

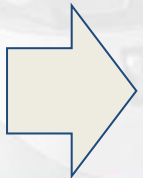


# Update on TIRCP Project: EMU Configuration & Bike Improvements at Stations

JPB Board  
March 7, 2018  
Agenda Item 10

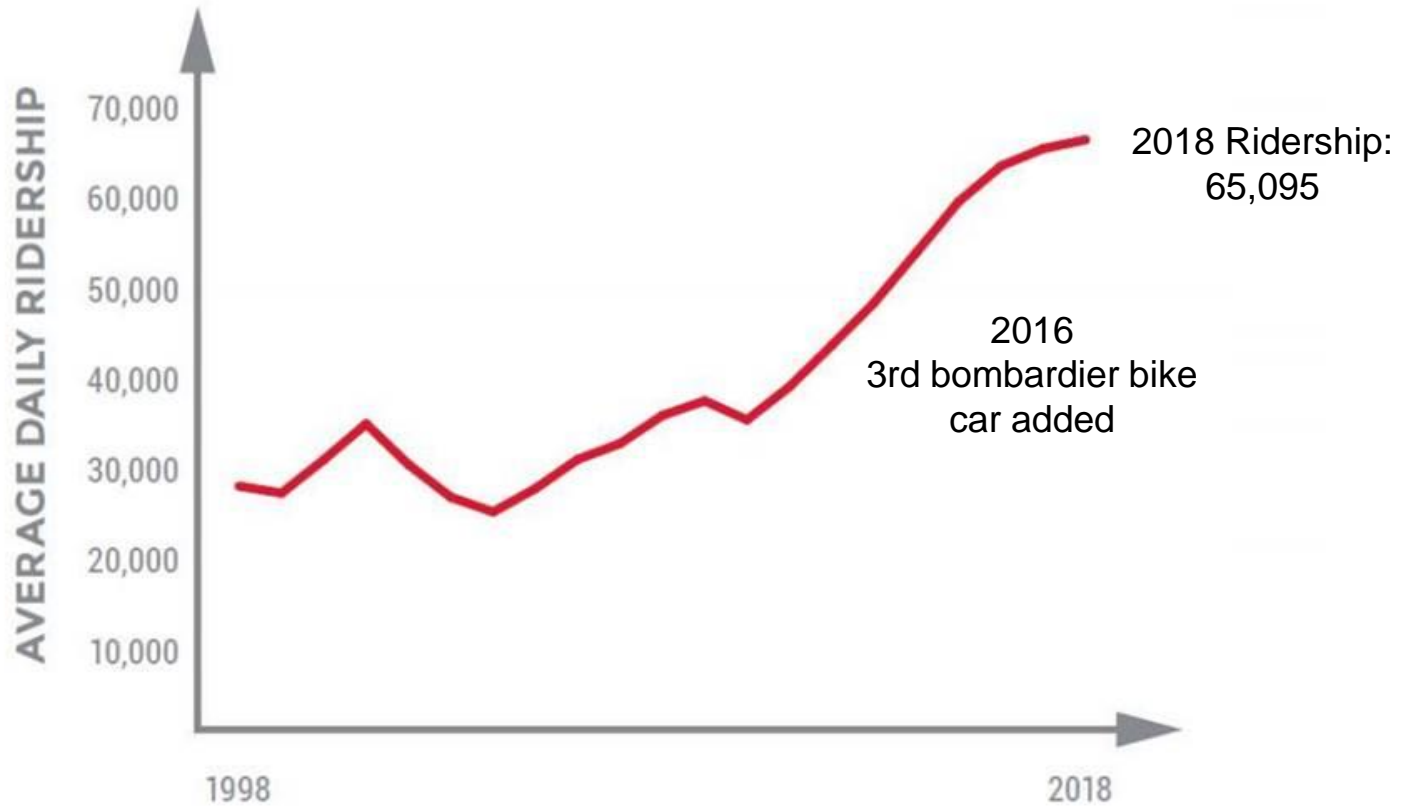
# Overview

- Additional vehicle option: Board approved December 2018
  - \$183M for 37 additional electric vehicles
    - 7 car trains instead of 6 car trains
  - Bike car security concerns from bike community
  - \$3.5M+ bike parking & micromobility improvements at stations
- Process to move forward



# Context

# Ridership & Bikes Onboard



1992  
Bikes allowed  
onboard

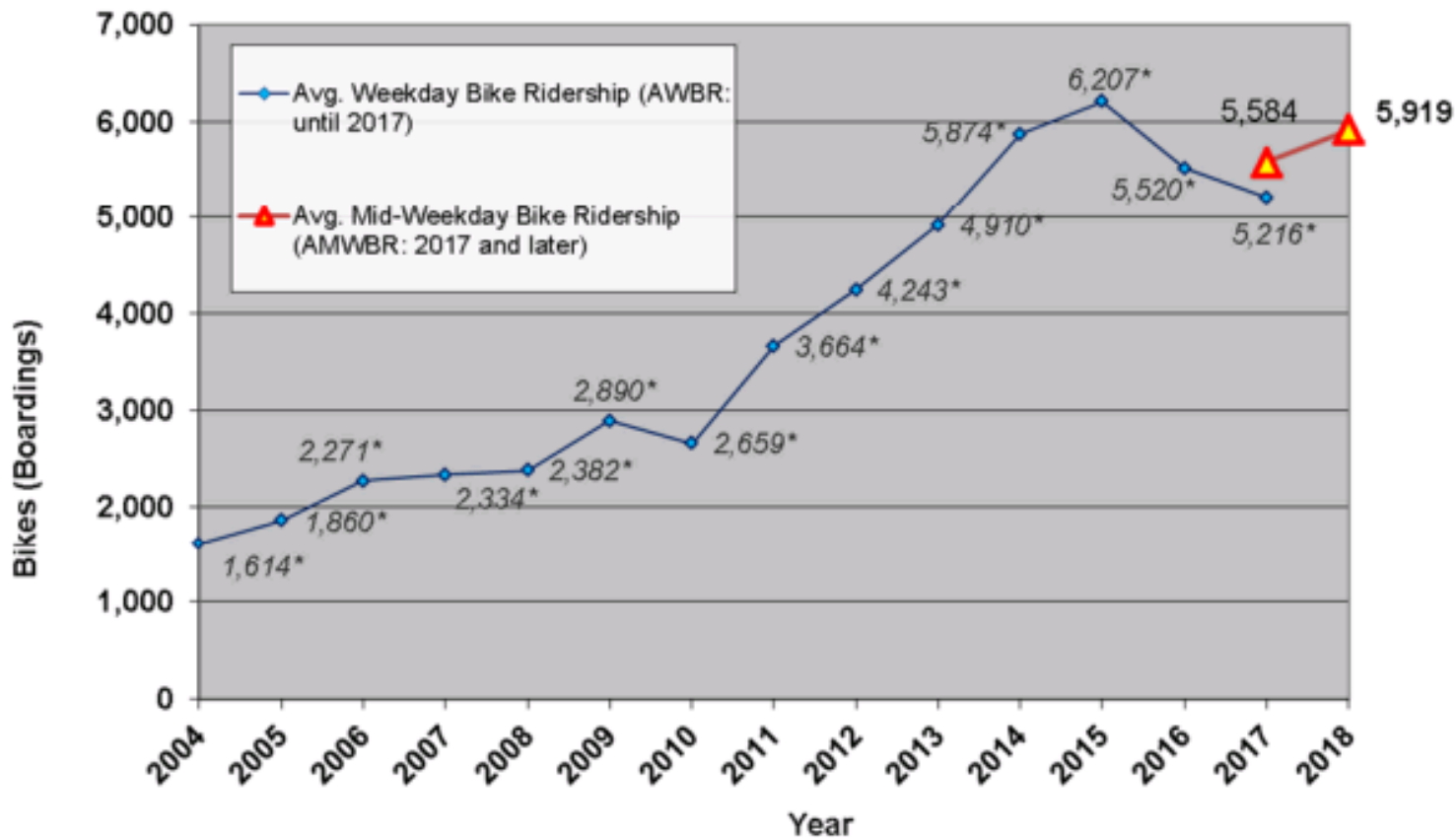
Incremental growth  
over the years

2016  
3rd bombardier bike  
car added

2018 Ridership:  
65,095

# On Board Bike Ridership

Caltrain Average Weekday Bicycle Ridership Trend



Source: Caltrain 2018 Annual Passenger Count

## 2015 Context

- Daily ridership: ~58,000
- Daily bike boardings: 6,207
- Trains per peak hour: 5
- On board bike spaces 80 or 48
- Metrolink cars on the way (provides additional bike capacity)
- Board resolution related to 6-car PCEP electric vehicle purchase: 1 bike space for every 8 seats
- Bike parking options at stations limited (mostly racks and keyed lockers)
- Bike share very limited, no scooters etc.

# 2018 Context

- Daily ridership: ~65,000 (**up 12% from 2015**)
- Daily bike boardings: 5,919
- Trains per peak hour: 5 (combination of 5 and 6-car trains)
- On board bike spaces 72-80 per trainset
- Caltrain Electrification in construction
- Significant number of trains with standees
- Variety of new first / last mile options

# Today - Bikes on Train

- Caltrain carries more bikes onboard than any commuter rail in the country
- A person bringing a bike onboard is taking up two spaces (bike and seat)





# Today - Increased Crowding

NBC BAY AREA Home News Weather Investigative Unit Sports ...

THE LATEST NEWS FROM AROUND THE PENINSULA

EAST BAY | NORTH BAY | PENINSULA | SAN FRANCISCO

## Caltrain Ridership on the Rise: Report

By Anser Hassan  
Published Mar 5, 2018 at 5:44 AM | Updated at 6:09 AM PST on Mar 5, 2018

f t e

5:02 38°  
SAN FRANCISCO  
NBC BAY AREA

VALLEY SKI RESORTS WOMAN HIT AND KILLED BY CAR ON HIGHWAY 80 ON-RAMP

An increased number of people appear to be hopping on Caltrain during their commutes, according to a report, Anser Hassan reports. (Published Monday, March 5, 2018)



News

## In-depth: Caltrain riders say overcrowding has become an issue on trains

By: Vince Cestone

Posted Feb 14, 2017 10:41 PM PST  
Updated Feb 14, 2017 10:41 PM PST

G f t p +

OVERCROWDED TRAINS  
REDWOOD CITY

KRON 4

# Rider Survey (2017)

10% (or ~300 people) on Limited & Bullet Trains Commented on Crowding

“Commuting everyday. It sucks that you may not actually get a seat after how much you pay to take Caltrain. Second to not having a seat, is how crowded it can get.”

“Many trains are too crowded. 50% of the time I don’t get a seat”

“Need more train cars → rush hour → no seats”

“My usual afternoon train that leaves at Cal Ave at 1630 is very crowded”

“You added a car and have a new train which gives more room, but I still have to stand because you have no seats.”

# Social Media Customer Complaints

## Crowded Trains



Cycl... [+ Follow](#)

2,405 views 5 faves 12 comments

### Caltrain is getting crowded

I snapped this photo yesterday evening as the train approached Palo Alto station for my commute home. It's getting a little bit crowded on the train.

3 Retweets 1 Like

1 3 1



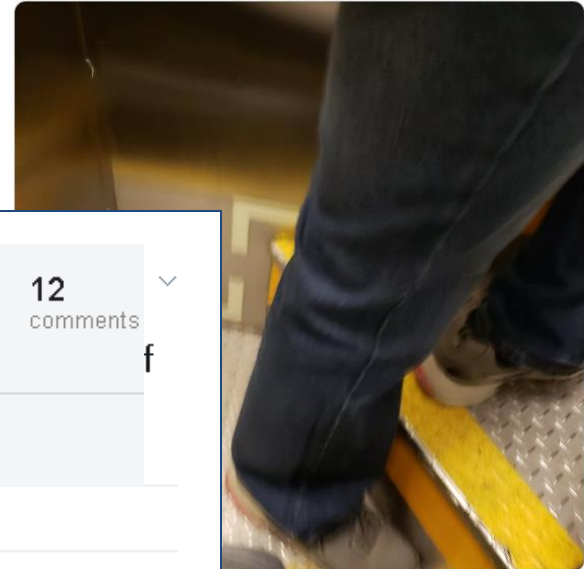
Replying to @Caltrain

What is the actual maximum number of cars you can configure & run a consort with? That's what 323 needs. It's nuts now, worse every week.



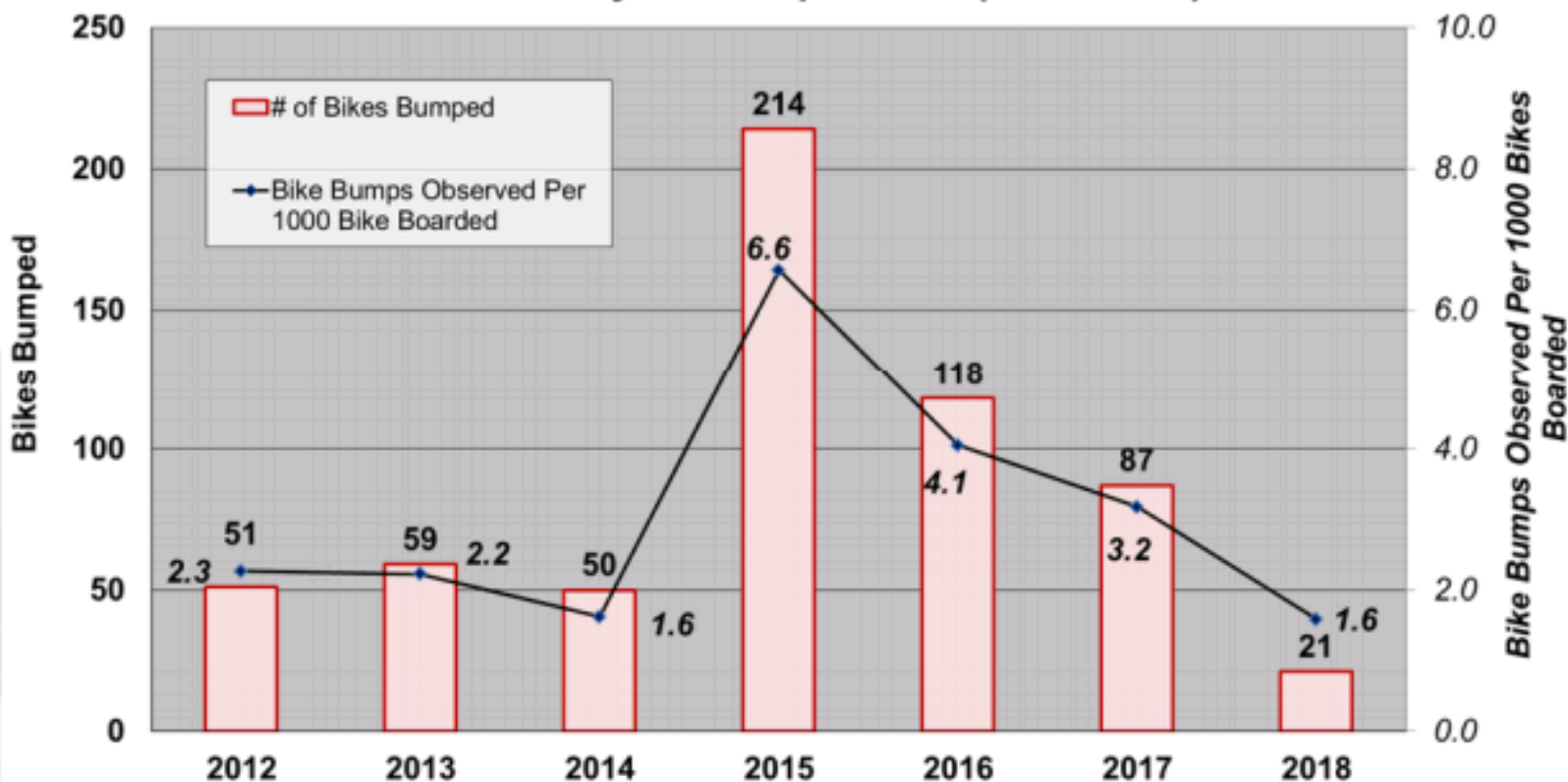
[Follow](#)

The #caltrain experience of standing in a one-person wide stairwell because the rest of the train is packed. #commute



# Reported Bike Bumps

Caltrain Bicycle Bump Trend (2012-2018)



Source: Caltrain 2018 Annual Passenger Count

# Morning Capacity – 2018

NB Train	Over Capacity		SB Train	Over Capacity	
	Seats	Bikes		Seats	Bikes
305			206		
207			208		
309			310		
211			212		
313	X		214		
215	X		216		
217	X	X	218		
319	X		320		
221	X		222		
323	X		324	X	X
225	X	X	226		
227	X		228		
329	X		330	X	
231			232		X
233	X	X	134		

# Train Operations (Today)

- Bike boarding/deboarding a significant cause of delay
  - Bikes board first project aimed at reducing boarding time
- Conductor resources used to oversee bike cars
- Number of bike cars should be limited in order to limit excessive dwell times

# Future Operations (2022)

- 7-car electric trains (max 667 seats)
  - Seating capacity equivalent to a 5-car diesel train
- Incremental commissioning/decommissioning trainsets requires electric trains to have at least the seating capacity of a 5-car train
- Remaining diesel Gilroy trains will continue to provide more seated capacity
- Future demand satisfied by combination of seating capacity and increased frequency (6 per hour, up from 5)
- Assess next increment through Business Plan

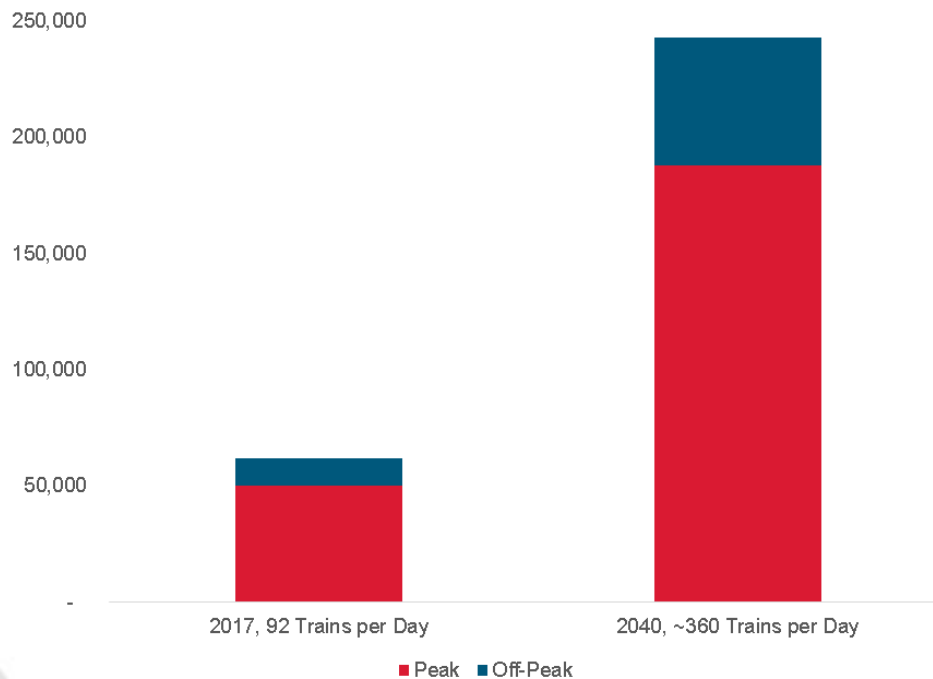
# Financial Implications: Onboard Bikes

- Initial electric vehicle purchase: \$551M for 16 six-car trainsets (\$34.4M per train)
- Six-car trainset = 567 seats + 72 bike spaces
  - 72 seats removed to install bike spaces
- Per seat replacement cost = \$53.8k
- Per trainset seat replacement cost = \$3.88M
- \$62M investment in additional rolling stock needed to provide equivalent seat replacement
- Legislation precludes charging for bikes onboard



# Caltrain Business Plan – Future Ridership Growth

By 2040 there could be underlying demand for approximately 240,000 daily trips on the system.



# Caltrain Business Plan Continued

- While Caltrain is able to expand its Electric train consists to seven car trains, adding further capacity will be challenging.
- In addition to purchasing additional vehicles, other investments, such as platform extensions, will be required.
- The Caltrain Business Plan is exploring what options are available to further lengthen trains (beyond 7 cars to 8- or 10- car consists) as well as what may be required to run additional trains.
- This is a holistic analysis that will illustrate both the opportunities as well as the limits to adding capacity to the Caltrain system as a whole.

# **Bike Parking & Micromobility at Stations**



# Options at Stations Improving

- Limited options today
- Working to offer more:
  - Electronic lockers
  - Shared access bike rooms
  - Better management
  - Bike and scooter share
- Untapped potential - much more space at stations than onboard trains



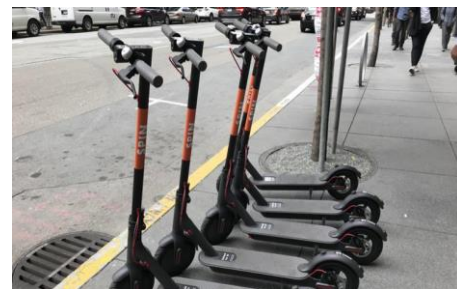
# Bike & Scooter Share Today

- Much learned since original Bay Area Bike Share pilot, w/ Lyft & Uber owning & operating more integrated systems
- San Francisco 4<sup>th</sup> & King is the busiest bike share station in the Bay Area



# Bike & Scooter Share Today

- Scooter share is a quickly evolving first and last mile option not available in 2015
- Multiple scooter share companies started in 2017 and now claim over 10 billion rides
- Caltrain currently developing micromobility policy to make options work well for all riders



# Best Practices Around the World

As ridership increases, we must look to places around the world with higher bike ridership



Rotterdam



Tokyo

# Recent Efforts to Improve Caltrain Bike Options

- Bike Parking Management Plan approved (November 2017)
- Bike Security Task Force (began January 2018)
- New station access planner hired (August 2018)
- Bike access & parking survey (Fall 2018)
- Funding for bike improvements at stations: \$3.5M (TIRCP grant 2018)



# Caltrain Ongoing Bike Parking Efforts

- Develop station specific plans with bike parking amenities
- Work with bike share companies, locker manufacturers & station area projects to make things easy to understand and inexpensive for users
- Develop a strategic plan for corridor-wide bike share
- Prioritize spending
- Coordinate with cities on bike plan updates

# Caltrain Priorities (near / future)

- Capital plan for first 10 stations: Spring 2019
- Rework keyed locker management: 1-2 stations/month (ongoing)
- 4th & King/Townsend bike parking expansion: Winter 2019 / 2020
- Capitol Corridor eLockers: June 2019
- San Carlos Station Improvements: Fall 2019
- Sheds managed by 3rd party: Late 2019 - early 2020
- E-lockers system wide: 2022
- Bike rooms: Include with any TODs

# Caltrain Bike Security Efforts

- Interdepartmental effort started Spring 2018
- Reporting/protocol improved
- Updated bike webpages
- Underway
  - Theft prevention app - pursuing partnership
  - Lost & Found - new 24 hour recovery policy
  - Updating onboard decals and materials

# Electric Train Configuration Next Steps



# Bikes Security on Electric Trains

- Bike community desires seats next to bikes
- Caltrain can review possible configuration options
  - Additional community input/feedback
  - Joint CAC/BAC workshop
    - Hands-on interaction with configuration possibilities
    - Small groups
    - Board participation

# Funding

- Reconfiguration not part of current budget
- Funding sources not yet identified

## Next Steps

- Identify strategies for configuration of existing bike cars and seventh car to address bike security concerns
  - Maximize seated capacity
  - Minimize impact on cost, bike capacity
  - Not constrained by 1:8 bike to seat ratio
- Make bike parking and micromobility at stations more viable solutions

# Outreach Process

Item	Audience	Date
Outreach Process Update	CAC, BAC Subcommittee, Bike Coalitions	February
Outreach Process Input / Process	Board	March
Joint Workshop: Electric Train & Bikes Onboard Configuration	CAC and BAC	March
Possible broader outreach (survey and/or station pop-up events)	General Ridership	March / April
Staff Recommendation	CAC & BAC	May
Board Decision	Board	June