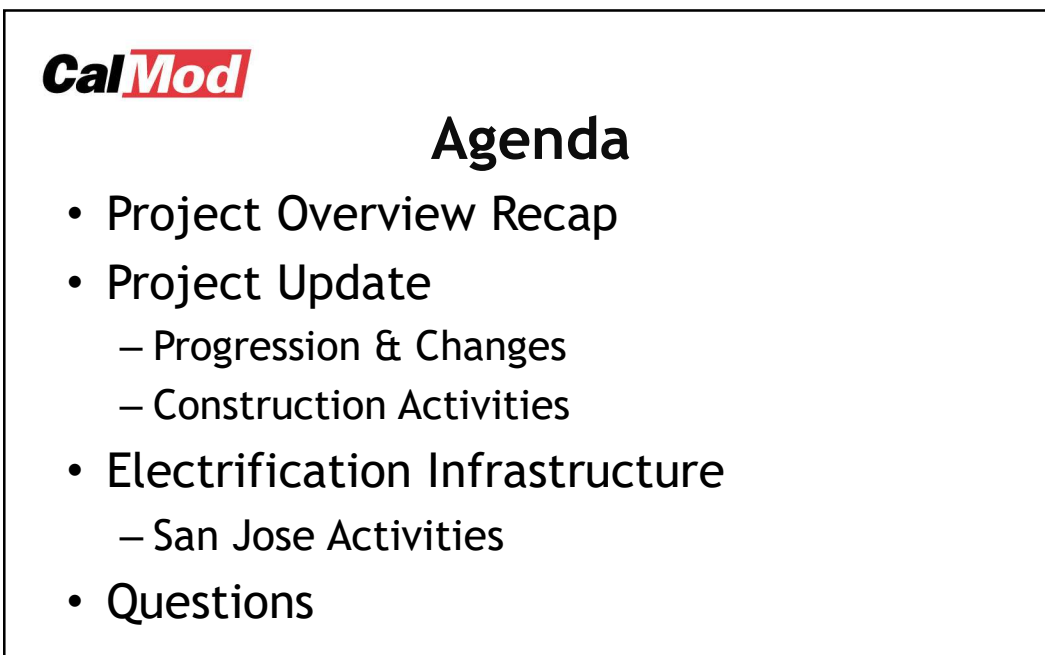




CalMod

Peninsula Corridor Electrification Update Meeting



San Jose Community Meeting
March 15, 2018




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Agenda

- Project Overview Recap
- Project Update
 - Progression & Changes
 - Construction Activities
- Electrification Infrastructure
 - San Jose Activities
- Questions








Caltrain System



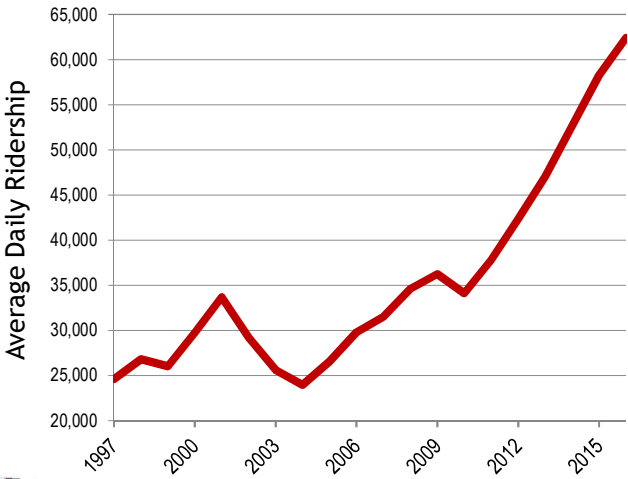
JBP owns right-of-way from SF to San Jose

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



Union Pacific owns

Ridership



| Year | Average Daily Ridership |
|------|-------------------------|
| 1997 | 25,000 |
| 1998 | 26,000 |
| 1999 | 26,000 |
| 2000 | 27,000 |
| 2001 | 33,000 |
| 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 | 43,000 |
| 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.



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Regional Transportation Needs

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



Genentech



facebook

SILICON VALLEY
LEADERSHIP GROUP

Google

**Caltrain****CalMod**

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 |

**Caltrain**

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Service Benefits

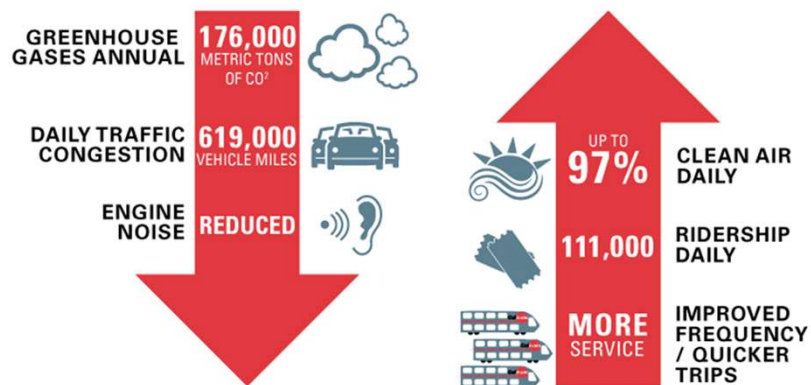
| Metric | Today | PCEP |
|-------------------------------|------------|------------|
| Example Baby Bullet Train | | |
| Retain 5-6 stops | 60 minutes | 45 minutes |
| Retain SF to SJ 60 minutes | 6 stops | 13 stops |
| Example Redwood City Station | | |
| Train stops / peak hour | 3 | 5 |



Note: Prototypical Train and Schedule

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Key Regional Benefits (2040)



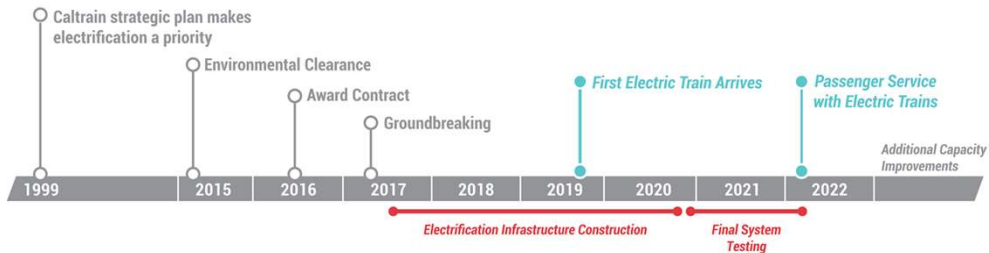
Note: 2013 BAC Report, generates \$2.5B economic activity and 9,600 jobs





Schedule

MILESTONES



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

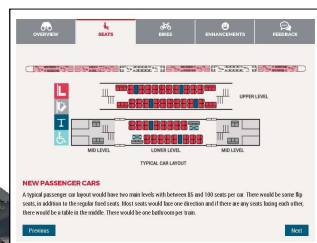


Note: Schedule Subject to Change



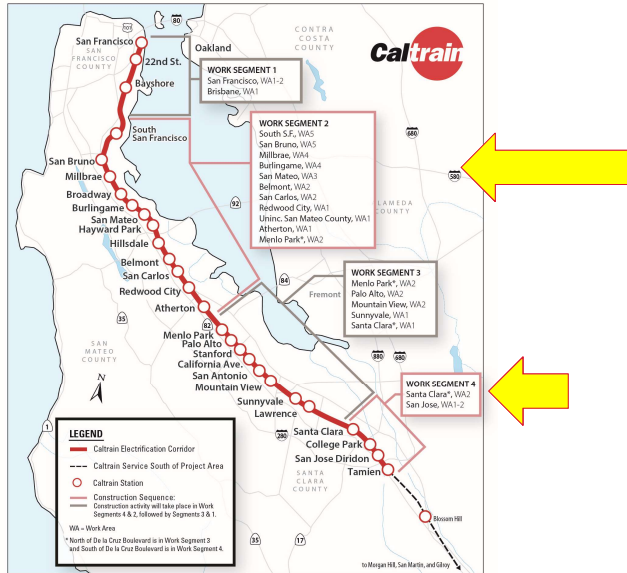
Electric Train

- 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



CalMod Construction Phasing

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



• Segments 2 & 4 followed by 1 & 3



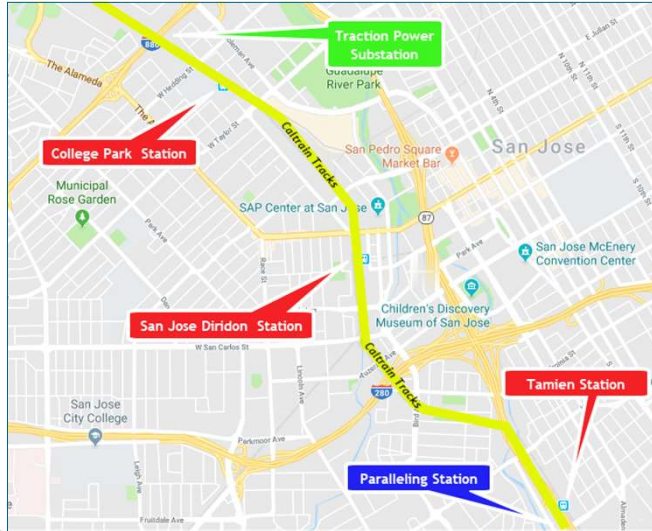
CalMod Field Work Progression

| | |
|---------------------------|--|
| 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 |
| Ongoing and Upcoming Work | <ul style="list-style-type: none"> • Tree Pruning/Removal • Potholing • Foundation Installation |
| Future Work | <ul style="list-style-type: none"> • Overhead Contact System Pole Installation • Overhead Contact System Wire Installation • Traction Power Substation (TPS) • TPS Interconnection |





San Jose – Work Segment 4



San Jose Project Area 5.38 miles



Future Construction Activities

San Jose

| Date | Work Activity | Expected Duration* |
|-------------|---|--------------------|
| Spring 2018 | Foundation Installation | 3-5 months |
| Summer 2018 | Pole/Wire Installation | 2-3 months |
| Spring 2018 | Traction Power Station (North San Jose) | 12 months |
| August 2018 | TPS Interconnection | 4-5 months |



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



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Foundation Installation



On and Off Track Equipment

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Pole Information

- 3,000 Installed throughout Corridor
 - 460 poles installed in San Jose
- San Jose Pole Types*
 - Single-Track Cantilever (30'-35' height)
 - Two-Track Cantilever (45.5' height)
 - Center Poles (30'-35' height)
 - Portals (35'-40' height)
 - Headspan (35'-40' height)
- Pole Spacing: ~180' apart
- Black poles at San Jose Stations



* Currently 95% Design



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Pole Installation San Jose



Single Track Cantilever



Center



Two & Three Track Cantilever

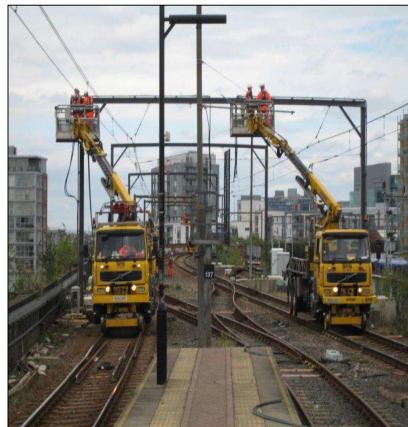


Example of Poles Currently Planned for Use in San Jose



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Pole Installation San Jose



Portal



Headspan



Poles planned for San Jose Diridon Station and CEMOF



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Stringing Wire



On-track Equipment

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Traction Power Substation

- 10 Traction Power Facilities Installed throughout Corridor
 - 1 Traction Power Substation installed in San Jose
 - 1 Paralleling Station in San Jose
 - 300 ft. x 143 ft. site footprint
 - Gantry structures up to 50'
- Provides electrical power to electric trains through the Overhead Contact System (OCS)
- Unmanned station
- Day and weekend construction work 6:30am - 5:00pm
- Limited night work during construction

**Caltrain**

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Traction Power Substation



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Traction Power Substation



Example Traction Power Substation





Traction Power Substation Interconnection

- Overhead aerial transmission lines.
 - Will route from PG&E Substation south of Interstate 880
- Construction expected to be completed in 2019
- Tree pruning and removal may be required



Traction Power Substation Interconnection



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Test Track Information

- Approximately 1.5 miles of existing track
- Located between Santa Clara Station and Caltrain CEMOF facility
- Foundations, poles and wires to be installed prior to electric train testing

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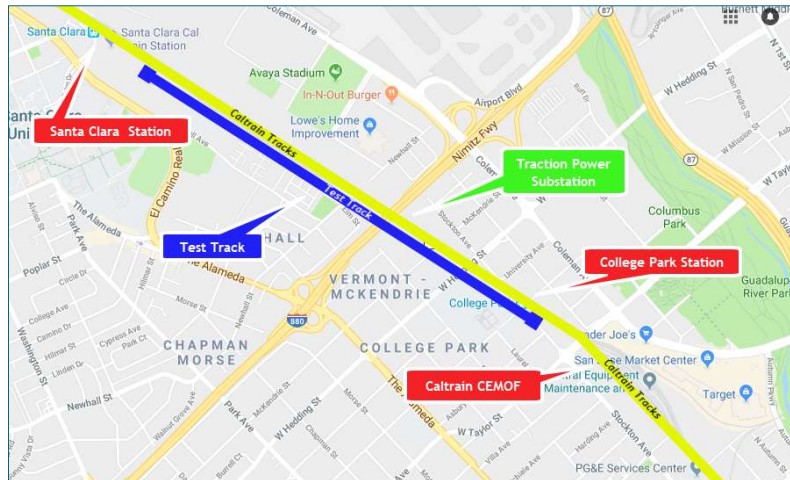
Test Track Information

- New electric trains will be tested on track
- Testing to occur between Summer 2019 to Fall 2021
- Testing anticipated to be during daytime

**Caltrain**

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Test Track Location



Caltrain

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CEMOF Modifications

- Service and Inspection Pit Extension
- Indoor Platforms for Pantograph Inspection
- Pantograph Camera
- Spare Parts Building
- Construction to begin Summer 2018



Caltrain



Overall 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



Station Impacts




- Some trains will single track through work areas
- Platforms may be closed during these times
- Look up and listen for station announcements for the latest information





Public Outreach

- Subscribe to Weekly Updates
 - Visit www.calmod.org/get-involved
- Additional Community Meetings
 - Pole and Wire Installation
 - Traction Power Interconnection
 - CEMOF Modifications
 - EMU Testing
- Social Media
- Construction Outreach Office

Public Outreach

- Physical Notices

Caltrain 710 Box 3000
San Carlos, CA 95070-1300

Physical Notice Mail
1575 Project
P.O. Address Inc.

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 eléctrica, el reemplazo de los conductores de la línea, el reemplazo de los sistemas de señalización, y el reemplazo de los sistemas de energía para el control para la instalación y operación del servicio de transporte modernizado. Después del completamiento de algunas, algunas limitaciones de tráfico en las líneas 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. No se disculpan 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 controlará los niveles de actividad a áreas residenciales de la región.

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 sus más pasajeros y a operar la expansión de tráfico regional. Los nuevos trenes eléctricos están programados para operar en el 2021.

No debe preocuparse por los trabajos que pueden afectar ciertos trabajos para entregar estos beneficios críticos a nuestras comunidades.

Por favor visite nuestro sitio web en www.caltrain.com/PCEP para más detalles 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 to allow for the 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 inconvenience to you. 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, and provide improved service to help Caltrain meet the increasing ridership demand. 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.

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

We appreciate your patience during construction.

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



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
- Drilling holes for placement of test piles
- Pour concrete and install rebar
- Backfill holes to cover work area


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/PCEP to sign-up for weekly construction updates.

We appreciate your patience during construction.







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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.calmod.org

