



Electric Multiple Unit Procurement Update

Board of Directors
August 7, 2014



Context*

* The proposed project is not yet approved –
pending environmental clearance.

Status

- April 2014
 - JPB update on EMU procurement process
- May 2014
 - RFI issued
- RFI Purpose
 - 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: 55,000+
 - Ridership future: 100,000+
- Today
 - 20+ mile trips
 - 95%-125% peak weekday capacity
 - 11% bikes on board
- Future
 - Share train slots with HSR
 - 6 Caltrain / 4 HSR (per hour per direction)
 - Caltrain needs to maximize car capacity / service frequency

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Industry Confirmation

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

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Discussion Topics

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Consist Length

Current	EMU	Considerations
<ul style="list-style-type: none"> • Push / Pull diesel locomotive • 5-car consists 	<ul style="list-style-type: none"> • 6-car fixed consists <i>(two cabs and four intermediate cars)</i> • 3-car consists <i>(two cabs and one intermediate car that can couple into 6 car consist)</i> • Mix of 3-car and 6-car consists 	<ul style="list-style-type: none"> • Conductor ability to walk through train between stations • Shorter trains for off-peak service <i>(reduced energy consumption and O&M costs)</i> • Reduced seating capacity in cabs

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 • Displace 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

Station Platform Implications

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Background

- Previous Platform Discussions
 - JPB October 2013: level boarding
- 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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Stakeholder Outreach Process

Stakeholders

Boards/ Elected Officials	Advisory Committees	Customers	Local Agencies and Funders	Advocacy Groups
<ul style="list-style-type: none"> • Joint Powers Board • Local Policy Maker Group (LPMG) 	<ul style="list-style-type: none"> • Citizen Advisory Committee • Bicycle Advisory Committee • Caltrain Accessibility Advisory Committee 	<ul style="list-style-type: none"> • Workers • Residents • Visitors • Students 	<ul style="list-style-type: none"> • City / County Staff Coordination Group • Peninsula Corridor Working Group 	<ul style="list-style-type: none"> • Friends of Caltrain • Chambers of Commerce / Business Organizations • Neighborhood Groups • Advocacy Groups

Note: Communications through meetings, website, press release, social media and CalMod E-Newsletters, Caltrain station tabling, onboard info, electronic surveys

Outreach – 2 Phases

Phase I (Inform RFP)	Phase II (Inform Selected Builder)
Shell: Structural Size / Capacity <ul style="list-style-type: none"> • Consist Configuration • 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

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 (active noon today)
- comments or questions: caltrainemu@caltrain.com