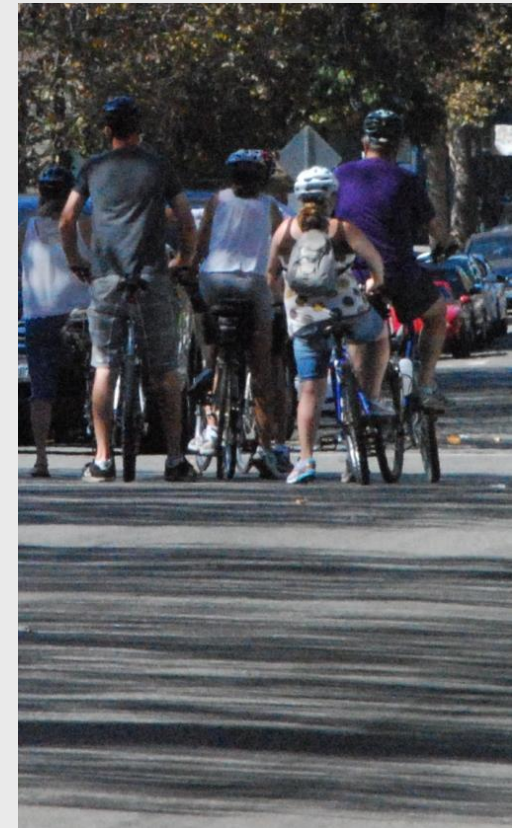


## Central Avenue Recommended Safety Improvements

Transportation Commission | November 18, 2015

# Agenda

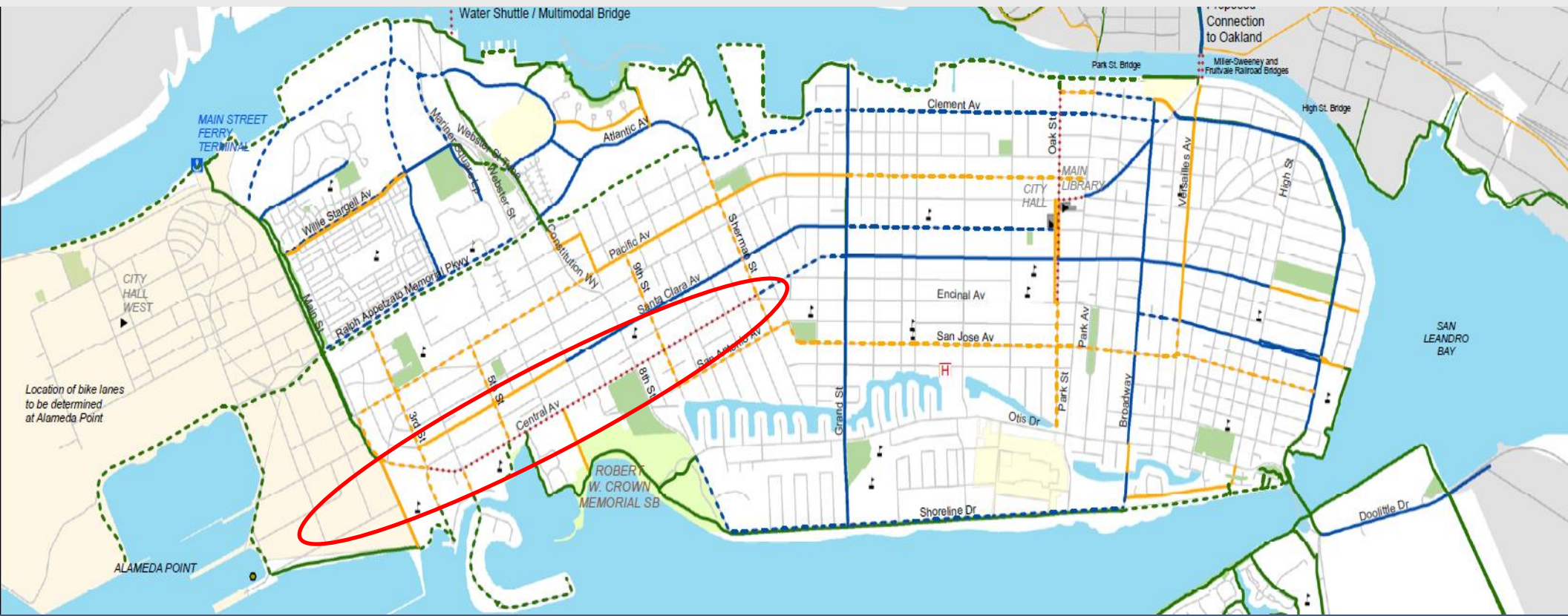
- Study Area
- Outreach
- Safety Improvement Recommendations
- Next Steps
- Q & A





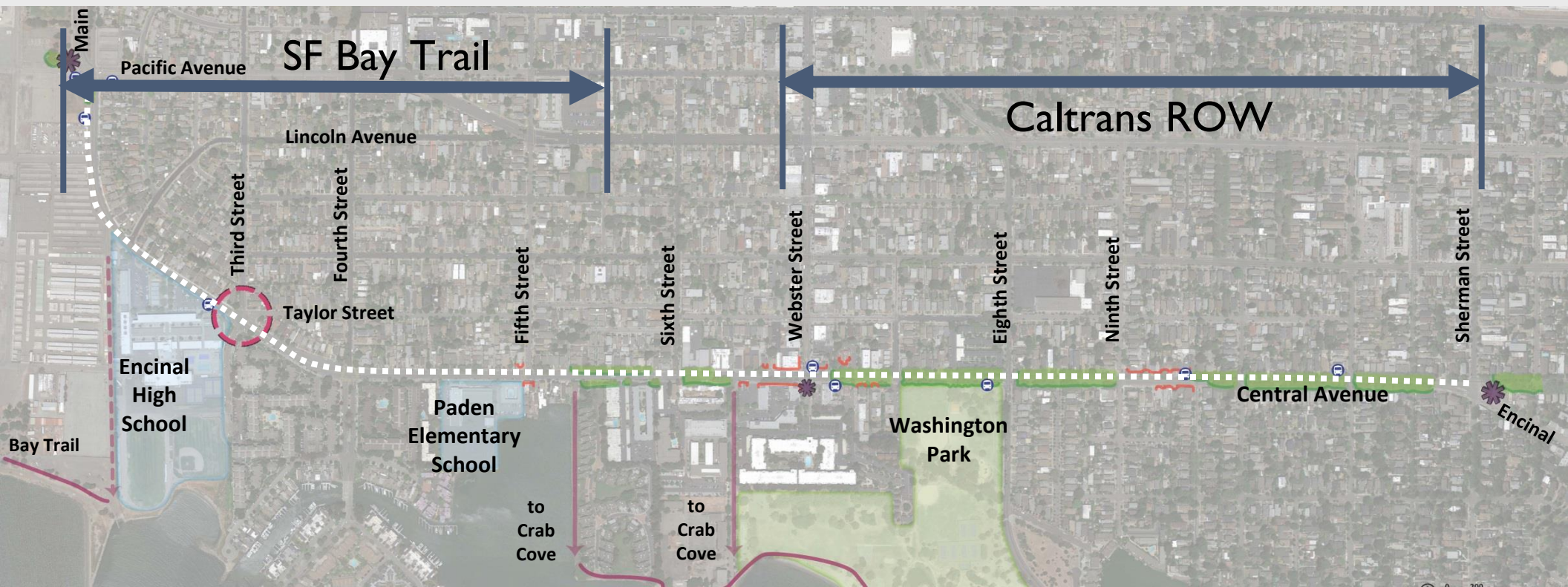
# Concept Area: Public Policy

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



# Concept Area: Issues to Resolve

- Multiple schools (approx. 4,500 students/9 schools)
- 1.7 mile study area / residential area
- AC Transit, truck, commercial, jobs and ferry access
- Partial SF Bay Trail / Partial Caltrans facility – SR 61



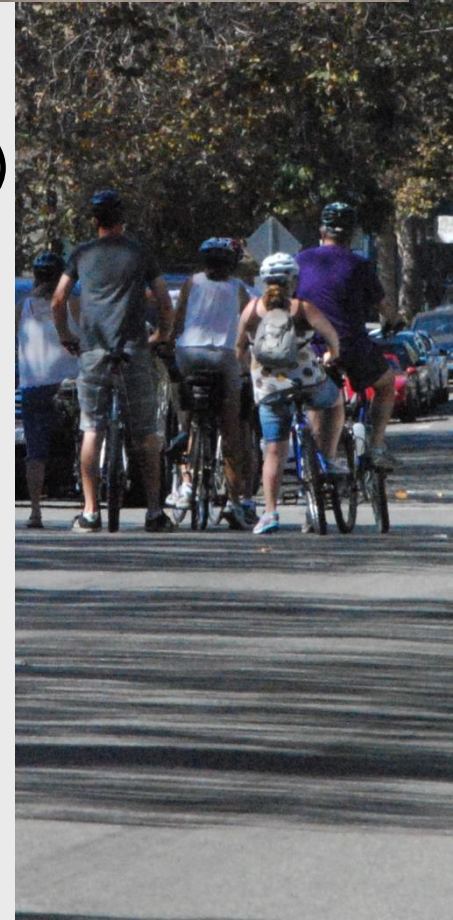
Central Avenue Proposed Street Concept



# Concept Area: Safety

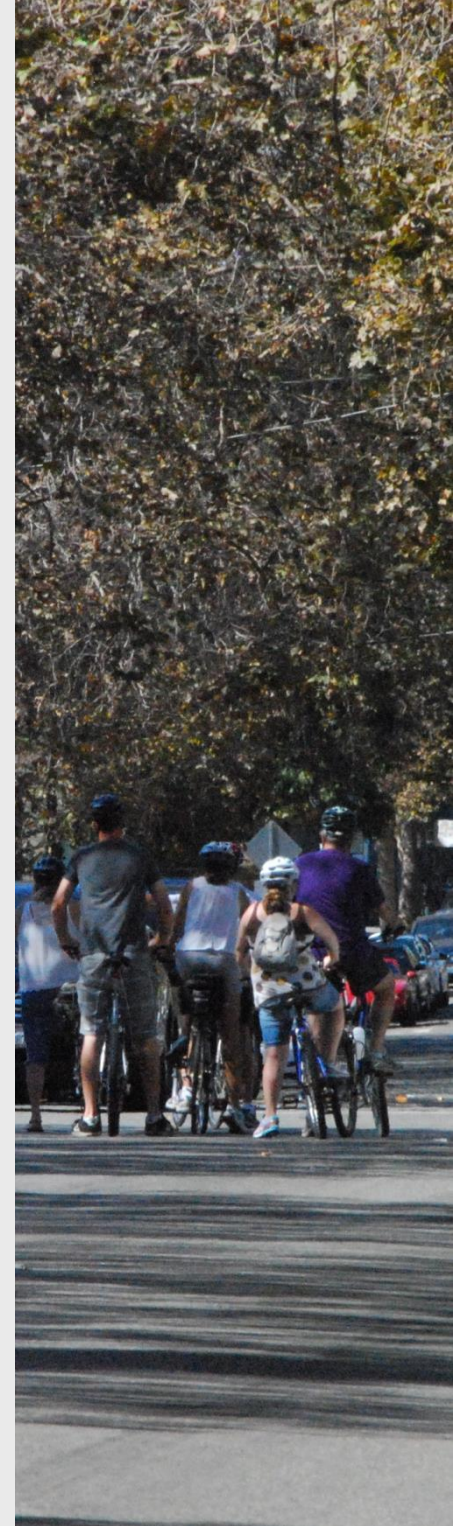
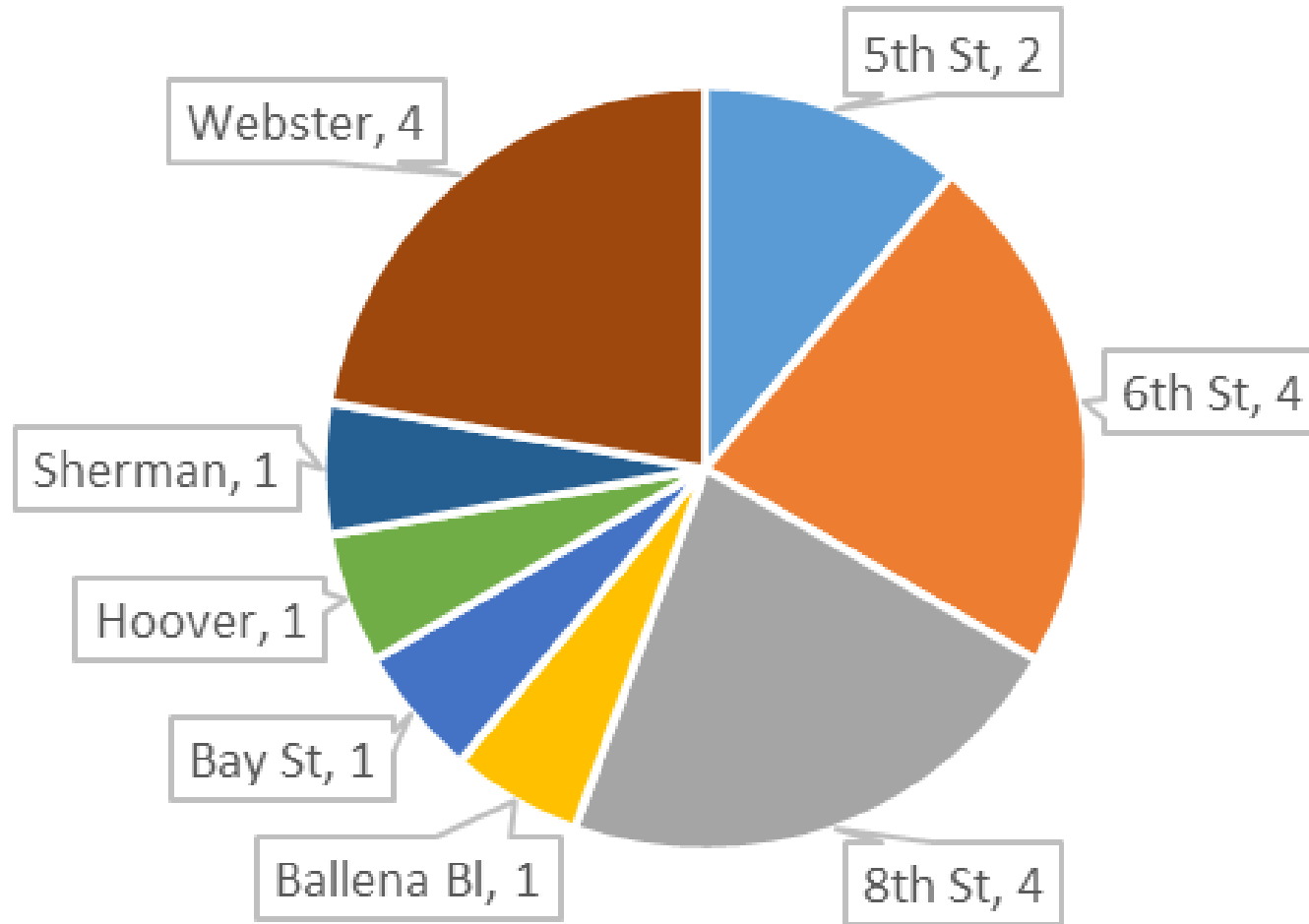
## ■ Roadway Safety

- Actual Speeds: 30-33 mph
- 89 injuries from collisions past 10 years
  - 18 walking (1.6/year) = 20% (16% citywide)
  - 22 bicycling (2 per year) = 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)



# Concept Area: Safety

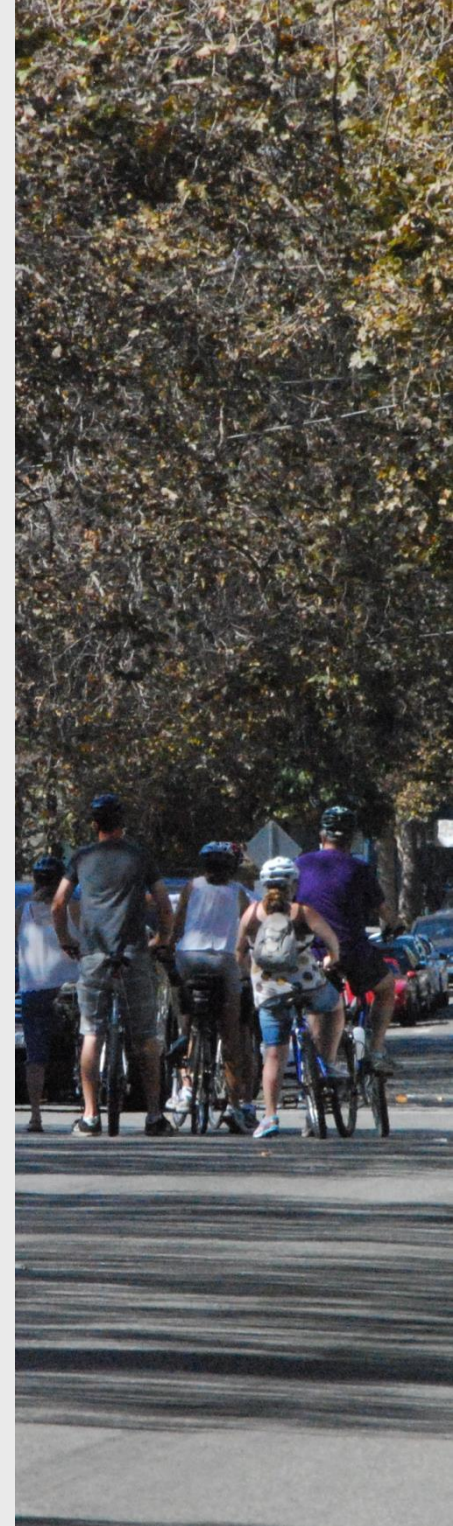
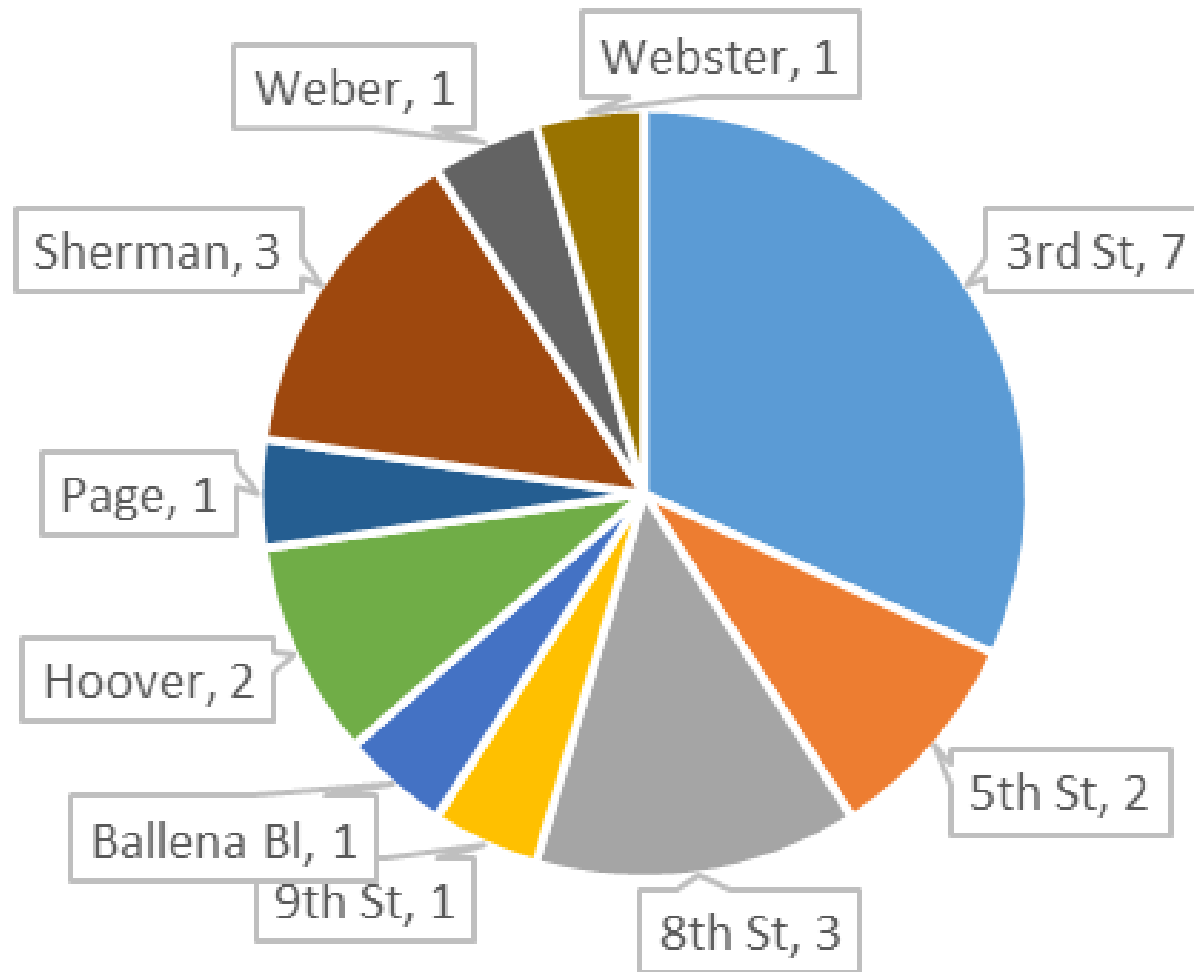
## Number of Pedestrian Injuries by Intersection (2004-2013)





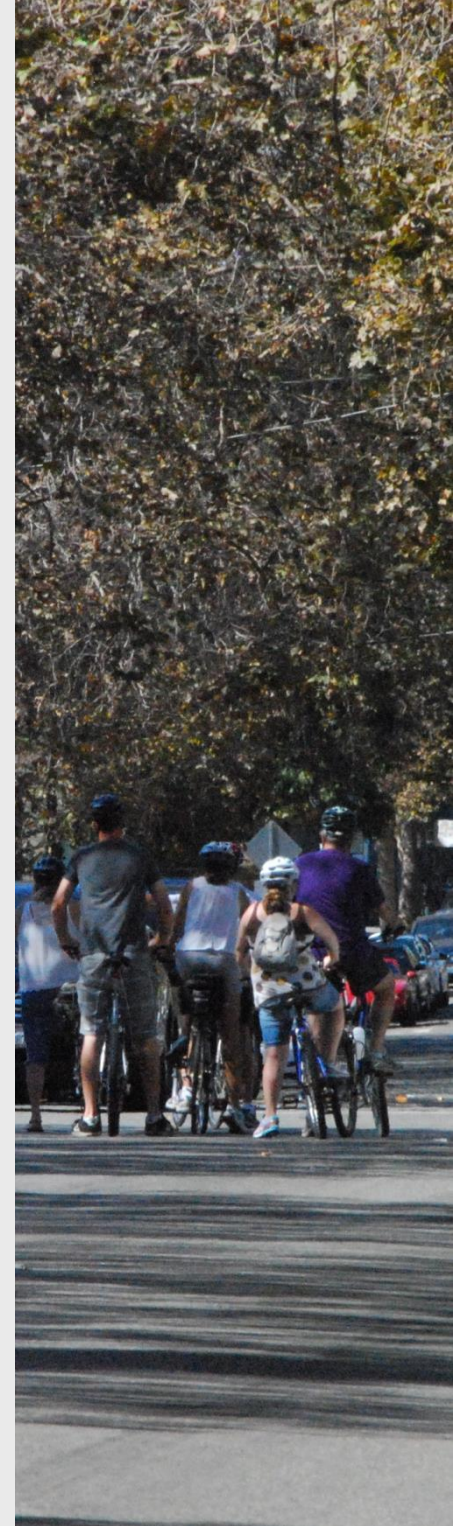
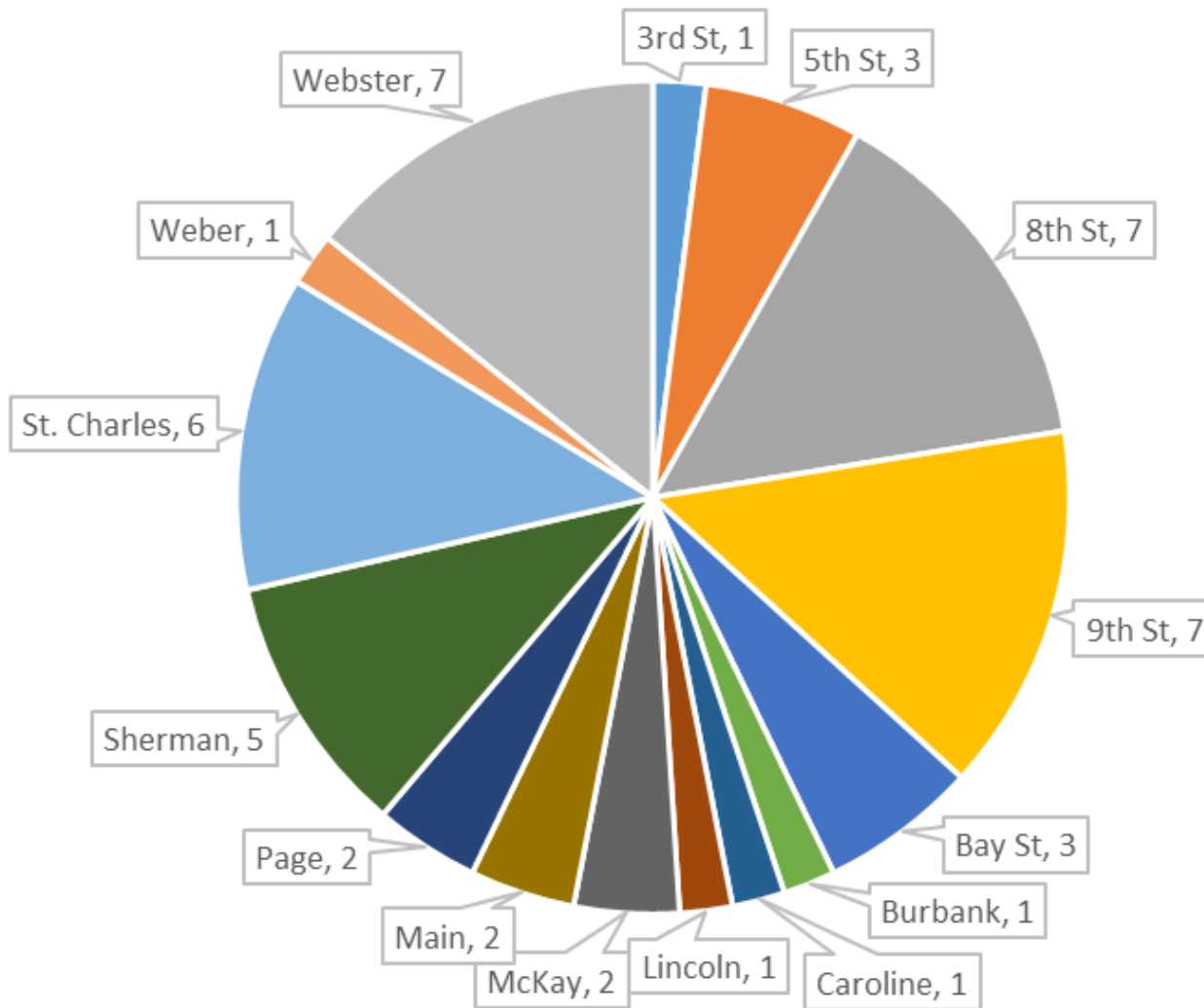
# Concept Area: Safety

Number of Bicyclist Injuries by Intersection  
(2004-2013)



# Concept Area: Safety

Number of Motorist Injuries by Intersection  
(2004-2013)










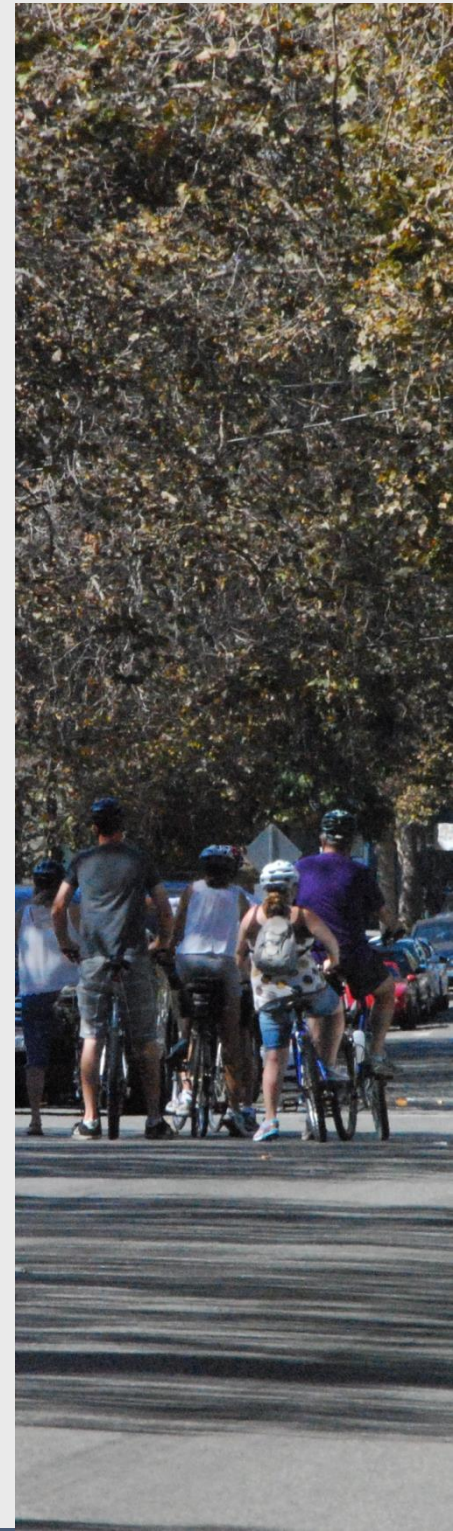
# Outreach: Process

- Open Forum: <http://alamedaca.gov/public-works/open-forum>
- Advisory Committee: met three times and individually
- Community Workshops:
  - Overview (April 14)
  - Concepts (June 4)
  - Preferred Concept (Sept 17)
- Transportation Commission Meetings:
  - Concepts (May 27)
  - Recommended Concept (Nov 18)
- City Council Meeting: Recommended Concept (early 2016)

# Outreach: Survey Results

- Main/Pacific to Boat Ramp Rd/Encinal High School
  - How would you rank the preferred option? (1 as favored and 5 as not favored)






		Response Percent	Response Count
1		65.8%	77
2		10.3%	12
3		3.4%	4
4		2.6%	3
5		17.9%	21

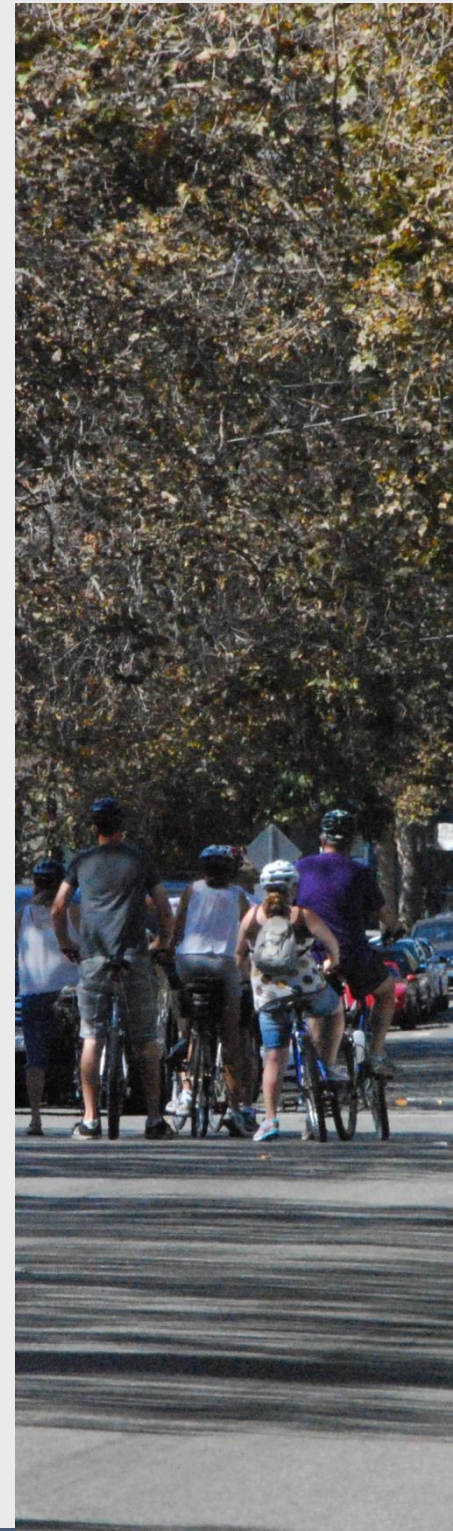




# Outreach: Survey Results





- Boat Ramp Rd/Encinal High to Third/Taylor
  - How would you rank the preferred option?  
(1 as favored and 5 as not favored)

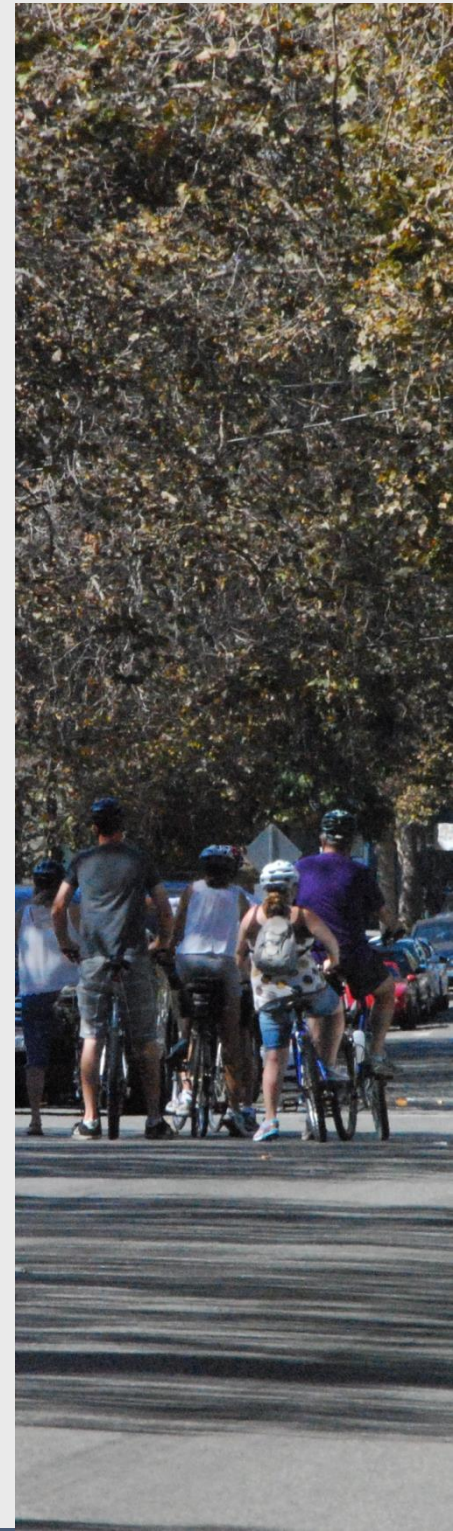
		Response Percent	Response Count
1		55.6%	65
2		15.4%	18
3		6.0%	7
4		5.1%	6
5		17.9%	21



# Outreach: Survey Results

- Third/Taylor to Fourth/Ballena Blvd.
  - Which option do you prefer?






		Response Percent	Response Count
Two-way cycle track (south side of street)		50.9%	58
One-way cycle track (south side of street)		11.4%	13
Buffered bike lanes		30.7%	35
None		14.0%	16

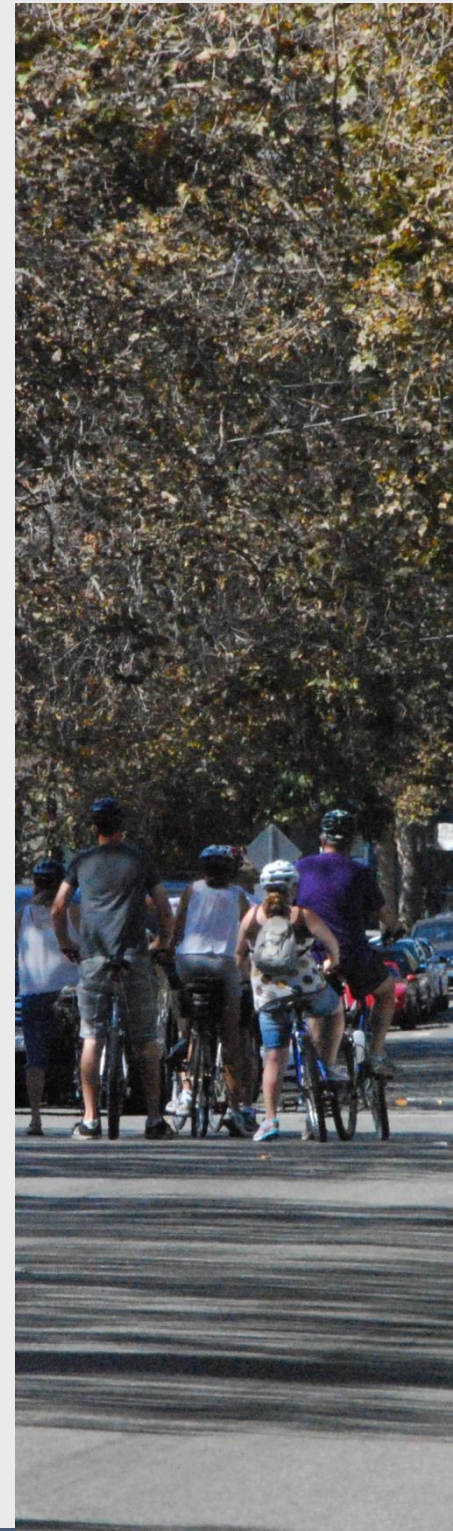




# Outreach: Survey Results

- Fourth/Ballena Blvd. to Sherman/Encinal
  - How would you rank the preferred option?  
(1 as favored and 5 as not favored)

		Response Percent	Response Count
1		28.4%	33
2		18.1%	21
3		12.1%	14
4		16.4%	19
5		25.0%	29



# 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**

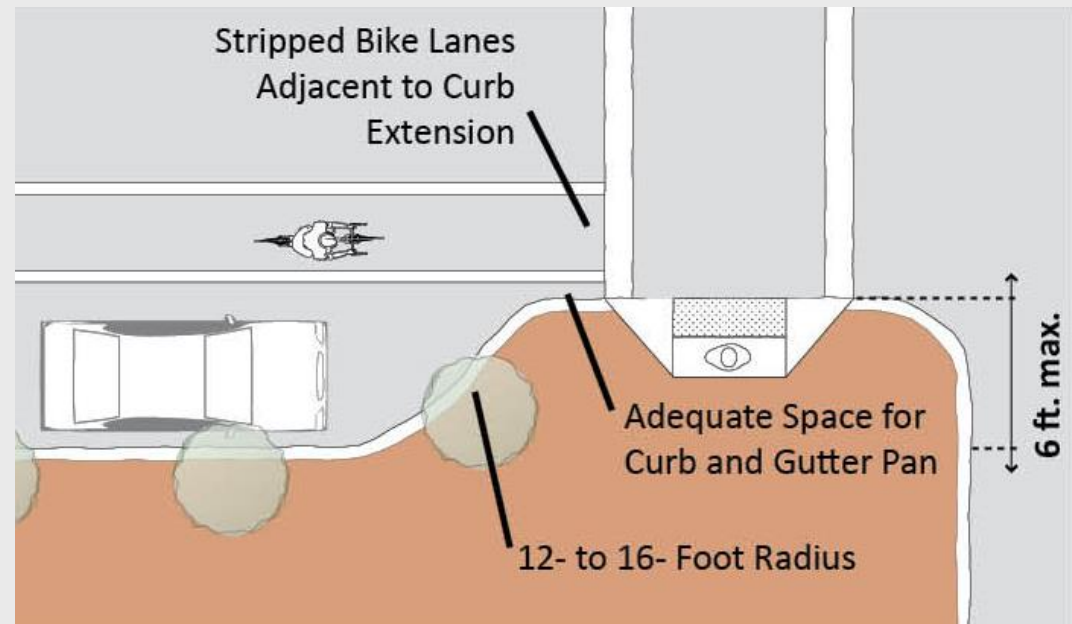
**Based on  
community  
input**





# Concept: Components

- Pedestrian Improvements
- Bikeway
- Center Turn Lane
- Streetscape Improvements
  - gateway, trees, stormwater, landscape
- Accessibility
- Utilities: storm, sewer
- Pavement resurfacing
- Truck and bus access



# Concept: Bikeway

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





# Concept: Bikeway - West End

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



# Concept: Addresses Concerns

- Center turn lane safety benefits
- Bikeway: 95% of study area
- Protected bikeways for schools and SF Bay Trail
- Best practice treatments at conflict areas
- Easier for people to walk
- Accommodates trucks
- Minimal motorist delay
- Net gain of parking



# Concept: Improves Safety

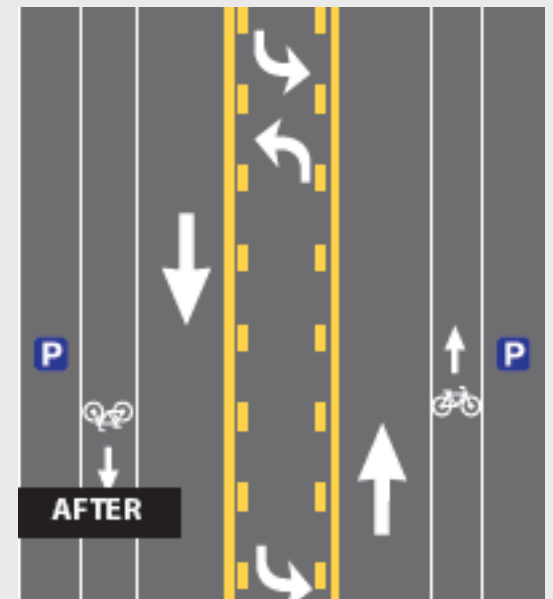
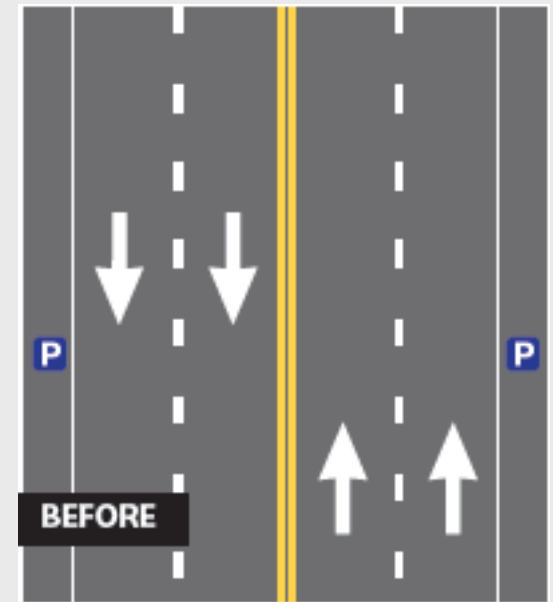
Federal Highway Administration (FHWA) identifies volumes below 20,000/day as feasible for lane reduction.

Street Name	Veh/Day
Atlantic Ave. (Buena Vista to Constitution)	10,956
Broadway (Santa Clara Ave to Otis Dr)	10,552
Fernside Blvd. (Tilden Way to High St)	8,550
<b>Central Avenue</b>	<b>9,327</b>
<b>Central Avenue: FUTURE (average)</b>	<b>12,000</b>
<b>Central Avenue: FUTURE (max.)</b>	<b>16,000</b>

# Concept: Benefits

According to FHWA:

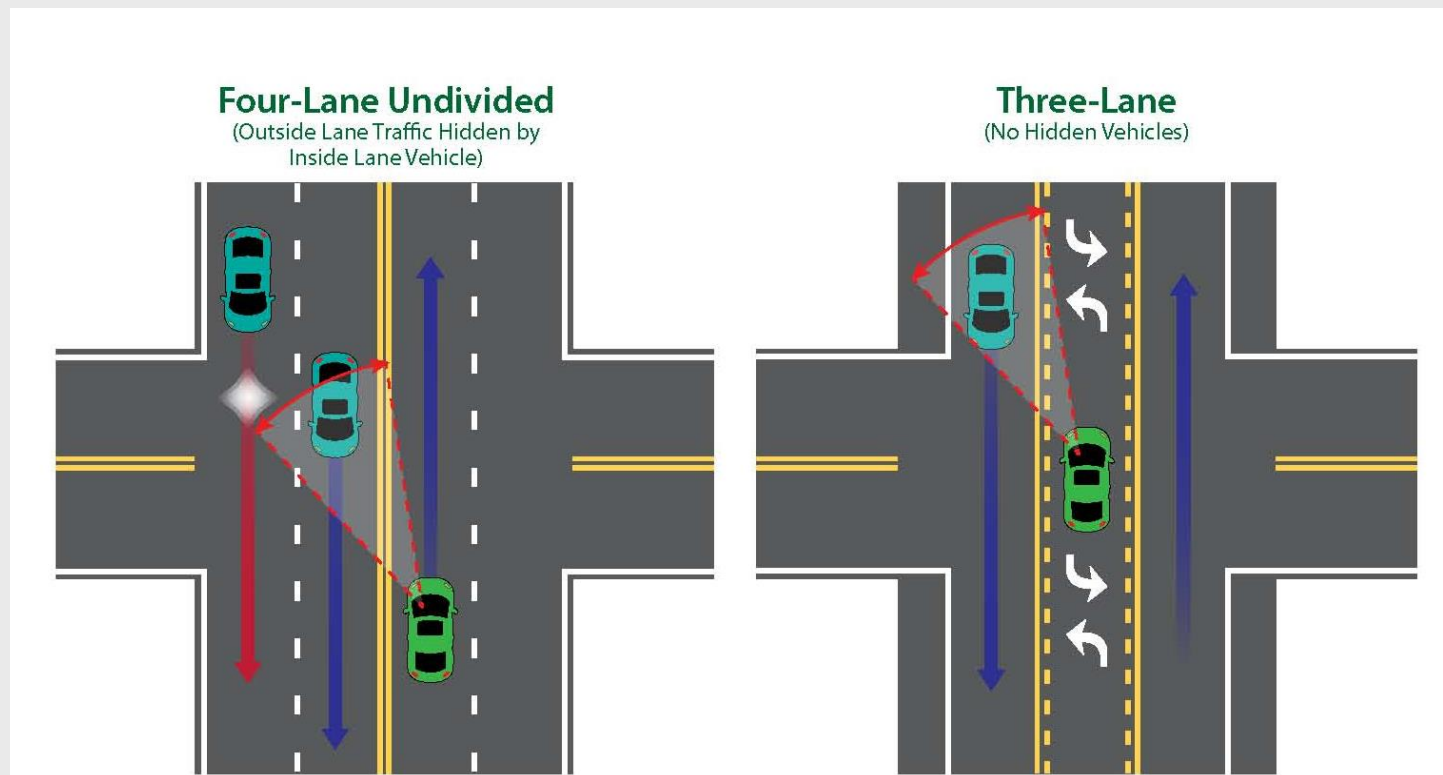
- Reduces collisions by at least 19%
- Reduces speeds by at least 3 mph
- Less severe collisions
- Fewer vehicle lanes to cross
- Better visibility of pedestrians
- Space for bicyclists
- Smoother travel flow





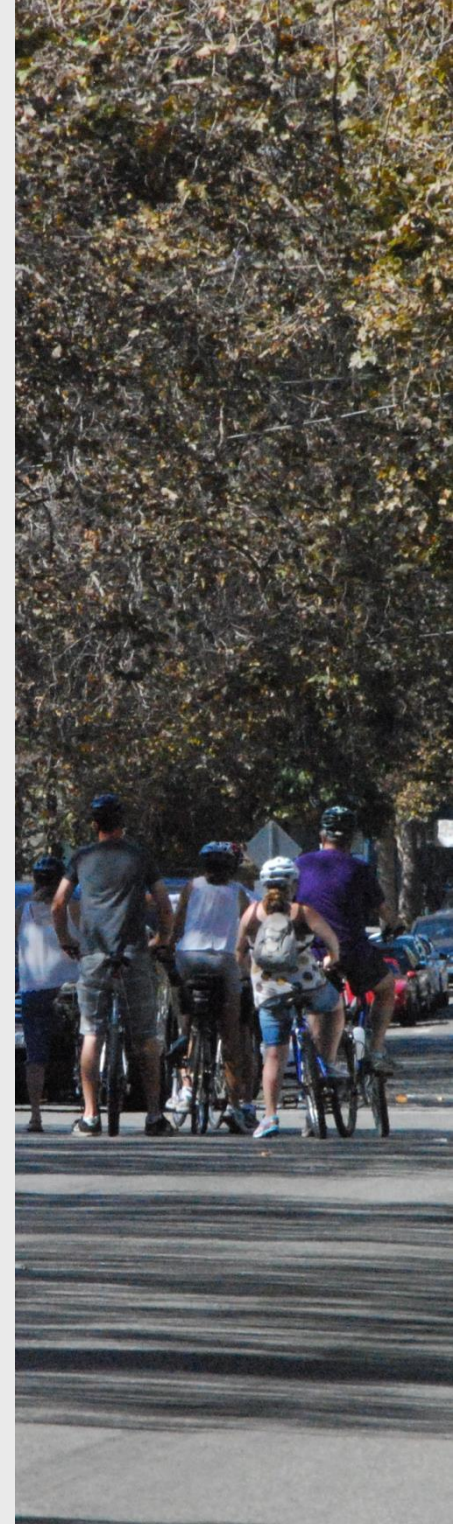
# Concept: Motorist Safety

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



# Concept: Pedestrian and Bicyclist Safety

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





# Concept: Lane Reductions



- Valencia St in San Francisco

- Lakeshore Avenue by Lake Merritt in Oakland



Central Avenue Proposed Street Concept

# Concept: Lane Reductions (cont.)



- Story/Lincoln in San Jose

- Charleston-Arastradero in Palo Alto





# Concept: Local Examples

- Local Examples
  - Fernside = wider street than Central
    - Two-way separated bikeway installed in 2009
    - One bicyclist/motorist collision in cycle track
    - Increase in bicycling
    - Slower speeds
  - Shoreline = narrower street
    - Transitional period (one year after installation)



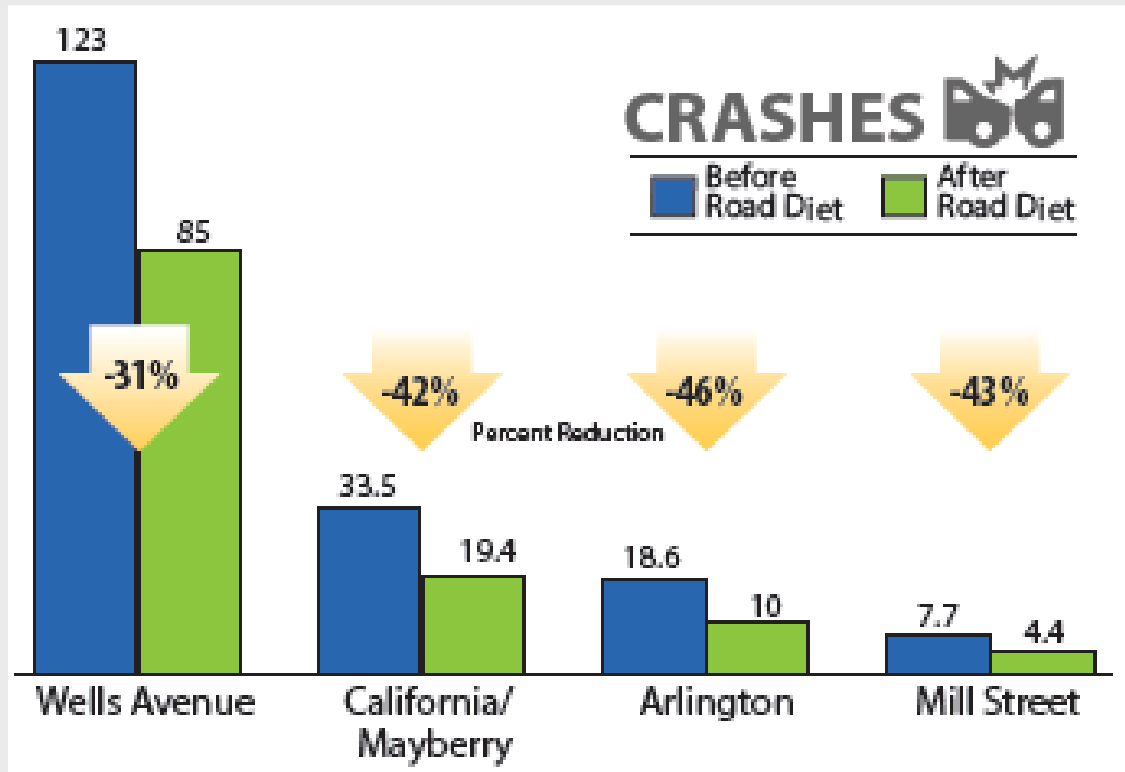


# Concept: Lane Reductions (cont.)

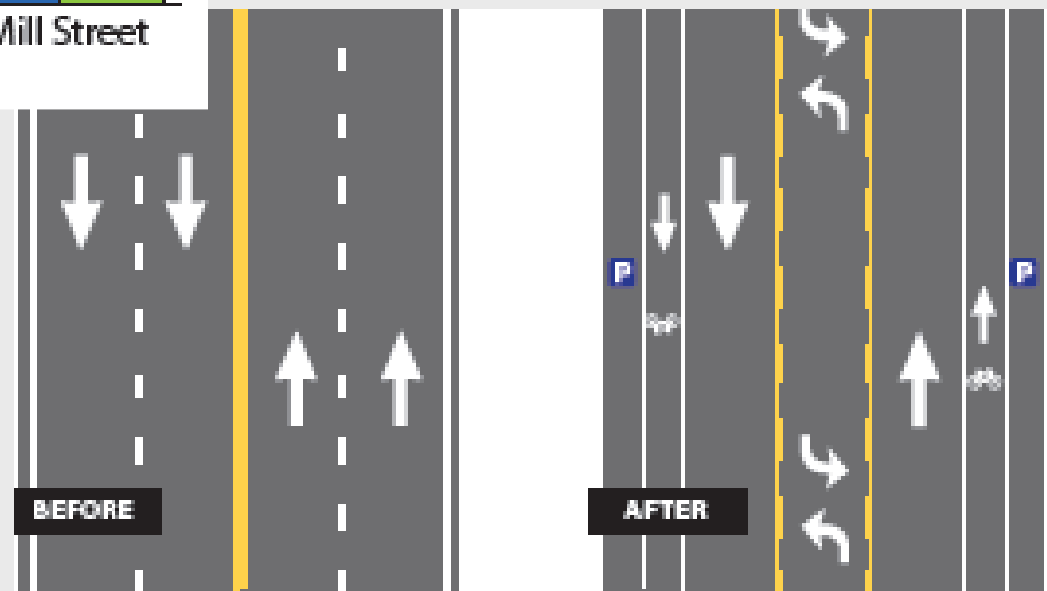


- Santa Monica – Ocean Park Blvd
  - 65% reduction in collisions
  - 60% reduction in injury collisions

# Concept: Lane Reductions (cont.)



- Reno, Nevada corridors



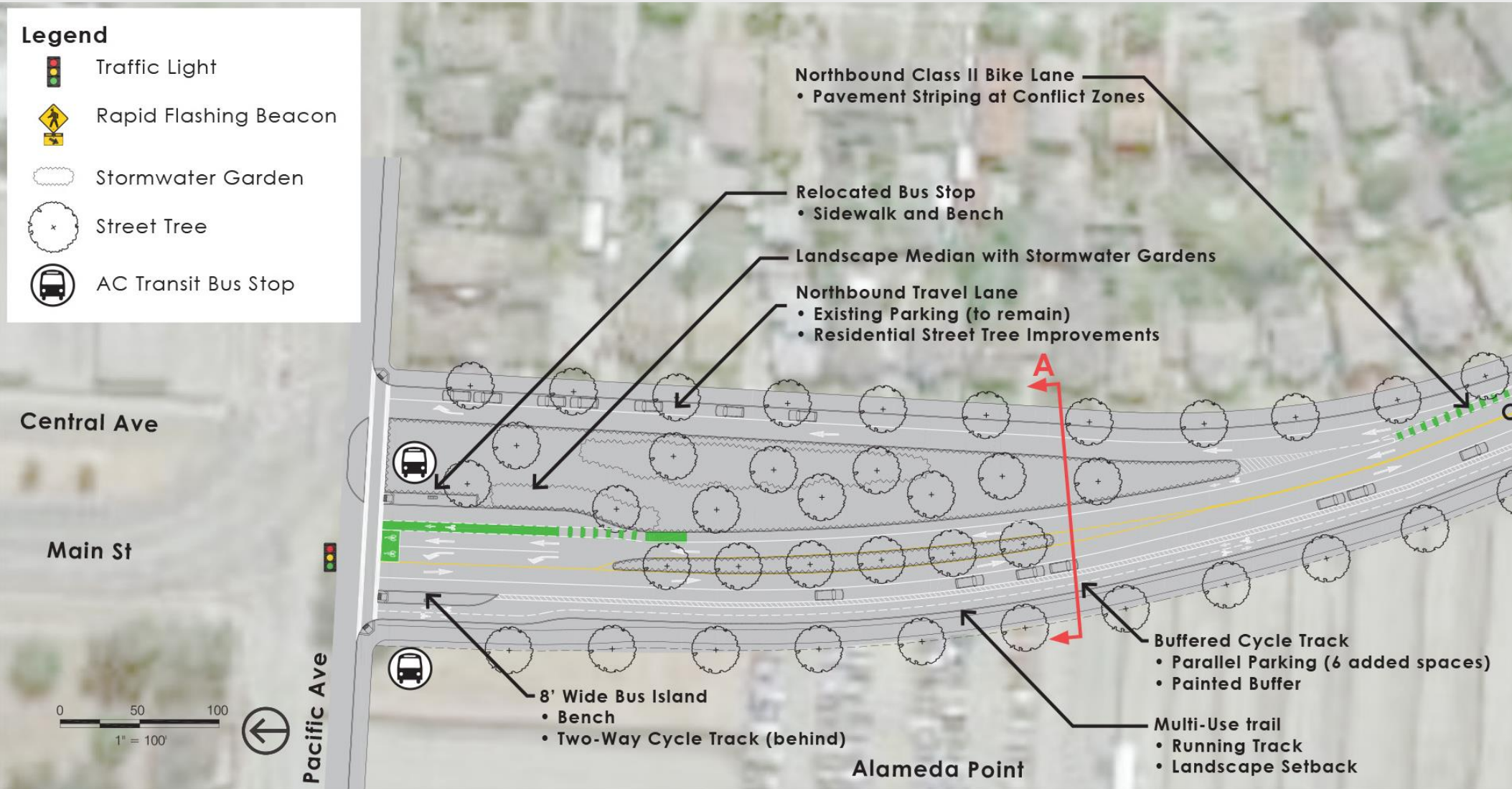
# Concept: Lane Reductions (cont.)



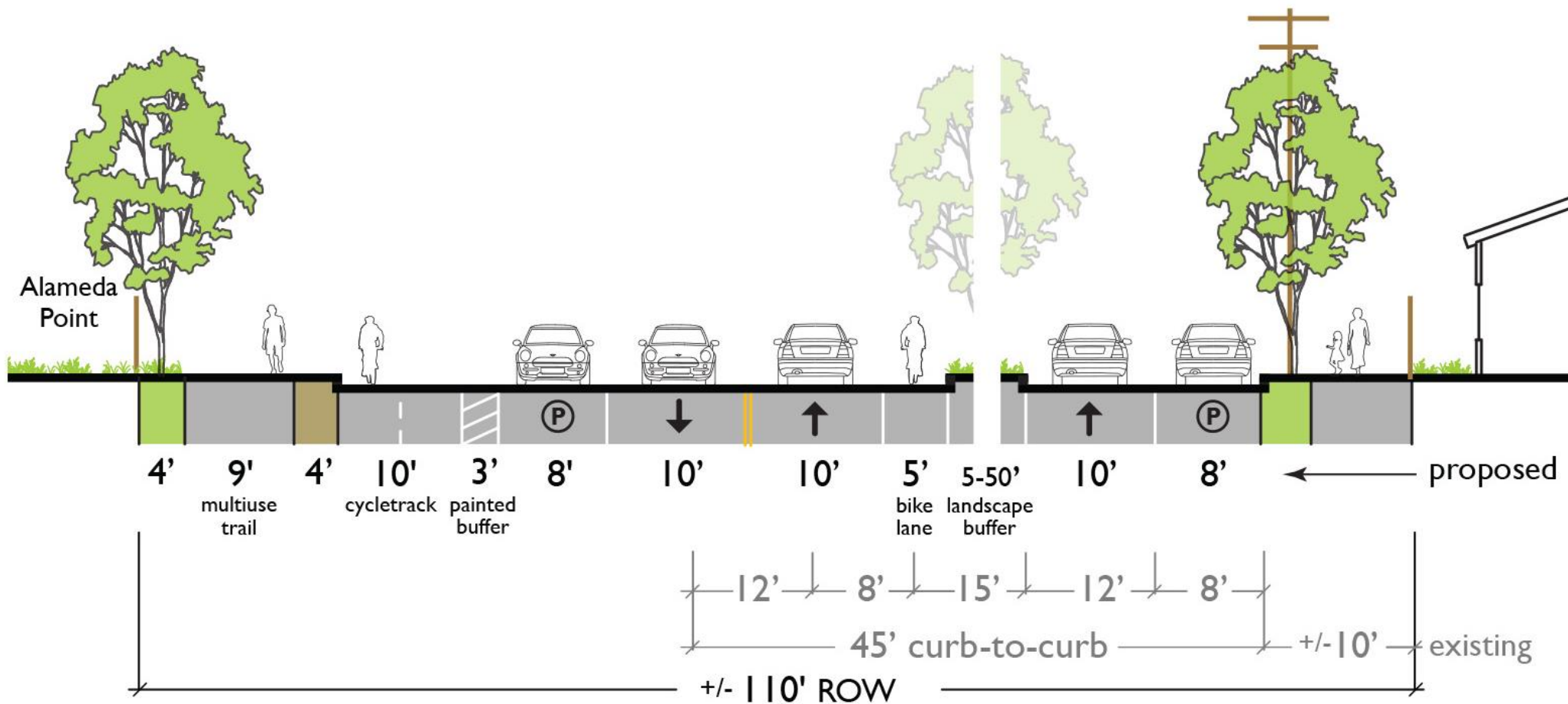
- Seattle, Washington – Stone Way
  - More than 80% reduction in top speeders
  - 14% reduction in collisions
  - 33% reduction in injury collisions
  - 80% reduction in pedestrian collisions
  - 35% increase in bicyclists
  - No motorist diversions



# Concept Design: Pacific/Main/Central



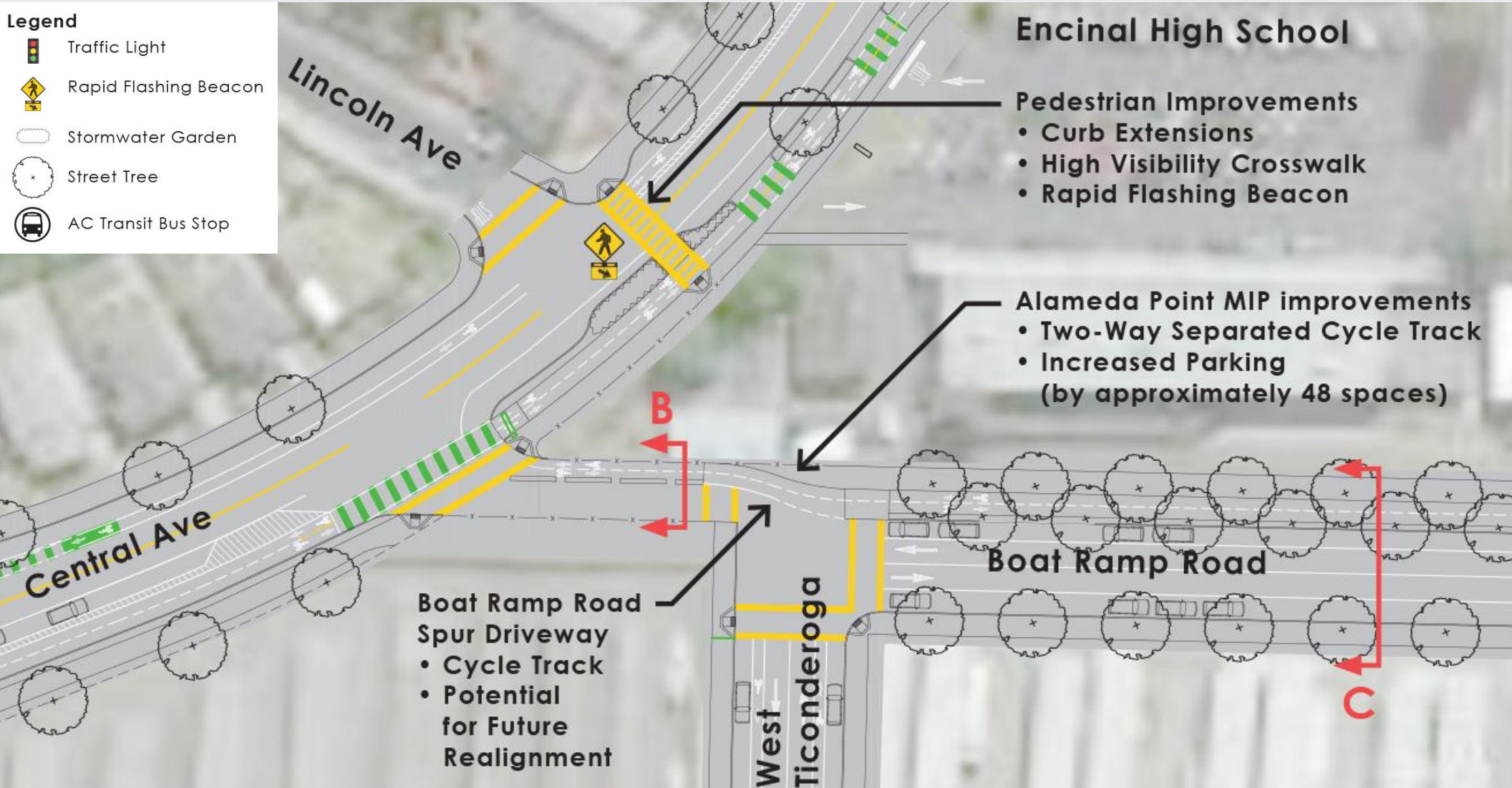
# Concept Design: Pacific/Main/Central



**Section A**

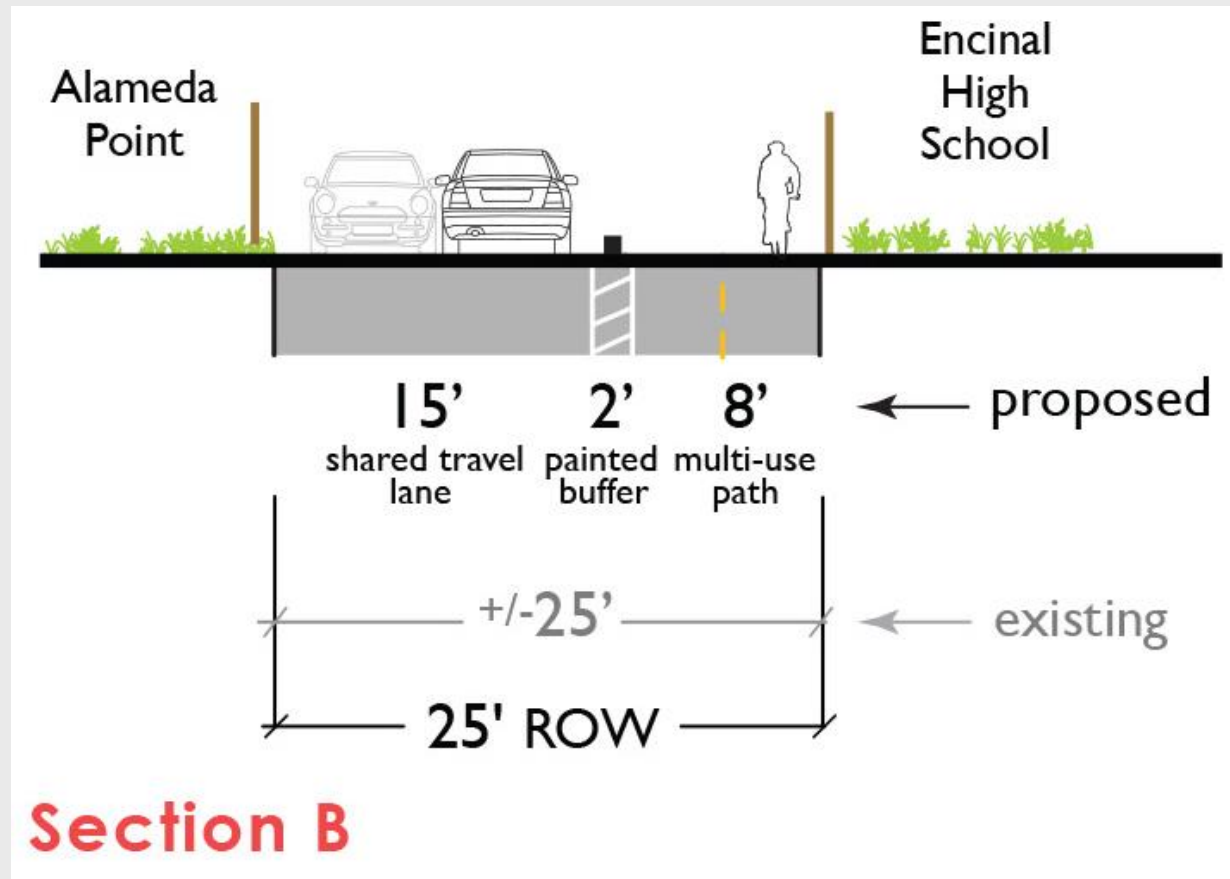


# Concept Design: Lincoln/Boat Ramp

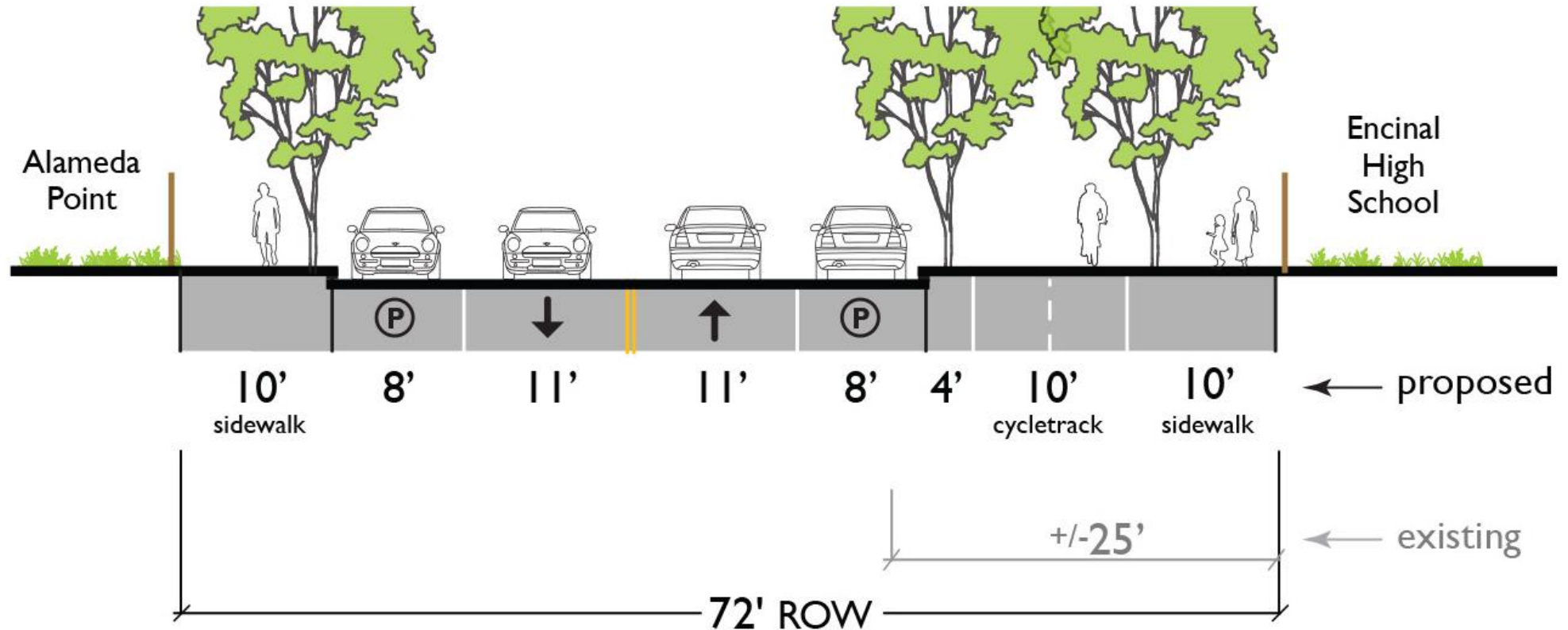




# Concept Design: Boat Ramp Road

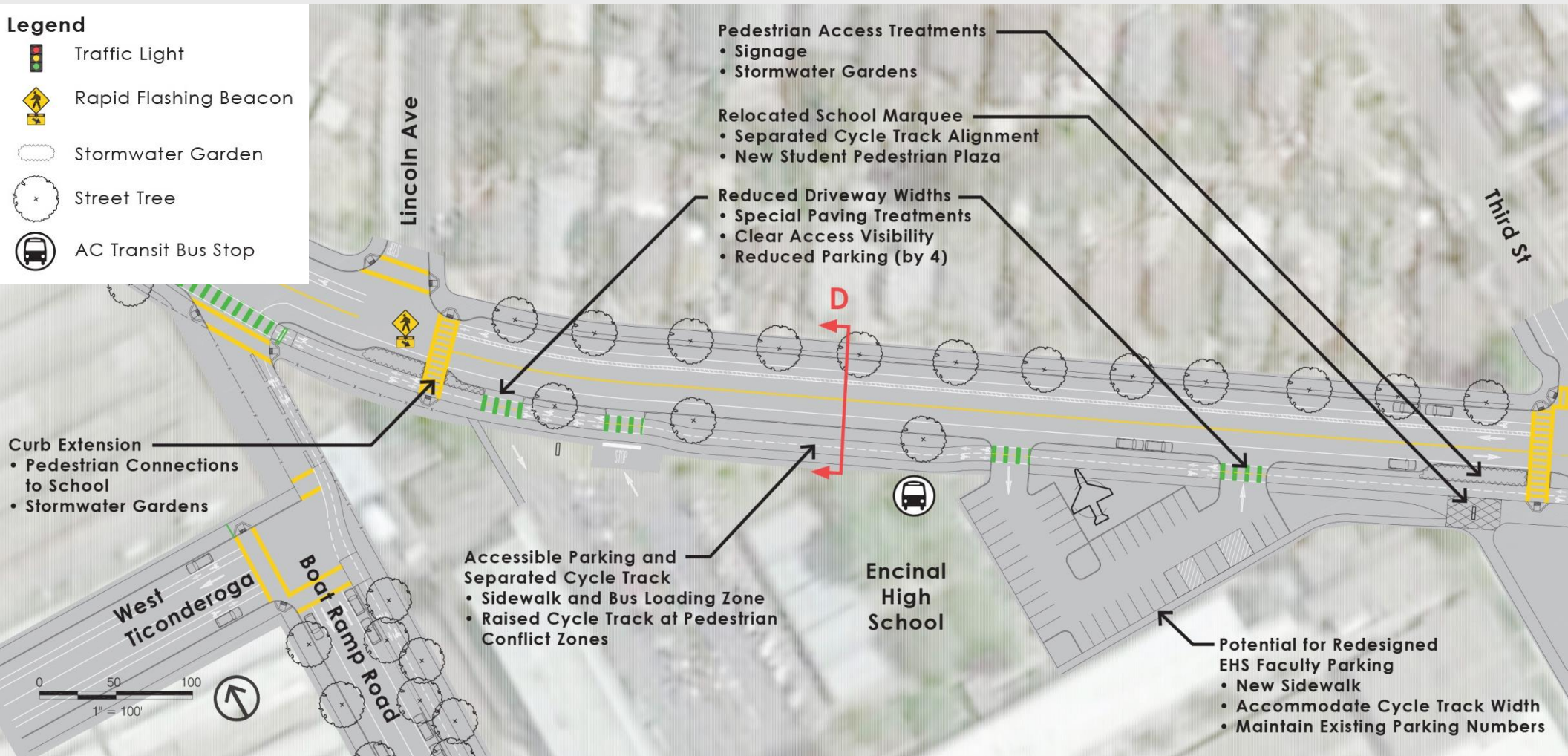


# Concept Design: Boat Ramp Road



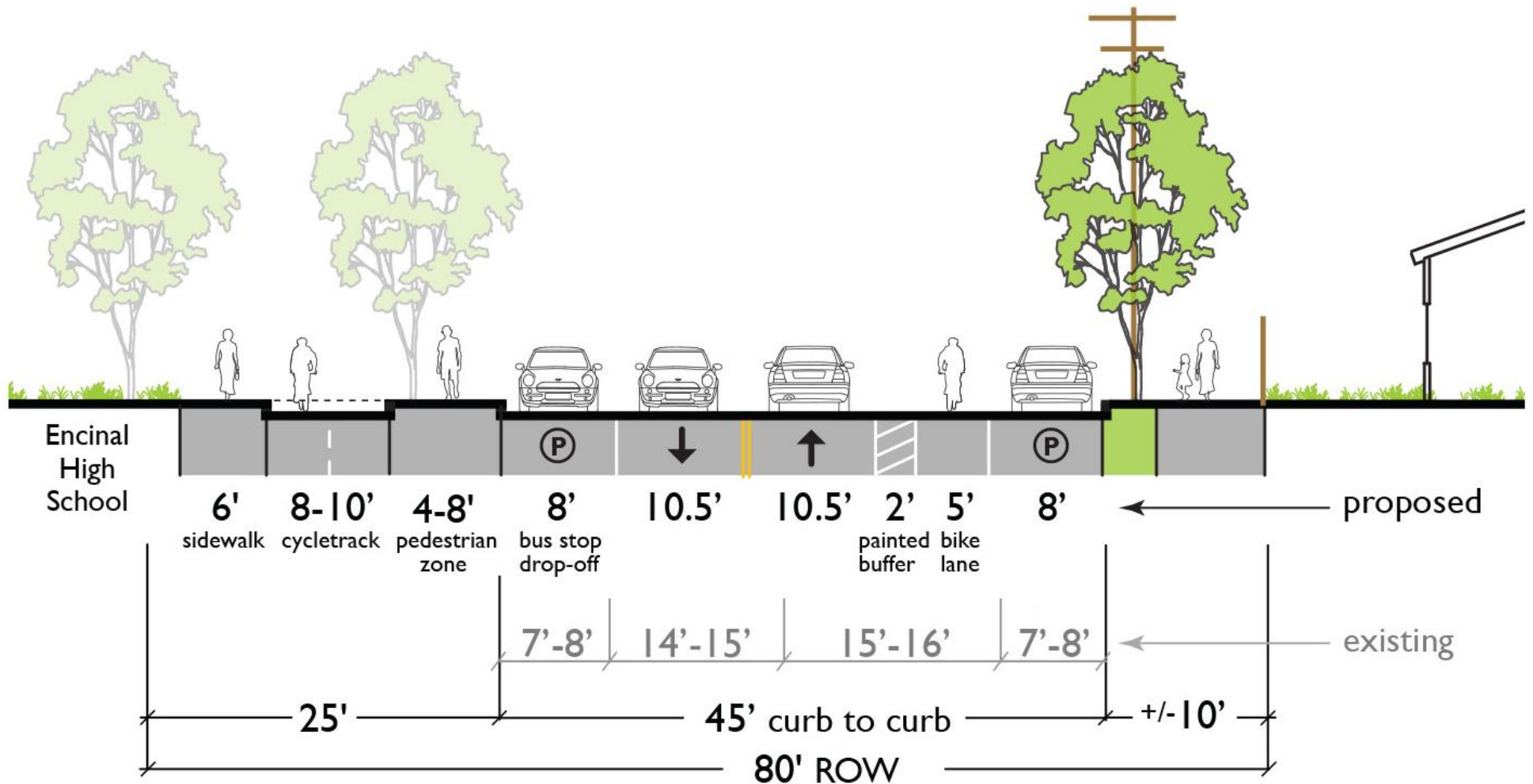
## Section C

# Concept Design: Encinal High School



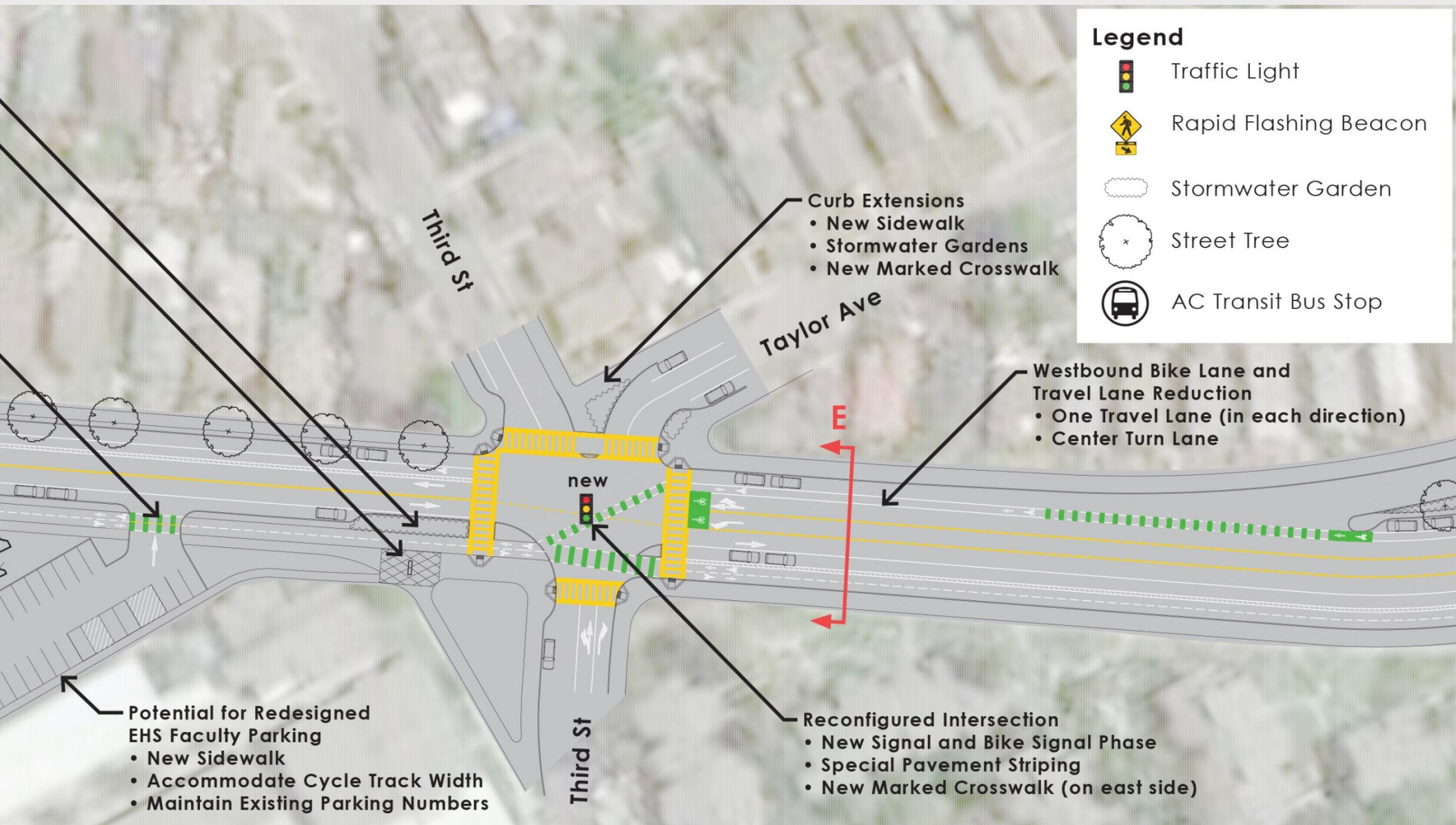


# Concept Design: Encinal High School

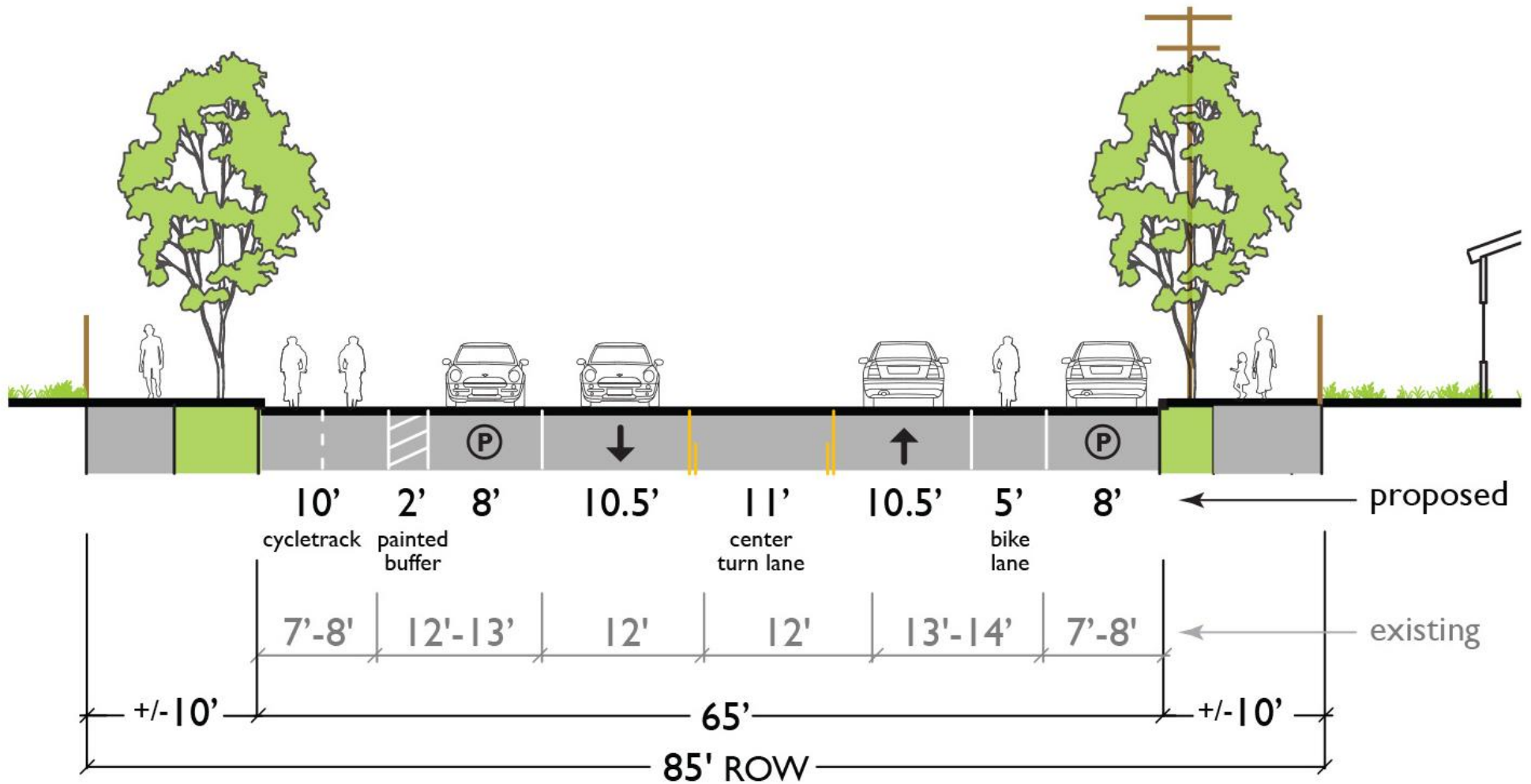


## Section D

# Concept Design: Third/Taylor/Central



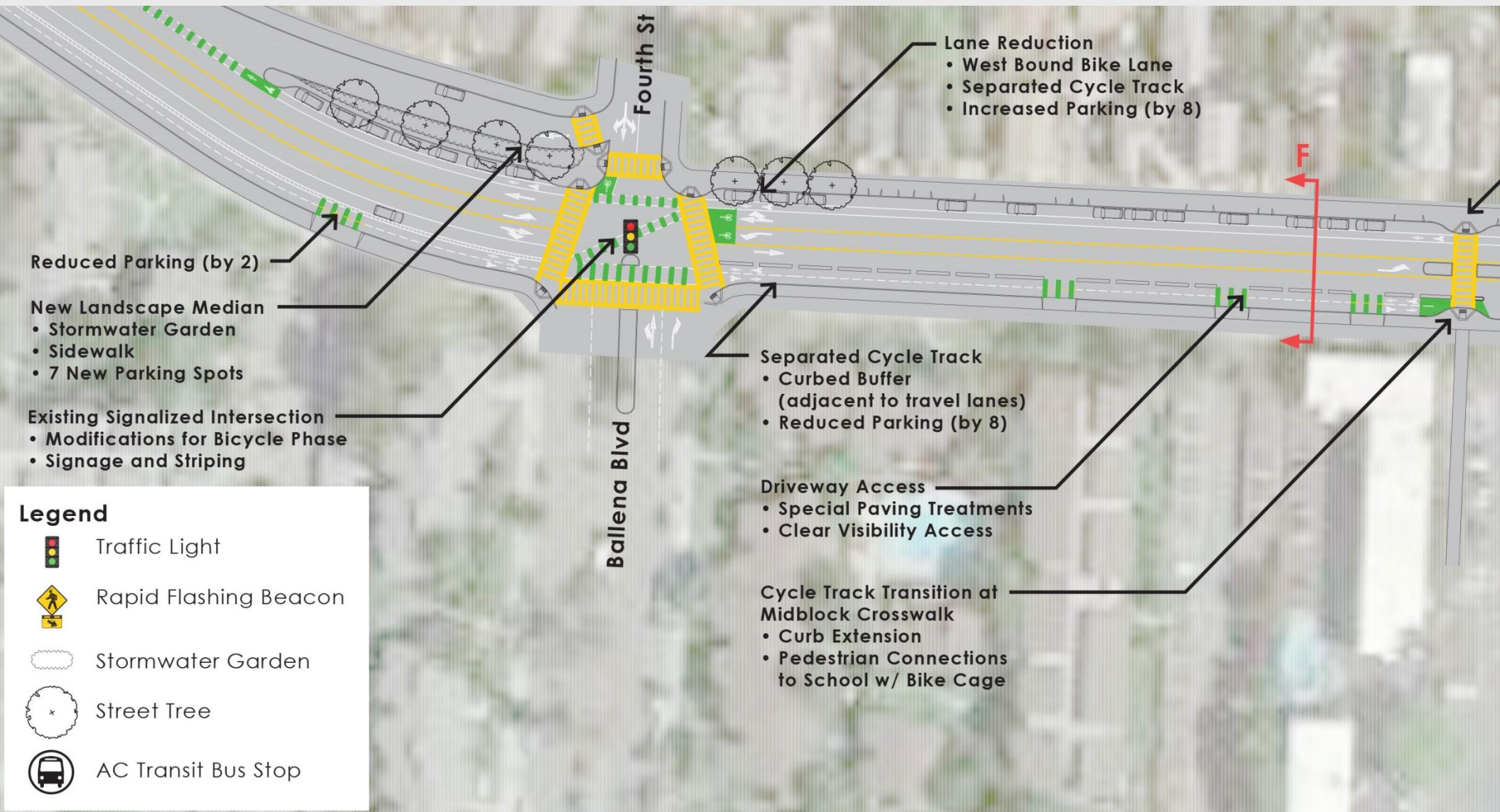
# Concept Design: East of Third/Taylor



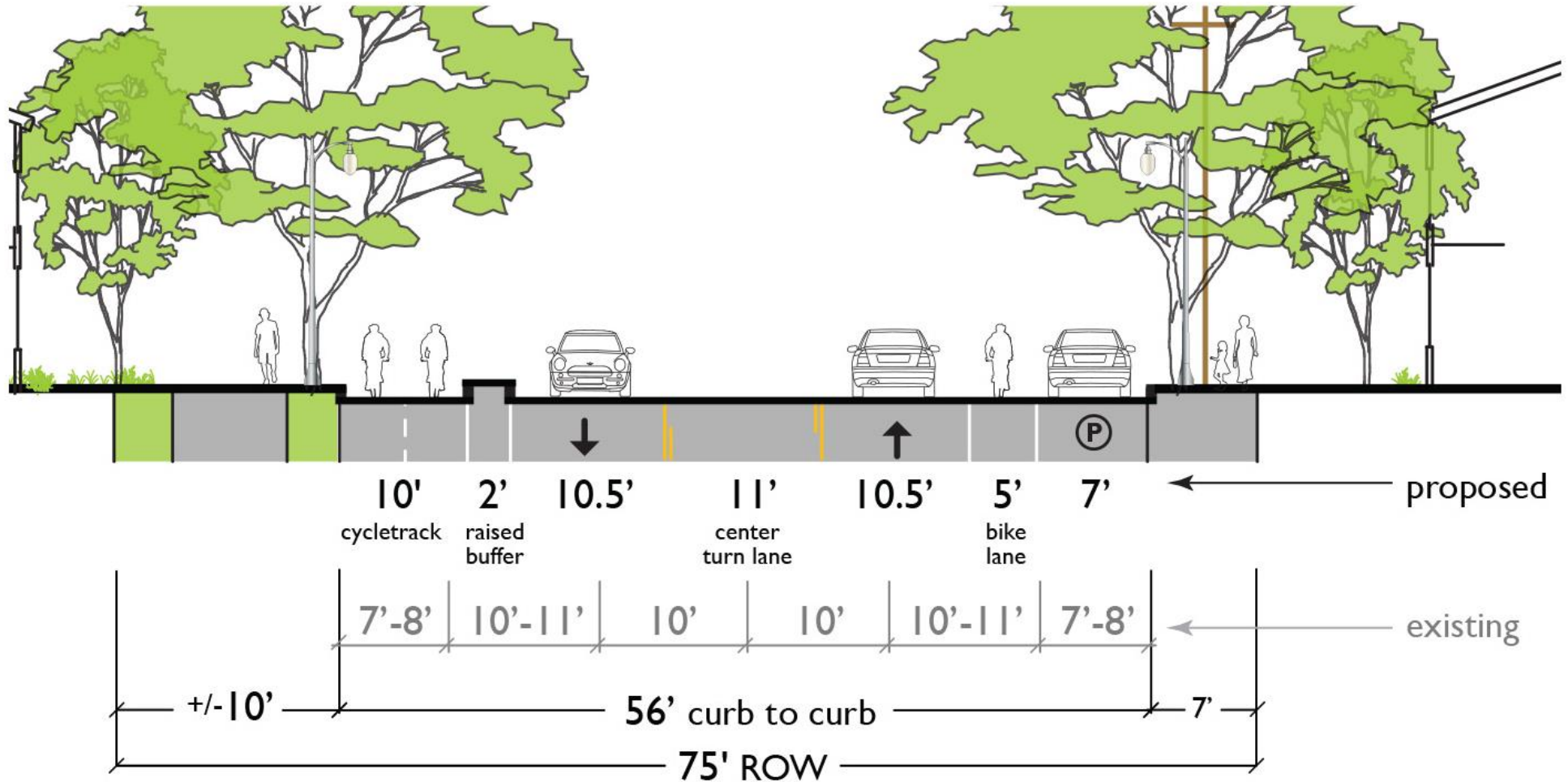
## Section E



# Concept Design: Fourth/Ballena/Central



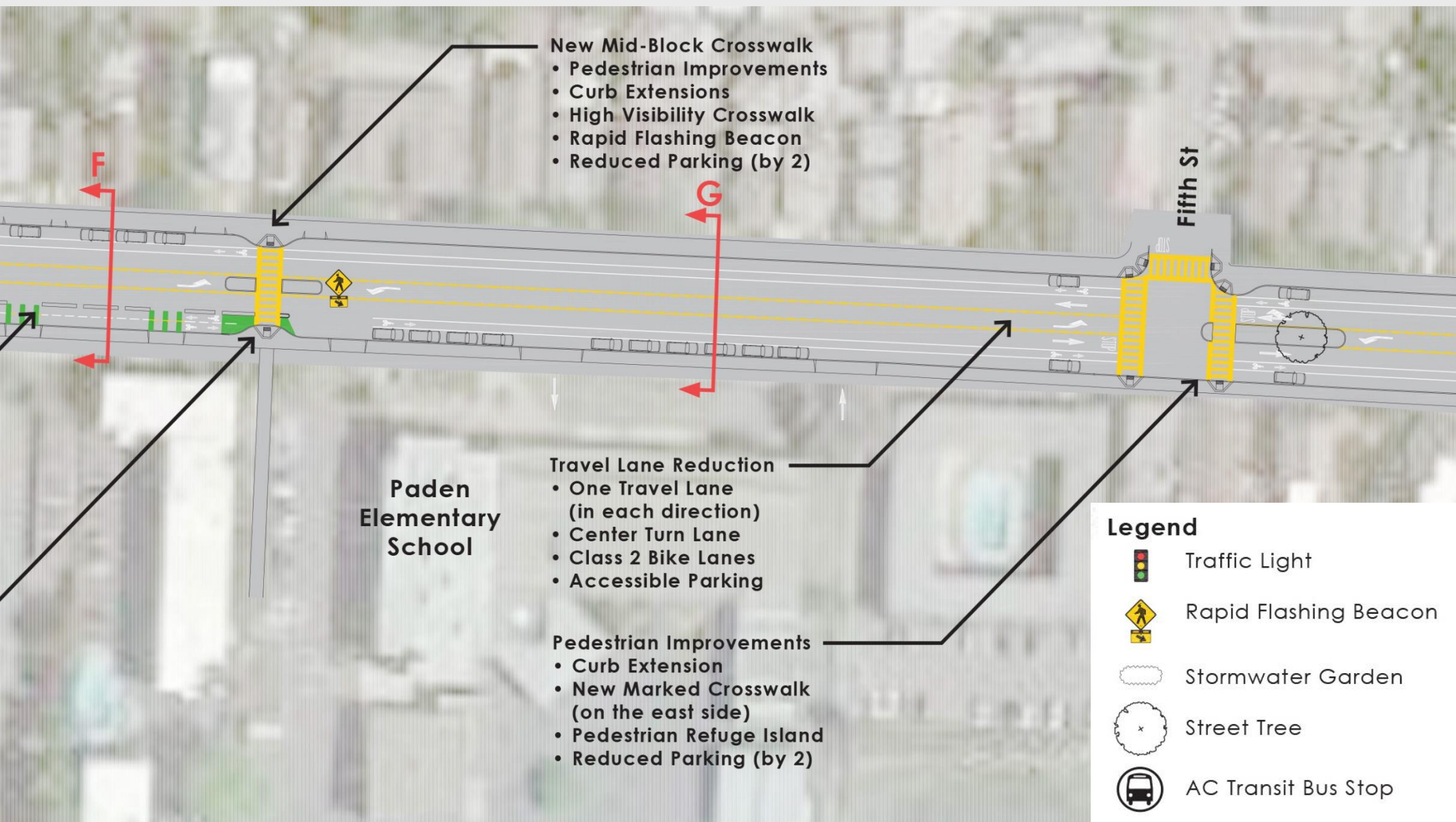
# Concept Design: West of Paden



## Section F

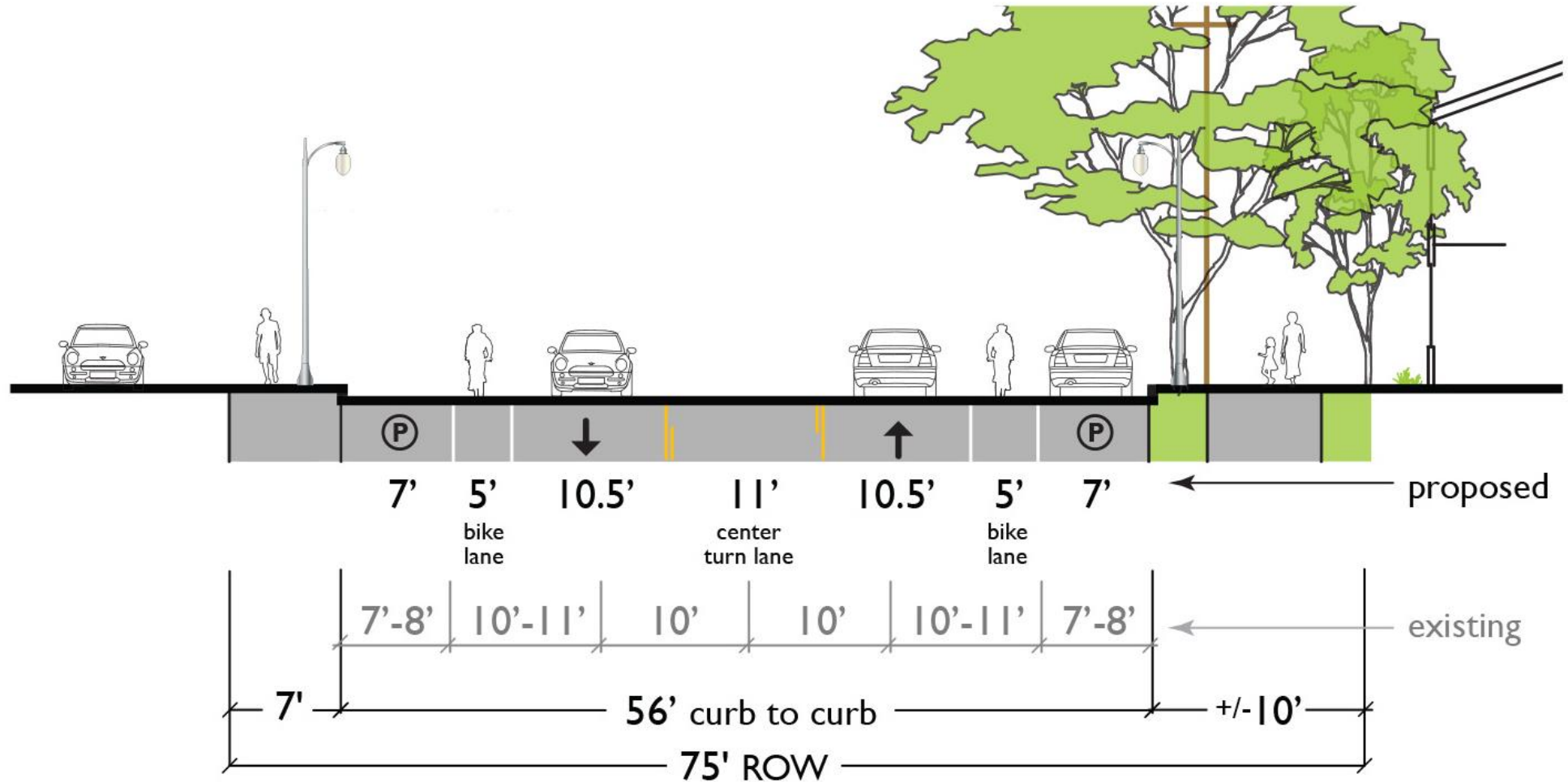


# Concept Design: Paden Elementary



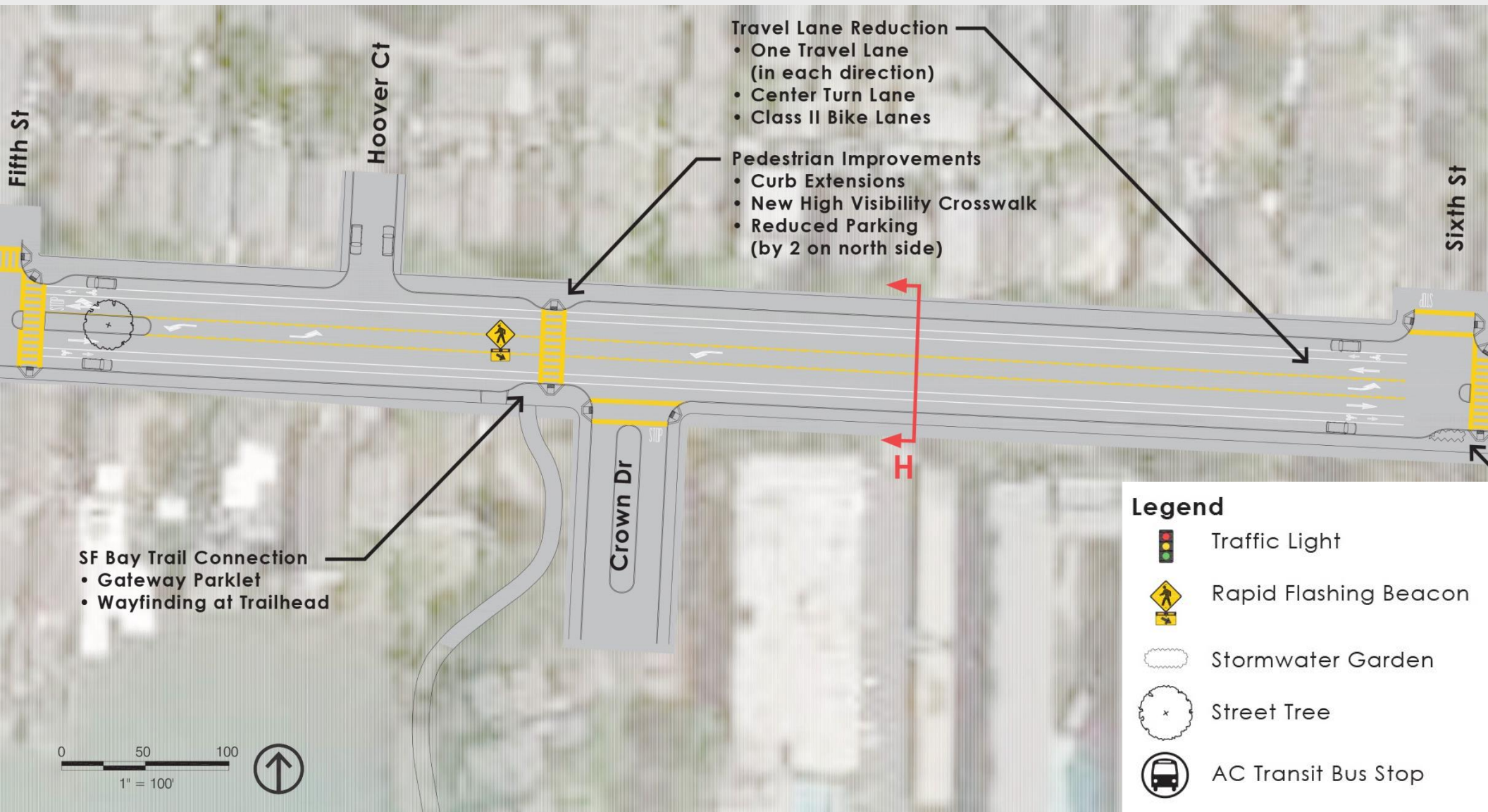


# Concept Design: East of Paden

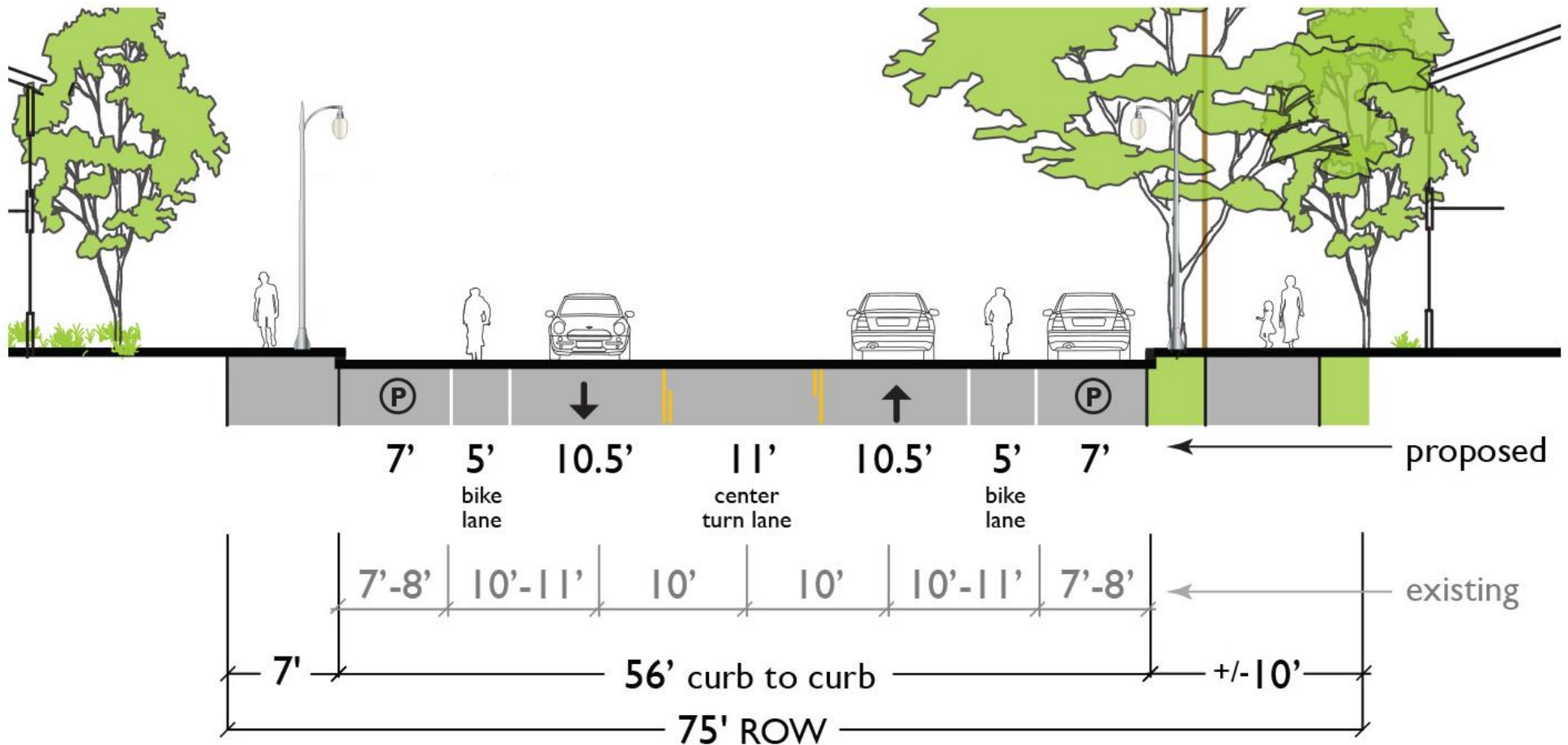


## Section G

# Concept Design: Fifth to Sixth



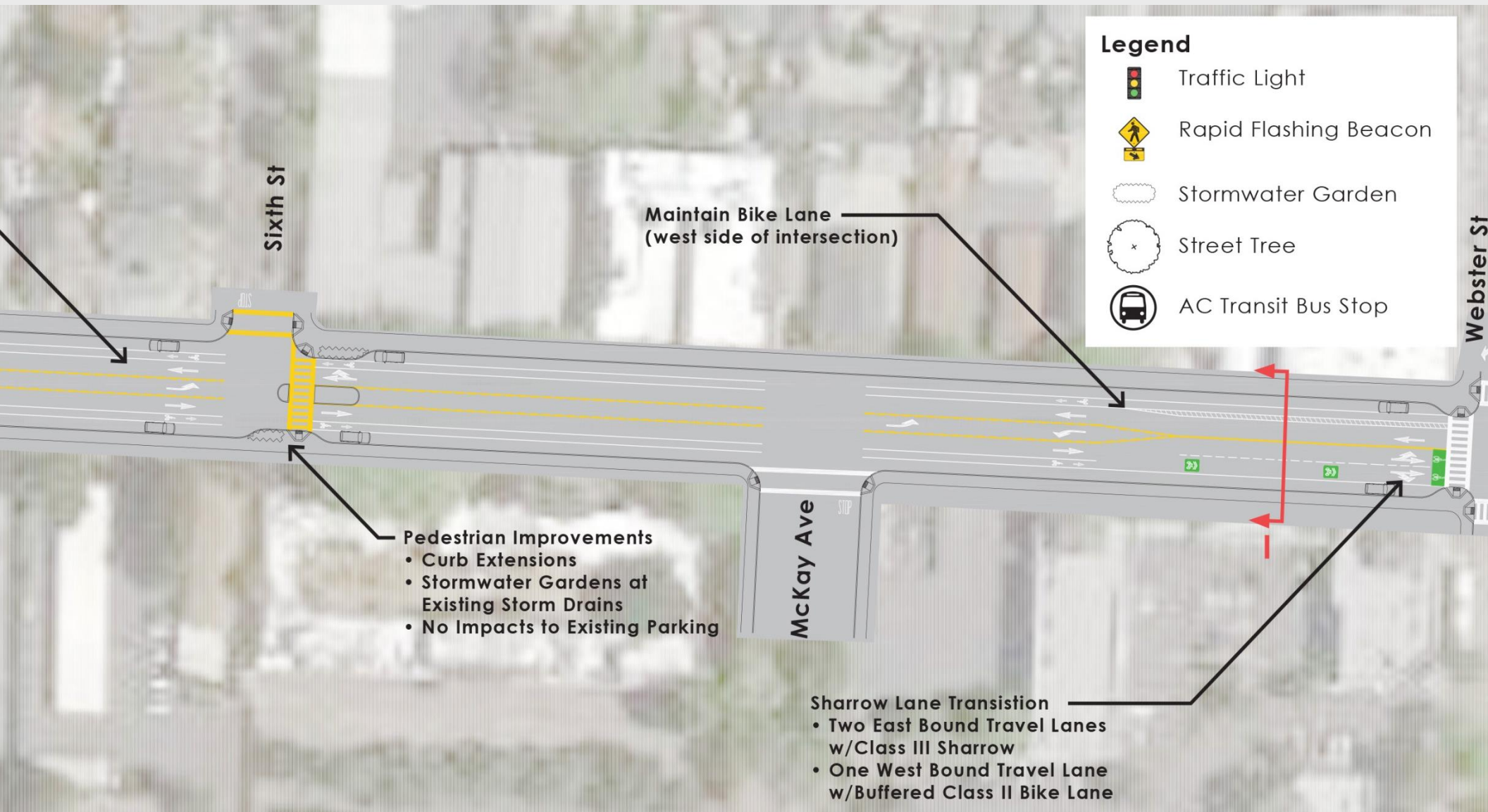
# Concept Design: Fifth to Sixth



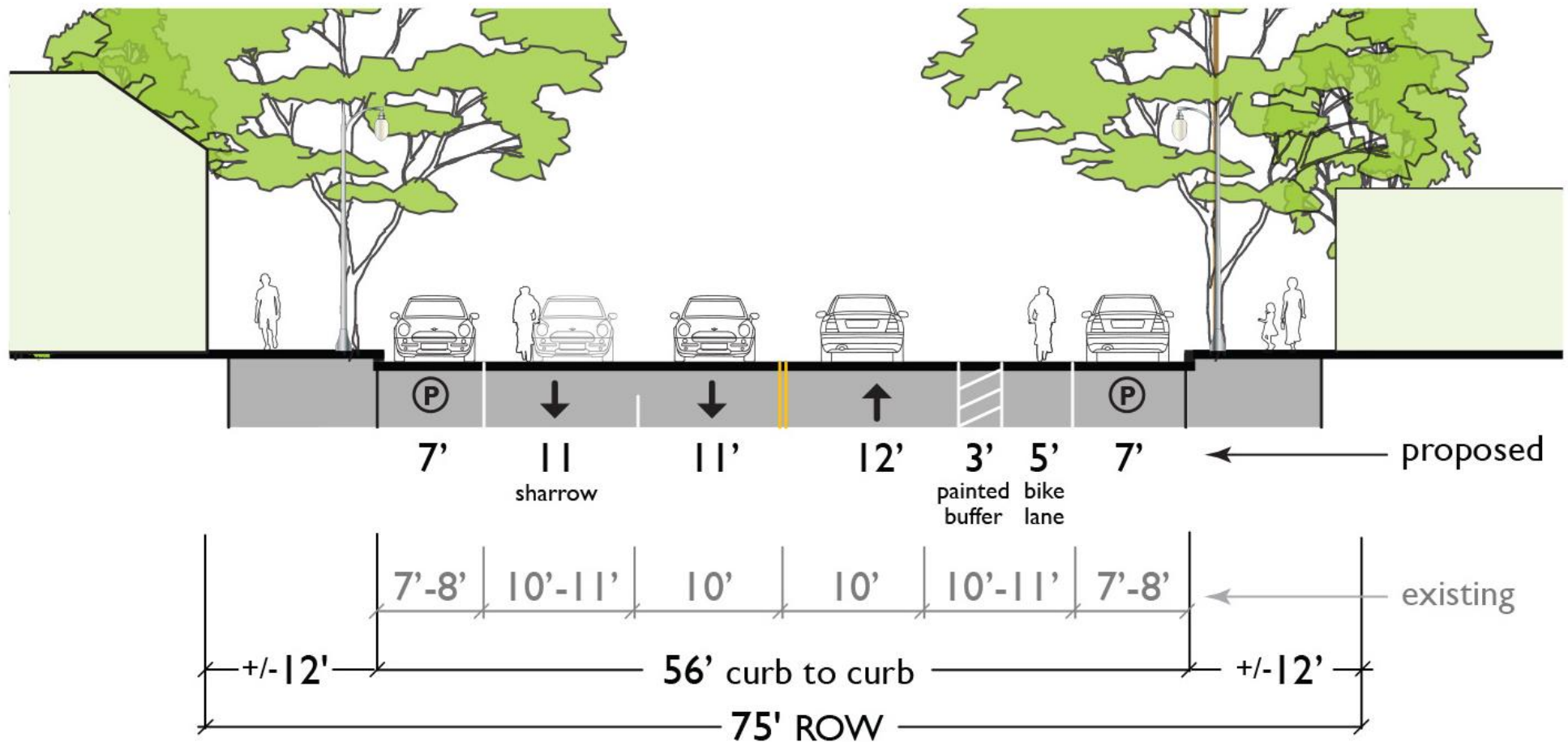
Section H



# Concept Design: Sixth to Webster

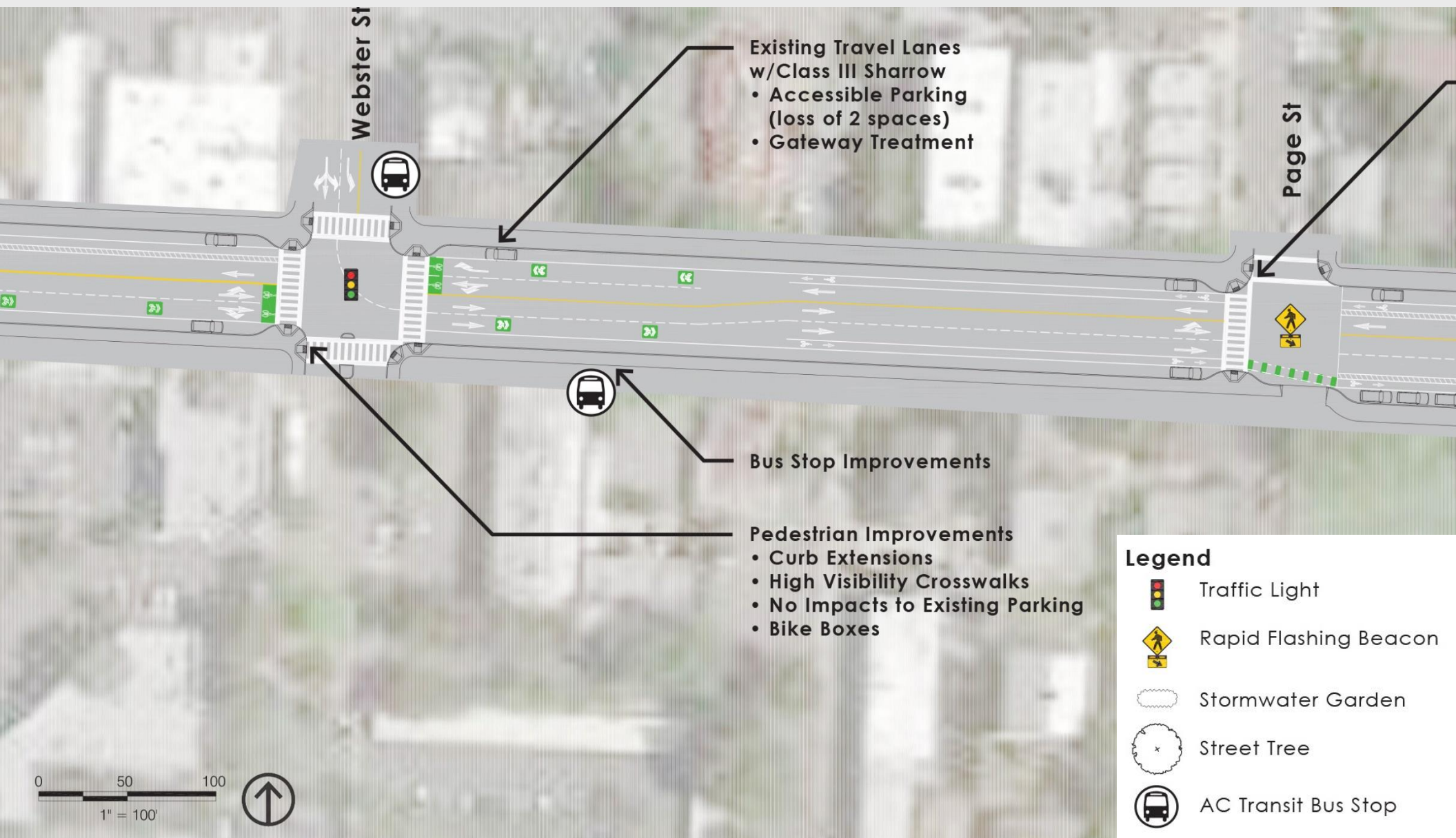


# Concept Design: Sixth to Webster



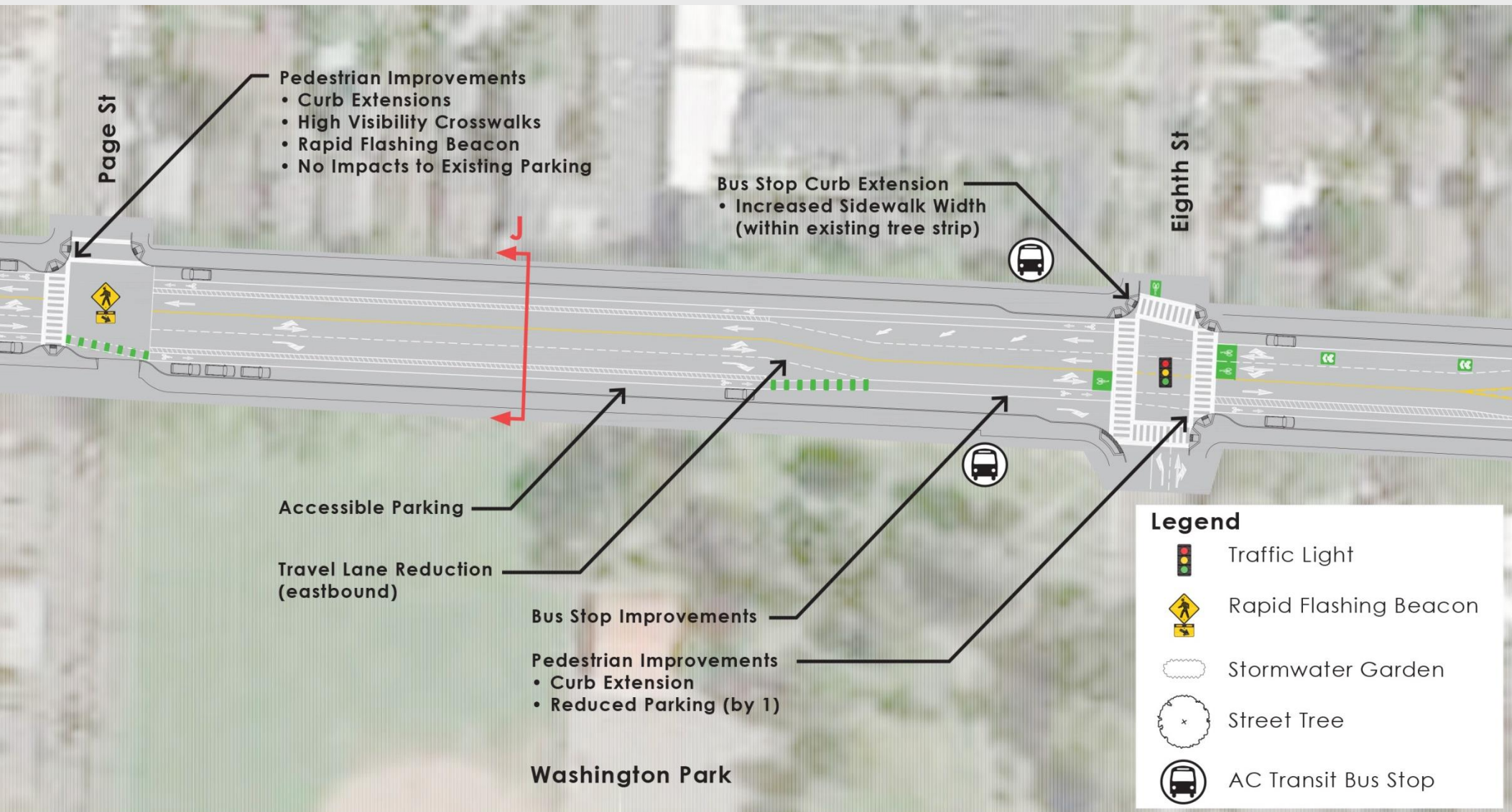
Section I

# Concept Design: Webster to Page

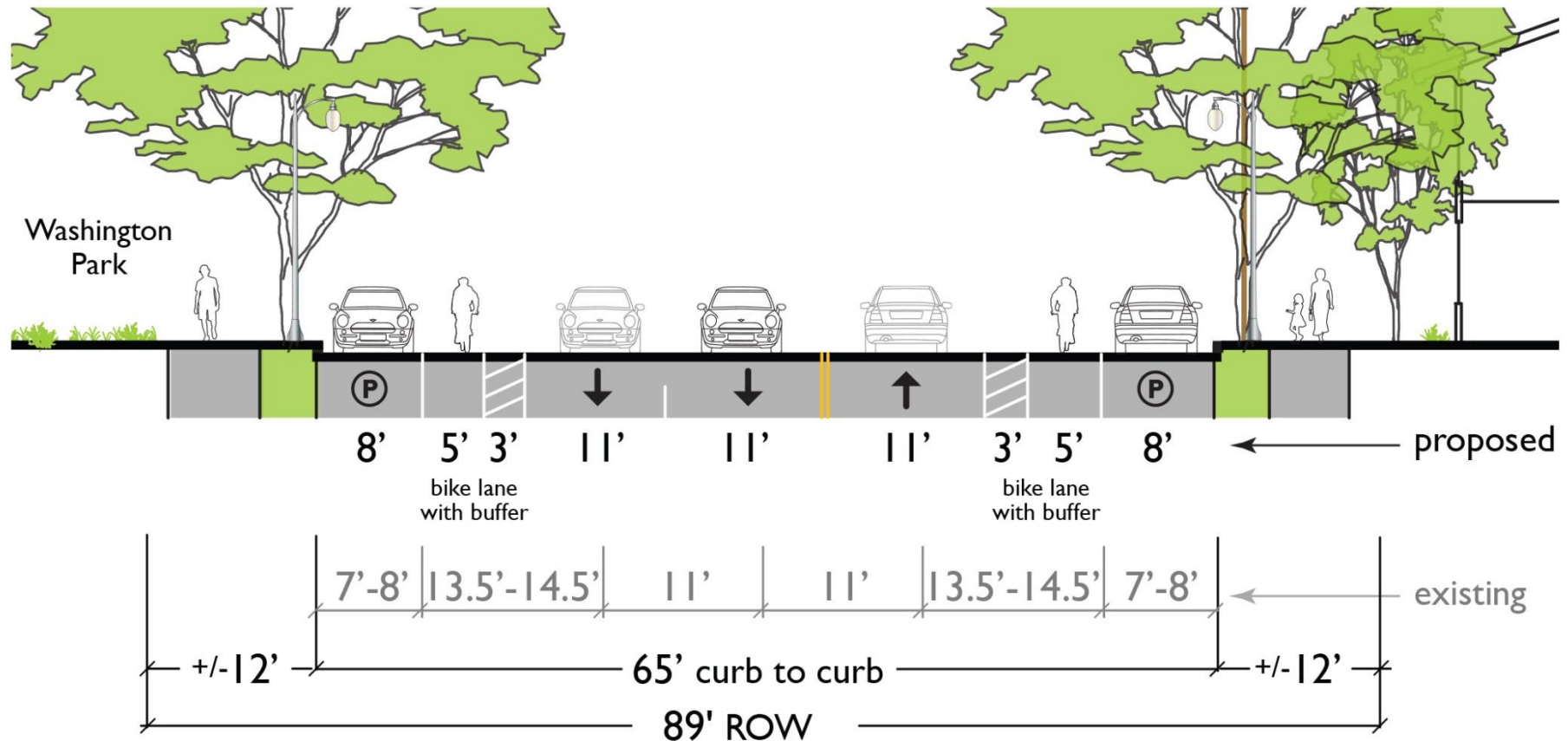




# Concept Design: Page to Eighth

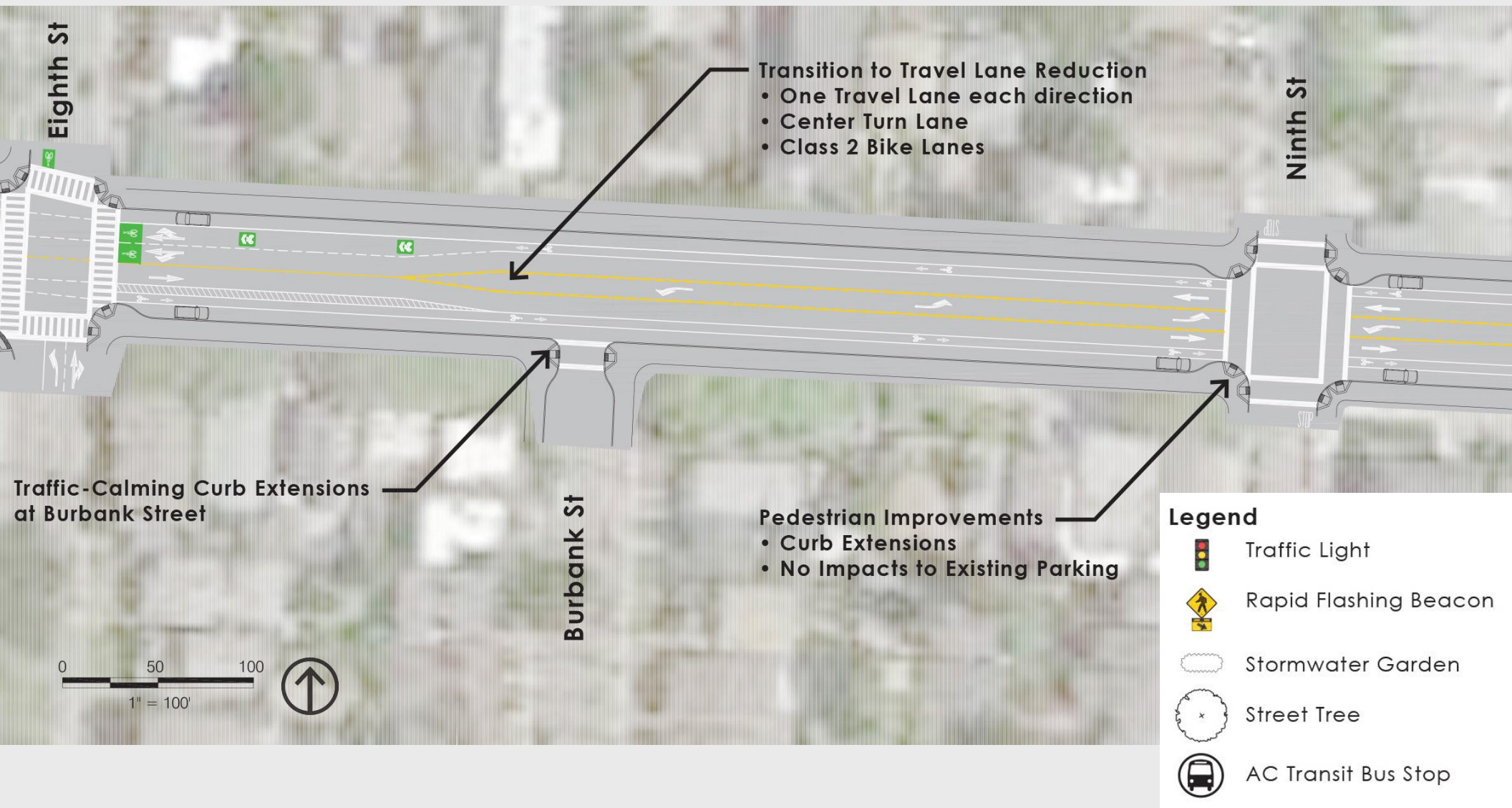


# Concept Design: Page to Eighth



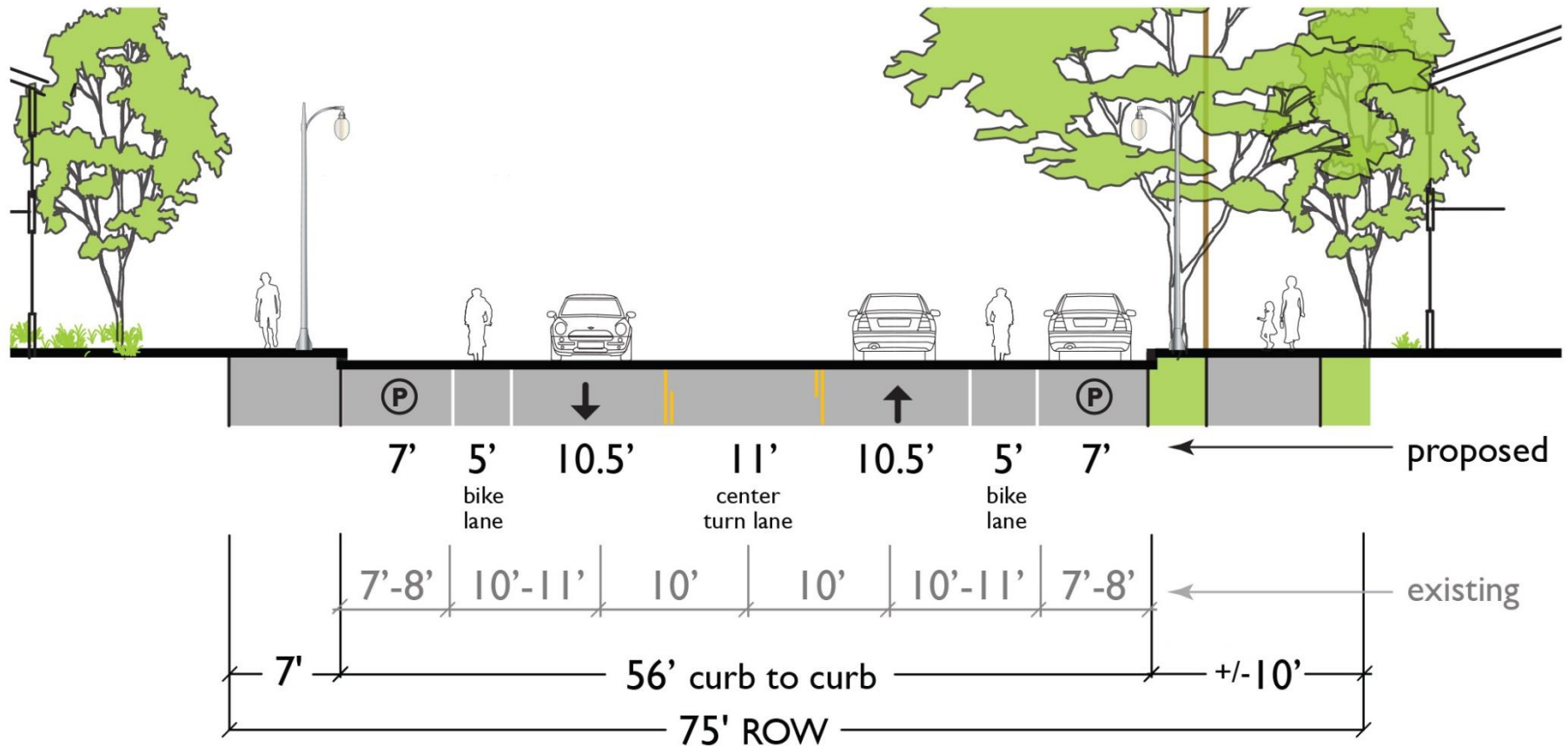
## Section J

# Concept Design: Eighth to Ninth



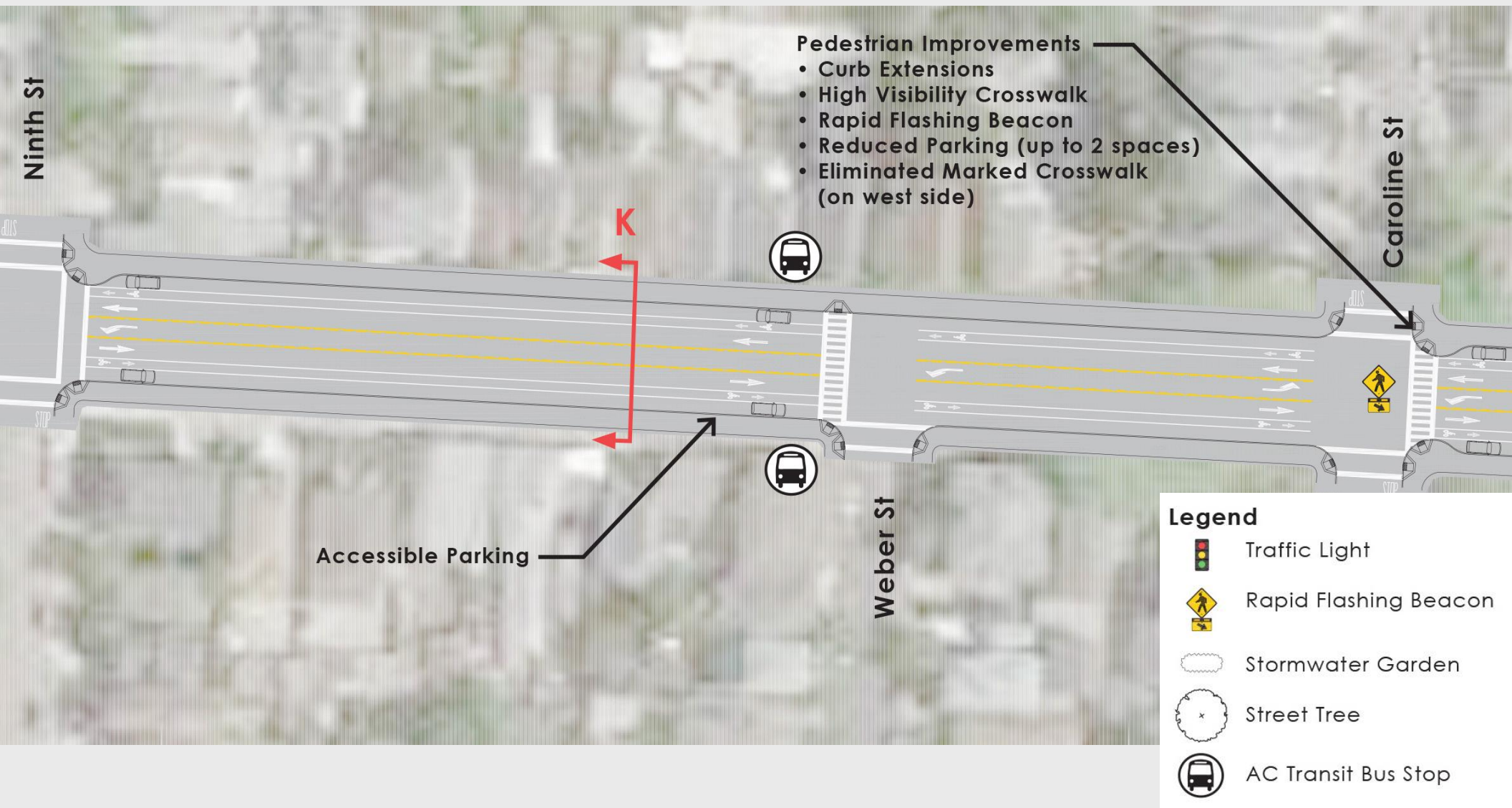


# Concept Design: Eighth to Sherman

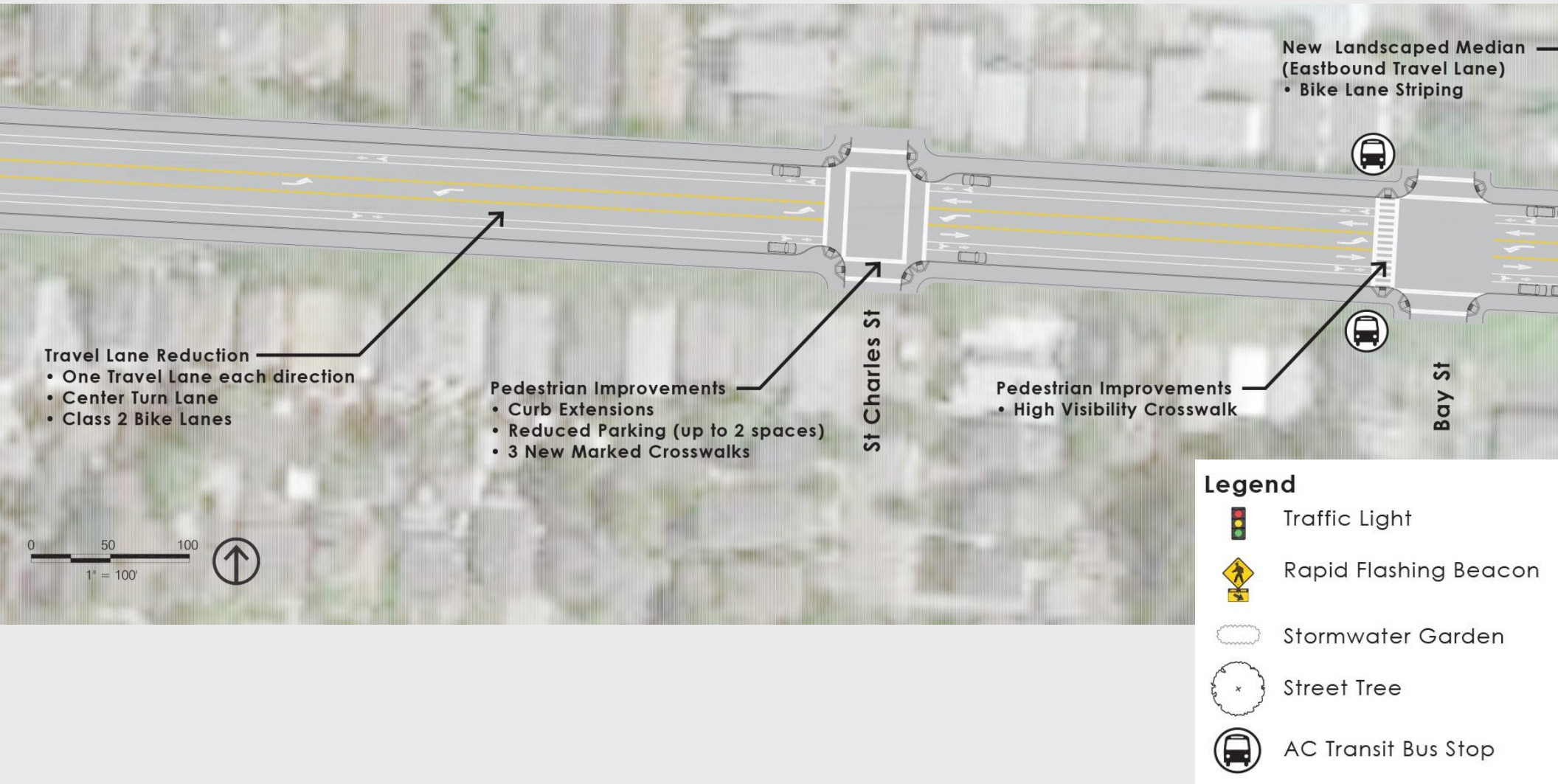


Section K (see next sheet)

# Concept Design: Ninth to Caroline

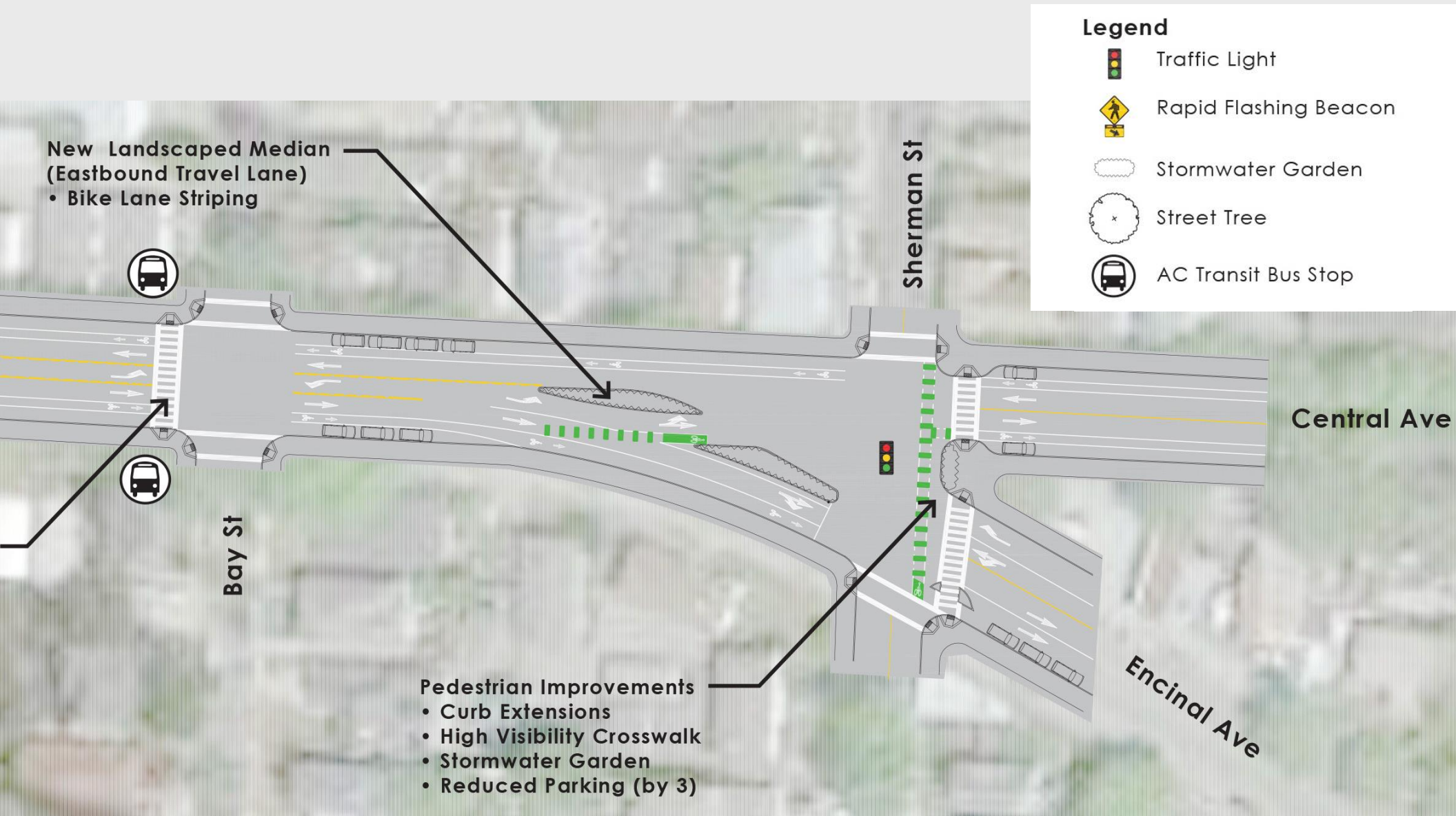


# Concept Design: Caroline to Bay



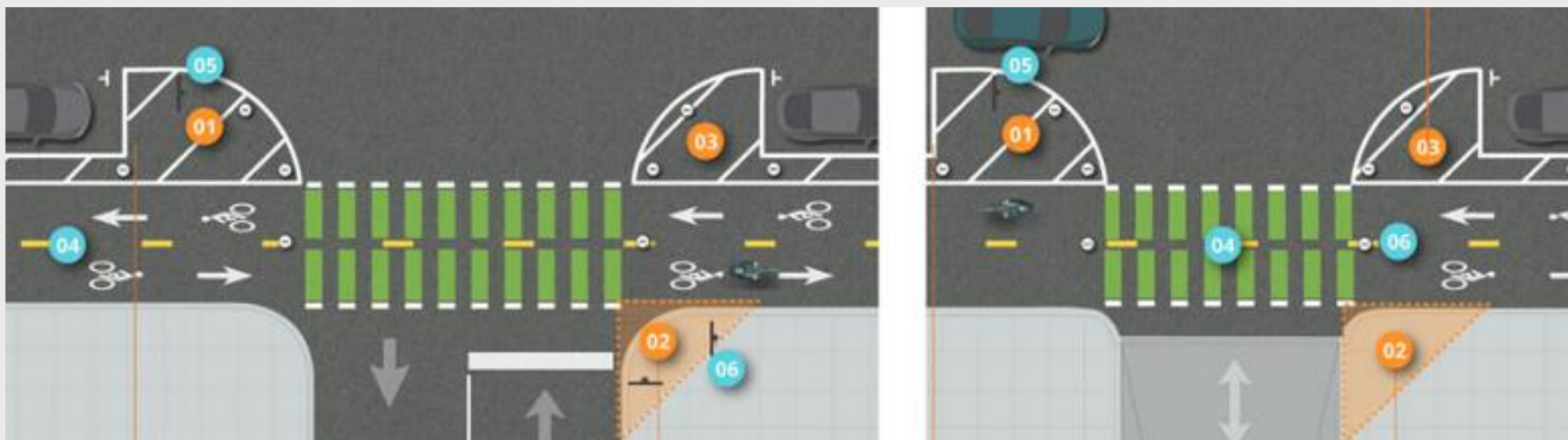


# Concept Design: Sherman/Encinal



# FHWA Guidelines

- **TWO-WAY SEPARATED BIKE LANE (CYCLETRACK)**
  - Prohibit parking within 20' from edge of driveway, and landscape/street-side elements within 15'
  - Skip Striping at Conflict Areas
  - Signs: “DO NOT ENTER” with “EXCEPT BICYCLES”, or “BIKE LANE” (and/or use a delineator post on the centerline)



# FHWA Guidelines

- **MIXING ZONE:** an area where bicyclists and right-turning automobiles merge into one travel lane approaching an intersection.
  - Shared Lane Markings (“Sharrows”)
  - Signs: “BEGIN RIGHT TURN LANE YIELD TO BIKES”





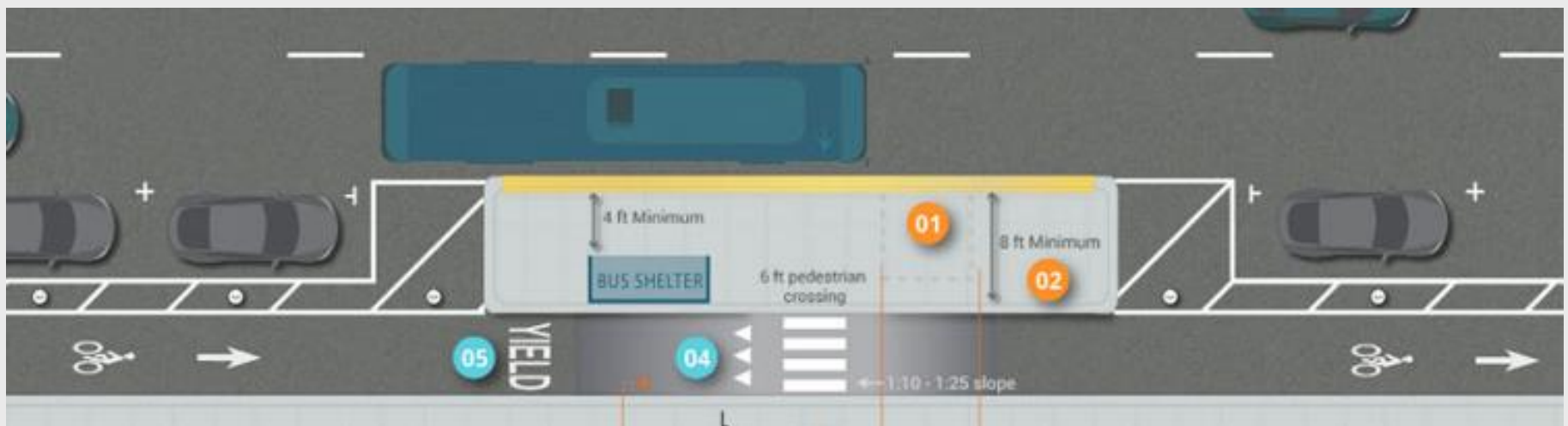
# FHWA Guidelines

- **LATERAL SHIFT:** moves cyclists to the left of the motor vehicle right turn lane before vehicles can move right.
  - Skip Striping in Conflict Areas and Bike Boxes
  - Signs: “BEGIN RIGHT TURN LANE YIELD TO BIKES”



# FHWA Guidelines

- **TRANSIT STOP** (an island platform with a protected bike lane behind)
  - Increase awareness between bicyclists and transit users – emphasize a preferred crossing location (i.e. raised crosswalk)
  - Signs: “YIELD HERE TO PEDESTRIANS” at crosswalk
  - Use yield triangle pavement markings prior to crosswalk



# FHWA Guidelines



*Raised crosswalk (under construction) adjacent to a transit stop island platform on Broadway in Seattle, WA. (Source: Seattle DOT)*



# FHWA Guidelines

## ■ ACCESSIBLE PARKING

- 5' wide minimum access aisle provided at street level, and 3' wide front and/or rear aisles
- Crosswalk and curb ramp connecting access aisle to sidewalk
- Signs: “YIELD HERE TO PEDESTRIANS” at crosswalk



# FHWA Guidelines

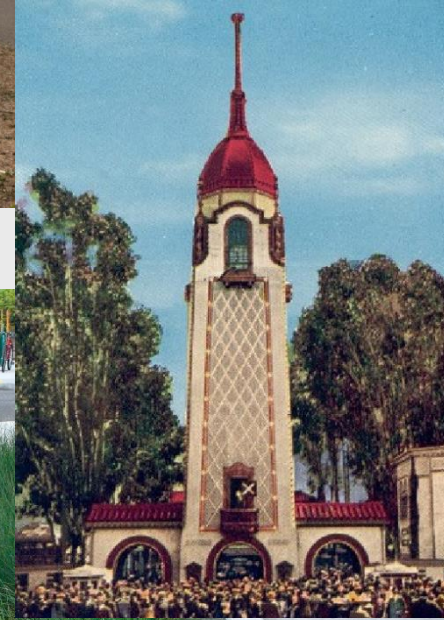


*A dedicated accessible parking space with access aisle in Austin, TX. (Source: Kelly Blume)*



# Streetscape Improvements

- **Trees:** maintain and improve tree canopies
- **Gateway:** Webster Street visioning effort
- **Stormwater:** rain garden curb extensions, bio-filtration trenches, permeable pavers in parking lanes





# Next Steps

- Transportation Commission Approval – November 18, 2015
- City Council- Early 2016
- Design/Construction Phase
  - Seek Funding Opportunities
  - Preliminary design
  - Transportation Commission Approval of Design



# Comments or Questions?

## Contact:

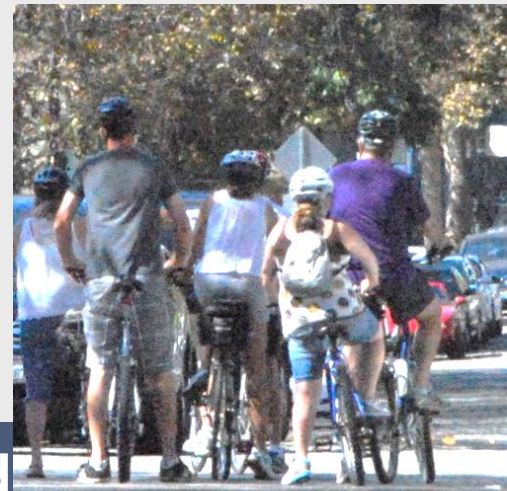
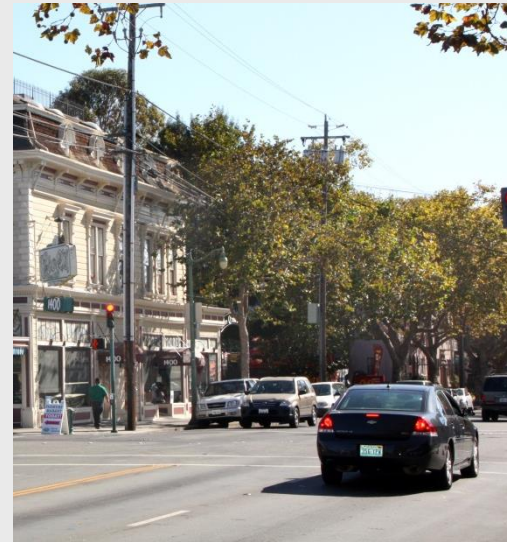
Gail Payne

510-747-6892 or

[gpayne@alamedaca.gov](mailto:gpayne@alamedaca.gov)

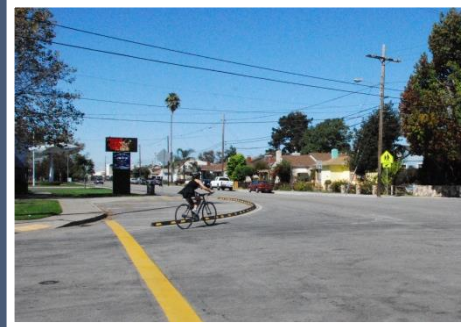
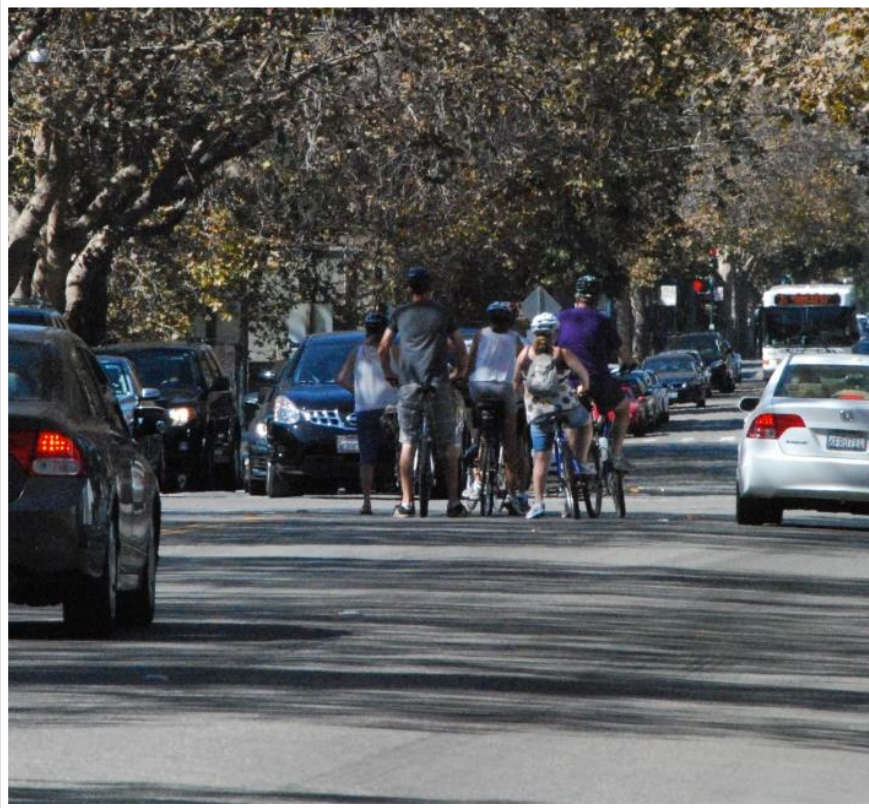
## Project web page:

<http://alamedaca.gov/public-works/central-avenue-complete-street>



Central Avenue Proposed





# Central Avenue Proposed Street Concept

Transportation Commission | November 18, 2015