AGENDA

• Caltrain System Overview
• Project Overview
• Electric Train Design
• Sunnyvale Construction Activities
• Questions
CALTRAIN SYSTEM

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

RIDERSHIP

Average daily ridership from 1998 to 2018
AT CAPACITY TODAY

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

AGING FLEET

Locomotives

- Locomotives Past Retirement Date 2015-2017 (20 of 29)
- Locomotives Within Retirement Date (9 of 29)
CORRIDOR SUPPORTS GROWING ECONOMY

- The corridor is the #3 most congested area in the U.S.
- US 101 and Interstate 280 congested
- 75% Caltrain riders commute to work
- 60% are choice riders
- Organizations shown represent Caltrain Commuter Coalition (P3)

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

SERVICE BENEFITS

<table>
<thead>
<tr>
<th>Metric</th>
<th>Today</th>
<th>PCEP</th>
<th>Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXAMPLE: BABY BULLET TRAIN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retain 5-6 stops</td>
<td>60 min</td>
<td>45 min</td>
<td><strong>15 minute savings</strong></td>
</tr>
<tr>
<td>Retain SF to SJ 60 minutes</td>
<td>6</td>
<td>13</td>
<td><strong>7 more stops</strong></td>
</tr>
</tbody>
</table>

EXAMPLE: REDWOOD CITY STATION

<table>
<thead>
<tr>
<th>Metric</th>
<th>Today</th>
<th></th>
<th>Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Train stops / peak hour</td>
<td>3</td>
<td>5</td>
<td><strong>2 more stops</strong></td>
</tr>
</tbody>
</table>

* Note: Prototypical Train and Schedule
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

*M 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

**Work Completed**
- Utility Survey
- Geotechnical Investigations
- Disposal of Soil from Geotechnical Investigations
- Soil Resistivity Testing
- Site Surveys
- Signal Cable Inspections

**Work In Progress**
- Tree Pruning/Removal
- Potholing

**Future Work**
- Foundation Installation
- Pole Installation
- Wire Installation
- Paralleling Station
## FUTURE CONSTRUCTION

### Sunnyvale

<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>2-3 months</td>
</tr>
<tr>
<td>In Progress</td>
<td>Potholing</td>
<td>2-3 months</td>
</tr>
<tr>
<td>Spring 2019</td>
<td>Paralleling Station Construction</td>
<td>4-5 months</td>
</tr>
<tr>
<td>Summer/Fall 2019</td>
<td>Foundation Construction</td>
<td>2-3 months</td>
</tr>
<tr>
<td>Late 2019</td>
<td>Pole/Wire Installation</td>
<td>2-3 months</td>
</tr>
</tbody>
</table>

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

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### FOUNDATION INSTALLATION

*On Track Equipment*
POLE INFORMATION

• 3,000 Installed throughout Corridor
  • Approx. 250 poles in Sunnyvale
• Pole Height: 30-50’
• Pole Spacing: ~180’ apart

POLE TYPES SUNNYVALE

Single Track Cantilever

Two Track Cantilever
POLE TYPES SUNNYVALE

Center

Portals

POLE INSTALLATION

Current Pole Installation
STRINGING WIRE

- 10 Traction Power Facilities Installed throughout Corridor
  - 1 Paralleling Station installed in Sunnyvale
  - 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 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

SAN FRANCISCO WEEKEND SERVICE

• Weekends - Oct 6, 2018 to Late Spring 2019
  – Caltrain service north of the Bayshore Station will be suspended on the weekends
  – Bus service will be provided from Bayshore to 4th and King and 22nd Street stations
• Weekday service will remain unchanged
• Caltrain service south of Bayshore will remain unchanged
• Bus schedule available at caltrain.com
PUBLIC OUTREACH

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

WEEKLY UPDATES 🔗 CalMod.org/get-involved
EMAIL ✉️ CalMod@caltrain.com
PHONE 📞 650-399-9659
           800-660-4287 (Toll Free)

OFFICE 📍 2121 S. El Camino, Suite A-100
           San Mateo, CA 94403
           9 a.m. - 5 p.m. Monday - Friday

WEBSITE 🔗 CalMod.org
FACEBOOK 🔎 www.facebook.com/caltrain
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