed 2014)
  - 75% Caltrain rider's commute to work; 60% choice riders

SILICON VALLEY LEADERSHIP GROUP

BAYAREA COUNCIL

BUSINESS ECONOMY POLICY SAMCEDA San Mateo County Economic Development Association

facebook

Genentech

LELAND STANFORD JUNIOR UNIVERSITY DIE LUFT DER FREIHEIT WEHT 1891

Google

Caltrain

Caltrain Modernization Program

- Peninsula Corridor Electrification Project

CalMod

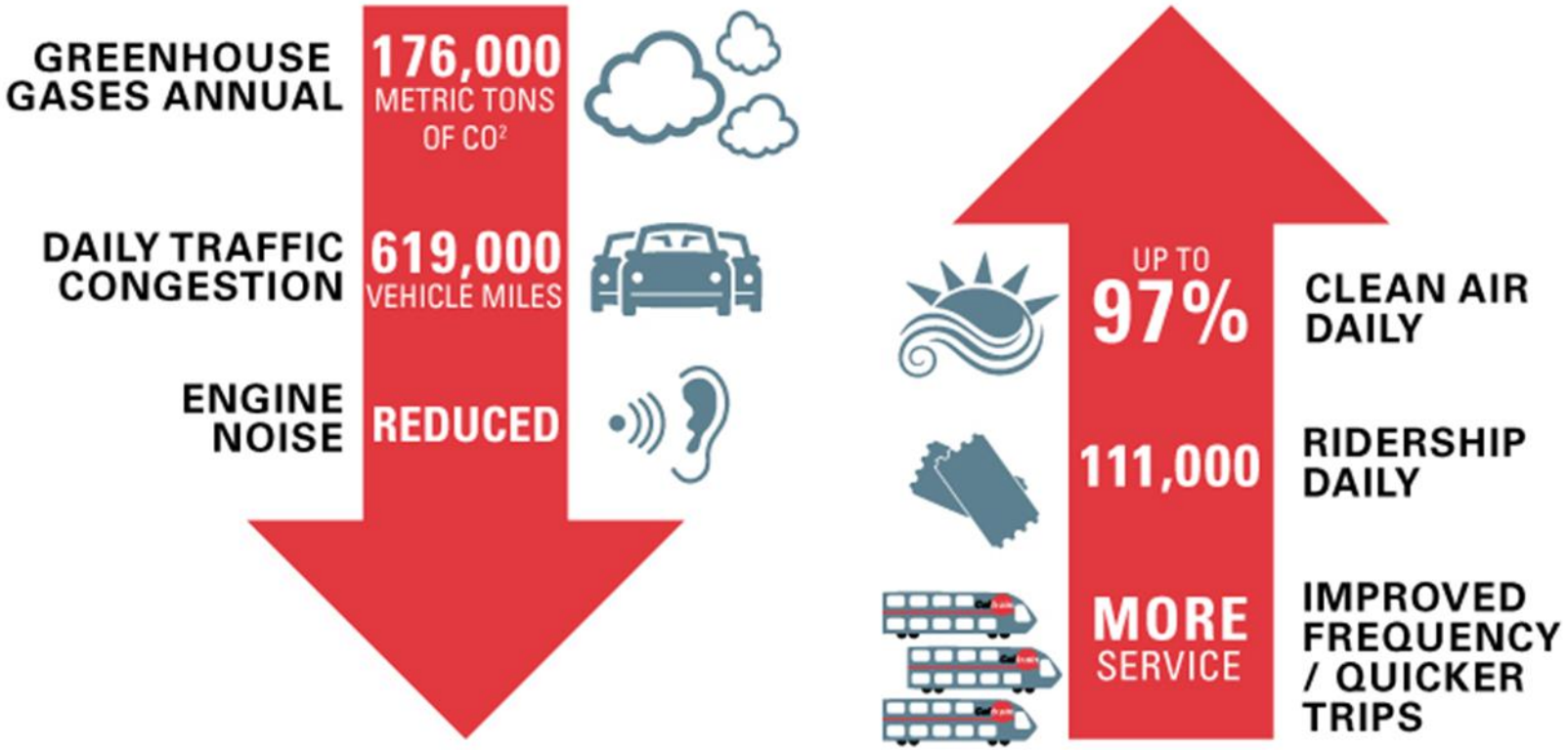
Project Description

Area	Project	Service
51 miles San Francisco to San Jose (Tamien Station)	Electrification: • Overhead Contact System (OCS) • Traction Power Facilities Electric Trains (EMUs) • 75 percent of fleet	Up to 79 mph Service Increase • 6 trains / hour / direction • More station stops / reduced travel time • Restore Atherton & Broadway service Mixed-fleet service (interim period) Continue tenant service • ACE, Capital Corridor, Amtrak, Freight

Caltrain

CalMod

Key Regional Benefits (2040)

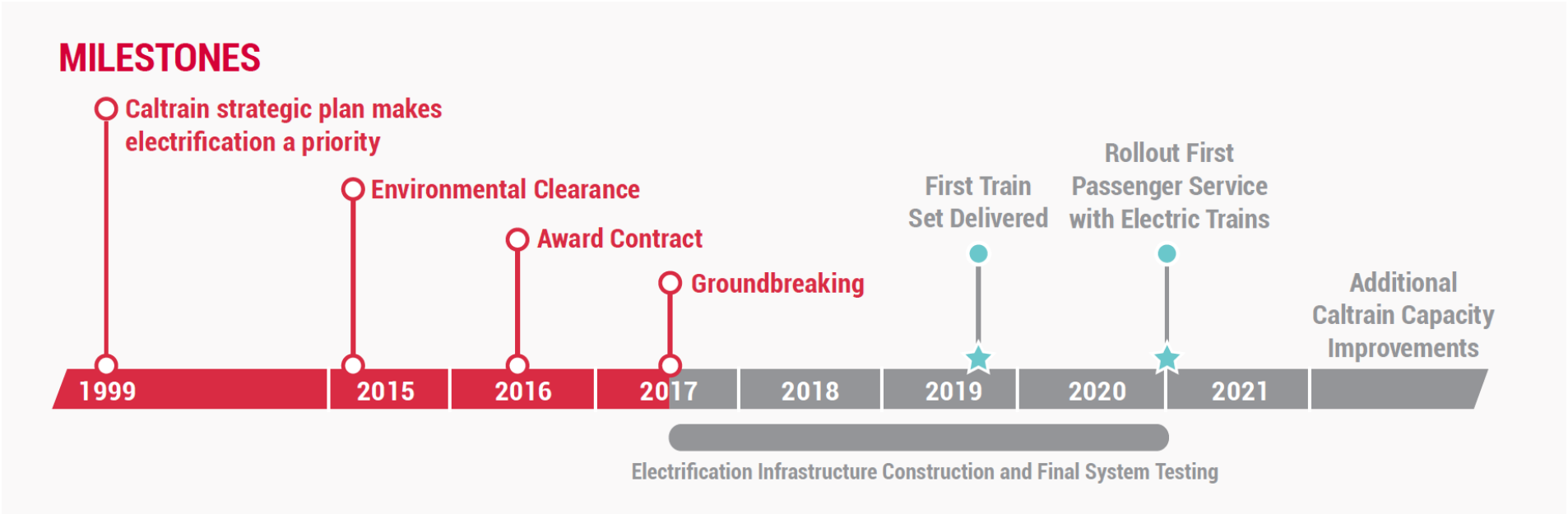


Note: 2013 BAC Report, generates $2.5B economic activity and 9,600 jobs

Caltrain

CalMod

Schedule



Note: Schedule Subject to Change

Caltrain

CalMod

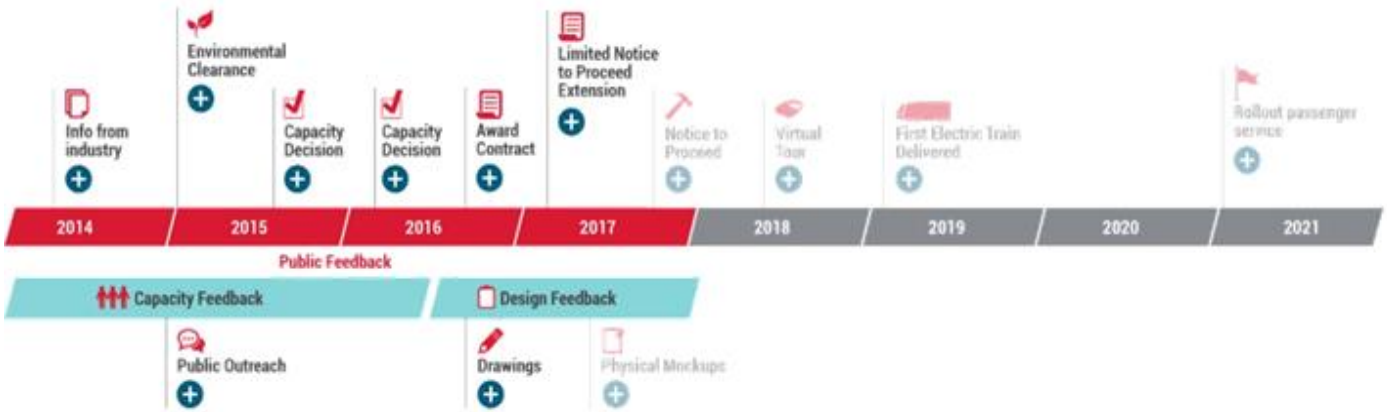
Caltrain

Electric Train Design

CalMod

Electric Train Outreach: Phased

- 2016 Capacity Board Decision (bike to seat ratio, onboard bathrooms, upper doors)
- 2017 Design Progressing, Additional Public Input (bike storage, seat colors, signage content, etc.)
- 2018 Virtual Reality 360 Tour

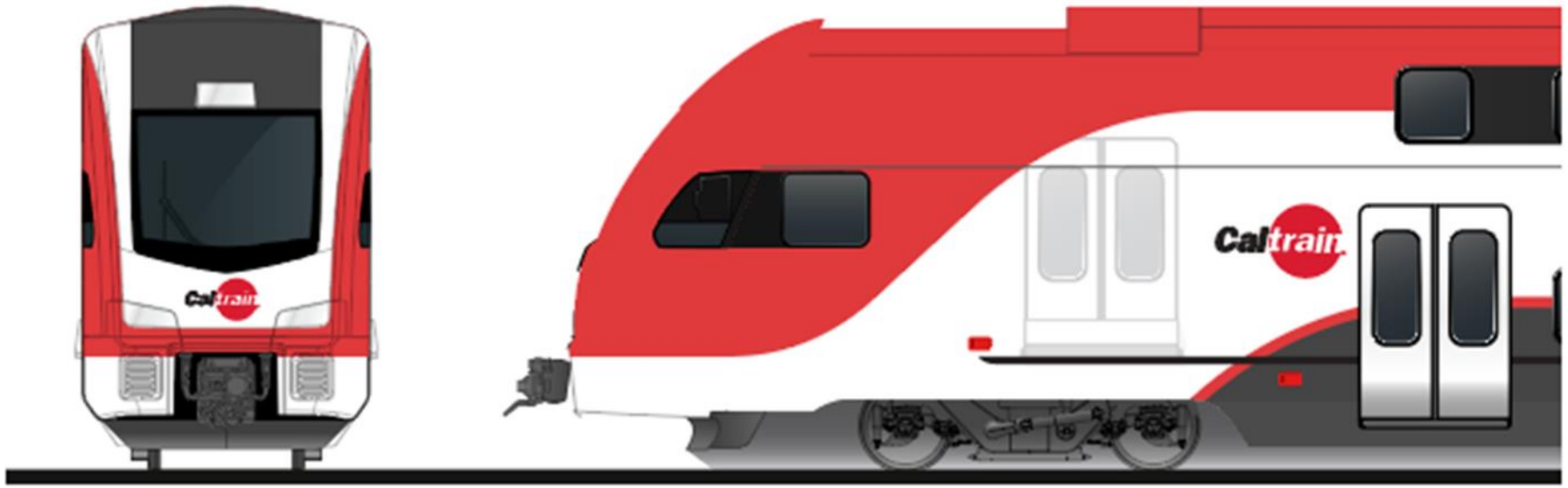


Caltrain

CalMod

EMU Exterior Design Winning Design

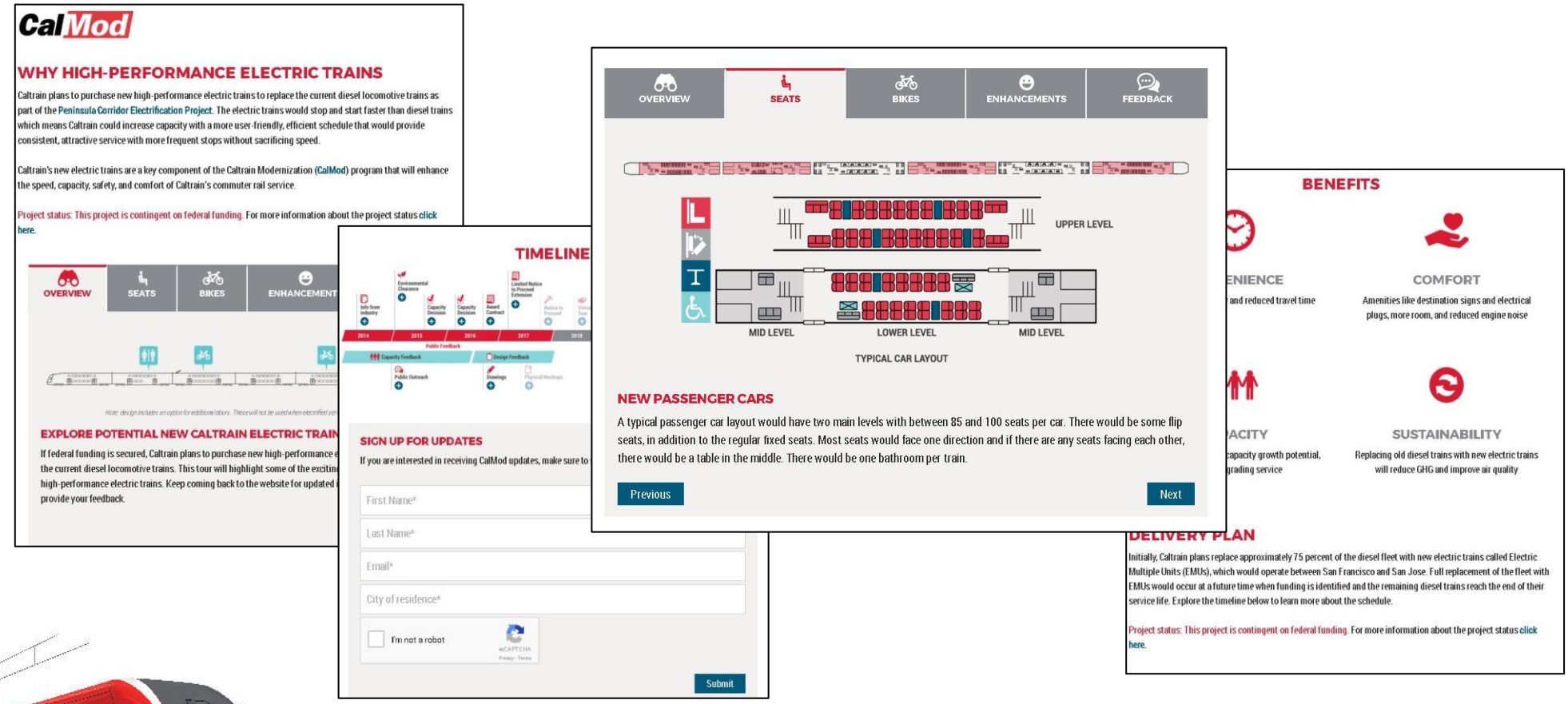
WINNING DESIGN: OPTION 1



Caltrain

CalMod

Outreach Tool: Dedicated Website



www.calmodtrains.com

Caltrain

CalMod

Next Steps

- Capture feedback on design elements
- Continue rollout of key design features for public input and education
  - Seat Colors Options: July / Aug. 2017
  - Interior Lift: Summer 2017
  - Onboard Bike Storage Designs: Aug. / Sept. 2017
  - Exterior / Interior Sign Content: Dec. 2017
- Public feedback paired with technical analysis

Caltrain

CalMod

Caltrain

Construction

CalMod

Work Segment 2, Area 5

- South San Francisco
- San Bruno

Caltrain

CalMod

Field Work Status

Work Completed to Date	• Utility Survey • Geotechnical Investigations • Soil Resistivity Testing • Site Surveys
Work In Progress and Upcoming	• OCS Foundation Potholing • Signal Cable Potholing • Disposal of Soil from Geotechnical Investigations • Signal Cable Inspections • Tree Pruning and Removal • OCS Foundation Construction
Future Work	• Overhead Utility Relocation • OCS Pole Installation • OCS Wire Installation

Caltrain

CalMod

Potholing

Caltrain

CalMod

Future Construction Activities

South San Francisco and San Bruno

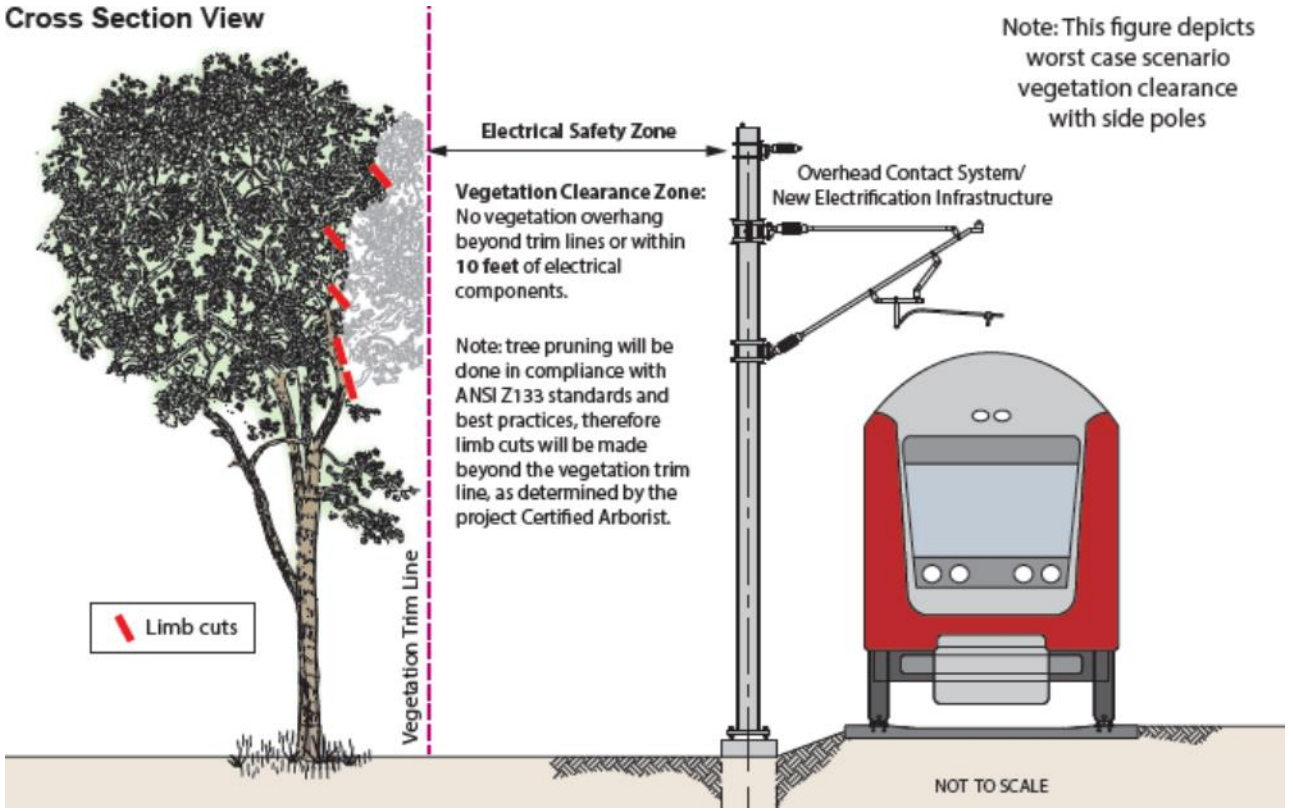
Date	Work Activity	Expected Duration
August – September 2017	Tree Pruning/Removal	2 months
Fall/Winter 2017	Foundation Construction	3 months
Winter 2017/2018	Traction Power Substation (SSF only)	1 year
Fall 2018	OCS Pole and Wire Installation	3 months

Caltrain

CalMod

Tree Pruning and Replacement

- Vegetation cleared for Electrical Safety Zone



Caltrain

CalMod

Tree Pruning and Replacement

JPB Property

- 1:1 replacement for any non-riparian tree in JPB right-of-way (ROW)

SSF Public or Private Property

- 2:1 City/County replacement ratio for trees being removed on public or private property (in South San Francisco a replacement ratio of 2:1 is used for protected trees and 1:1 for non-Protected trees)
- 1:1 replacement for any tree pruned over 25%*

Environmental Permit Requirements

- 6:1 replacement for any riparian oaks removed
- 3:1 replacement for any other native riparian species removed
- 1:1 replacement for any non-native riparian species removed

*Trees pruned over 25% will remain in place and will not be removed. A replacement tree will also be planted. Also applies to environmental permits.

Caltrain

South San Francisco: Tree Pruning and Replacement Plan

Caltrain Right of Way			
	Trees Impacted	Replacement Ratio	Replacement Trees
Tree Removed	1	1:1	1
Tree Pruned >25%	1	1:1	1
Tree Pruned <25%	7	n/a	n/a
Private Property			
	Trees Impacted	Replacement Ratio	Replacement Trees
Tree Removed	0	2:1 / 1:1[a]	0
Tree Pruned >25%	0	1:01	0
Tree Pruned <25%	7	n/a	n/a

- Design of electric substation PG&E interconnection at South San Francisco station may have future impacts to trees

San Bruno: Tree Pruning and Replacement Plan

- No trees impacted in City of San Bruno

Foundation Work

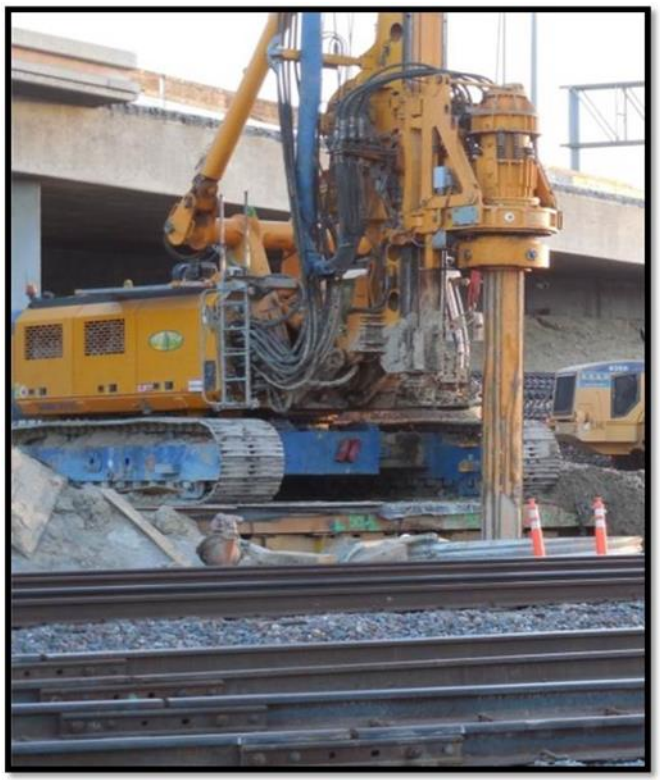
- Excavation
- Rebar and Anchor Installation
- Electrical Grounding
- Concrete Fill
- Foundation work within the South San Francisco Station area will be completed by SSF Station Improvement Project
- Foundations for San Bruno Station area were installed as part of the San Bruno Grade Separation

CalMod

Pole Foundation Work

Will take place on and off track

Above: DrillTech on track foundation train



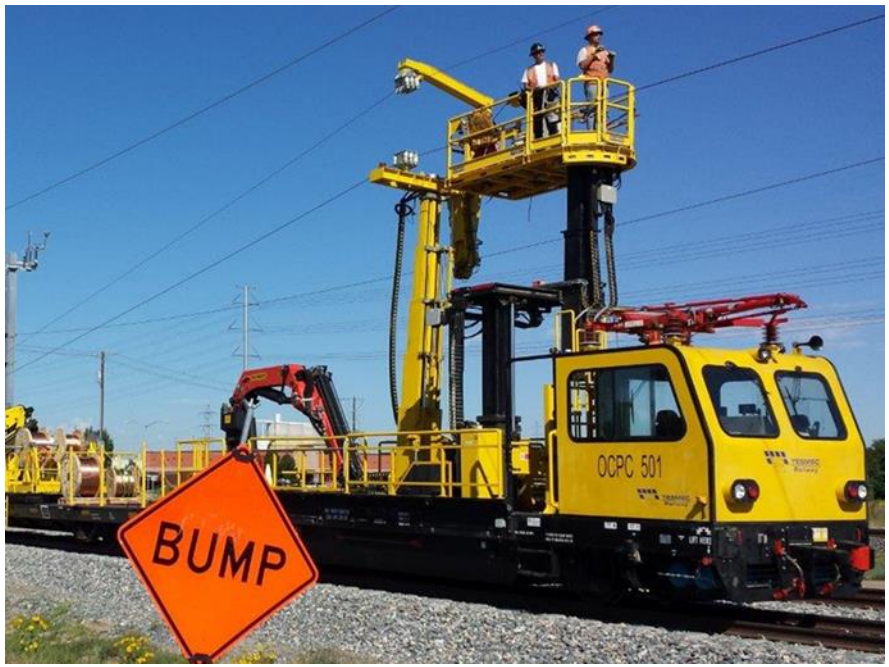
Right: Drilltech off-track OCS Drill Rig

Caltrain

CalMod

OCS Wire Installation

Will take place on-track



Caltrain

CalMod

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

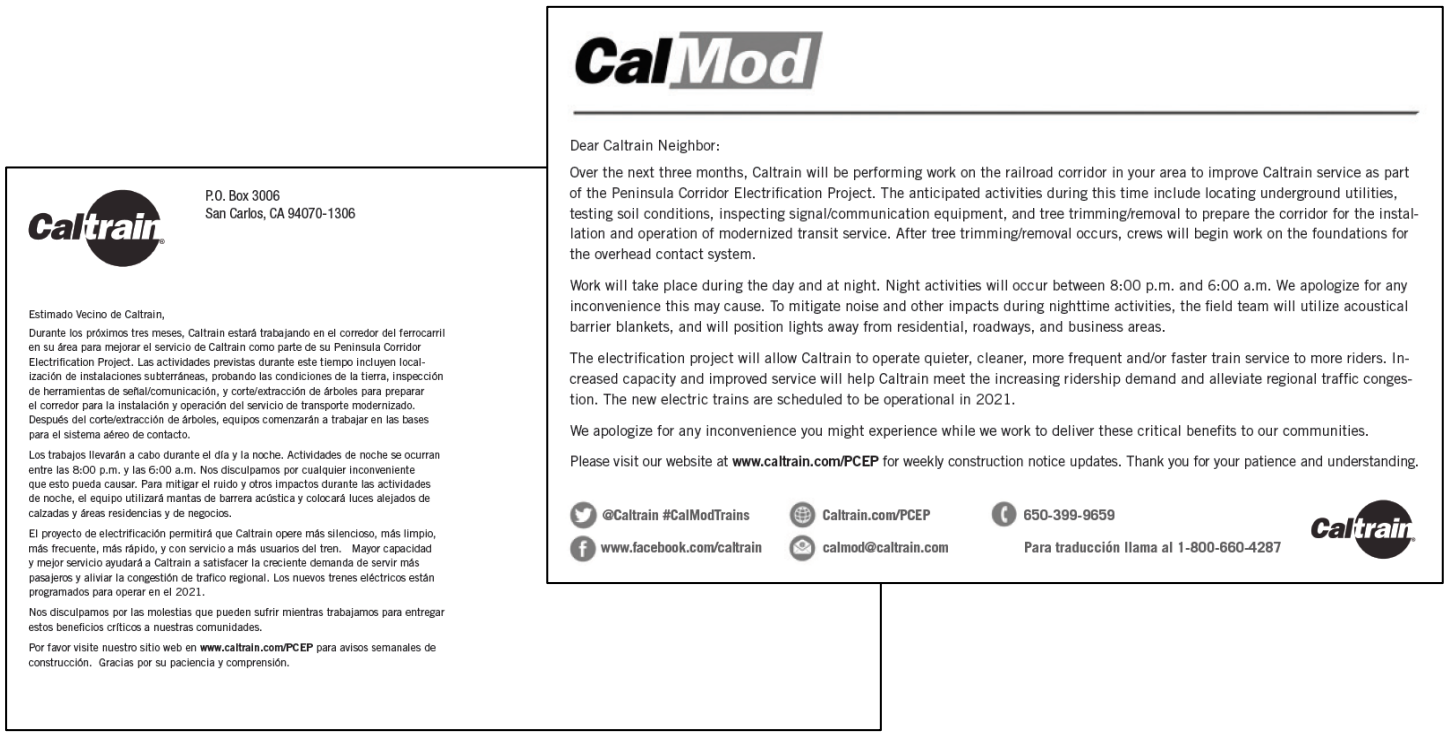
Caltrain

Public Outreach

- Subscribe to Weekly Updates
  - Visit caltrain.com/pcepconstruction
- Additional Community Meetings
  - Pole and Wire Installation
  - Traction Power Substation (South San Francisco only)
- Construction Outreach Office

Public Outreach

- Physical Notices



Caltrain

P.O. Box 3006
San Carlos, CA 94070-1306

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 de su Peninsula Corridor Electrification Project. Las actividades previstas durante este tiempo incluyen localización de instalaciones subterráneas, probando las condiciones de la tierra, inspección de herramientas de señal/comunicación, y corte/extracción de árboles para preparar el corredor para la instalación y operación del servicio de transporte modernizado. Después del corte/extracción de árboles, equipos comenzarán a trabajar en las bases para el sistema aéreo de contacto.

Los trabajos llevarán a cabo durante el día y la noche. Actividades de noche se ocurran entre las 8:00 p.m. y las 6:00 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 mantas de barrera acústica y colocará luces alejados de calzadas y áreas residencias y de negocios.

El proyecto de electrificación permitirá que Caltrain opere más silencioso, más limpio, más frecuente, más rápido, y con servicio a más usuarios del tren. Mayor capacidad y mejor servicio ayudará a Caltrain a satisfacer la creciente demanda de servir más pasajeros y aliviar la congestión de trafico regional. Los nuevos trenes eléctricos están programados para operar en el 2021.

Nos disculpamos por las molestias 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 avisos semanales de construcción. Gracias por su paciencia y comprensión.

CalMod

Dear Caltrain Neighbor:

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

Work will take place during the day and at night. Night activities will occur between 8:00 p.m. and 6:00 a.m. We apologize for any inconvenience this may cause. To mitigate noise and other impacts during nighttime activities, the field team will utilize acoustical barrier blankets, 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 train service to more riders. Increased capacity and improved service will help Caltrain meet the increasing ridership demand and alleviate regional traffic congestion. 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.

@Caltrain #CalModTrains
Caltrain.com/PCEP
650-399-9659
www.facebook.com/caltrain
calmod@caltrain.com
Para traducción llama al 1-800-660-4287

Caltrain

Caltrain

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. - 6 p.m. Monday-Friday

www.caltrain.com/pcepconstruction

Caltrain