



CALTRAIN ELECTRIFICATION UPDATE

San Francisco BMBTCC meeting
March 5, 2020



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AGENDA

- Caltrain System Overview
- Project Overview
- San Francisco Construction Activities
- Questions

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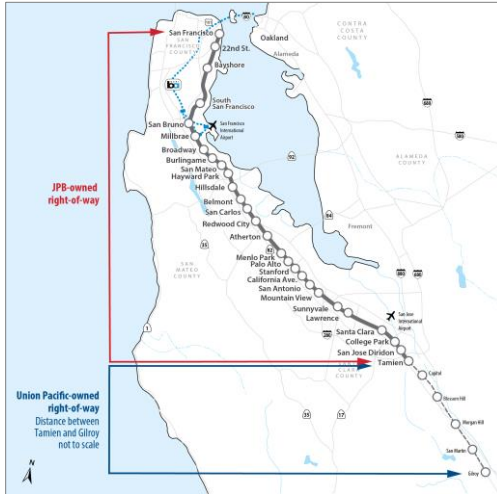
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CALTRAIN SYSTEM



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

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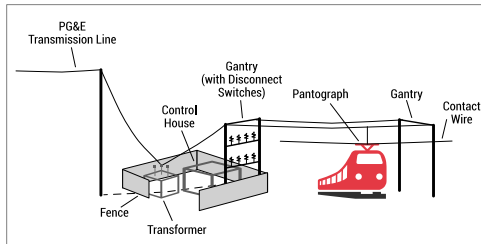
PROJECT DESCRIPTION

Project Area



- 51 miles
- San Francisco to San Jose (Tamien Station)

Project Elements



Electrification

- Overhead Contact System (OCS)
- Traction Power Facilities

Electric Trains*

- 19 7-car train sets
 - 133 electric cars
- *Includes 2018 State TIRCP Funding

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PROJECT DESCRIPTION

Service Elements



Speed
• 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, Capitol Corridor, Amtrak, Freight

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PROJECT BENEFITS



Improved Train Performance, Increased Service and Greater Capacity



Improved Regional Air Quality and Reduced Greenhouse Gas Emissions



Positive Economic Benefits for the Region



Reduced Engine Noise Emanating from Trains



Increased Revenue and Reduced Fuel Cost

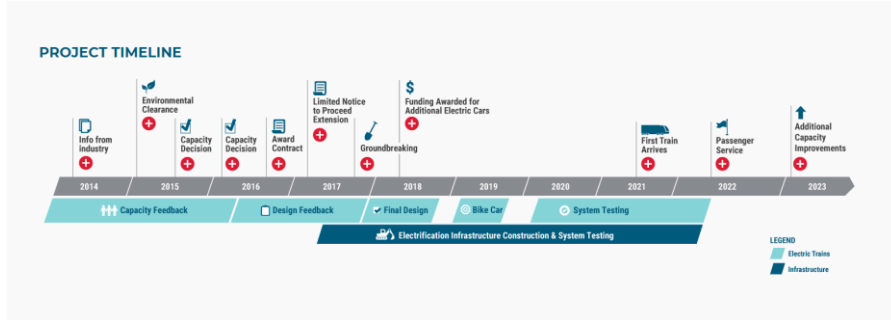
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SCHEDULE



* Note: Schedule subject to change

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CONSTRUCTION PHASING



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



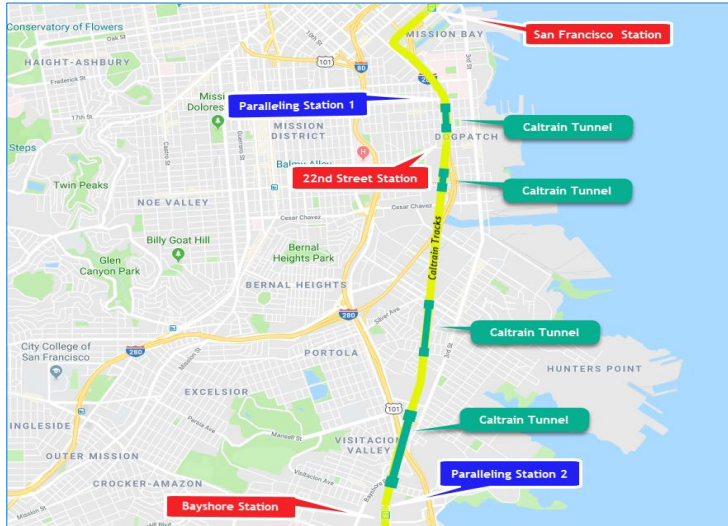
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SAN FRANCISCO



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FIELD WORK PROGRESSION

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	<ul style="list-style-type: none"> • Tree Pruning/Removal • Potholing • Tunnel Work
Future Work	<ul style="list-style-type: none"> • Foundation Installation • Pole Installation • Wire Installation • Paralleling Station

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FUTURE CONSTRUCTION

San Francisco

Date	Work Activity	Expected Completion
In Progress	Tree Pruning/Removal	Summer 2020
In Progress	Potholing	Summer 2020
In Progress	Tunnel Work	Spring/Summer 2020
Summer/Fall 2020	Foundation Construction	Late 2020
Summer/Fall 2020	Pole/Wire Installation	Late 2020
Summer/Fall 2020	Paralleling Station Construction	Late 2020

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



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POTHOLING



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SAN FRANCISCO TUNNEL WORK

- Work on the four San Francisco Tunnels:
 - Overhead Contact System Installation
 - Grouting and Notching
 - Drainage and Track Work
- September 2018 through Summer 2020
- 24 hour weekend work
- Additional weekend shutdowns may be needed

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FOUNDATION CONSTRUCTION

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

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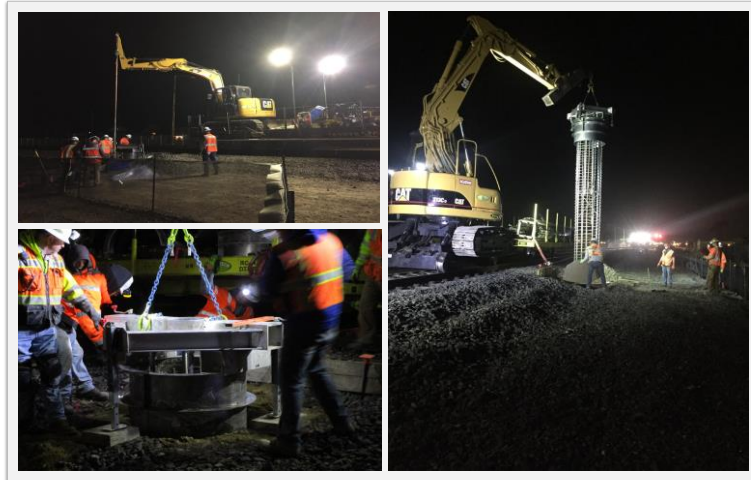
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FOUNDATION INSTALLATION



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On Track Equipment



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POLE INFORMATION

- 3,000 Installed throughout Corridor
 - Approx. 300 poles in San Francisco
- Pole Height: 30-50'
- Pole Spacing: ~180' apart

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POLE TYPES SAN FRANCISCO



Single Track Cantilever



Two Track Cantilever



Center

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CalMod.org *Example of Poles Planned for Use in San Francisco*



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POLE TYPES SAN FRANCISCO



Portal



Headspan

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CalMod.org *Example of Poles Planned for Use in San Francisco*



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POLE INSTALLATION



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CalMod.org *Current Pole Installation*



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STRINGING WIRE



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CalMod.org *On-track Equipment*



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TRACTION POWER FACILITIES

- 10 Traction Power Facilities Installed throughout Corridor
 - 2 Paralleling Stations installed in San Francisco
 - Gantry structures up to 50'
- Provides electrical power to trains through the Overhead Contact System
- Unmanned station
- Day and weekend construction work
- Limited night work during construction

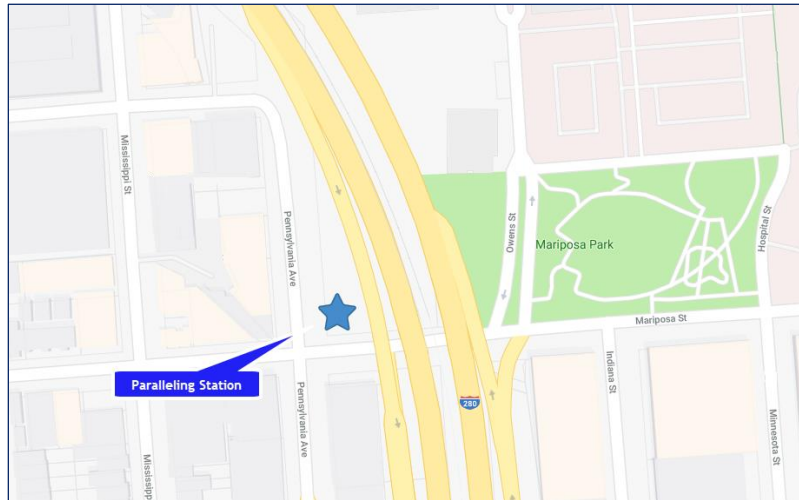
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PARALLELING STATION-1 LOCATION



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PARALLELING STATION-1



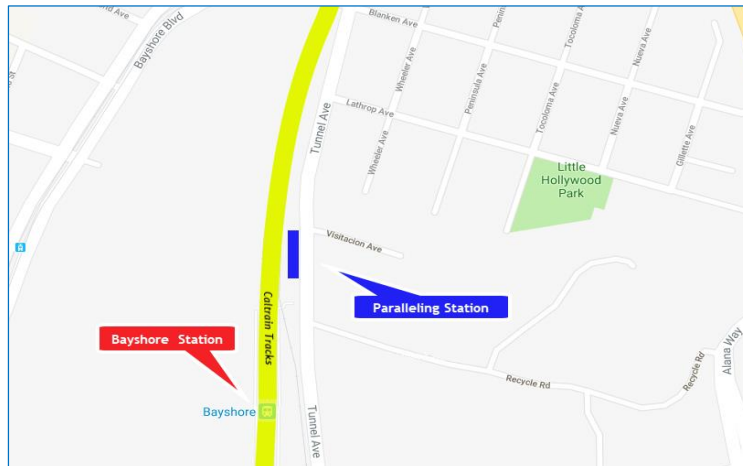
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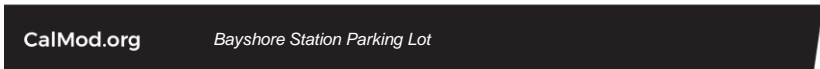
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PARALLELING STATION-2 LOCATION



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EXAMPLE PARALLELING STATIONS



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Examples from Amtrak Northeast Corridor

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CONSTRUCTION INFORMATION

- Work will occur during day and night
- 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

CalMod
CALTRAIN MODERNIZATION PROGRAM
Test Piece 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 electricification crews will be working in your area to construct one test pile foundation for string tracks. The pile will be installed within the Caltrain right-of-way.

Crews will be conducting the work on a five-day period between Monday, August 28 and Friday, September 1 between the hours of 7 a.m. and 5 p.m. Crews will arrive at a later date to meet the string of the test pile.

Main construction activities include:

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

We apologize for any inconvenience this may cause. The railroad will work as quickly as possible. Thank you for your patience and understanding as we deliver these critical benefits to our communities.

Please call our website at www.calmod.com/CM2017construction to sign up for weekly construction updates.

We appreciate your patience during construction.

Doorhanger

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CALTRAIN ELECTRIFICATION PROJECT
STATUS UPDATE | January 2018

MILESTONES

1 Caltrain electric pilot train identification & priority
2 Environmental Clearance
3 Award Contract
4 Groundbreaking
5 First Electric Train Arrives
6 Passenger Service with Electric Train
7 Additional Capacity
8 Additional Capacity

KEY REGIONAL BENEFITS 2040

- COMMERCIAL SALES INCREASE: \$76,000
- DEVELOP NEW BUSINESSES: LOWER TAXES
- TRAVEL CONVENIENCE: \$19,000
- 21% INCREASE IN RETAIL
- \$2.5 BILLION IN ECONOMIC OUTPUT
- MORE JOBS: MORE PROGRESS FASTER TRAVEL

FOR MORE INFORMATION:

- www.calmod.org
- calmod@caltrain.com
- 650.395.8609
- 7500 Van Ness Blvd., 22nd Floor, San Francisco, CA 94133
- 650.395.8609
- Project Outreach Office
- 1000 S. Bascom Ave., Suite 200, San Jose, CA 95128

Factsheet

CALTRAIN MODERNIZATION

IMPROVING CONVENIENCE
An electric pilot train means the Bay Area's most frequently used train runs more efficiently.

INCREASING CAPACITY
Caltrain anticipates growing ridership by over 35%.

BOOSTING ECONOMIES
Caltrain's electric pilot train provides economic benefits, including creating nearly 10,000 jobs across the country.

ADVANCING SUSTAINABILITY
Reducing CO2 emissions with new electric trains will reduce 100 and improve air quality.

These are just a few examples of how Caltrain and the CalMod program are investing to better serve the Bay Area. Learn more at CalMod.org and stay in touch with us on social media!

CALTRAIN

Postcard

Public Meeting



PUBLIC OUTREACH

- Subscribe to Weekly Updates
 - Visit www.calmod.org/get-involved
- Social Media
- Construction Outreach Office
- Additional Community Meetings
 - Pole Installation





WHAT'S NEXT

- Caltrain Business Plan
 - Caltrain2040.org
- High-Speed Rail Blended System
 - hsr.ca.gov
- Caltrain Downtown Extension
 - sfcta.org/transbay-transit-center
- Diridon Concept Plan
 - DiridonSJ.org

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CALMOD CONTACT INFORMATION

WEEKLY UPDATES  CalMod.org/get-involved

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