



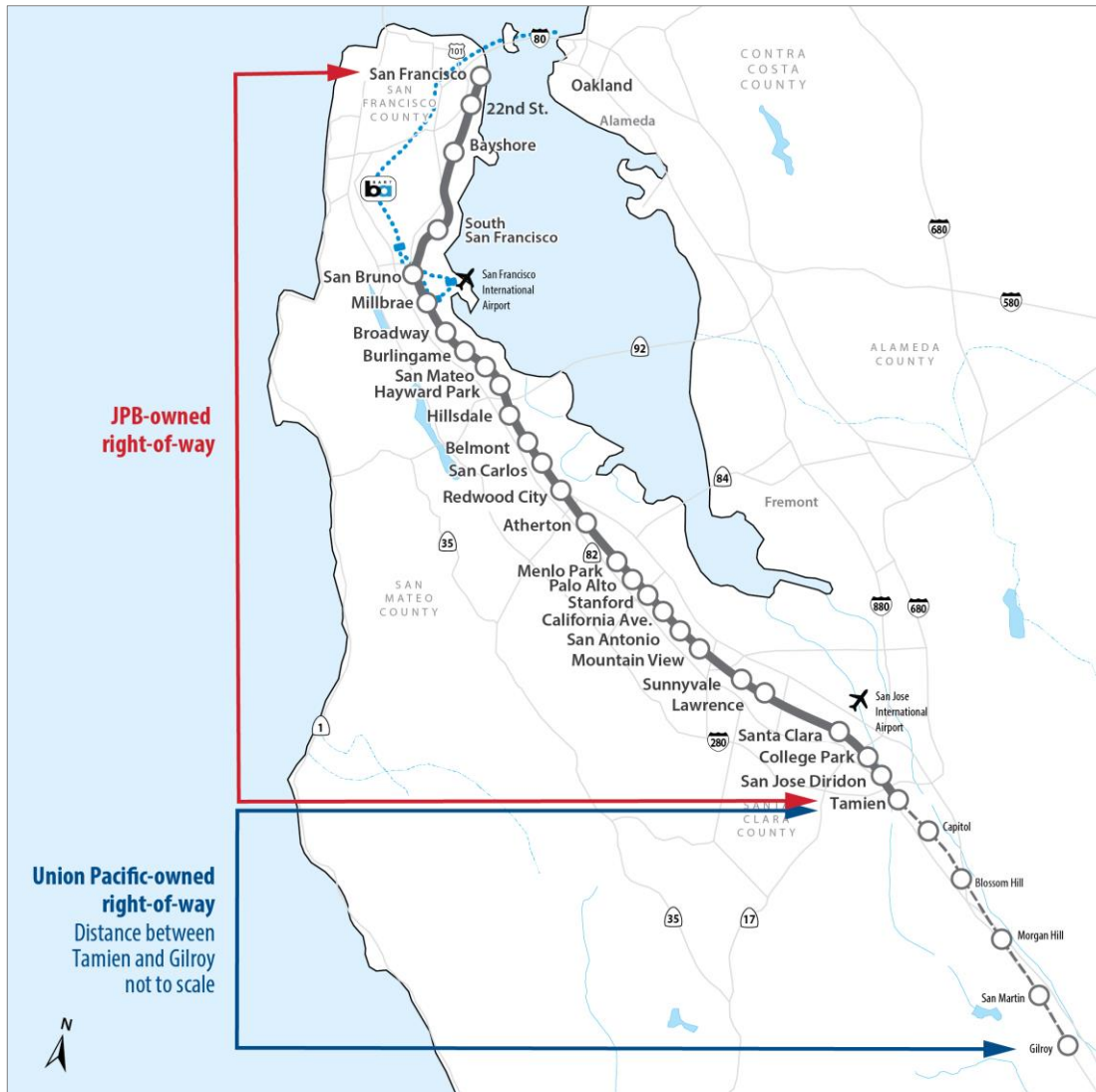
CALTRAIN CEMOF MODIFICATIONS/ ELECTRIFICATION UPDATE

San Jose Community Meeting
July 24, 2019

AGENDA

- Caltrain System Overview
- Electrification Project Overview
- CEMOF Modifications Project Overview
- Questions

CALTRAIN SYSTEM



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

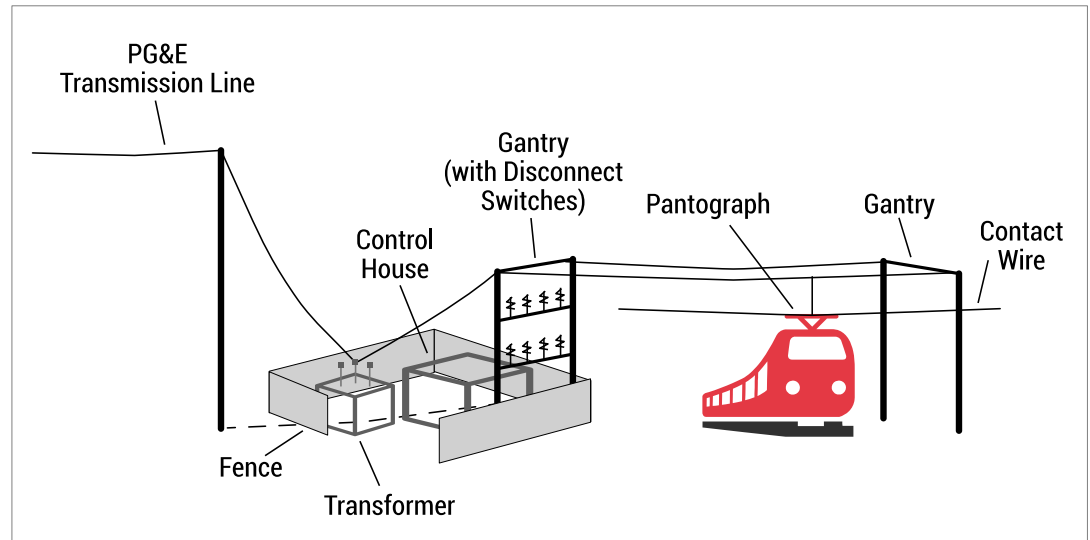
PROJECT DESCRIPTION

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

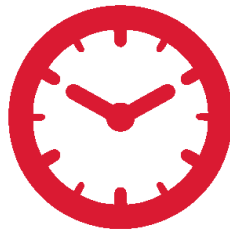
PROJECT DESCRIPTION

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

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



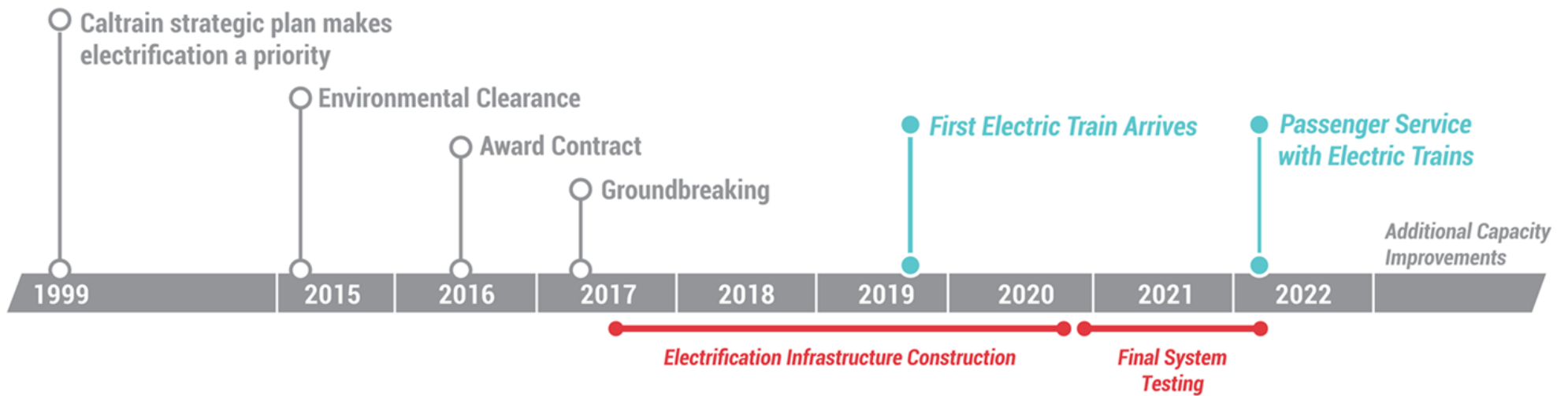
Reduced Engine Noise Emanating from Trains



Increased Revenue and Reduced Fuel Cost

SCHEDULE

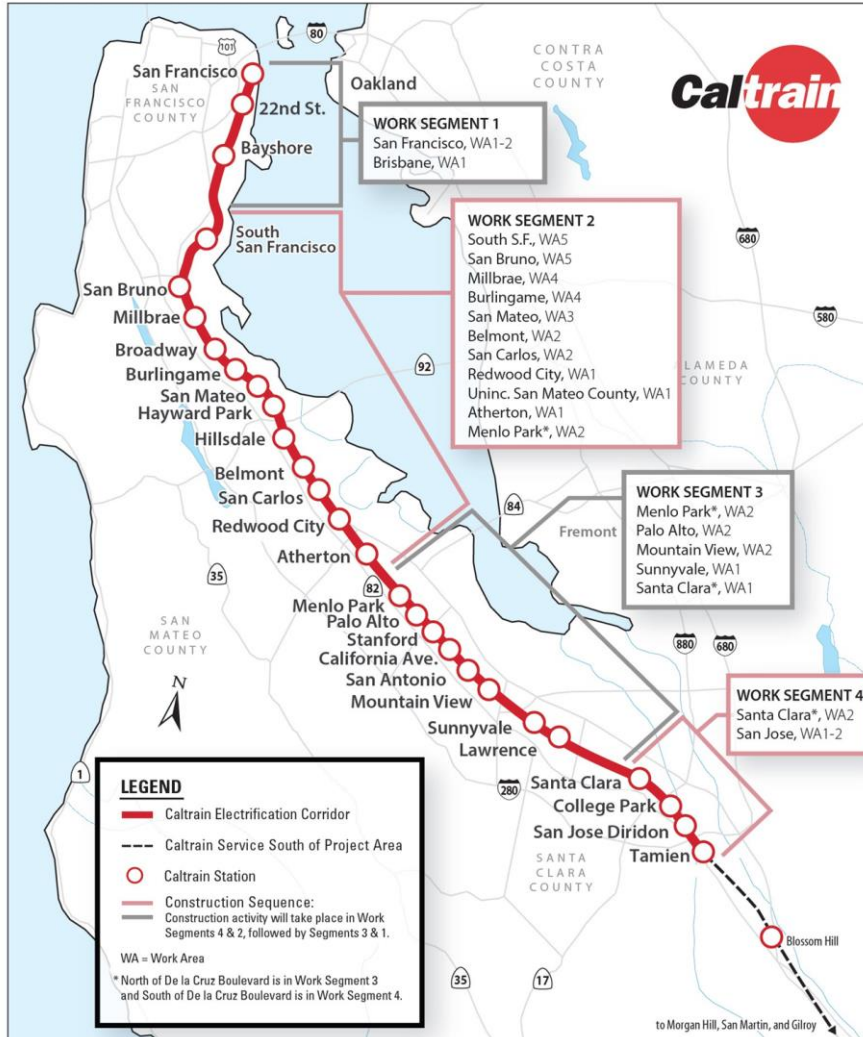
MILESTONES



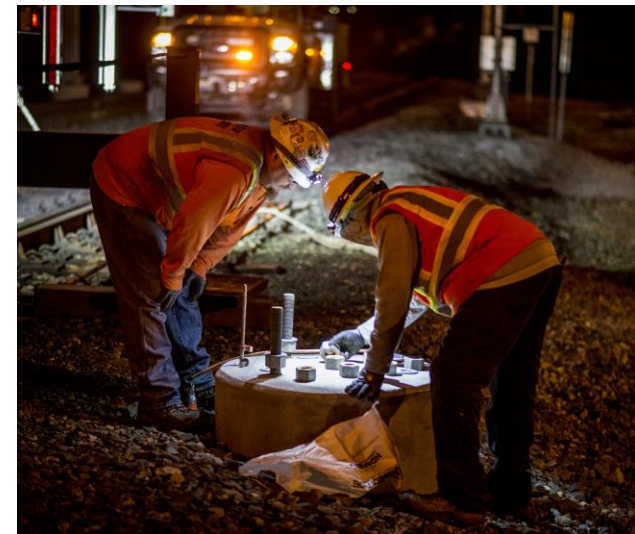
*Please keep in mind that testing and construction will overlap as each Segment will be tested individually, prior to final system testing.

* Note: Schedule subject to change

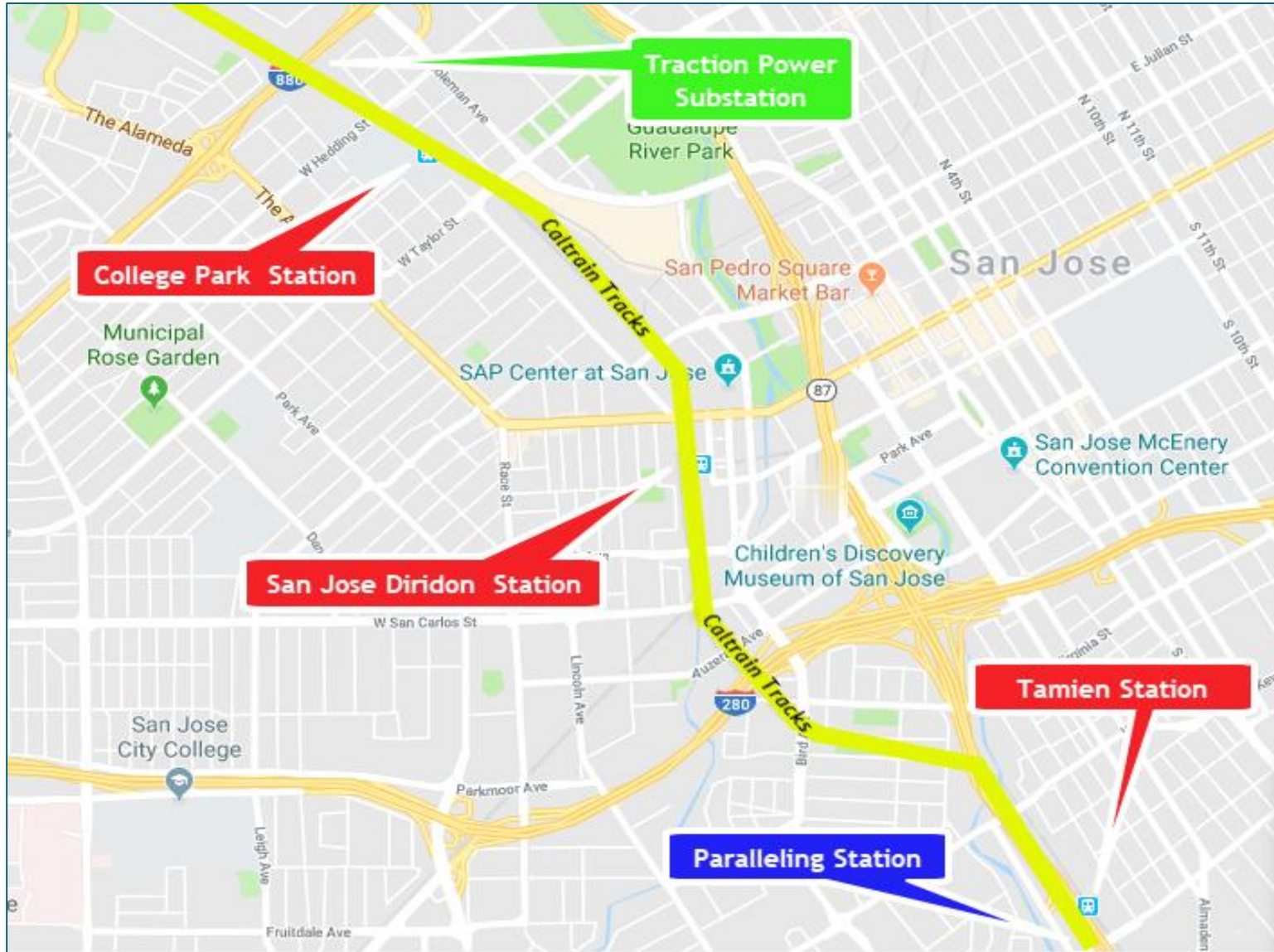
CONSTRUCTION PHASING



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



SAN JOSE



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• Foundation Installation• Traction Power Substation Construction• Paralleling Station Construction
Future Work	<ul style="list-style-type: none">• CEMOF Facilities Modifications• Signal House Construction• Pole Installation• Wire Installation

CONSTRUCTION SCHEDULE

San Jose

Date	Work Activity	Expected Duration*
In Progress	Potholing	2-3 months
In Progress	Foundation Construction	4-5 months
In Progress	Traction Power Substation Construction	6-9 months
In Progress	Paralleling Station Construction	3-4 months
August 2019	CEMOF Facility Modifications	9-12 months
Fall 2019	Pole/Wire Installation	3-4 months

FOUNDATION CONSTRUCTION

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

FOUNDATION INSTALLATION



POLE INFORMATION

- 3,000 Installed throughout Corridor
 - Approx. 460 poles in San Jose
- Pole Height: 30-50'
- Pole Spacing: ~180' apart

POLE TYPES SAN JOSE



Single Track Cantilever



Two Track Cantilever



Center

POLE TYPES SAN JOSE

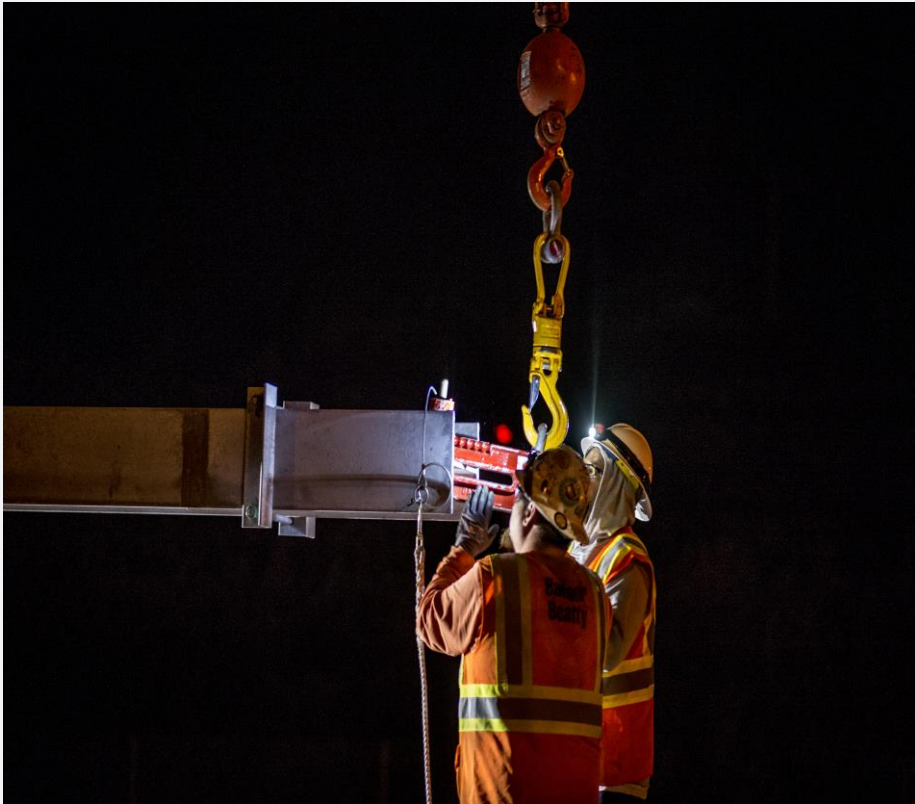


Portal



Headspan

POLE INSTALLATION



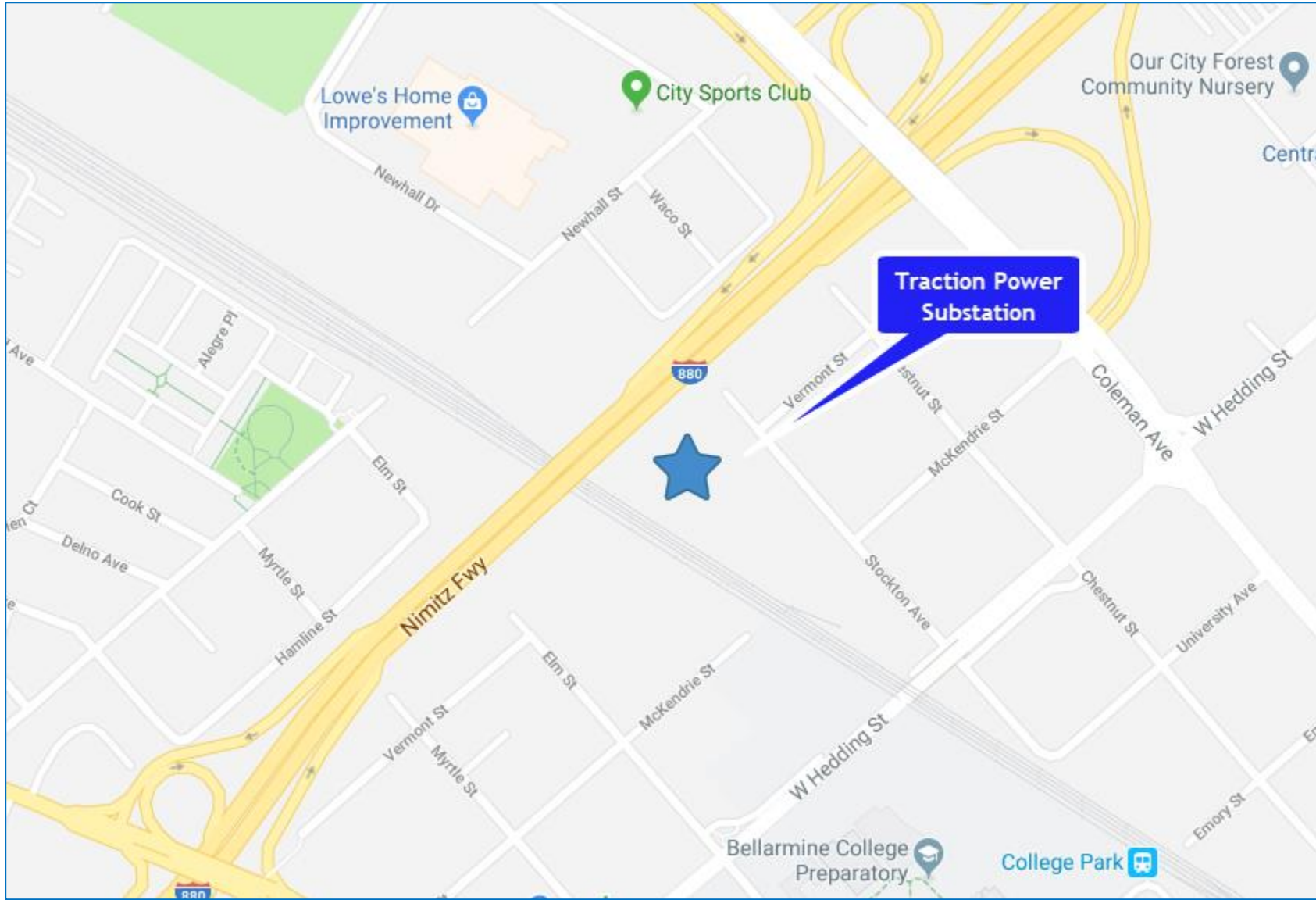
STRINGING WIRE



TRACTION POWER FACILITIES

- 10 Traction Power Facilities Installed throughout Corridor
 - 1 Traction Power Substation Installed in San Jose
 - 1 Paralleling Station in San Jose
 - 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

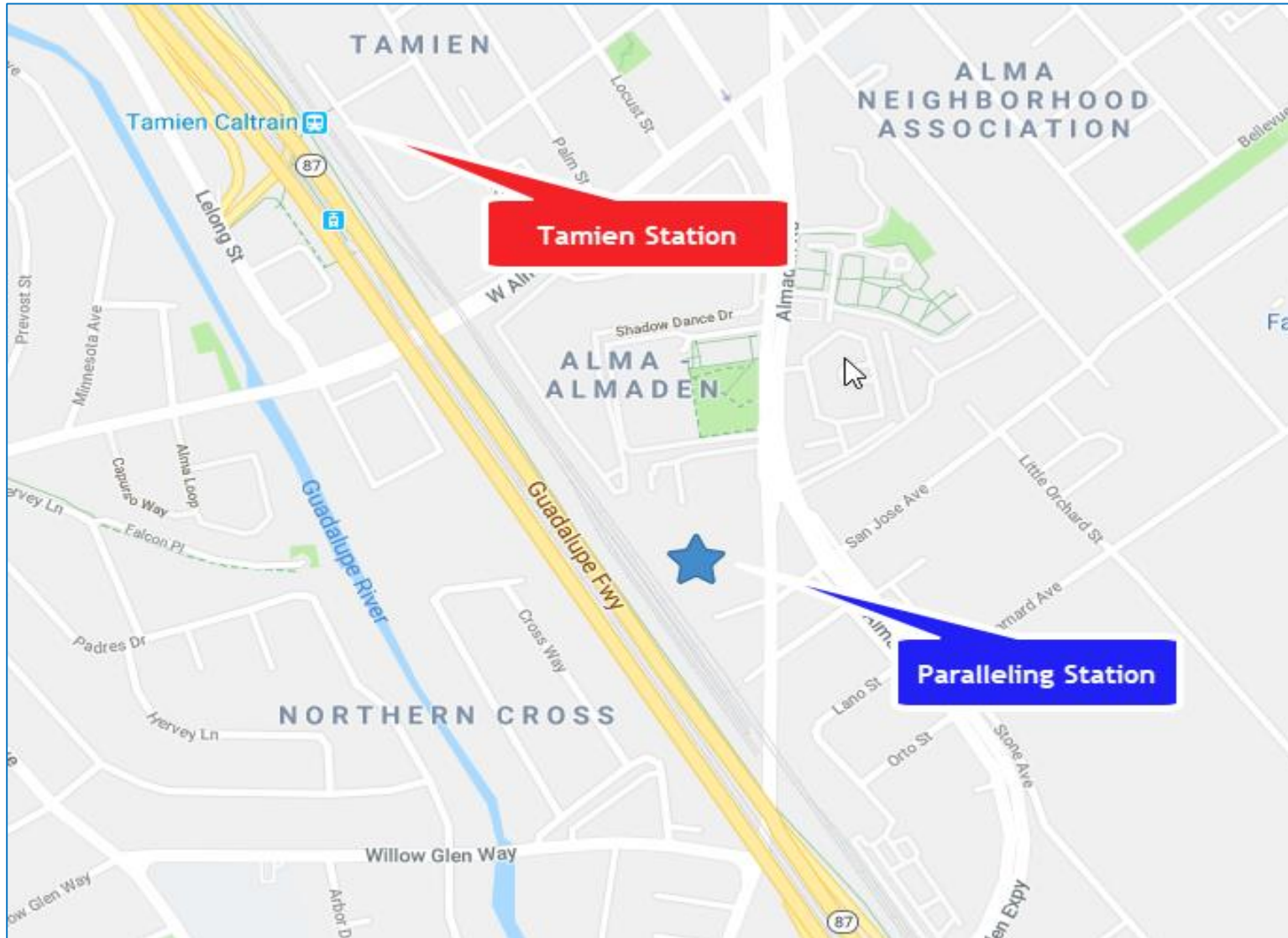
TRACTION POWER SUBSTATION LOCATION



TRACTION POWER SUBSTATION



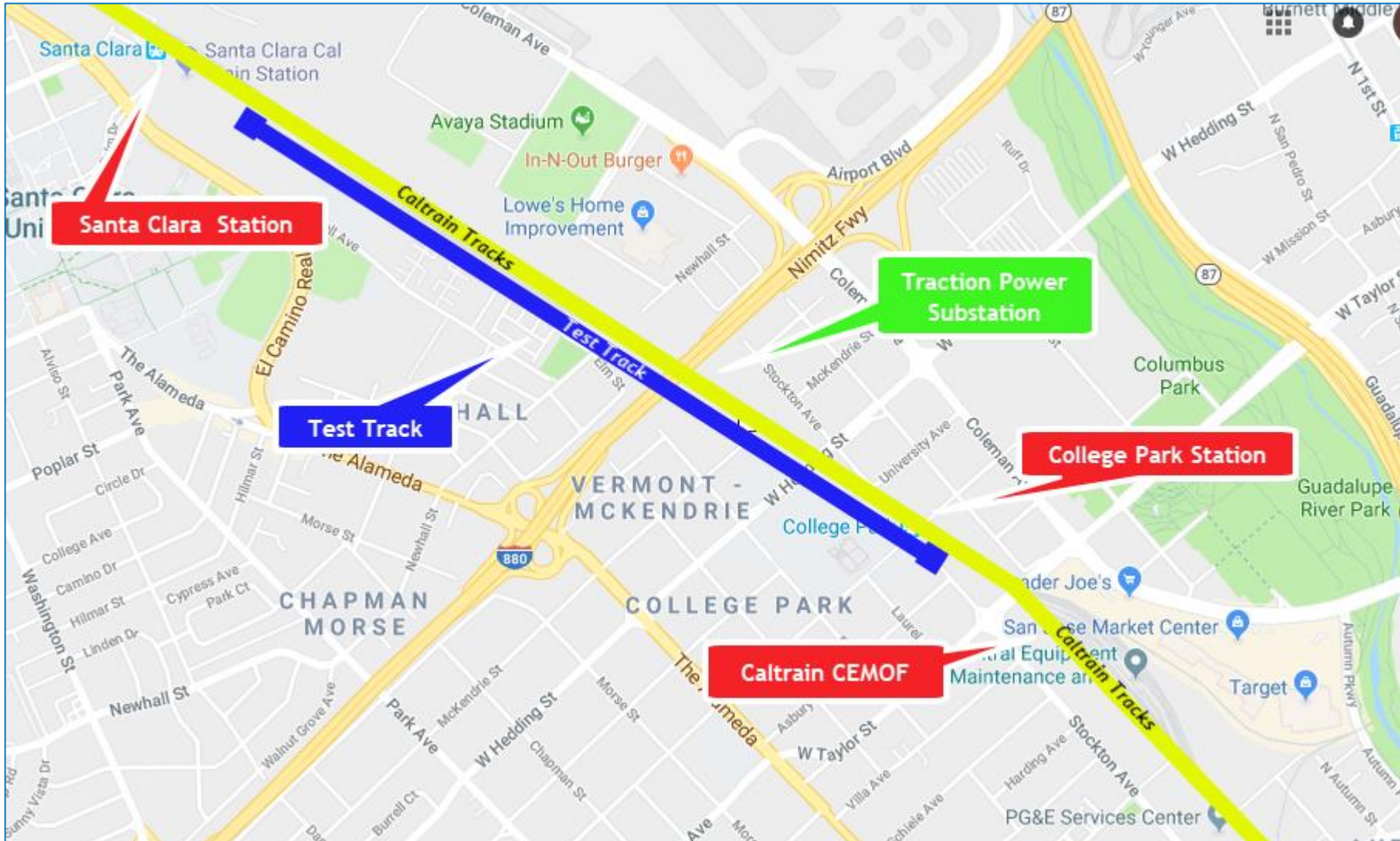
PARALLELING STATION LOCATION



EXAMPLE PARALLELING STATIONS



TEST TRACK LOCATION



TEST TRACK INFORMATION

- Approximately 1.5 miles of existing maintenance track (no new track)
- Located between Santa Clara Station and Caltrain CEMOF facility
- Foundations, poles and wires to be installed prior to electric train testing
- New Electric trains will be tested on track
- Testing to begin in Spring 2020
- Testing anticipated to be during daytime

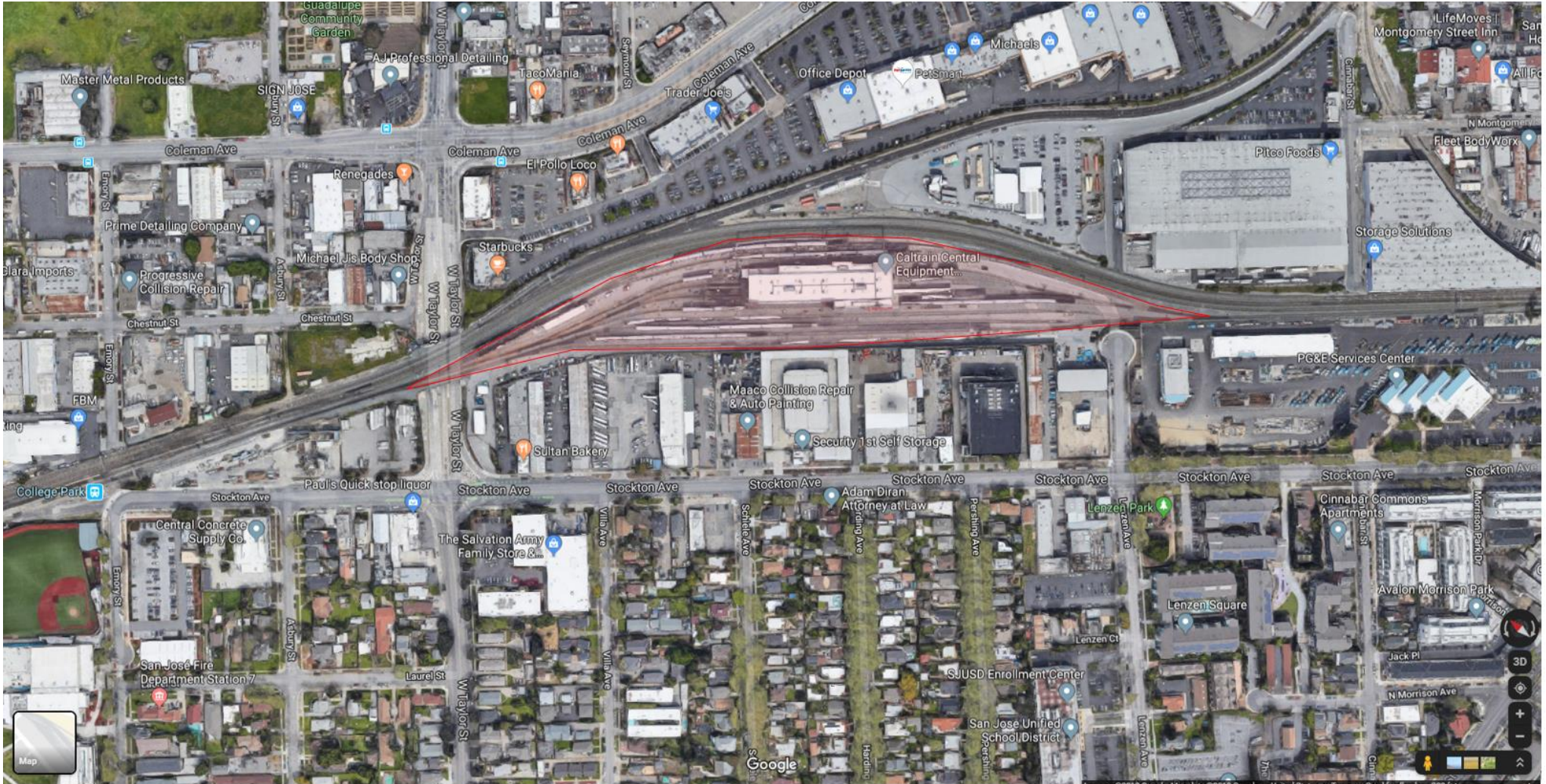
CEMOF BACKGROUND

- Central Equipment & Maintenance Facility (CEMOF)
- Completed in 2007
- Serves as the “nerve center” of Caltrain



CEMOF MODIFICATIONS

- Inspection Pit Extension
 - Enable workers to work underneath new electric trains
 - Extend 330 ft
- Other on-site improvements
 - Rolling Maintenance Platform (in building)
 - Camera installation
 - Temporary Parts storage building
- Expected Construction ~ 6 months



INSPECTION PIT



- Lengthen 330 ft

OTHER MODIFICATIONS



Electric train parts storage structure

Maintenance platform (within structure)

TEMPORARY BUILDING EXAMPLE



CEMOF CONSTRUCTION INFORMATION

- Work hours typically weekdays from 7 a.m. to 5 p.m.
- Excavated dirt to be stored on-site
- Concrete trucks in area
 - Accessing facility from Stockton St. and Lenzen Ave.
- Sheet pile installation to act as a retention system to support excavation

GENERAL 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

PUBLIC OUTREACH

CalMod

CALTRAIN MODERNIZATION PROGRAM
Test Pile 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 quietly 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/PCPEconstruction to sign-up for weekly construction updates.

We appreciate your patience during construction.

Doorhanger

CalMod

CALTRAIN ELECTRIFICATION PROJECT

STATUS UPDATE | January 2018

MILESTONES

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

KEY REGIONAL BENEFITS 2040

GREENHOUSE GASES (ANNUAL)	176,000 METRIC TONS CO ₂	
DIESEL TO ELECTRIC	LOWER FUEL COSTS	
TRAFFIC CONGESTION	619,000 VEHICLE MILES	
	21% INCREASE	DAILY RIDERSHIP
	\$2.5 BILLION	ECONOMIC BENEFITS
	MORE SERVICE	MORE FREQUENT & FASTER TRIPS

FOR MORE INFORMATION

- www.calmod.org
- 650.399.9659
- Para traducción lláma al 1.800.660.4287
如需要翻译, 请电: 1.800.660.4287
Call dịch thuật, xin gọi 1.800.660.4287
- Project Outreach Office
9:00a.m. to 5:00p.m.
2121 S. El Camino Real, Bldg A, Ste A-100
San Mateo, CA 94403

Factsheet

CALTRAIN MODERNIZATION

IMPROVING CONVENIENCE
An electrified system means the trains can run more frequently and more efficiently.

INCREASING CAPACITY
CalMod upgrades give us room to grow, initially increasing capacity by over 30%.

BOOSTING ECONOMIES
CalMod will also provide economic benefits, including creating nearly 10,000 jobs across the country.

ADVANCING SUSTAINABILITY
Replacing old diesel trains with new electric trains will reduce GHG and improve air quality.

These are just a few examples of how Caltrain and the CalMod program are innovating 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


WHAT'S NEXT


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




CALMOD CONTACT INFORMATION

WEEKLY UPDATES  CalMod.org/get-involved

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