



**Waterfront Seattle**  
Mobility, Access and Street Design

February 27, 2012

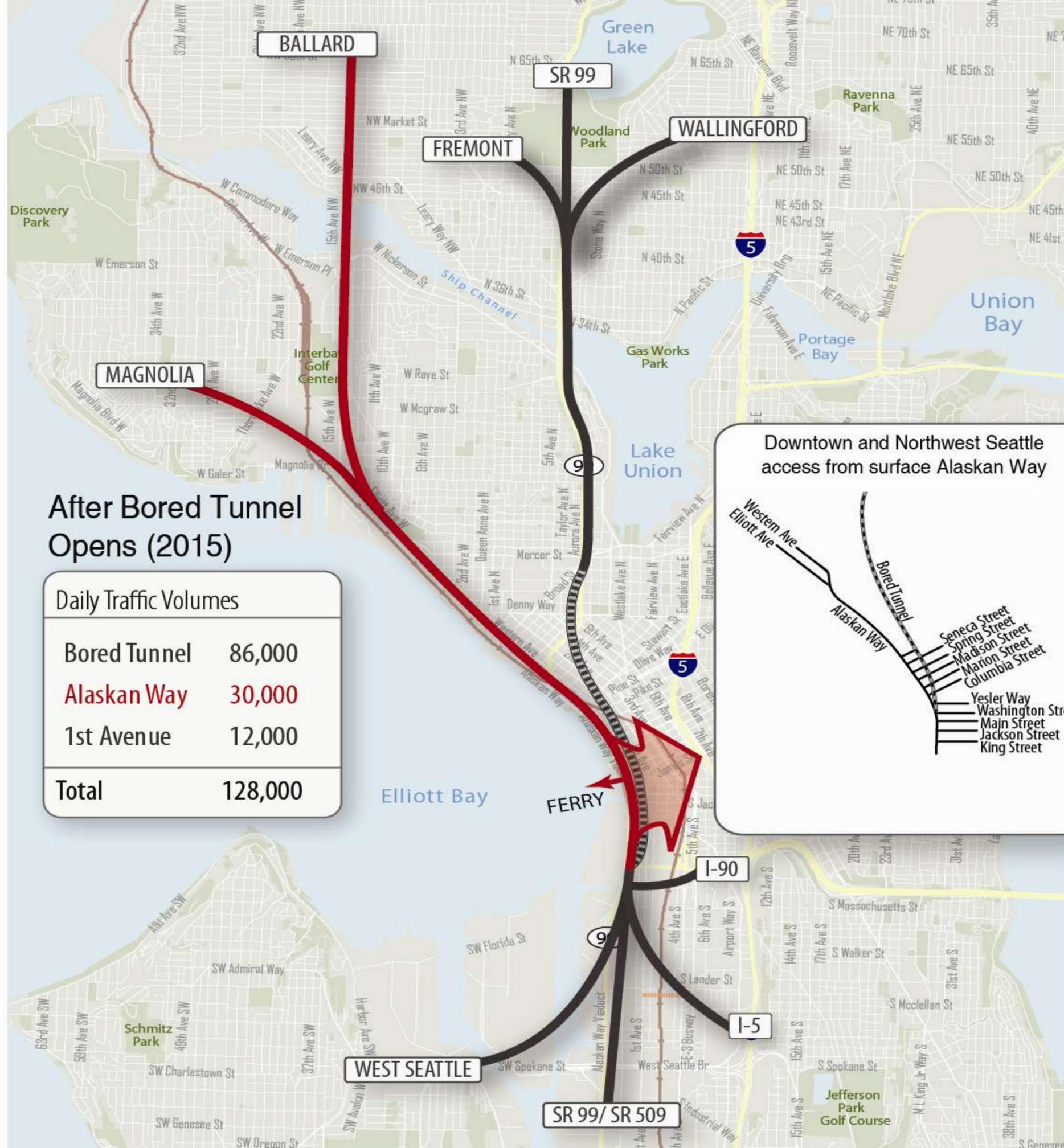
City Council Special Committee on the  
Waterfront, Seawall and Viaduct  
Replacement Program

		February	March	April	May	June	July-December
Waterfront Program	EBSP		Project schedule and milestones	35% design cost estimate	Introduction of new design team	Schedule update, habitat research and parking approach	Preparation for launch of draft environmental document and next steps for construction planning
	WFS	Roadway design	Input from community forums	Strategic plan	Concept design and framework plan	Final strategic plan and concept design, including design of Alaskan Way  Parking approach	Final concept design  Preliminary design and next steps for strategic plan
AWV Replacement Program		Construction update	Alaskan Way South detour  Tolling update	Construction update	Tolling update	Parking approach	Agreement on AWV demolition, Alaskan Way construction, Battery St. Tunnel Decommissioning  ACTT recommendations

Unless specifically noted, all Council actions are assumed to be input/endorsement



# Traffic Changes After Bored Tunnel Opens



## **MULTI-MODAL ACCESS STRATEGY**

**ADDRESS BOTH REGIONAL AND LOCAL MOVEMENT**

**OPTIMIZE MULTI-MODAL ACCESS AND CONNECTIVITY**

**PLAN FOR PARKING NEEDS**

**INTEGRATE EXISTING HUBS**

**STRENGTHEN AND PRIORITIZE PEDESTRIAN AND BICYCLE REALM**





**PUBLIC  
ACCESS**



**PEDESTRIAN  
CONNECTIONS**



**FREIGHT**



**PUBLIC  
TRANSIT**

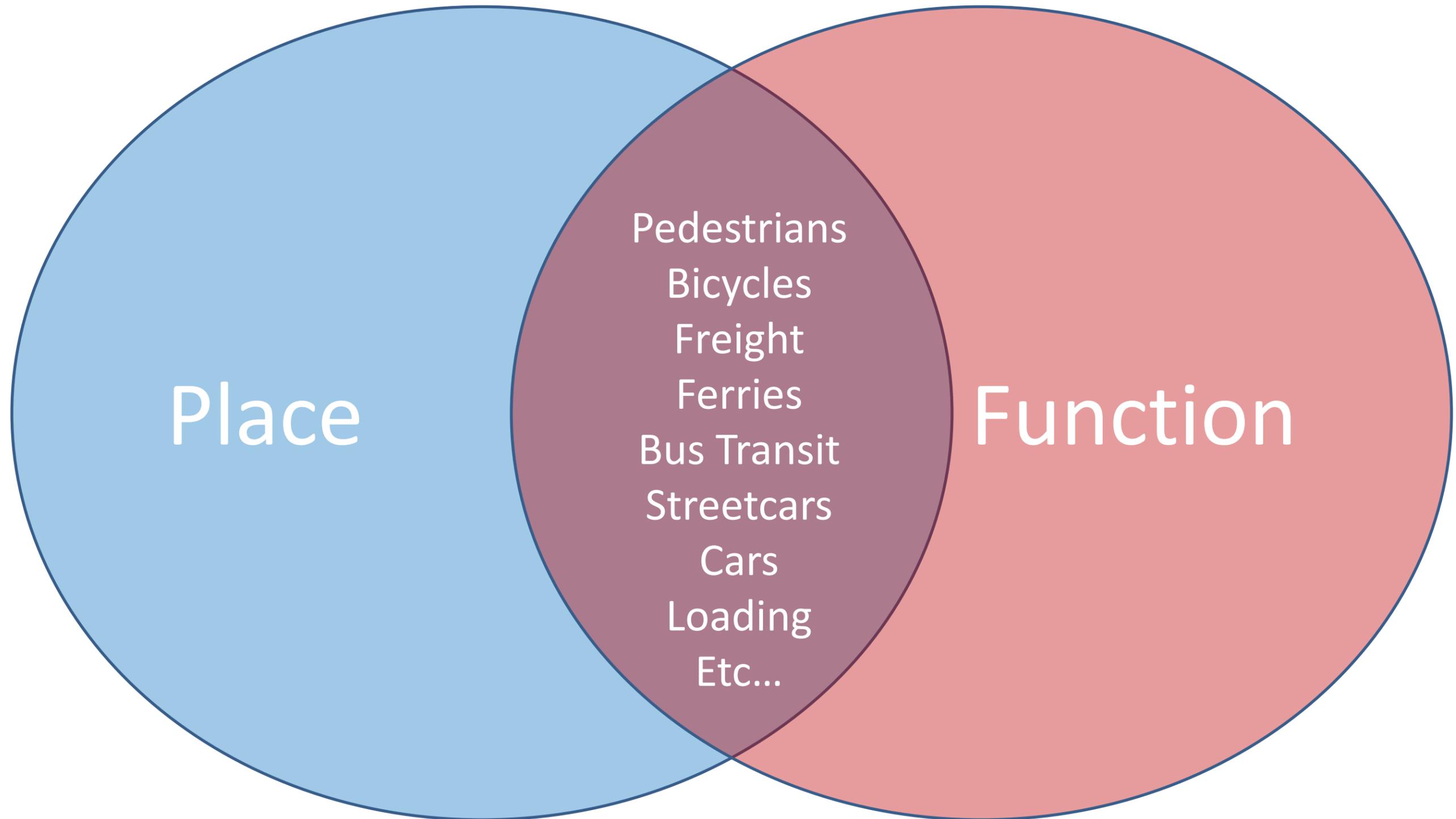


**EXISTING  
PARKING**

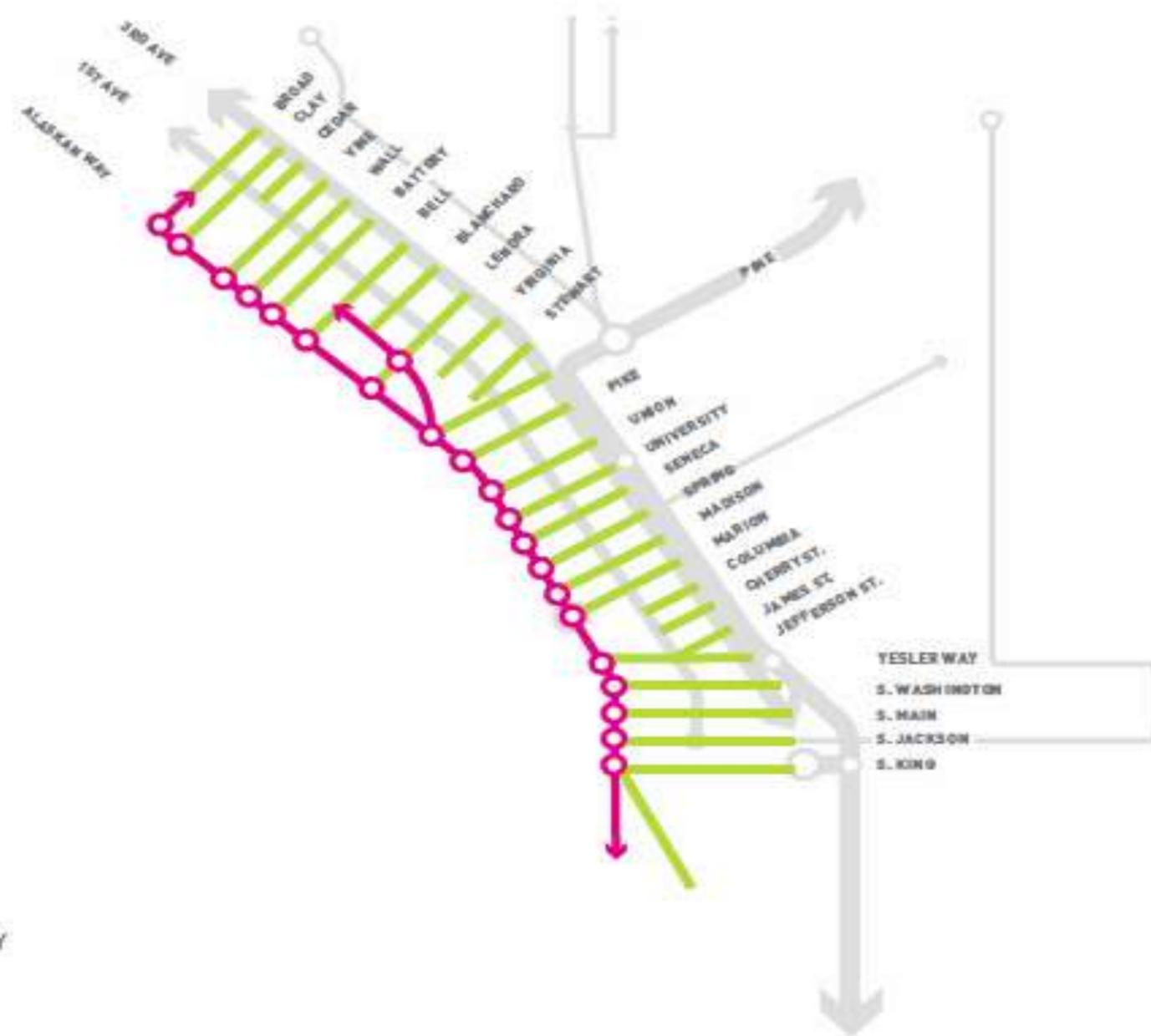


**ALASKAN WAY  
USERS**

# Great Street Design



# INTERSECTIONS



Bike and pedestrian friendly intersection, Copenhagen

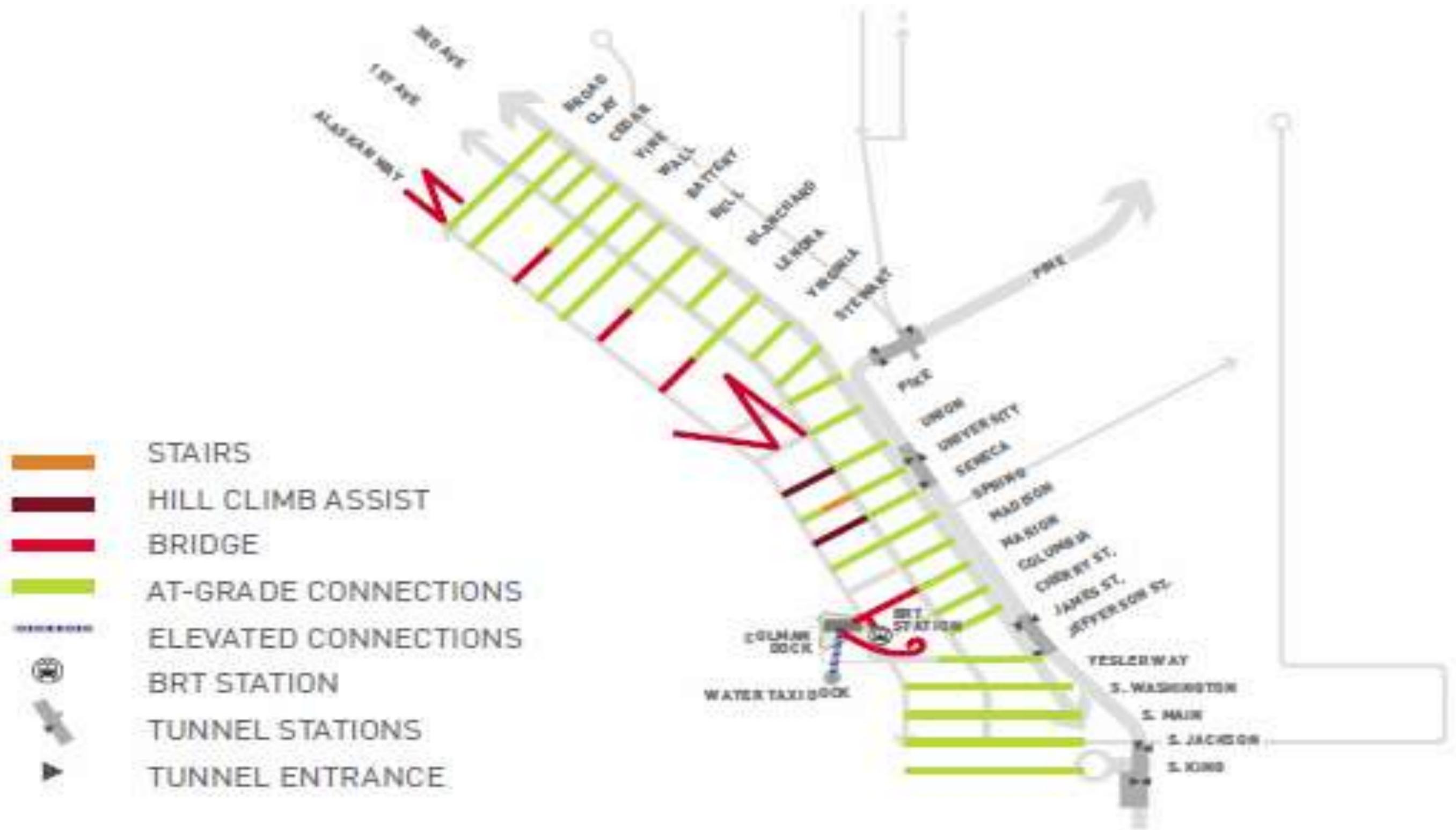


Bold pavement markings, Arizona



Generous intersections, Paris

# PEDESTRIAN ACCESS AND CONNECTIONS



CONNECTING PEOPLE TO THE CENTER CITY  
**UNION STREET**



Covered outdoor escalators, Hong Kong



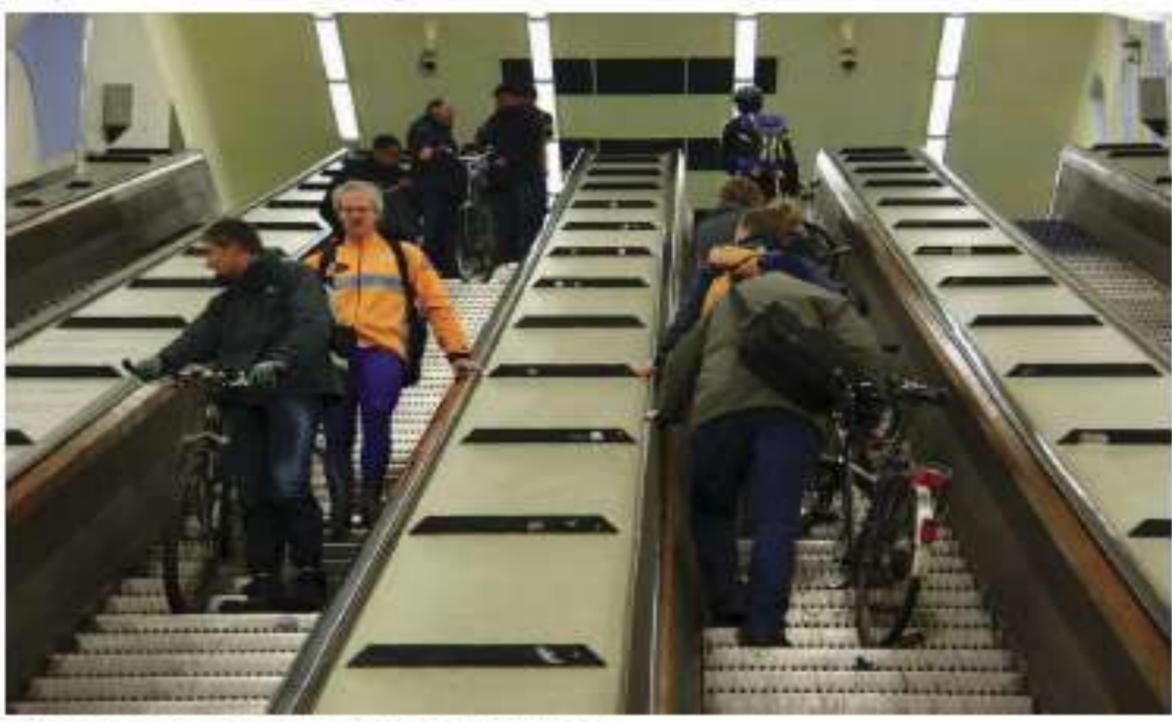
Outdoor escalator, Netherlands



Bicycle escalator, Tokyo

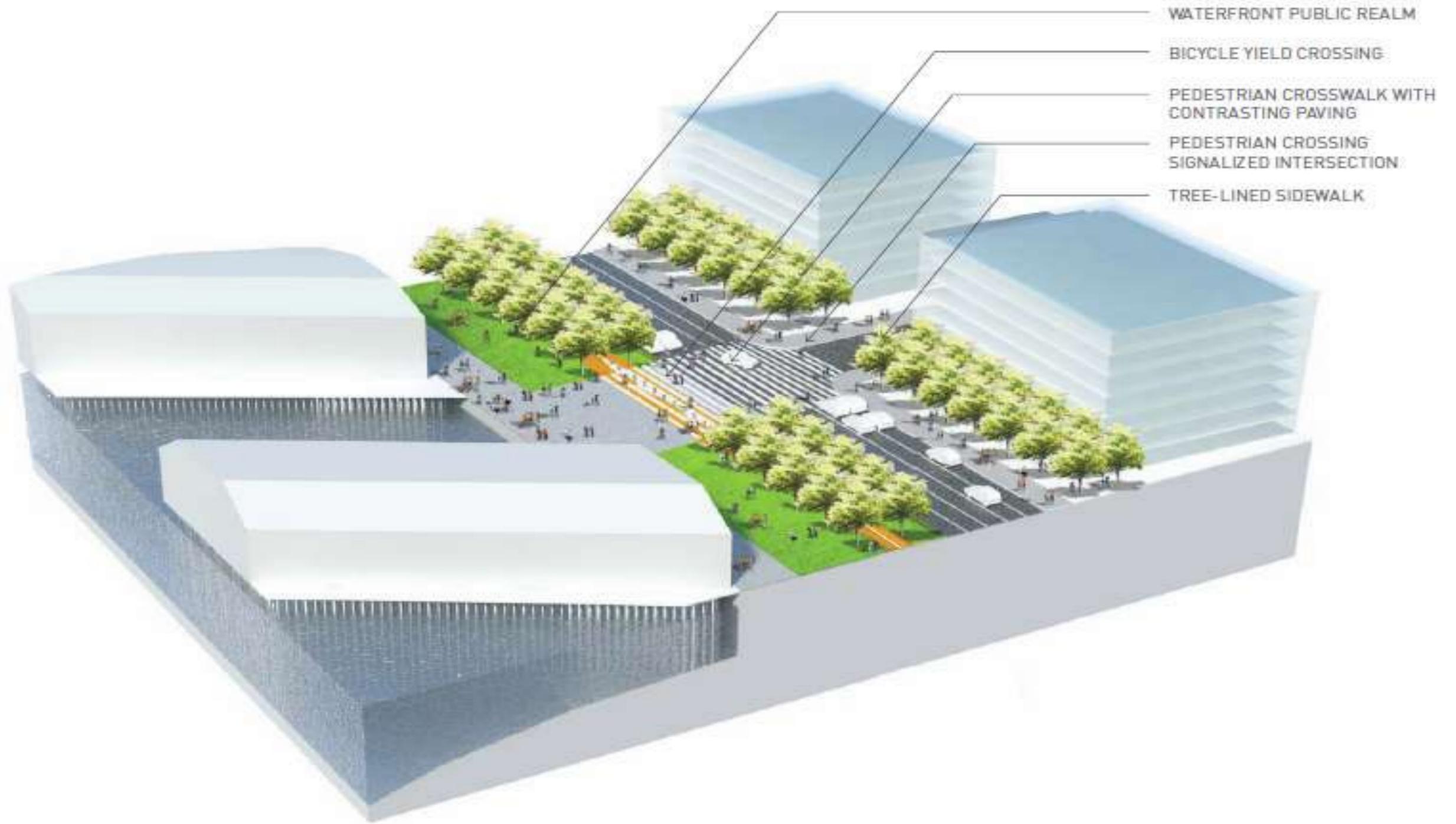


Sloped elevator, Chattanooga



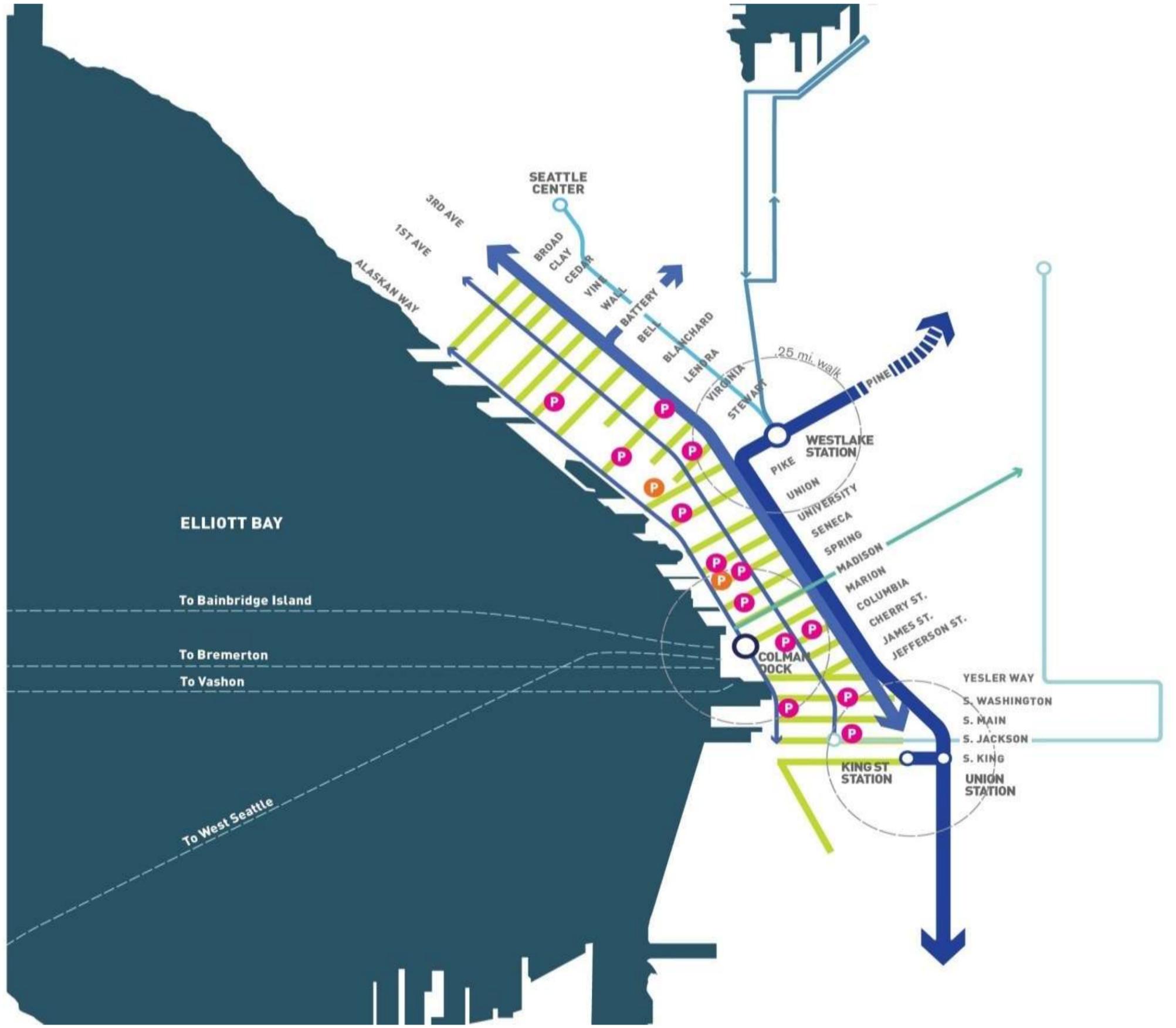
Bikes on escalator, Maastunnel, Rotterdam

## TYPICAL WATERFRONT INTERSECTION



# PARKING

- P POTENTIAL PARKING
- P EXISTING PARKING
- PEDESTRIAN CONNECTIONS
- MULTI-MODAL TRANSIT HUB
- WATER TRANSIT
- MONORAIL
- FIRST HILL STREET CAR
- POTENTIAL MADISON ST TROLLEY BUS
- SOUTH LAKE UNION STREET CAR
- 3RD AVE CITY BUS SERVICE
- UNDERGROUND BUS + LIGHT RAIL
- POTENTIAL 1<sup>ST</sup> AVE TRANSIT
- POTENTIAL WATERFRONT TRANSIT



MOVING PEOPLE ON THE WATERFRONT  
**HUMAN POWERED TRANSPORTATION**



Easy to use multi-person surrey bike



Urban waterfront kayaking, Chicago



Rollerblading



Small bicycle rental station, Venice Beach



Bike share station, Minneapolis

# Facility demands by user type

## Strong & Fearless

Will ride regardless of facilities  
Trip distance not an issue



## Enthused & Confident

Comfortable in traffic with appropriate facilities  
Prefer shorter trip distances

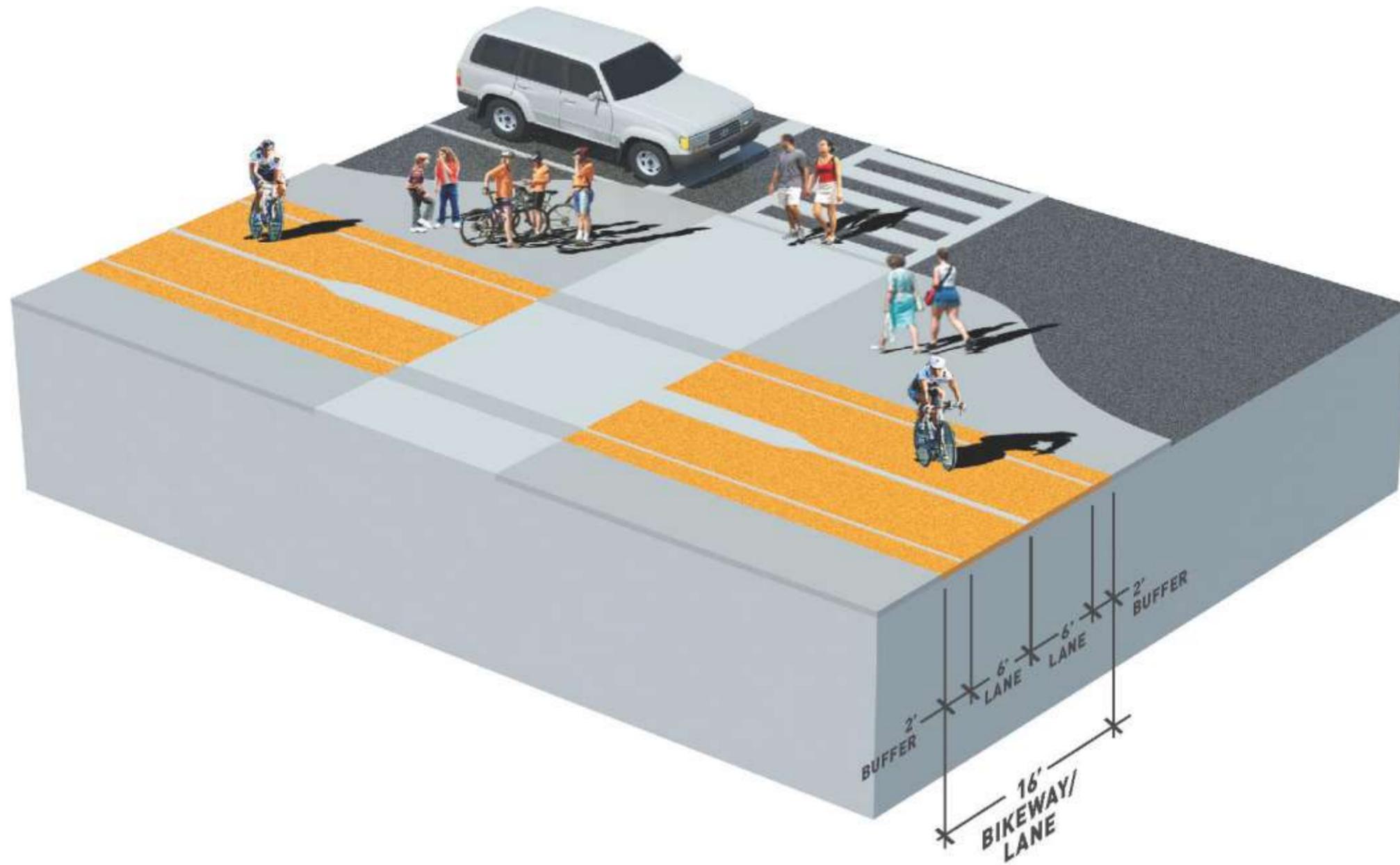
## Interested but Concerned

Not attracted by bike lanes  
Not comfortable in traffic  
Will ride in low-volume, low-speed conditions (boulevards, off-street)

# BIKEWAY/LANE PRECEDENTS



# BICYCLE TRAIL



# TRANSIT FRAMEWORK

-  LIGHT RAIL
-  TRANSIT TUNNEL STATIONS
-  BUS TRANSIT SPINE AND PATHWAYS
-  MADISON BRT
-  EXISTING & PLANNED STREETCAR
-  PROPOSED CENTRAL CITY STREETCAR
-  ROUTING OPTIONS
-  FREQUENT TROLLEY BUS ROUTES
-  WATERFRONT CIRCULATOR
-  WATER TAXI
-  SW TRANSIT PATHWAY OPTIONS



TRANSIT ON THE WATERFRONT

## GREEN-POWERED, RUBBER-TIRED CIRCULATOR



Low-floor trolley bus, Sao Paulo



Small, fuel efficient shuttle bus, Santa Monica



Modular tram cars, Disneyland

TRANSIT ON THE WATERFRONT

## PASSENGER FERRIES AND WATER TAXIS



High frequency, commute-oriented Seabus, Vancouver



Biofuel powered aqua bus, Vancouver



Playful, open-aired water taxi, Sydney



Large capacity, low wake water taxi, Brisbane

# SR99 Southend Transit Pathways

# Central Waterfront Transit Connections

- SR99 corridor
- East/West corridor
- Alaskan Way local service
- Interim construction pathway



# Transit Service on SR99

- 19,000 daily riders on 11 routes
- 45 to 50 Metro buses per peak hour
- RapidRide C Line – September 2012
- 7% of daily bus trips to and from downtown Seattle
- One-half of people moving on Columbia ramp in the peak hour



# SR 99 Project

## Project Description:

- Determine dedicated transit pathways to connect SR99/AWV to Seattle's Third Avenue transit spine

## Project Objectives:

- Faster and more reliable travel time for bus riders
- Increased use of transit
- Direct connection to Third Avenue transit spine
- Accessibility for transit riders

# Preliminary Pathway Evaluation

- Analyzed 13 pathways
  - SODO pathways: 1<sup>st</sup> and 4<sup>th</sup> Avenues
  - I-5
- Increased travel times and impacts to reliability
  - SODO pathways: 5-15 minutes longer
  - I-5 pathways: 3-6 minutes longer and less reliable
- Three SR99 pathways identified for further consideration

# Further Analysis

## Current Pathway: Columbia/Marion Streets



DOWNTOWN SOUTHEND TRANSIT STUDY



Inbound Route Outbound Route Pathway Connector

Pathway 5A

# Further Analysis

Green Pathway: Main and Washington Streets:  
Integrating pedestrian, bicycle and bus design elements



DOWNTOWN SOUTHEND TRANSIT STUDY

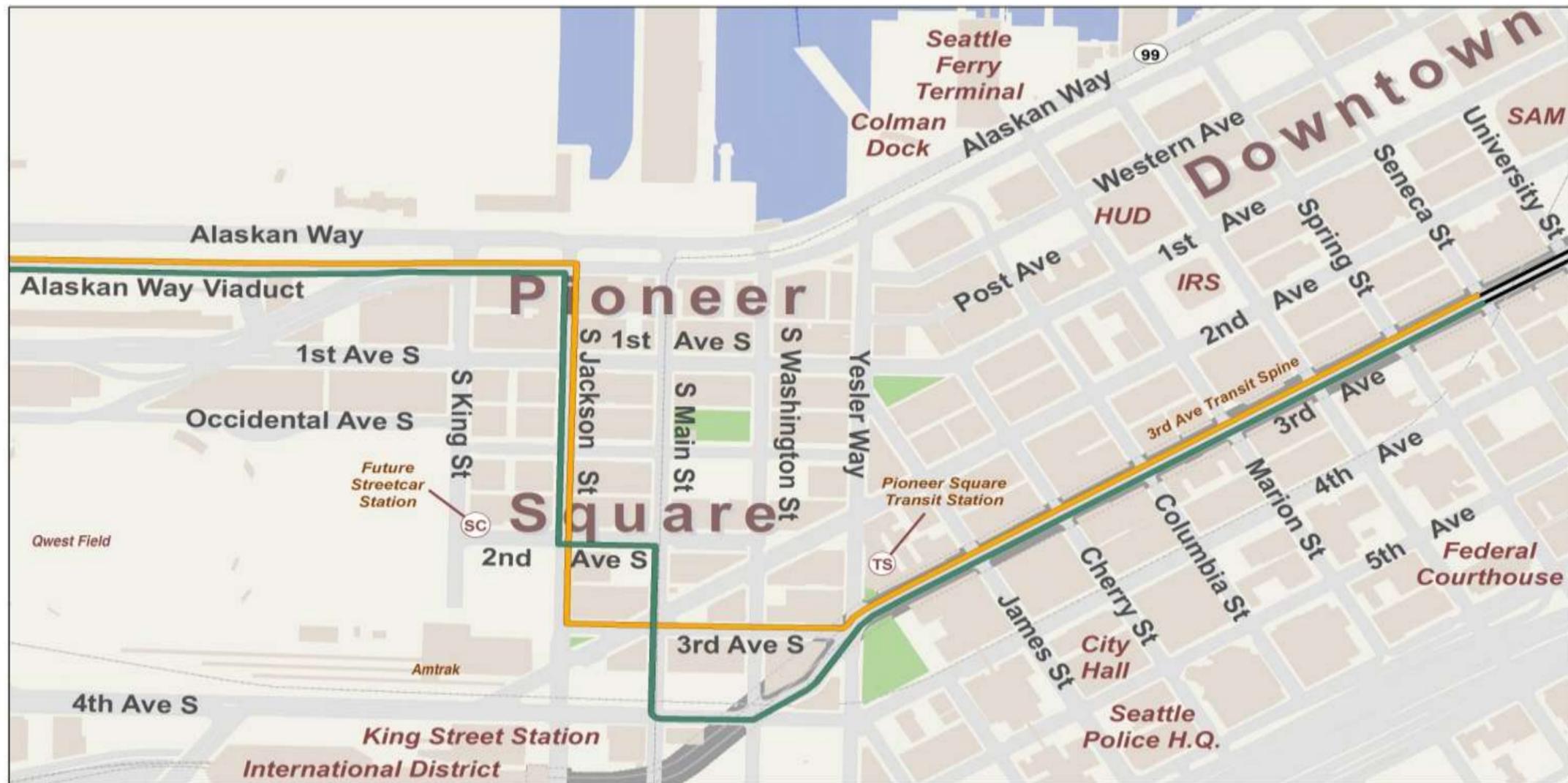


~ Inbound Route    ~ Outbound Route    ~ Pathway Connector

Pathway 3A

# Further Analysis

## Local Service Pathway via Jackson Street



DOWNTOWN SOUTHEND TRANSIT STUDY



Inbound Route   Outbound Route   Pathway Connector

Pathway 2A

# Moving Ahead

- Transit needs to accommodate growth in travel to and from downtown Seattle
- Travel times need to remain similar, if not better, than pre-construction conditions.
- Trade-offs and tough decisions ahead about how transit service operates on SR99 and Alaskan Way.
- Continue to work with riders, stakeholders and City of Seattle.

# OVERALL FRAMEWORK

## EXISTING AND PROPOSED TRANSIT NETWORK

-  LIGHT RAIL
-  TRANSIT TUNNEL STATIONS
-  BRT AND BUS TRANSIT SPINE
-  EXISTING AND PLANNED STREETCAR
-  PROPOSED CENTRAL CITY STREETCAR
-  SW TRANSIT PATHWAY OPTIONS
-  FREQUENT TROLLEY BUS ROUTES
-  WATERFRONT CIRCULATOR
-  WATER TAXI
-  BRT STATION

## EXISTING AND PROPOSED BIKE NETWORK

-  BIKE LANES
-  SHARROWS
-  MULTI-USE TRAILS

## EXISTING AND PROPOSED PEDESTRIAN NETWORK

-  PEDESTRIAN CONNECTIONS
-  ELEVATED PEDESTRIAN PATHS



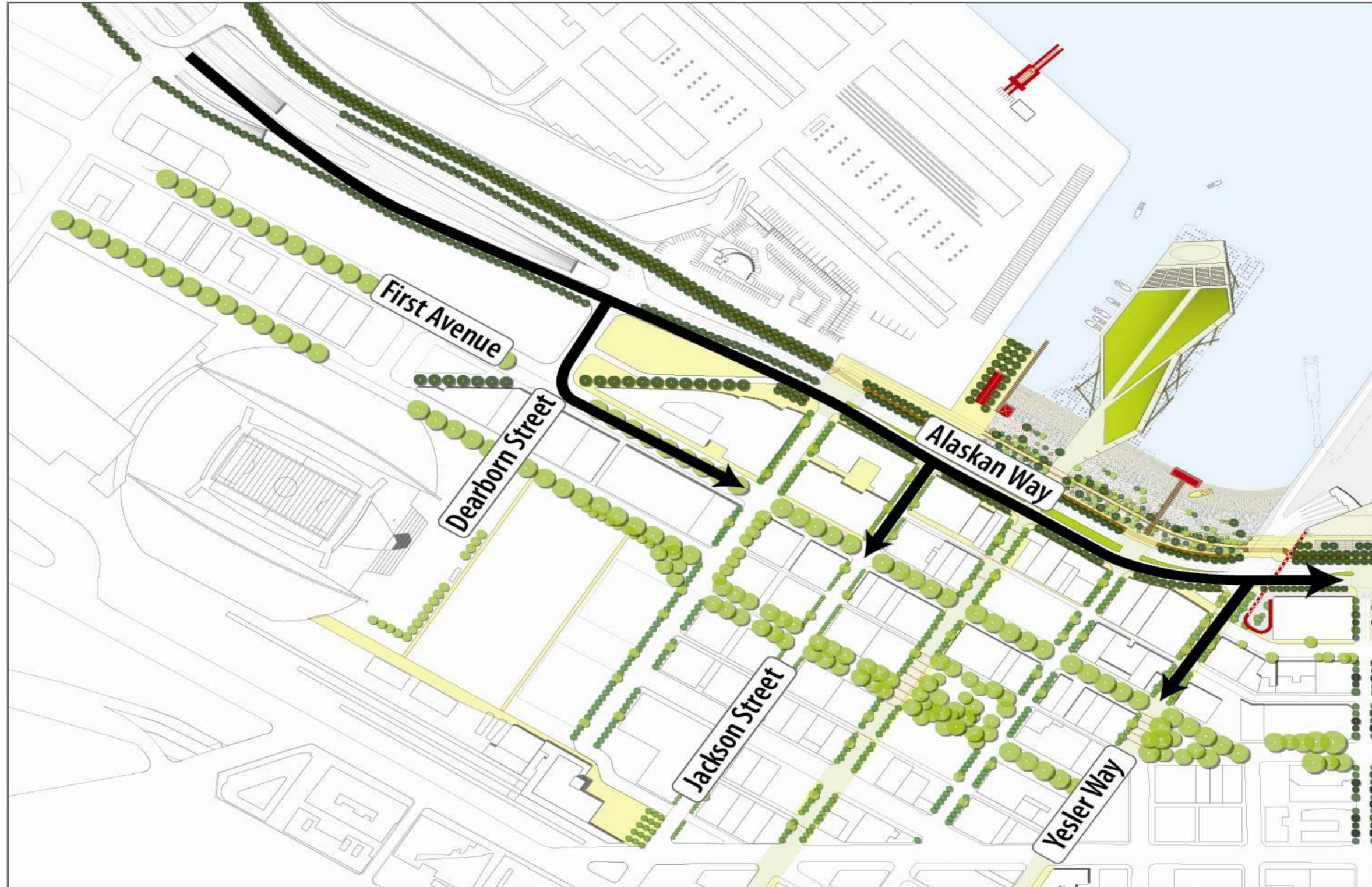
# Street Design Outreach and Coordination

## Completed

- Central Waterfront Committee - Design Oversight Subcommittee
- Central Waterfront Stakeholders Group
- Community forum: mobility and access
- Bicycle facility design workshops
- Bicycle Advisory Board
- Freight Advisory Board
- Pedestrian, bicycle and freight advisory board chairs
- Agency Working Group:
  - WSDOT, Washington State Ferries, King County Metro, Port of Seattle
- Community stakeholders including:
  - NW Seattle, West Seattle, 15th Ave W Transportation Coalition
- Tolling Advisory Committee (ACTT)
- Pedestrian Advisory Board
- Agency Working Group
- Central Waterfront Committee and Stakeholder Group



# Access to Downtown and Northwest Seattle at SR99 South Tunnel Portal



# STREET DESIGN

FUNCTIONS OF THE STREET



 VEHICLES, PARKING AND LOADING

# STREET DESIGN

FUNCTIONS OF THE STREET

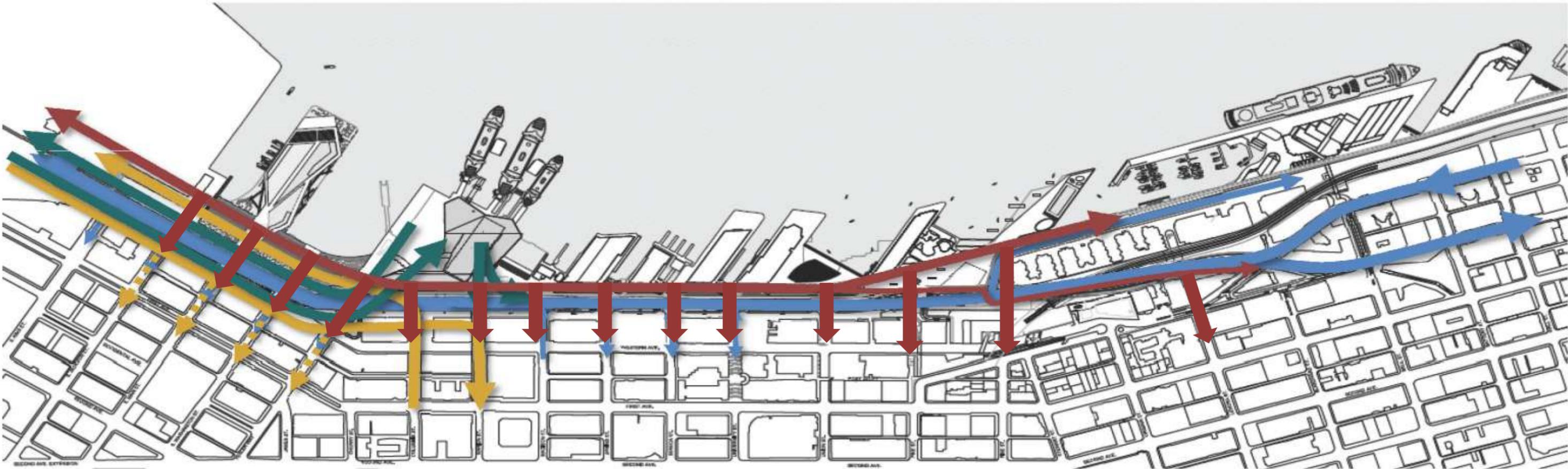


-  VEHICLES, PARKING AND LOADING
-  FERRIES: LOADING AND UNLOADING



# STREET DESIGN

FUNCTIONS OF THE STREET



-  VEHICLES, PARKING AND LOADING
-  FERRIES: LOADING AND UNLOADING
-  TRANSIT LINKAGE
-  NORTH/SOUTH BICYCLE AND PEDESTRIAN MOVEMENT

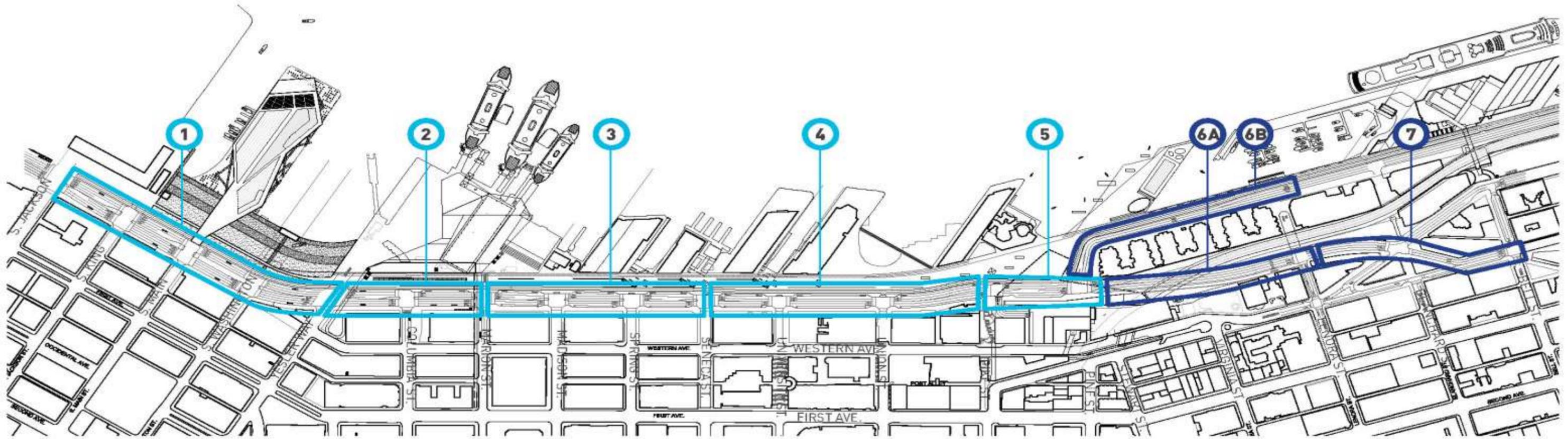
# STREET DESIGN

## TRAFFIC CONSIDERATIONS

Waterfront Seattle  
2030 Average daily traffic volumes on Alaskan Way



# STREET DESIGN SEGMENTS

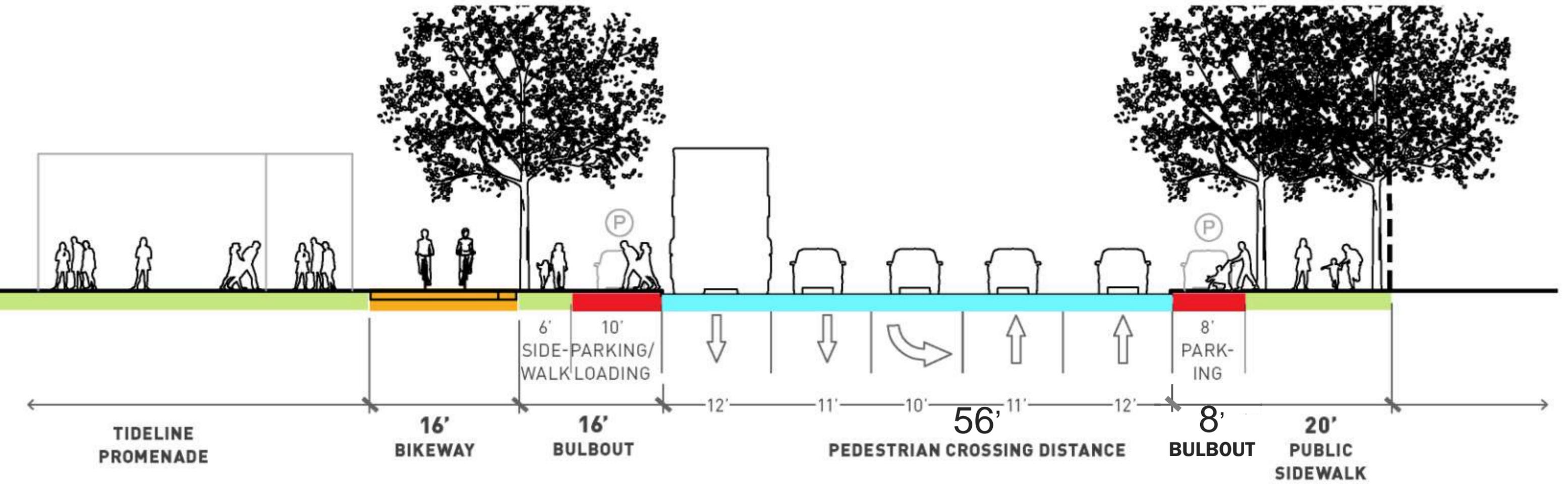
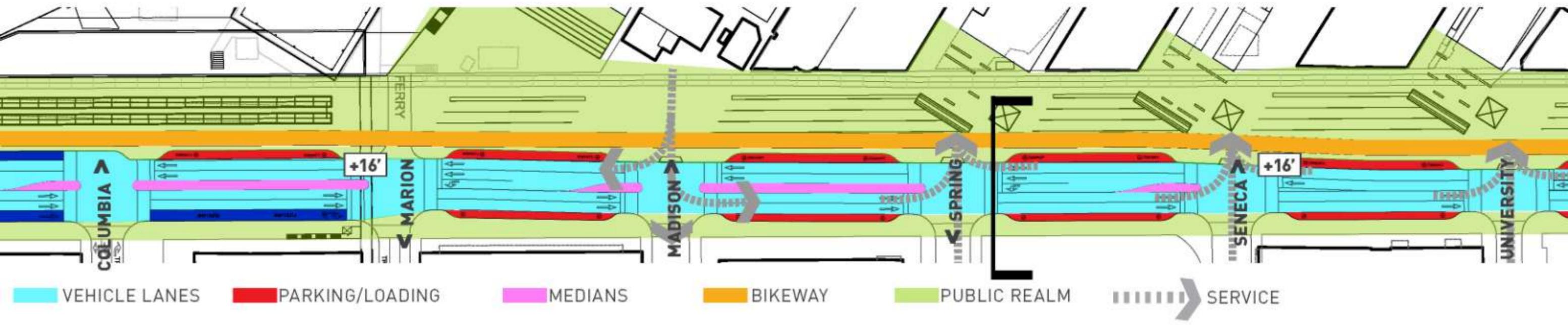


- 1 ALASKAN WAY: S. KING TO YESLER
- 2 ALASKAN WAY: YESLER WAY TO MARION
- 3 ALASKAN WAY: MARION TO SENECA
- 4 ALASKAN WAY: SENECA TO PIKE
- 5 ALASKAN WAY: PIKE TO PINE
- 6A ALASKAN WAY: PINE TO LENORA
- 6B ELLIOTT-WESTERN CONNECTOR: PINE TO LENORA
- 7 ELLIOTT-WESTERN CONNECTOR: LENORA TO BELL

# Central Segment

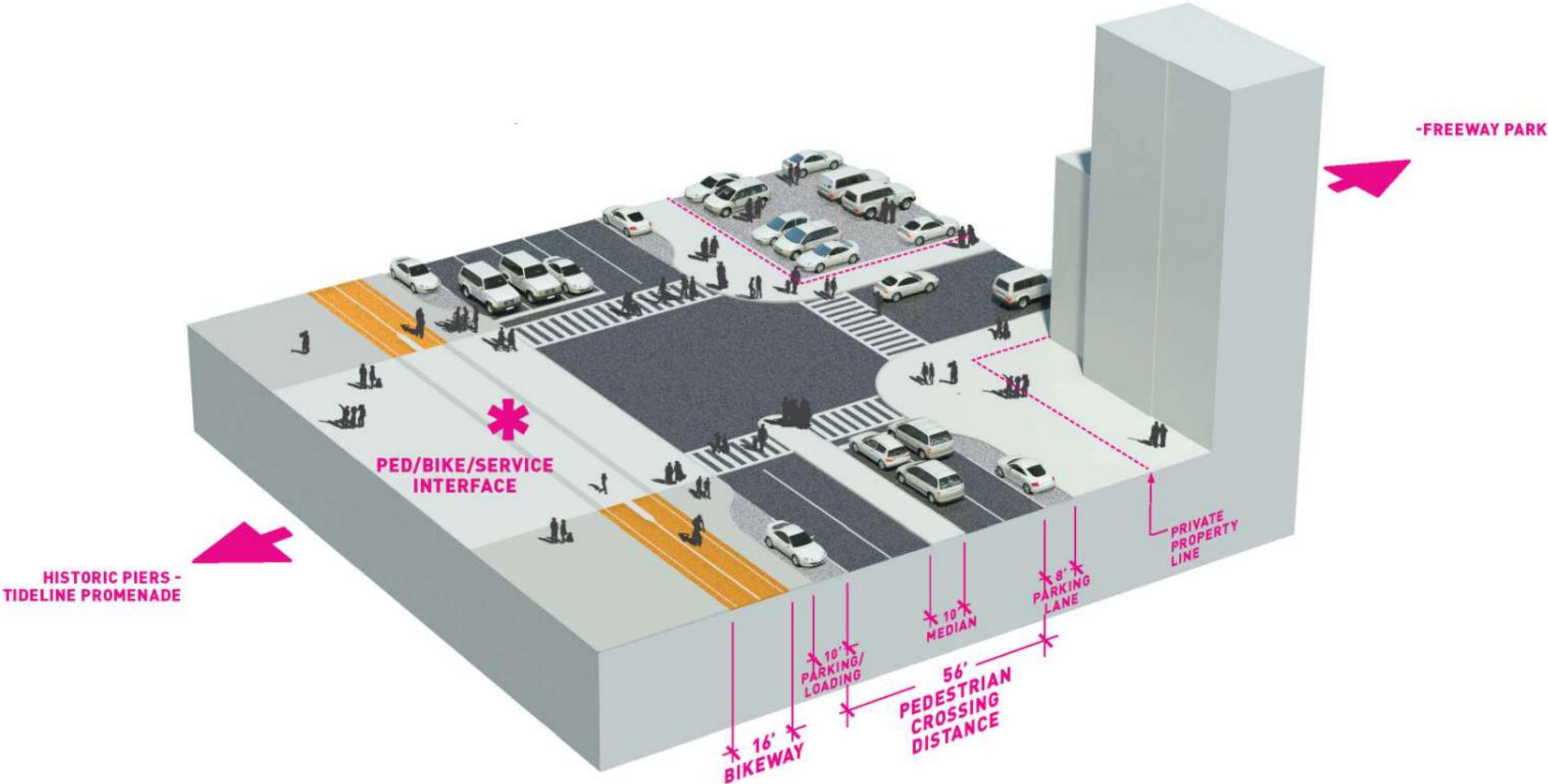
## SEGMENT 3: MARION TO SENECA

SECTION @ SPRING STREET



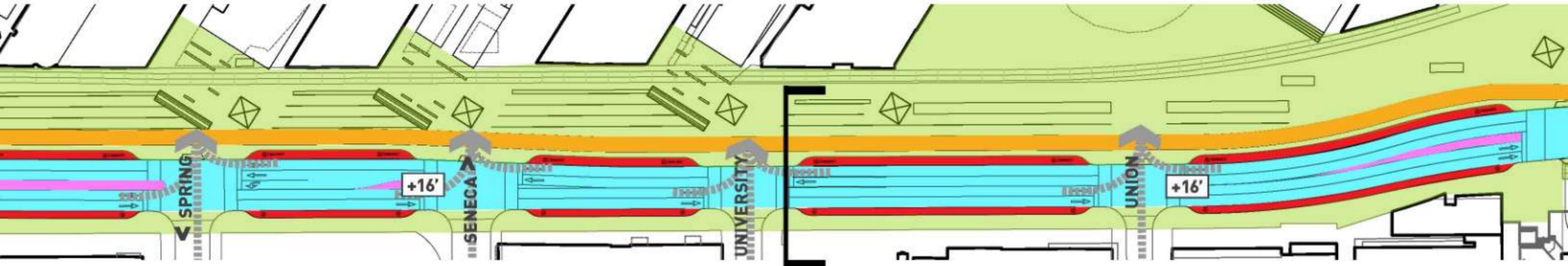
# SEGMENT 3: MARION TO SENECA

INTERSECTION @ SPRING STREET

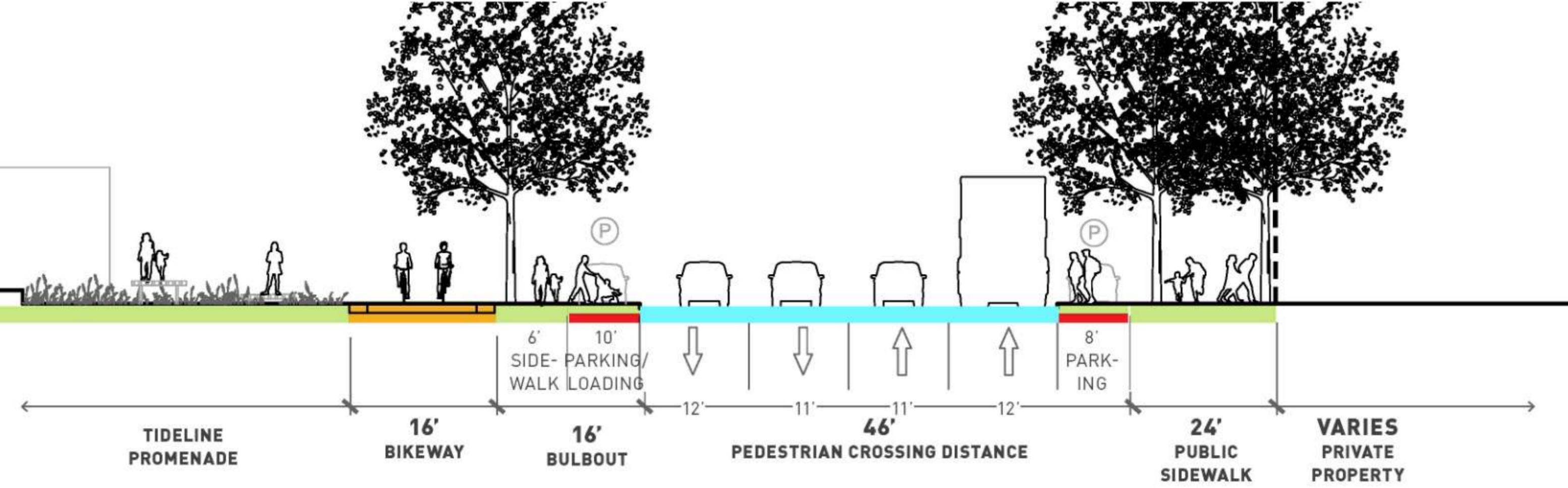


# SEGMENT 4: SENECA TO PIKE

## SECTION @ UNIVERSITY STREET



■ VEHICLE LANES   
 ■ PARKING/LOADING   
 ■ MEDIANS   
 ■ BIKEWAY   
 ■ PUBLIC REALM   
  SERVICE



TIDELINE PROMENADE

16' BIKEWAY

16' BULBOUT

46' PEDESTRIAN CROSSING DISTANCE

24' PUBLIC SIDEWALK

VARIES PRIVATE PROPERTY

6' SIDE-WALK  
10' PARKING/LOADING

8' PARKING

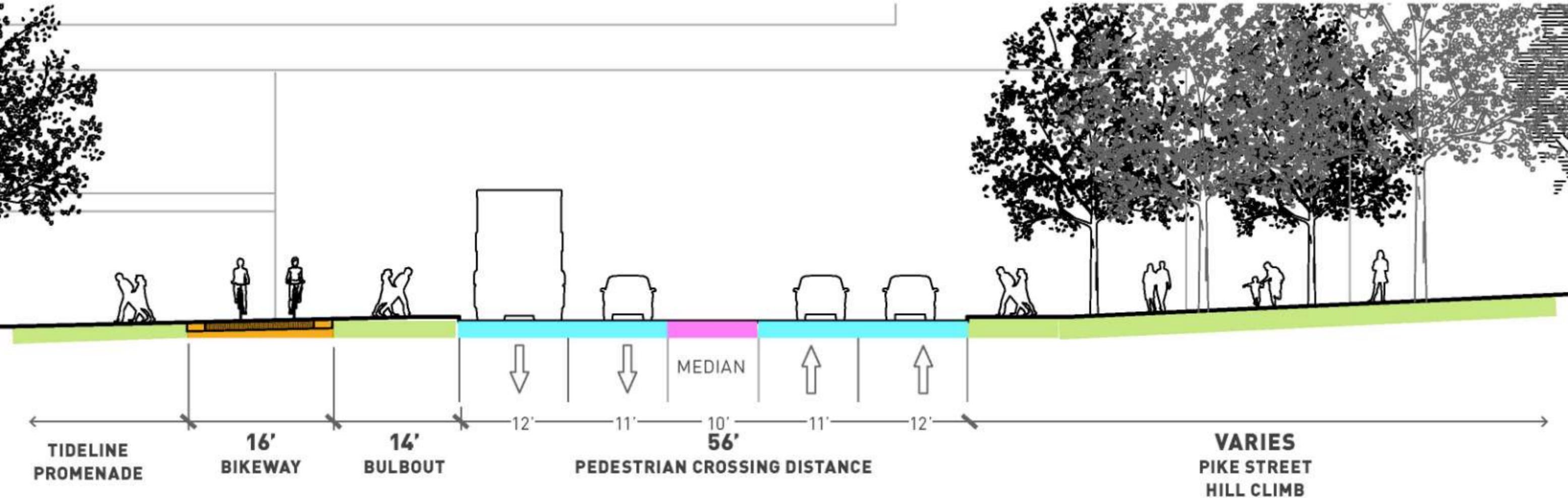
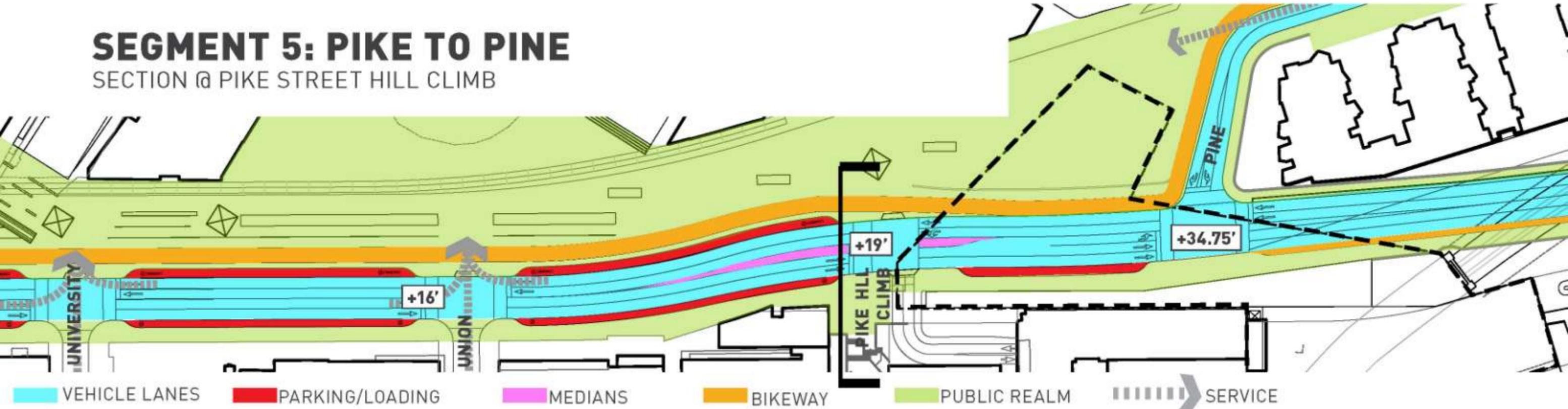
12' 11' 11' 12'

# OVERLOOK FOLD



# SEGMENT 5: PIKE TO PINE

SECTION @ PIKE STREET HILL CLIMB

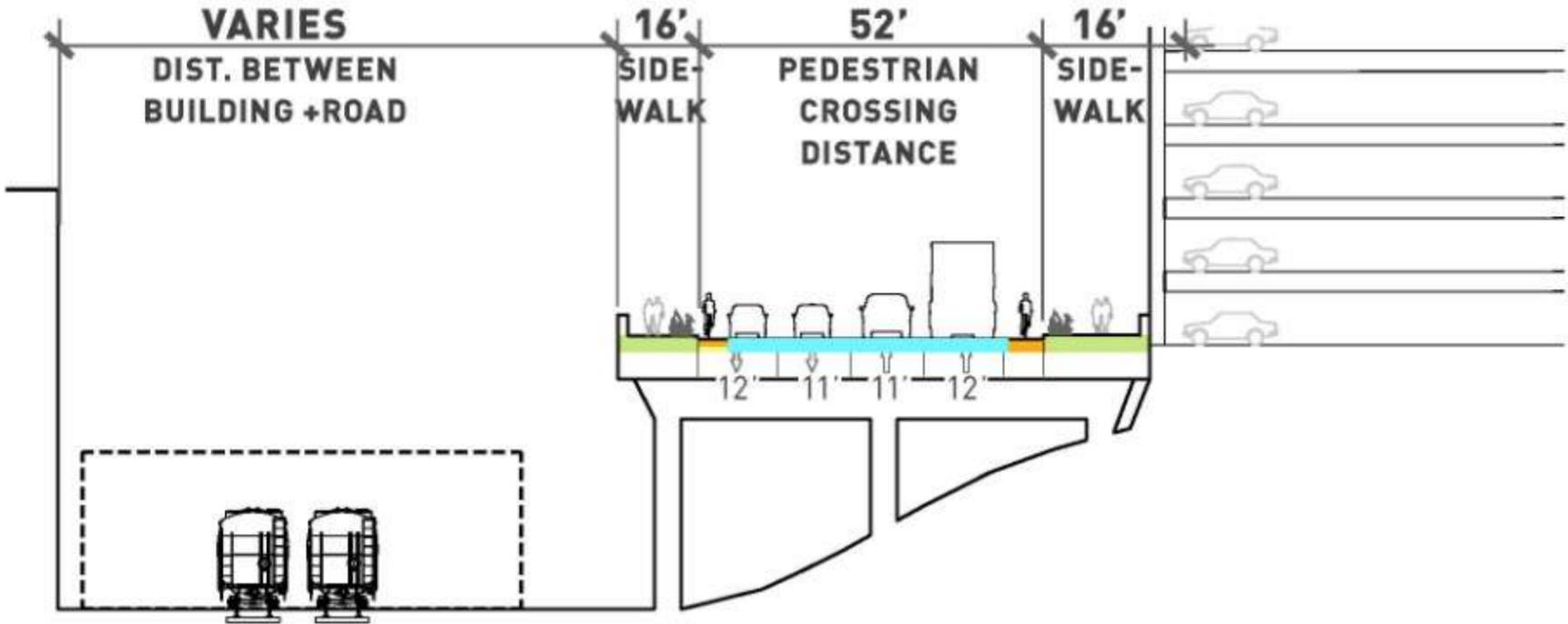


# SEGMENT 6A: PINE TO LENORA

SECTION @ VIRGINIA STREET



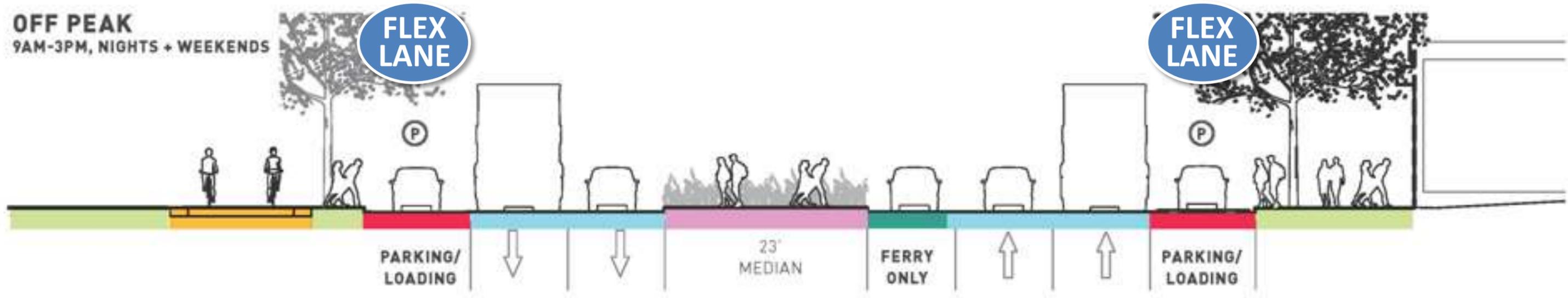
VEHICLE LANES BIKELANE PUBLIC REALM SERVICE





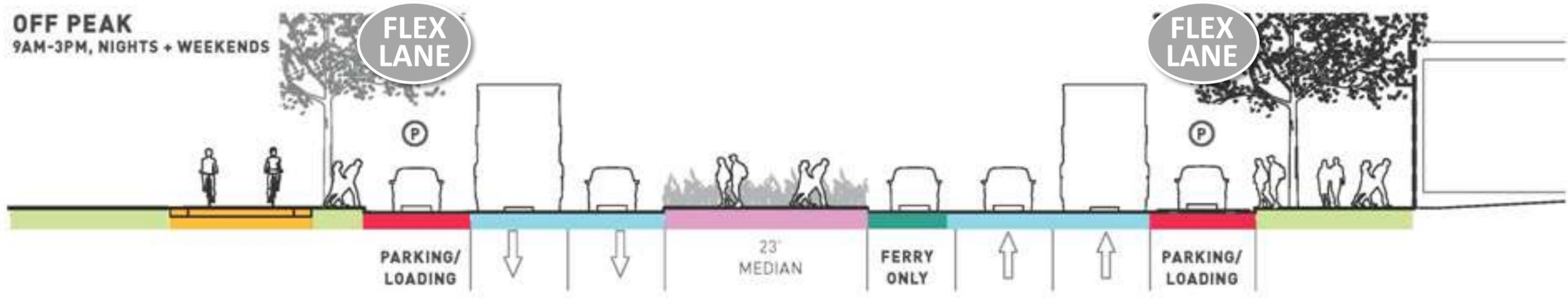
## STREET DESIGN FLEX LANES

**OFF PEAK**  
9AM-3PM, NIGHTS + WEEKENDS

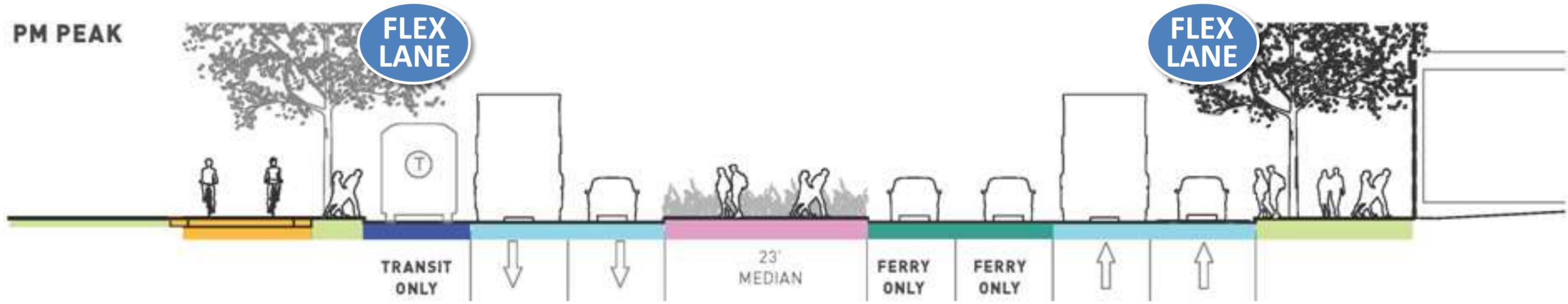


## STREET DESIGN FLEX LANES

**OFF PEAK**  
9AM-3PM, NIGHTS + WEEKENDS

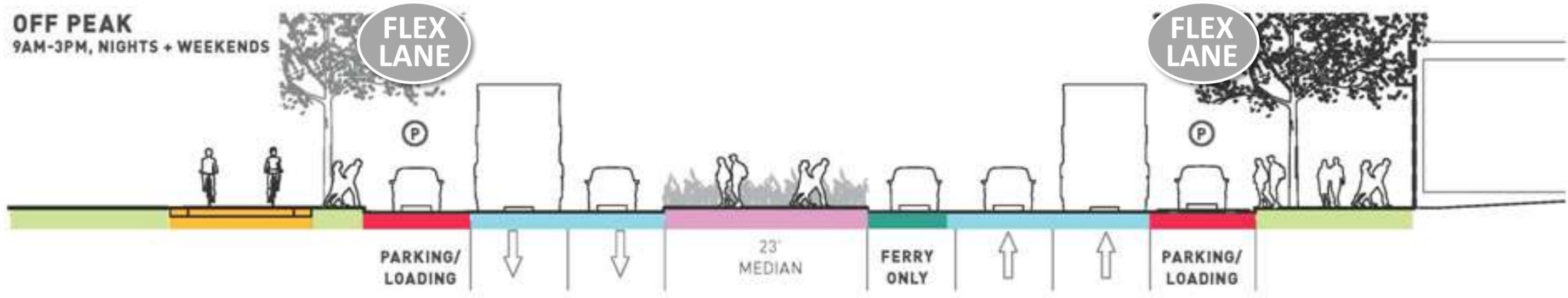


**PM PEAK**

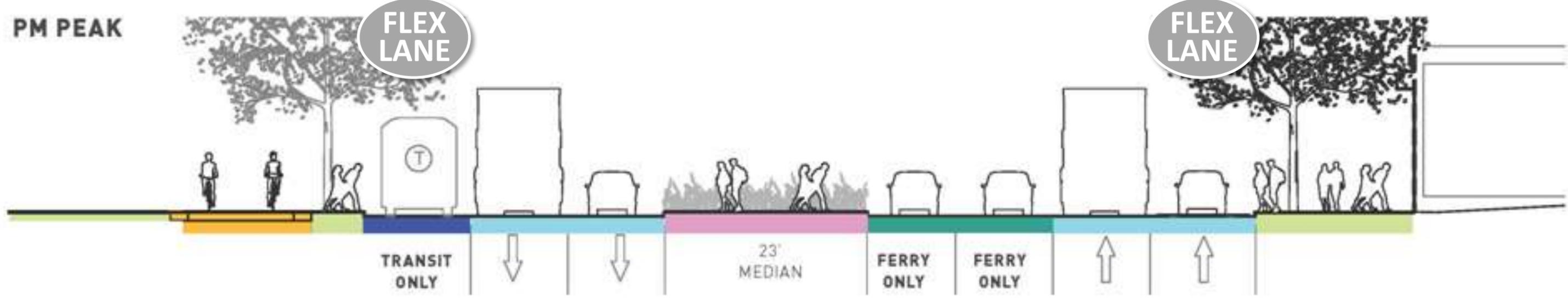


## STREET DESIGN FLEX LANES

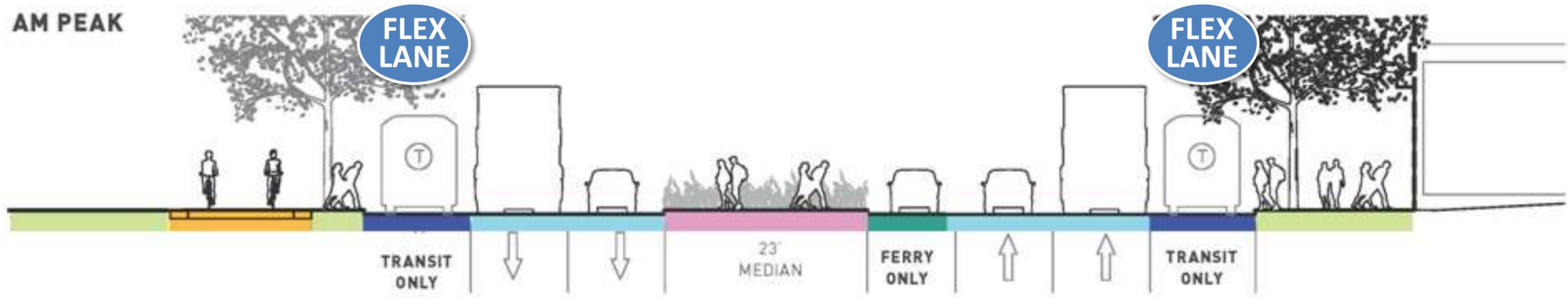
**OFF PEAK**  
9AM-3PM, NIGHTS + WEEKENDS



**PM PEAK**



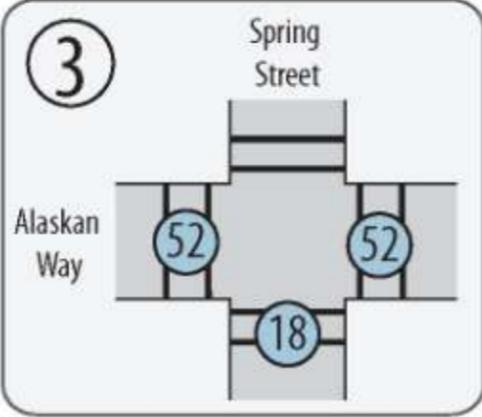
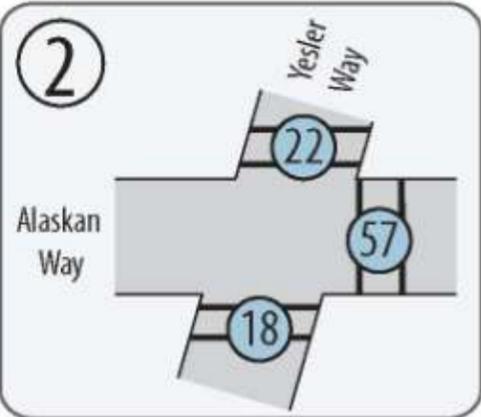
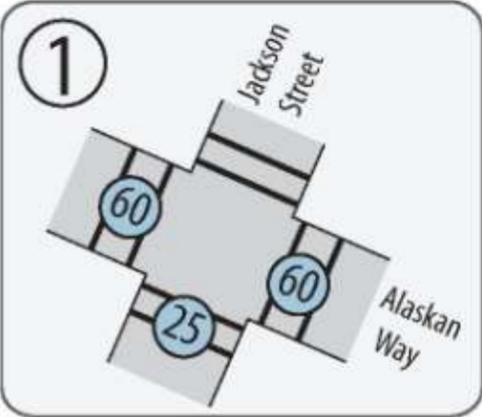
**AM PEAK**



# STREET DESIGN

## TRAFFIC CONSIDERATIONS

Waterfront Seattle  
Pedestrian crossing wait times + crossing times  
Year 2030 PM peak hour



52 Average pedestrian wait time + crossing time





### FERRY SCHEDULE

5:30	9:35	3:00
6:10	11:25	3:40
7:05	12:20	4:40
7:55	1:10	5:30
8:45	2:05	6:20

# TREELINED STREETS



**ALASKAN WAY BTWN SENECA/UNIVERSITY ST.**  
LOOKING NORTH

