Caltrain Electrification Update
San Mateo Community Meeting
October 9, 2018

Agenda
• Project Overview Recap
• Project Update
  – Progression & Changes
  – Construction Activities
• Electrification Infrastructure
  – San Mateo Activities
• Questions
Caltrain System

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

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

Ridership

AVERAGE DAILY RIDERSHIP

1998  2018

10,000  70,000
At Capacity Today

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

Aging Fleet

<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>
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<tr>
<td>F40PH-2</td>
<td>5</td>
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<td>F40PH-2C</td>
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Passenger Cars

<table>
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<tbody>
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<td>1999-2000</td>
<td>Nippon Sharyo</td>
<td>2030</td>
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<td>2030</td>
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<td>97</td>
<td>1985</td>
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<td>2015</td>
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<td>Bi-Level Trailer*</td>
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</table>

*Trailers recently acquired from Metrolink with refurbishment ongoing.

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

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

Project Description

<table>
<thead>
<tr>
<th>Area</th>
<th>Project</th>
<th>Service</th>
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</table>
| 51 miles San Francisco to San Jose (Tamien Station) | Electrification:  
  - Overhead Contact System (OCS)  
  - Traction Power Facilities  
  Electric Trains  
  - 75 percent of fleet | 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>
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<tr>
<th>Metric</th>
<th>Today</th>
<th>PCEP</th>
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<tbody>
<tr>
<td>Example Baby Bullet Train</td>
<td></td>
<td></td>
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<tr>
<td>Retain 5-6 stops</td>
<td>60 min</td>
<td>45 min</td>
</tr>
<tr>
<td>Retain SF to SJ 60 minutes</td>
<td>6 stops</td>
<td>13 stops</td>
</tr>
<tr>
<td>Example Redwood City Station</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Train stops / peak hour</td>
<td>3</td>
<td>5</td>
</tr>
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Note: Prototypical Train and Schedule

### Key Regional Benefits (2040)

- **Greenhouse Gases Annual**
  - 176,000 metric tons of CO2

- **Daily Traffic Congestion**
  - 619,000 vehicle miles
  - Up to 97% reduction

- **Engine Noise Reduced**
  - 111,000 ridership daily

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
- Final System Testing


Electrification Infrastructure Construction

*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

CalMod

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

San Mateo

San Mateo Project Area 4.4 miles
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
- Foundation Installation

Future Work
- Pole Installation
- Wire Installation
- Paralleling Station

Future Construction Activities

San Mateo

<table>
<thead>
<tr>
<th>Date</th>
<th>Work Activity</th>
<th>Expected Duration*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2018</td>
<td>Potholing</td>
<td>2-3 months</td>
</tr>
<tr>
<td>Fall/Winter 2018</td>
<td>Foundation Construction</td>
<td>2-3 months</td>
</tr>
<tr>
<td>Winter 2018</td>
<td>Pole/Wire Installation</td>
<td>4-5 months</td>
</tr>
<tr>
<td>Early 2019</td>
<td>Paralleling Station Construction</td>
<td>4-6 months</td>
</tr>
</tbody>
</table>

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

On Track Equipment

Pole Information

- 3,000 installed throughout Corridor
  - Approx. 190 poles in San Mateo
- Pole Height: 30-50’
- Pole Spacing: ~180’ apart
Pole Types San Mateo

Example of Poles Planned for Use in San Mateo

Pole Installation

Current Pole Installation
Stringing Wire

- On-track Equipment

Traction Power Facilities

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

South El Camino Real/Hillsdale Boulevard

Paralleling Station Details

Transformer
Gantries
Control House
Example Paralleling Stations

Examples from Amtrak Northeast Corridor

Construction Impacts

• 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 Tunnel Work

• Within the four San Francisco Tunnels:
  – Overhead Contact System Installation
  – Grouting and Notching
  – Drainage and Track Work

SF Weekend Caltrain Closures

• Weekends - Oct 6, 2018 to 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
• Schedule at caltrain.com/SFWeekendClosure
Public Outreach

• Subscribe to Weekly Updates
  – Visit www.calmod.org/get-involved
• Social Media
• Construction Outreach Office

Public Outreach

Physical Notices
CALMOD CONTACT INFORMATION

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