




CalMod

Peninsula Corridor Electrification Update Meeting


Millbrae Community Meeting
March 22, 2018




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Agenda

- Project Overview Recap
- Project Update
 - Progression & Changes
 - Construction Activities
- Electrification Infrastructure
 - Millbrae Activities
- Questions








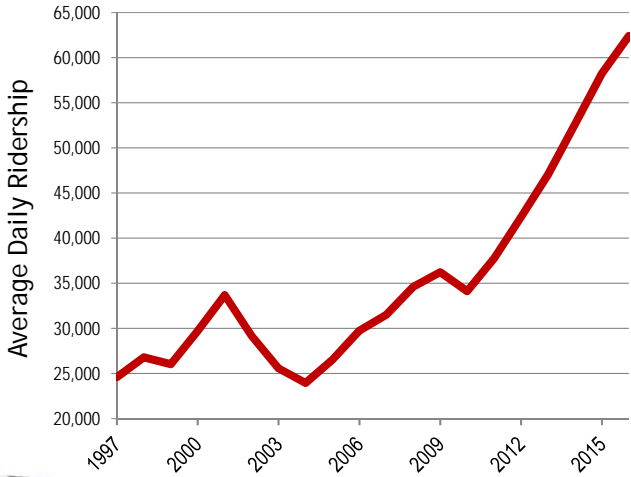
Caltrain System





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

Ridership



Year	Average Daily Ridership
1997	25,000
1998	26,000
1999	27,000
2000	28,000
2001	34,000
2002	28,000
2003	25,000
2004	24,000
2005	26,000
2006	29,000
2007	31,000
2008	35,000
2009	36,000
2010	34,000
2011	38,000
2012	42,000
2013	48,000
2014	55,000
2015	62,000



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	2028
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.





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



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 (EMUs)</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, Capital Corridor, Amtrak, Freight



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Service Benefits

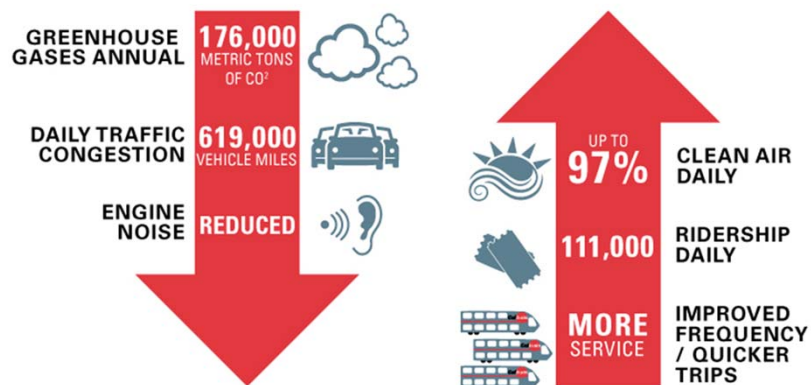
Metric	Today	PCEP
Example Baby Bullet Train		
Retain 5-6 stops	60 minutes	45 minutes
Retain SF to SJ 60 minutes	6 stops	13 stops
Example Redwood City Station		
Train stops / peak hour	3	5



Note: Prototypical Train and Schedule

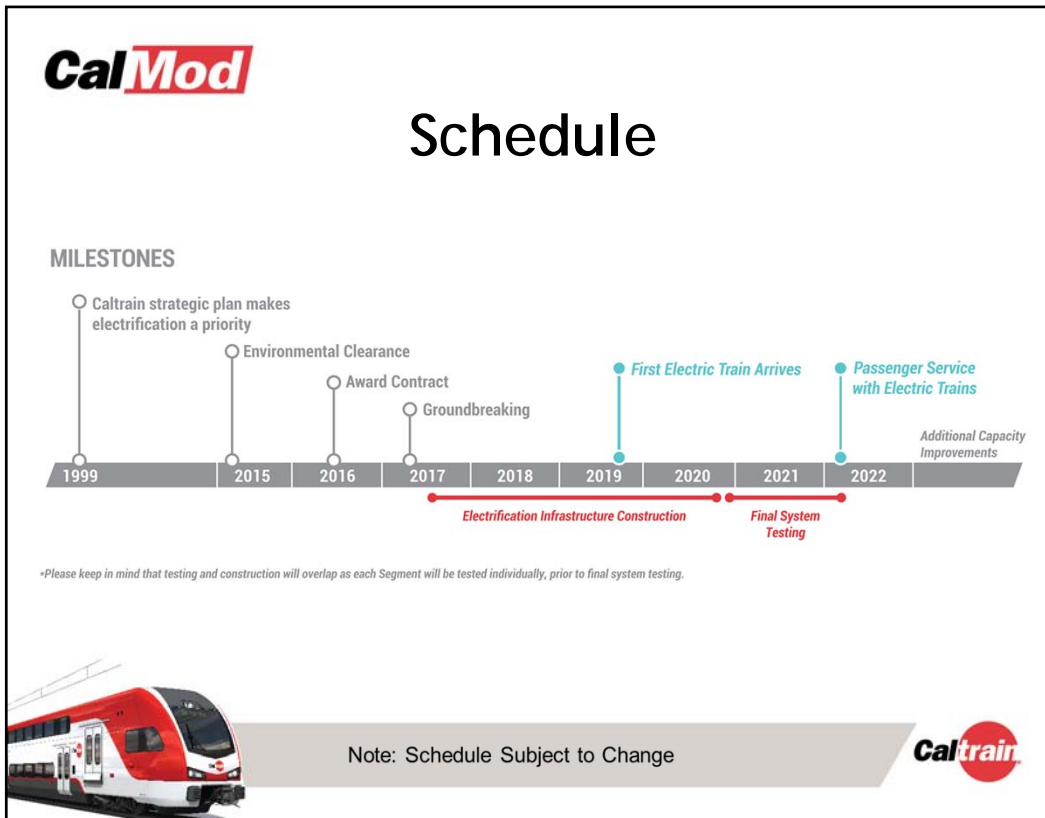
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Key Regional Benefits (2040)



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





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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

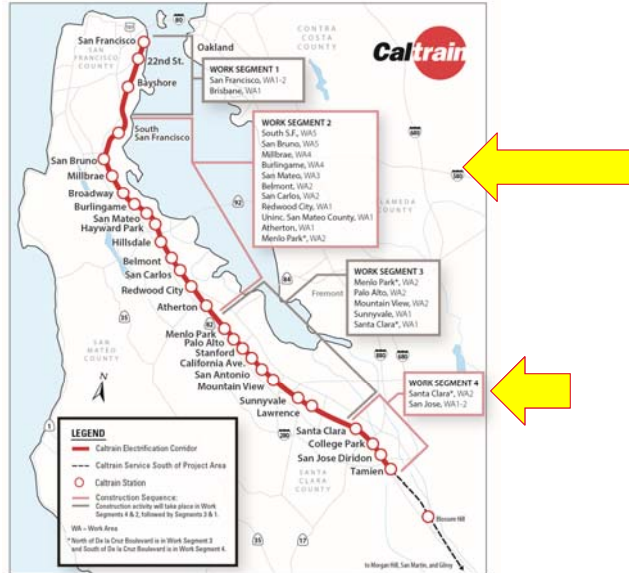
NEW PASSENGER CARS

A typical passenger car layout would have been made from between 80 and 100 seats per car. There would be some big seats, in addition to the regular seat seats. Most seats would have one direction and if there are any seats facing each other, they would be under the window. There would be one bathroom per car.

Caltrain

CalMod Construction Phasing

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



- Segments 2 & 4 followed by 1 & 3



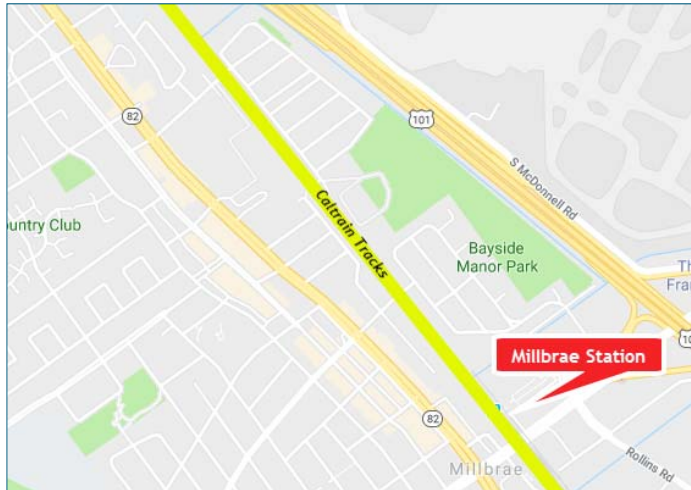
CalMod Field Work Progression

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"> • Overhead Contact System Pole Installation • Overhead Contact System Wire Installation



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Millbrae – Work Segment 2



Millbrae Project Area 1.3 miles

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Future Construction Activities

Millbrae

Date	Work Activity	Expected Duration*
In Process	Potholing	1-2 months
In Process	Foundation Installation	1-2 months
Late March 2018	Pole/Wire Installation	4-5 months

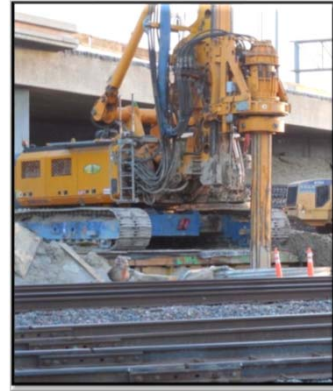


*Expected duration indicates first and last day of activity.
Number of actual work days will be fewer.



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Foundation Installation



On and Off Track Equipment

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Pole Information

- 3,000 Installed throughout Corridor
 - 70 poles installed in Millbrae
- Millbrae Pole Types*
 - Single-Track Cantilever (30'-35' height)
 - Two-Track Cantilever (45.5' height)
 - Portals (45' height)
- Pole Spacing: ~180' apart



* Currently 100% Design

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Pole Installation Millbrae



Single Track Cantilever



Two Track Cantilever



Portals



Example of Poles Currently Planned for Use in Millbrae



Stringing Wire



On-track Equipment





Construction Impacts

- Daytime work and night work from 8 p.m.- 6 a.m.
- 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 www.calmod.org/get-involved
- Additional Community Meetings
- Social Media
- Construction Outreach Office



