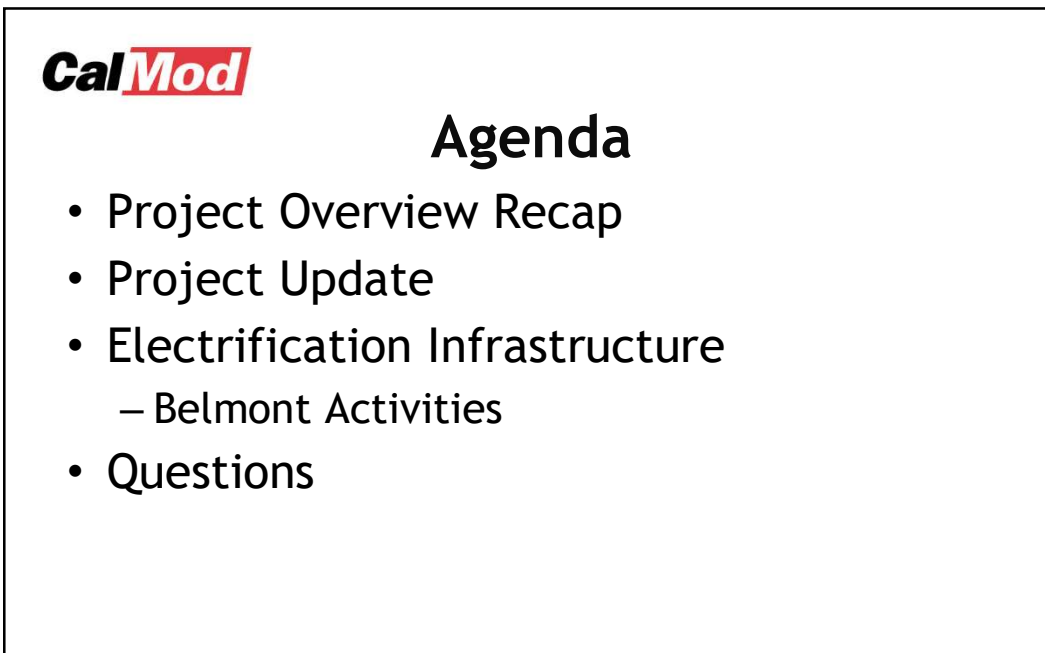




CalMod

Caltrain Electrification Update



Belmont Community Meeting
November 8, 2018



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Agenda

- Project Overview Recap
- Project Update
- Electrification Infrastructure
 - Belmont Activities
- Questions



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Caltrain System



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

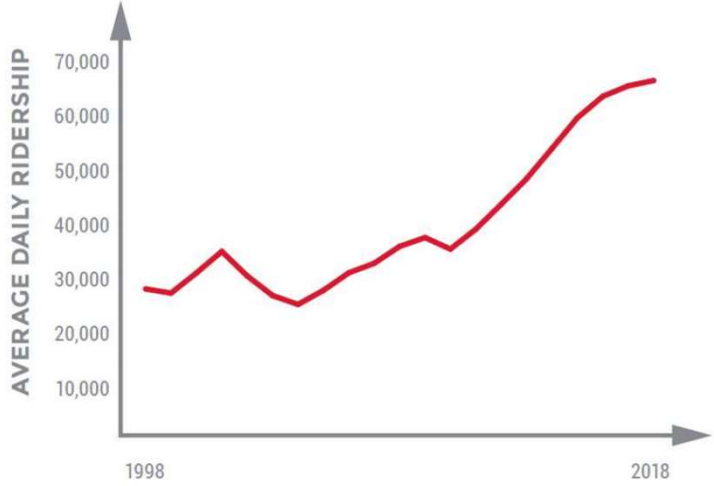
- 32 Stations Gilroy to San Francisco
- 92 Weekday Trains
- At-Grade Crossings, viaducts, and bridges
- Intermodal Connections
- Bike Commuters

Union Pacific owns






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Ridership



Year	Average Daily Ridership
1998	28,000
2000	35,000
2002	25,000
2004	32,000
2006	38,000
2008	35,000
2010	45,000
2012	60,000
2014	65,000
2016	68,000
2018	68,000



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	2026
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.



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



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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

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Project Description

Area	Project	Service
51 miles San Francisco to San Jose (Tamien Station)	<p>Electrification:</p> <ul style="list-style-type: none"> • Overhead Contact System (OCS) • Traction Power Facilities <p>Electric Trains</p> <ul style="list-style-type: none"> • 75 percent of fleet 	<p>Up to 79 mph</p> <p>Service Increase</p> <ul style="list-style-type: none"> • 6 trains / hour / direction • More station stops / reduced travel time • Restore Atherton & Broadway service <p>Mixed-fleet service (interim period)</p> <p>Continue tenant service</p> <ul style="list-style-type: none"> • ACE, Capitol Corridor, Amtrak, Freight



Caltrain



Service Benefits

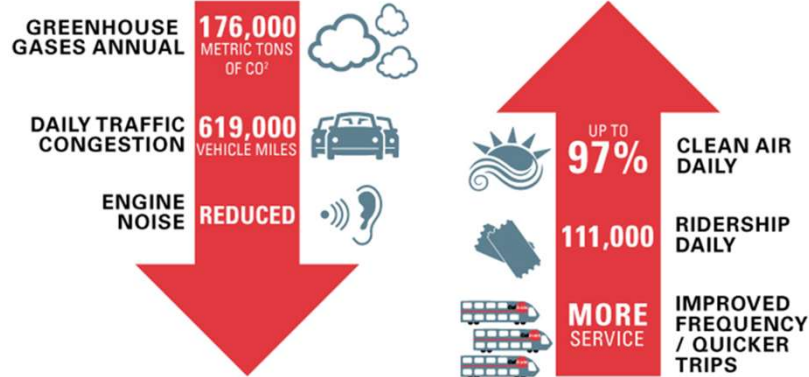
Metric	Today	PCEP
Example Baby Bullet Train		
Retain 5-6 stops	60 minutes	45 minutes
Retain SF to SJ 60 minutes	6 stops	13 stops
Example Redwood City Station		
Train stops / peak hour	3	5



Note: Prototypical Train and Schedule




Key Regional Benefits (2040)



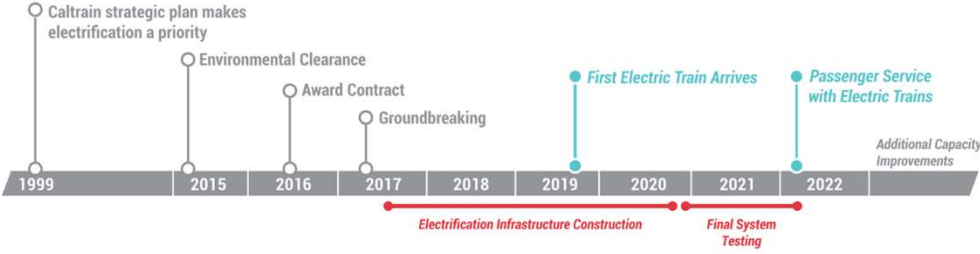
Note: 2013 BAC Report, generates \$2.5B economic activity and 9,600 jobs






Schedule



MILESTONES



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

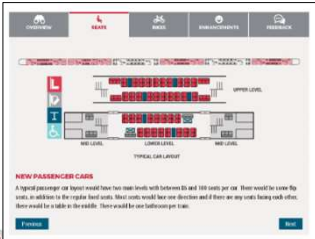





Note: Schedule Subject to Change

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
- 2019 Virtual Reality 360 Tour

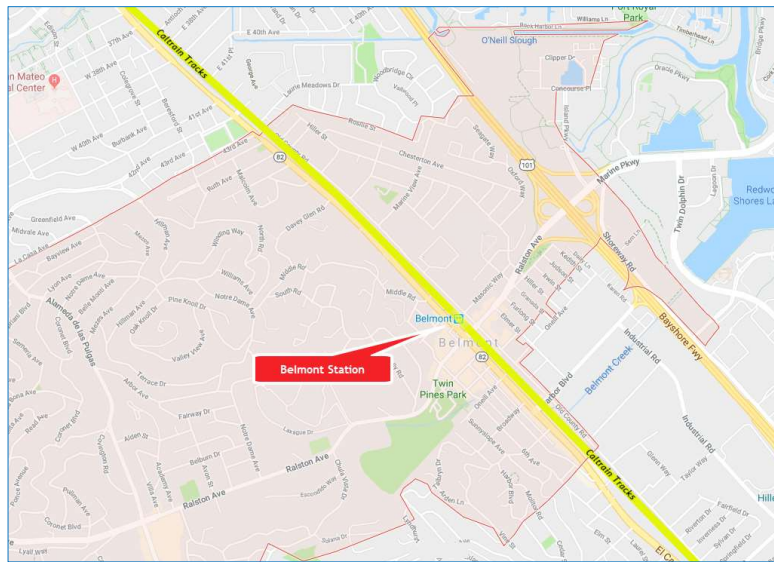





CalMod Construction Phasing

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



CalMod Belmont



Belmont Project Area 1.5 miles





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 • Tree Pruning/Removal
Work In Progress	<ul style="list-style-type: none"> • Potholing • Foundation Installation
Future Work	<ul style="list-style-type: none"> • Pole Installation • Wire Installation



Future Construction Activities

Date	Work Activity	Expected Duration*
In Progress	Potholing	2-3 months
In Progress	Foundation Construction	3-4 months
Late 2018	Pole Installation	2-3 months
Spring 2019	Wire Installation	2-3 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 Track Equipment

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Pole Information

- 3,000 Installed throughout Corridor
 - 81 poles in Belmont
- Pole Height: 30-50'
- Pole Spacing: ~180' apart



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Pole Types Belmont



Single Track Center



Single Track Side



Two-Track Cantilever (20)

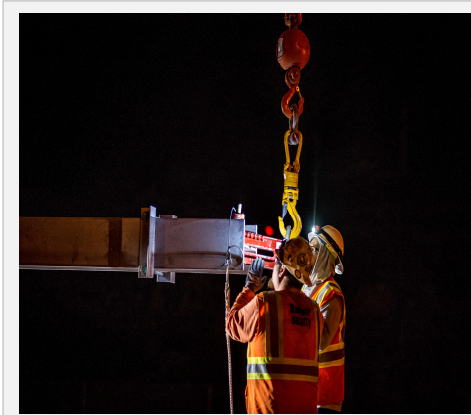


Combination of 61 Single Track Cantilever Poles.
Number for each type TBD



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Pole Installation



Current Pole Installation



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Stringing Wire



4 overhead wires per track: Feeder, Contact, Messenger, and Static

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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

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San Francisco Tunnel Work

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

**Caltrain****CalMod**

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

**Caltrain**



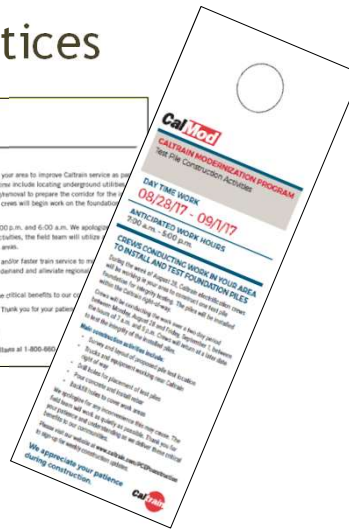
Public Outreach

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



Public Outreach

Physical Notices







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