



# EMU Procurement

## Seats/Standees/Bikes/Bathroom

JPB Bicycle Advisory Committee  
May 21, 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



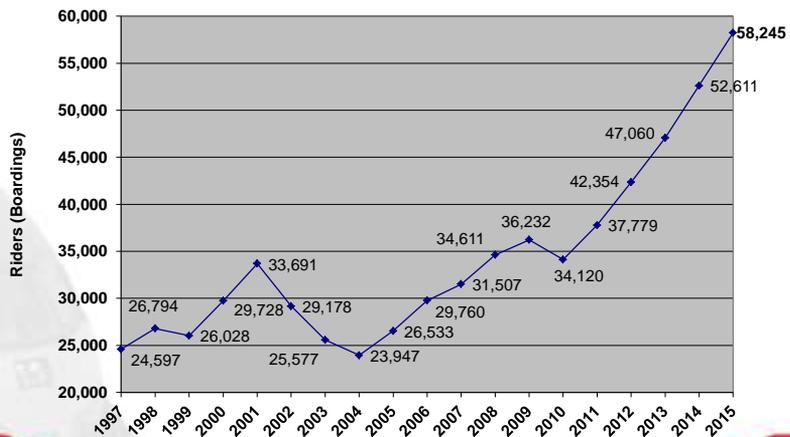
## Ridership Demand

3



## Average Weekday Ridership

Since 2004 143% increase



4



## Exceeding Capacity Today

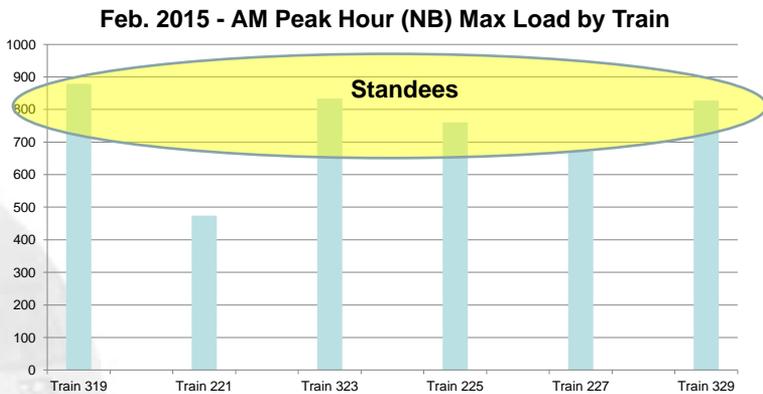


Northbound		
Depart SJ	Percent of Seated Capacity (low season)	Percent of Seated Capacity (high season)
7:03 AM	135%	158%
7:45 AM	128%	150%
8:03 AM	127%	149%
5:23 PM	122%	143%
6:57 AM	122%	142%
7:50 AM	117%	137%
6:45 AM	108%	126%
6:50 AM	106%	124%
4:39 PM	106%	124%
7:55 AM	103%	121%
8:40 AM	102%	119%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

5



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



7:03am

8:03am



## Bikes On-Board 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 On-Board Today

- 11% Riders Bring Bike On-Board (~ 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 (SF, Palo Alto, Mountain View)
  - Valet parking SF
- 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

11



*JPB Policy*

12

## Strategic Plan (Adopted 2014)

- Safety
- Maximize passenger capacity
- Address on-board 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)

15

## 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



16



## 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

17



## Survey Highlights, cont.

### Bikes

Description	% of Survey Participants
Brought bike onboard	44%
Bumped in last year	46% never 13% once 30% 2 – 12 times
Staffed bike facility be an alternative to bringing a bike onboard?	52% (yes)
Additional bike lockers be an alternative?	49% (yes)
Additional shuttles provide an alternative?	47% (yes)
Bike sharing be an alternative?	39% (yes)

18



## Survey Highlights, cont.

### 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

19



## Survey Highlights, cont.

### 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%

20

## 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 on Board (per train)	Standees policy (load standard)	Frequency peak hour, direction (7am - 8am)	Average Trip Length / Time
VTA	0	6	1.5	5	5.7 miles / 23 min
MUNI	0	0	N/A	Variable	2.8 miles / variable
BART	0	5-20**	1.3	9	14 miles / 24 min
Caltrain***	2-5	72-80	1.2	5	24 miles / 40 min
Capitol Corridor	Every car	25-32	1	2	68 miles / 60+ min
ACE	Every car	22-54	1	1	48 miles / 60+ min

\*data to be confirmed

\*\*Not allowed crowded cars, first car, or first 3 cars during rush hour.

\*\*\*With added Bombardiers

23



## DRAFT RFP Car Configuration Input

24

## 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

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
Passengers / peak hour / direction	5,100	6,300
<b>Example Baby Bullet Train</b>		
<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>
<b>Example RWC Station</b>		
<i>Train stops / peak hour</i>	<i>3</i>	<i>5</i>

## Seats and Bikes Recommendation

- Maximize Seats and Bike Access
- Today: On-Board
  - 3,250 seats / 336 bikes\* (10:1 ratio)
- With Additional Metrolink Cars: On-Board
  - 3,502 seats / 384 bikes\* (9:1 ratio)
- EMUs and Diesel: On-Board
  - Example EMU Car Capacity of 100 seats
  - Apply 9:1 ratio
  - 3,712 seats / 392 bikes\*

\* Trains / peak hour / direction

29

## 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)

30

## *Next Steps*

## **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



## Questions

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