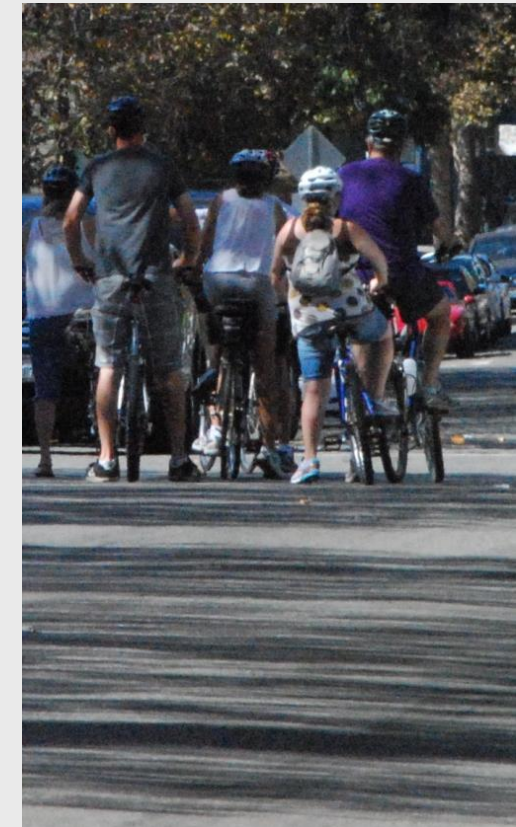


# Central Avenue Recommended Safety Improvements

City Council | February 24, 2016

# Agenda

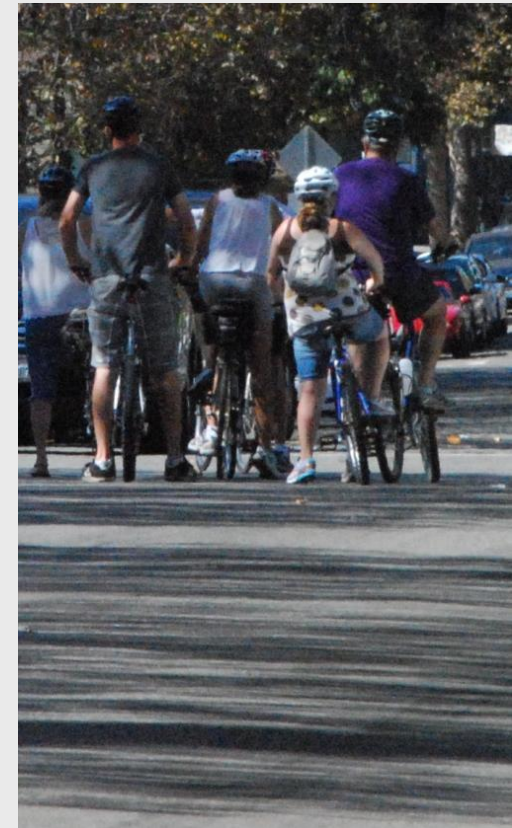
- Overview & Purpose
- Outreach
- Safety Improvement Recommendations
- Next Steps
- Q & A





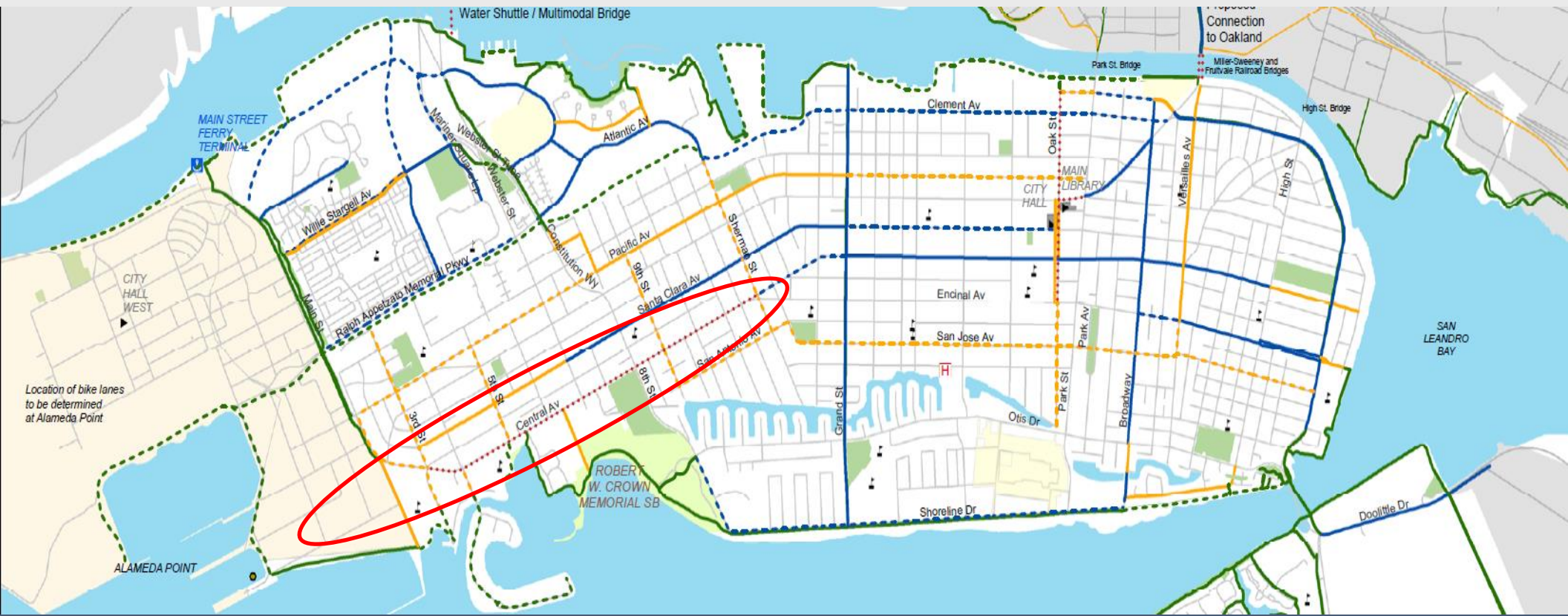
# Overview

- Creates Substantial Safety Benefits in Area Concentrated with Schools
- Adds Improvements Making It Easier and Safer to Walk, especially at Encinal High
- Installs Continuous Bikeway for 95% of Corridor Compared to 12% Existing
- Creates Bay Trail connection
- Implements General Plan and Bike Plan
- Minimizes Motorist Delay
- Provides Net Gain of Parking - No Loss Near Webster Street



# Implementing General Plan

- General Plan - Transportation Element (2009)
  - Truck Route
  - Transit and Bicycle Priority Streets
- City of Alameda Bicycle Plan (2010)





# Issues to Balance

- 1.7 mile study area / residential area
- AC Transit, truck, commercial, jobs and ferry access
- Partial SF Bay Trail / Partial Caltrans facility – SR 61
- Multiple schools (over 5,000 students/12 schools)

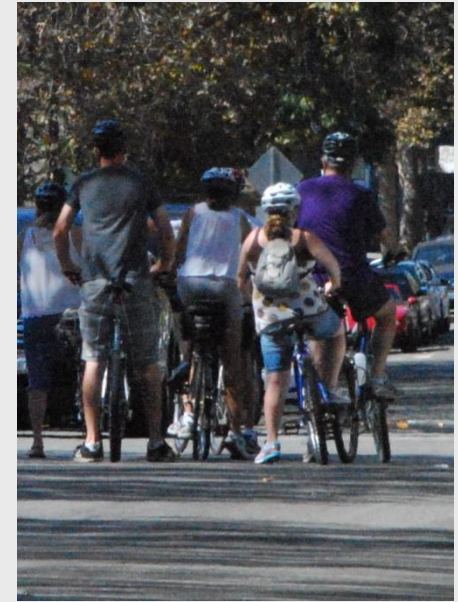


Central Avenue Proposed Street Concept

# Schools

- **West Alameda** (approx. 4,000 students)

- Academy of Alameda School ★
- Alameda Community Learning Center ★
- Alameda Science and Technology Institute ★
- **Child Unique Montessori School** ★
- **Encinal Junior/Senior School** ★
- Island High School ★
- Nea Community Learning Center ★
- **Paden Elementary School**
- Ruby Bridges Elementary School



- **Central Alameda**  
(approx. 1,150 students)

- Maya Lin School ★
- Franklin Elementary School
- Wood Middle School ★



# Alternatives Considered

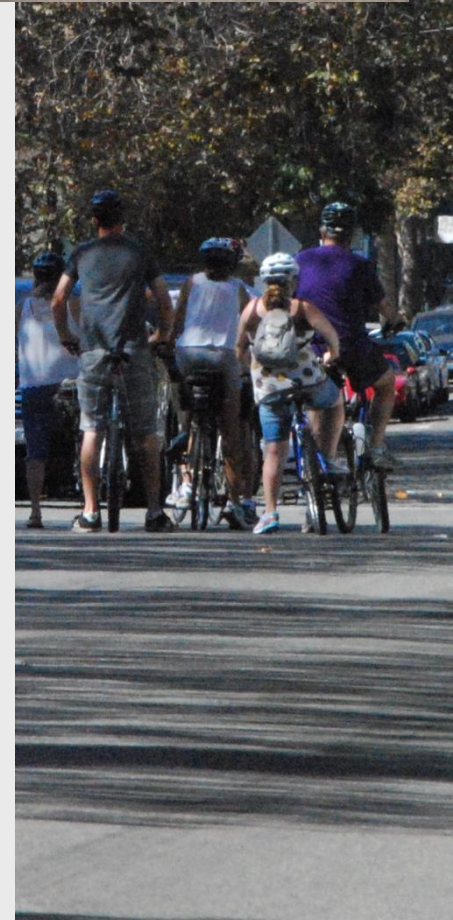
- Do nothing different – leave as is – status quo
- Santa Clara Avenue
- Sharrows
- East End Section:
  - Buffered Bike Lanes
  - Separated Bikeways
- Education/Enforcement
- Washington Park Bike Lane



# Safety

## ■ Roadway Safety

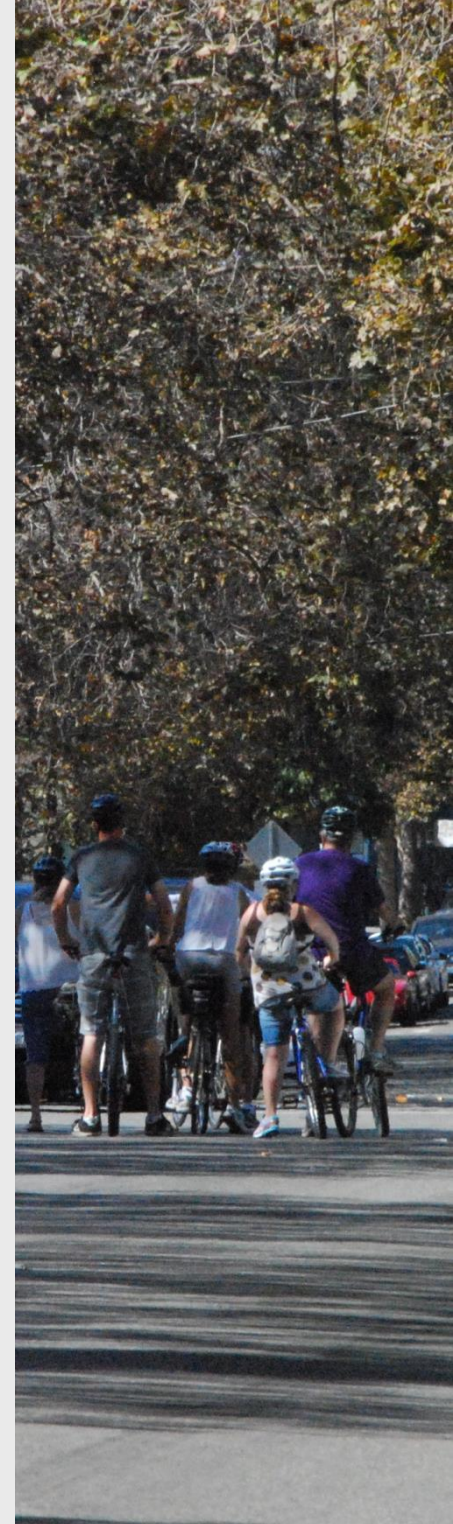
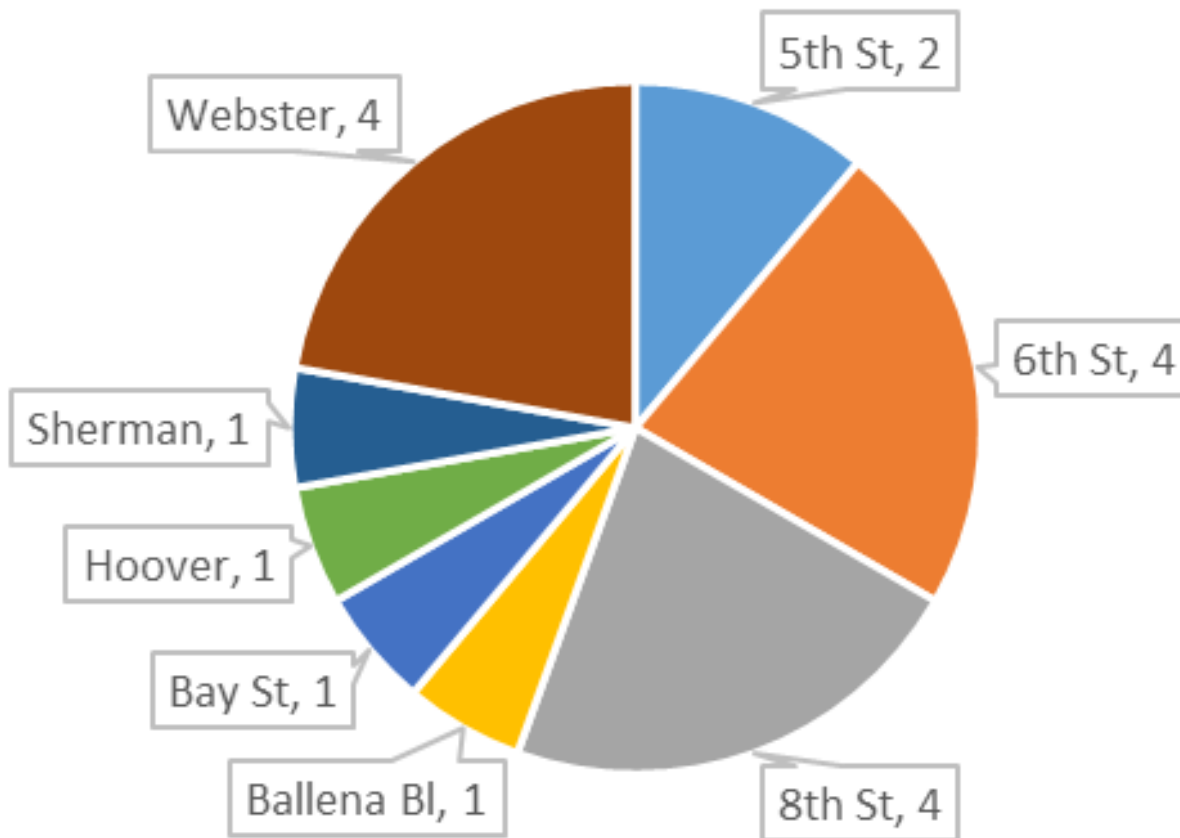
- Actual Speeds: 30-33 mph
- 89 injuries from collisions past 10 years
  - 18 walking = 20% (16% citywide)
  - 22 bicycling = 25% (16% citywide)
- Bicycling/walking injuries = 45% (32% citywide)
- Study Area mileage = 1.4% of citywide streets
- Study Area injuries = 4.1% (compared to citywide injuries)





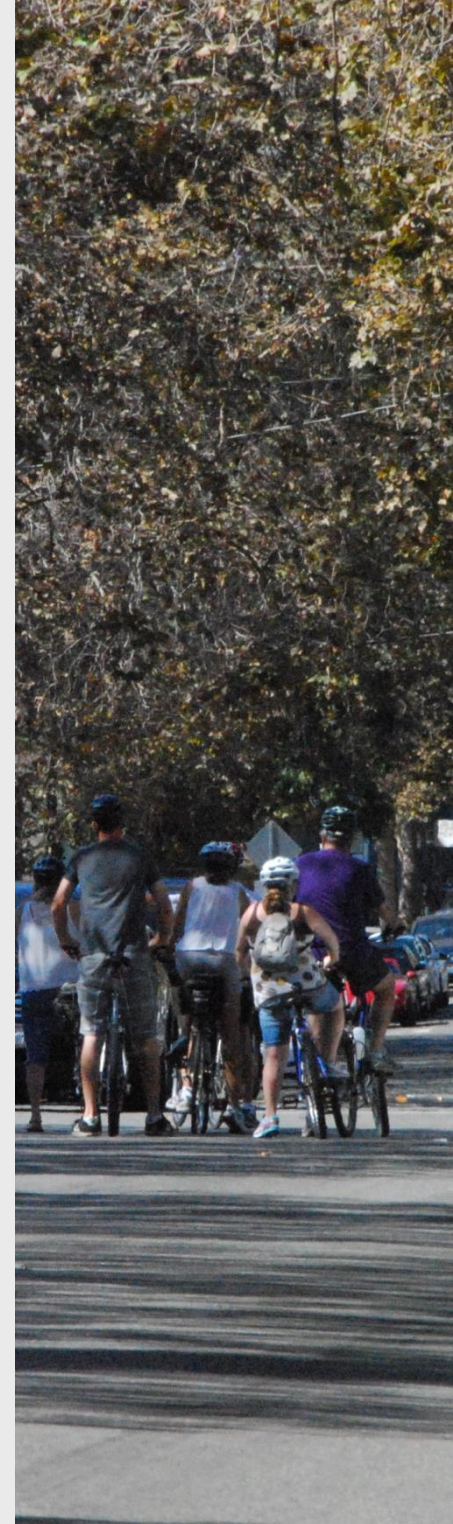
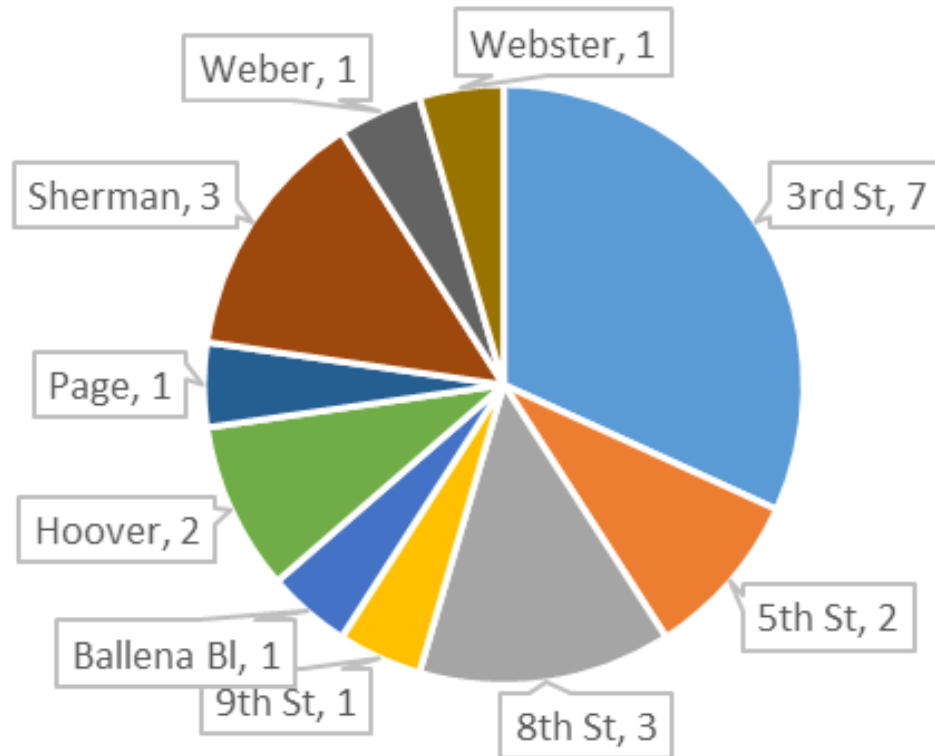
# Safety: Ped Injuries at Uncontrolled Intersection and Highly Concentrated Areas

Number of Pedestrian Injuries by Intersection  
(2004-2013)



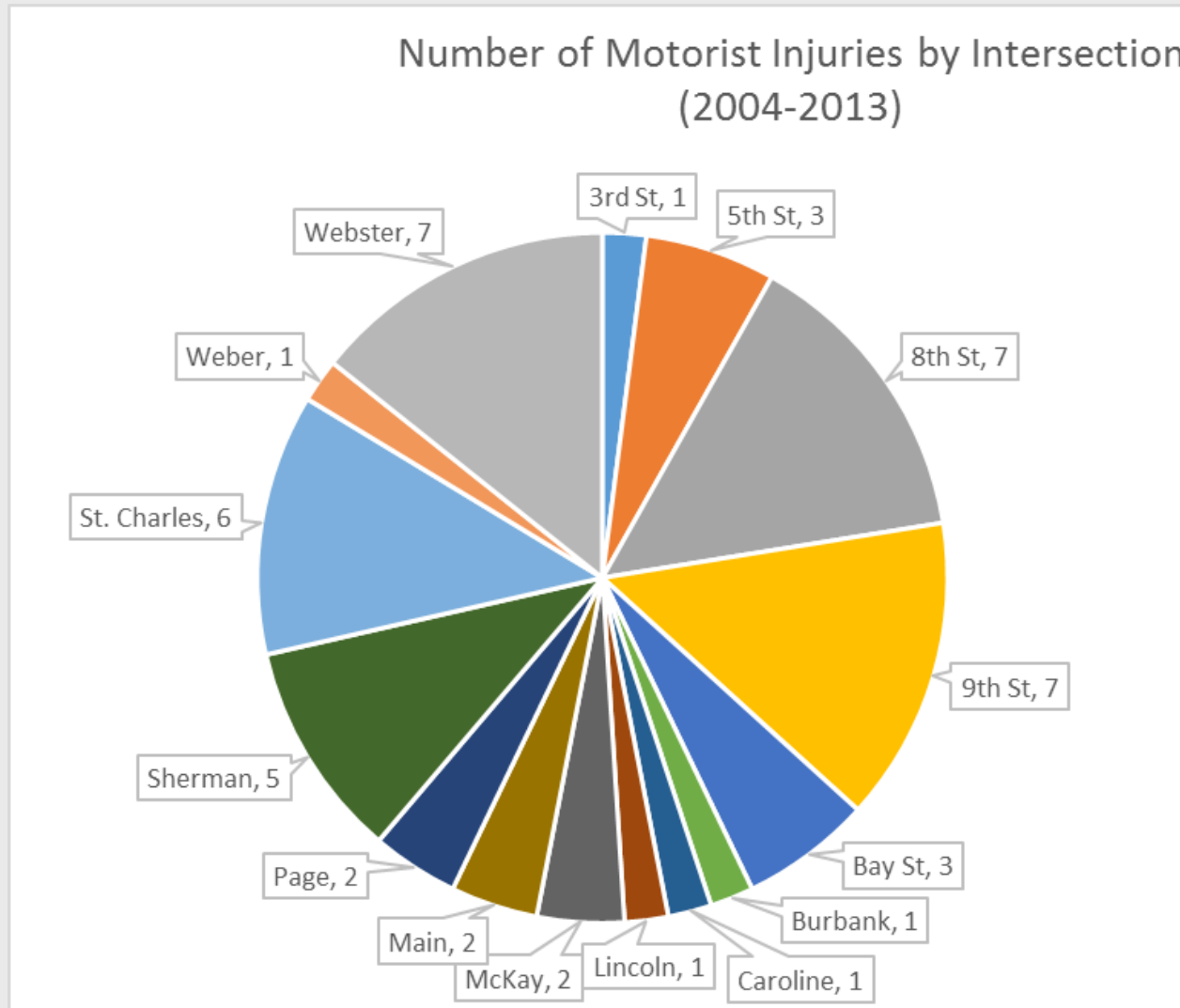
# Safety: Bike Injuries Concentrated at Third Street near Encinal High and 5 out of 7 during Drop-Off/Pick-Up Times

Number of Bicyclist Injuries by Intersection (2004-2013)





# Safety: Motorist Injuries More Dispersed throughout Study Area



# Overview: Stakeholder Support

- Caltrans (owns Sherman-Webster)
- Paden School (315 students)
- Encinal High School / Junior Jets (1,330 students)
- AUSD Superintendent
- Alameda PTA Council
- San Francisco Bay Trail (proposed 500 mile trail)
- Bike Walk Alameda





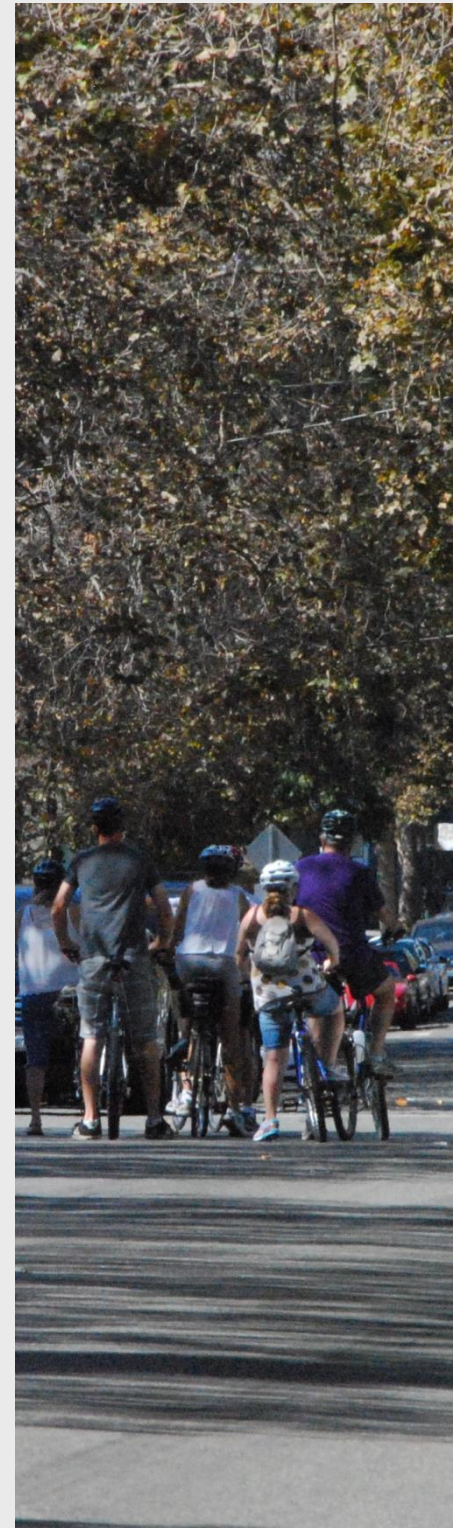
# Overview: Business Concerns

- Westbound delay at Webster Street (Concept: Will modify signal)
- Westbound delay at McKay Avenue (Concept: Left-turn pocket at McKay Avenue)
- Delivery concerns at Webster Street liquor store (Concept: Deliveries can proceed as currently occur)
- Delays from concept (Concept: Minimizes motorist delay)



# Outreach: Process

- Project Email List Serv: 500+ emails and growing
- Open Forum: <http://alamedaca.gov/public-works/open-forum> - attracted 531 visitors
- Advisory Committee: met three times and individually
- Community Workshops: April, June and September
- Engineer Reviews: five different teams
- Web Page: <http://alamedaca.gov/public-works/central-avenue-complete-street>
- Transportation Commission Meetings: May and Nov.
- Commission on Disability Issues: December
- City Council: Recommended Concept





# Concept: Goals

1. **Encourage bicycling and walking**
2. **Improve safety**
3. **Improve the streetscape**
4. **Traffic calming**
5. **Encourage transit use**
6. **Revitalize West Alameda**
7. **Improve public access to the SF Bay**
8. **Minimize disruption to motorists**
9. **Improve truck access**

**Based on 132  
responses**



# Concept: Demographics

Millennials: the Generation  
that Walks the Talk

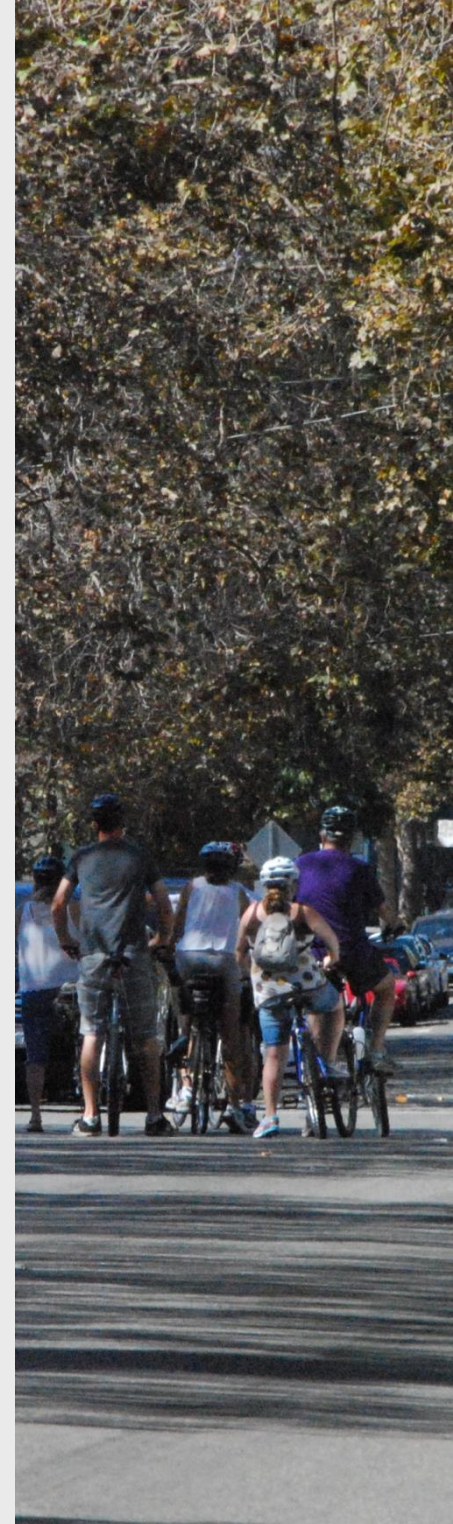
- **Walked to Work/School**

- **Millennials: 32%**
- **Generation X: 19%**
- **Baby Boomers: 13%**

Source: National Association of Realtors and Portland State

- **22% of young people plan on never getting a driver's license**

Source: University of Michigan survey





# Recommended Concept

- East End Section
  - Three Lane Street with Bike Lanes
- West End Section
  - Two-way Separated Bikeway
  - Westbound Bike Lane



Central Avenue Proposed Street Concept

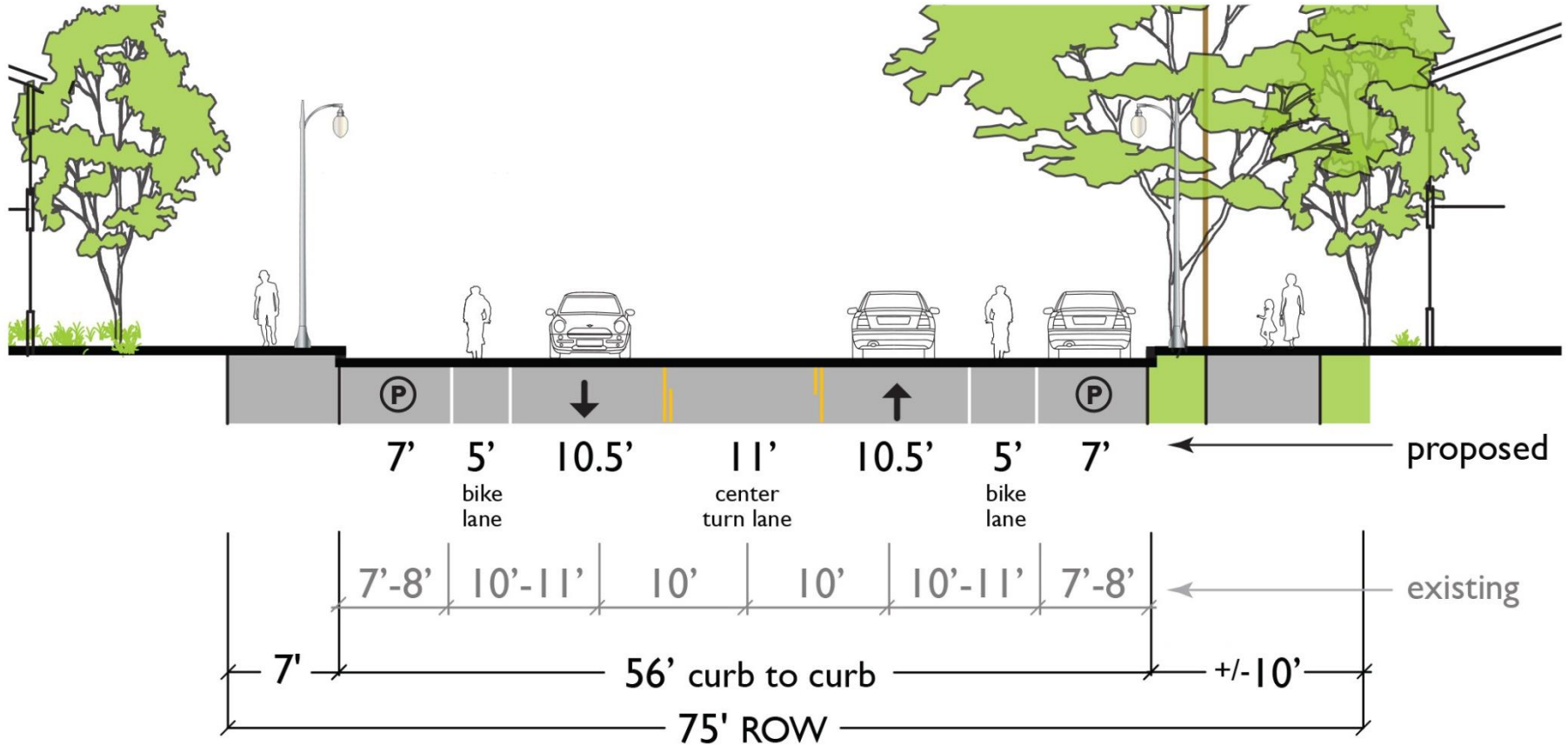
# Concept: Bikeway (Sherman-Paden School)

- Do nothing different
- Sharrows markings
- Bike lanes + center turn lane
- Two-way separated bikeway
- One-way separated bikeway
- Buffered bike lanes





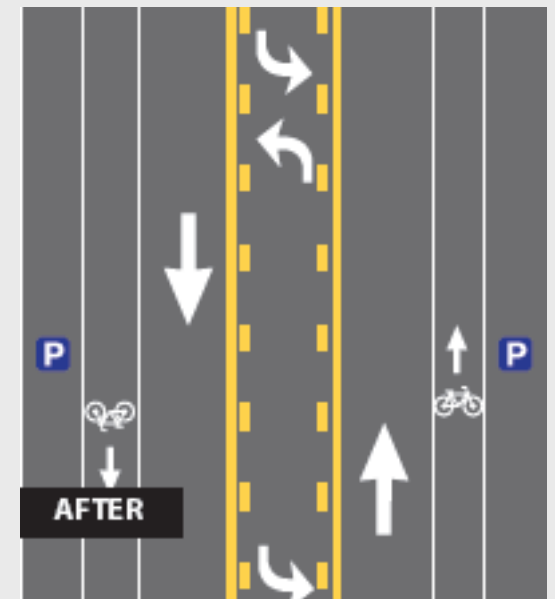
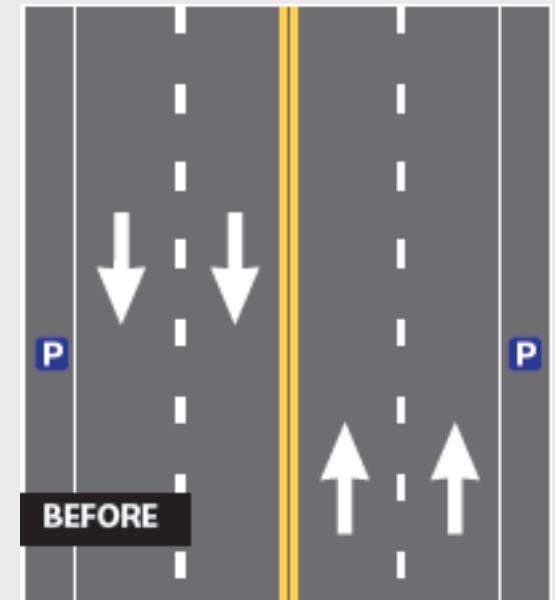
# Concept: Sherman – Paden School



# Concept: Benefits

According to FHWA:

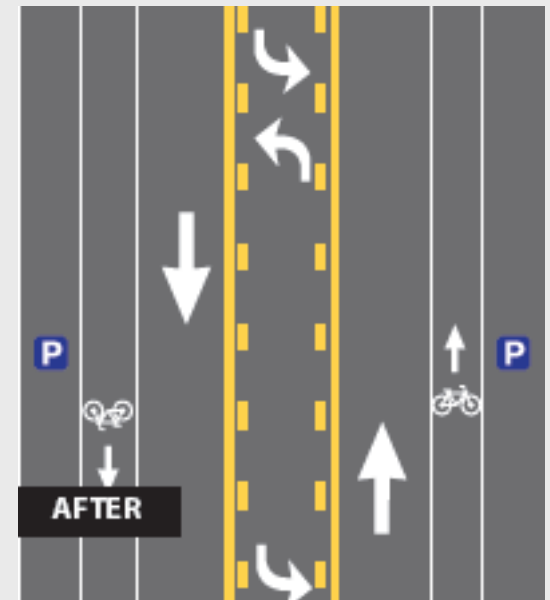
- Reduces collisions by at least 19%
- Reduces speeds by at least 3 mph
- Less severe collisions
- Fewer vehicle lanes to cross
- Better visibility of pedestrians
- Space for bicyclists
- Smoother travel flow





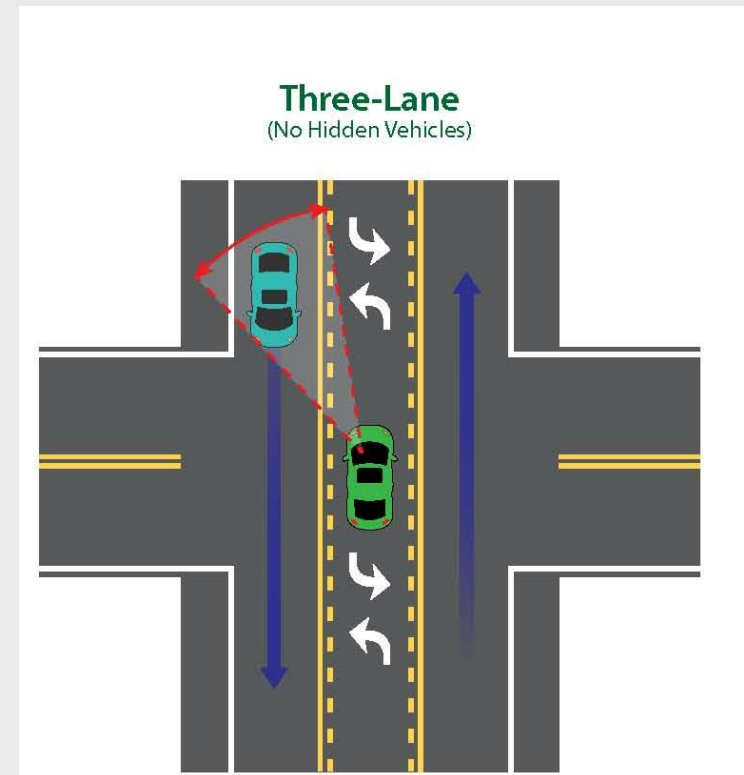
# Concept: Pedestrian and Bicyclist Safety

- Fewer motor vehicle travel lanes to cross
- More visibility for pedestrians and bicyclists
- Space for bicyclists
- Slower vehicle speeds lead to fewer and less severe crashes
- Shorter pedestrian crossing distances



# Concept: Motorist Safety

- Simpler crossings for side street motorists
- Fewer conflict points for sideswipe and rear-end collisions
- More visibility for left turning vehicles



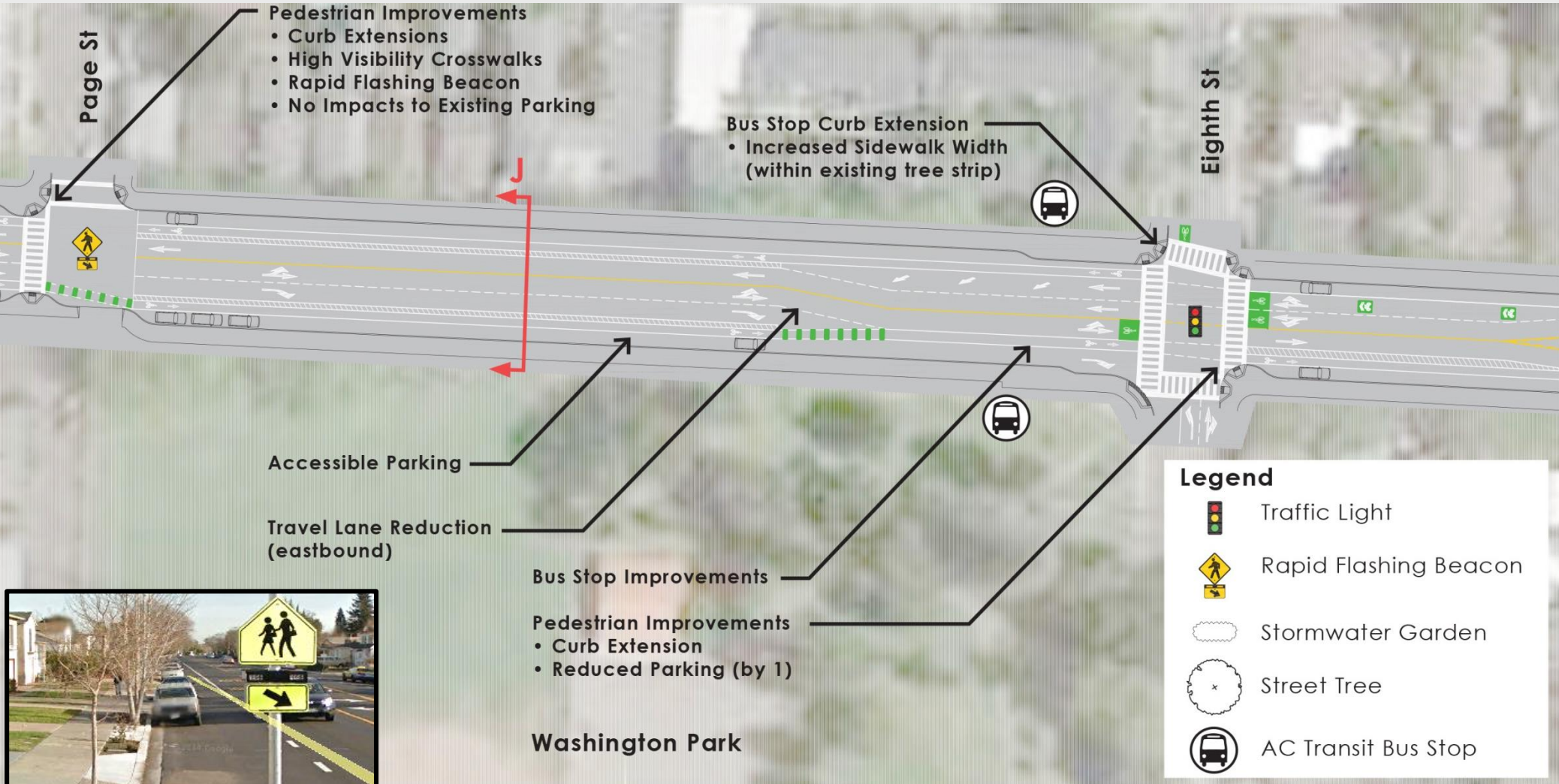


# Concept: Improves Safety

Federal Highway Administration (FHWA) identifies streets below 20,000 motorists/day as feasible for lane reduction.

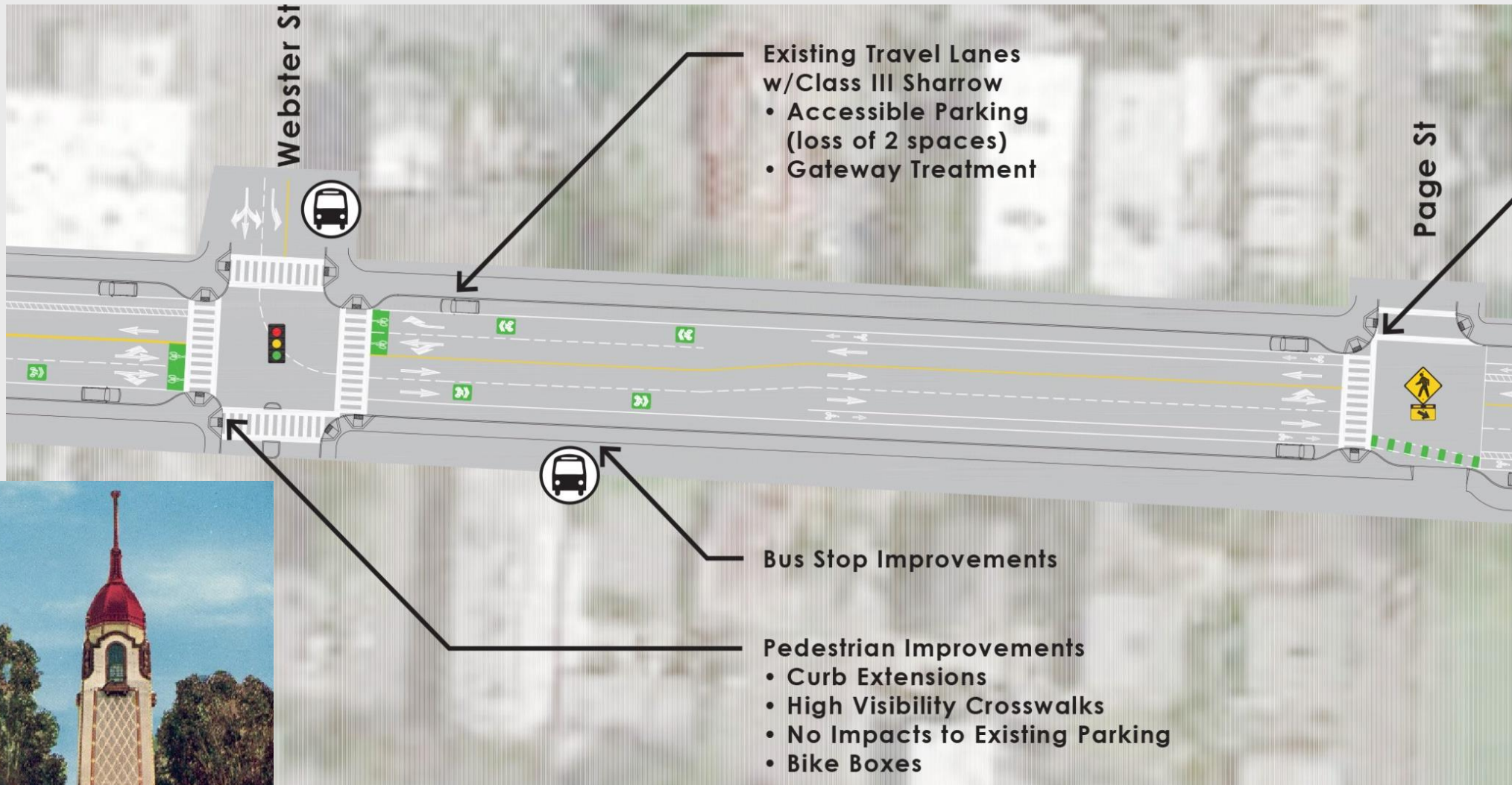
<b>Street Name</b>	<b>Veh/Day</b>
Atlantic Ave. (Buena Vista to Constitution)	10,709
Broadway (Santa Clara Ave to Otis Dr)	12,332
Fernside Blvd. (Otis Dr to Washington St)	17,950
<b>Central Avenue (max.)</b>	<b>8,400</b>
<b>Central Avenue: FUTURE (average)</b>	<b>12,000</b>
<b>Central Avenue: FUTURE (max.)</b>	<b>16,000</b>

# Concept: Page St - Eighth St

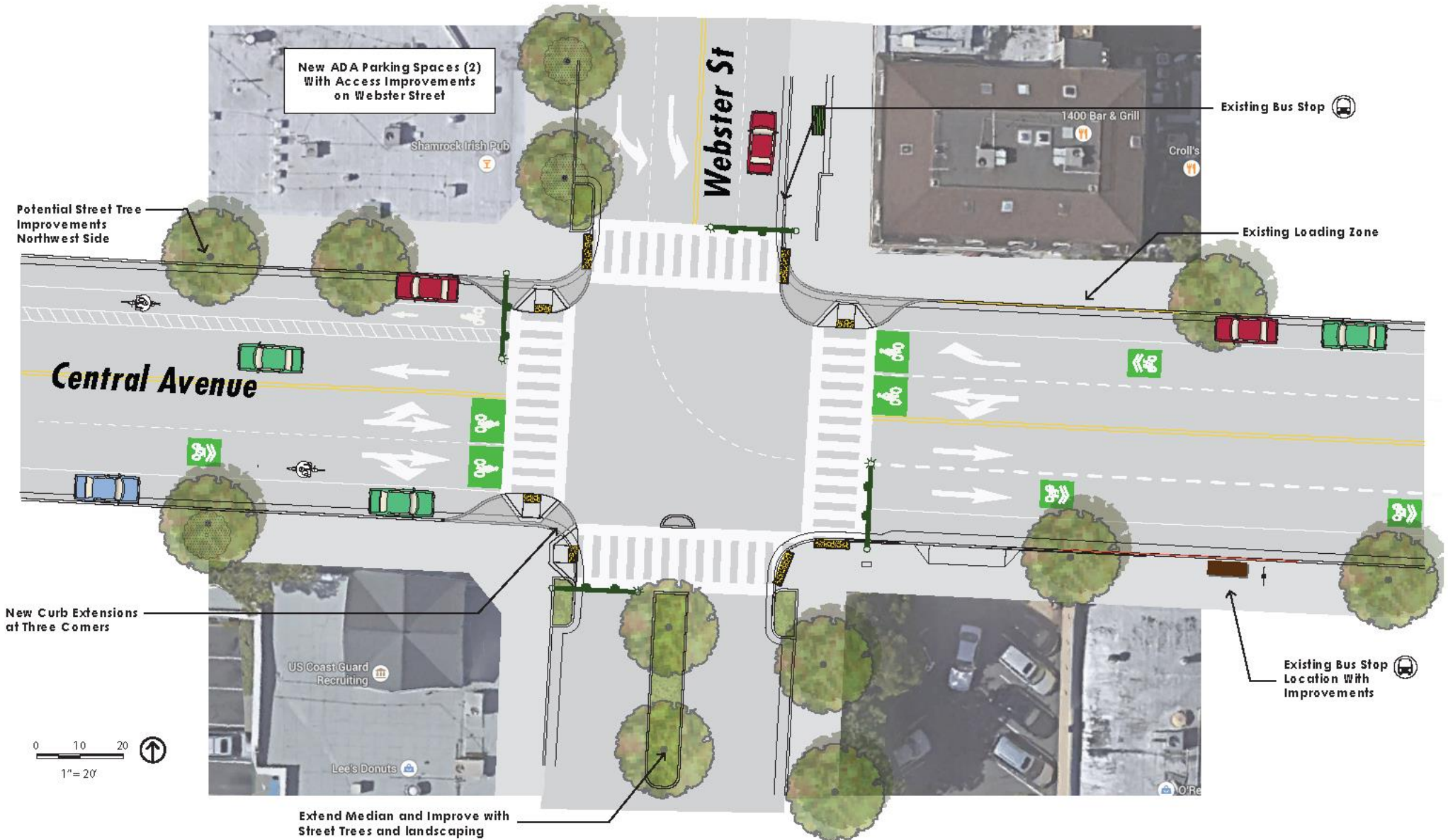




# Concept: Webster St – Page St

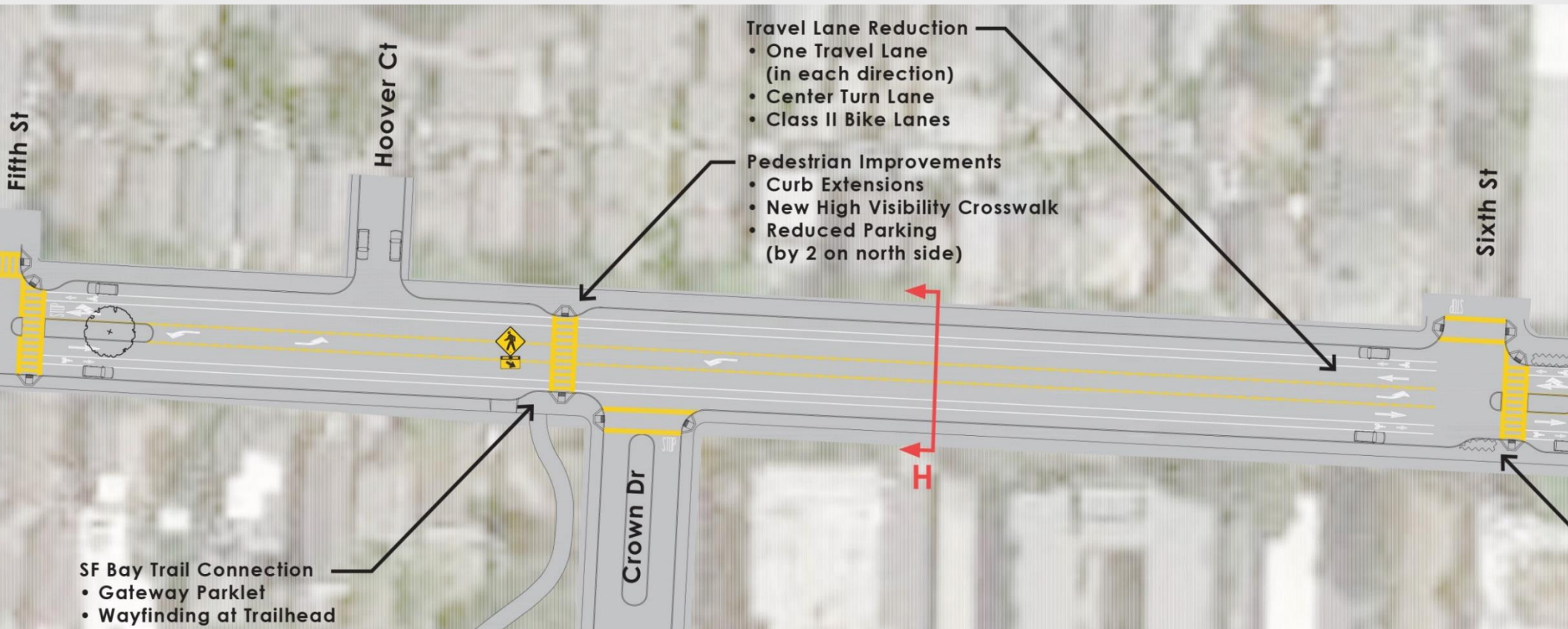


# Webster Street – Two Lane Approaches and No Parking Loss





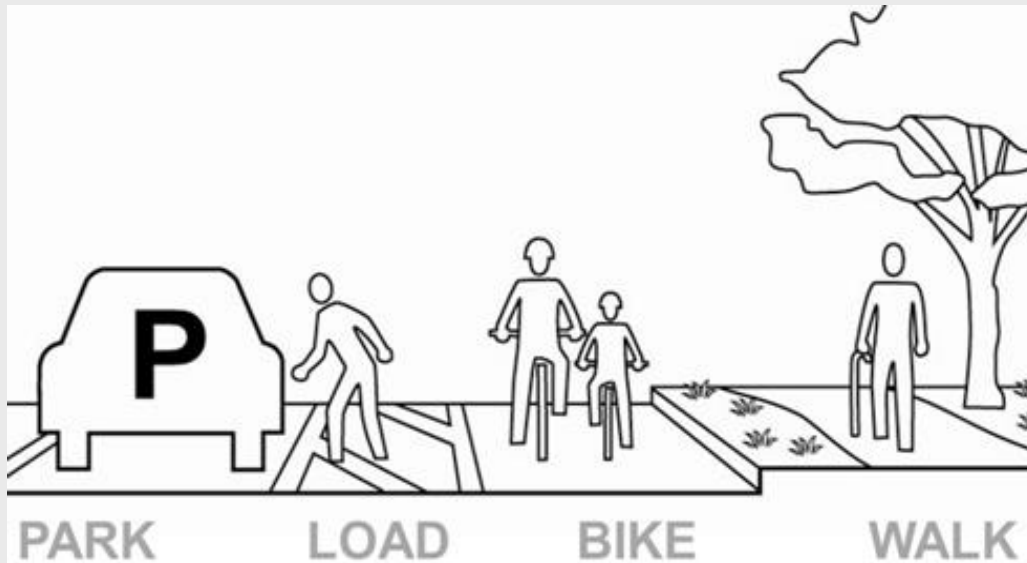
# Concept: Fifth St – Sixth St



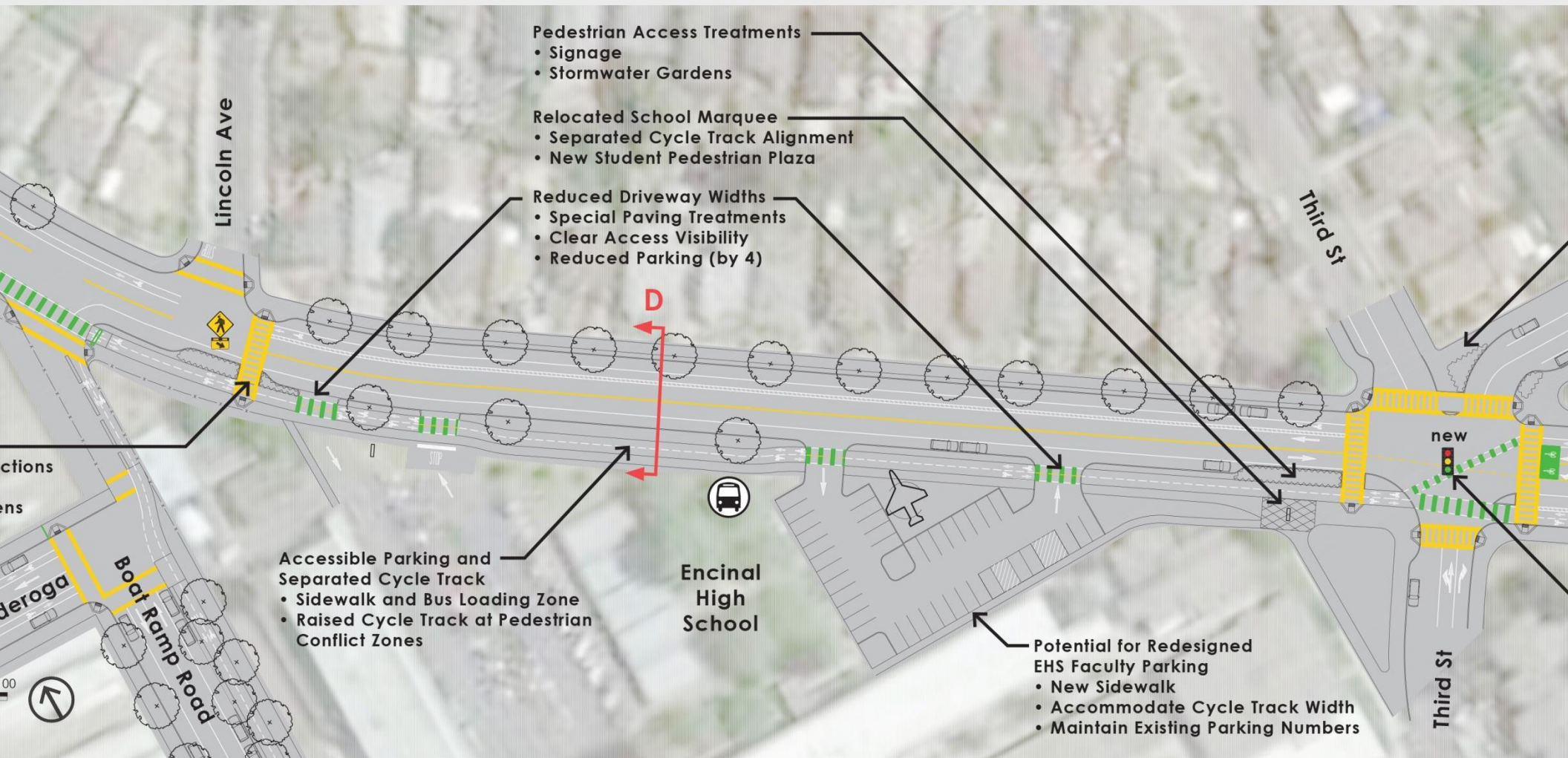


# Concept: Bikeway - West End

- Two-way separated bikeway:
  - Alameda Point
  - Paden, Encinal and Junior Jets Schools
  - SF Bay Trail
- Westbound bike lane

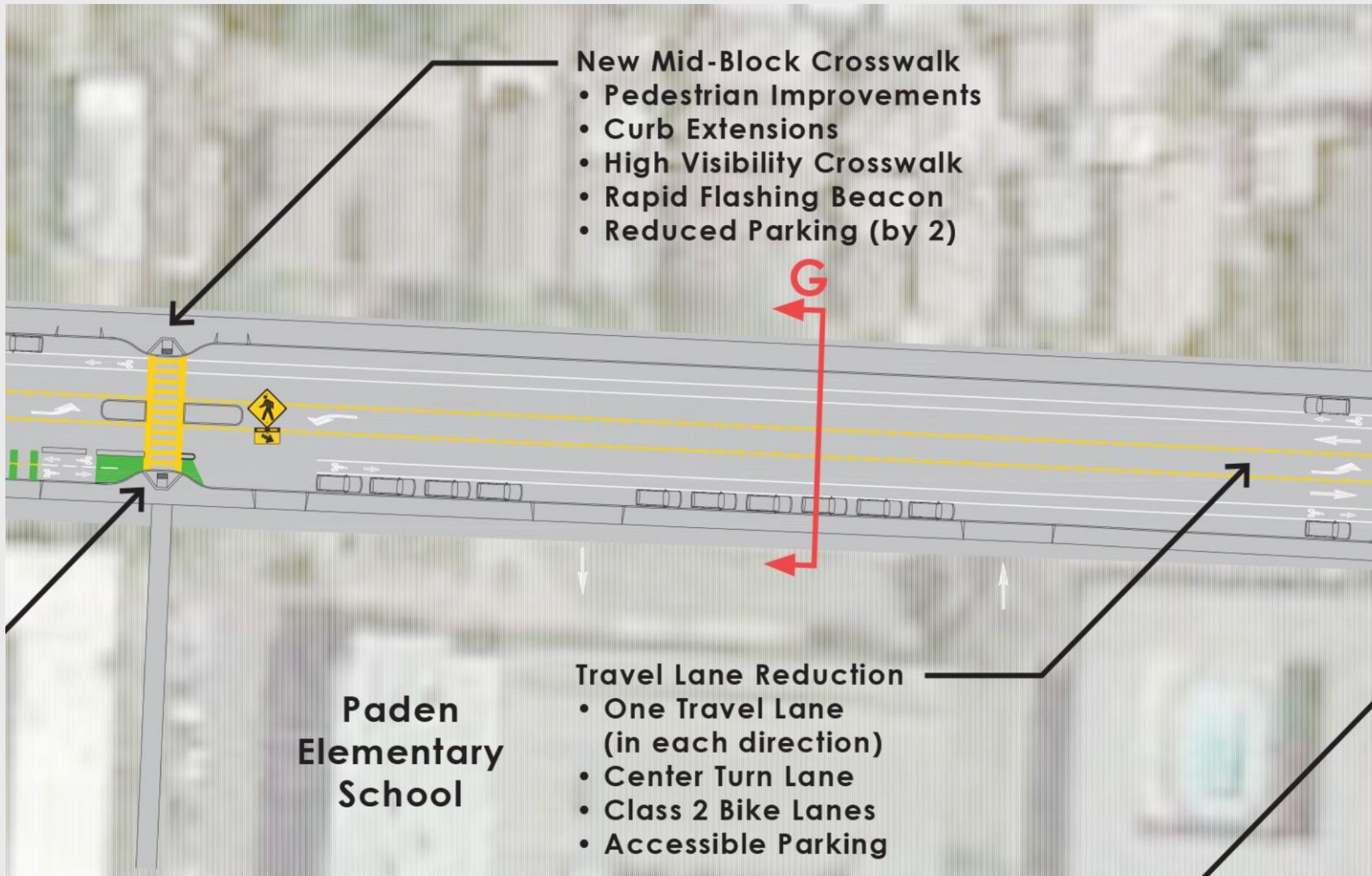


# Concept: Encinal High School





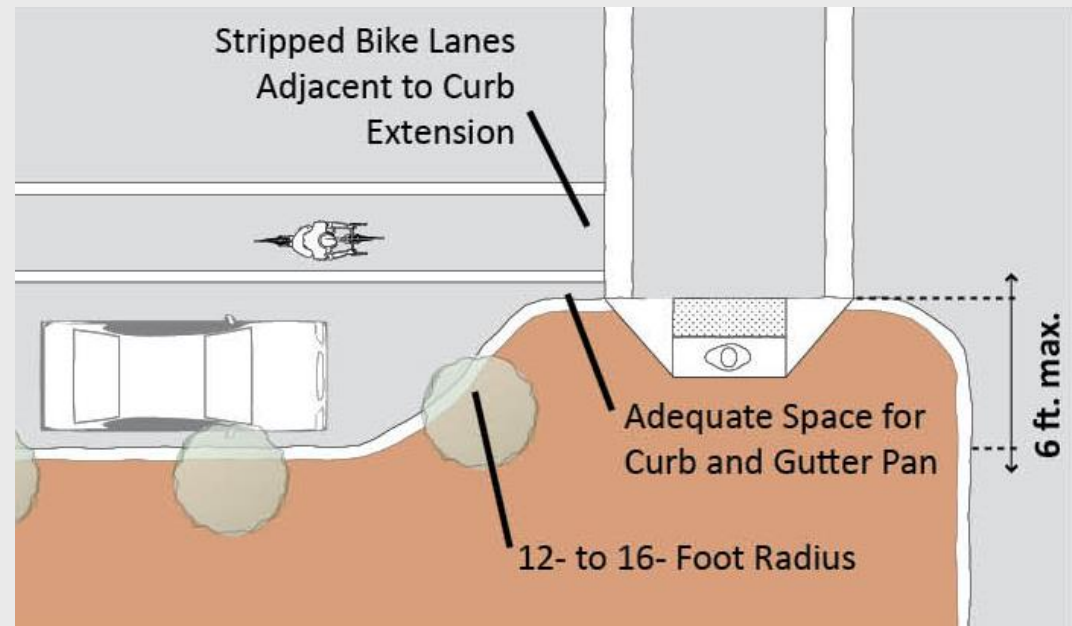
# Concept: Paden School





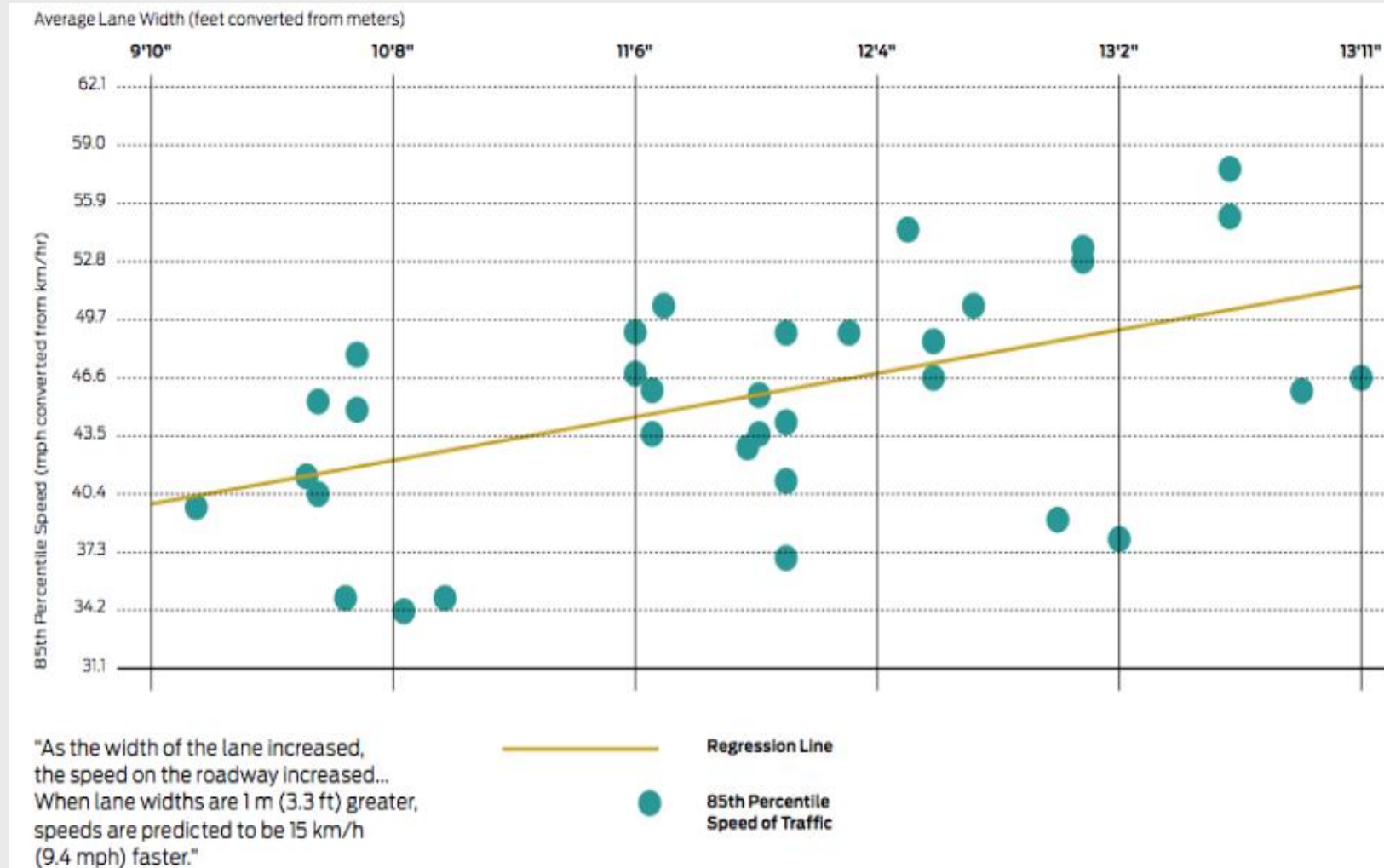
# Concept: Achieves Key Goals

- Safer Street – Center Lane
- Bikeway
- Pedestrian Improvements
- Streetscape Improvements
  - gateway, trees, stormwater, landscape
- SF Bay Trail Access
- Minimizes Motorist Delay
- Net Gain of Parking



# Concept: Addresses Concerns


- Accessible parking
- Bus/truck access
- WABA
- Minimal delay



Source: National Association of City Transportation Officials (NACTO) guidelines

# Concept: Addresses Concerns



<b>Time Period / Direction</b>	<b>Existing Conditions</b>	<b>Three Lanes</b>	<b>Recommendation</b>
<b>Weekday AM Peak (7-9 AM)</b>			
Eastbound	8.4 min.	9.4 min.	8.7 min.
 Westbound	8.9 min.	22.4 min.	10.5 min.
<b>Weekday PM Peak (4-6 PM)</b>			
Eastbound	9.1 min.	20.0 min.	9.7 min.
Westbound	10.7 min.	14.5 min.	10.7 min.



# Concept: Most Comparable Local Streets

- Broadway (mid-section)
- Atlantic Avenue
- Fernside (San Jose-Otis)
  - Two-way separated bikeway installed in 2009
  - Slower speeds
  - Increase in bicycling and driving
  - One bicyclist/motorist collision in bikeway

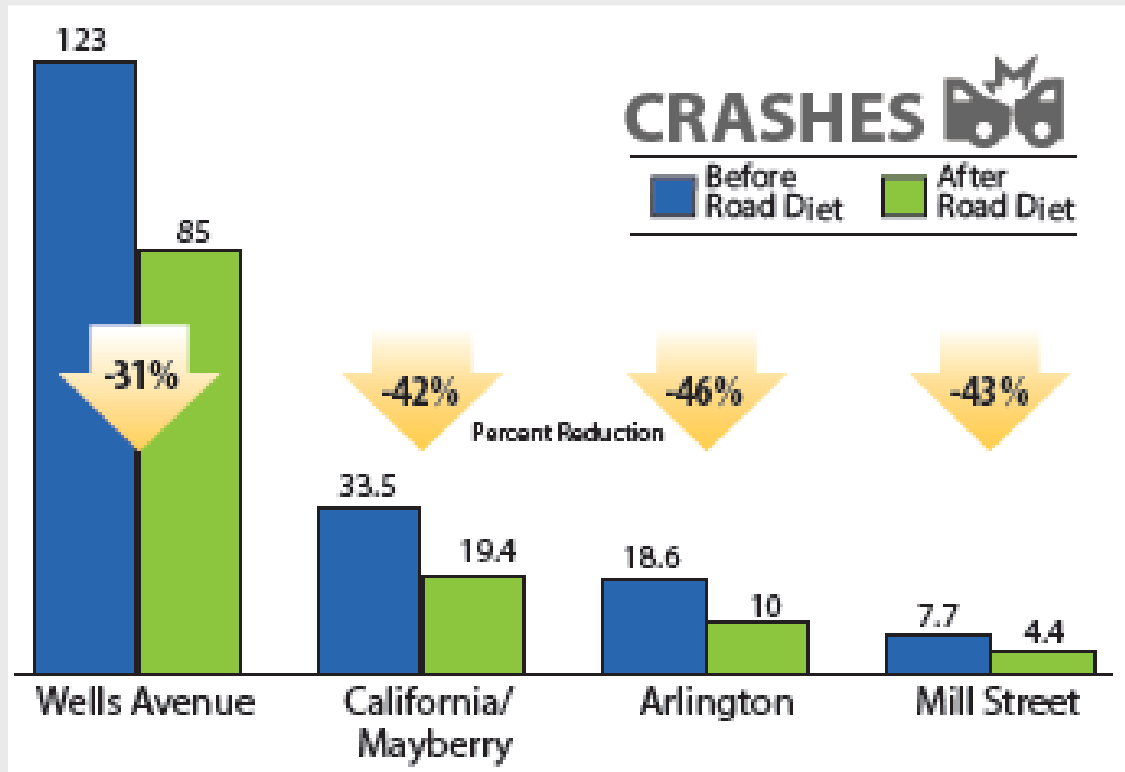


# Concept: Shoreline Bikeway Example

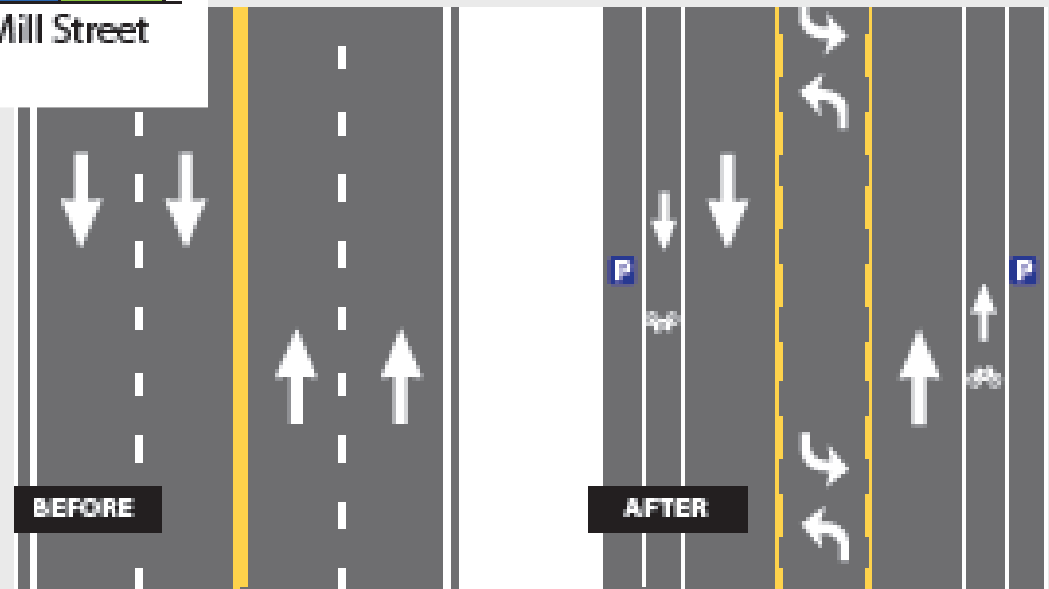
- Lane reduction from four to two or three lanes
- Two-way separated bikeway installed in March 2015
- Preliminary data:
  - Slower speeds
  - Fewer collisions
  - Decrease in driving
  - Increase in bicycling



# Concept: Lane Reduction Safety



- Reno, Nevada corridors
  - Reduction in collisions between 31% and 46%





# Concept: Lane Reduction Safety (cont.)



- Santa Monica – Ocean Park Blvd
  - 65% reduction in collisions
  - 60% reduction in injury collisions

# Concept: Lane Reduction Safety (cont.)



- Seattle, Washington – Stone Way
  - More than 80% reduction in top speeders
  - 14% reduction in collisions
  - 33% reduction in injury collisions
  - 80% reduction in pedestrian collisions
  - 35% increase in bicyclists
  - No motorist diversions

# Concept: People Mean Business

## *Businesses Benefit from Bikeways*

- **New York City:** Retail activity increased 49% on 9th Avenue with a new bikeway, compared to 3% increase in the rest of Manhattan (Source: Measuring the Street, NY DOT)
- **Salt Lake City:** Study show sales increased at local businesses with new bike lanes (Source: Division of Transportation)





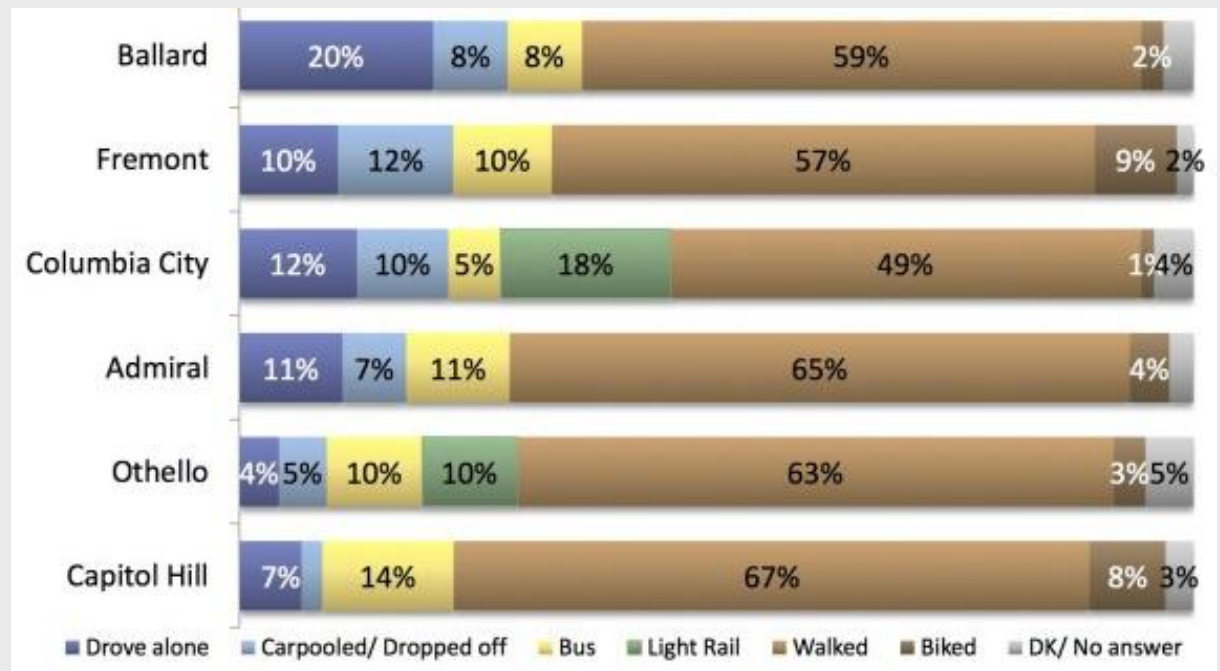
# Concept: People Mean Business (cont.)

## ***People walking and bicycling spend more money and shop more frequently!***

- ***San Francisco:*** People who walk to Polk Street spend more money overall than people who drive (Source: SFMTA)
- ***Portland:*** Survey of businesses showed pedestrians & bicyclists spend up to 50% more than drivers (Source: Portland State University)
- ***Toronto:*** Survey of merchants and patrons found people arriving by foot and bicycle visit the most often and spend the most money per month (Source: Clean Air Partnership)
- ***Davis:*** Cyclists took more trips and spent more money per trip than drivers to a new Target store. (Source: UC Davis)

# Concept: People Mean Business (cont.)

## ***Majority of Customers Walk and Bike to Neighborhood Businesses***



- **Seattle:** 65% of residents get to their neighborhood business districts by walking and bicycling (Source: Seattle DOT)
- **Bristol England:** 22% drove to shops (retailers thought 41%)
- **Graz Austria:** 32% drove to shops (retailers thought 58%)
- **Dublin Ireland:** 10% on Grafton St and 9% on Henry St (retailers thought 13% and 19%, respectively)



# Concept: People Mean Business (cont.)

- Denmark and Sweden



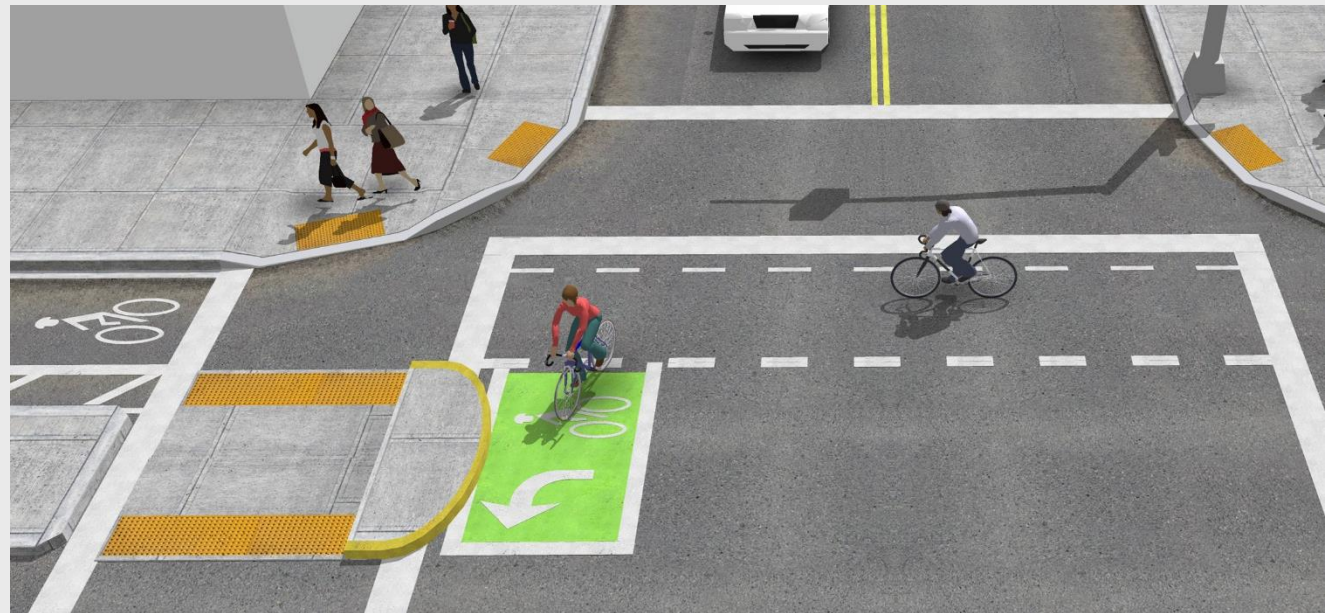
Central Avenue Proposed Street Concept



# Recommendation

- Approve the Central Avenue concept
- Extend the westbound merge lane at Eighth Street
- Add four loading zones
- Use two-stage turn queue boxes

Source: NACTO

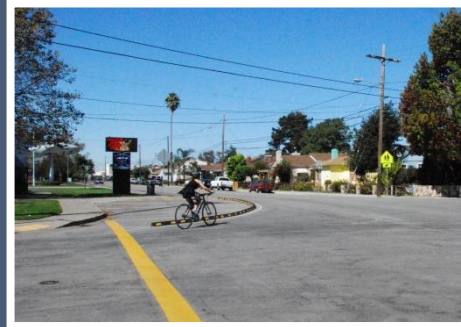
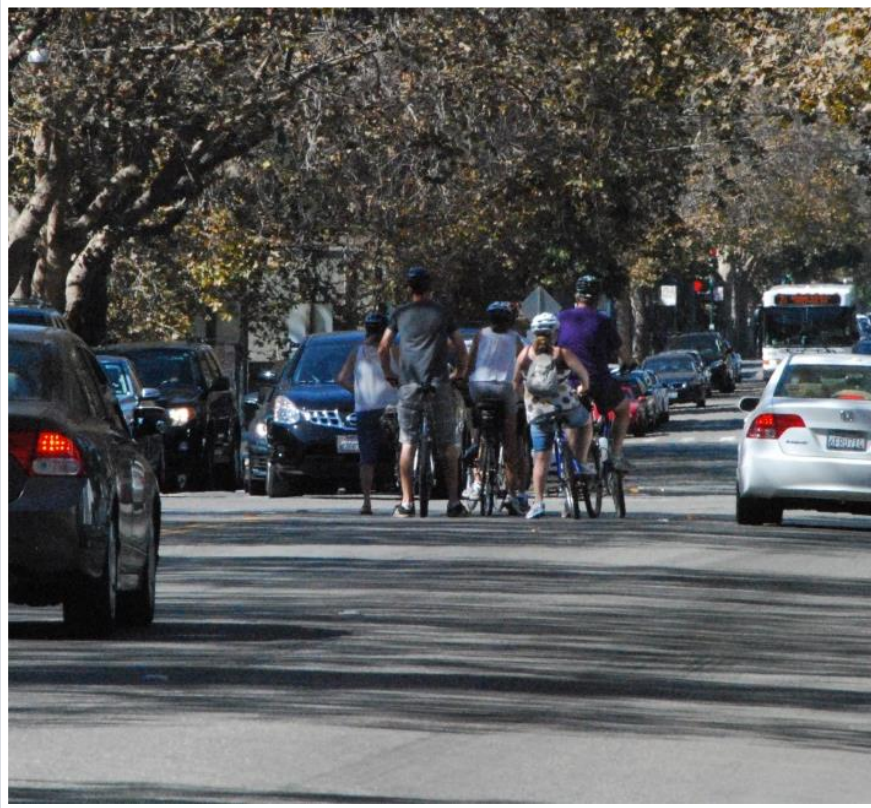


# Next Steps

- City Council Approval
- Next Phase
  - Seek Funding
  - Design
  - Transportation Commission Design Approval
  - City Council Approve Construction Bid







# Central Avenue Recommended Safety Improvements

City Council | February 24, 2016