CalMod Local Policy Maker Group (LPMG)

Thursday, September 25, 2014
6:00 PM – 7:30 PM
SamTrans Offices - Bacciocco Auditorium 2nd Floor
1250 San Carlos Ave., San Carlos

Agenda

1. JPB Staff Report

2. Information/Discussion
   a. EMU Procurement – (Attachment A)
   b. CBOSS PTC Program Update – (Attachment B)

3. Public Comments

4. LMPG Member Comments/Requests

5. Next Meeting E-Update: October 23, 2014
   In-person: November 20, 2014 at 6:00pm

Memorandum

Date: September 25, 2014

To: CalMod Local Policy Maker Group (LPMG)

From: Marian Lee, CalMod Executive Officer

Re: **Electric Multiple Unit (EMU) Procurement Process**

At the August JPB meeting, CalMod staff provided an update on the Electric Multiple Unit (EMU) procurement process and shared information learned from the Request for Information (RFI) meetings, which were completed in June. The LPMG will receive a similar presentation, which is attached.

The RFI is a critical step in the procurement process and provides up-to-date information about the EMU industry. With this information, staff can begin to more clearly understand the availability of "off-the-shelf" EMUs that can be best utilized for electrified Caltrain service.

There are two phases of public outreach related to the design of the EMUs. The first phase, which kicked-off at the August Board meeting, involves soliciting input on key structural and capacity elements such as bathrooms, seats and standees, and bike capacity. Public feedback during the Phase I outreach will be coupled with technical analysis to inform staff recommendations to the Board for the EMU Request for Proposal, scheduled to be released in early 2015.

The project website: www.caltrain.com/emu provides additional information about the Phase I outreach efforts, including the online survey: www.caltrain.com/emusurvey

Phase two of the public outreach will occur after the car builder has been selected. Phase two will focus on interior design, configuration and aesthetics.

Attachment A

Electric Multiple Unit Procurement Update

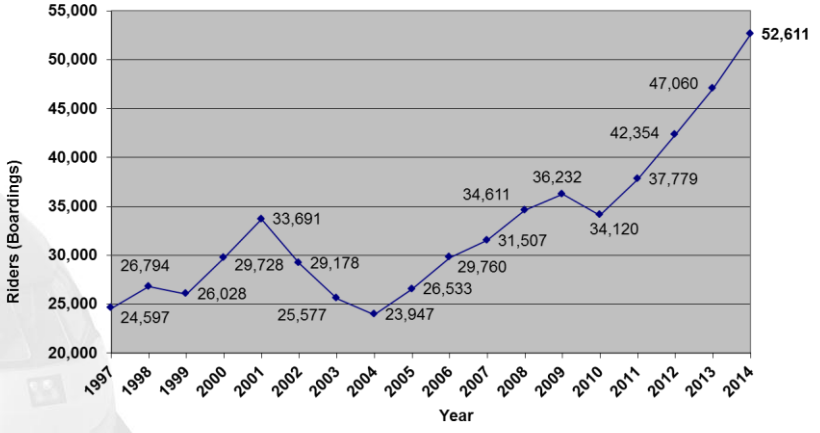
Public Meetings
September 2014

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)

5

Caltrain Modernization

6

Caltrain Modernization Program

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

7

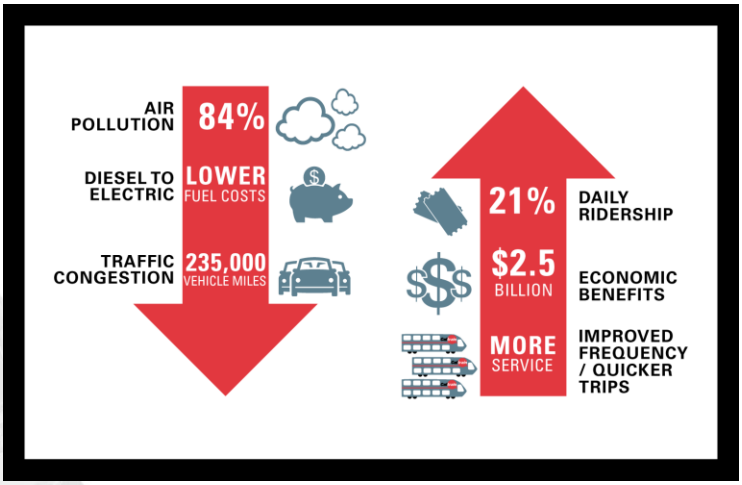
PCEP Project Description*

Area	Project	Service
51+ miles San Francisco to San Jose (Tamien Station)	Electrification: • Overhead Contact System (OCS) • Traction Power Facilities Electric Multiple Units (EMUs)	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) Cont. tenant service

*Proposed project not yet approved, pending environmental clearance

8

Key Regional Benefits



Electric Multiple Unit (EMU) Procurement

Status

April 2014	JPB update on EMU procurement process
May 2014	RFI issued • Q & A to support stakeholder dialogue • Inform RFP (early 2015)
June 2014*	Industry responses / meetings with car builders

* First industry scan conducted 2008

11

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

12

Meetings with Car Builders

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

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

15

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

16

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

17

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

18

Discussion Topics

Outreach – 2 Phases

Phase I (Inform RFP)	Phase II (Inform Selected Builder)
Shell: Structural Size / Capacity • Seats / Standees • Bikes on Board • Bathrooms	Interior: Aesthetic / Comfort • Seat size / Spacing • Internal Material • External Color / Branding • Bikes on Board Configurations • Passenger Amenities

Seats / Standees

Current	EMU	Considerations
• 620 – 680 seats per train • Limited standing room on gallery cars • One gallery car per train ADA accessible • Lifts for bombardier cars	• Seat size / configuration flexibility • Handholds / leaning benches for standees • Full ADA accessibility	• Seat widths • Space between seats • Seat orientation • Balance with other amenities • Loading standard changes

Bikes on Board

Current	EMU	Considerations
• 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	• Concepts vary by car builder • Car builders can design areas based on current bike capacity	• Balance seats and bikes on board • Wayside facilities • Need to comply with safety and ADA requirements

Bathrooms

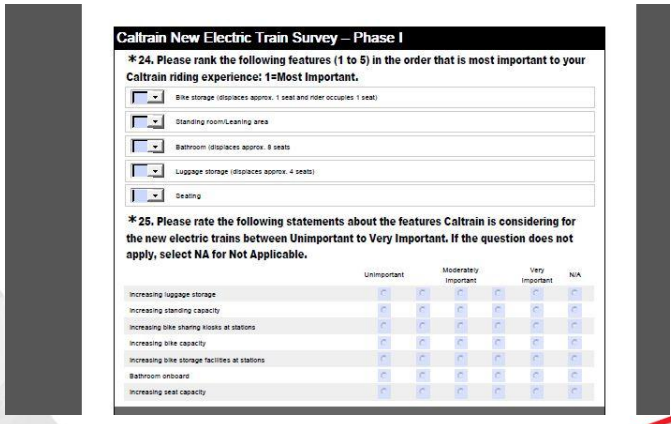
Current	EMU	Considerations
• 2 per gallery train • 5 per bombardier train • Annual maintenance costs • Displaces 8+ seats	• Modular bathroom units available • Compliant with ADA requirements	• Public bathrooms at 2 of 27 stations • Average trip 20 to 28 miles • Average trip 30 to 50 minutes

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						
Increasing standing capacity						
Increasing bike sharing kiosks at stations						
Increasing bike capacity						
Increasing bike storage facilities at stations						
Bathroom onboard						
Increasing seat capacity						

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

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						

Q & A

website: www.caltrain.com/emu

survey: www.caltrain.com/emusurvey

comments or questions: caltrainemu@caltrain.com

Memorandum

Date: September 25, 2014

To: CalMod Local Policy Maker Group (LPMG)

From: Marian Lee, CalMod Executive Officer

Re: **Advanced Signal System (CBOSS PTC) Project Update**

The Advanced Signal System project, also called Communications Based Overlay Signal System (CBOSS) Positive Train Control (PTC), is being installed along the Caltrain corridor. Installation of the communications subsystem started on September 4, 2013 in San Jose and has continued north.

Earlier this month, the CBOSS PTC team reached a key milestone by completing 100 percent of the installation work related to the Data Communications System (conduit and fiber optic cable) and wayside infrastructure between San Jose and the Dumbarton Spur in Redwood City. The next phase for this section of the corridor will involve testing the system to prepare for the FRA visit.

North of the Dumbarton Spur, work has commenced on the DCS and wayside infrastructure installation in the cities of San Carlos, Belmont and San Mateo. In the coming weeks and months work will continue north.

The on-board installation of CBOSS PTC equipment on the trains continues to be on schedule and 6 of the 8 pilot trains have the CBOSS PTC equipment installed.

The CBOSS PTC field crew has over 200,000 hours of work with no incidents.

Caltrain staff will continue to coordinate with city/county staff on construction and testing activities. There were no new complaints from residents since the August e-update.

The attached presentation provides an overview the project's process. This will be the LPMG's fifth presentation on the Advanced Signal System project, the last presentation was in March 2014.

Advanced Signal System (CBOSS PTC) Update

LPMG Meeting
September 25, 2014

1

Context

2

Caltrain Modernization Program

- Projects
  - Advanced Signal System (2015)
  - Corridor Electrification and Electric Multiple Units (2019)

3

Project Description

- Communications Based Overlay Signal System (CBOSS) Positive Train Control (PTC)
- Fiber Optic Network
- Project Requirements
  - Includes federal mandate (PTC)
  - Improves Caltrain performance
- Project Partners
  - FRA, UP, CHSRA, JPB
- Needed for Blended System

4

CBOSS PTC Requirements

- PTC
  - Prevent train to train collisions
  - Prevent over speed derailments
  - Prevent incursions into established work zones
  - Prevent movement through a misaligned switch
  - Interoperability
- CBOSS
  - Enhanced crossing safety / performance
  - Improved headways and operational flexibility
  - Enforcement of scheduled station stops
  - Schedule management
  - Employee In Charge

5

Project Total Cost and Milestones

Description	Cost (in millions)	Milestones
Project Planning and Procurement	$5	2010 - 2011
Phase 1 - Critical Design	$25	2012 – 2013
Phase 2 - Final Design, Data Communications Subsystem & Fiber Backbone Installation	$51	2013 – 2014
Phase 3 /4 - Installation, Testing, Commissioning	$150	2014 – 2016 (Revenue service Oct. 2015)
Total	**$231**	

6

Installation Work Update

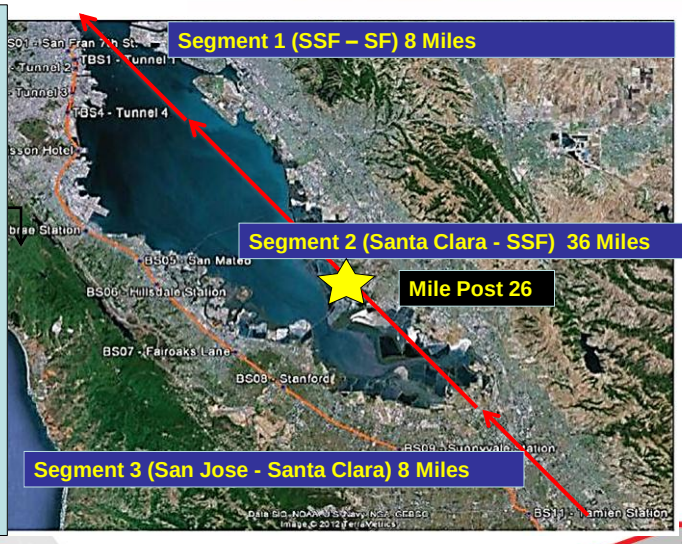
Progression: South to North

PHASE I (S. MP26)
Segment 3
SJ
Santa Clara (S of Lafayette St)

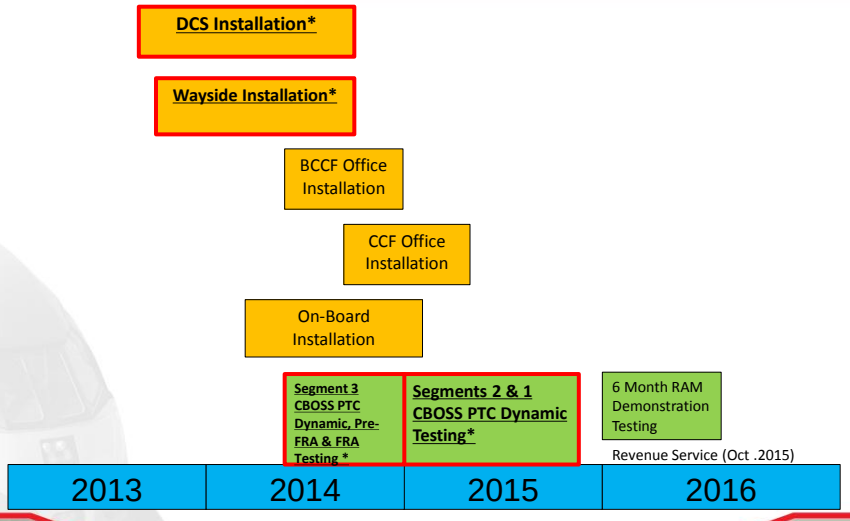
Segment 2
Santa Clara (N of Lafayette St)
Sunnyvale
Mountain View
Palo Alto
Menlo Park
Atherton
Redwood City (S Dumbarton Spur)

PHASE II (N. MP26)
Segment 2
Redwood City (N Dumbarton Spur)
SMC
San Carlos
Belmont
San Mateo
San Bruno
SSF (S of Oyster Point)

Segment 1
SSF (N of Oyster Point)
Brisbane
SF



Milestones (Entire Corridor)



* Public may notice activity

Installation Work Update

- DCS Installation
  - Potholing, boring, conduit, fiber, base stations
  - Segment 3 / 2 (S. MP26): 100% complete
  - Currently working in San Carlos, Belmont, San Mateo
- Wayside Installation
  - Modules installed at key system points
  - Associated gate activity
  - Segment 3 / 2 (S. MP26)**:** 100% complete
  - Currently working in a variety of locations with wayside equipment

Installation Work Continued

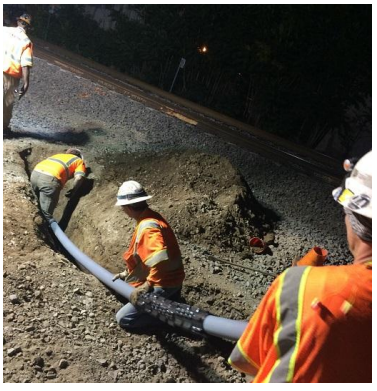
- BCCF and CCF Installation
  - Modify space and install equipment
  - BCCF fit out 100% complete, installing servers
- On-board Equipment Installation
  - 6 of 8 pilot vehicle installations complete
  - #7 in progress

Testing (Pilot) Segment 3

- Dynamic Pre-FRA Testing
  - Scheduled to begin January 2015
  - Ongoing verification / validation track database
- FRA Testing
  - Expected first quarter 2015

Installation Pictures 1

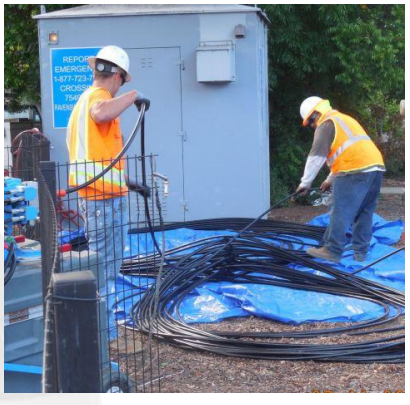
Potholing



Installing Conduit

13

Installation Pictures 2

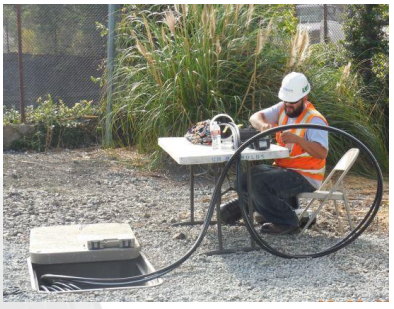


Preparing to install fiber

End of work ground verification test

14

Installation Pictures 3



Fiber Slicing

Confirming no dust or dirt on the fiber

15

Installation Pictures 4

Onboard Equipment

Simulator for training

16

Challenges

- Construction on an active railroad !

17

Outreach

18

Outreach To Date

- Activities
  - CSCG (5 meetings)
  - LPMG (4 meetings, next 9/25/14)
  - One-on-one (each of the17 cities/3 counties)
  - Community Groups, as requested (8 meetings)
- Communication tailored to location
  - Direct mailers (28), flyers stations
  - Website, social media, email, phone
  - City/County Staff coordination

Complaints 12+ months

- First six months
  - 5 people (noise, foliage disturbed, mud on street)
  - questions about the project
- Next six months
  - none
  - questions about the project

Next Steps

- Activities
  - Community Groups Meetings (as requested)
- Communication
  - Direct mailer residents
  - Website, social media, email, phone
  - Separate installation and testing notices
- City/County Staff coordination

Questions