AGENDA

• Caltrain System Overview
• Project Overview
• Electric Train Design
• San Francisco Construction Activities
• 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

- 1999: Caltrain strategic plan makes electrification a priority
- 2015: Environmental Clearance
- 2016: Award Contract
- 2017: Groundbreaking
- 2018: First Electric Train Arrives
- 2019: Passenger Service with Electric Trains
- 2020: Electrification Infrastructure Construction
- 2021: Final System Testing
- 2022: Additional Capacity Improvements

*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 Finalized with Additional Public Input (exterior design, seat colors, bike storage, ADA restroom)

• **2019** Virtual Reality 360 Tour
CONSTRUCTION PHASING

- 51 Miles Corridor
- 4 Work Segments
- 3,000 Poles
- 10 Traction Power Facilities
## FIELD WORK PROGRESSION

<table>
<thead>
<tr>
<th>Work Completed</th>
<th>Work In Progress</th>
<th>Future Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Utility Survey</td>
<td>• Tree Pruning/Removal</td>
<td>• Foundation Installation</td>
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<tr>
<td>• Geotechnical Investigations</td>
<td>• Potholing</td>
<td>• Pole Installation</td>
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<tr>
<td>• Disposal of Soil from Geotechnical Investigations</td>
<td>• Tunnel Work</td>
<td>• Wire Installation</td>
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<tr>
<td>• Soil Resistivity Testing</td>
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<td>• Paralleling Station</td>
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<tr>
<td>• Site Surveys</td>
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<tr>
<td>• Signal Cable Inspections</td>
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## Future Construction

### San Francisco

<table>
<thead>
<tr>
<th>Date</th>
<th>Work Activity</th>
<th>Expected Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td>In Progress</td>
<td>Tree Pruning/Removal</td>
<td>3-6 months</td>
</tr>
<tr>
<td>In Progress</td>
<td>Potholing</td>
<td>3-6 months</td>
</tr>
<tr>
<td>In Progress</td>
<td>Tunnel Work</td>
<td>9-12 months</td>
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<tr>
<td>Early 2020</td>
<td>Foundation Construction</td>
<td>2-3 months</td>
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<tr>
<td>Summer 2020</td>
<td>Pole/Wire Installation</td>
<td>4-5 months</td>
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<tr>
<td>Fall 2019</td>
<td>Paralleling Station Construction</td>
<td>4-6 months</td>
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</tbody>
</table>

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

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

On Track Equipment
POLE INFORMATION

• 3,000 Installed throughout Corridor
  • Approx. 300 poles in San Francisco
• Pole Height: 30-50’
• Pole Spacing: ~180’ apart
POLE TYPES SAN FRANCISCO

Single Track Cantilever
Two Track Cantilever
Center
POLE TYPES SAN FRANCISCO

Portal

Headspan
POLE INSTALLATION
STRINGING WIRE
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
PARALLELING STATION-1 LOCATION
PARALLELING STATION-1

38' Gantries Installed Below the Freeway

Transformer

Control House
PARALLELING STATION-2 LOCATION
EXAMPLE PARALLELING STATIONS

Examples from Amtrak Northeast Corridor
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

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**CALTRAIN ELEC TRIFICATION PROJECT**
**STATUS UPDATE | January 2018**

**MILESTONES**

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</thead>
<tbody>
<tr>
<td>Elected Infrastructure Construction</td>
<td>Final System Testing</td>
<td>Environmental Clearance</td>
<td>Environmental Clearance</td>
<td>Award Contract</td>
<td>Environmental Clearance</td>
<td>Groundbreaking</td>
</tr>
</tbody>
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**CALTRAIN MODERNIZATION**

**KEY REGIONAL BENEFITS 2040**

- 176,000 TON-MILES REDUCED
- $2.5 BILLION ECONOMIC BENEFITS
- DAILY RIDE CAPACITY INCREASED
- 619,000 HOURS OF TRAFFIC CONGESTION REDUCED
- 21% INCREASE IN ELECTRIC RIDE

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**FOR MORE INFORMATION**

- www.calmod.org
- calmod@caltrain.com
- 1-669-399-9658
- Find information here: 1-866-440-4355
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**Postcard**

**Public Meeting**

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**Doorhanger**

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**Factsheet**

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**CalMod.org**
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
  – sftca.org/transbay-transit-center
• Diridon Concept Plan
  – DiridonSJ.org
CALMOD CONTACT INFORMATION

WEEKLY UPDATES 🌐 CalMod.org/get-involved

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