



Electric Multiple Unit Procurement Update

LPMG
September 25, 2014



Caltrain Today

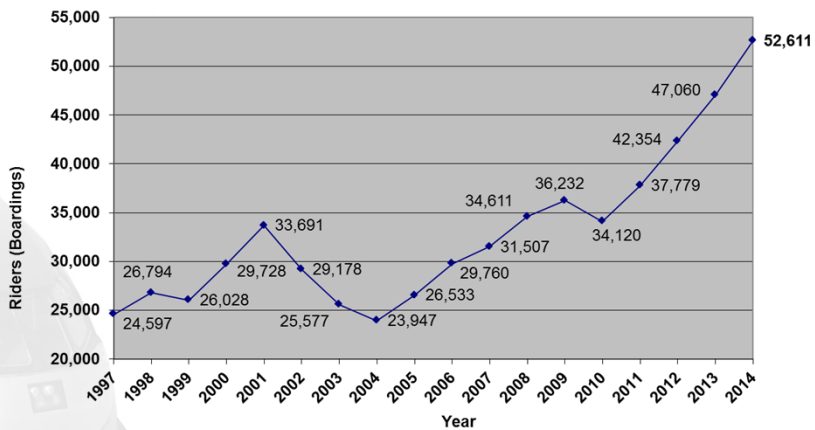


Key Facts

- Diesel commuter rail system
- SF to SJ area
- 77 mile corridor, 32 stations
- 92 trains / weekday
- Ridership: ~ 50,000+ weekday



Caltrain Ridership



Note: Bike Ridership 11 % increase (FY14)

2014 Top Ridership Trains

Northbound			
Train Number	Depart SJ	Max Load	Percent of Seated Capacity
319	7:03 AM	796	123%
323	7:45 AM	746	115%
329	8:03 AM	738	114%
375	5:23 PM	689	106%
217	6:57 AM	675	104%
225	7:50 AM	674	104%
233	8:40 AM	641	99%
313	6:45 AM	632	97%

Southbound			
Train Number	Depart SF	Max Load	Percent of Seated Capacity
376	5:33 PM	813	125%
370	5:14 PM	706	109%
366	4:33 PM	690	106%
268	4:56 PM	670	103%
278	5:56 PM	648	100%
324	8:14 AM	622	96%
322	7:57 AM	622	96%

Note: February 2014 counts (lower ridership season)

Caltrain Modernization



Caltrain Modernization Program

- Early Investment Program
 - Advanced Signal System: CBOSS PTC (2015)
 - Peninsula Corridor Electrification Project (2019)
- Caltrain/HSR Blended System

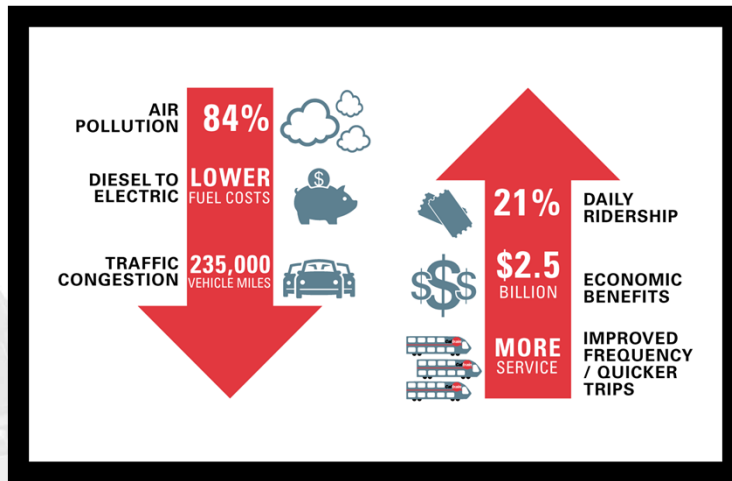


PCEP Project Description*

Area	Project	Service
51+ miles San Francisco to San Jose (Tamien Station)	Electrification: <ul style="list-style-type: none"> • Overhead Contact System (OCS) • Traction Power Facilities Electric Multiple Units (EMUs)	Up to 79 mph Service Increase <ul style="list-style-type: none"> • 6 trains / hour / direction • More station stops / reduced travel time • Restore Atherton & Broadway service Mixed-fleet service (interim period) Cont. tenant service

*Proposed project not yet approved, pending environmental clearance

Key Regional Benefits



Electric Multiple Unit (EMU) Procurement

Status

April 2014	JPB update on EMU procurement process
May 2014	RFI issued <ul style="list-style-type: none">• Q & A to support stakeholder dialogue• Inform RFP (early 2015)
June 2014*	Industry responses / meetings with car builders

* First industry scan conducted 2008

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Engagement

- 11 car builders contacted
- 4 have “Off-the Shelf” models
- 3 participated in June meetings
- Anticipate 2 – 4 car builders to propose on RFP

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Meetings with Car Builders

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Maximize Car Capacity

- Growing Demand
 - Ridership today: 50,000+
 - Ridership future: 100,000+
- Today
 - 20+ mile trips
 - 95%-125% peak weekday seat capacity
- Future
 - Share train slots with HSR (6 Caltrain / 4 HSR)
 - Caltrain needs to maximize car capacity / service frequency

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Industry Confirmation

Maximize Capacity	Bi-level (verse single level)
“Off the Shelf” Available	Service proven Saves costs / time
US Regulation Compliance	ADA Buy America FRA Waiver / Alternative Compliant Vehicles Criteria Will meet Caltrain Technical and Quality Standards
Floor Threshold	22” – 24” most common

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Floor Threshold

- Current Status
 - No level boarding: impacts dwell time and on-time performance
 - 8” above-top-of-rail (ATOR) platforms
 - Passenger trains 1st step at 18” ATOR
 - Use mini-highs and lifts
 - Supports freight and passenger cars

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Moving Forward

- Dedicated Platforms
 - Capitol Corridor, ACE at 2 stations and Amtrak at 1 station
 - HSR dedicated platforms at 3 stations
- Different Caltrain EMUs and HSR trains
 - Customer needs / performance needs / cost
 - HSR floor threshold ~50" ATOR
 - Caltrain EMU floor threshold ~25" ATOR
- EMUs Compatible with Existing System
 - 8" platforms
 - Current diesel fleet (for interim mixed-service)
 - Future 25" level boarding

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Challenges for Level Boarding

- Conflicting CPUC and ADA requirements
 - CPUC: distance between platform and trains
 - ADA: maximum 3" gap and 5/8" vertical difference between platform and trains
 - Need to get waiver from CPUC
- Potential impact to historic stations
- Construction challenges in operating system
- Transitional service
- Funding

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Discussion Topics

Outreach – 2 Phases

Phase I (Inform RFP)	Phase II (Inform Selected Builder)
Shell: Structural Size / Capacity <ul style="list-style-type: none">• Seats / Standees• Bikes on Board• Bathrooms	Interior: Aesthetic / Comfort <ul style="list-style-type: none">• Seat size / Spacing• Internal Material• External Color / Branding• Bikes on Board Configurations• Passenger Amenities

Seats / Standees

Current	EMU	Considerations
<ul style="list-style-type: none"> • 620 – 680 seats per train • Limited standing room on gallery cars • One gallery car per train ADA accessible • Lifts for bombardier cars 	<ul style="list-style-type: none"> • Seat size / configuration flexibility • Handholds / leaning benches for standees • Full ADA accessibility 	<ul style="list-style-type: none"> • Seat widths • Space between seats • Seat orientation • Balance with other amenities • Loading standard changes

Bikes on Board

Current	EMU	Considerations
<ul style="list-style-type: none"> • 2 of 5 cars hold bikes • 48 bikes per bombardier train • 80 bikes per gallery train • Bike riders and other passengers sit in bike cars • Displaces 2 seats 	<ul style="list-style-type: none"> • Concepts vary by car builder • Car builders can design areas based on current bike capacity 	<ul style="list-style-type: none"> • Balance seats and bikes on board • Wayside facilities • Need to comply with safety and ADA requirements

Bathrooms

Current	EMU	Considerations
<ul style="list-style-type: none">• 2 per gallery train• 5 per bombardier train• Annual maintenance costs• Displaces 8+ seats	<ul style="list-style-type: none">• Modular bathroom units available• Compliant with ADA requirements	<ul style="list-style-type: none">• Public bathrooms at 2 of 27 stations• Average trip 20 to 28 miles• Average trip 30 to 50 minutes

Other systems: ACE 1 bathroom per car
Capitol Corridor 1 – 2 bathrooms per car
BART 0 bathrooms per car

Key Questions

- What are your riding habits?
 - How often get seat, use luggage rack, bring bike onboard, etc.
- Is it important to increase, decrease or maintain the same capacity elements in the new train?
 - Bathrooms onboard (0-5), seats etc.
- How would you prioritize the train capacity?
 - Seats, standees, bike storage, bathrooms, luggage etc.

Online Survey:

www.caltrain.com/emusurvey

Caltrain New Electric Train Survey – Phase I

*24. Please rank the following features (1 to 5) in the order that is most important to your Caltrain riding experience: 1=Most Important.

- Bike storage (displaces approx. 1 seat and rider occupies 1 seat)
- Standing room/Leaning area
- Bathroom (displaces approx. 8 seats)
- Luggage storage (displaces approx. 4 seats)
- Seating

*25. Please rate the following statements about the features Caltrain is considering for the new electric trains between Unimportant to Very Important. If the question does not apply, select NA for Not Applicable.

	Unimportant	Moderately Important	Very Important	N/A
Increasing luggage storage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increasing standing capacity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increasing bike sharing kiosks at stations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increasing bike capacity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increasing bike storage facilities at stations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bathroom onboard	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increasing seat capacity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Policy Decision

- Customers / Stakeholder Feedback
 - Meetings, station outreach
 - Survey*
 - Website, social media, project email and phone
- Technical Analysis
 - “Off the shelf” constraints and customer convenience opportunities
- Staff Recommendation
 - Balance feedback and analysis

*Opt-in Survey

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EMU Input Milestones

Activity	2014 Spring	2014 Summer	2014 Fall	2014/15 Winter	2015	2016
Issue RFI	■					
Meetings with Builders		■				
Phase I Outreach		■	■			
Develop / Issue RFP				■		
Select Car Builder					■	
Phase II Outreach						■

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Q & A

website: www.caltrain.com/emu

survey: www.caltrain.com/emusurvey

comments or questions: caltrainemu@caltrain.com

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