

June 26, 2024



# Fernside Boulevard Traffic Calming & Bikeways Project

---

Transportation Commission

**ParametriX**

**Parisi**  
TRANSPORTATION CONSULTING



# About the project

---

# 1.3 Mile Corridor Project

## Project subsets:

- Design concept for full corridor
- Near-term upgrade with resurfacing west of High St



# Project Phases

- 1. Public outreach for existing conditions & initial input:** November 2023 - January 2024
  - 2. Public outreach for draft concept alternatives:** May-June 2024
  - 3. Public hearings for final design concept:** Fall/Winter 2024 Transportation Commission and City Council public hearings (including seeking City Council approval)
  - 4. Resurfacing and restriping on Fernside Blvd west of High St:** 2025 or 2026
  - 5. Construct full corridor project:** 2030 goal – timing depends on finding funding
-

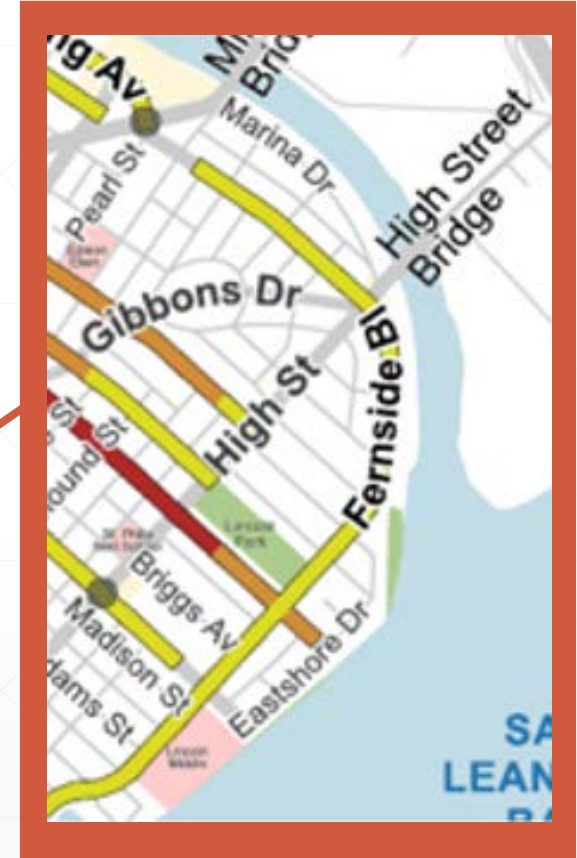
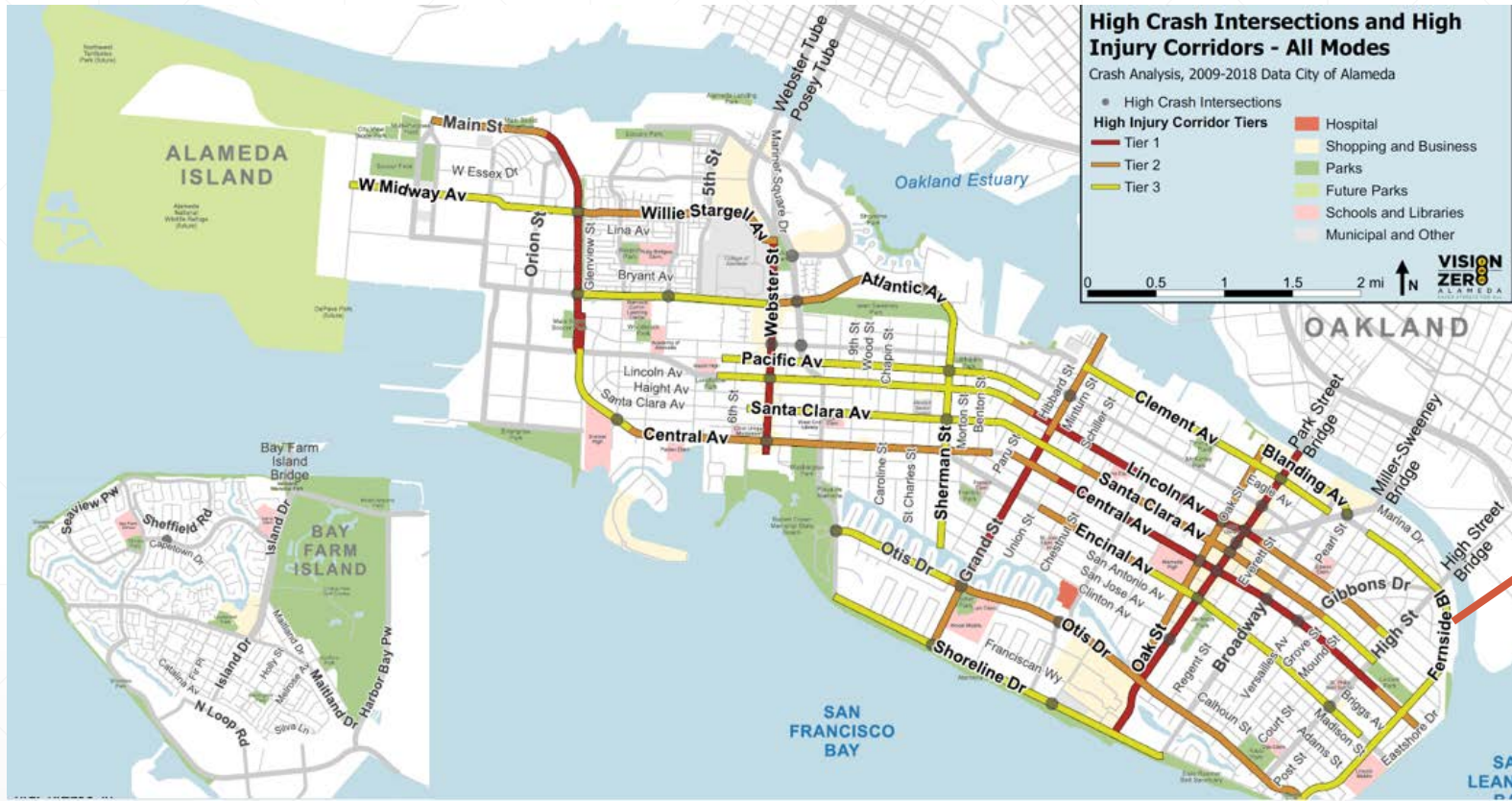
# Why are we here?

**Project goal:** reduce traffic speeds and improve safety and mobility for all

- Coordinate with pavement resurfacing
- Implement plans and policies:
  - Vision Zero Action Plan
  - Active Transportation Plan
  - City Council Strategic Plan
  - San Francisco Bay Trail (*regional*)



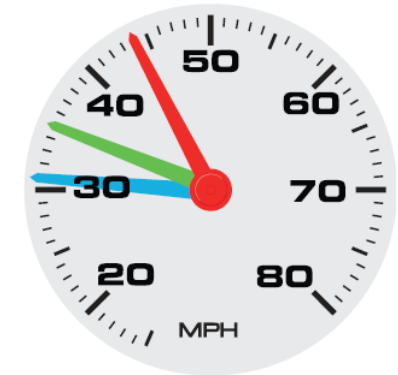
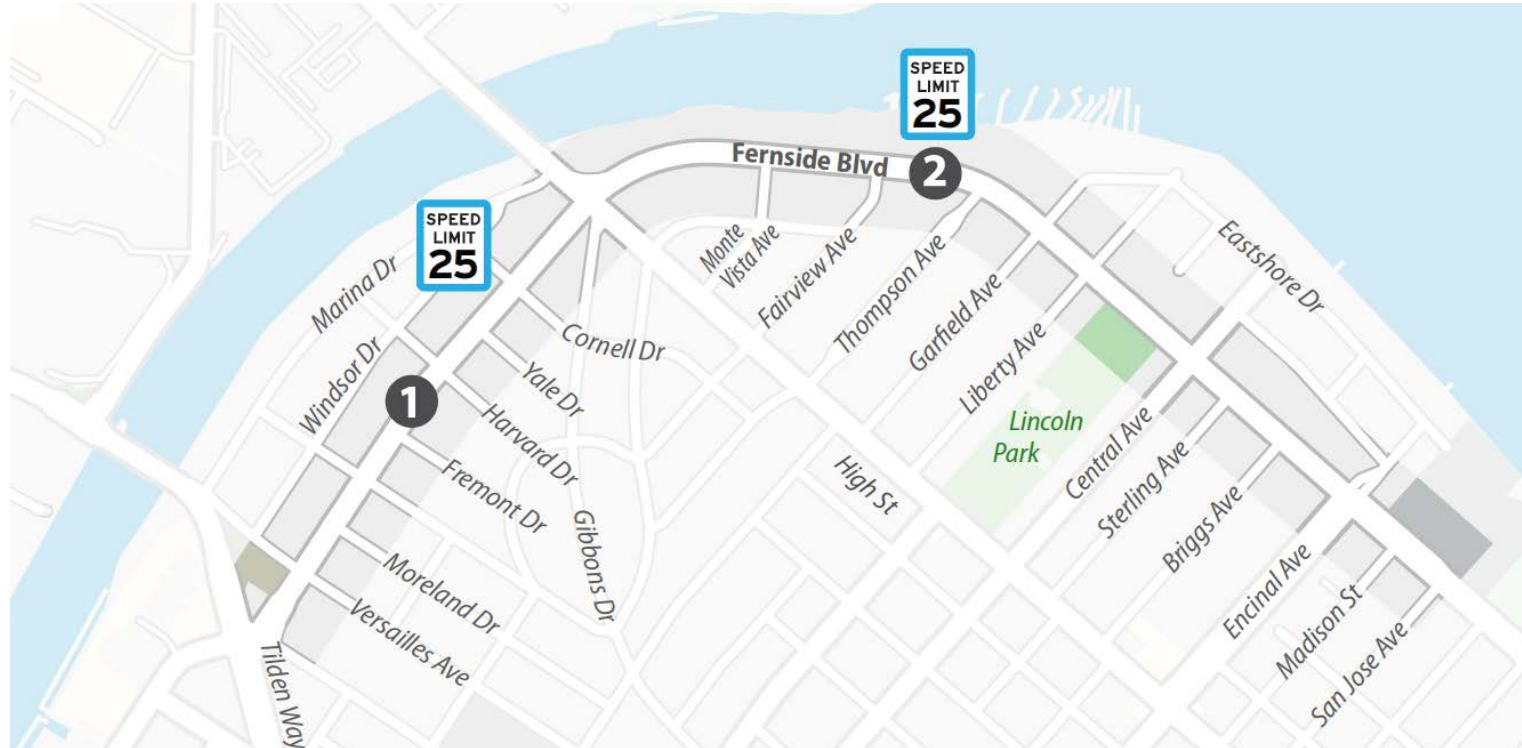
# Fernside is a Tier 3 High Injury Corridor, All Modes



# Existing Speed Limit is 25 mph, but Actual Vehicle Speeds are Higher

- Average Speed: 30 mph
- 85th Percentile Speed: 35 mph
- Highest speed recorded: 46 mph

- Average Speed: 31 mph
- 85th Percentile Speed: 35 mph
- Highest speed recorded: 44 mph



1

2

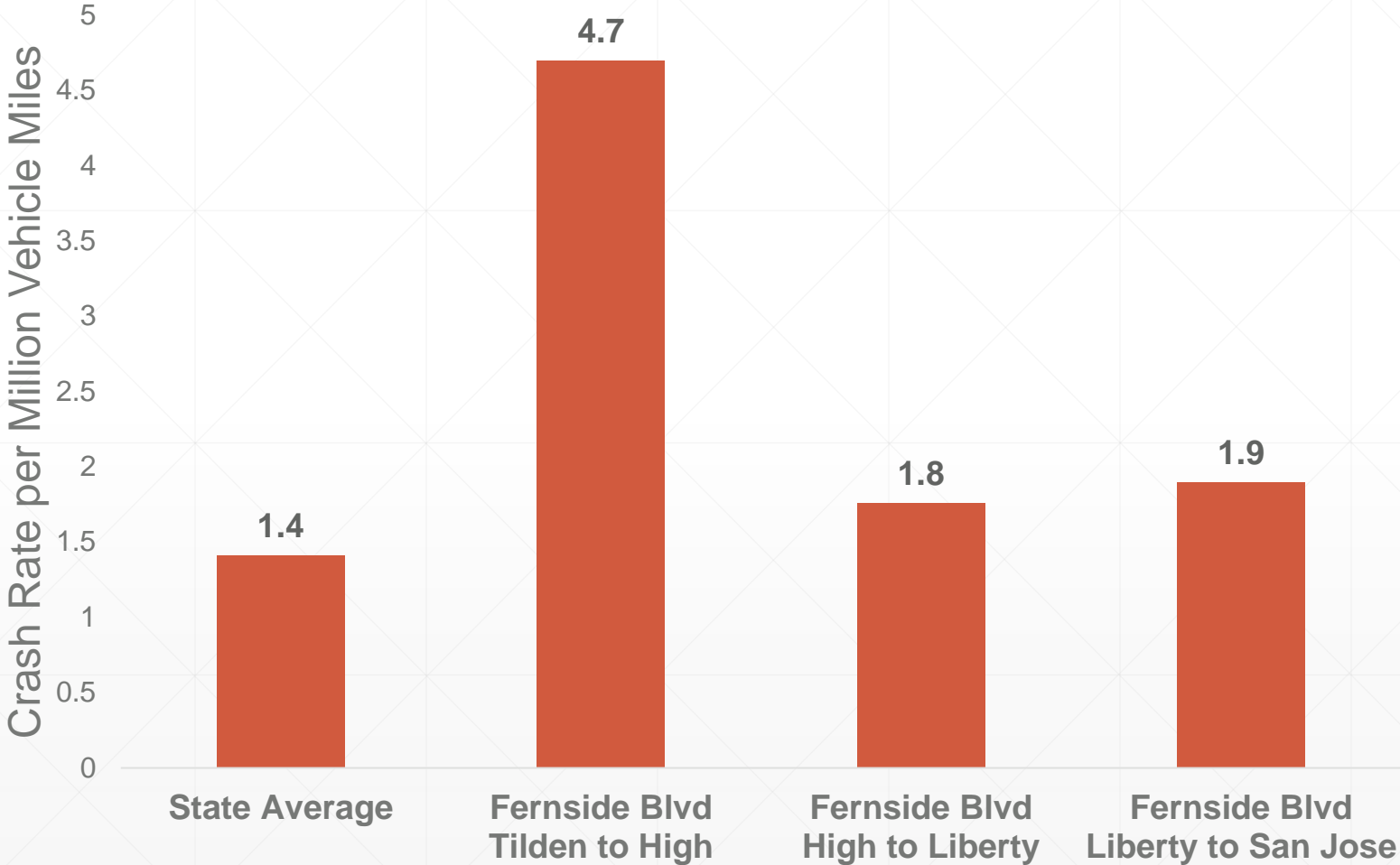
Speed survey conducted on 10/24/2023

# High Crash Rate throughout the Corridor

**64**

crashes from  
2017-2021

(including non-injury crashes)





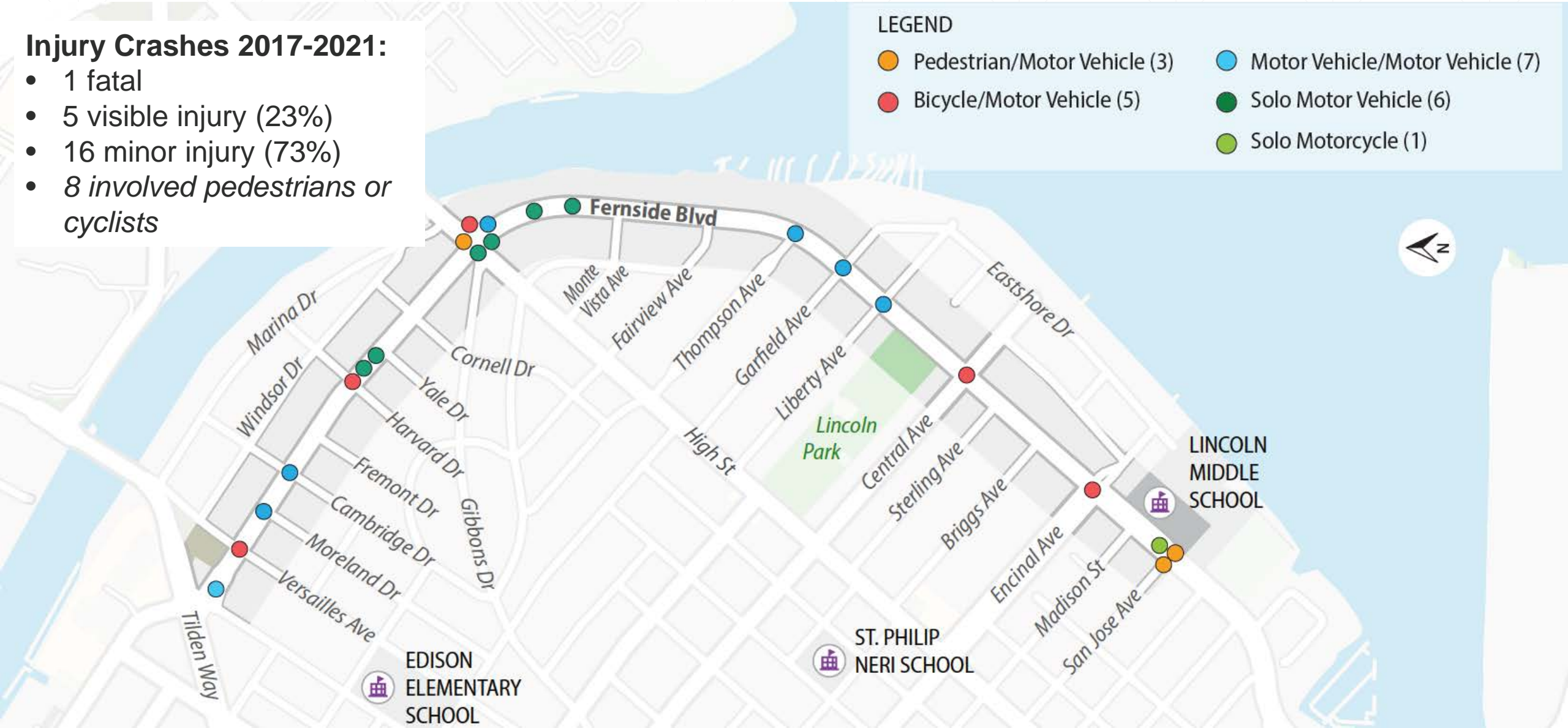
# 22 Injury Crashes from 2017-2021

## Injury Crashes 2017-2021:

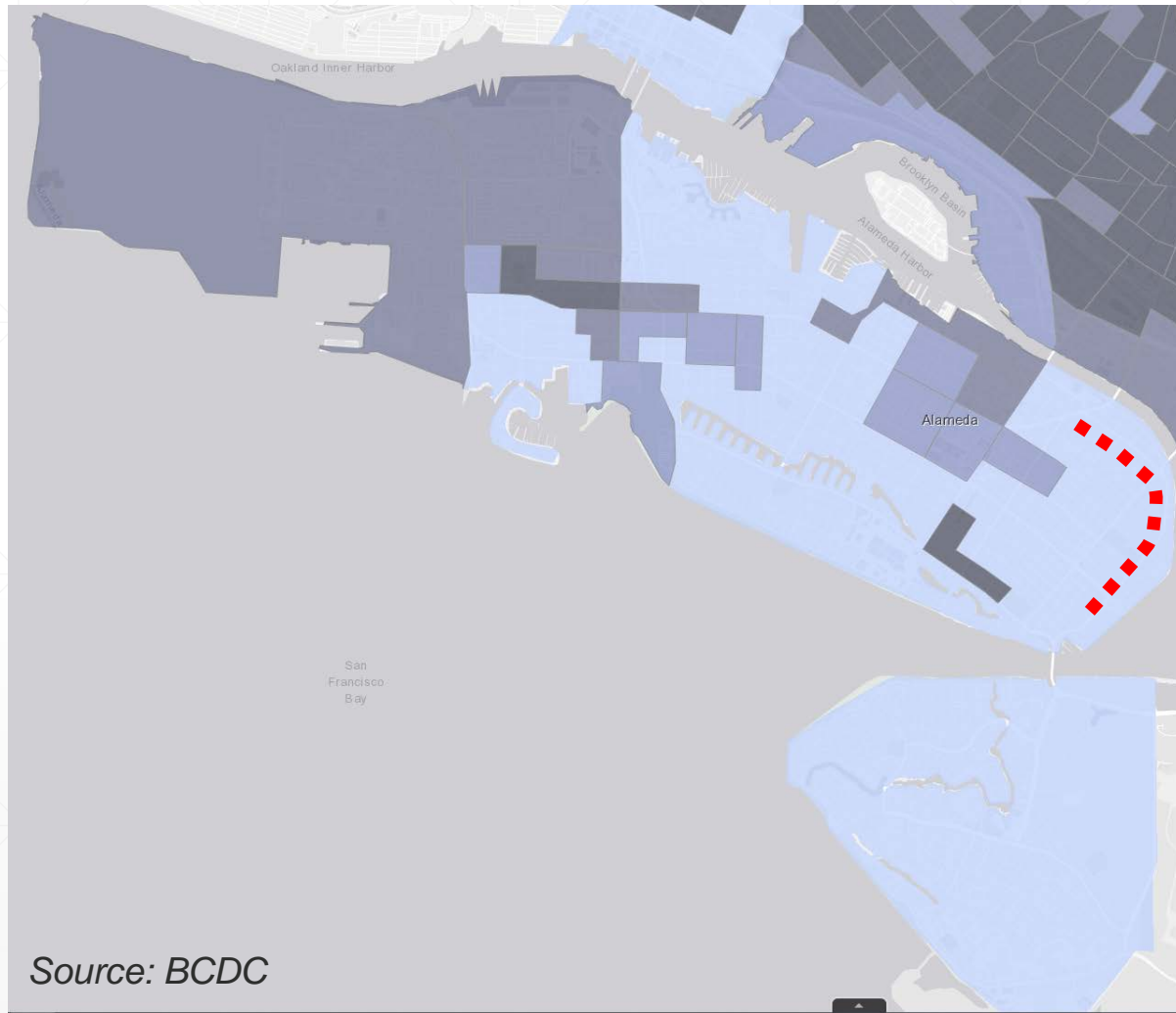
- 1 fatal
- 5 visible injury (23%)
- 16 minor injury (73%)
- 8 involved pedestrians or cyclists

### LEGEND

- Pedestrian/Motor Vehicle (3)
- Bicycle/Motor Vehicle (5)
- Motor Vehicle/Motor Vehicle (7)
- Solo Motor Vehicle (6)
- Solo Motorcycle (1)



# Fernside not in an Equity Priority Area



- Highest social vulnerability
- High social vulnerability
- Moderate social vulnerability
- Low social vulnerability

Source: BCDC

# Active Transportation Plan: Low-Stress Bikeway + Ped Improvements

## 2030 Low-Stress Backbone Bikeway Network

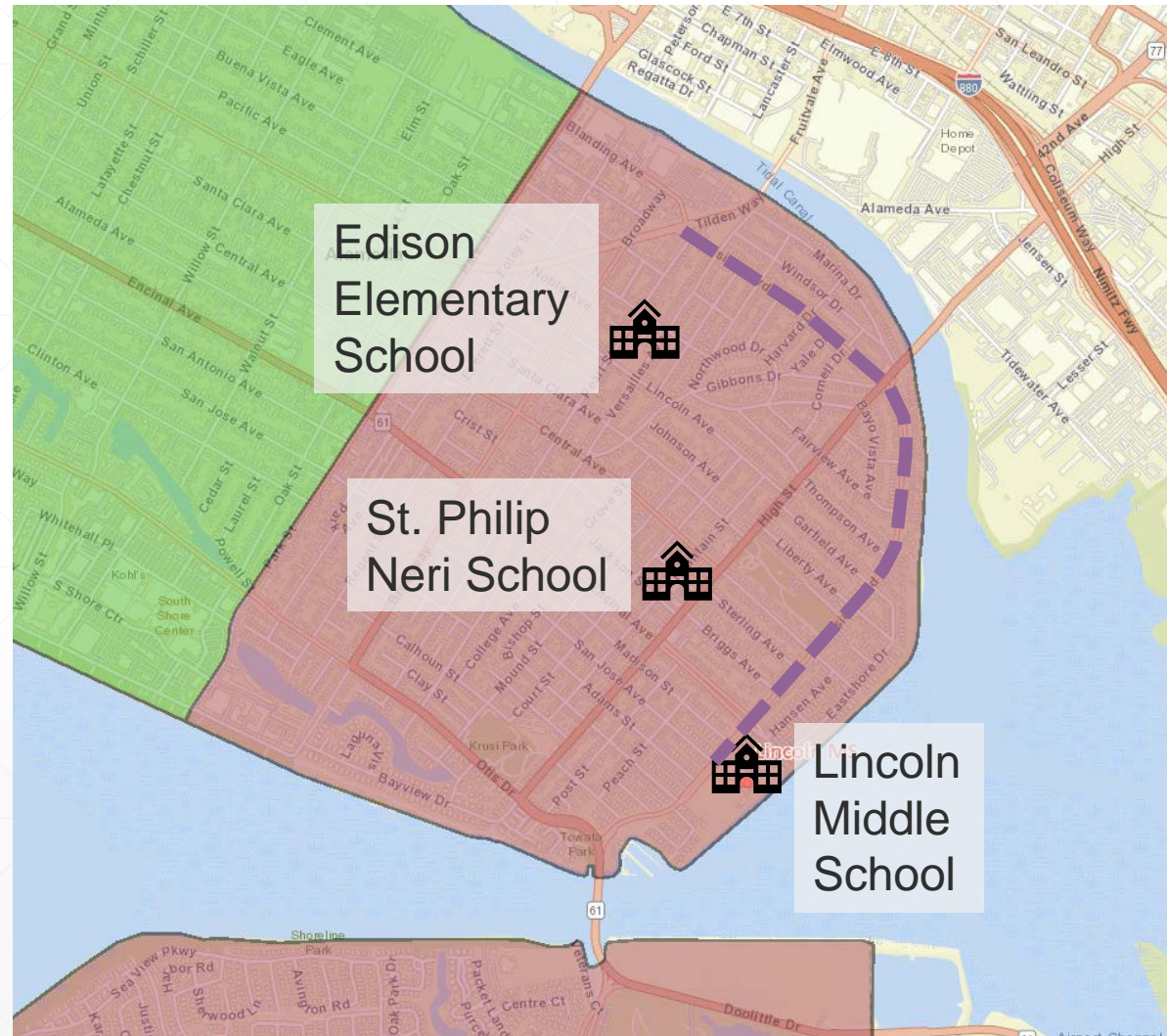


- Adopted plan shows Fernside with a separated bike lane
- Key to the 2030 Low-Stress Backbone Network for all ages and abilities
- Part of regional San Francisco Bay Trail

# Fernside is a Key School Access Route

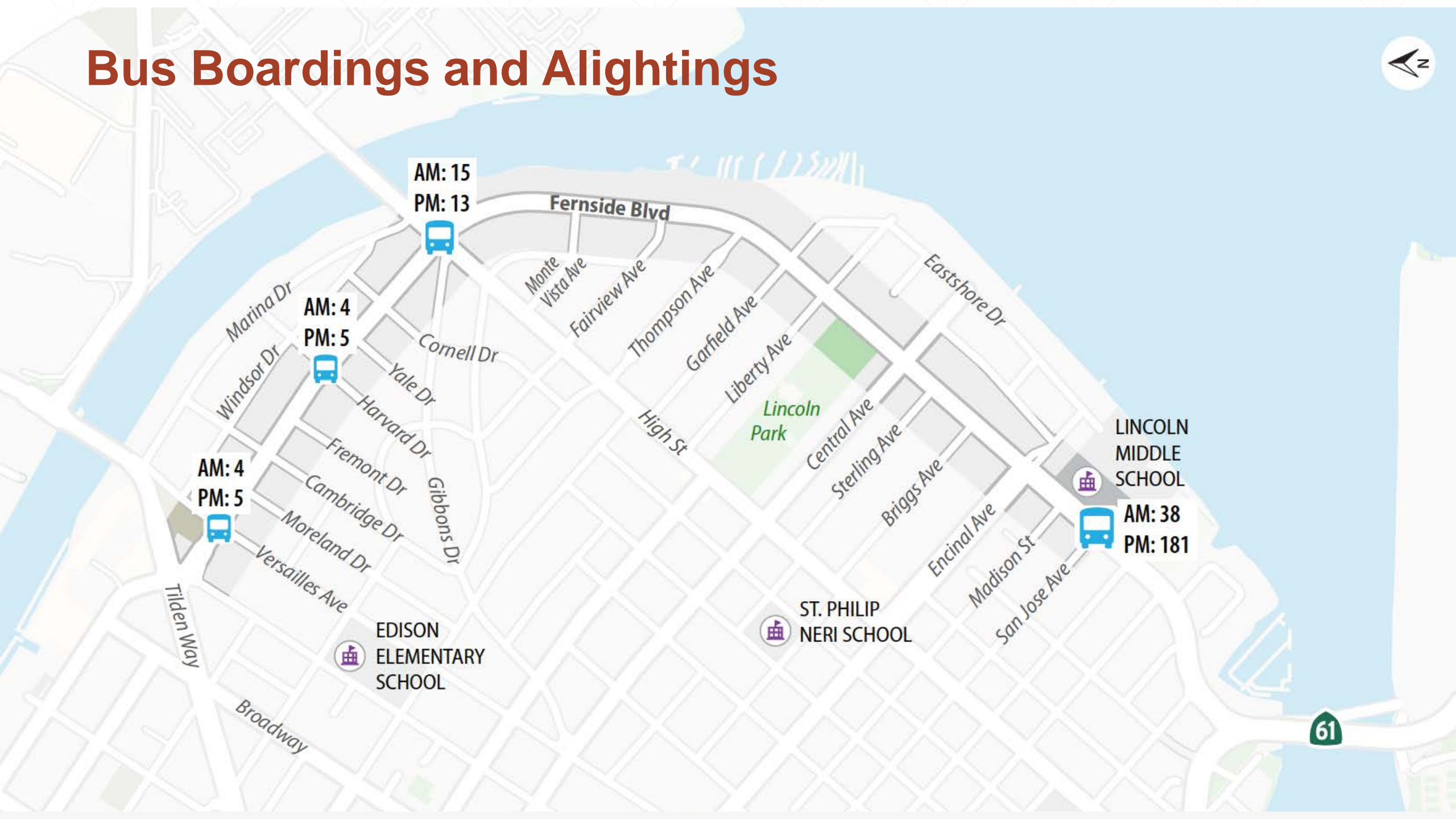
Approximately 30-40 pedestrians cross Fernside near Edison Elementary before and after school

Before and after school, bicycles comprise 10-15% of all traffic on Fernside near Lincoln Middle School

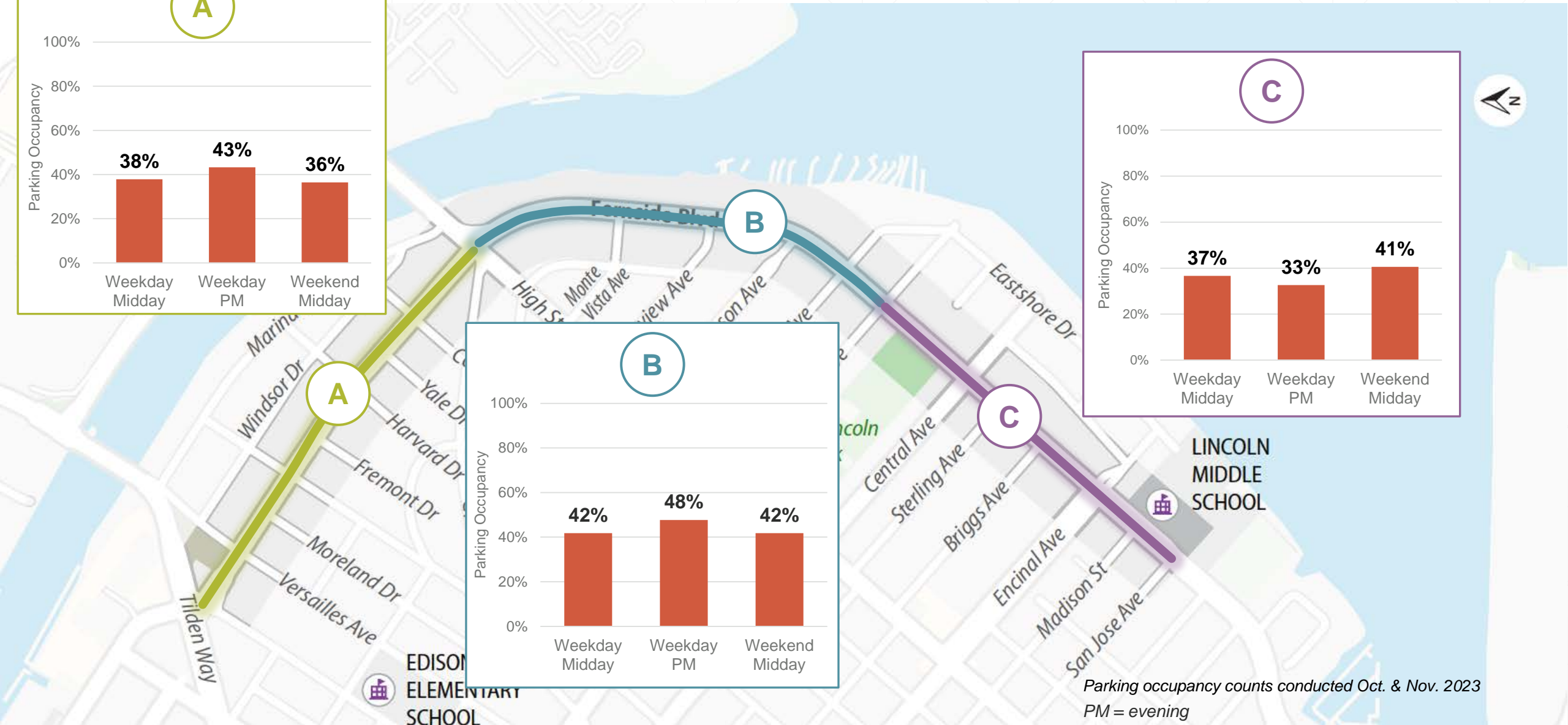
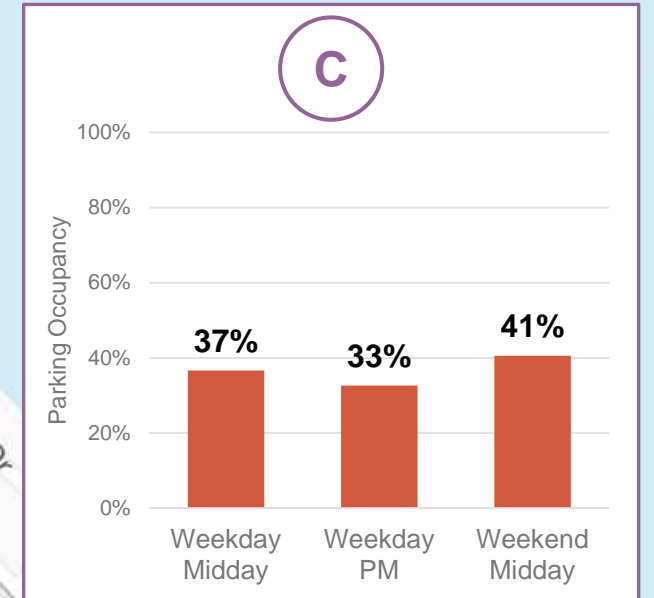
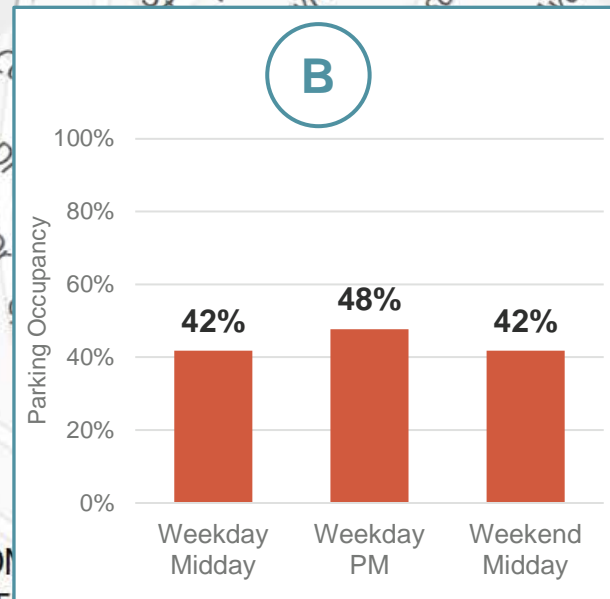
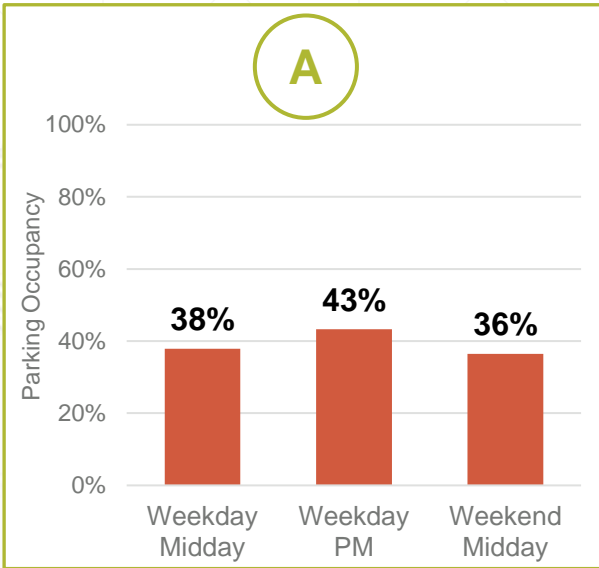


Map of AUSD middle school enrollment areas

# Bus Boardings and Alightings



# On-Street Parking Less Than 50% Occupied



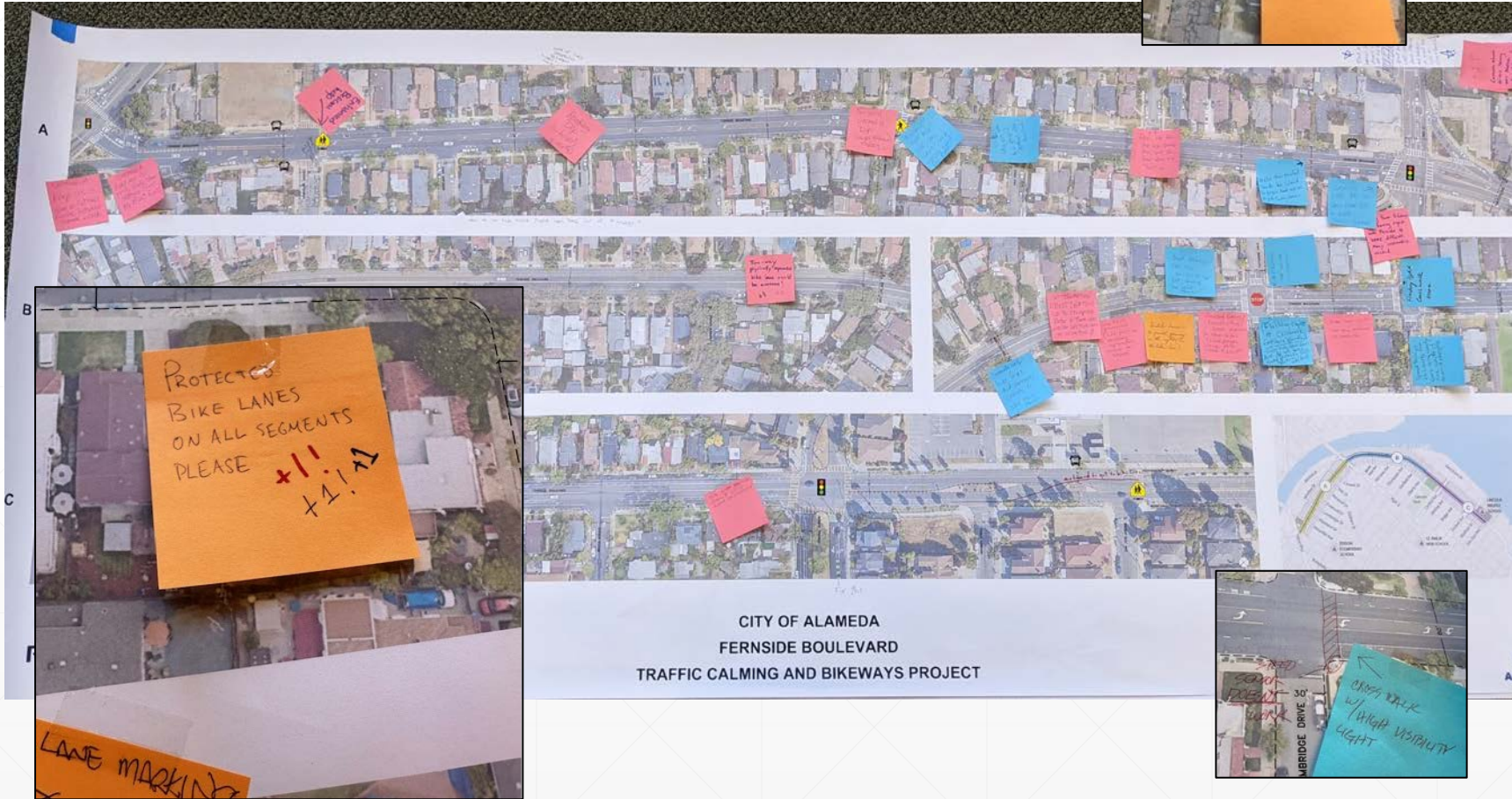
Parking occupancy counts conducted Oct. & Nov. 2023  
PM = evening

# Winter 2023/2024 Community Engagement Participation

- 600 online survey participants
- 85 community workshop attendees
- 23 virtual community workshop attendees



# Community Workshop Input



## FERNSIDE BOULEVARD TRAFFIC CALMING & BIKEWAYS PROJECT

### COMMUNITY WORKSHOP 1

Monday, December 4, 7:00 - 9:00 pm  
Presentation at 7:15 pm followed by open house  
Children's coloring table and light snacks provided

**What do you think are the key issues affecting Fernside Boulevard?**

*AUTO SPEED!  
THERE HAVE BEEN 4 ACCIDENTS DIRECTLY IN FRONT OF MY HOUSE  
NEED CROSSWALKS BETWEEN HIGH & LIBERTY ON FERNSIDE.*

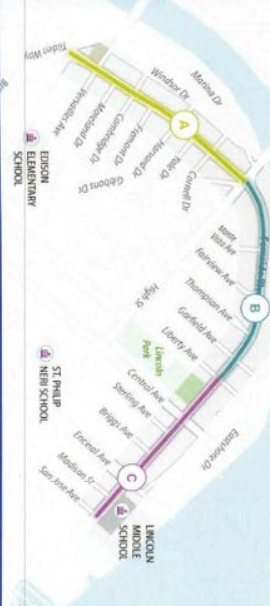
**Where do you see these issues, e.g. intersection, mid-block location, block, segment (a, b, or c), or full corridor?**

*OUR SIDE OF FERNSIDE HAS ONE CONTINUOUS BLOCK BUT NOT ONE CROSSWALK SO MID-BLOCK.*

**What measures would you like to see implemented to address these concerns?**

*CROSSWALKS. CROSSWALKS. CROSSWALKS  
PAINT IS CHEAP. USE IT.*

THANK YOU! Please use the back for extra space



Name (optional): \_\_\_\_\_

Email (optional): \_\_\_\_\_


Add me to a mailing list:

Fernside Blvd

Neighborhood Greenways (includes Garfield Ave & San Jose Ave)

Address (optional): \_\_\_\_\_

transportation@alamedaca.gov  
www.alamedaca.gov/fernside  
510-747-6833

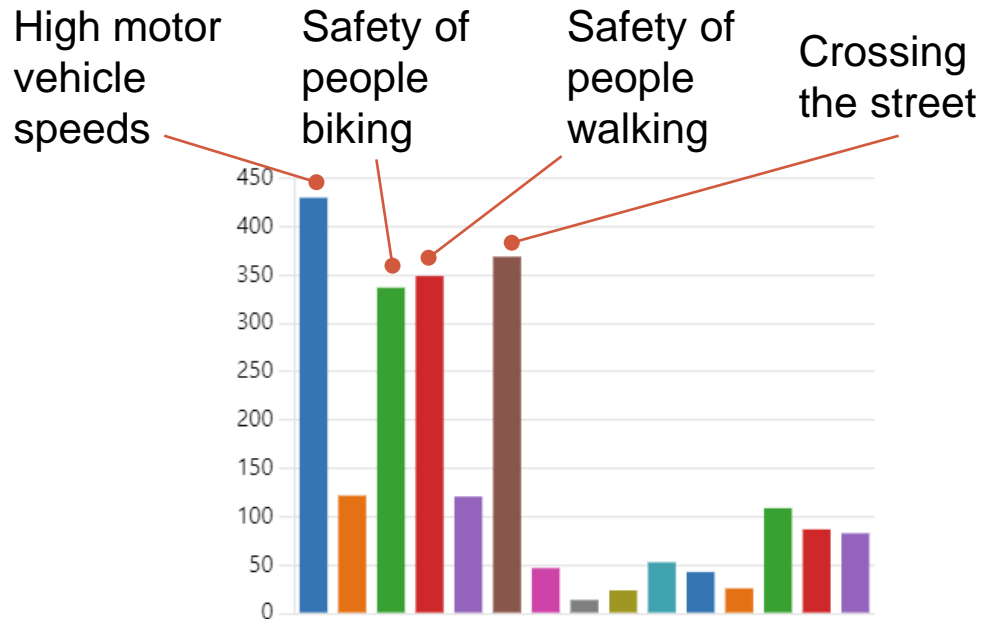


155 individual map comments, 27 input forms collected

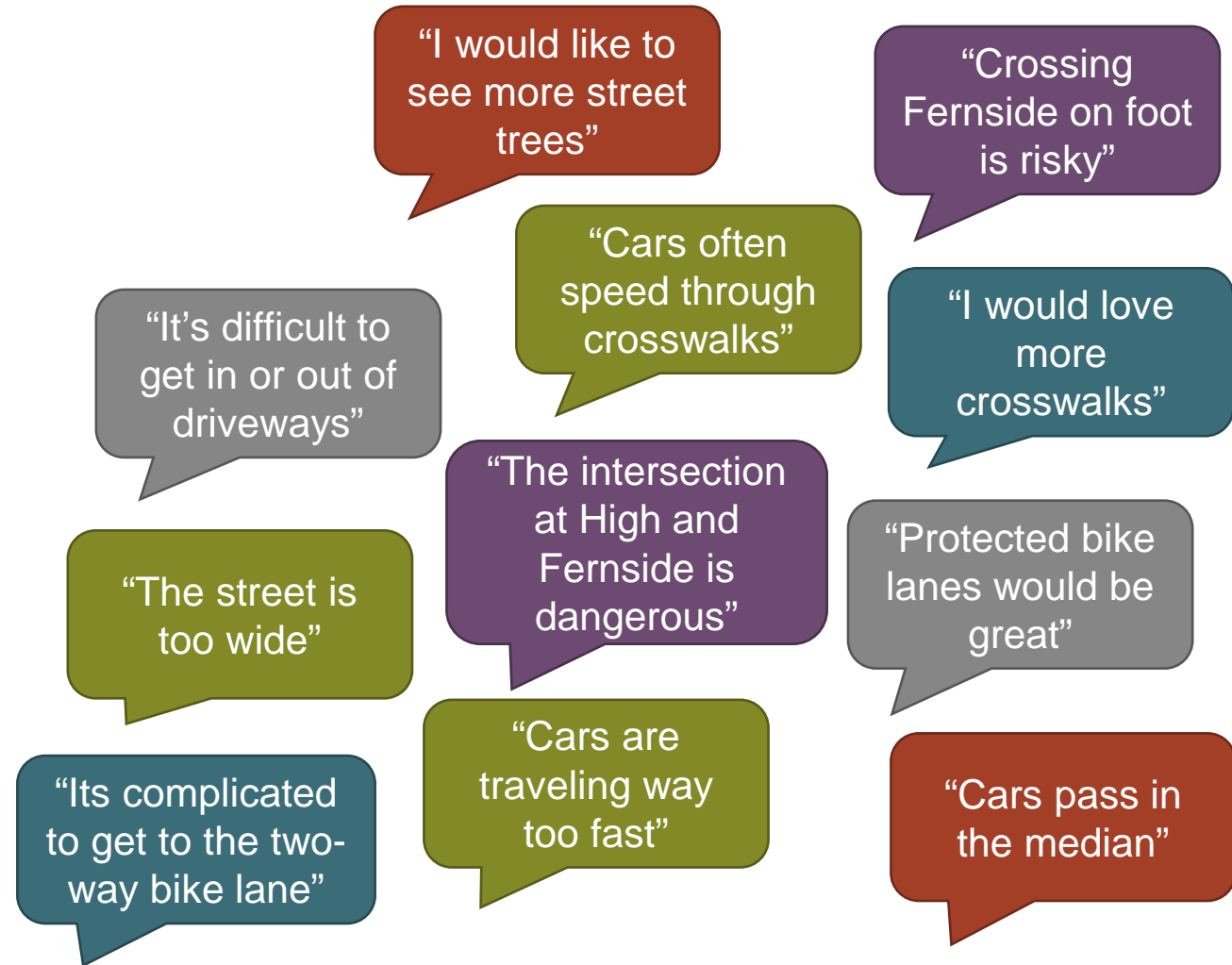


# Online Survey

- 600 responses
- November 21 to December 17



**“What do you find most challenging when using Fernside Blvd?”**



**Describe your challenges when using Fernside Blvd and desired improvements?**

# Winter 2023/2024 Community Engagement Summary

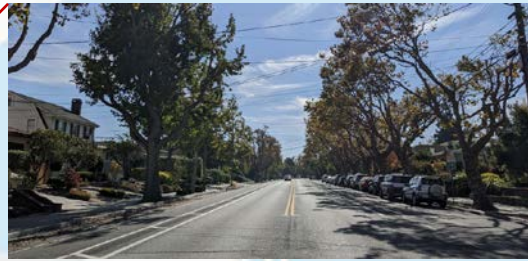
- Most common improvements suggested
    - Pedestrian safety (flashing beacons, marked crosswalks)
    - Bicycle facilities (protected, facilitate safe routes to school)
    - Other traffic calming (address illegal vehicle passing, vertical speed elements, intersection improvements)
    - Others: reduce travel lane width, visual enhancements, increased enforcement
  - 5-10% of respondents do not desire improvements / are satisfied with existing conditions
-



# Concept Alternatives

---

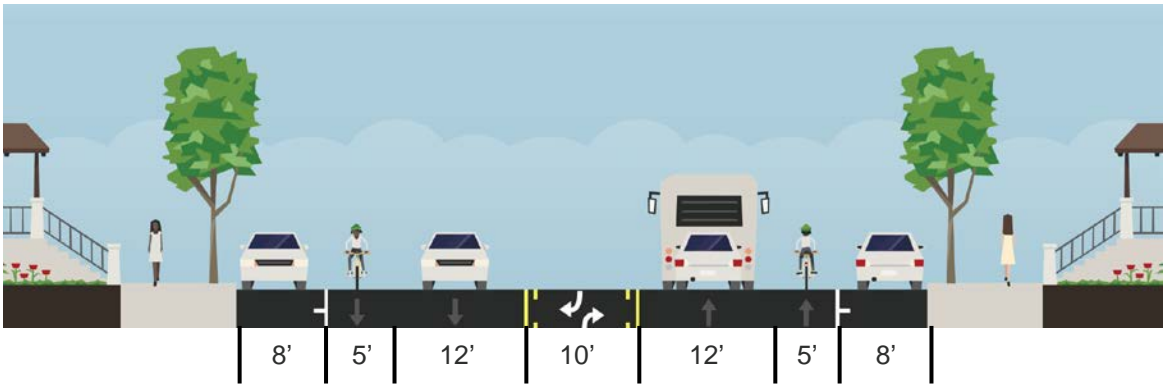
# Varied Segments



- A** 60' road width  
2 lanes + 1 two-way left turn lane  
Parking-adjacent bike lanes
- B** 57' road width  
2 vehicle lanes  
Buffered bike lanes
- C** 60' road width  
2 vehicle lanes  
Buffered bike lanes

61

# Fernside Boulevard Today: West of High St.

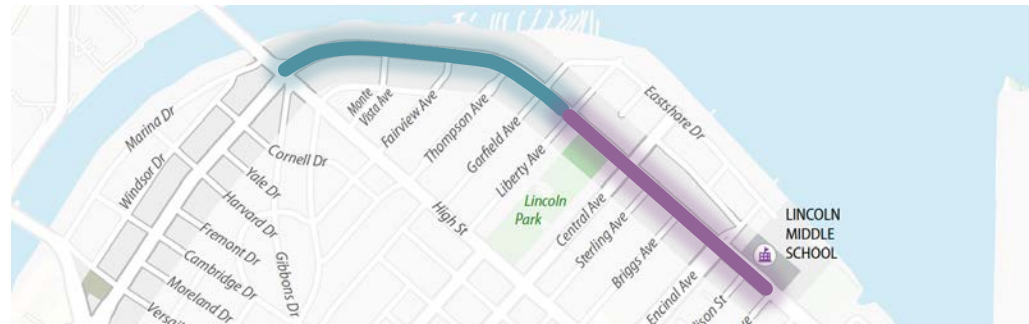
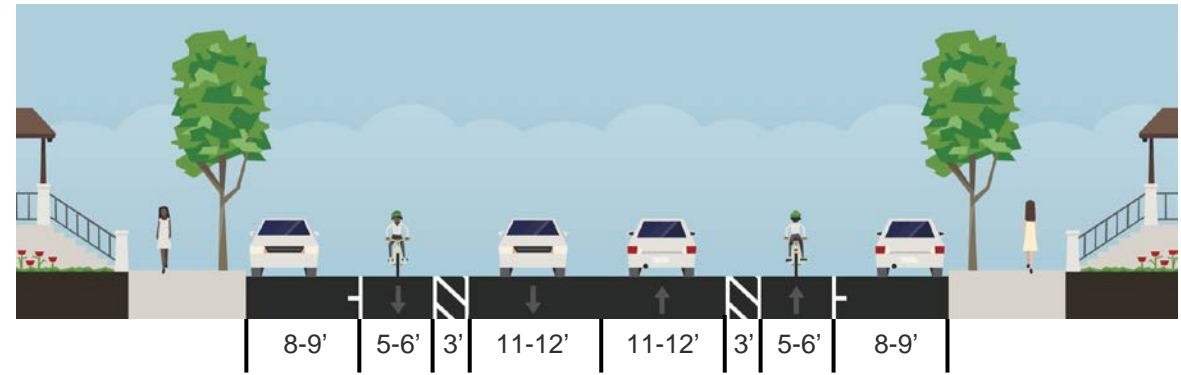


- Center vehicle turn lane
- Bike lanes adjacent to vehicle travel lanes
- ~1,000 feet between marked pedestrian crossings
- Flashing beacons at Versailles Ave. and Harvard Dr.



# Fernside Boulevard Today: East of High St.

- No center vehicle turn lane
- Buffered bike lanes adjacent to vehicle travel lanes
- Over 2,000 feet between marked crossings at High St. and Garfield Ave.
- Flashing beacons at San Jose Ave.
- Stop control at Garfield Ave. and Central Ave.



# Concept Alternatives

## ▪ Long-Term

- LT1a: One-Way Curb-Protected Bikeways
- LT1b: One-Way Raised Bikeways
- LT2a: Two-Way Curb-Protected Bikeway
- LT2b: Two-Way Raised Bikeway

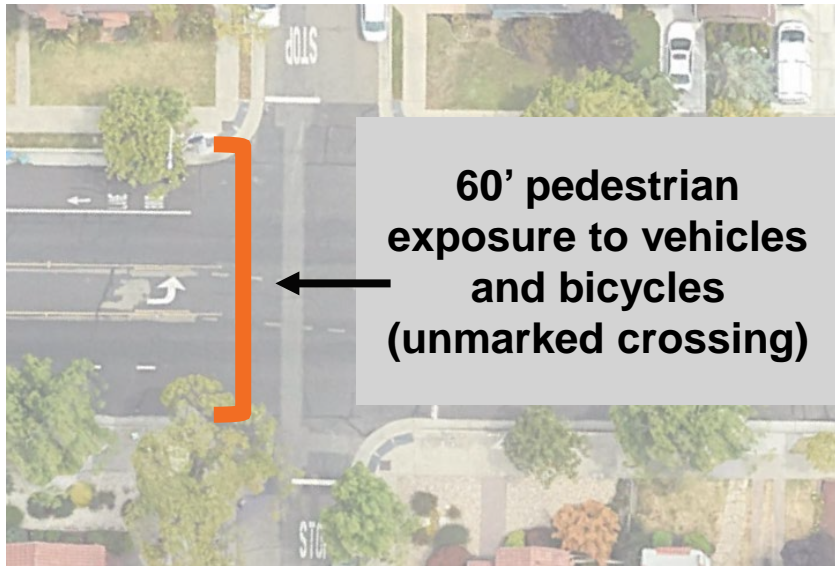
## ▪ Near-Term (potential alignment with planned 2025 resurfacing)

- NT1: Buffered Bike Lanes
- NT2: One-Way Separated Bikeways
- NT3: Two-Way Separated Bikeway



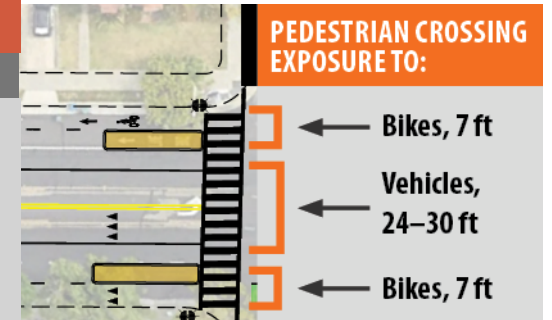
# Pedestrian Crossing Exposure Comparison

## Existing Conditions

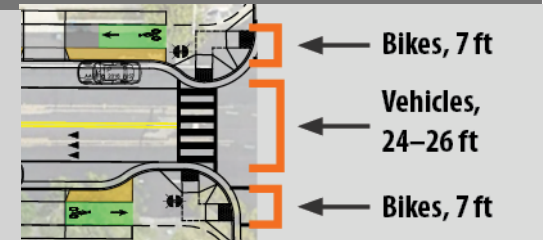


## Long-Term Concepts

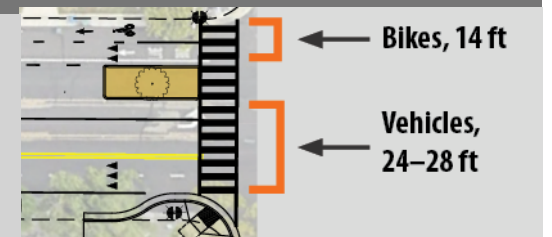
LT1a: One-Way Curb-Protected Bikeways



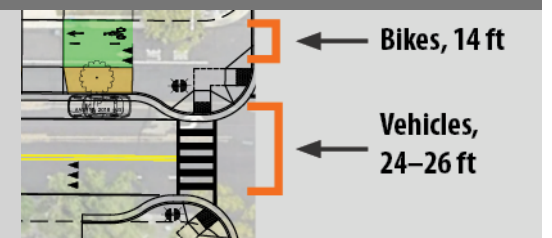
LT1b: One-Way Raised Bikeways



LT2a: Two-Way Curb-Protected Bikeway



LT2b: Two-Way Raised Bikeway





# Transit Accessibility

## Existing Conditions



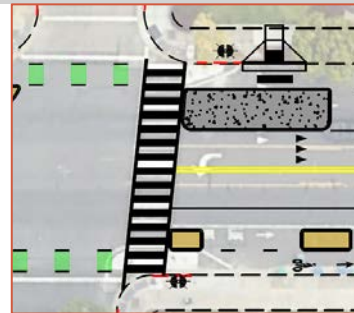
Bus stops against existing curb;  
non-accessible boarding location

Buses must merge into travel lane

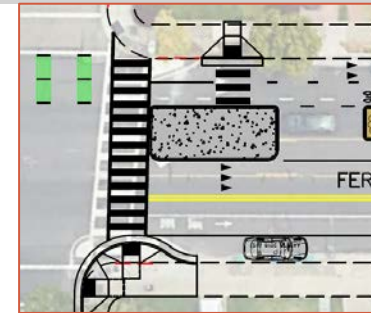
## All Long-Term Concepts Include:

- Fully accessible bus boarding islands
- In-lane bus stops

## Curb-Protected Concepts: accessible ramp across bikeway to sidewalk

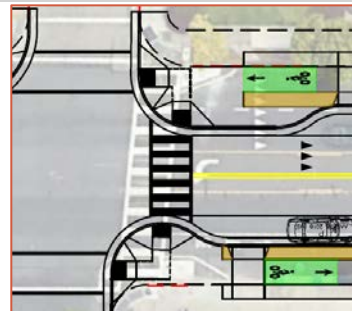


LT1a: One-Way Curb-Protected Bikeways

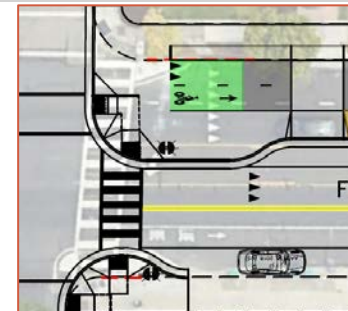


LT2a: Two-Way Curb-Protected Bikeway

## Raised Concepts: level crossing across bikeway to sidewalk (easier access)

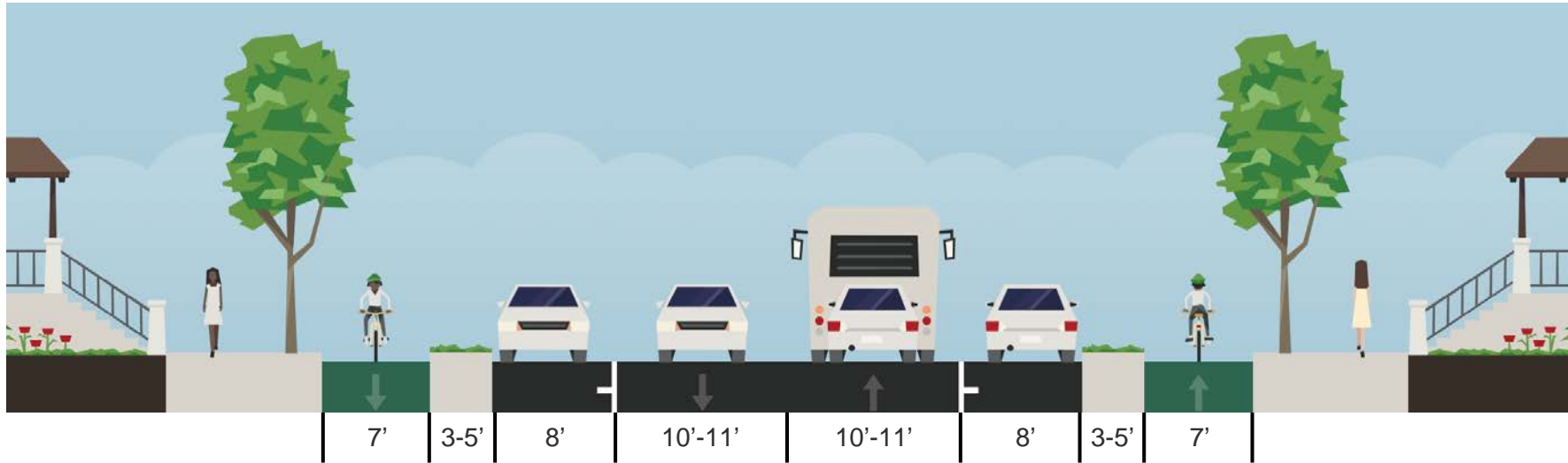


LT1b: One-Way Raised Bikeways



LT2b: Two-Way Raised Bikeway

# LT1a: One-Way Curb-Protected Bikeways



All Long-Term options include:

- Removal of center turn lane west of High Street, narrower vehicle lanes to reduce speeds
- Reduced crosswalk distance across the path of motor vehicles by over 50%
- Additional curb extensions, marked crosswalks, and flashing beacons

Unique characteristics:

- Bikeways at roadway level, separated from vehicle lanes and located between curbs
- Vehicle parking lanes along new curb
- New narrow buffer strips that can be used as planting strips

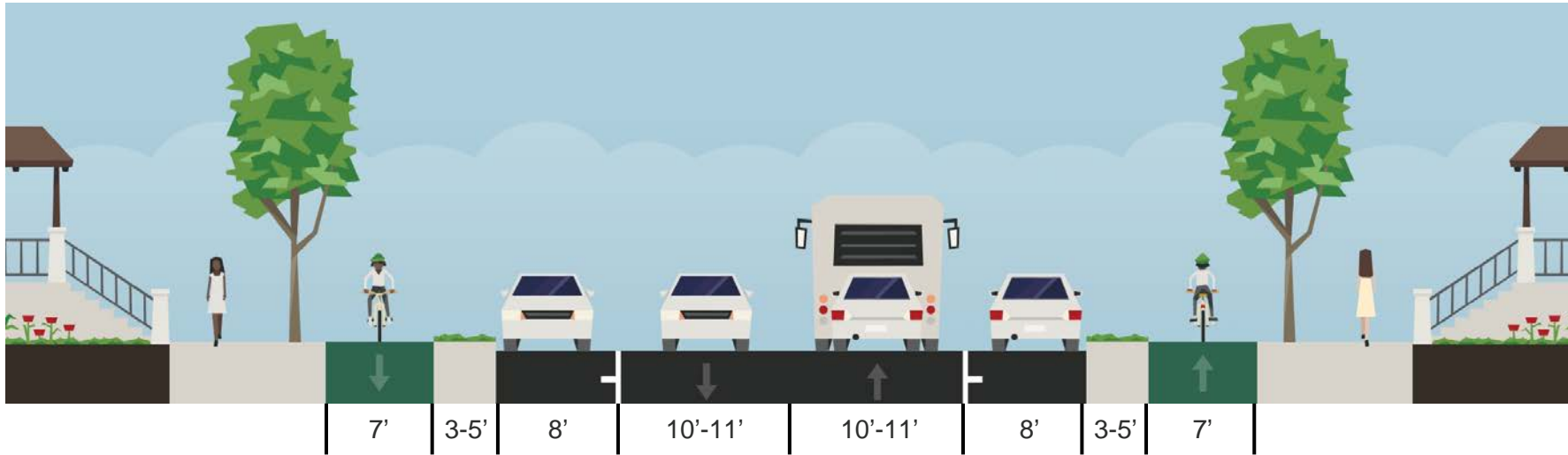
# LT1a: One-Way Curb-Protected Bikeways



## Design Considerations:

- Facilitates simpler bikeway connections to side streets
- Driveway access crosses bikeway on both sides of street
- Utilize space in front of driveways for accessible loading zones
- More complex bikeway connection to existing 2-way bikeway south of Lincoln Middle School
- Removes 35-55% of vehicle parking (*current peak parking occupancy utilizes 41-48% of parking spaces*)

# LT1b: One-Way Raised Bikeways



All Long-Term options include:

- Removal of center turn lane west of High Street, narrower vehicle lanes to reduce speeds
- Reduced crosswalk distance across the path of motor vehicles by over 50%
- Additional curb extensions, marked crosswalks, and flashing beacons

Unique characteristics

- Bikeways at sidewalk level, separated from vehicle travel lanes
- Vehicle parking along new curb
- New narrow buffer strips can be used as planting strips or accessible loading zones

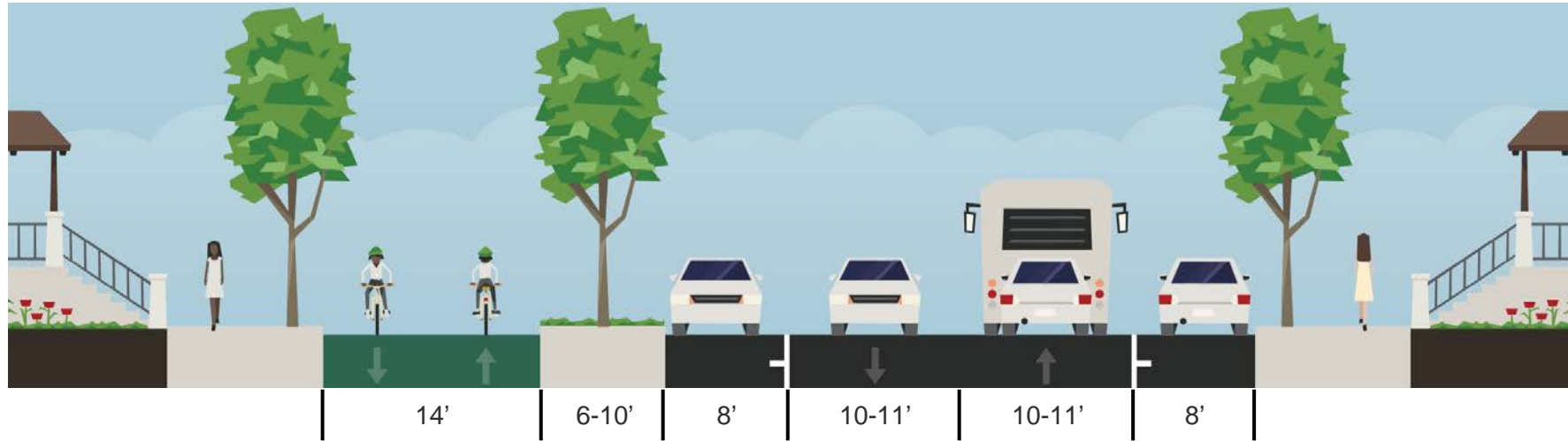
# LT1b: One-Way Raised Bikeways



## Design Considerations:

- Facilitates simpler bikeway connections to side streets
- Driveway access crosses raised bikeway on both sides of street
- Can utilize new curb or space in front of driveways for accessible loading zones
- More complex bikeway connection to existing 2-way bikeway south of Lincoln Middle School
- Removes 20-40% of vehicle parking (*current peak parking occupancy utilizes 41-48% of parking spaces*)

# LT2a: Two-Way Curb-Protected Bikeway



All Long-Term options include:

- Removal of center turn lane west of High Street, narrower vehicle lanes to reduce speeds
- Reduced crosswalk distance across the path of motor vehicles by over 50%
- Additional curb extensions, marked crosswalks, and flashing beacons

Unique characteristics

- 2-way bikeway at roadway level, separated from travel lanes, located between curbs on north side of street
- Vehicle parking lanes along new curb on north side of street
- New wider buffer strip can accommodate substantial landscaping, e.g. for planting trees

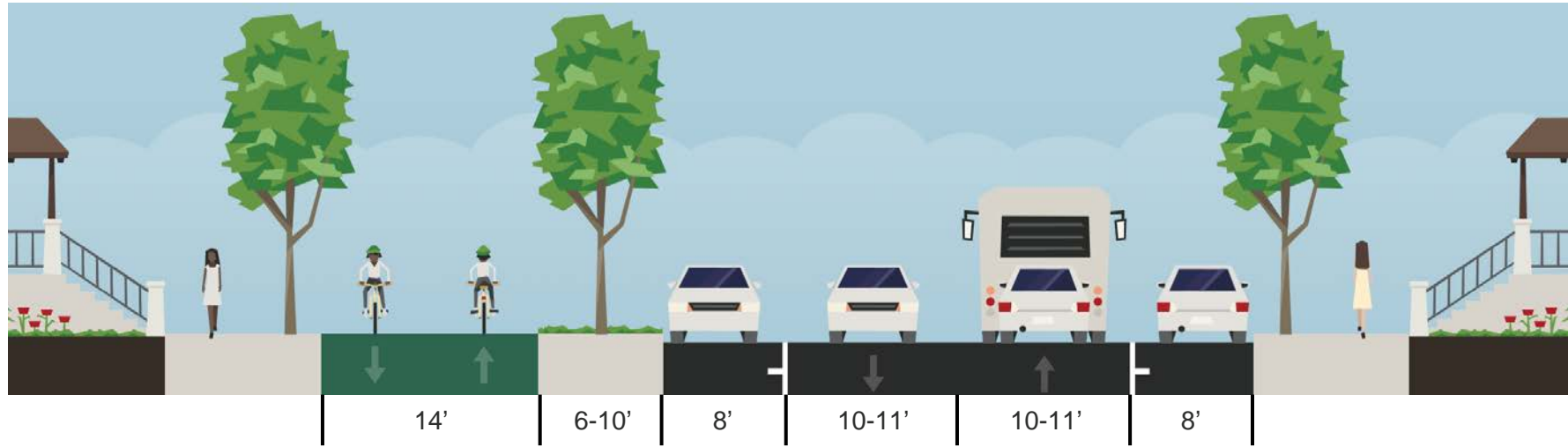
# LT2a: Two-Way Curb-Protected Bikeway



## Design Considerations:

- Bicyclists travel contra-flow at intersections
- Straightforward bikeway connection to existing 2-way bikeway south of Lincoln Middle School
- Utilize space in front of driveways for accessible loading zones
- Driveway access crosses bikeway on north side of street
- Removes 15-35% of vehicle parking, mostly from north (*current peak parking occupancy utilizes 41-48%*)

# LT2b: Two-Way Raised Bikeway



All Long-Term options include:

- Removal of center turn lane west of High Street, narrower vehicle lanes to reduce speeds
- Reduced crosswalk distance across the path of motor vehicles by over 50%
- Additional curb extensions, marked crosswalks, and flashing beacons

Unique characteristics

- 2-way bikeway at sidewalk level, separated from travel lanes on north side of street
- Vehicle parking lanes along new curb on north side of street
- New wider buffer strip can accommodate substantial landscaping, e.g. for planting trees



# LT2b: Two-Way Raised Bikeway



## Design Considerations:

- Bicyclists travel contra-flow at intersections
- Straightforward bikeway connection to existing 2-way bikeway south of Lincoln Middle School
- Can utilize new curb or space in front of driveways for accessible loading zones
- Driveway access crosses bikeway on north side of street
- Removes 10-25% of corridor vehicle parking, mostly from north (*current peak parking 41-48%*)

# Long-Term Alternatives Comparison

	LT1a	LT1b	LT2a	LT2b
	One-way		Two-way	
	Curb-protected	Raised	Curb-protected	Raised
Shorter pedestrian crossing distance	✓	✓	✓	✓
Additional marked crosswalks and flashing beacons	✓	✓	✓	✓
Vehicle speed reduction measures	✓	✓	✓	✓
Reduce vehicle illegal passing opportunities	✓	✓	✓	✓
Low stress, separated bikeways (alignment with adopted Active Transportation Plan)	✓	✓	✓	✓
Vehicle parking along the curb	✓	✓	✓	✓
Estimated on-street parking removal*	<b>35-55%</b>	20-40%	15-35%	10-25%
Construction Cost	\$\$\$	<b>\$\$\$\$</b>	\$\$\$	<b>\$\$\$\$</b>

\*Current peak parking occupancy 41-48%

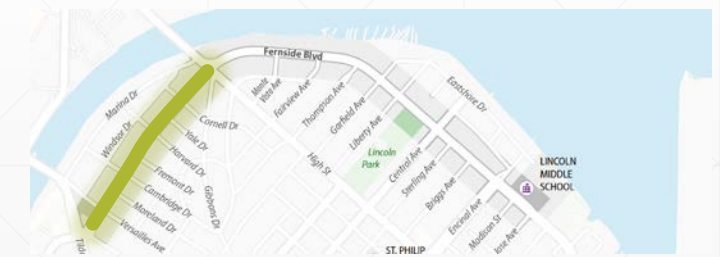
# Concept Alternatives

## ▪ Long-Term

- LT1a: One-Way Curb-Protected Bikeways
- LT1b: One-Way Raised Bikeways
- LT2a: Two-Way Curb-Protected Bikeway
- LT2b: Two-Way Raised Bikeway

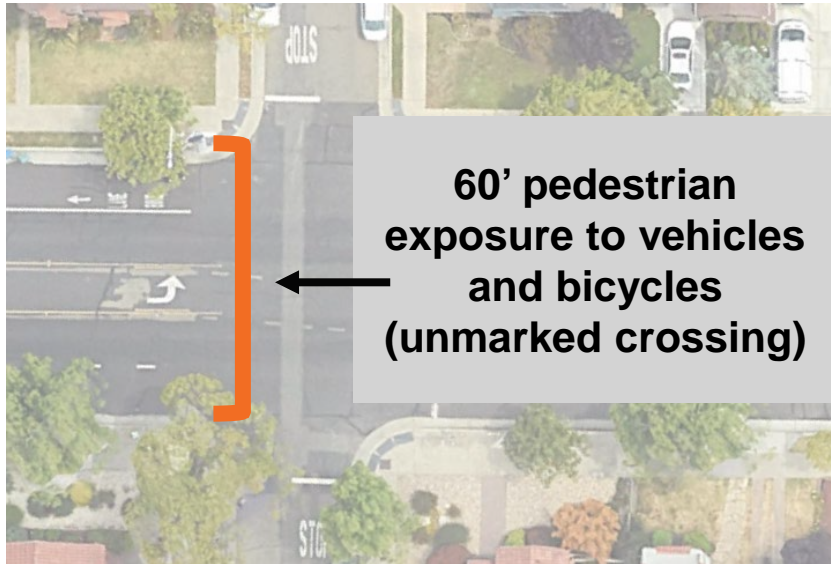
## ▪ **Near-Term (potential alignment with 2025-2026 resurfacing)**

- NT1: Buffered Bike Lanes
- NT2: One-Way Separated Bikeways
- NT3: Two-Way Separated Bikeway

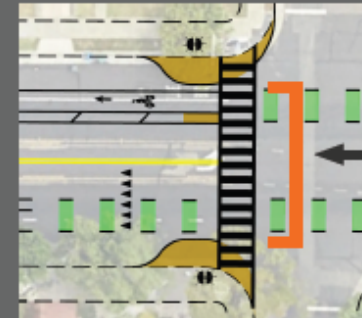


# Near-Term Pedestrian Crossing Comparison

## Existing Conditions

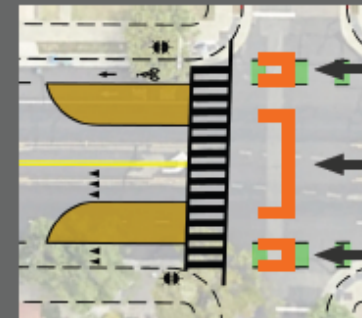


## NT1: Buffered Bike Lanes



48' pedestrian exposure to vehicles and bicycles

## NT2: One-Way Separated Bikeways



7' pedestrian exposure to bicycles

26' pedestrian exposure to vehicles

7' pedestrian exposure to bicycles

## NT3: Two-Way Separated Bikeway



14' pedestrian exposure to bicycles

26' pedestrian exposure to vehicles

# Near-Term Transit Accessibility

## Existing Conditions

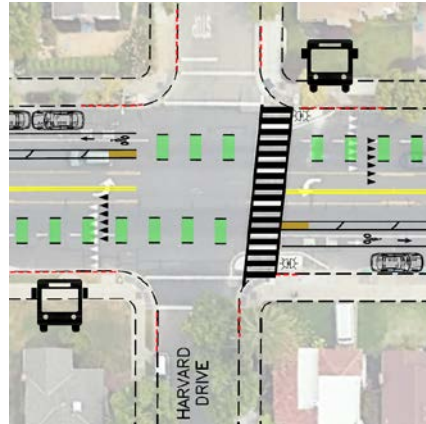


**Bus stops against existing curb;  
non-accessible boarding location**

**Buses must merge into travel lane**

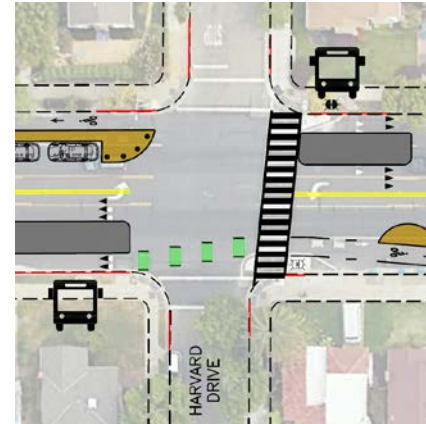
## Near-Term Concepts:

**NT1: Buffered Bike Lanes**



**Bus stop  
accessibility and  
transit operations not  
improved**

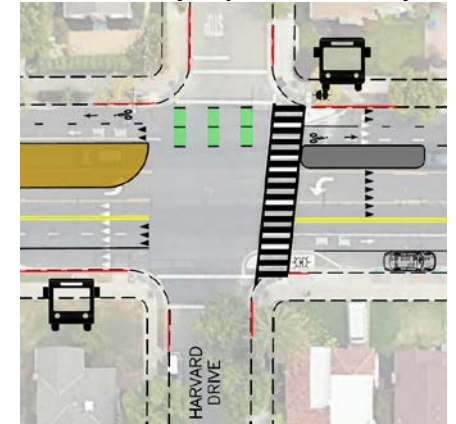
**NT2: One-Way Separated Bikeways**



**Accessible bus  
boarding islands**

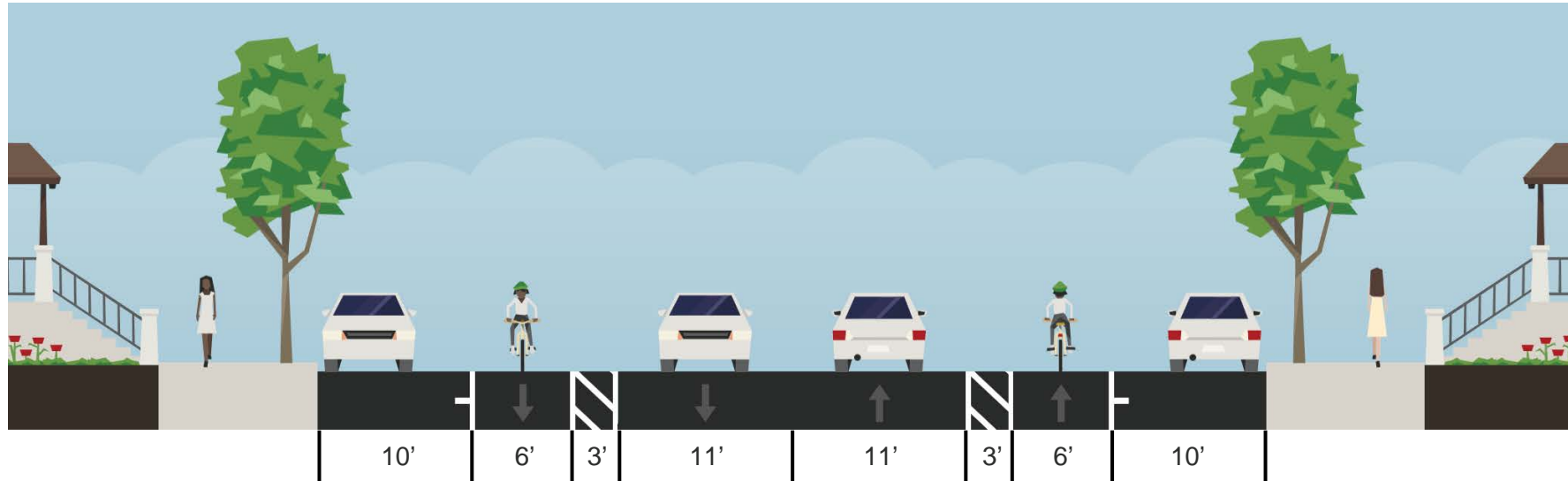
**In-lane bus stops to  
improve transit  
operations**

**NT3: Two-Way Separated Bikeways**



**Bus stop  
accessibility and  
transit operations  
improved on north  
side only**

# NT1: Buffered Bike Lanes



## Description:

- Center turn lane removed, narrower vehicle travel lanes to reduce speeds
- Additional marked crosswalks (*and, if budget allows, additional flashing beacons*)
- Striped buffer between the bike lane and vehicle travel lane
- Vehicle parking along existing curb

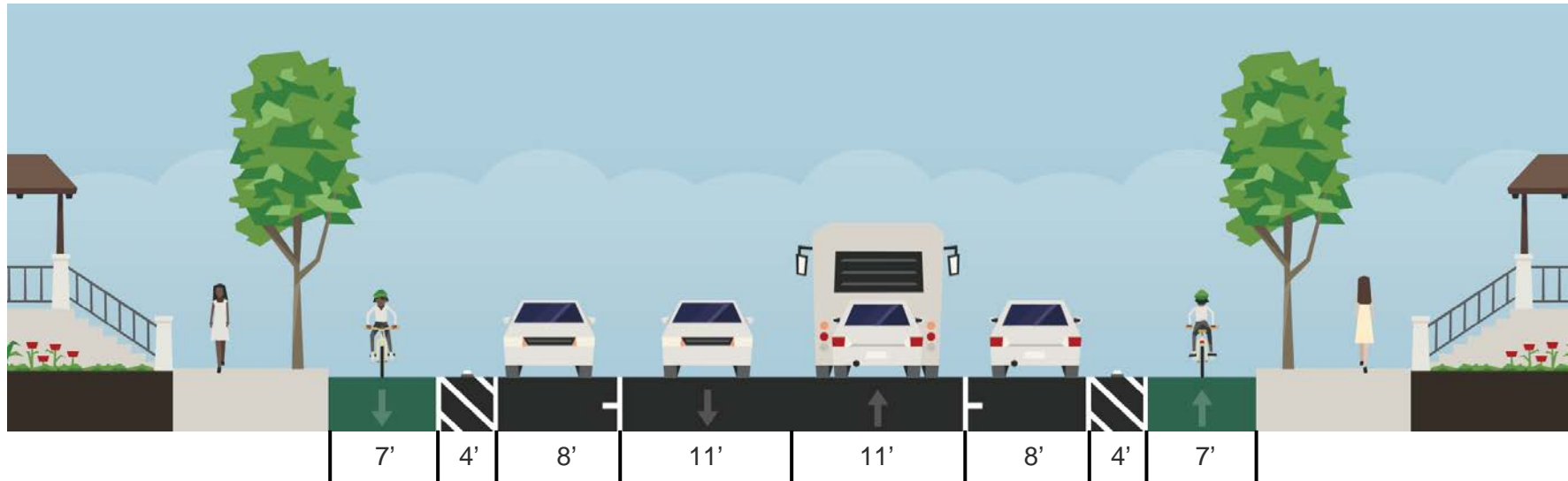
# NT1: Buffered Bike Lanes



## Design Considerations:

- Does not provide physical separation between bicycles and vehicles
- Does not prevent illegal vehicle passing in bike lanes
- Utilize existing curb or space in front of driveways for accessible loading zones
- Continues existing buffered bike lanes from east of High Street
- Removes 10-20% of vehicle parking for standard intersection daylighting (*current peak parking occupancy utilizes 41-48% of parking spaces*)

# NT2: One-Way Separated Bikeways



## Description:

- Center turn lane removed, narrower vehicle travel lanes to reduce speeds
- Additional marked crosswalks (*and, if budget allows, additional flashing beacons*)
- Bikeways at roadway level, separated from vehicle travel lanes, between curb and parked vehicles
- Vehicle parking lanes shifted into roadway
- Narrow buffer strip can be used for planter boxes and other visual enhancements as budget allows



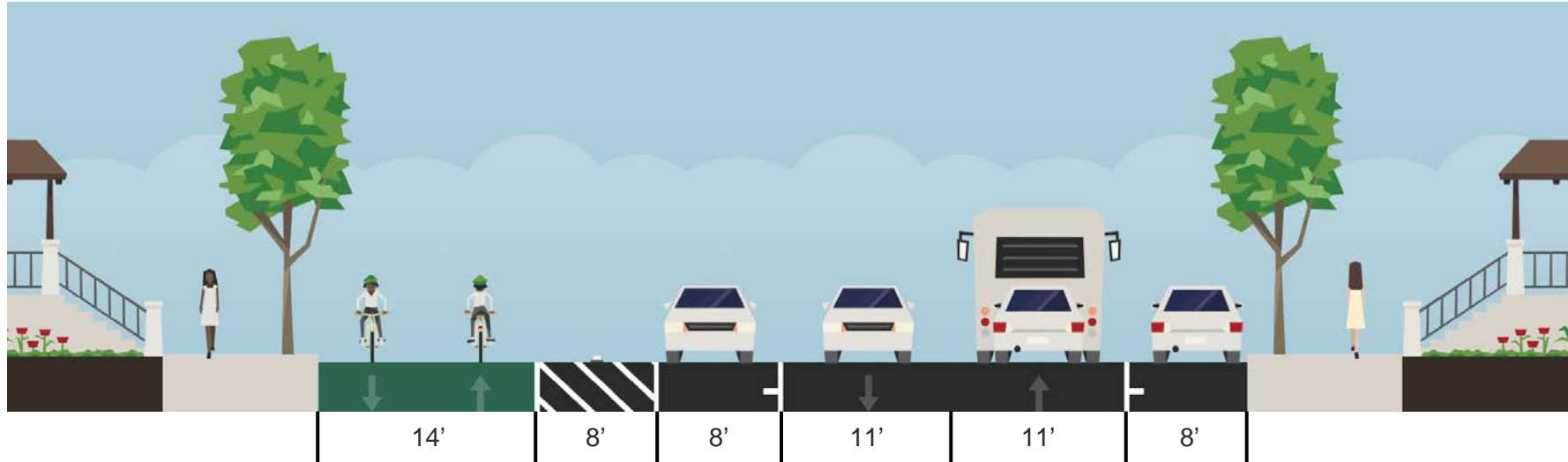
# NT2: One-Way Separated Bikeways



## Design Considerations:

- Provides physical separation between bicycles and vehicles
- Prevents drivers from illegally using the center turn lane or bike lane to pass other drivers
- Utilize parking spaces or space in front of driveways for accessible loading zones
- Straightforward bikeway connection to existing buffered bike lanes east of High Street
- Removes approximately 65-85% of vehicle parking (*current peak parking utilizes 41-48% of parking spaces*)
- Vehicle parking is not against the curb

# NT3: Two-Way Separated Bikeway



## Description:

- Center turn lane removed, narrower vehicle travel lanes to reduce speeds
- Additional marked crosswalks (*and, if budget allows, additional flashing beacons*)
- 2-way bikeway at roadway level, separated from vehicle travel lanes, between curb and parked vehicles
- Vehicle parking lane shifted into roadway on north side of street
- Wide buffer strip can be used for planter boxes and other visual enhancements as budget allows

# NT3: Two-Way Separated Bikeway



## Design Considerations:

- Provides physical separation between bicycles and vehicles
- Prevents drivers from illegally using the center turn lane or bike lane to pass other drivers
- Utilize parking spaces or space in front of driveways for accessible loading zones on north side; no roadway change on south side
- More complex bikeway connection to existing buffered bike lanes east of High Street
- Removes approximately 40-60% of vehicle parking (*current peak parking utilizes 41-48% of parking spaces*)
- Vehicle parking is not against the curb on north side of the street

# Near-Term Alternatives Comparison

	NT1	NT2	NT3
		Separated Bikeways	
	Buffered Bike Lanes	One-Way	Two-Way
Shorter pedestrian crossing distance		✓	✓
Additional marked crosswalks and flashing beacons	✓	✓	✓
Vehicle speed reduction measures		✓	✓
Eliminate vehicle illegal passing opportunities		✓	✓
Low stress, separated bikeways (alignment with adopted bicycle plan network)		✓	✓
Vehicle parking along the curb	✓		
Estimated on-street parking removal*	10-20%	<b>65-85%</b>	<b>40-60%</b>
Construction Cost	\$	\$\$	\$\$

\*Current peak parking occupancy 41-48%



# Next Steps

---

# Project Phases

- 1. Public outreach for existing conditions & initial input:** November 2023 - January 2024
  - 2. Public outreach for draft concept alternatives:** May-June 2024
  - 3. Public hearings for final design concept:** Fall/Winter 2024 Transportation Commission and City Council public hearings (including seeking City Council approval)
  - 4. Resurfacing and restriping on Fernside Blvd west of High St:** 2025 or 2026
  - 5. Construct full corridor project:** 2030 goal – timing depends on finding funding
-

**Thoughts?**

**Feedback?**

---

# Additional Slides

---



# AC Transit Bus Routes

## LEGEND

### LOCAL LINES

- Route 19
- Route 51A

### TRANSBAY LINES

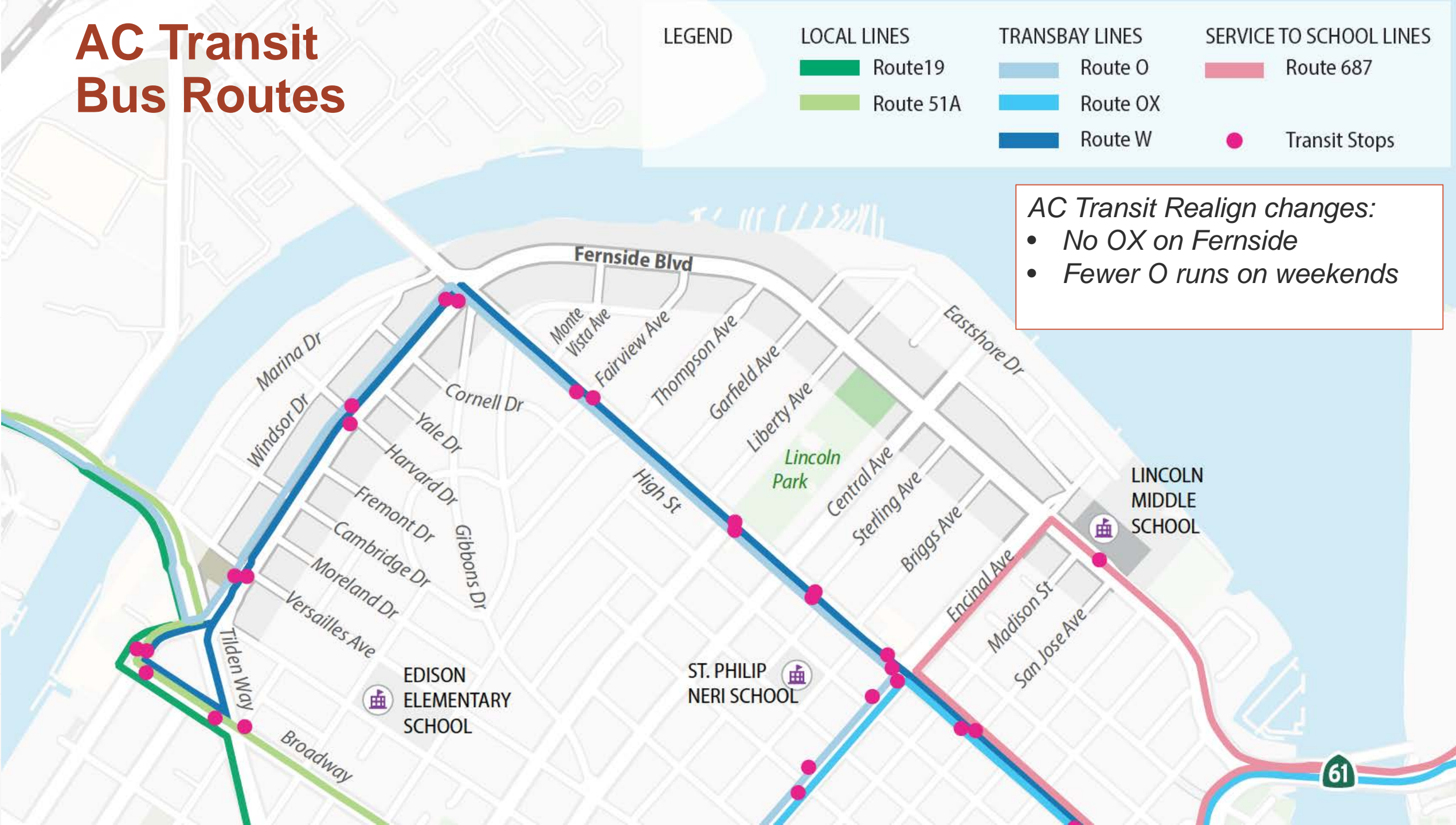
- Route O
- Route OX
- Route W

### SERVICE TO SCHOOL LINES

- Route 687
- Transit Stops

*AC Transit Realign changes:*

- No OX on Fernside*
- Fewer O runs on weekends*

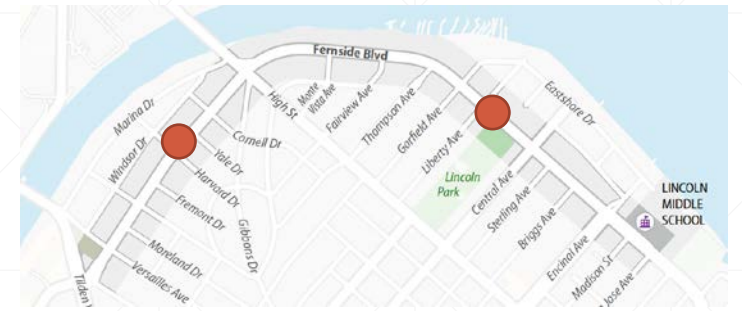


# Average Daily Traffic Compares to Similar Roadways

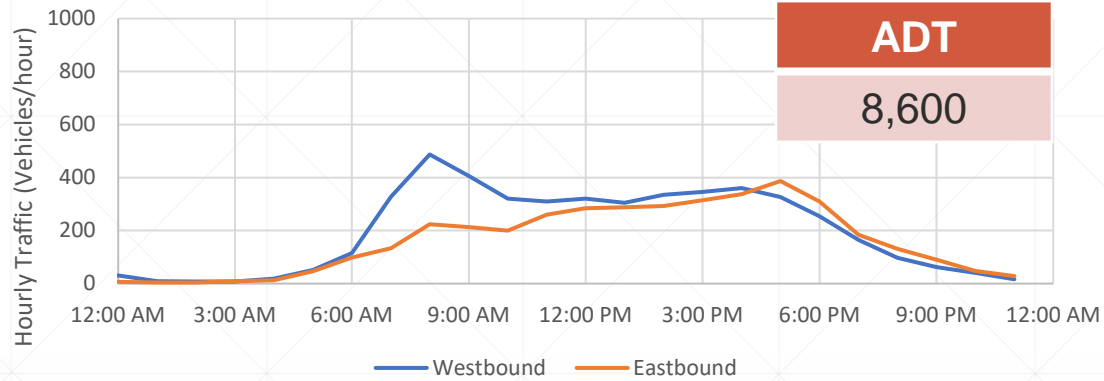


Traffic counts measured between 10/12/2023 and 10/18/2023

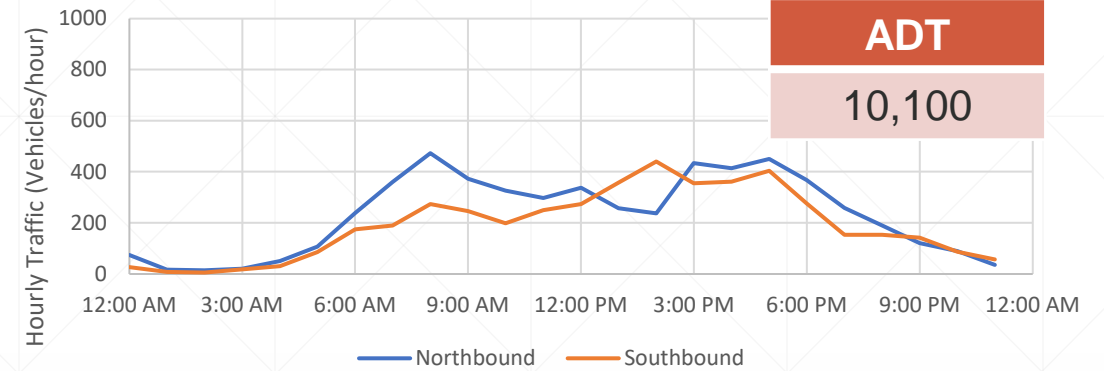
# Fernside Carries 200 to 500 Vehicles per Hour in Each Direction



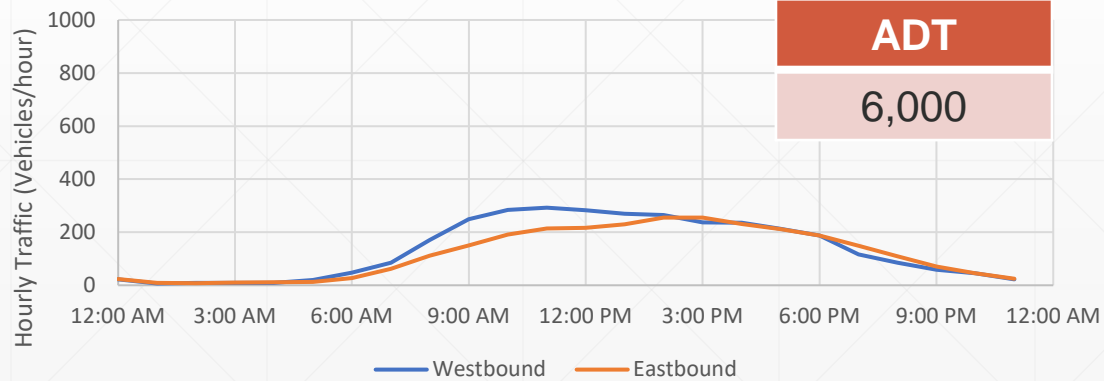
Fernside east of Harvard; Average T-Th



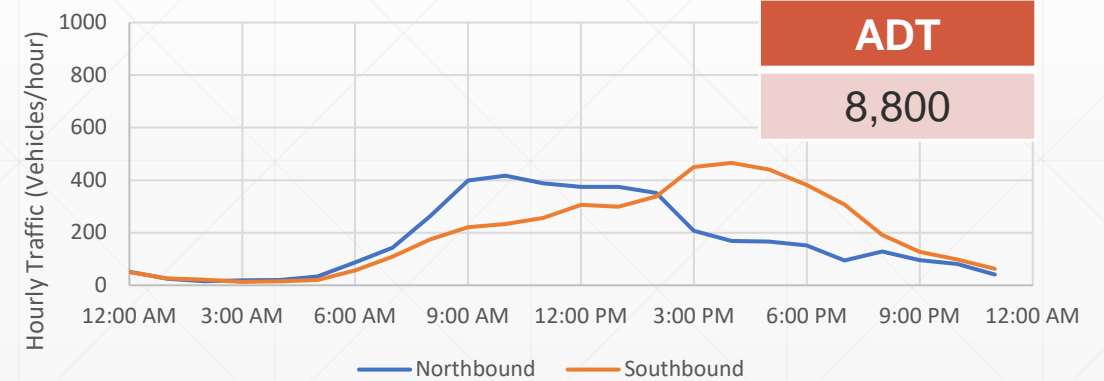
Fernside north of Central; Average T-Th



Fernside east of Harvard; Average Weekend



Fernside north of Central; Average Weekend



Traffic counts measured between 10/12/2023 and 10/18/2023

# Vehicles Flow to and from Bridges



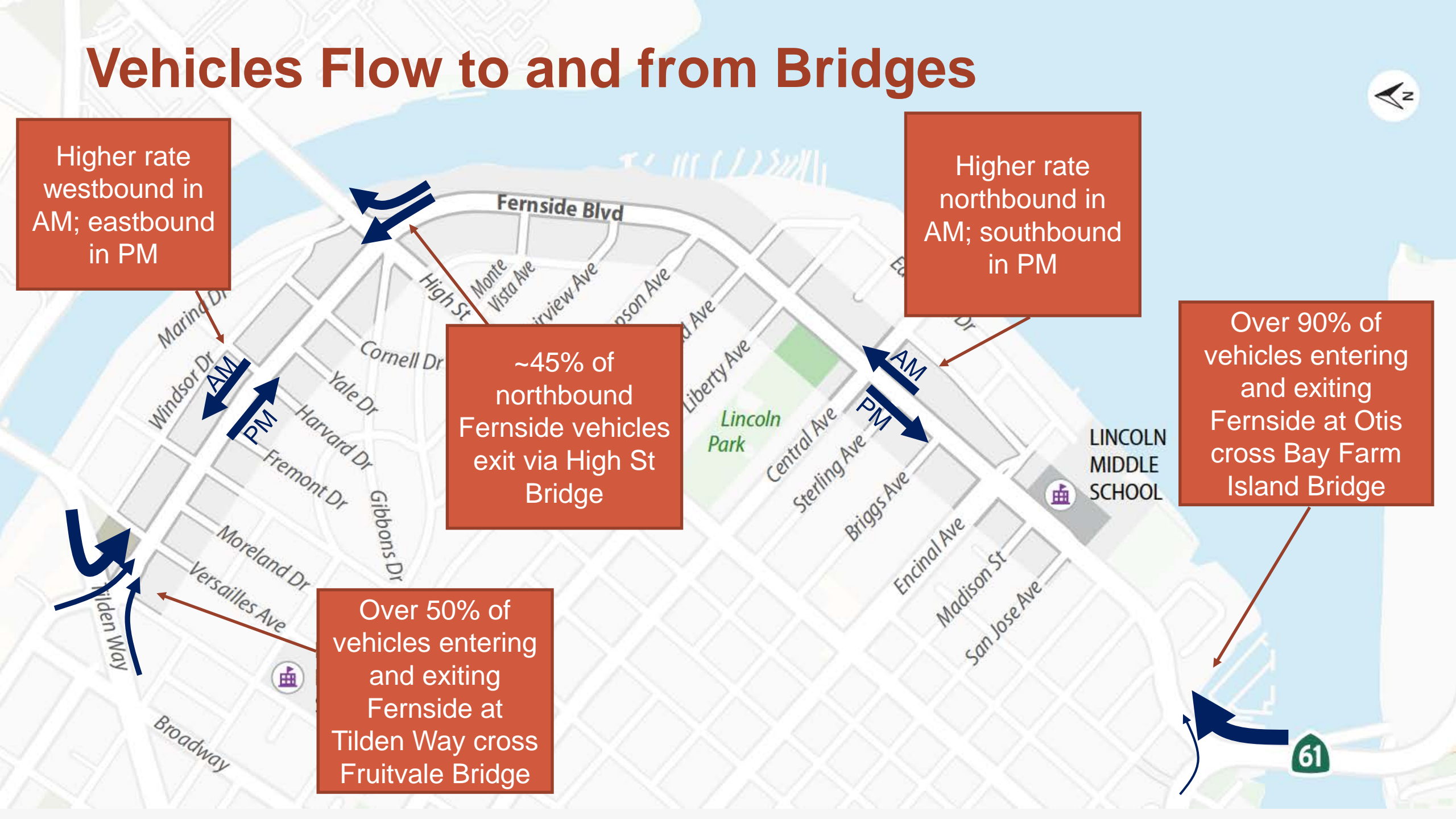
Higher rate westbound in AM; eastbound in PM

Higher rate northbound in AM; southbound in PM

~45% of northbound Fernside vehicles exit via High St Bridge

Over 90% of vehicles entering and exiting Fernside at Otis cross Bay Farm Island Bridge

Over 50% of vehicles entering and exiting Fernside at Tilden Way cross Fruitvale Bridge



# Pedestrian and Bicyclist Demand



Between 10-20 pedestrians cross Fernside per hour before and after school



Between 20-30 bicycles per hour make left turns traveling to/from school



Between 60-100 pedestrians cross Fernside per hour before and after school



Between 20-35 bicycles per hour travel through intersection during morning commute



Higher rate westbound in AM; eastbound in PM



Before and after school, bicycles comprise 10-15% of all traffic on Fernside

