



EMU Procurement

Seats/Standees/Bikes/Bathroom

Board of Directors
June 4, 2015
Agenda Item 7b



Purpose

- Seats / standees / bikes / bathroom balance
- Develop framework for Draft EMU RFP
- Feedback on car configuration and “range” of increased seats and bikes onboard



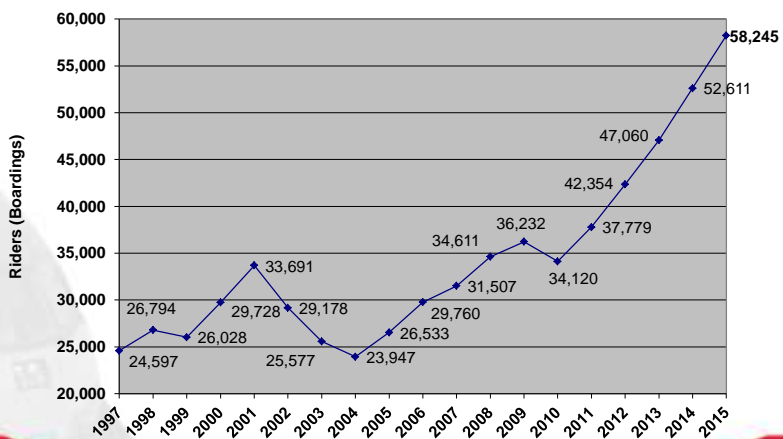
Context

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Average Weekday Ridership

Since 2004 143% increase



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Exceeding Capacity Today



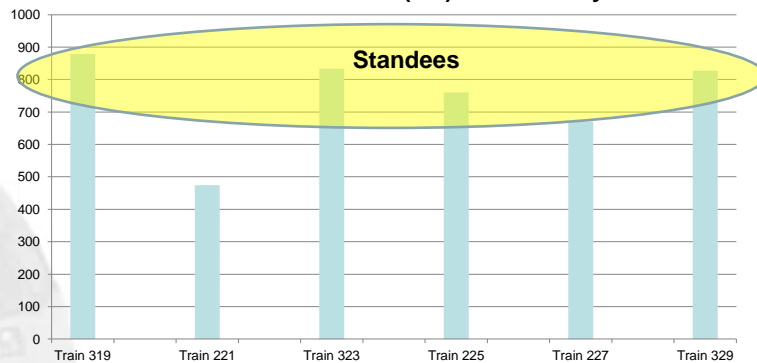
Northbound		
Depart SJ	Percent of Seated Capacity (low season)	Percent of Seated Capacity (high season)
7:03 AM	135%	158%
7:45 AM	128%	150%
8:03 AM	127%	149%
5:23 PM	122%	143%
6:57 AM	122%	142%
7:50 AM	117%	137%
6:45 AM	108%	126%
6:50 AM	106%	124%
4:39 PM	106%	124%
7:55 AM	103%	121%
8:40 AM	102%	119%
4:23 PM	96%	113%

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Trains AM peak hour Capacity vs. Demand (“Spikiness”)

Feb. 2015 - AM Peak Hour (NB) Max Load by Train



7:03am

8:03am

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Bikes Onboard Today

- 11% Riders Bring Bike Onboard (~ 6,000)
- 1% Riders Park Bike Before Boarding (~600)
- Bike “Bumps” (2015 Annual Count)
 - 214 bikes bumped from 525 trains counted
 - 11 stations had bumps
 - 32,625 bikes carried on trains counted

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Challenge

- Past
 - Available capacity
 - Ability to add bike spaces and seat customers
- Today and Tomorrow
 - Over capacity at peak hour trains
 - More and more customers are standing
 - On going bike bumping challenges

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Bikes Onboard Program

- Program began in mid-1990s
- Over time, removed seats and added bike space

Time period	Bike spaces added per train (by removing seats)	
	Gallery Train	Bombardier Train
2004	32	16
Today	80	48
Added Bombardiers	80	72

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Today Wayside Facilities

- 2,000+ wayside parking
 - Racks
 - Lockers
 - Dedicated facilities (San Francisco, Palo Alto, Mountain View)
 - Valet parking San Francisco
- Needs modernization
 - Varies station to station
 - Different management (confusing to users)
- Regional Bike Share Program

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Considerations

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JPB Policy

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Strategic Plan (Adopted 2014)

- Safety
- Maximize passenger capacity
- Address onboard accommodation of bikes, luggage and passenger facilities
- Maintain comfort
- Complement bikes onboard program with consistent capacity information and wayside improvements

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Title VI (Adopted 2013)

- Compliance with federal civil rights requirements
- Caltrain standards for evaluation
 - Sufficient seating capacity to meet demand is a priority
 - During peak not always possible to provide a seat for each passenger

Service Standards	
Peak Load Factor	Off-Peak Load Factor
1.2	1

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Customer Preference Survey (2014)

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About the Survey

- 4000+ Responses
- “Opt-in” Survey
 - *Not statistically valid*
 - Highlight interests
- Input Sept. 5 to Oct. 17
- Extensive Outreach
- Translated into Spanish, Vietnamese, Chinese

 Casey Frossen @Caltrain_Casey · Sep 22
At the hillsdale station - talking about electric trains. Stop by and say hi. @Caltrain_News



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Survey Highlights

Seats / Standees

Description	% of Survey Participants
Average Trip Time (in train)	28% from 31 – 45 min 26% from 46 – 60 min
Seat Availability (destination trip)	64% always 17% standing up to 10 min 7% standing more than 20 min
Seat Availability (return trip)	57% always 19% standing up to 10 min 8% standing up more than 20 min

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Survey Highlights continued

Bikes

Description	% of Survey Participants
Have you ever brought a bike onboard?	44%
In the last year, how many times have you been "bumped"?	46% never 13% once 30% 2 – 12 times
Staffed bike facility as an alternative to bringing a bike onboard?	52% (yes)
Additional bike lockers as an alternative?	49% (yes)
Additional shuttles provide an alternative?	47% (yes)
Bike sharing as an alternative?	39% (yes)

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Survey Highlights continued

Bathrooms

Description	% of Survey Participants
Use of bathroom	53%
How often utilized	2% never 23% once a year 60% twice – 12 times 13% multiple times per month 3% multiple times per week

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Survey Summary Results

Prioritize what is most important to your riding experience (weighted average from ranking scale of 1 to 5)	
Seating	4.5
Standing Room / Leaning Area	3.26
Bike Storage	3.11
Bathroom	2.18
Luggage Storage	1.95

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Other Properties

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Bay Area Systems

Service	Bathrooms (per train)	Bikes spaces onboard (per train)	Frequency peak hour, direction (7am - 8am)	Average Trip Length / Time
VTA	0	6-18	up to 6	5.7 miles / 23 min
Muni	0	0	up to 9	2.8 miles / N/A
BART	0	6-20	up to 9	14 miles / 24 min
Caltrain	2-5	72-80	up to 5	24 miles / 40 min
Capitol Corridor	Every car	25-32	up to 2	68 miles / 60+ min (standees rare)
ACE	Every car	22-54	up to 2	N/A (standees rare)

Notes: VTA frequency (Snell Station, NB); MUNI frequency (Judah St / 19th, N line, inbound); BART bikes (number of bikes per space not limited - bikes not allowed crowded cars); BART frequency (Embarcadero Station, yellow line SB); Caltrain bikes (with added Bombardiers cars); Caltrain standees (peak period average trip: 20-28 miles / 30-50 minutes)

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Staff Recommendation Inform Draft RFP

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Context / Approach

- Multiple EMU builders
- Range of car internal configurations
- Specific numbers difficult to establish
- Balanced approach to maximize seats/standees and bike capacity

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Increased Service (peak hour)

- Today
 - 5 trains / direction
 - 5- car trains
- With Added Bombardier Cars
 - 5 trains / direction
 - 5- and 6-car trains
- With Electric Service (2020)
 - 6 trains / direction
 - 6-car trains
 - Mixed EMUs + Diesel Fleet

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Electric Service Benefits

Metric	Today	PCEP
Trains / peak hour / direction	5	6
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

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Key Recommendations

- Grow seats / standees and bike capacity
- Apply 9:1 seats to bike ratio onboard
- Invest in wayside bike capacity
- More comfort for standees
- No bathrooms

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Example Peak-hour Capacity

Metric (NB)	Seats	Bikes	Standees	Seats: Bikes
Today*	3,250	336	1,050	10:1
<i>(Example riders carried)</i>	<i>5,330</i>	<i>551</i>	<i>1,722</i>	
Add Bombardier Cars	3,502	384	1,170	9:1
<i>(Example riders carried)</i>	<i>5,743</i>	<i>630</i>	<i>1,919</i>	
Example EMU**	3,712	392	2,160	9:1
<i>(Example riders carried)</i>	<i>6,459</i>	<i>682</i>	<i>3,758</i>	

Notes:

*Example peak hour (mix of vehicle types may vary in a given hour; average seat 650 per train)

**Example EMU car capacity of ~100 seats

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Bike Advocate Group Feedback

Metric (NB, Peak Hour – Riders Carried)	Seats	Bikes	Standees	Seats: Bikes	Total Riders
Staff Recommendation Example EMU** <i>Percent difference from today*</i>	6,459 <i>21%</i>	682 <i>24%</i>	3,758 <i>118%</i>	9:1 (for EMUs)	10,200
Bicycle Coalition Example EMU** <i>Percent difference from today*</i>	6,250 <i>17%</i>	877 <i>59%</i>	3,758 <i>118%</i>	6:1 (for EMUs)	10,000

Notes:

*Example peak hour (mix of vehicle types may vary in a given hour; average seat 650 per train)

**Example EMU car capacity of ~100 seats

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Additional Bike Recommendations

- System-wide Bike Parking Management Plan (\$130K)
- \$3 Million Wayside Funding
- Agency Bike Staff
- Explore Ways to Increase Predictability Onboard
 - Capacity monitoring and reporting
 - Onboard management strategies (e.g. reservations or permitting systems)

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Bathroom Recommendation

- No Bathrooms in EMU Cars
 - 1 ADA bathroom (32 seats / 64 standees in peak hour)
 - Saves capital and o/m costs
 - Low priority in survey
- Bathroom Availability
 - Diesel fleet*
 - At 2 terminal stations
- Future
 - Consider with station improvements
 - City support varies



* Bombardier: 5 per train, all ADA accessible; Gallery: 2 per train, some ADA accessible

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Next Steps

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June – July Activities

- Public Meetings
- Draft RFP to Car Builders
 - Industry feedback
- July JPB
 - Policy EMU decisions
 - Release EMU RFP
 - Important milestone for 2020 revenue service

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Questions

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email: calmod@caltrain.com

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