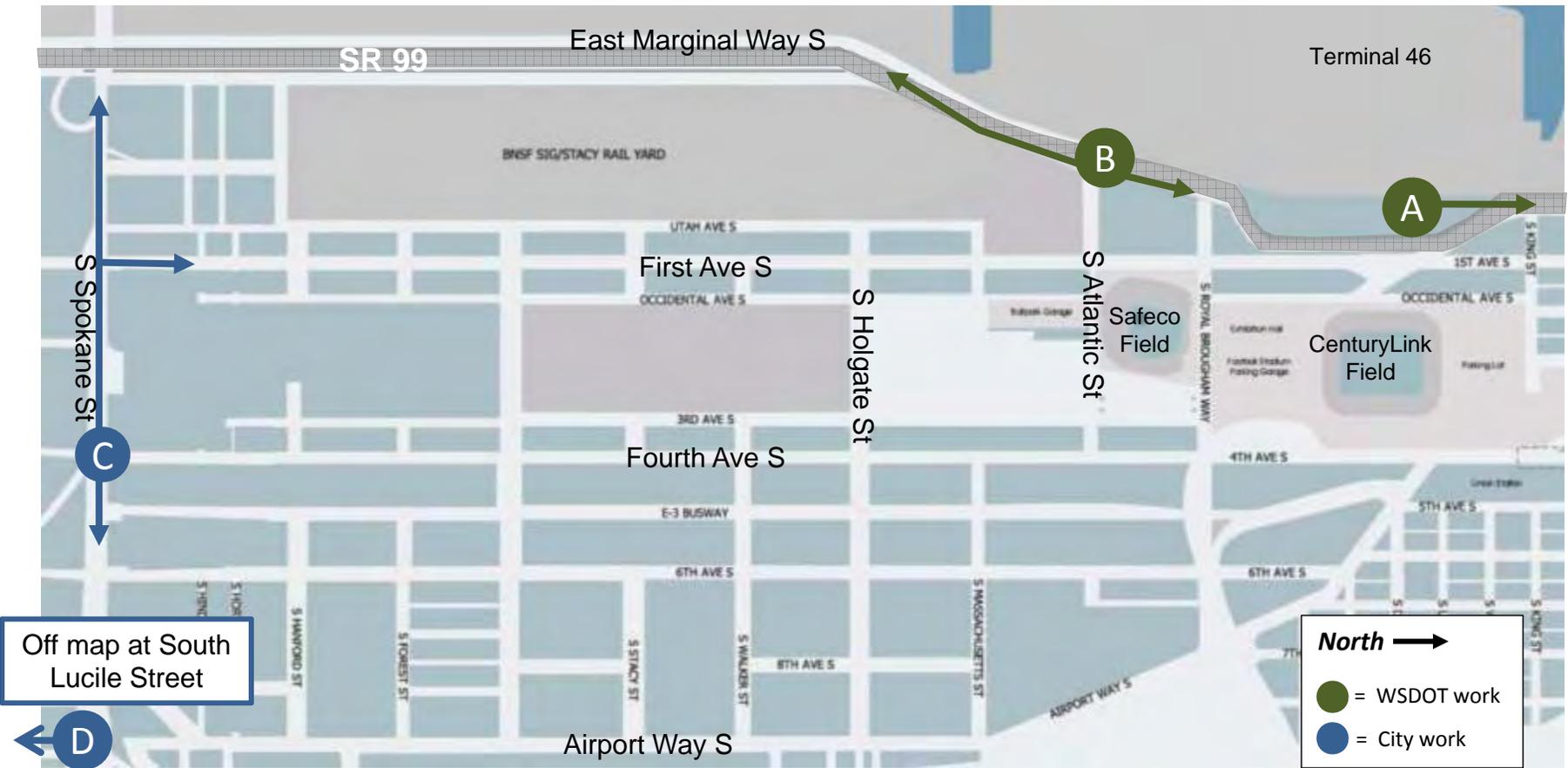


# Alaskan Way Viaduct Replacement Program



**South Portal Working Group**  
**Aug. 1, 2012**

# South End Construction Overview



Off map at South Lucile Street

- A** Build tunnel launch pit
- B** Build second SR 99 bridge and South Atlantic Street overcrossing
- C** Rebuild roadway on South Spokane Street viaduct
- D** Rebuild Airport Way South viaduct

## A Excavating the Tunnel Launch Pit



- June 2012 to early 2013.
- Launch pit will be 400 feet long, 80 feet wide and 80 feet deep.
- 86,000 cubic yards of soil will be excavated from the tunnel launch pit.

## A Building Tunnel Support Walls



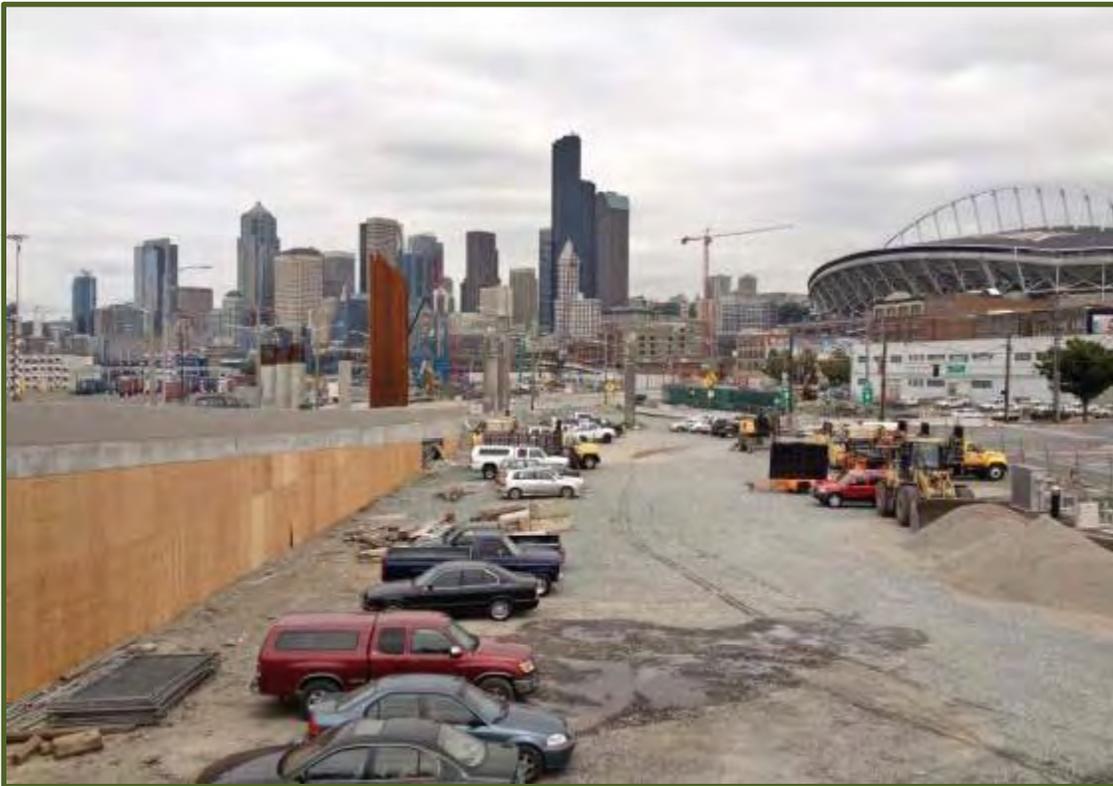
- June 2012 to early 2013.
- Secant piles form underground walls to provide a protected area where the TBM will start tunnelling.
- Installed in the closed section of Alaskan Way South between the launch pit and South Washington Street.

## **B Build Second SR 99 Bridge**



- November 2011 to fall 2012.
- Will be completed one year ahead of schedule and on budget.
- Current work includes finishing road deck.
- Anticipate a nighttime closure to connect new bridges to existing bypass.

## **B Build South Atlantic Street Overcrossing**



- July 2012 to December 2013.
- Crews are currently mobilizing on site with construction starting later this month.
- During construction, expect some weekend and overnight closures of SR 99 off-ramp to South Atlantic Street, SR 99 mainline and bike/ped path.

## © Rebuild South Spokane Street Viaduct



- Repair and repaving of old bridge deck is progressing well and is nearly complete.
- New WB 1<sup>st</sup> Avenue On-Ramp now open to emergency vehicles; it will re-open to general traffic by early September
- No extended day time closures of upper roadway anticipated, but sporadic night time closures will continue thru August
- By September all lanes of upper roadway will be open to general traffic.
- Last major activity is to complete paving of 1<sup>st</sup> Avenue S. and Spokane intersection and eastbound 1<sup>st</sup> Avenue Off-ramp, which cannot start until upper roadway is substantially complete and east bound Harbor Island on-ramp has re-opened.



## Reinforcing the Viaduct



- Intermittent work continues through fall.
- Wrap sections of concrete in protective reinforcing fiber.
- SR 99 southbound lanes closed from the Battery Street Tunnel to West Seattle Bridge Sunday through Thursday nights, 9 p.m. to 5 a.m.
- Intermittent lane closures on new road under the viaduct between South Washington Street and Columbia Street.

## Protecting Structures Along the Tunnel Route



*Example of monitoring equipment on building exterior.*

- Installation of monitoring equipment begins August 2012 through mid-2013.
- WSDOT is responsible for protecting buildings and other structures along the SR 99 tunnel route.
- Equipment installed on buildings and in the ground to detect ground movement.
- Tunneling crews will constantly monitor ground conditions and adjust accordingly as the machine moves forward through the earth.

# Construction Monitoring Area



## **Working group member feedback**

# South Portal Working Group Meeting

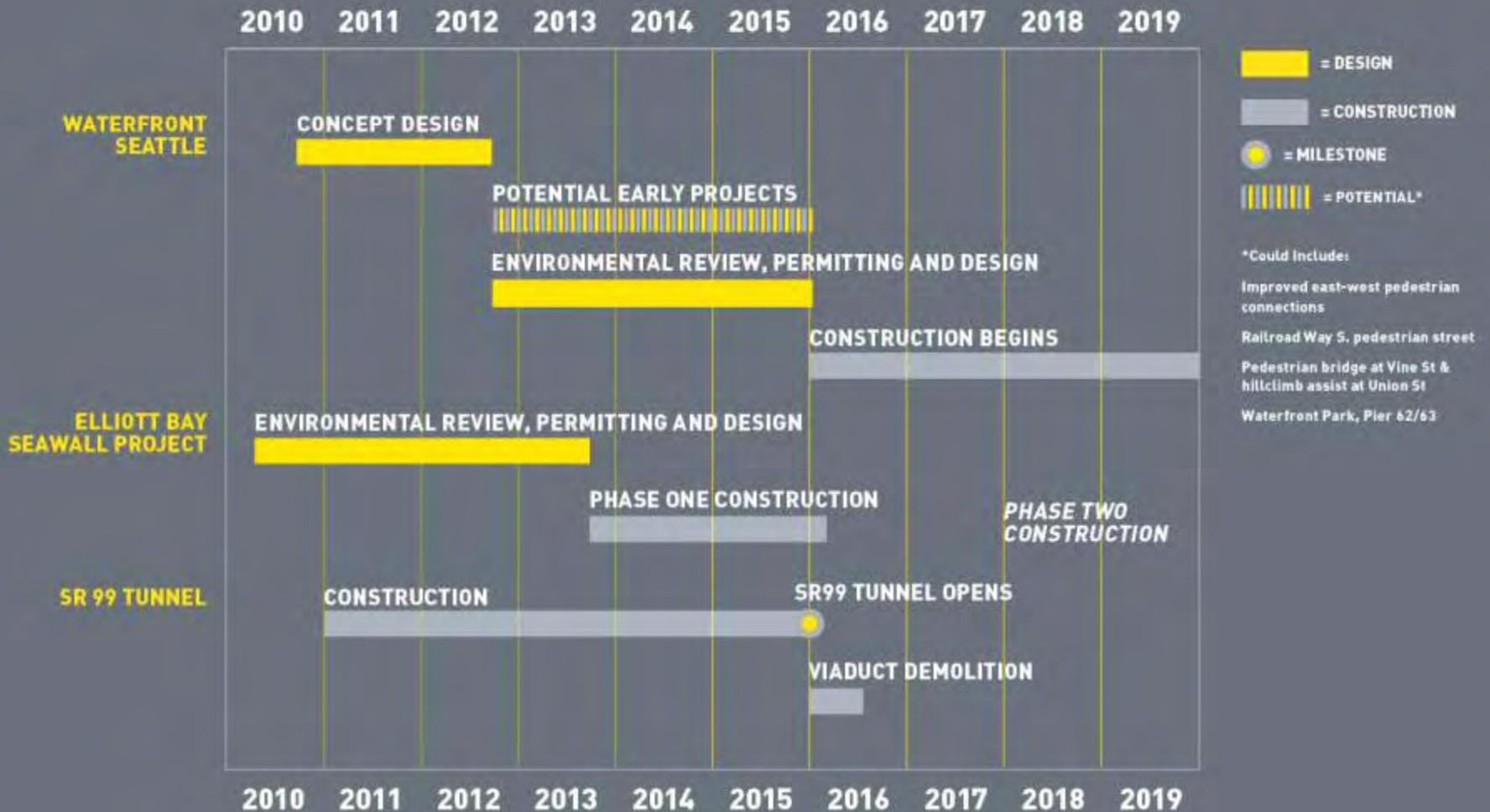
August 1, 2012

Waterfront  
Seattle





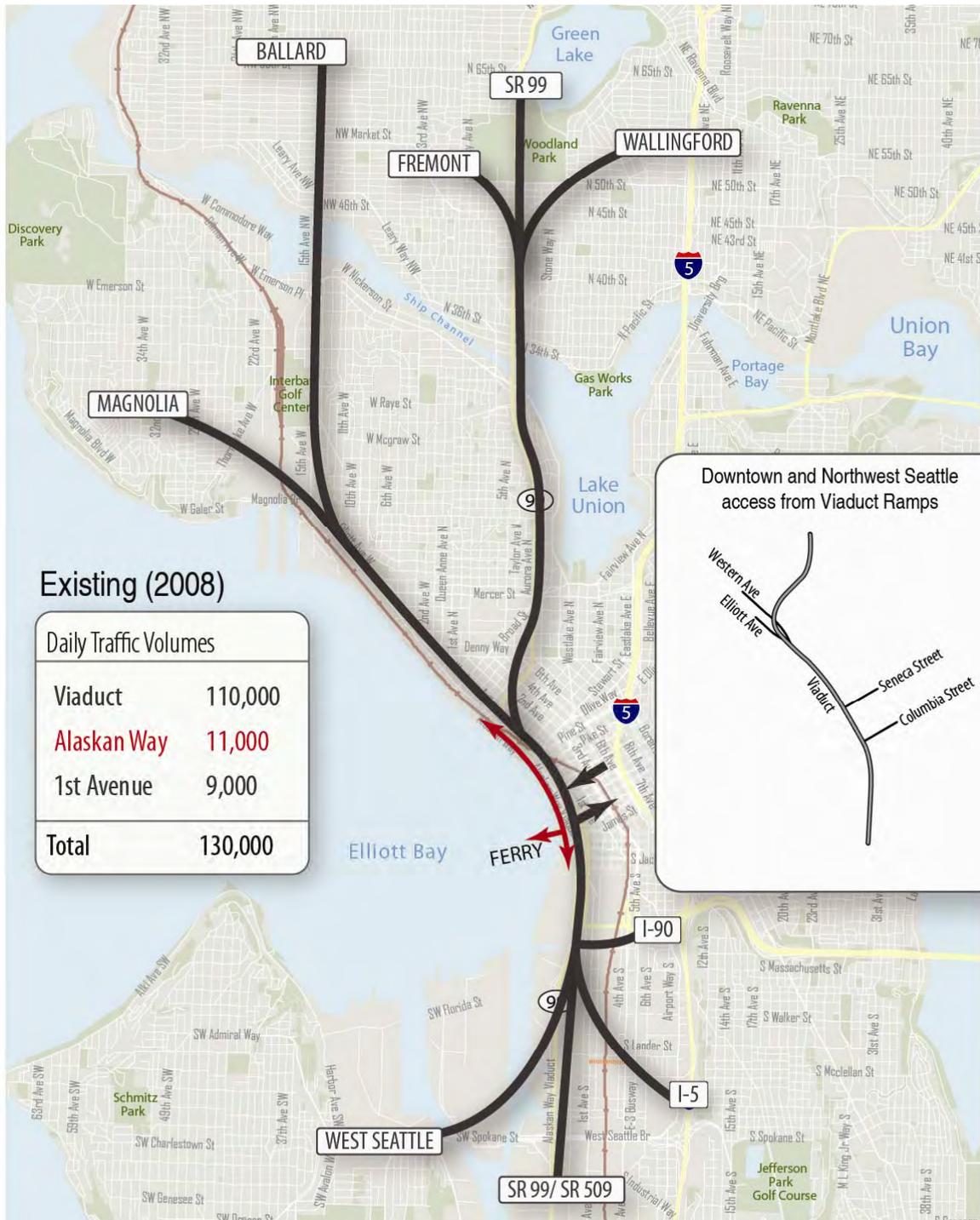
# Project Schedules



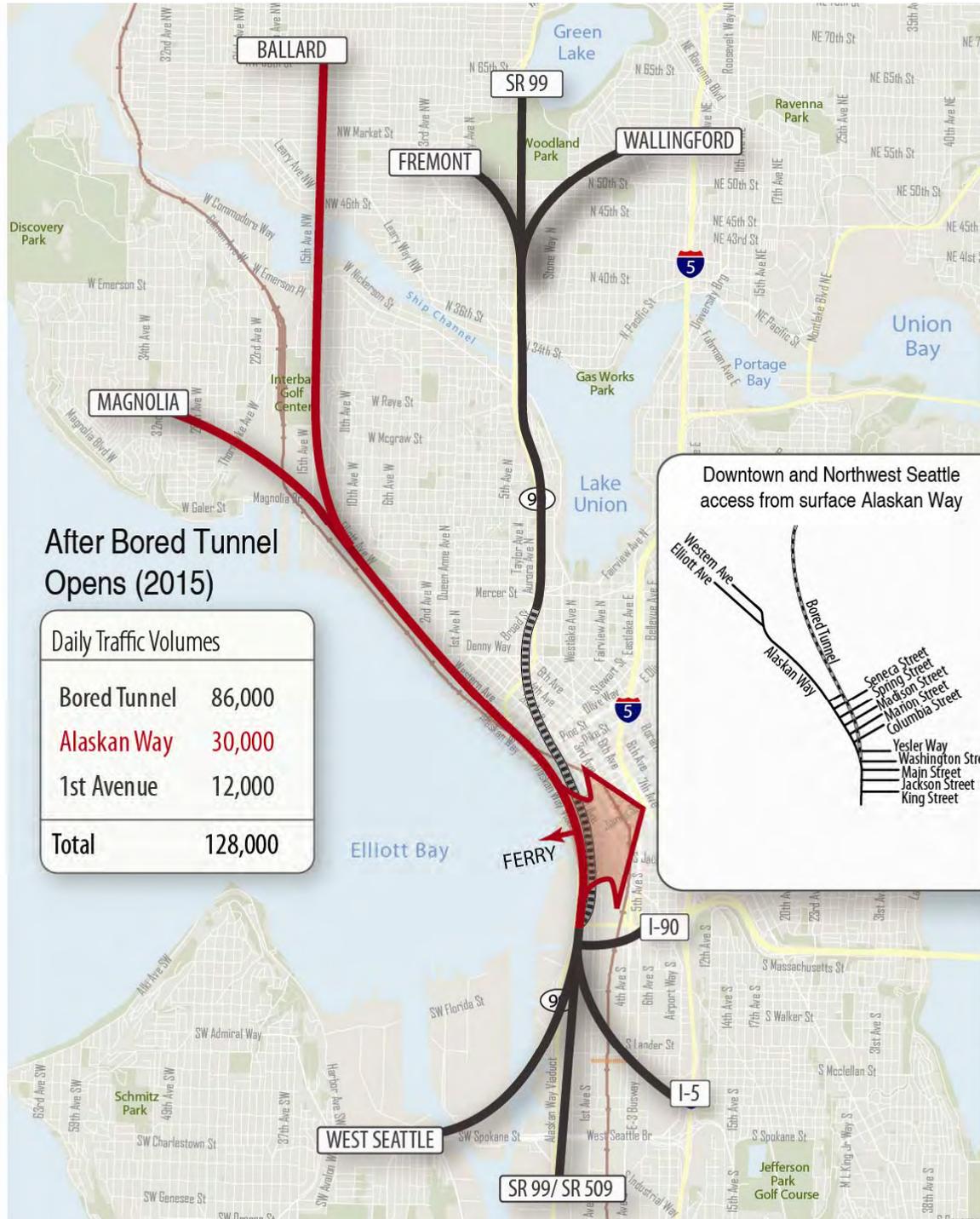
# WATERFRONT PUBLIC REALM



# Existing SR 99 Traffic Patterns



# Traffic Changes After Bored Tunnel Opens



# 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

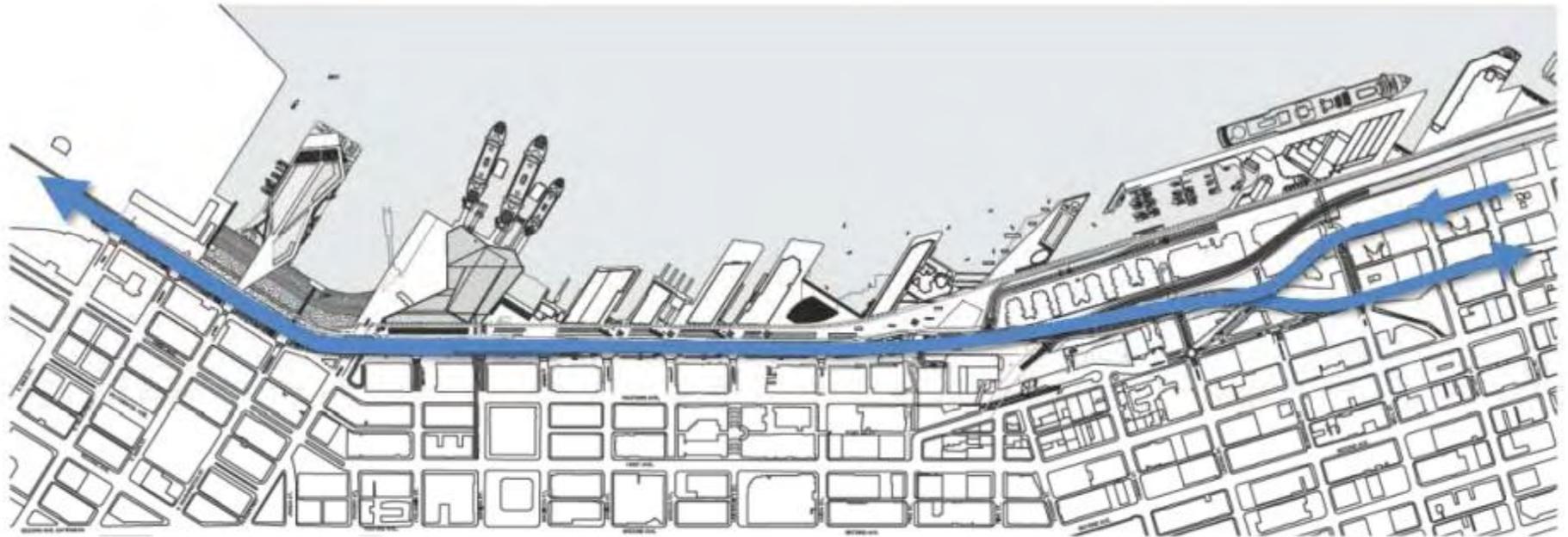


# Access to Downtown and Northwest Seattle at SR99 South Tunnel Portal



# STREET DESIGN

FUNCTIONS OF THE STREET



 VEHICLES, PARKING AND LOADING

# STREET DESIGN

FUNCTIONS OF THE STREET



 VEHICLES, PARKING AND LOADING

# 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

# STREET DESIGN

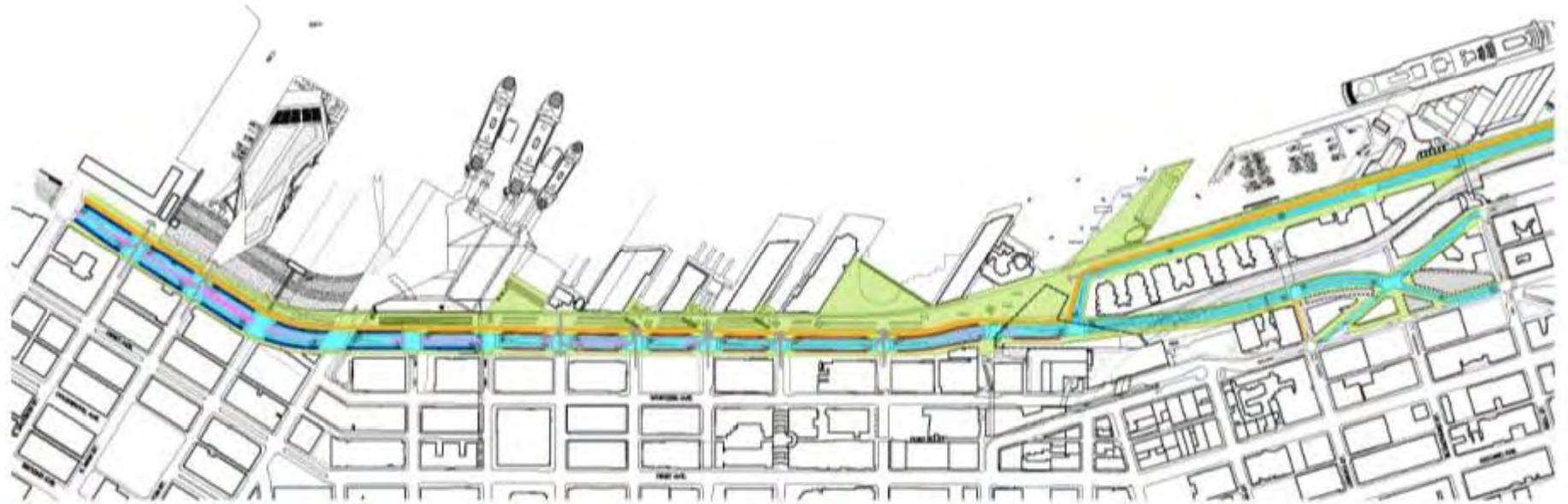
FUNCTIONS OF THE STREET



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

# STREET DESIGN

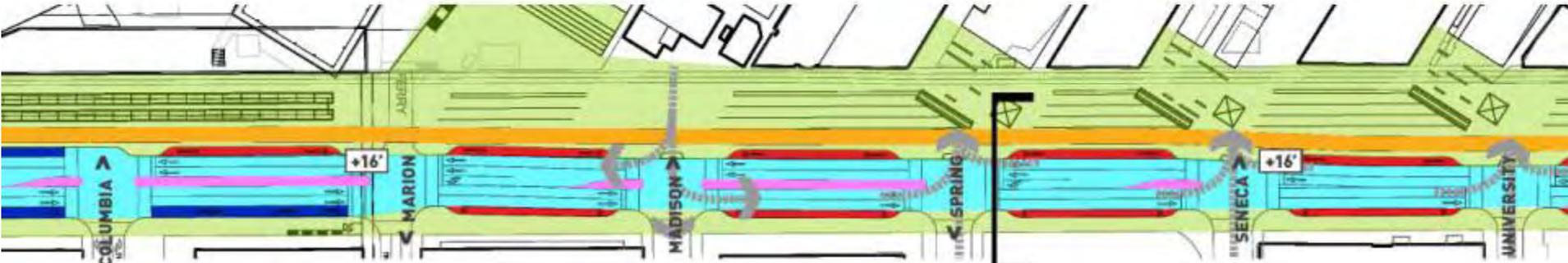
## SITE PLAN



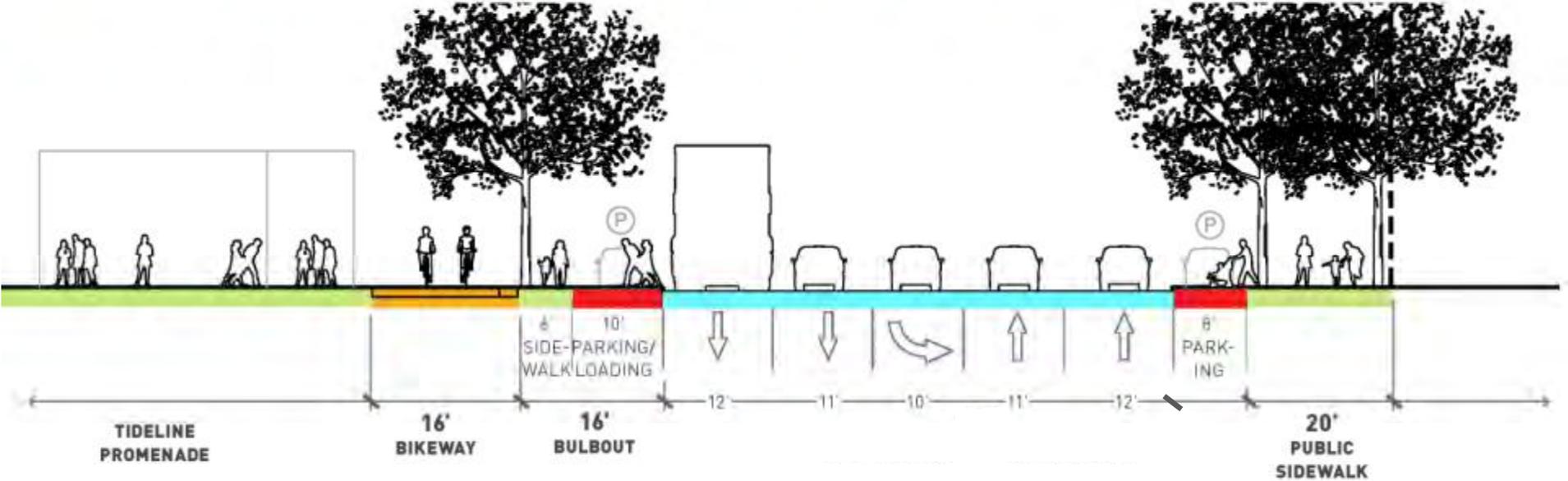
- VEHICLE LANES**  
GENERAL TRAFFIC /  
FREIGHT /  
LOCAL TRANSIT
- PARKING / LOADING**
- FLEX LANES**  
PEAK PERIOD TRANSIT  
/ OFF-PEAK PARKING &  
LOADING
- MEDIANS**
- BIKEWAY/LANE**
- PUBLIC REALM**
- SERVICE ROUTES**

# SEGMENT 3: MARION TO SENECA

SECTION @ SPRING STREET



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



TIDELINE PROMENADE

16' BIKEWAY

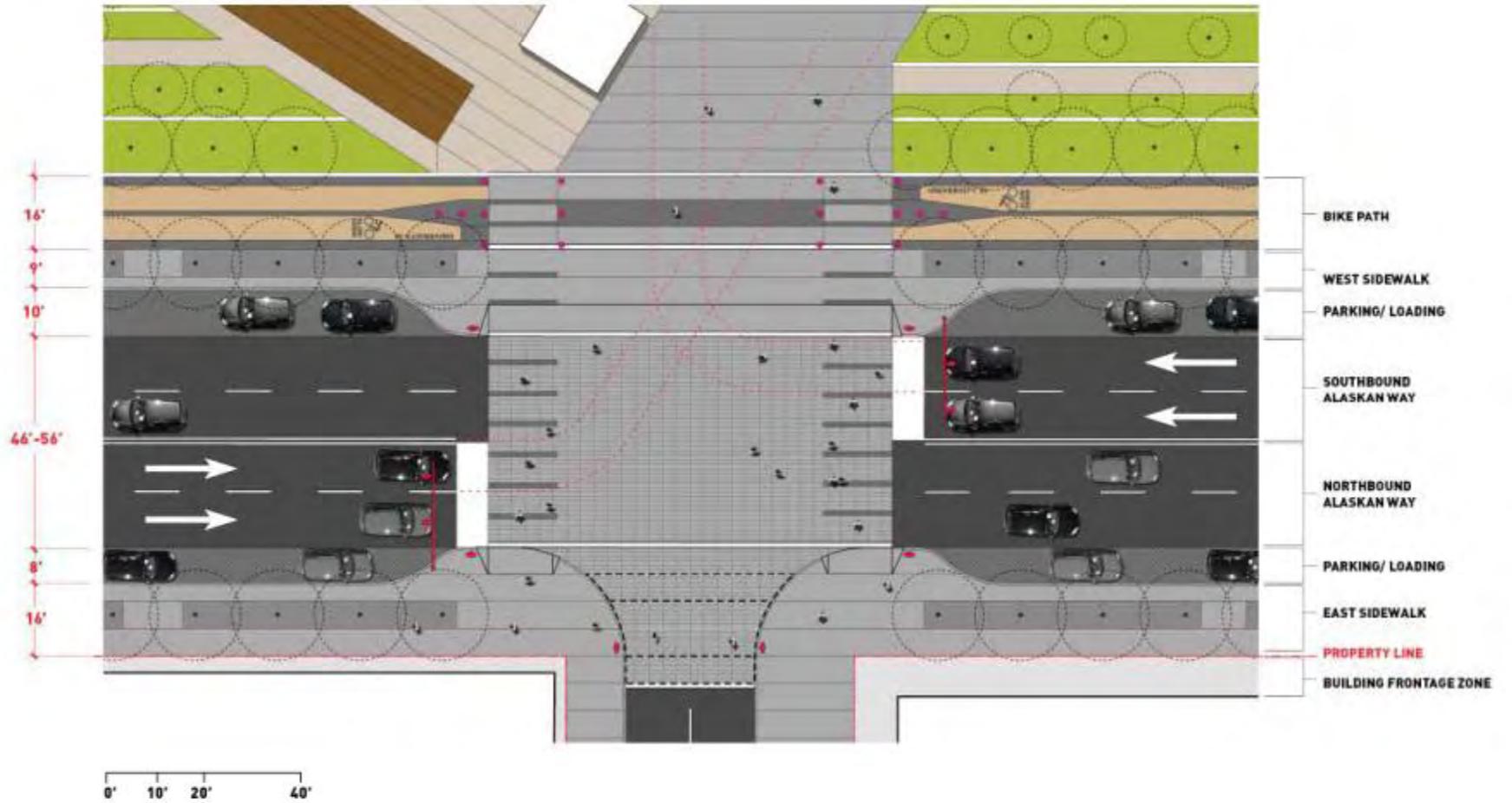
16' BULBOUT

20' PUBLIC SIDEWALK



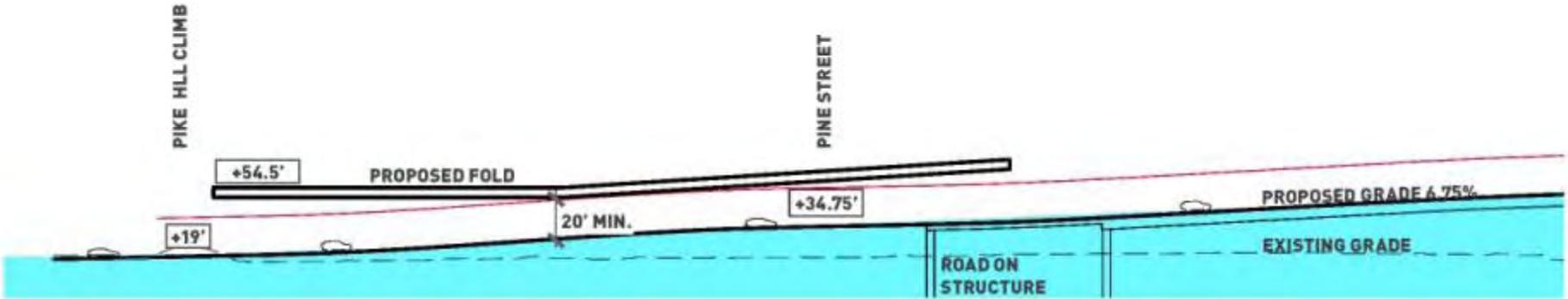
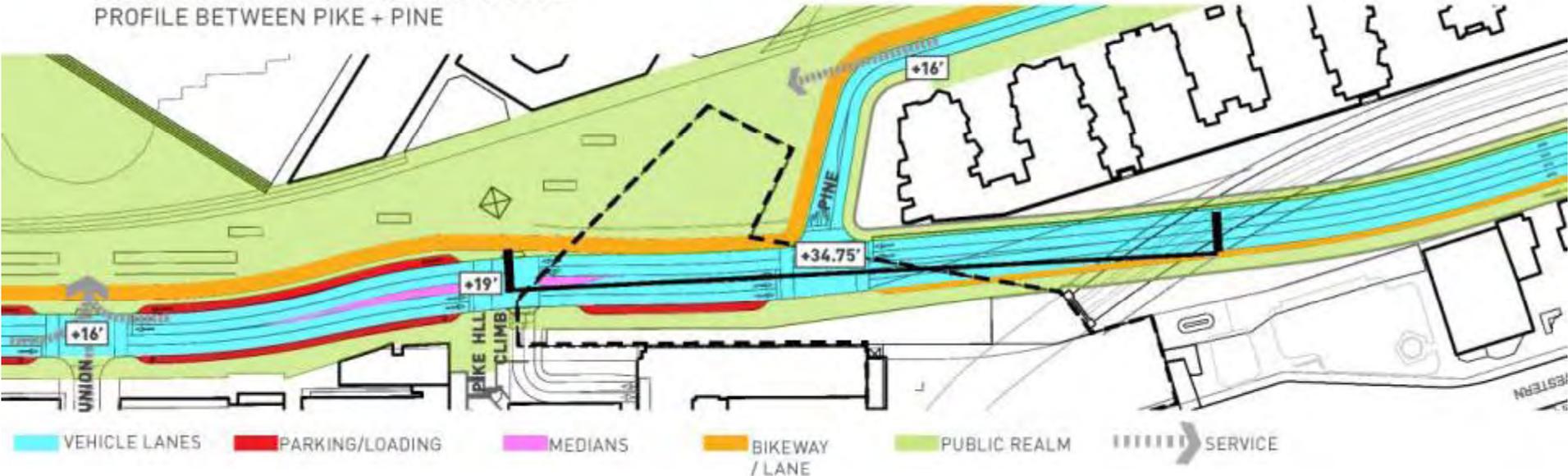
TIDELINE PROMENADE

# TYPICAL CROSSING



# SEGMENT 5: PIKE TO PINE

PROFILE BETWEEN PIKE + PINE



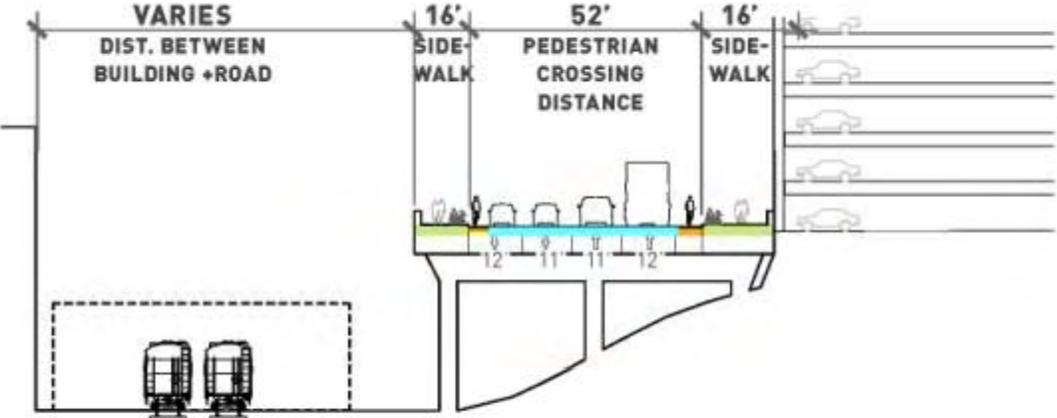
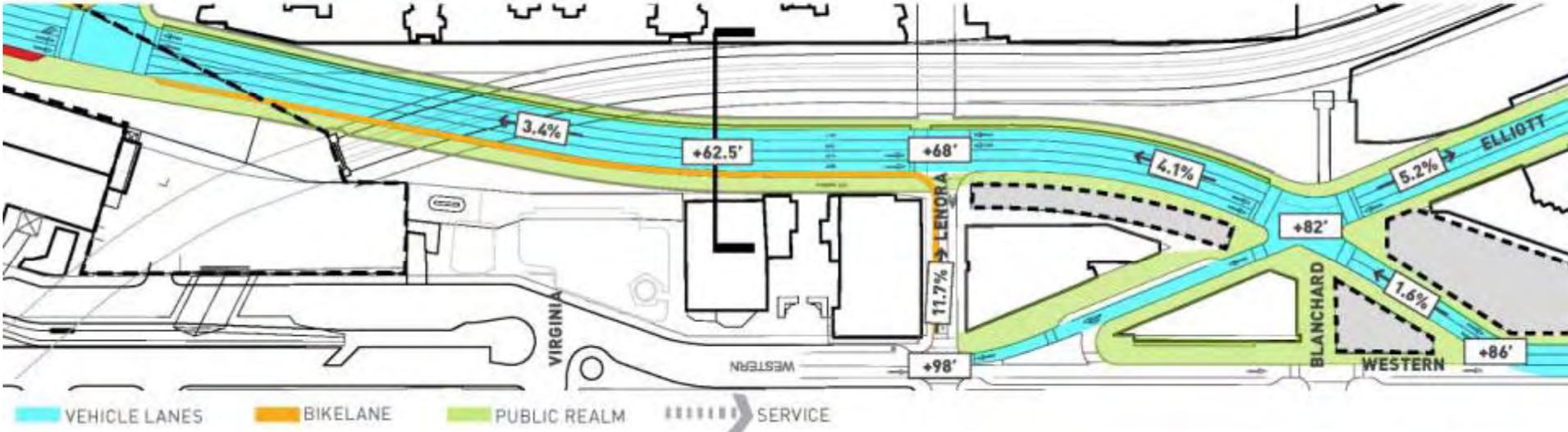
PROFILE BETWEEN PIKE AND STEWART ST., LOOKING WEST

# OVERLOOK WALK



# SEGMENT 6A: PINE TO LENORA

SECTION @ VIRGINIA STREET

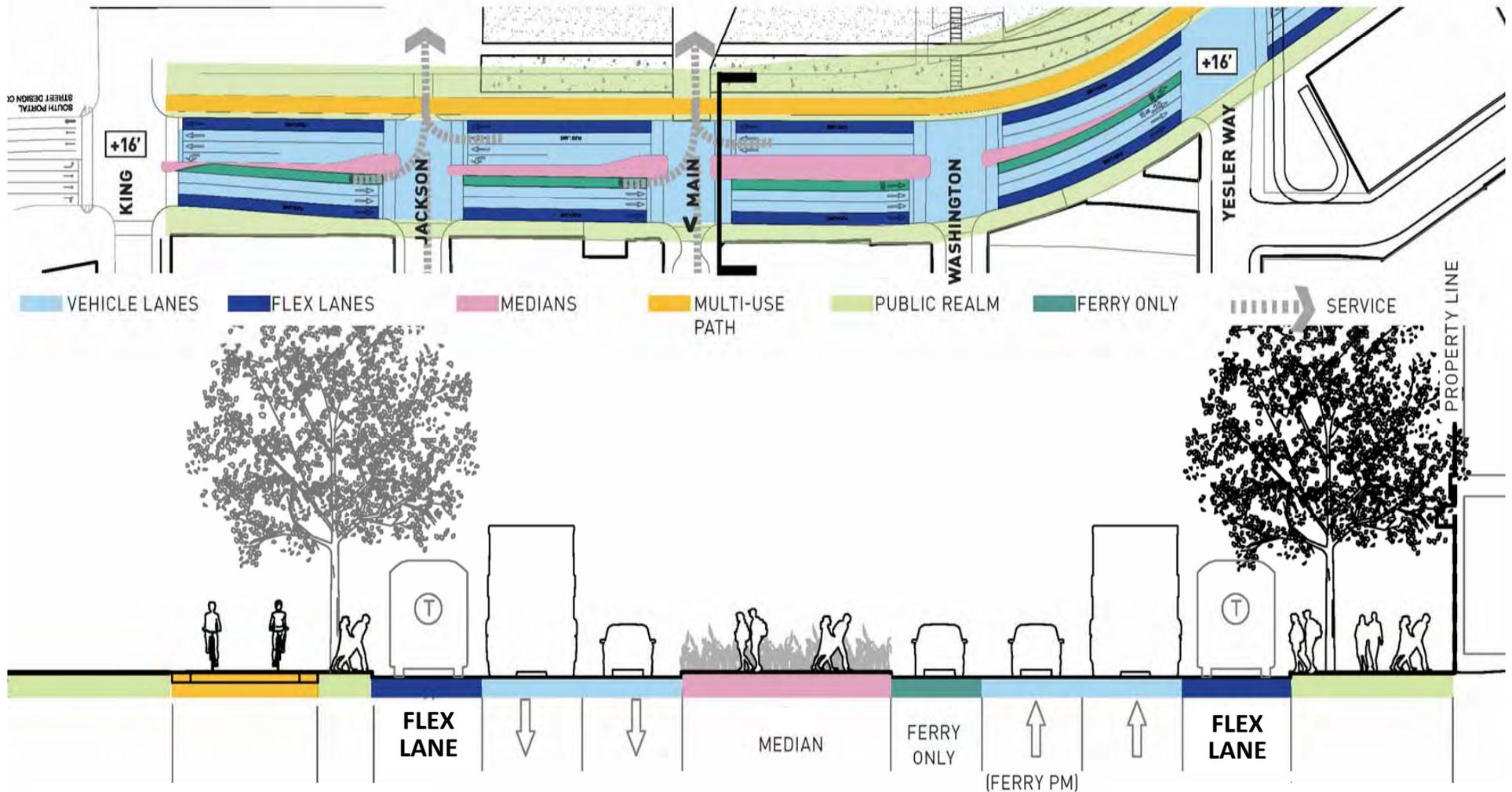


# South Segment

WORKING DRAFT: DECEMBER 15, 2011

## SEGMENT 1: S. KING TO YESLER WAY

SECTION @ S. MAIN STREET

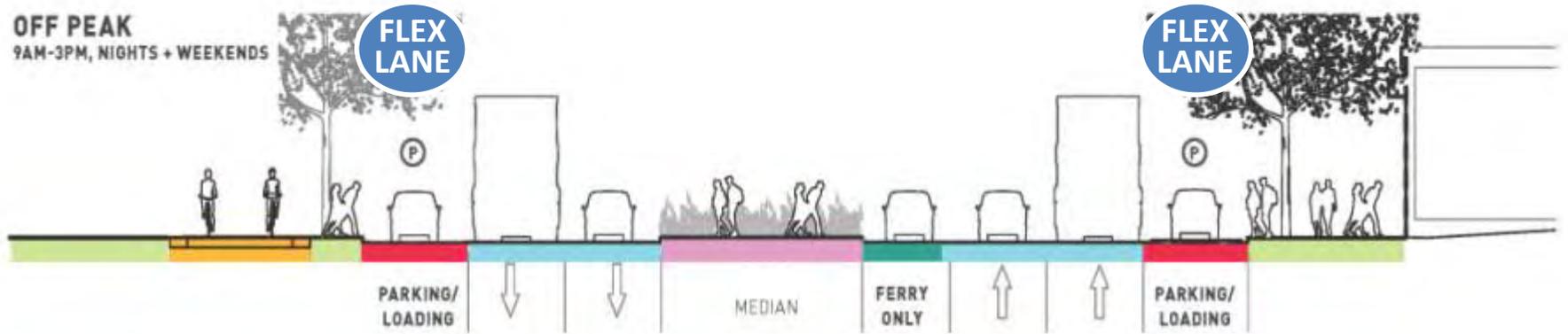


# South Segment

WORKING DRAFT: DECEMBER 15, 2011

## STREET DESIGN FLEX LANES

OFF PEAK  
9AM-3PM, NIGHTS + WEEKENDS



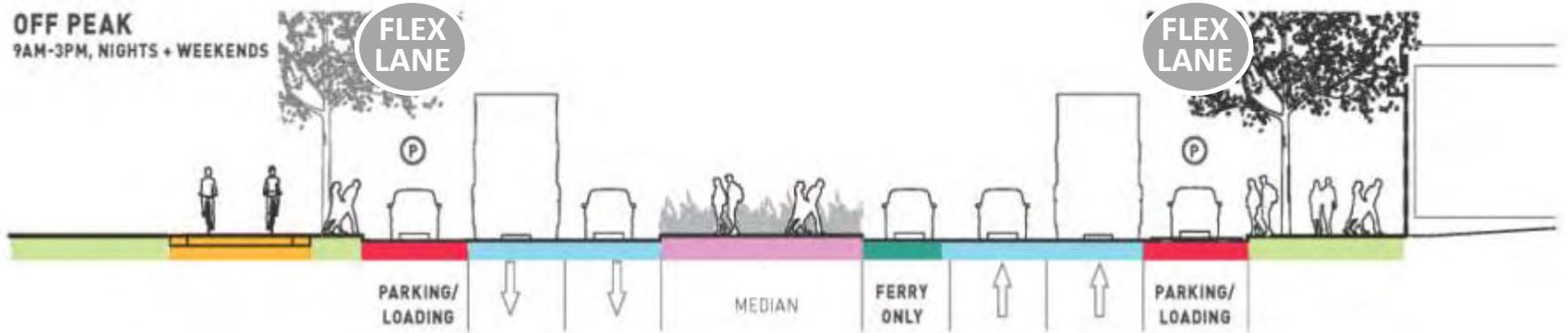
# South Segment

WORKING DRAFT, DECEMBER 15, 2011

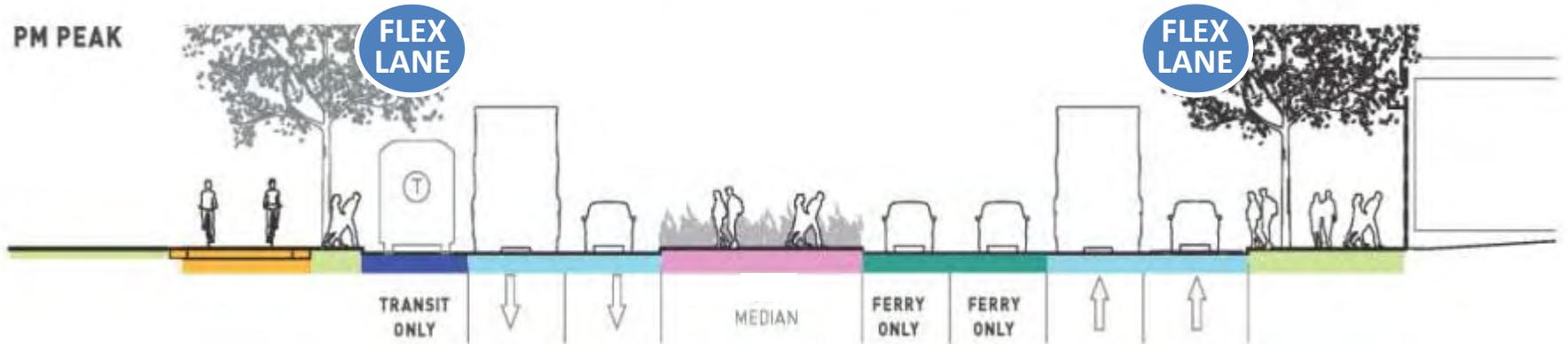
## STREET DESIGN FLEX LANES

### OFF PEAK

9AM-3PM, NIGHTS + WEEKENDS



### PM PEAK



# South Segment

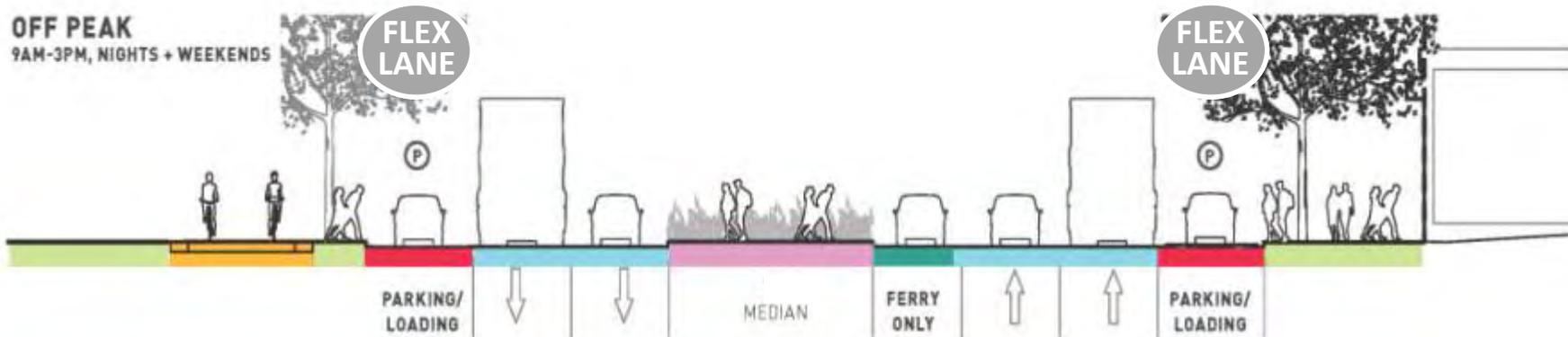
WORKING DRAFT: DECEMBER 15, 2011

## STREET DESIGN

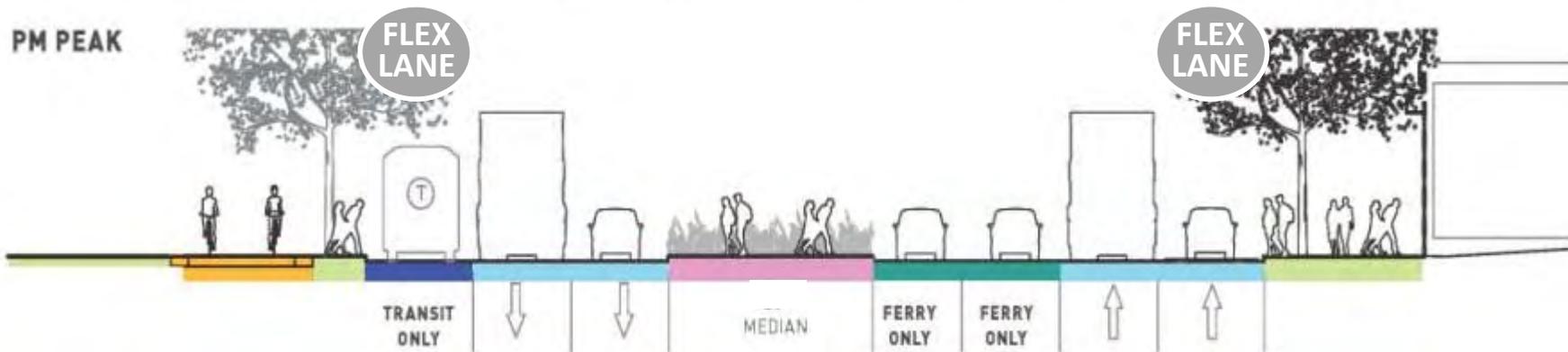
### FLEX LANES

#### OFF PEAK

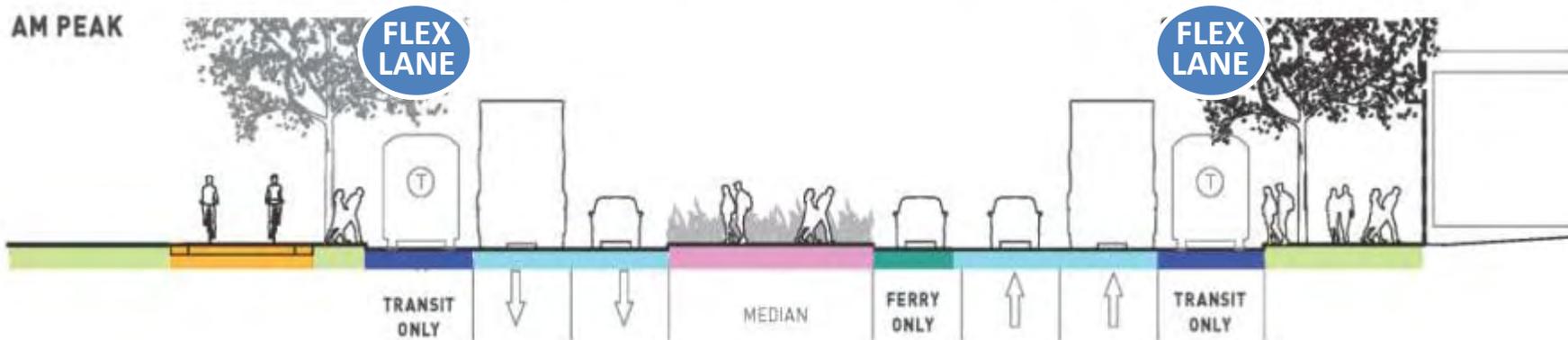
9AM-3PM, NIGHTS + WEEKENDS



#### PM PEAK



#### AM PEAK



# Contact Information

## **Waterfront Seattle**

Hotline: 206-499-8040

Web: [www.waterfrontseattle.org](http://www.waterfrontseattle.org)

Email: [info@waterfrontseattle.org](mailto:info@waterfrontseattle.org)

Facebook: [WaterfrontSeattle](https://www.facebook.com/WaterfrontSeattle)

Twitter: [@waterfrontSEA](https://twitter.com/waterfrontSEA)

# Downtown Southend Transit Pathways

August 2012

# High Transit Ridership on SR 99

- 20,000 daily riders on 10 routes use Columbia and Seneca ramps
- 45 to 50 Metro buses per peak hour
- One-fifth of the buses moving on Third Avenue
- RapidRide C and D Lines – September 2012



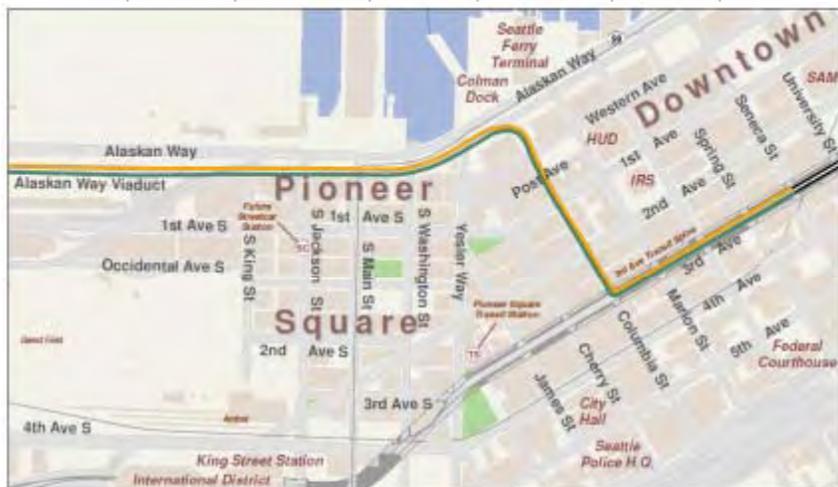
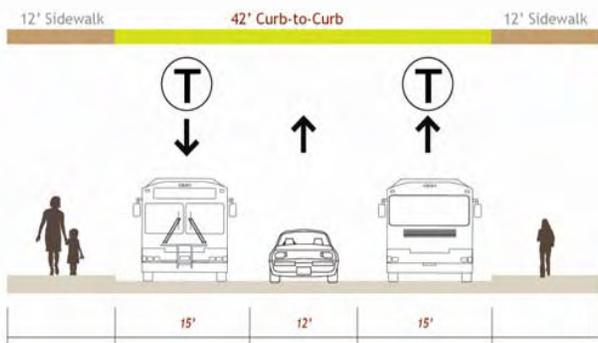
# Pathways Eliminated

- Evaluated pathways that included surface streets, SR 99 and I-5.

Pathway	Reasons for being removed from further consideration
<b>1<sup>st</sup> Avenue S and 4<sup>th</sup> Avenue S</b>	<ul style="list-style-type: none"> <li>• Poor transit reliability</li> <li>• Increased travel time (5-15 minutes) compared to existing Alaskan Way Viaduct pathway</li> </ul>
<b>Yesler Way and James Street</b>	<ul style="list-style-type: none"> <li>• Conflicts with ferry operations</li> <li>• Added delay due to turn movements</li> <li>• Difficult turns for buses</li> </ul>
<b>Jackson Street</b>	<ul style="list-style-type: none"> <li>• Higher traffic volumes expected on Jackson Street with surface Alaskan Way</li> <li>• Right-of-way constraints with the First Hill Streetcar</li> <li>• Increase turn movements and pedestrian conflicts</li> <li>• Difficult turns for buses.</li> </ul>

# Pathways Analyzed

**Columbia Street**  
Two-way transit only with loading zones and business access

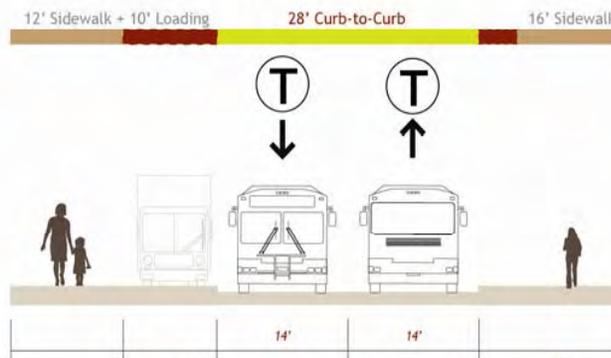


DOWNTOWN SOUTHEAST TRANSIT STUDY



Exhibit S-8  
Pathway 5A

**Main Street**  
Two-way transit only with loading zones and business access



DOWNTOWN SOUTHEAST TRANSIT STUDY

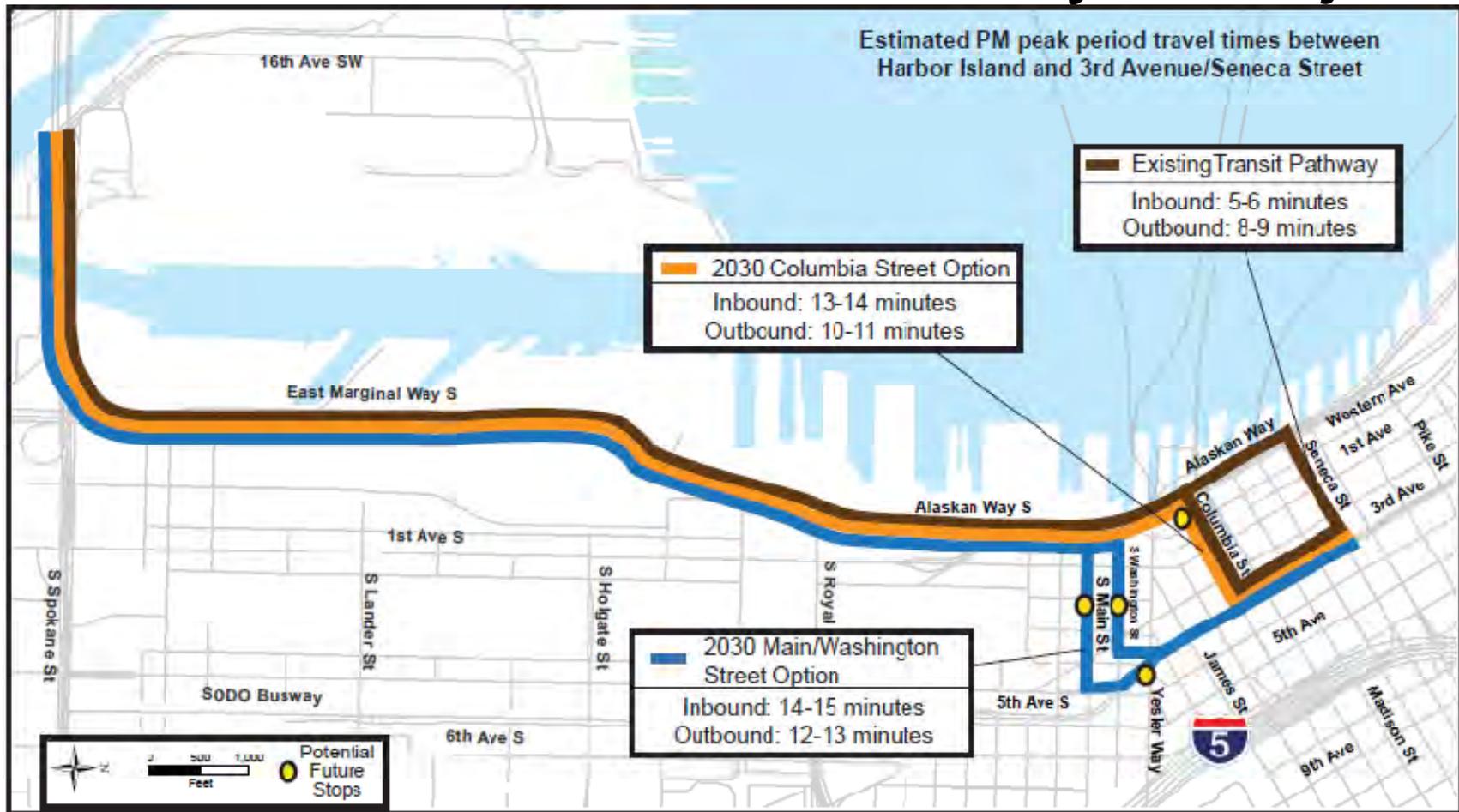


Pathway 3A

# Preliminary Results

Factors	Columbia	Main/Washington
Travel Time (Weekday PM Peak)	<ul style="list-style-type: none"> <li>• Longer travel times than existing</li> </ul>	<ul style="list-style-type: none"> <li>• Longer travel times than existing</li> </ul>
Reliability	<ul style="list-style-type: none"> <li>• Must have transit lanes for reliability</li> <li>• Delays at 3<sup>rd</sup> Avenue</li> </ul>	<ul style="list-style-type: none"> <li>• Must have transit lanes for reliability</li> <li>• Delays at 3<sup>rd</sup> Avenue/Main Street</li> </ul>
Bus Operations	<ul style="list-style-type: none"> <li>• Grade and intersection at 3<sup>rd</sup> Avenue</li> </ul>	
Grade	<ul style="list-style-type: none"> <li>• Moderate to steep grade</li> </ul>	<ul style="list-style-type: none"> <li>• Slight grade</li> </ul>
Access and Connections	<ul style="list-style-type: none"> <li>• Access to Colman Dock/Central Waterfront, Pioneer Square Station</li> </ul>	<ul style="list-style-type: none"> <li>• Access to Pioneer Square, International District, King Street Station</li> </ul>
Population		<ul style="list-style-type: none"> <li>• Serves more people with two area stops</li> <li>• Greater density of residences</li> </ul>
Parking	Similar levels of parking removed for two-way options; more for Main/Washington couplet.	
Neighborhood Concerns		<ul style="list-style-type: none"> <li>• Noise and bus volumes</li> <li>• Historic District</li> </ul>

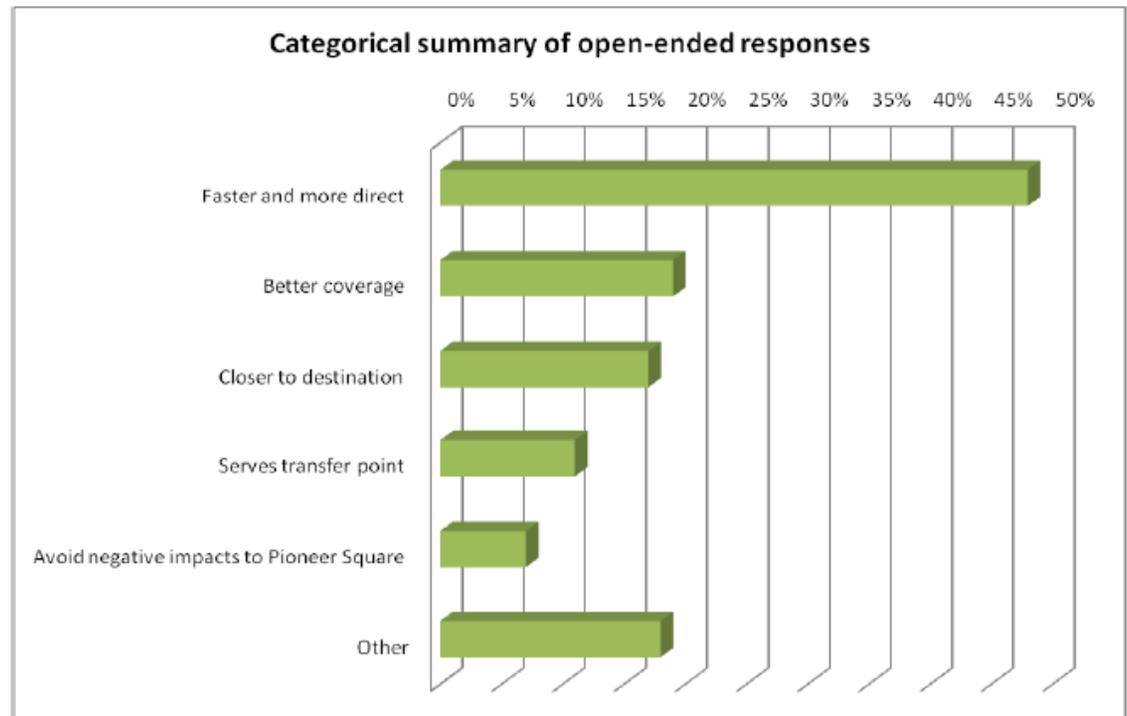
# Southend Transit Pathways Project



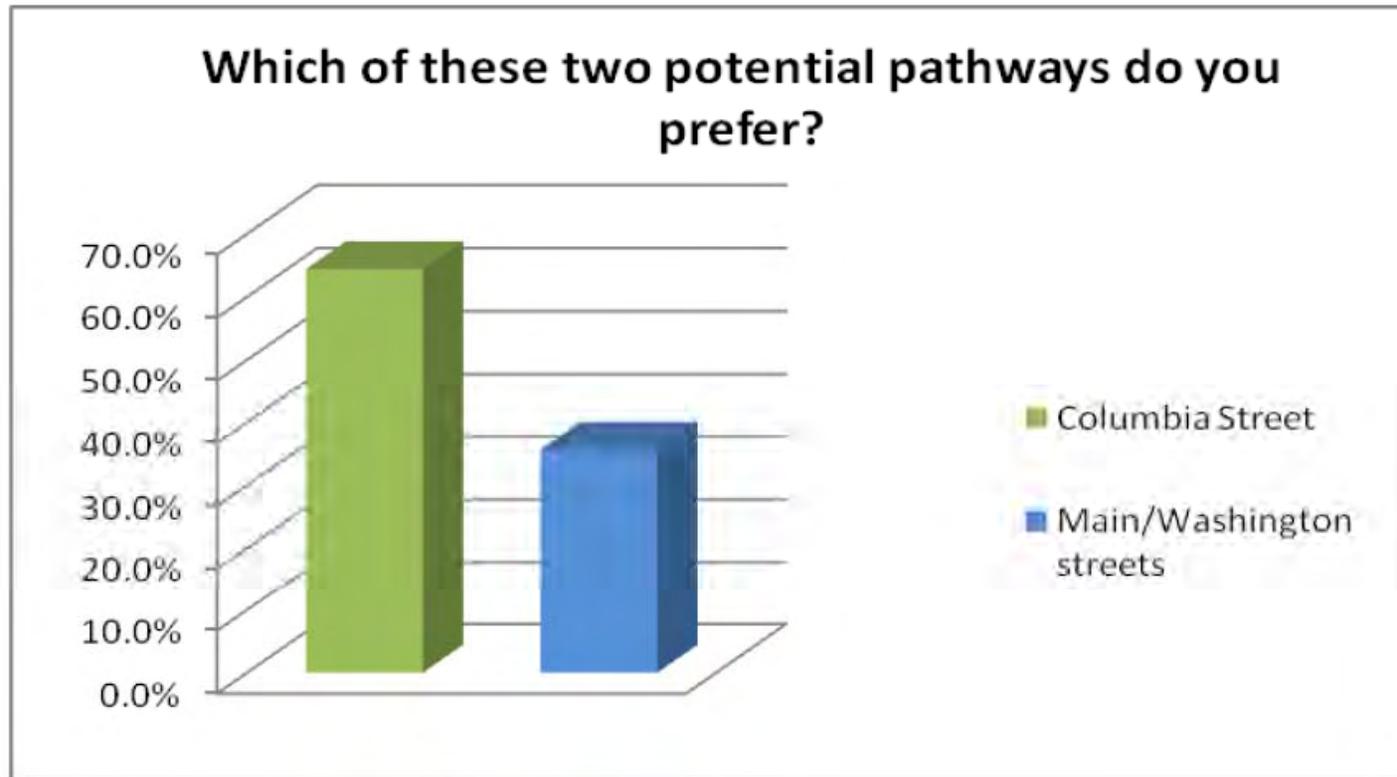
**Inbound travel times increase 150%, compared to existing conditions**

# Pathway Survey Results

- Over 1,500 respondents
- Riders want a faster, more direct trip into downtown Seattle



# Pathway Preference



- Preferred Columbia pathway
- Respondents preferred pathway most similar to their current one
  - West Seattle preferred Columbia
  - Ballard preferred Main/Washington

# Additional Evaluation

- Columbia Transit Hub
  - Stop-spacing and location
- Transit Priority Treatments
  - Alaskan Way
  - Columbia Street
- Interim Construction Pathway



# Next Steps

- Complete pathway evaluation
- Work with City to develop Columbia Street Transit Hub design
  - All day transit priority treatments
  - Operational Improvements
- Connect with stakeholders and riders

## Alaskan Way Viaduct Replacement Program



**Website:**

[www.alaskanwayviaduct.org](http://www.alaskanwayviaduct.org)

**Email:**

[viaduct@wsdot.wa.gov](mailto:viaduct@wsdot.wa.gov)

**Hotline:**

1-888-AWV-LINE