Peninsula Corridor Electrification Update Meeting
Redwood City Council
April 9, 2018

Caltrain System

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

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

Union Pacific owns
Ridership

Average Daily Ridership

At Capacity Today

Bi-directional commute; Choice Riders
Aging Fleet

At Retirement Age: 20/29 loco; 73/134 cars

<table>
<thead>
<tr>
<th>Series</th>
<th>Quantity</th>
<th>Number of Seats</th>
<th>Year of Manufacture</th>
<th>Make</th>
<th>Retire Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>F40PH-2</td>
<td>5</td>
<td>na</td>
<td>1985</td>
<td>GM - EMD</td>
<td>2015-2017</td>
</tr>
<tr>
<td>F40PH-2C</td>
<td>3</td>
<td>na</td>
<td>1988</td>
<td>Boise Locomotive</td>
<td>2017</td>
</tr>
<tr>
<td>MPSP42C</td>
<td>6</td>
<td>na</td>
<td>2003</td>
<td>Motive Power</td>
<td>2033</td>
</tr>
</tbody>
</table>

Passenger Cars

- Gallery Trailer 26
- Gallery Trailer 16
- Gallery Trailer 14
- Gallery Cab (Bike) 10
- Gallery Cab (Bike) 6
- Gallery Cab (Bike) 21
- Bi-Level Trailer 15
- Bi-Level Trailer 9
- Bi-Level Trailer (Bike) 2
- Bi-Level Trailer (Bike) 5
- Bi-Level Trailer (Bike) 2
- Bi-Level Trailer (Bike) 1
- Bi-Level Trailer 6

*Trailers recently acquired from Metrolink with refurbishment ongoing.

Project Description

<table>
<thead>
<tr>
<th>Area</th>
<th>Project</th>
<th>Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>51 miles San Francisco to San Jose (Tamien Station)</td>
<td>Electrification: • Overhead Contact System (OCS) • Traction Power Facilities Electric Trains (EMUs) • 75 percent of fleet</td>
<td>Up to 79 mph Service Increase • 6 trains / hour / direction • More station stops / reduced travel time • Restore Atherton &amp; Broadway service Mixed-fleet service (interim period) Continue tenant service • ACE, Capital Corridor, Amtrak, Freight</td>
</tr>
</tbody>
</table>
Service Benefits

<table>
<thead>
<tr>
<th>Metric</th>
<th>Today</th>
<th>PCEP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example Baby Bullet Train</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retain 5-6 stops</td>
<td>60 minutes</td>
<td>45 minutes</td>
</tr>
<tr>
<td>Retain SF to SJ 60 minutes</td>
<td>6 stops</td>
<td>13 stops</td>
</tr>
<tr>
<td>Example RWC Station</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Train stops / peak hour</td>
<td>3</td>
<td>5</td>
</tr>
</tbody>
</table>

Based on a Prototypical Schedule

Key Regional Benefits (2040)

- GREENHOUSE GASES ANNUAL: 176,000 metric tons of CO2
- DAILY TRAFFIC CONGESTION: 619,000 vehicle miles
- ENGINE NOISE: REDUCED
- UP TO 97% CLEAN AIR DAILY
- IMPROVED FREQUENCY / QUICKER TRIPS
- RIDERSHIP DAILY
- MORE SERVICE

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

MILESTONES

- Caltrain strategic plan makes electrification a priority
- Environmental Clearance
- Award Contract
- Groundbreaking
- First Electric Train Arrives
- Passenger Service with Electric Trains


Additional Capacity Improvements

Electric Train Infrastructure Construction
Final System Testing

+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 Input

- 2016 Capacity Board Decision (bike to seat ratio, onboard bathrooms, upper doors ‘not precluded’)
- 2017 Design Refinement (exterior design, seats, bike storage, ADA restroom)
- 2018 Virtual Reality 360 Tour

Over 15,000 comments (online, in-person, surveys, station popups)
Construction Phasing

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

Redwood City Field Work Status

<table>
<thead>
<tr>
<th>Status</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete</td>
<td>Utility Survey</td>
</tr>
<tr>
<td></td>
<td>Geotech Investigations</td>
</tr>
<tr>
<td></td>
<td>Disposal of Soil from Geotech Work</td>
</tr>
<tr>
<td></td>
<td>Soil Testing</td>
</tr>
<tr>
<td></td>
<td>Site Surveys</td>
</tr>
<tr>
<td></td>
<td>Signal Cable Inspections</td>
</tr>
<tr>
<td></td>
<td>Potholing for Foundations and Signals</td>
</tr>
<tr>
<td></td>
<td>Tree Pruning and Removal*</td>
</tr>
<tr>
<td>Upcoming Work</td>
<td>Foundation Installation</td>
</tr>
<tr>
<td></td>
<td>Pole Installation</td>
</tr>
<tr>
<td></td>
<td>Wire Installation</td>
</tr>
<tr>
<td></td>
<td>Switching Station Construction</td>
</tr>
</tbody>
</table>

*In Progress
## Redwood City Upcoming Work

<table>
<thead>
<tr>
<th>Date</th>
<th>Work Activity</th>
<th>Expected Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summer 2018</td>
<td>Foundation Installation</td>
<td>3-4 months</td>
</tr>
<tr>
<td>Late 2018</td>
<td>Overhead Pole and Wire Installation</td>
<td>3-4 months</td>
</tr>
<tr>
<td>Late 2018</td>
<td>Switching Station Construction</td>
<td>9-12 months</td>
</tr>
</tbody>
</table>

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

## Potholing
Pole Foundation Work

DrillTech on track foundation train

DrillTech off-track OCS Drill Rig

Will take place on and off track

Pole Installation

On/off-track crane for installation

Wide flange & square poles

Foundation Rebar Cage

Approximately 180’ pole spacing
Wire Installation

Will take place on-track

Construction Impacts

- Daytime & night work from 8pm- 6am
- Some 24 hour weekend work
- Crews will utilize acoustical barrier blankets and position lights away from homes
- Dedicated hotline for construction complaints
Public Outreach

• Subscribe to Weekly Updates
  – Visit calmod.org/construction

• Project Email and Hotline
• Construction Outreach Office

• Community Meetings
  – November 2017 RWC & Fair Oaks Meeting
  – Future meeting before pole, wire, and switching station installation

Public Outreach

• Physical Notices
Contact Information

EMAIL
CalMod@caltrain.com

PHONE
650-399-9659
(Toll Free) 800-660-4287

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

CalMod.org/construction
Twitter: @caltrain

Grade Crossing Project

• **Purpose:** Safety Improvements
• **Location:** Broadway, Main & Whipple
• **Activities:** New pavement marking, tactile warning on sidewalks, guardrails and new pedestrian gates
• **Impacts:** Partial sidewalk and lane closures during the day
• **Status:** Work expected to be complete by August 2018