



EMU Procurement

Seats/Standees/Bikes/Bathroom

LPMG
May 28, 2015



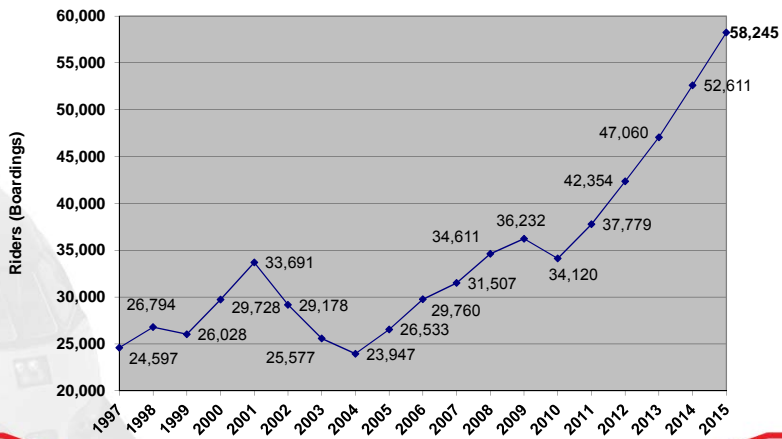
Purpose

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

Ridership Demand

Average Weekday Ridership

Since 2004 143% increase



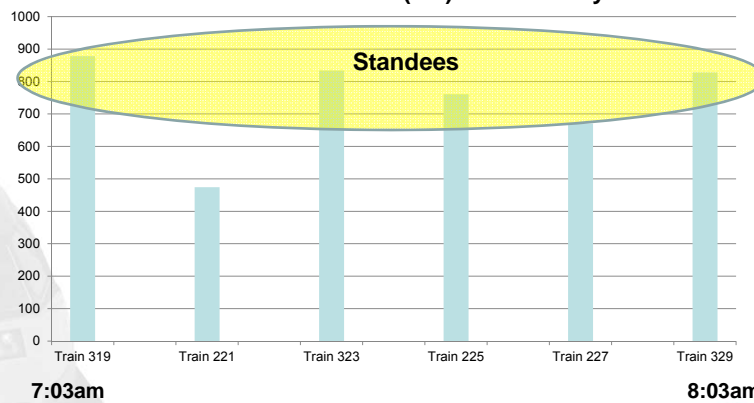
Exceeding Capacity Today



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%

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

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



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
Train Type		
2004	32	16
Today	80	48
Added Bombardiers	80	72

7

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

8

Today Wayside Facilities

- 2,000+ wayside parking
 - Racks
 - Lockers
 - Dedicated facilities (San Francisco, Palo Alto, Mountain View)
 - Valet parking San Francisco
- Varies Station to Station, Can be Confusing
- Regional Bike Share Program

9

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
 - Bike bumping continues

10

Additional Considerations for Balancing Customer Needs

JPB Policy

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

Title VI (Adopted 2013)

- 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

Customer Preference Survey (2014)

About the Survey

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

 Casey Fromson (@CaseyFromson) · Sep 23
At the hillsdale station - talking about electric trains. Stop by and say hi. @Caltrain_News



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

Survey Highlights continued

Bikes

Description	% of Survey Participants
Brought bike onboard	44%
Bumped in last year	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)

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

Survey Highlights continued

Level of Importance

Rate on a sliding scale the importance of these features		
Feature	Very Important	Unimportant
Increase seating capacity	56%	2%
Increase onboard bike capacity	38%	10%
Increase standing capacity	22%	5%
Increase bike storage at stations	22%	13%
Include bathroom onboard	17%	14%
Increase bike sharing kiosks at stations	16%	17%
Increase luggage storage	3%	24%

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

Other Properties

Bay Area Systems

Service	Bathrooms (per train)	Bikes spaces on-board (per train)	Standeese (load standard)	Frequency peak hour, direction (7am - 8am)	Average Trip Length / Time
VTA	0	6-18	1.2	up to 6	5.7 miles / 23 min
MUNI	0	0	N/A	up to 9	2.8 miles / N/A
BART	0	6-20	up to 1.6	up to 9	14 miles / 24 min
Caltrain	2-5	72-80	up to 1.2	up to 5	24 miles / 40 min
Capitol Corridor	Every car	25-32	1	up to 2	68 miles / 60+ min
ACE	Every car	22-54	1	up to 2	N/A

*Notes: VTA -- Frequency: At Snell Station, NB. MUNI-- Frequency: At Judah St / 19th, N line, inbound. BART-- Bikes: Number of bikes per space not limited, Bikes not allowed crowded cars, first car, or first 3 cars during rush hour. Standee: Title VI. Frequency: At Embarcadero Station, yellow line SB. Caltrain-- Bikes: with added Bombardiers cars. Standees: peak period. Average Trip: 20-28 miles / 30-50 mins CC-- no standee policy because rarely have standees. ACE -- no standee policy because rarely have standees.

DRAFT RFP Car Configuration Input

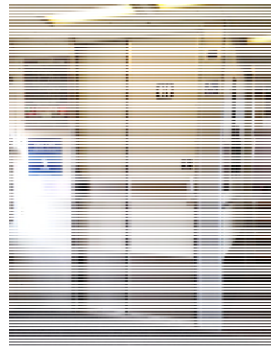
Context / Approach

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

25

Bathroom Recommendation

- No Bathrooms in EMU Cars
 - 1 ADA bathroom = 8 seats / 16 standees
 - Saves capital and o/m costs
 - Low priority in survey
- Bathroom Availability
 - Diesel fleet*
 - At 2 terminal stations
- Future: Consider with Station Improvements



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

26

Context

- Today
 - 5 trains / peak hour / direction (5 car train)
- With Added Metrolink Cars
 - 5 trains / peak hour / direction (5 and 6 car trains)
- With EMUs + Diesel Fleet (2020 Service)
 - 6 trains / peak hour / direction (6 car trains)
 - 2 diesel trains and 4 EMU trains

PCEP Service Benefits

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

Capacity Peak Hour / (NB) Direction

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

Notes:

- * Example peak hour (mix of vehicle types may vary in a given hour)
- Example EMU car capacity of 100 seats

Additional Bike Access Commitments

- System-wide Bike Parking Management Plan (\$130K)
- \$\$\$ Funding Commitment by July
 - Wayside investment
 - Bike staff
- Explore Ways to Increase Predictability On-board Program
 - Capacity monitoring and reporting
 - Explore on-board management strategies (e.g. reservations or permitting systems)

Next Steps

31

May – July Activities

- Public Meetings
- Release Draft RFP to Car Builders
- June JPB Updates
 - Proposed path forward common platforms
 - Seats/Standees/Bikes/Bathroom balance
- July JPB
 - Release EMU RFP
 - Update on regional funding plan amendment

32



Questions

website: www.caltrain.com/calmod
email: calmod@caltrain.com