

# Richmond-San Rafael (RSR) Bridge Pilot Next Steps and Forward Projects Update

WCCTAC Board Meeting

June 28, 2024





# Agenda



PHOTO COUTESEY CALTRANS

**Pilot Recap**

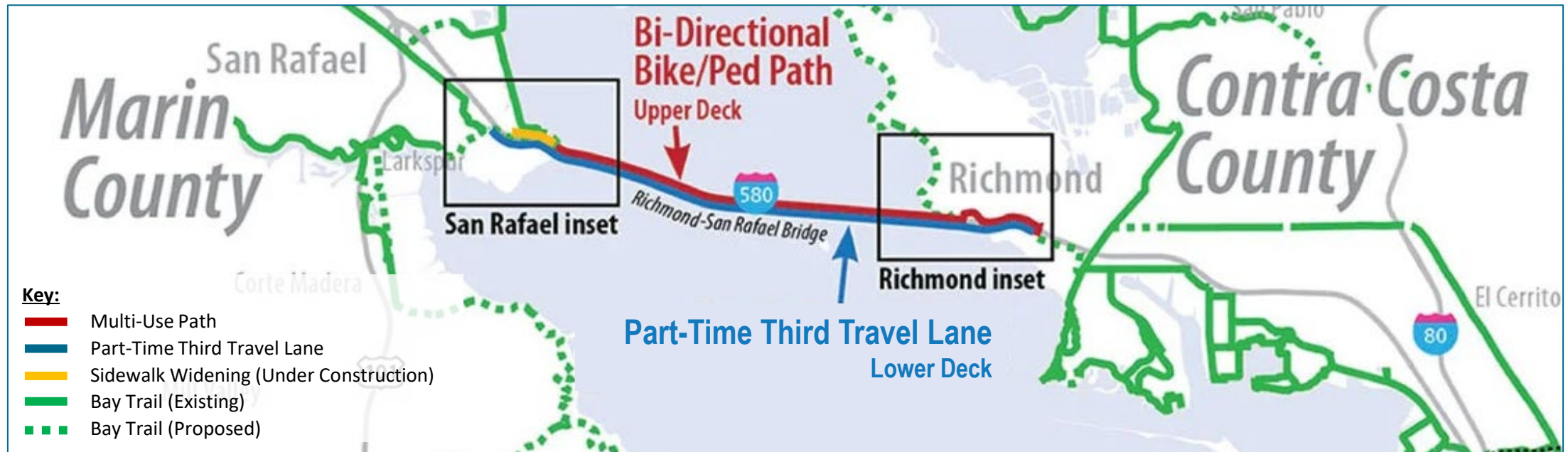
**Findings to Date &  
Proposal**

**Next Steps**

# RSR Access Improvement Pilot Project (4-Year Pilot)

Repurposed bridge emergency shoulders to provide:

- **Eastbound Part-Time Third Travel Lane – (Apr. 2018)**
- **10-ft Multi-Use Path with Movable Barrier – (Nov. 2019)**



Project Location Map

# Pilot Designed for Two Purposes

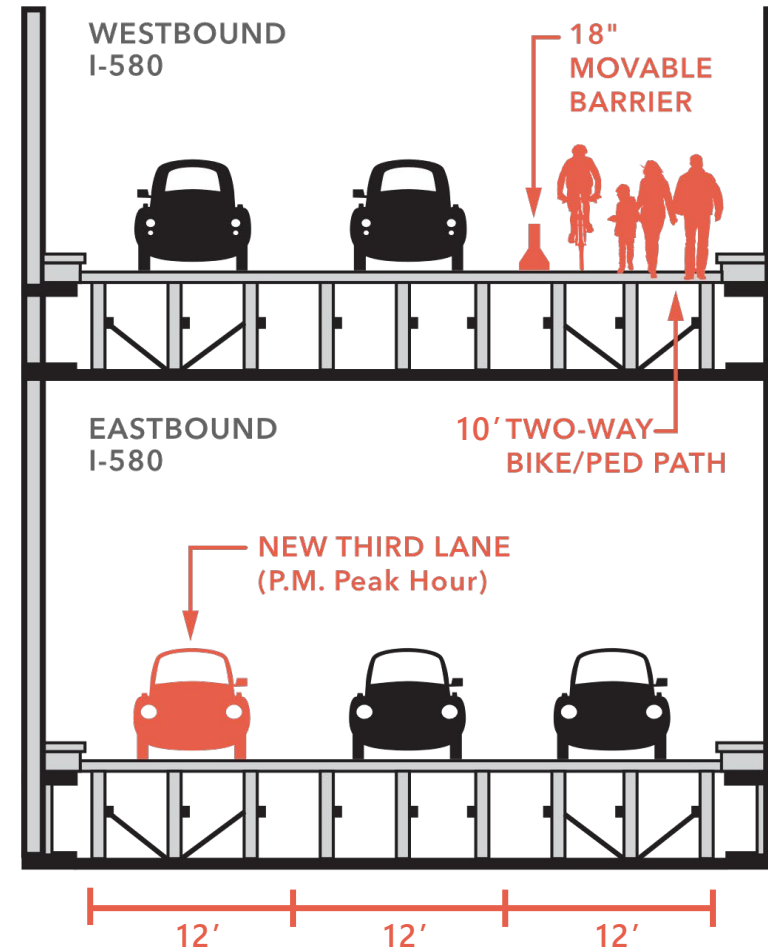
## Bicycle & Pedestrian Access:

- Bay Trail connection between East Bay and Marin
- Permanent Connections for Richmond and San Rafael

## Traffic Congestion and Delay:

- Eastbound Peak-Period Use Lane

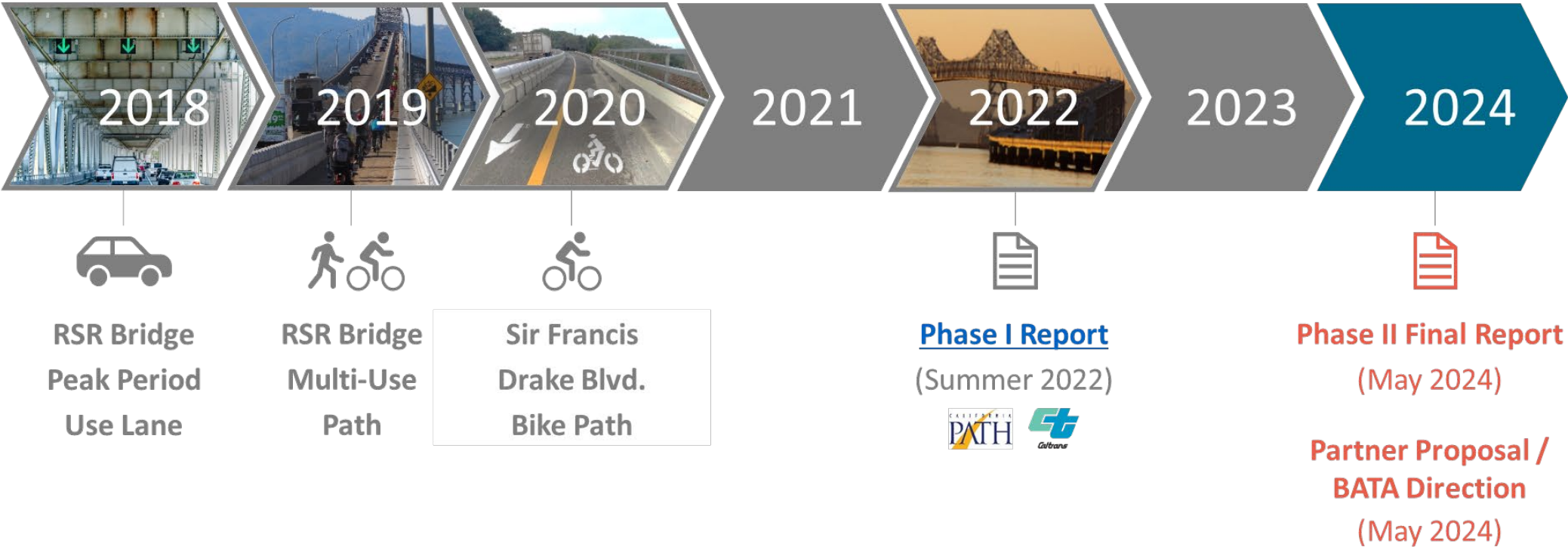
RSR Bridge Cross-Section  
(looking West)





# Timeline

Today  

# Lower Deck Results are Clear

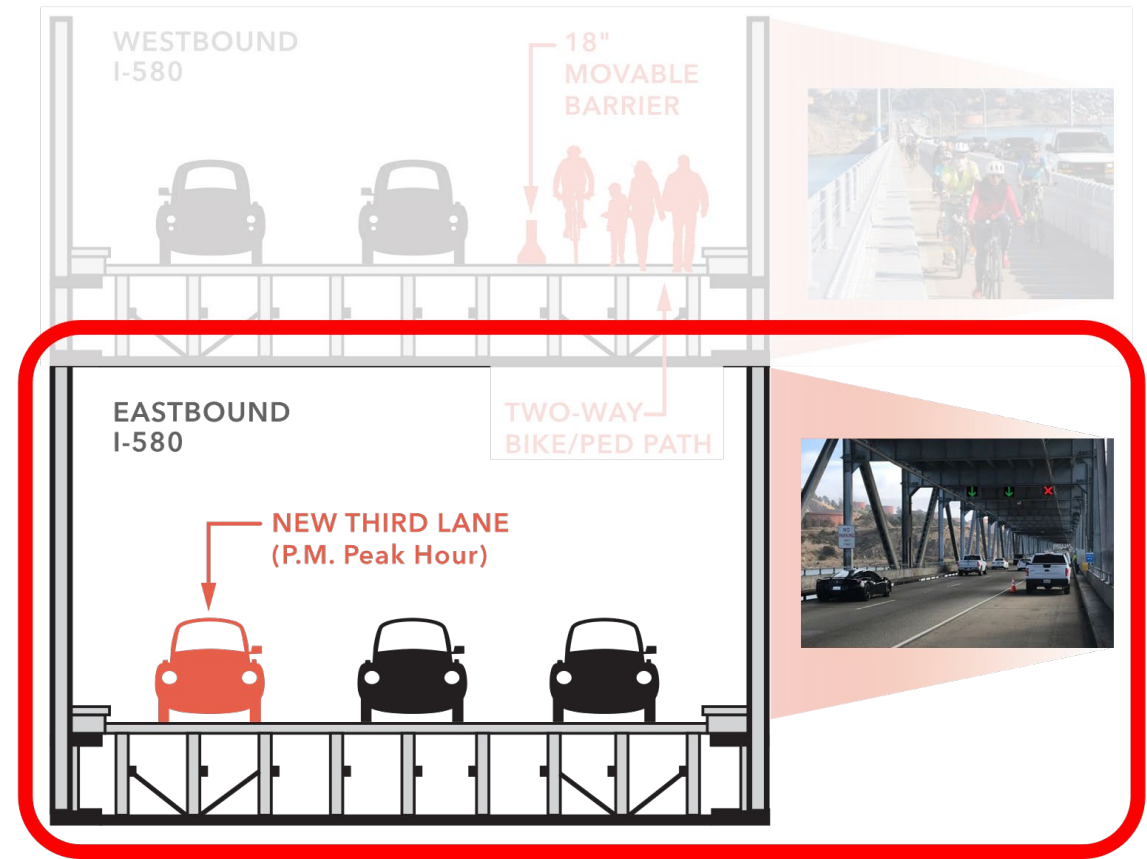
## Findings:

- Peak-Period use lane eliminated afternoon eastbound congestion (freeway and local streets).  
Up to 14 to 17 mins. travel time savings.
- High compliance.
- No major impacts to bridge maintenance, vehicular incidents or response.

## Proposal approved by BATA in May 2024:

- Make improvements permanent, as-is.

**RSR Bridge Cross-Section**  
(looking West)

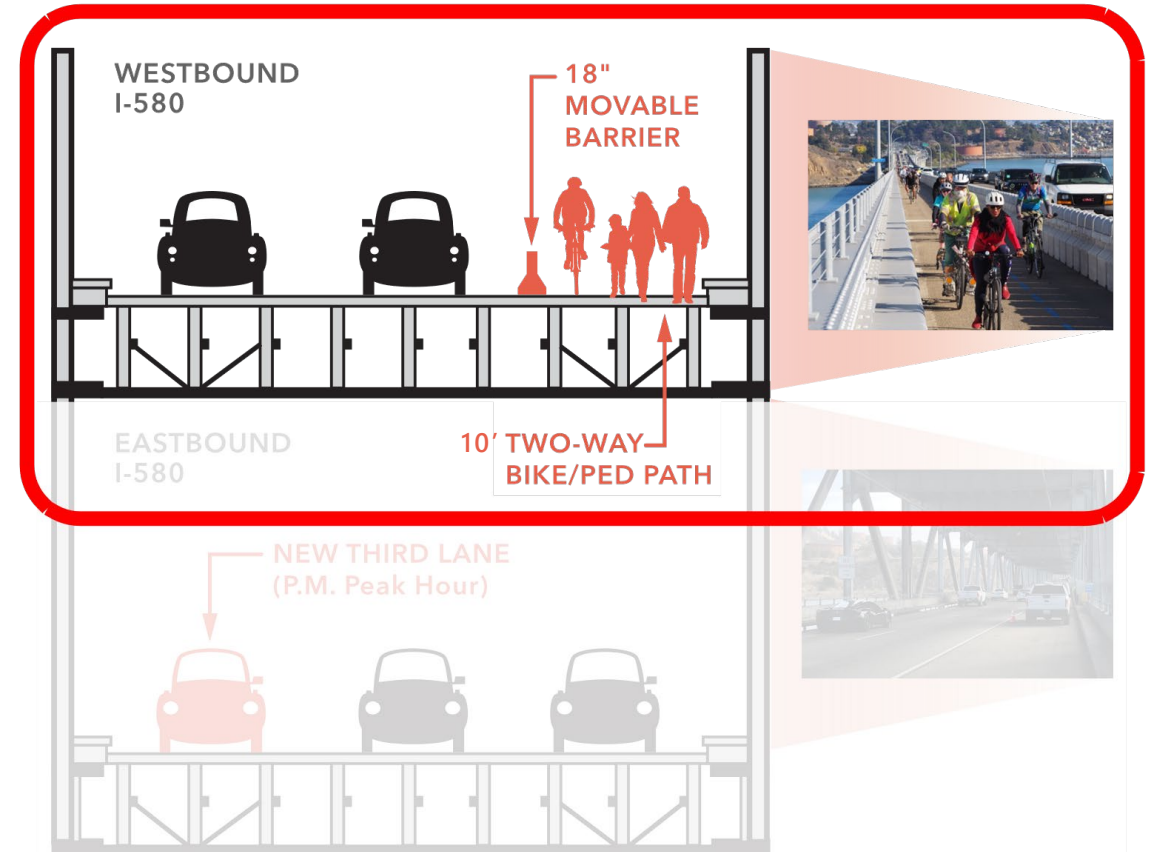


# Upper Deck Multi-Use Path Results are Less Clear

## Findings:

- **Access:** Demonstrated importance of bike/ped access but usage higher on weekends
- **Traffic:** No increase in typical AM congestion with traffic at 90% of pre-COVID levels *but* impacts on incident rates, incident response times and incident-related congestion are not clear

RSR Bridge Cross-Section  
(looking West)

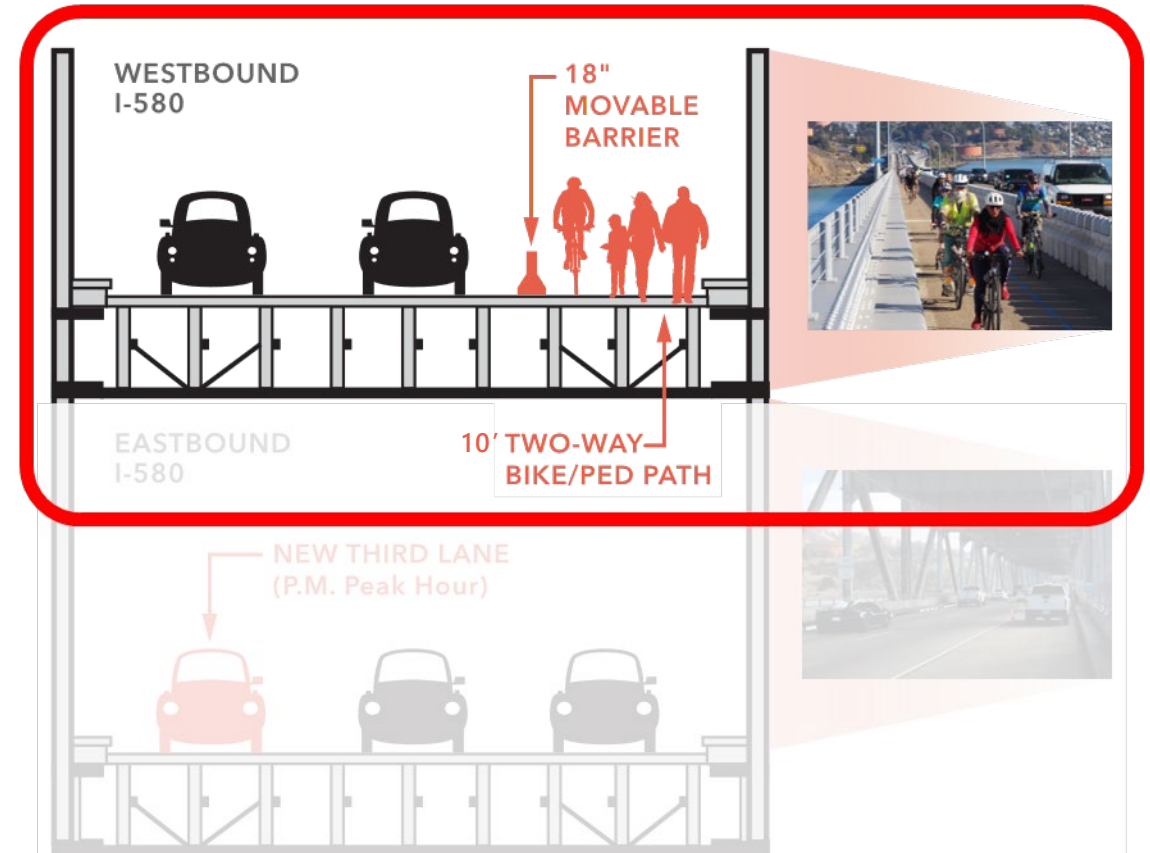


# Upper Deck Multi-Use Path Results are Less Clear (Cont.)

## Considerations:

- Concerns raised about impact of incident-related congestion on equity communities
- Related work needs more time:
  - Bridge strengthening assessment
  - Multi-modal milestones in 2025: Open RSR Forward projects and complete shoulder study

RSR Bridge Cross-Section  
(looking West)



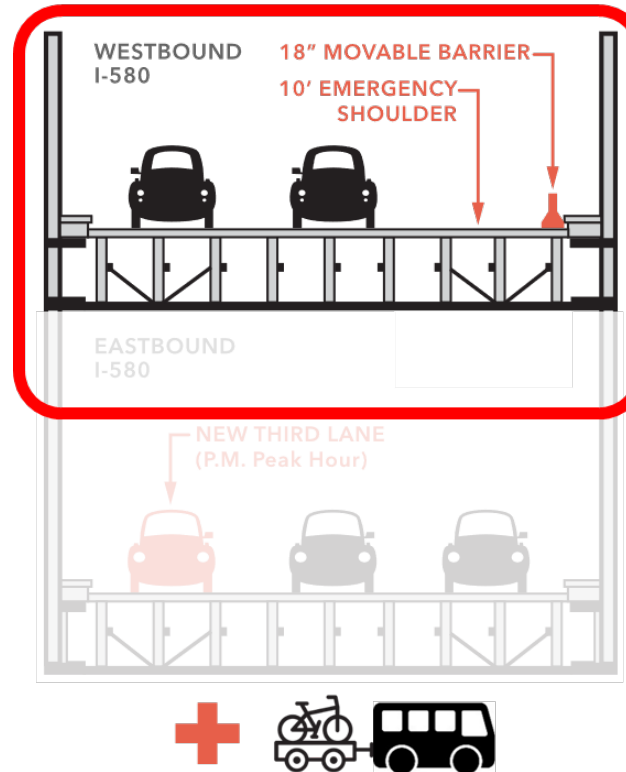


# Upper Deck Multi-Use Path Proposal

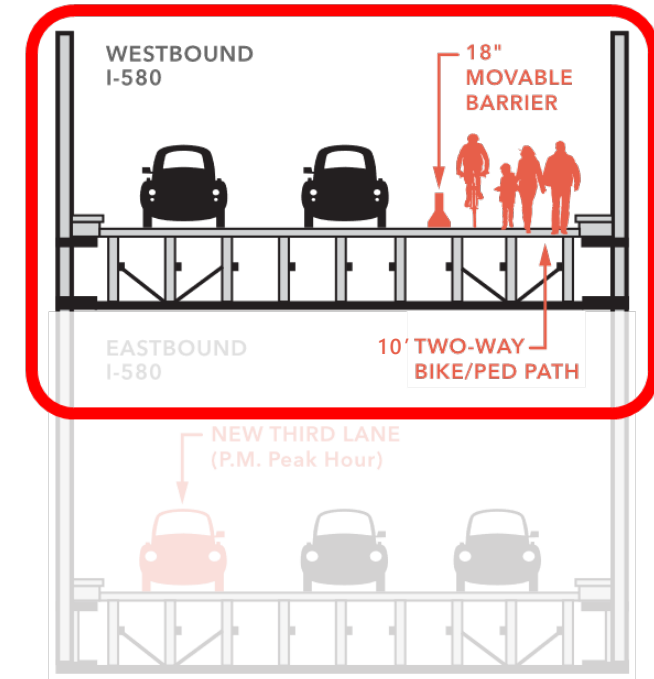
Approved by BATA in May 2024

Extend Pilot with  
Modifications to end of  
2025 (at minimum)

Heavier commute days  
(e.g., Mon-Thurs):  
Emergency Shoulder + Bike Shuttle



Lighter commute days  
(e.g., Fri/Weekends/Holidays):  
Multi-Use Path



# What Does Extension Achieve?

- Maintains access on Bay Trail segment when it is most used
- Provides emergency shoulder when commute traffic is heaviest
- Allows better understanding of:
  - Access and Non-Motorized Trips
  - Incident Response & Role of Emergency Shoulder
  - Equity Considerations
  - Bridge Strengthening Needs for the Barrier
- Shoulder study and RSR Forward can advance in parallel



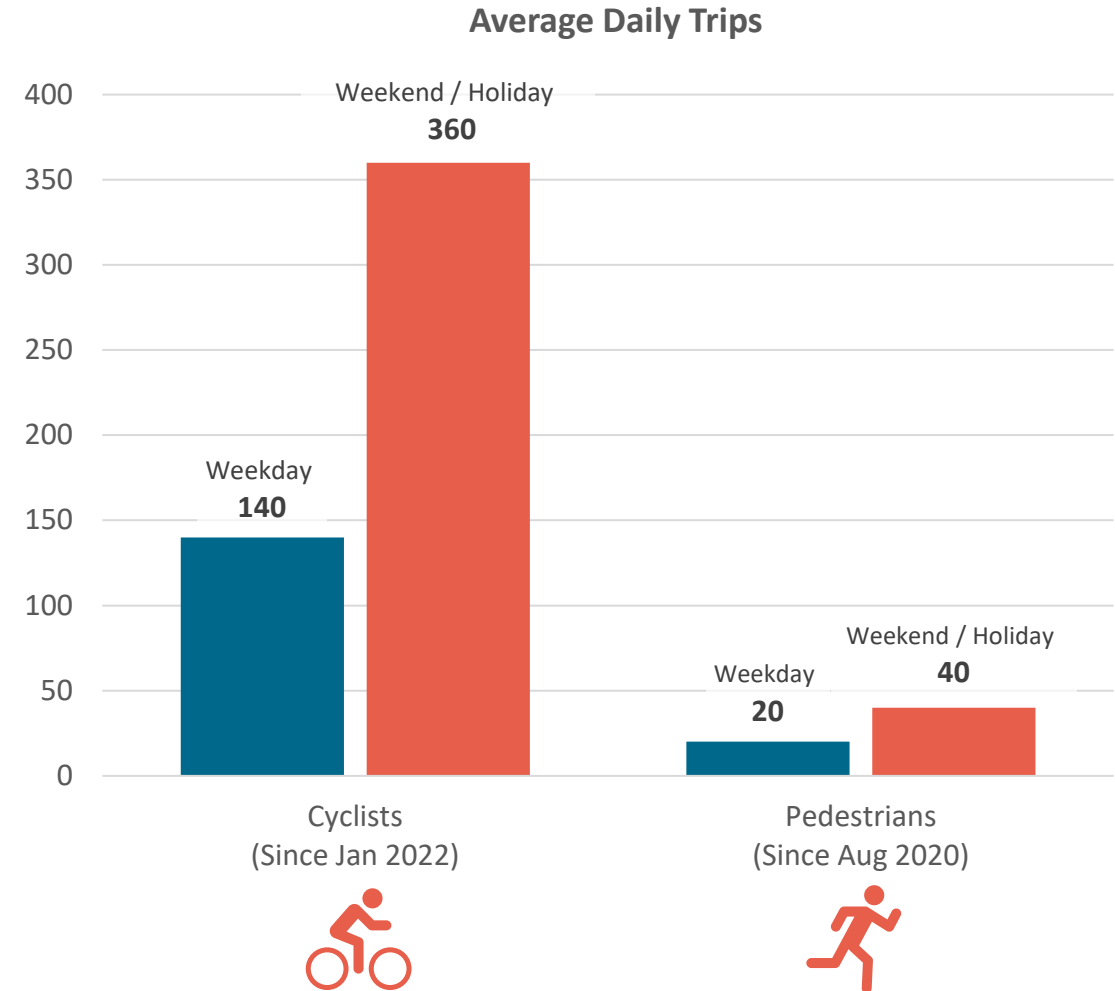
# Path Usage is Higher on Weekends

- Average Daily Trips: 140 cyclists on weekdays and 360 on weekends, with seasonal variability
- Compared to other BATA bridges with multi-use paths, usage is second to the Bay Bridge
- 85% use it for recreation/exercise
- 15% use it for commute/other

## High Ranking on Multi-Use Path Safety



Source: Pilot Study User Survey 2021

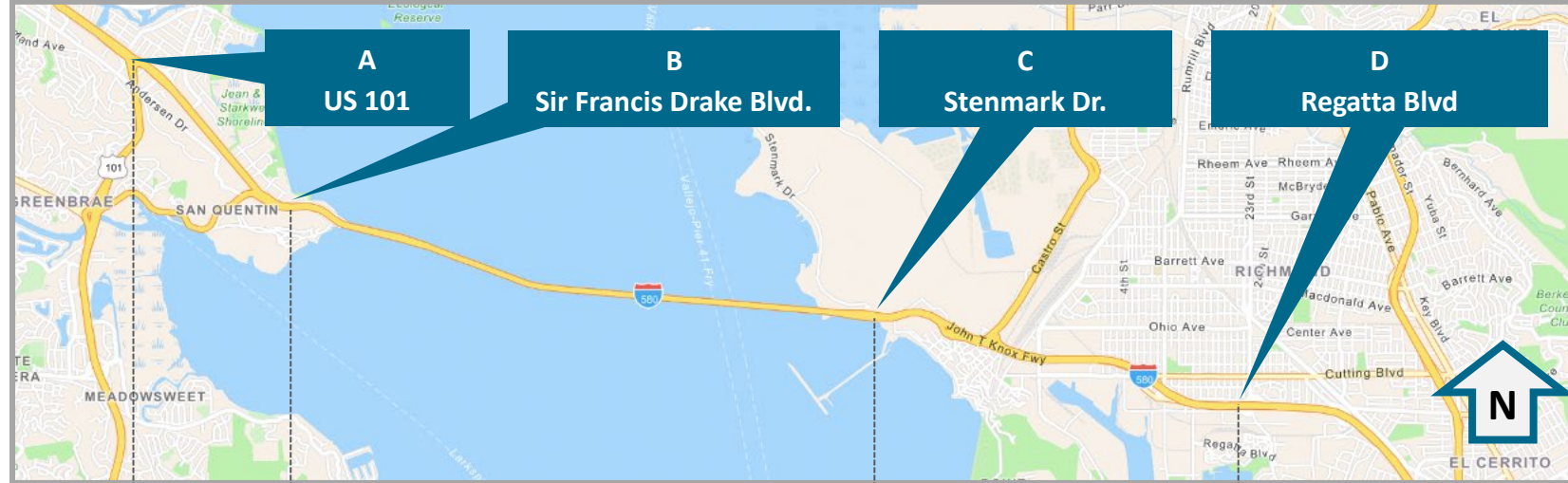


Note: Summer Saturdays up to 480 average daily trips

Source: Eco-Counter



# Typical Mid-Week Congestion Largely Unchanged

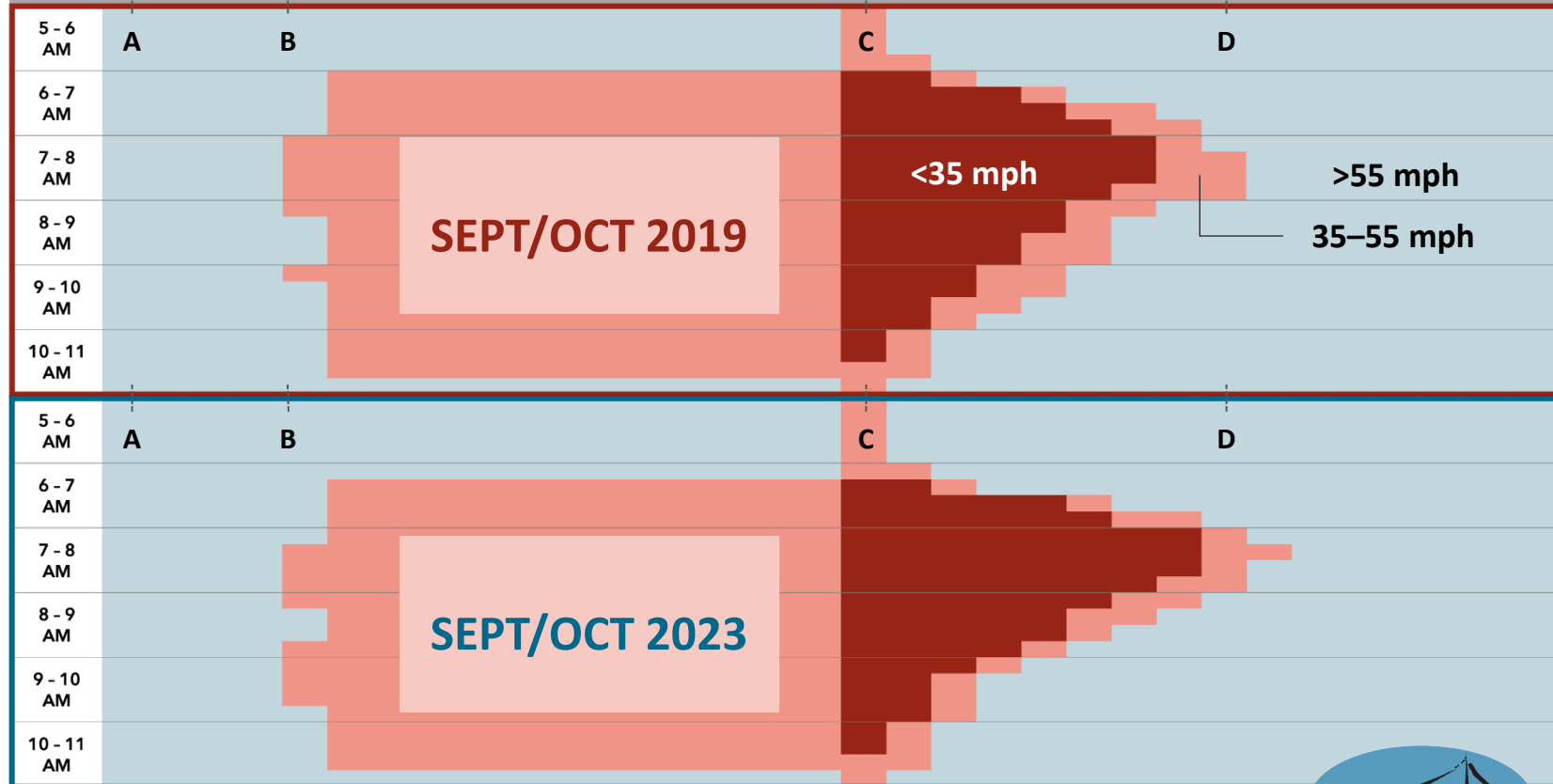


Compared to Fall 2019:

- Morning congestion dissipates 15 minutes earlier
- Back up is 0.2 miles longer
- Does not fully capture incident-related congestion

Note: Fall 2023 daily traffic volume was 90% of Fall 2019 (Fall 2023 traffic volume in the Mid-Week 6-11AM peak period was 97% of Fall 2019).

Source: BATA analysis of INRIX data (Tues-Thurs)



# Increases in Incident Rates During AM Peak

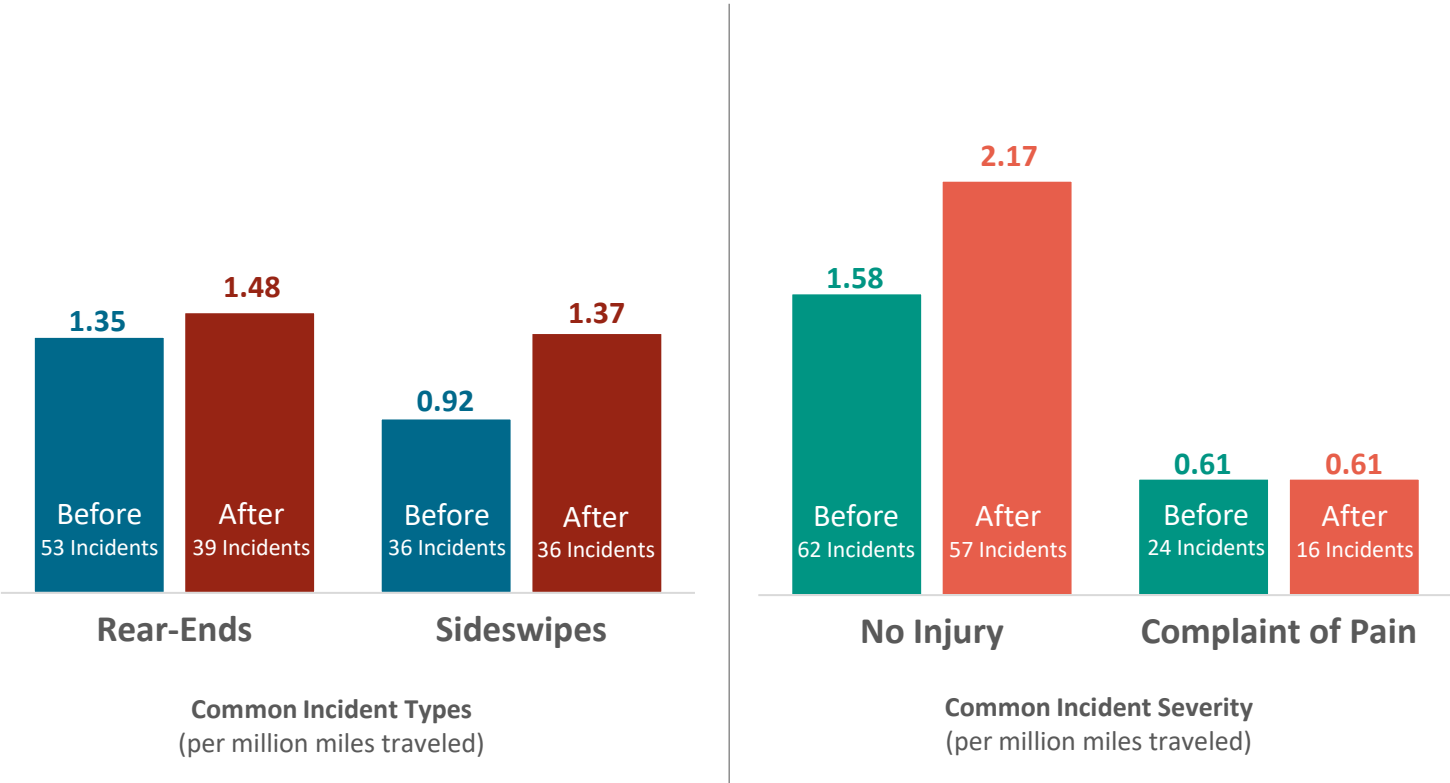
- **Rear-Ends and Sideswipes have increased. Together these are 90% of total incidents by type.**
- **“No injury” incidents have increased and “Complaint of Pain” incidents unchanged. Together these are 90% of total incidents by severity.**

Note:

- Before = 01/2016 – 09/2019 (15 quarters)
- After = 07/2021 – 03/2020 and 07/2020 – 12/2023 (11 quarters, No-COVID)

Source: TASAS

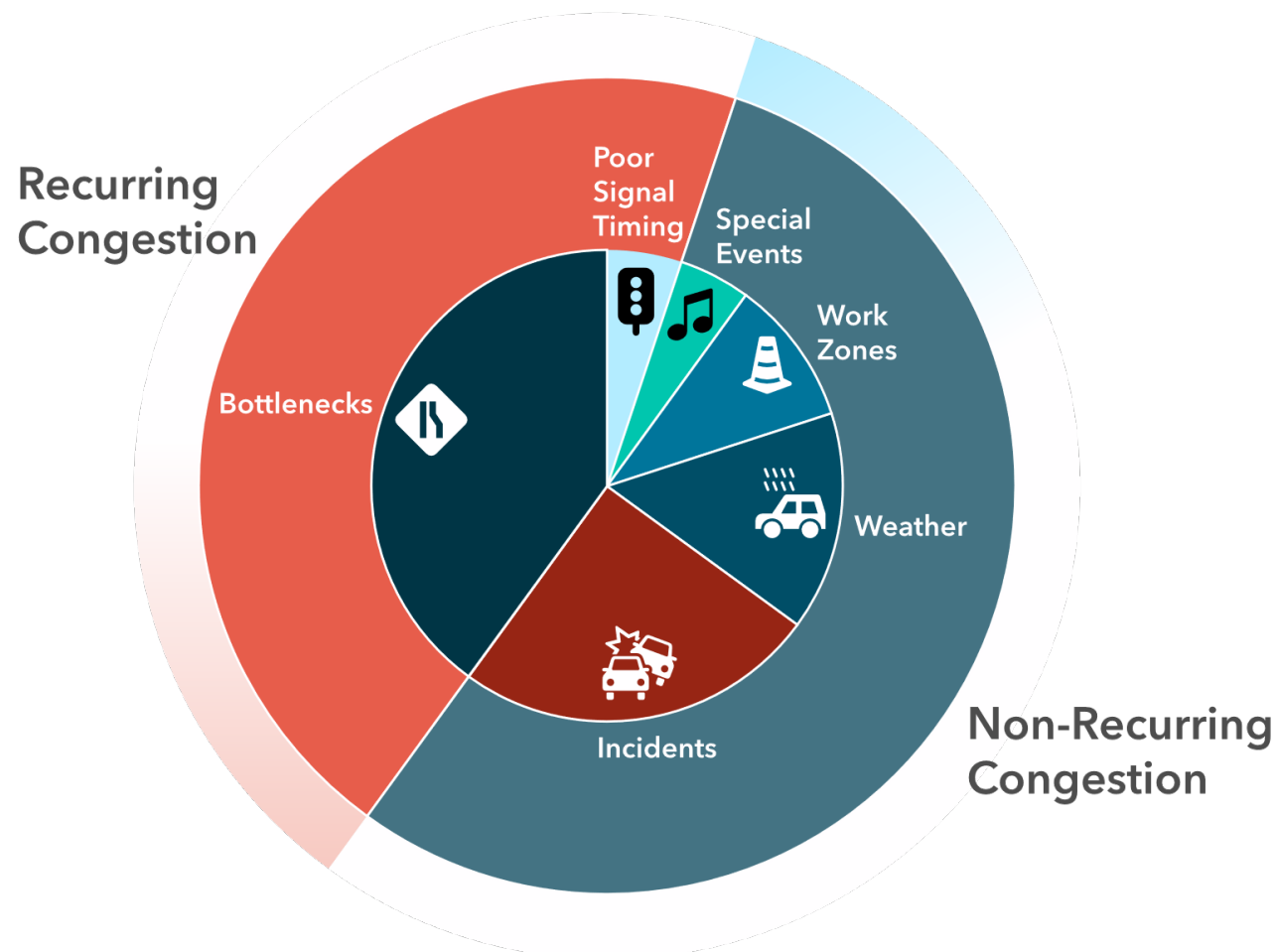
Before vs. After Rates of Most Common Incident Types & Severity  
Weekdays Only (6am – 9am)



# Uncertain Impacts on Travel Time Variability

- **Peak weekday travel times on the bridge's approach are now more variable than before, mainly due to the barrier preventing disabled vehicles from pulling out of a traffic lane.**

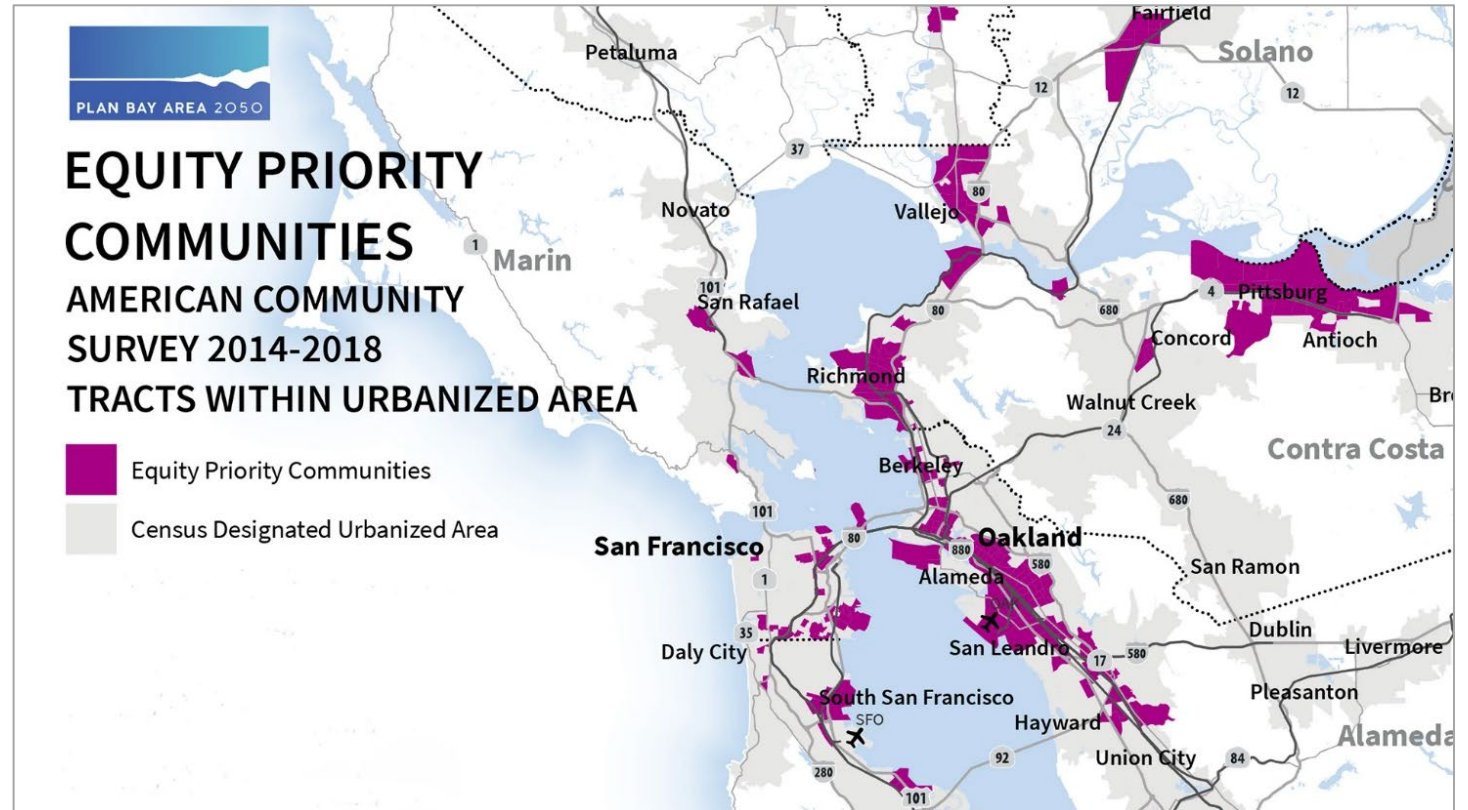
*Source: Travel Time Reliability: Making It There On Time, All The Time;  
Federal Highway Administration. FHWA-HOP-06-070*





# Seek Better Understanding of Equity Considerations

- What are demographics of travelers?
- If incident-related congestion is worse, who is impacted?
- Pilot Study did not include equity data.
- 2024 MTC Travel Survey will provide detailed profile of corridor travelers.



# RSR Forward – ORT and HOV Lane Extension

(End of 2025)



## Project Info:

- Extends HOV 2+ lane from Toll Plaza to Regatta Blvd.
- Converts Plaza to Open Road Tolling

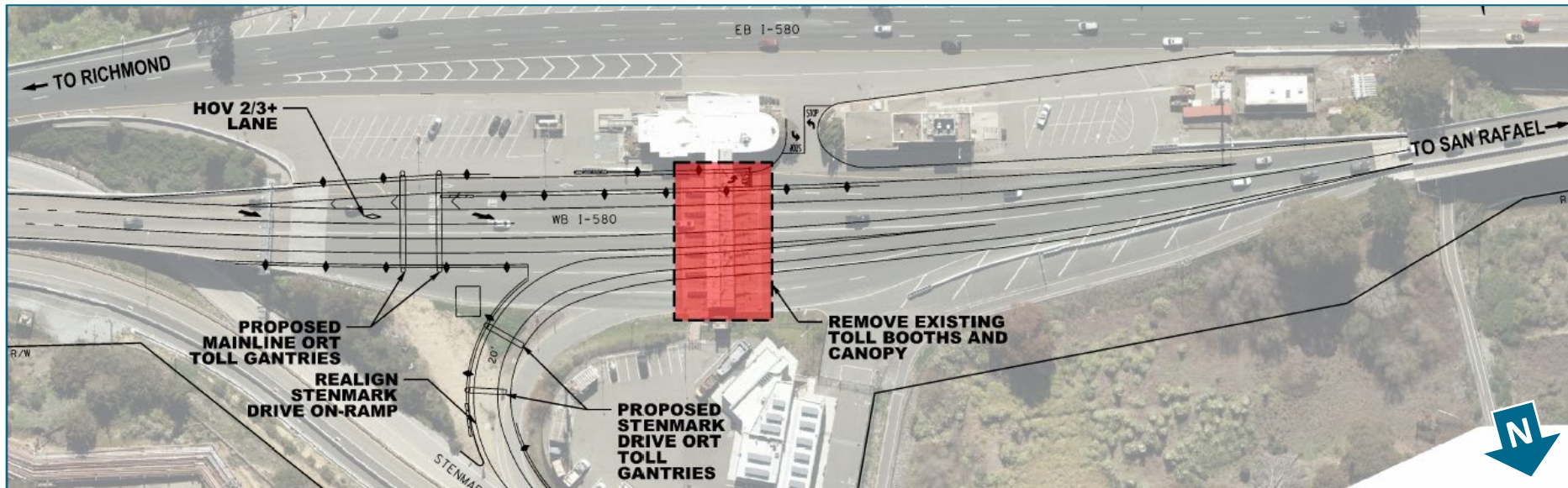
## Expected Travel Time Savings:

- General Traffic: 3-5 mins (average)
- Transit/Carpool: 10-12 mins (average)

# RSR Forward – ORT and HOV Lane Extension (Cont.)

## (End of 2025)

- Remove Toll Plaza Booths and Install Toll Gantries
- Lane Configuration under the Toll Gantries:
  - 1 HOV 2/3+ lane
  - 2 GP lanes
- Stenmak Dr. On-ramp realignment to merge/enter freeway



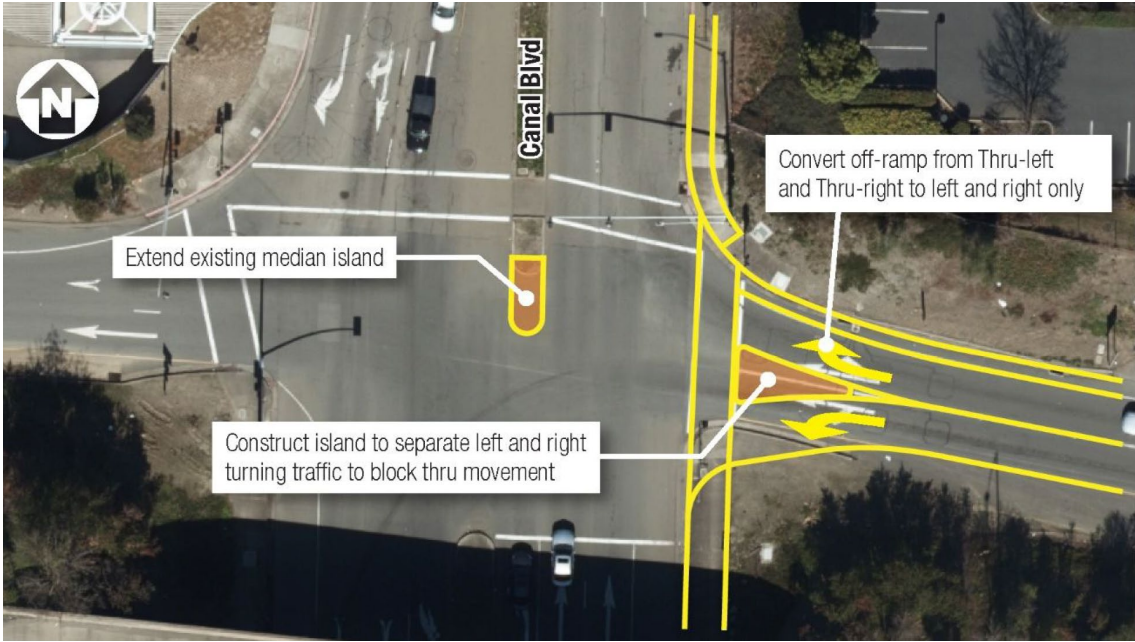


# RSR Forward – Richmond Parkway Improvements

(Fall 2026)



Castro St. / I-580 WB On-Ramp



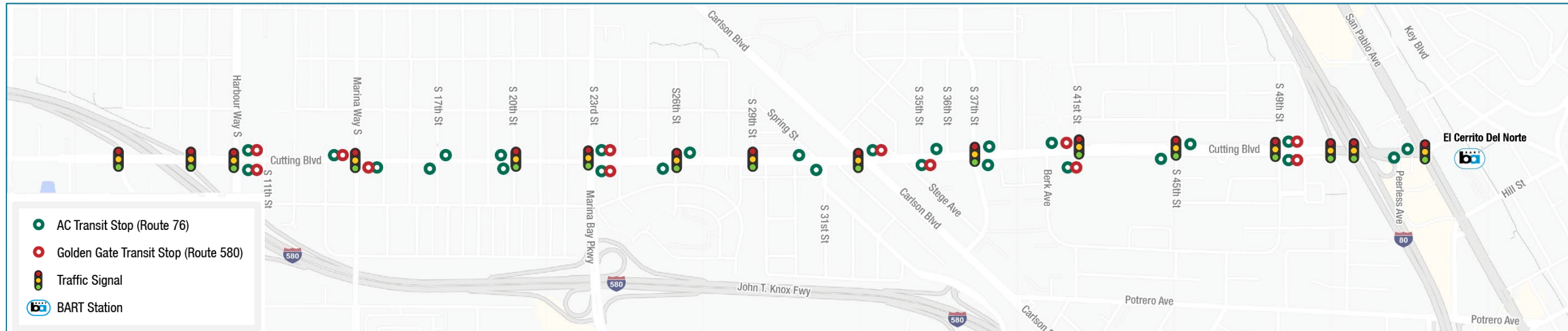
Canal Blvd. / I-580 WB Off-ramp

# RSR Forward – Cutting Blvd. Transit Priority

## (Spring 2026)

Improve transit operations and access by implementing:

- Transit Signal Priority
- Improvements at shared Golden Gate Transit & AC Transit stops



**Project Limits**  
**(between I-580 and San Pablo Ave.)**



# Westbound Shoulder Alternatives

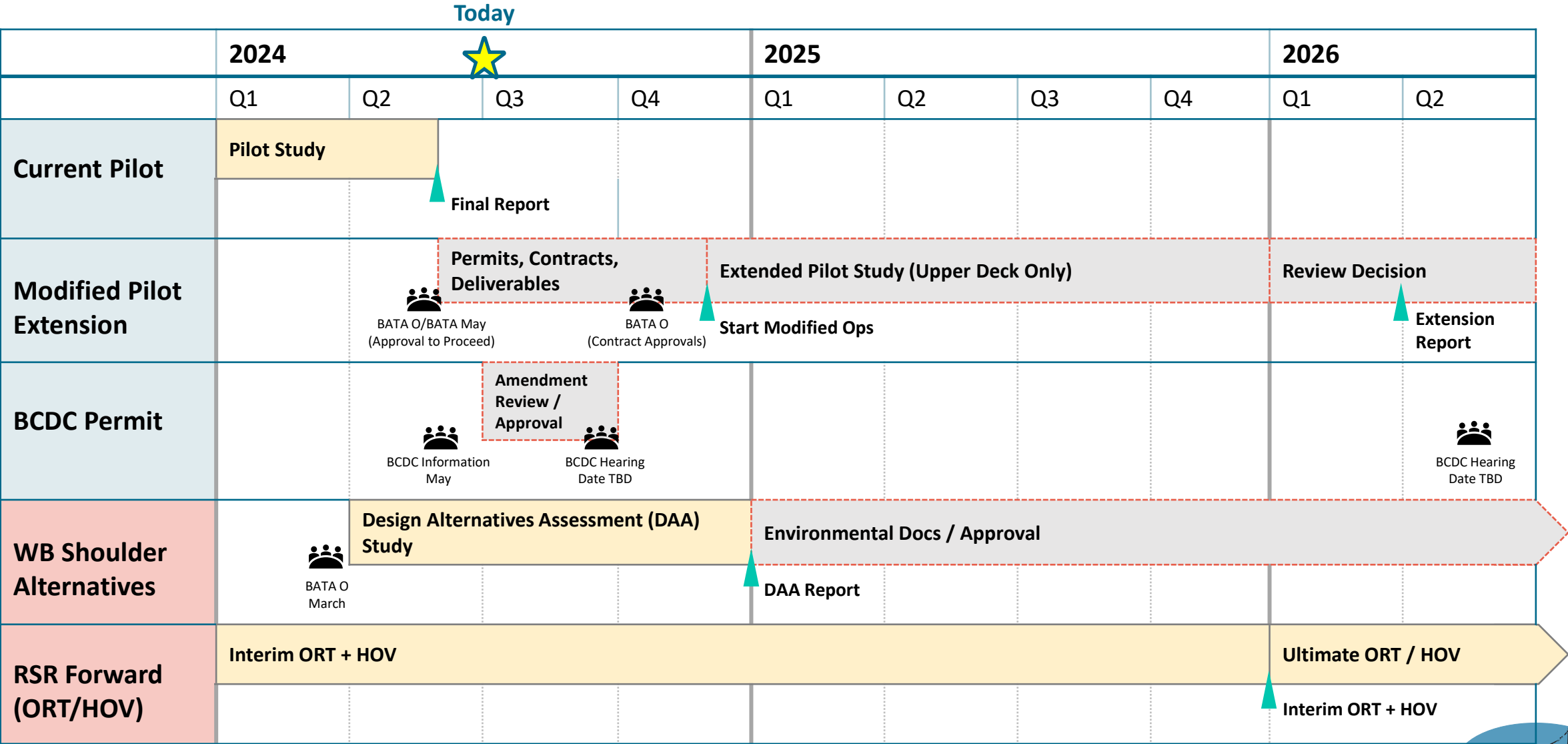
## Design Alternative Assessment (DAA)

- **Scope:**
  - Westbound Shoulder Lane Options:
    - 3<sup>rd</sup> Lane for HOV, Multi-use Path, Shoulder (Combo)
  - Limits, Alternatives
    - From I-80 to US-101 and Sir Francis Drake
    - Bridge & Marin Co. Improvements
    - TDM & Transit strategies
  - Analyze Traffic, Environmental, Design/Operations, Costs
- **Schedule:**
  - Started May 2024
  - Duration 9 months





# Timeline by Quarter







# Thank You

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BATA Principal Engineer

Design & Project Delivery

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PHOTO: TOM PAIVA

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