# Alaskan Way Viaduct
# REPLACEMENT
PROGRAM

## North Portal Working Group Meeting

## Feb. 7, 2013

U.S. Department of Transportation
Federal Highway Administration

WSDOT

King County

Port of Seattle

City of Seattle

# Program updates

Alaskan Way Viaduct
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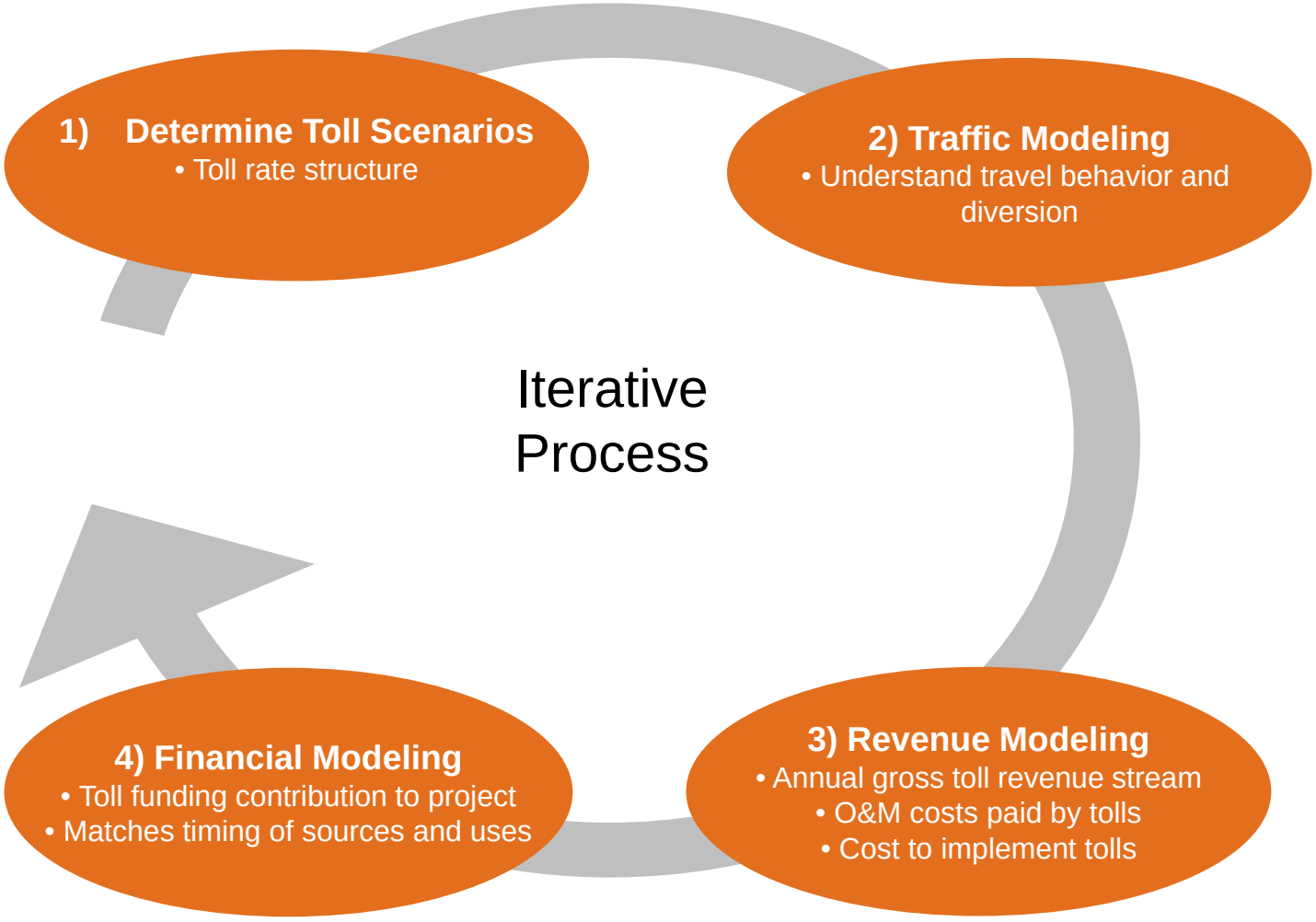
# Advisory Committee on Tolling and Traffic Management

# Advisory Committee on Tolling and Traffic Management

- The committee's scope was established via:
  - Federal Highway Administration-issued Record of Decision.
  - Seattle Department of Transportation and WSDOT Memorandum of Agreement.
  - City of Seattle's resolution 31323.
- The committee will make advisory recommendations on strategies for:
  - Minimizing traffic diversion from the tunnel due to tolling.
  - Tolling the SR 99 tunnel.
  - Mitigating traffic diversion effects on city streets and I-5.

# Four-Step Planning Process



# Potential Toll Scenarios Being Analyzed

First round of analysis:

- No toll and high toll ($1 - $4) are being studied as benchmarks.
- Scenario 1 ($1 - $3.25): Objective is to achieve funding target.
- Scenario 2 ($0.75 - $2.25): Objective is to reduce diversion.
- Scenario 3 ($0.75 - $2.50): Objective is to balance funding and diversion.

# Potential Toll Scenarios Being Analyzed

Second round of analysis:

- No toll and high toll ($1 - $4) are being studied as benchmarks.
- Scenario 4 ($1 - $2.25): Objective is to achieve funding target.
- Scenario 5a ($0.50 - $0.75): Objective is to reduce diversion.
- Scenario 5b ($0 - 1.75): Objective is to reduce diversion.
- Scenario 6 ($0.45 - $3): Objective is to balance funding and diversion.

# Stay Informed

- Meeting materials and December 2012 progress report available on website: http://www.wsdot.wa.gov/projects/viaduct/Library/Meetings/ACTTM
- Committee meetings:
  - March 13
  - April 24
  - May 15
  - June 12
- Update at next working group meeting.
- Recommendations in mid-2013.

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# King County Metro Update

# Alaskan Way Viaduct Coordination

## AWV Portal Working Groups
## February 2013

# Service change goals

- Implement policy from service guidelines
  - Increase ridership
  - Increase productivity
  - Improve underserved corridors
  - Improve service quality
- Reinvest low productivity hours as required at the time the congestion reduction charge was adopted
- Implement RapidRide C & D Lines
- Implement “Pay on Entry”

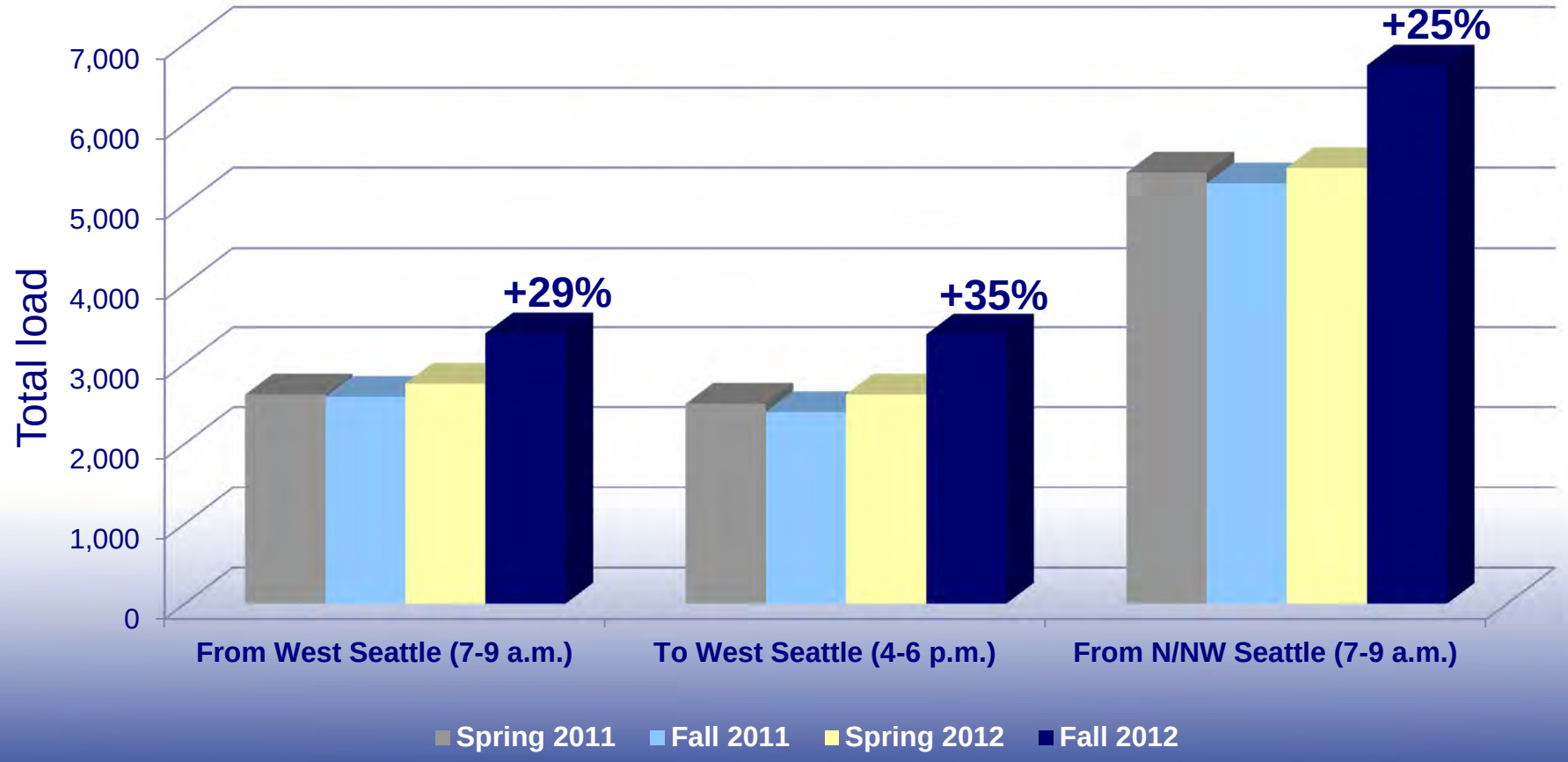
# Service change update

- Majority of changes went well
- Main Issues:
  - RapidRide C and D Lines crowding and reliability
  - Increased downtown travel time on some routes
  - Crowding and pass ups on I-90 services
  - Reductions in coverage and/or span

# Corrective actions taken

- Service added to RapidRide C and D Lines, Route 55 and Route 120
- Revised routings through downtown Seattle
- Stop removed from I-90 stop pattern

# Change in passenger loads* to/from Downtown Seattle (Spring 2011-Fall 2012)

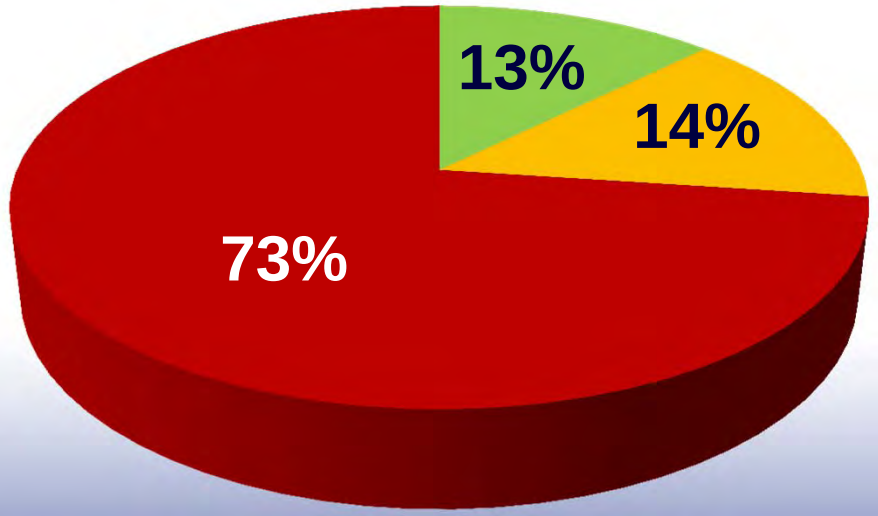



*Loads observed at various locations in Oct/Nov 2012. Not an official ridership estimate.

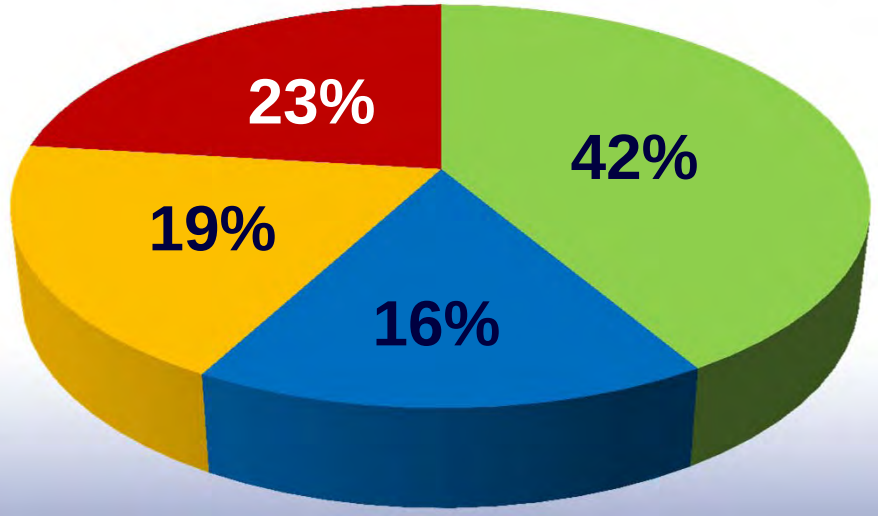
# Impact of Metro actions

## PM peak outbound loads on RapidRide C Line

**October 4, 2012**




**November 13, 2012**




Seats for all

Some standees

Many standing

Crush loaded

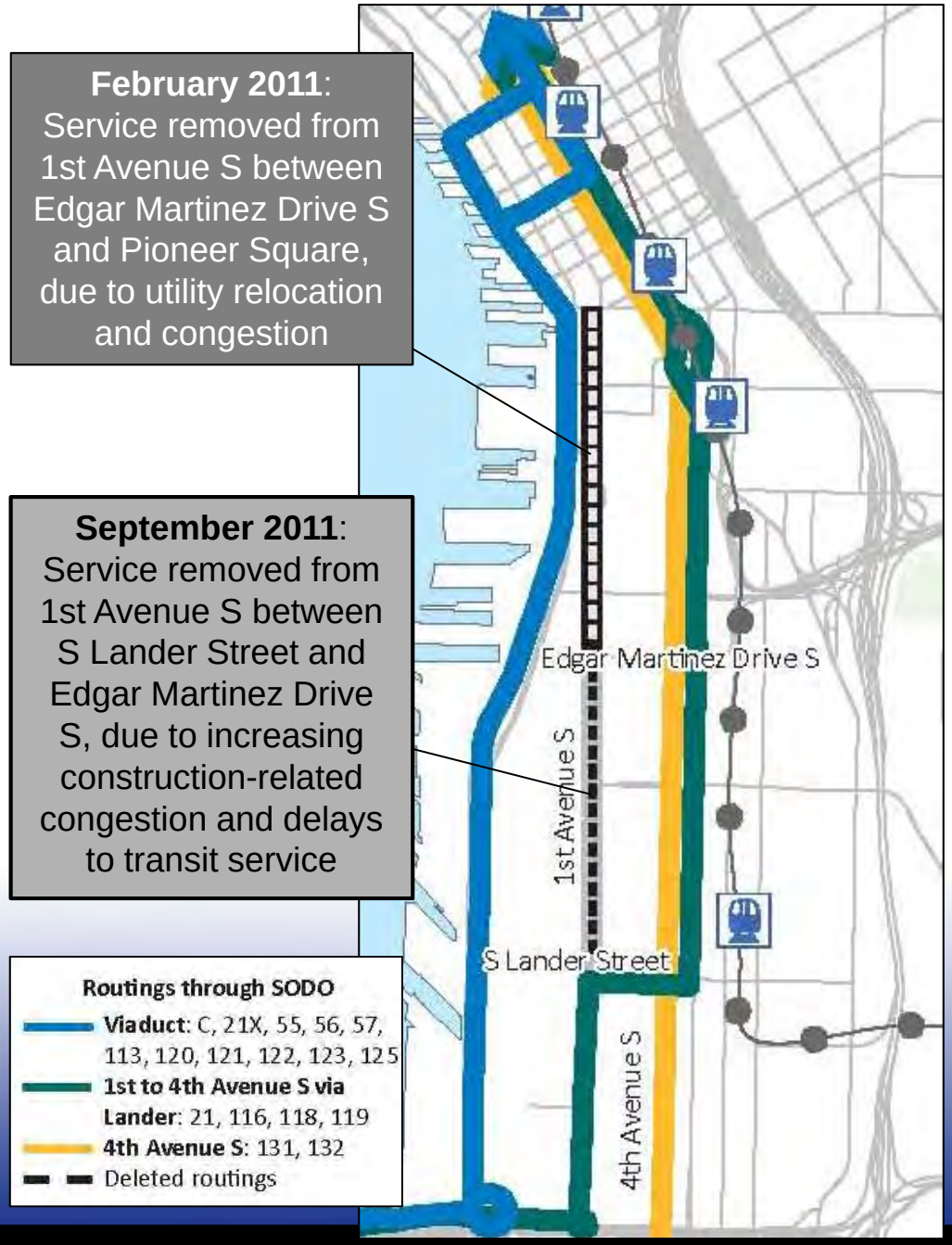
# Downtown Seattle travel times

- Travel time reduced during tunnel closure
  - 29 percent southbound
  - 26 percent northbound
- Travel times mostly sustained through downtown Seattle
  - Approximately one minute increase

| Third Avenue | Approx. number of buses and travel time (in min.) | | | |
|---|---|---|---|---|
| | Northbound | | Southbound | |
| | # of buses | Travel time | # of buses | Travel time |
| Before tunnel closure (2005) | 71 | 9.5 | 70 | 10.5 |
| During tunnel closure (2007) | 135 | 7 | 120 | 7.5 |
| Since Sept 2012 service change | 108 | 8.2 | 110 | 8.2 |

# 1st Avenue S service

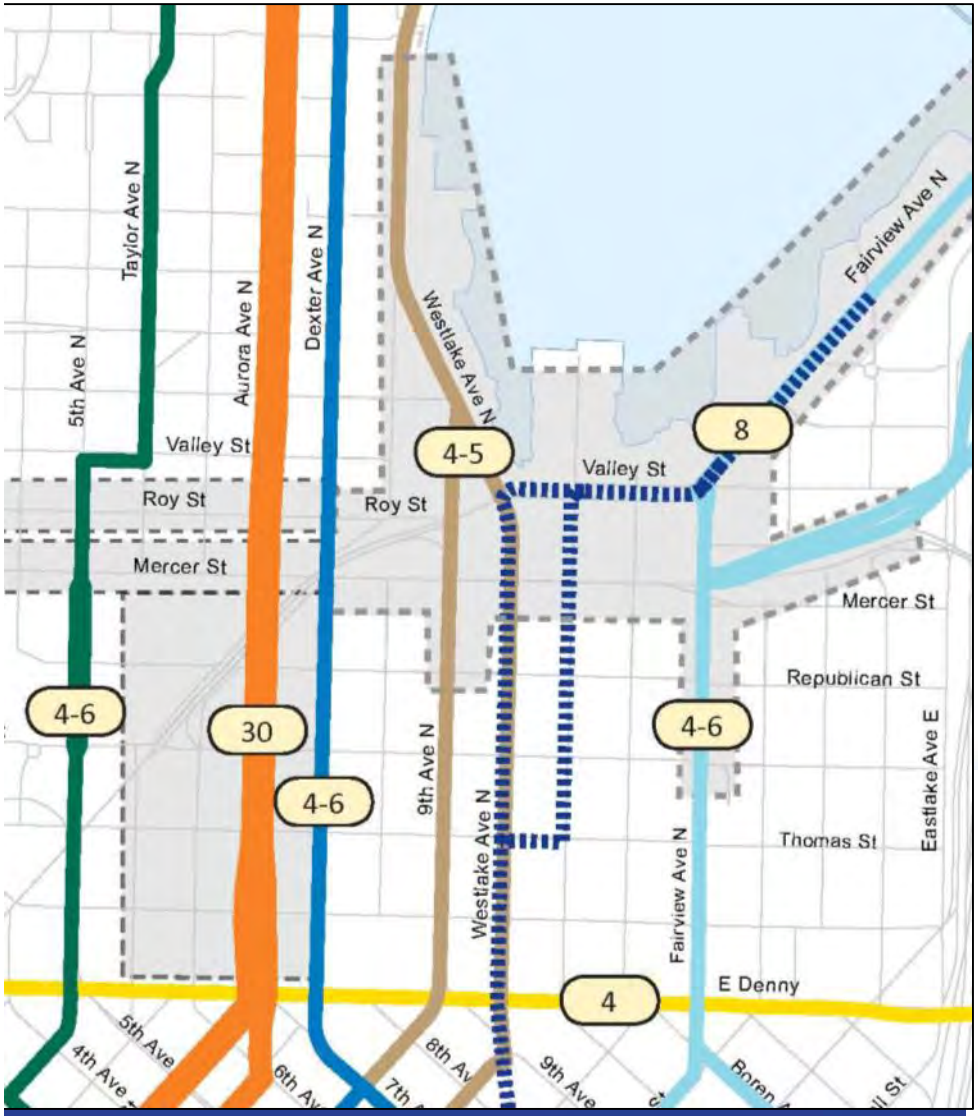
- Metro altered service through SODO due to AWV construction and related disruptions
- Metro will review options for putting service back on 1st Avenue S upon completion of construction






King County METRO We'll Get You There.

# Mercer Corridor construction impacts



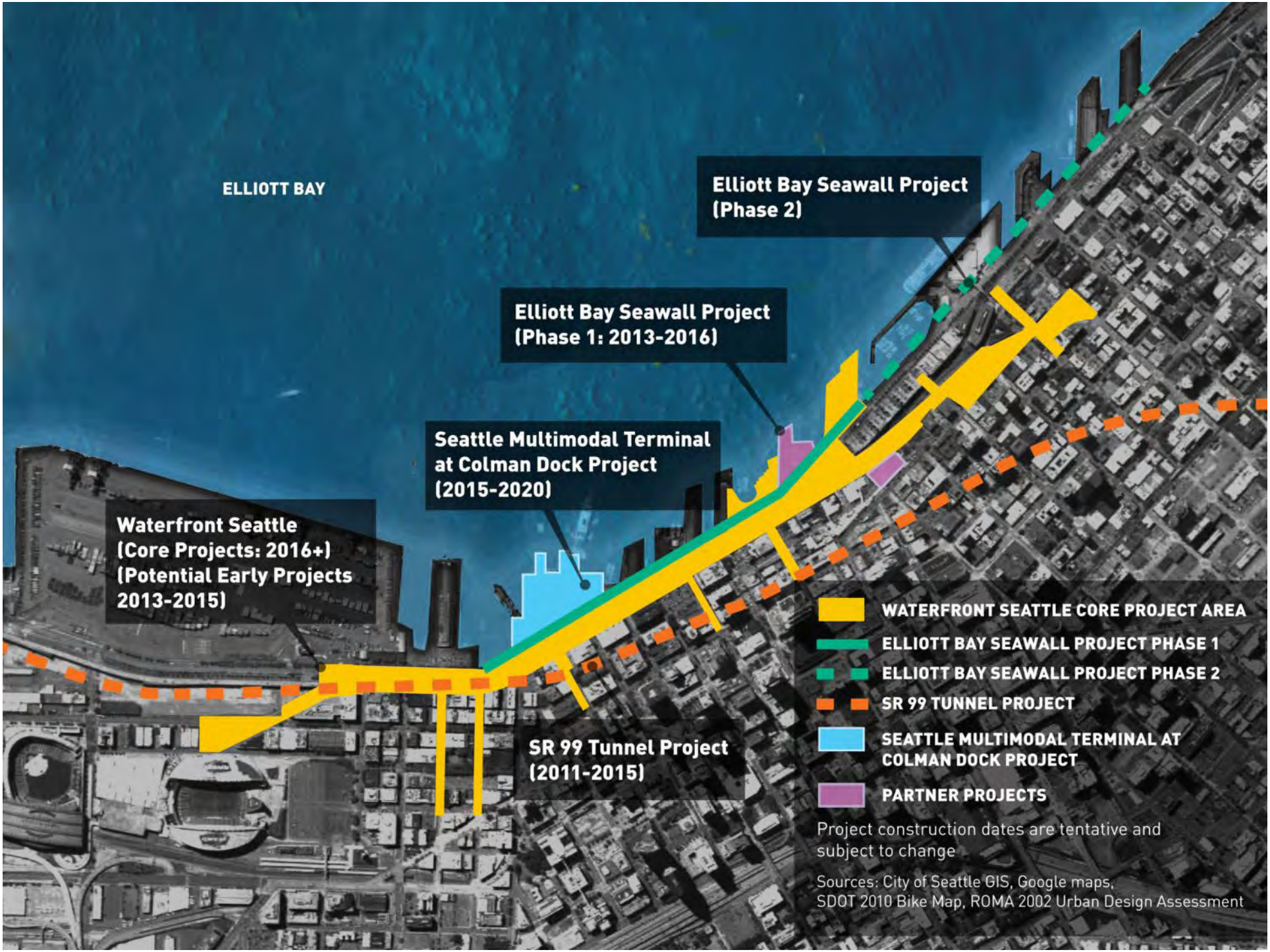

- Respond to closures and service delays
  - Shift service to Eastlake
  - Working with SDOT to make adjustments
- Spring 2013:
  - Aurora Lane Reduction
- Mercer West Possible Impacts:
  - RapidRide D Line
  - 5th Ave N buses

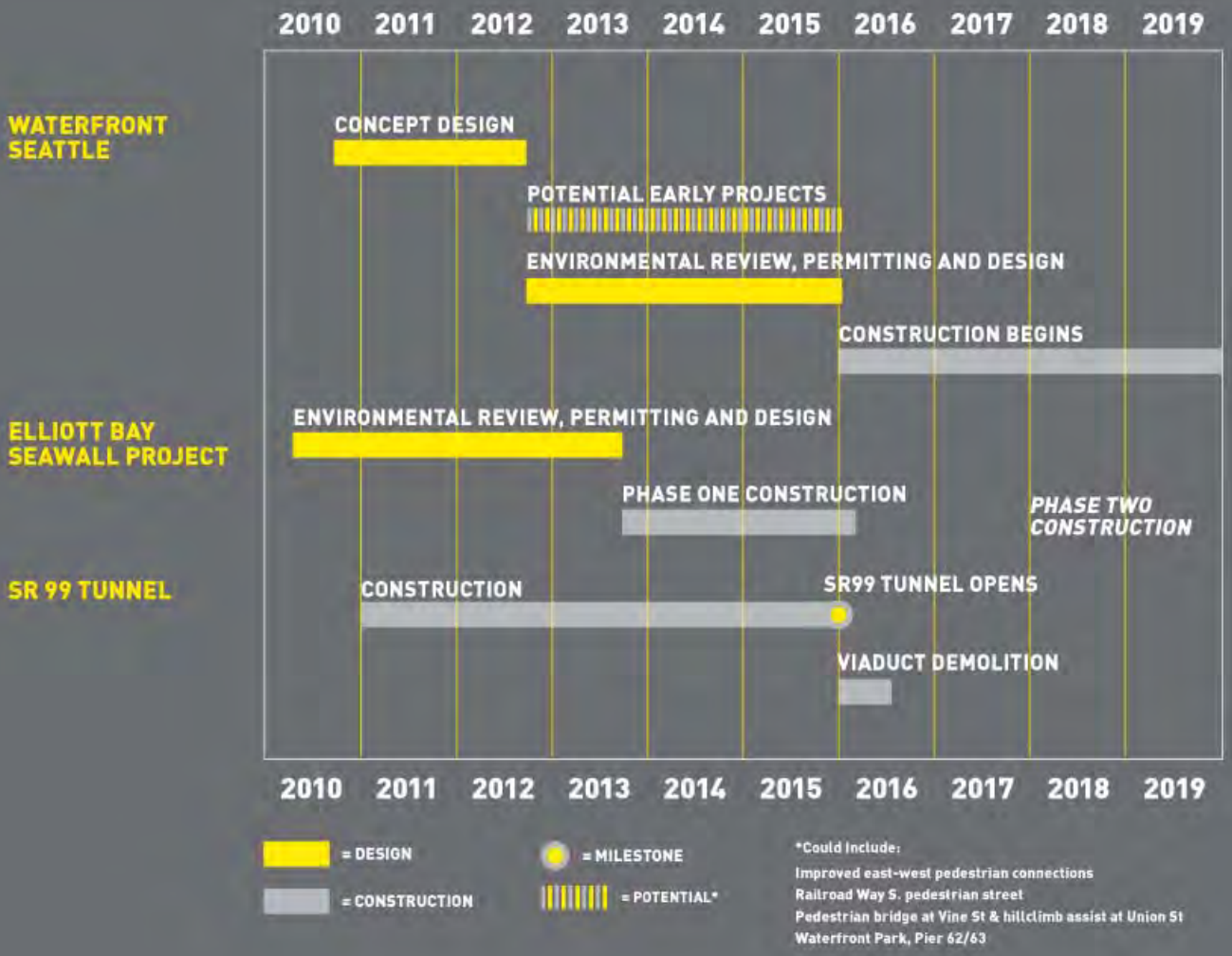
Construction Areas
Routes 3, 4
Routes 5, 5X, 16, 26X, 28X, 358
Route 8
Routes 26, 28
Route 40
Routes 70, 309
South Lake Union Streetcar

Number of peak period buses per hour

# New Alaskan Way

waterfront
Seattle


ELLIOTT BAY
Elliott Bay Seawall Project (Phase 2)
Elliott Bay Seawall Project (Phase 1: 2013-2016)
Seattle Multimodal Terminal at Colman Dock Project (2015-2020)
Waterfront Seattle (Core Projects: 2016+) (Potential Early Projects 2013-2015)
SR 99 Tunnel Project (2011-2015)
WATERFRONT SEATTLE CORE PROJECT AREA
ELLIOTT BAY SEAWALL PROJECT PHASE 1
ELLIOTT BAY SEAWALL PROJECT PHASE 2
SR 99 TUNNEL PROJECT
SEATTLE MULTIMODAL TERMINAL AT COLMAN DOCK PROJECT
PARTNER PROJECTS
Project construction dates are tentative and subject to change
Sources: City of Seattle GIS, Google maps, SDOT 2010 Bike Map, ROMA 2002 Urban Design Assessment




## KEY MILESTONES

**Fall 2010:** Begin waterfront conceptual design

**January 2011 to July 2012:** Robust public engagement and outreach including large civic events, interactive community forums, and briefings and workshops throughout the community

**July 2012:** Complete waterfront conceptual design

**July 2012 to 2015:** Continue robust public engagement and outreach through design and environmental review

**Late 2013:** Begin construction of Elliott Bay Seawall Phase 1 (Washington to Virginia Streets)

**Late 2015:** SR 99 tunnel opens to drivers

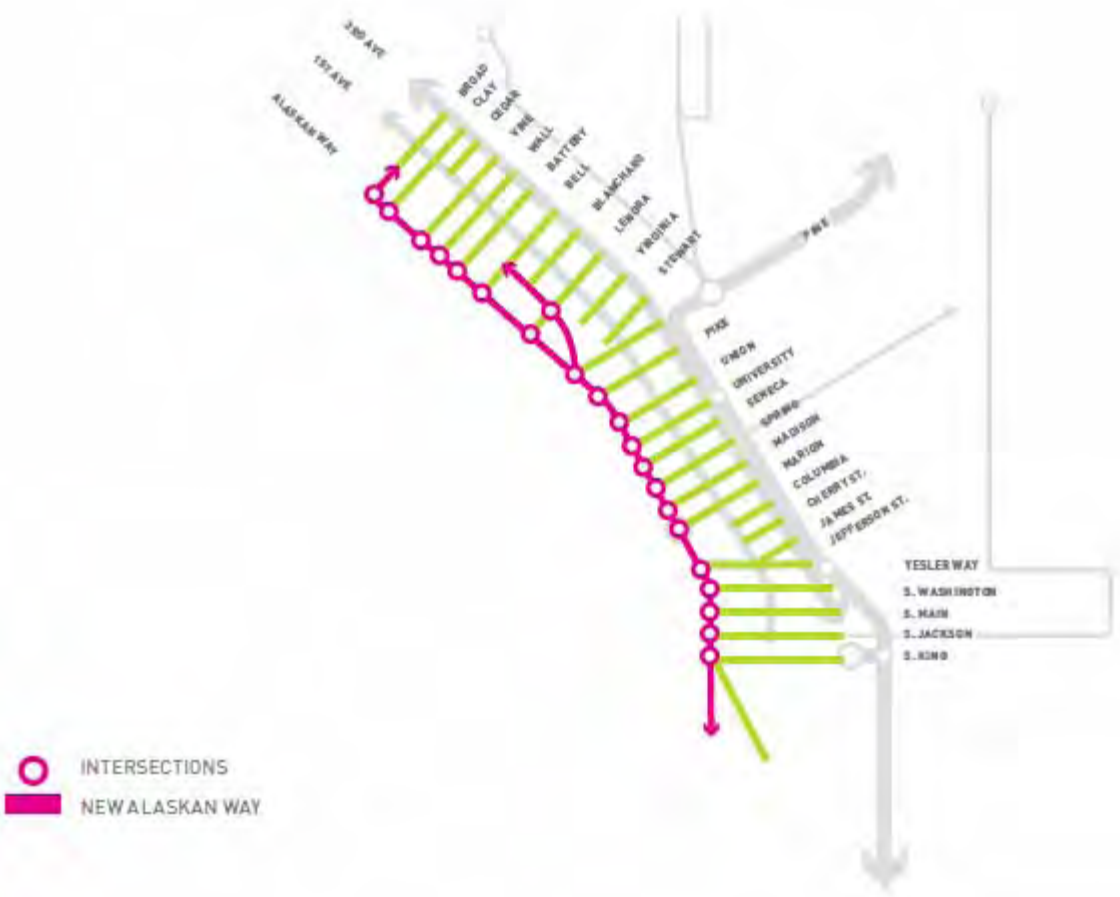
**Early 2016:** Demolish Alaskan Way Viaduct and begin construction of some Waterfront Seattle projects

# Existing SR 99 Traffic Patterns

# Traffic Changes After Bored Tunnel Opens

HANJIN
UPS

# INTERSECTIONS



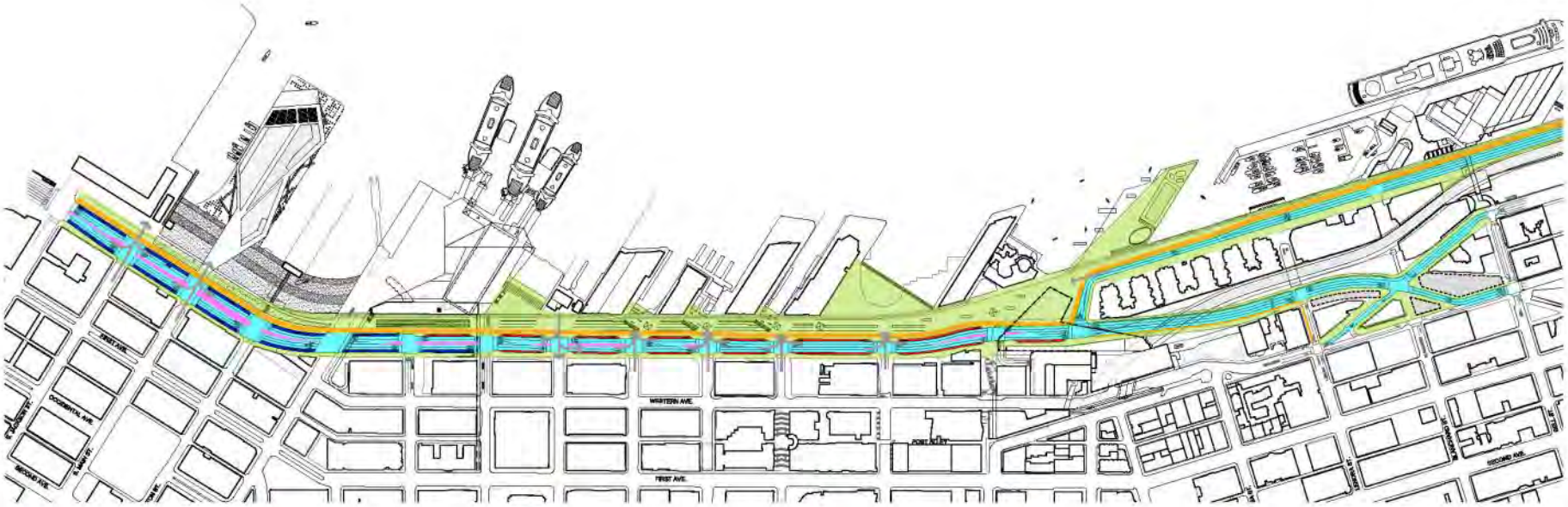
Bike and pedestrian friendly intersection, Copenhagen

Bold pavement markings, Arizona

Generous intersections, Paris

# STREET DESIGN

SITE PLAN



**VEHICLE LANES**
GENERAL TRAFFIC / FREIGHT / LOCAL TRANSIT

**PARKING / LOADING**

**FLEX LANES**
PEAK PERIOD TRANSIT / OFF-PEAK PARKING & LOADING

**MEDIANS**

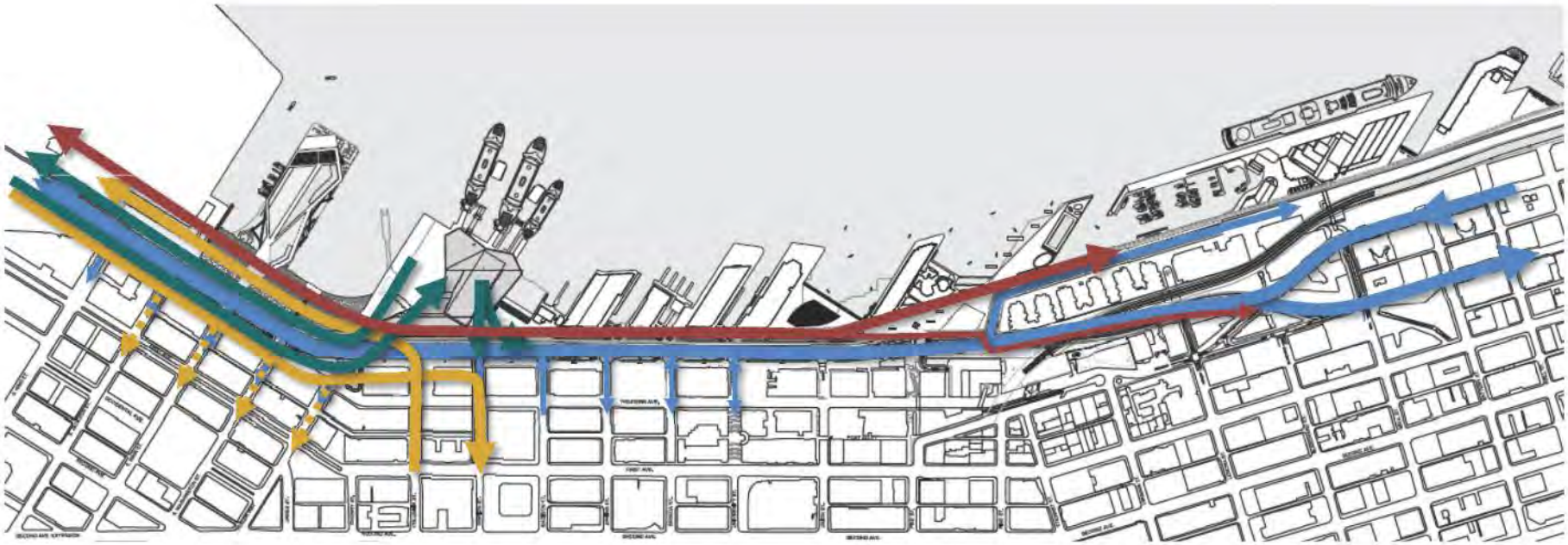
**BIKEWAY/LANE**

**PUBLIC REALM**

**SERVICE ROUTES**

# STREET DESIGN

## FUNCTIONS OF THE STREET



VEHICLES, PARKING AND LOADING

FERRIES: LOADING AND UNLOADING

TRANSIT LINKAGE

NORTH/SOUTH BICYCLE AND PEDESTRIAN MOVEMENT

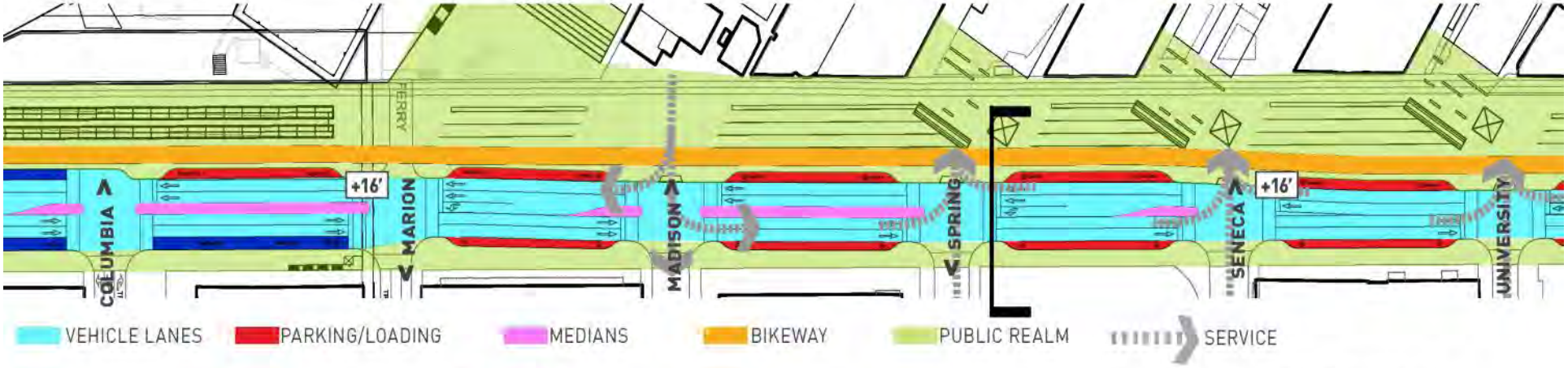
# STREET DESIGN
## TRAFFIC CONSIDERATIONS

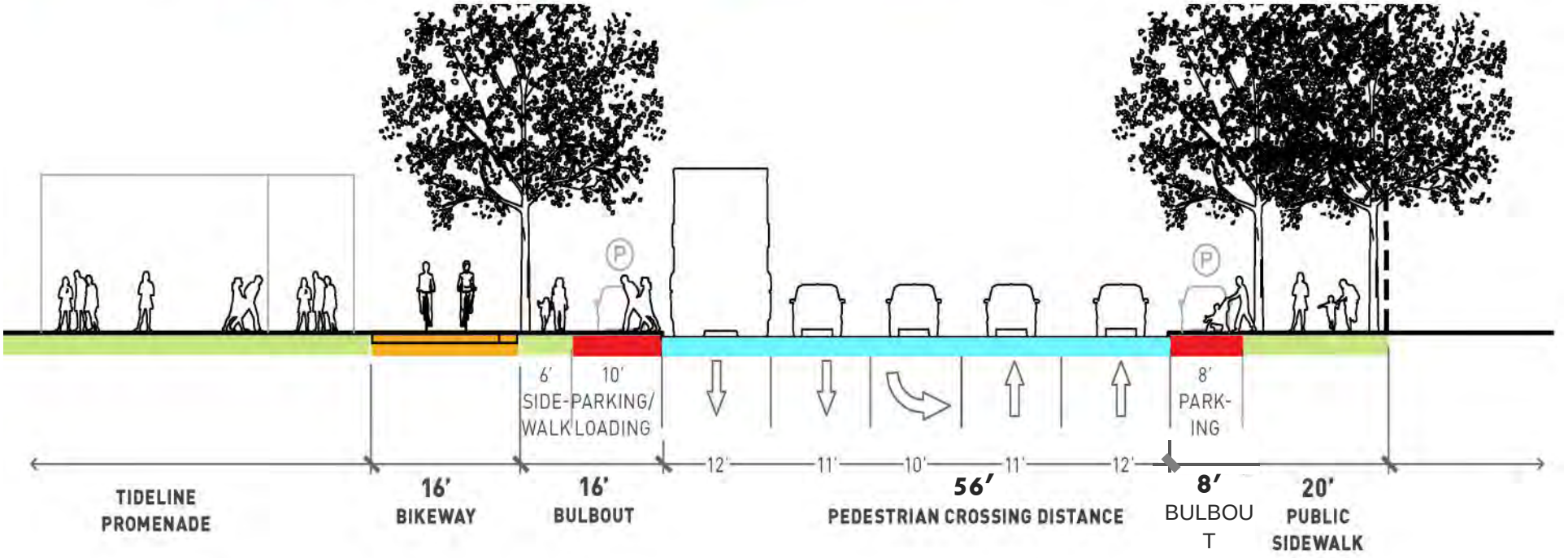
**Waterfront Seattle**
**2030 Average daily traffic volumes on Alaskan Way**

# Central Segment

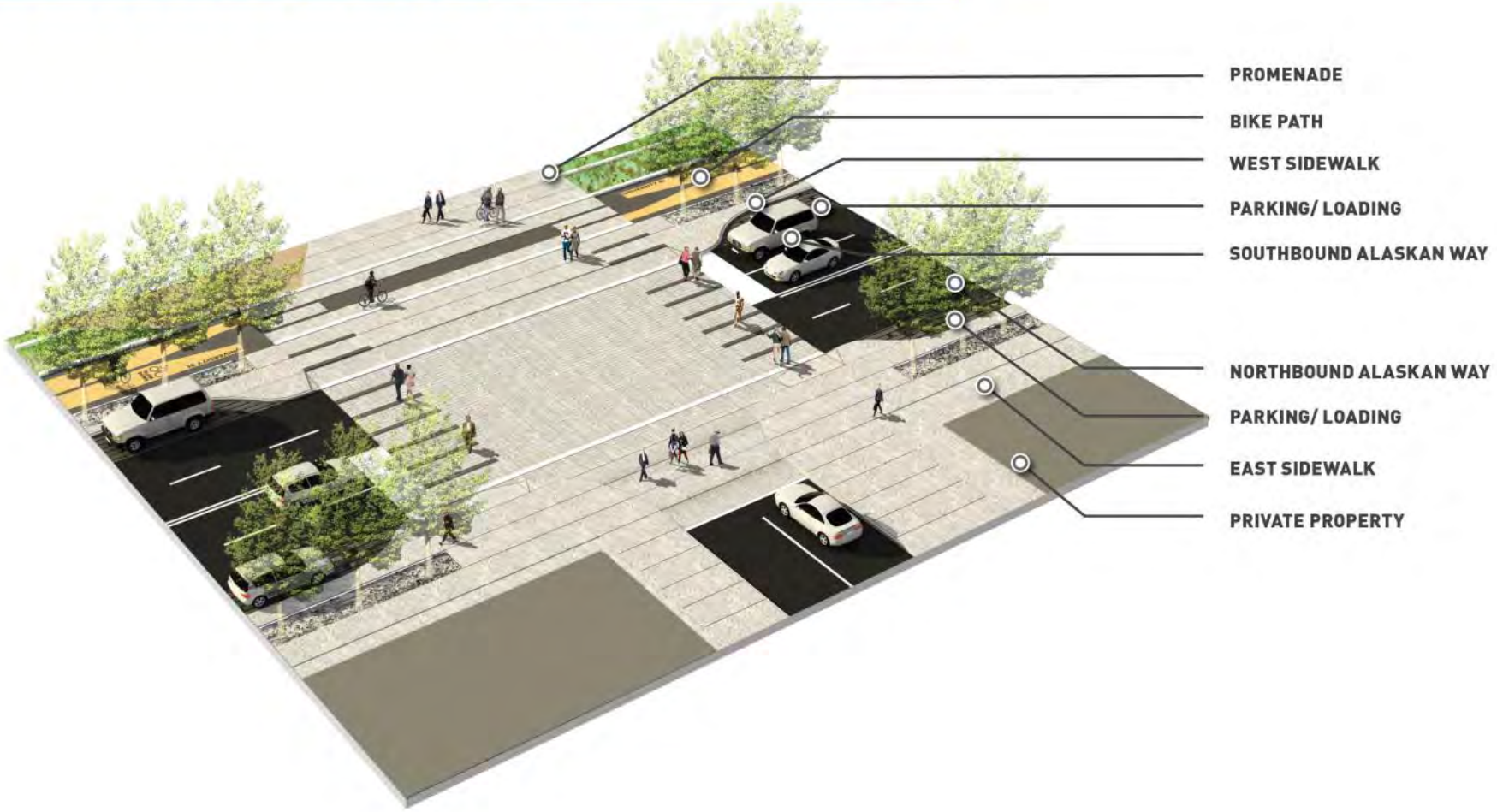
## SEGMENT 3: MARION TO SENECA

SECTION @ SPRING STREET



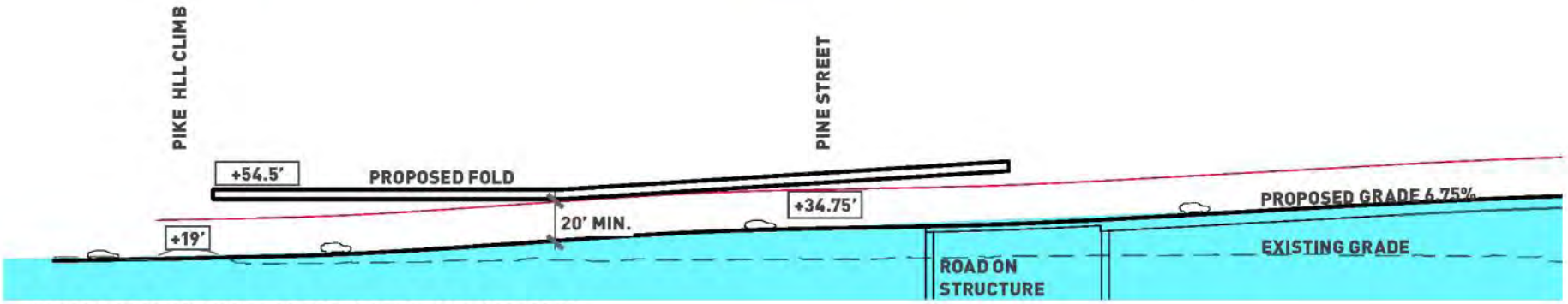



# Pedestrian-Friendly Crossings



# SEGMENT 5: PIKE TO PINE

PROFILE BETWEEN PIKE + PINE




PROFILE BETWEEN PIKE AND STEWART ST., LOOKING WEST

Overlook Walk

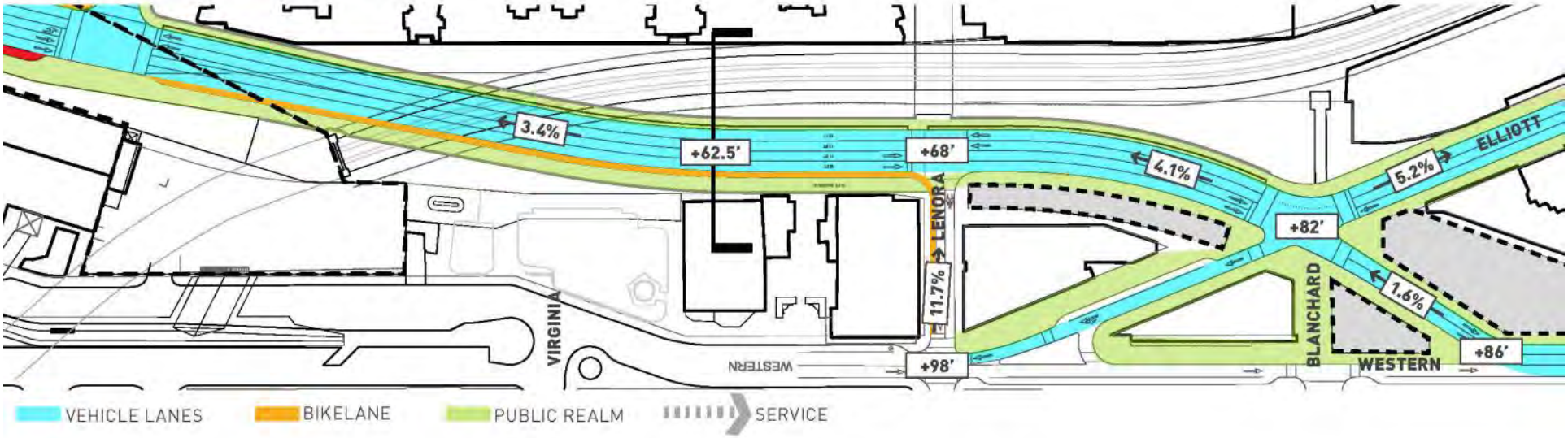
ELLIOTT AVE

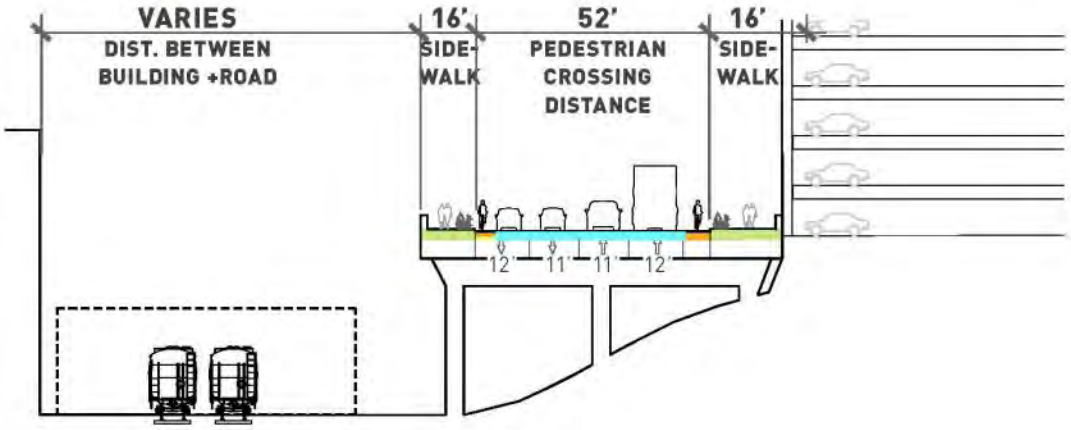
# VIEW LOOKING NORTH AT PIKE ST

ELLIOT AVE. + BNSF TRAIN OVERLOOK

# SEGMENT 6A: PINE TO LENORA

SECTION @ VIRGINA STREET



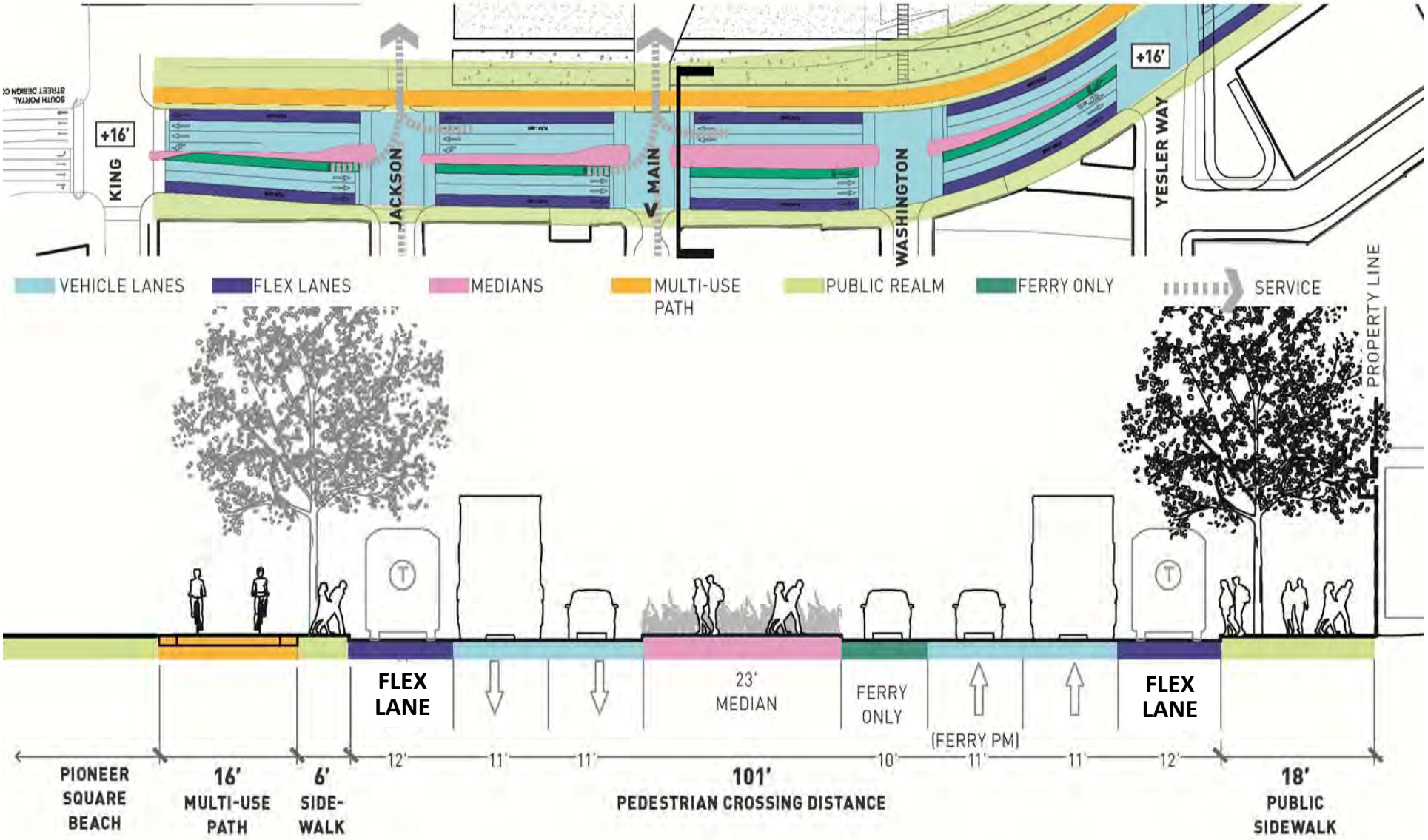



# South Segment

WORKING DRAFT: DECEMBER 15, 2011

## SEGMENT 1: S. KING TO YESLER WAY

SECTION @ S. MAIN STREET

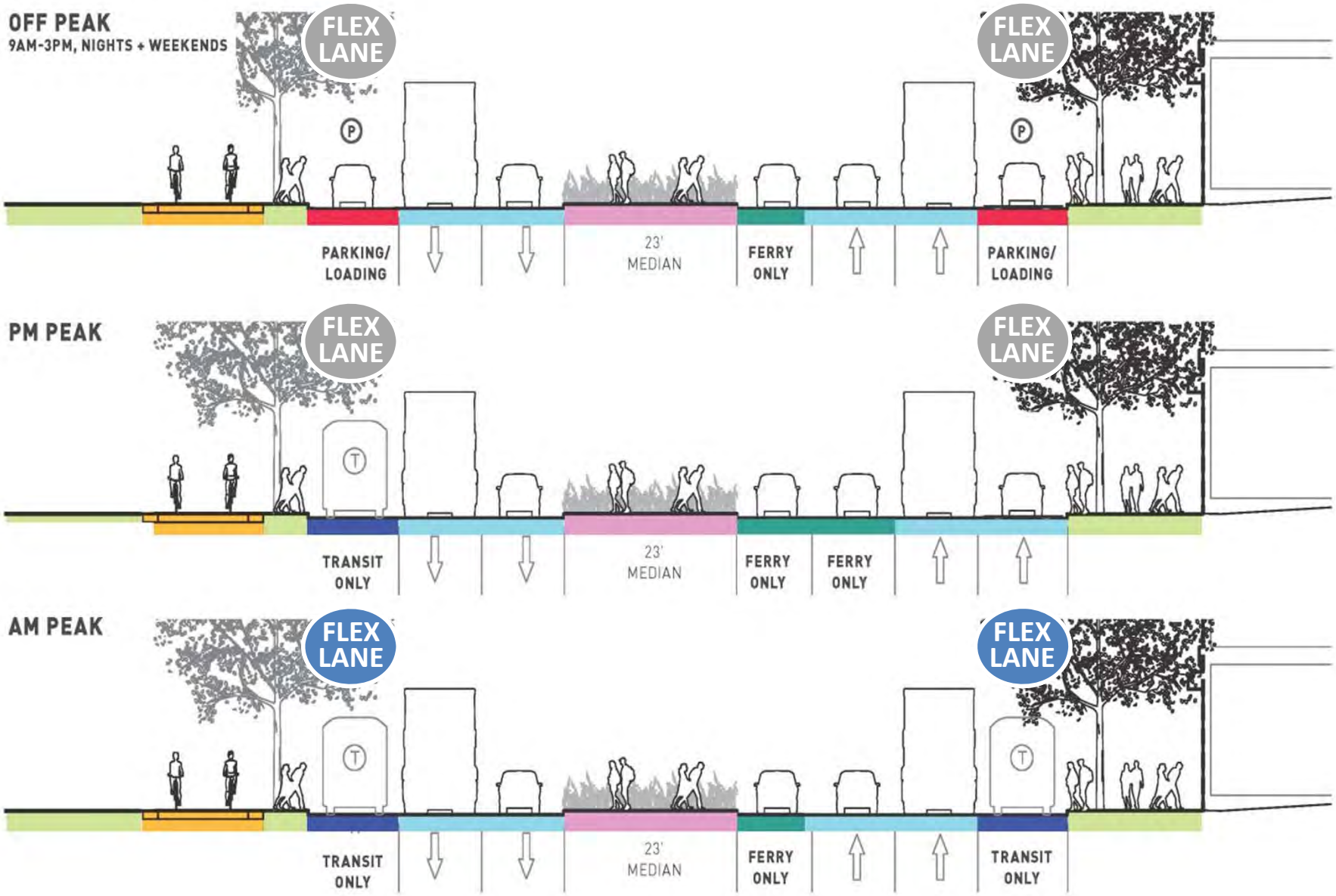


# South Segment



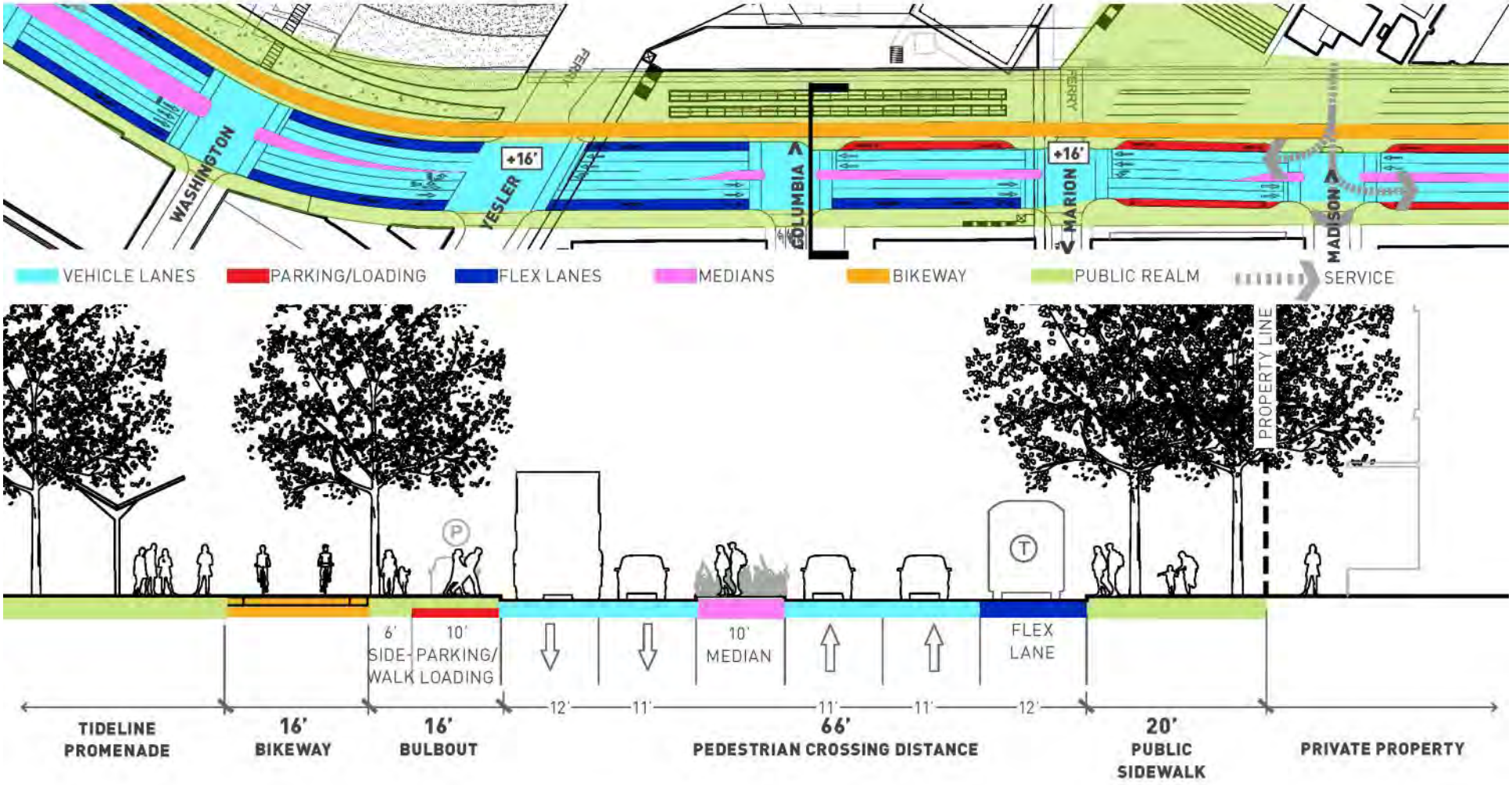
## STREET DESIGN

FLEX LANES



# SEGMENT 2: YESLER TO MARION

SECTION @ COLUMBIA STREET



Waterfront Seattle

Waterfront Seattle

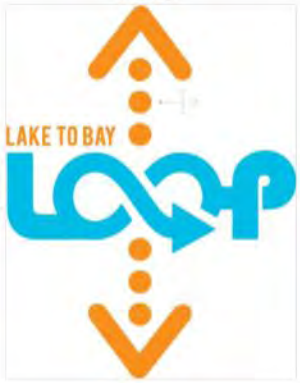
DRAFT:
The Lake to Bay Loop is a draft concept developed by a community stakeholder group and the suggested route, future street-grid, and other elements are intended for discussion purposes only.
Lake Union
Queen Anne
Elliott Bay
WESTERN AVE
ELLIOTT AVE
ALASKAN WAY
MAP LEGEND
PATHS
Lake to Bay Loop
Streets with Bike Lanes
PROJECTS
1 Seattle Center Century 21 Master Plan
2 Gates Foundation
3 UW Medicine Research
4 Amazon.com Campus
5 Thomas Street Overpass
6 North Portal
7 Mercer Corridor
Green Streets - Thomas & Terry
POINTS OF INTEREST
1 Myrtle Edwards Park
2 Olympic Sculpture Park
3 Lake Union Park
4 Denny Park
5 Space Needle
6 Pacific Science Center
SEATTLE'S LAKE TO BAY LOOP
CUSHING TERRELL
Updated 08.19.2010

**Logo**

**Design Package Elements**

# Floor graphics – Way-finding Dot

Wayfinding “dots”



# Special Graphics – will be installed with the floor graphics

*Bay View + Lake View Point*
*application: paint*

**Special floor graphic for sidewalk near Space Needle on Broad Street**

# Contact Information

**Waterfront Seattle**
Hotline: 206-499-8040
Web: www.waterfrontseattle.org
Email: info@waterfrontseattle.org
Facebook: WaterfrontSeattle
Twitter: @waterfrontSEA

Alaskan Way Viaduct
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# North End Construction Overview

A **Install micropile walls**

B **Build tunnel receiving pit**

C **Mercer East construction**

D **Mercer West construction**

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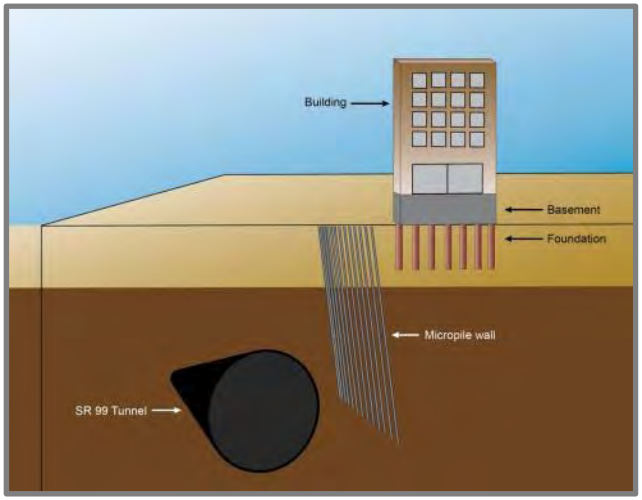
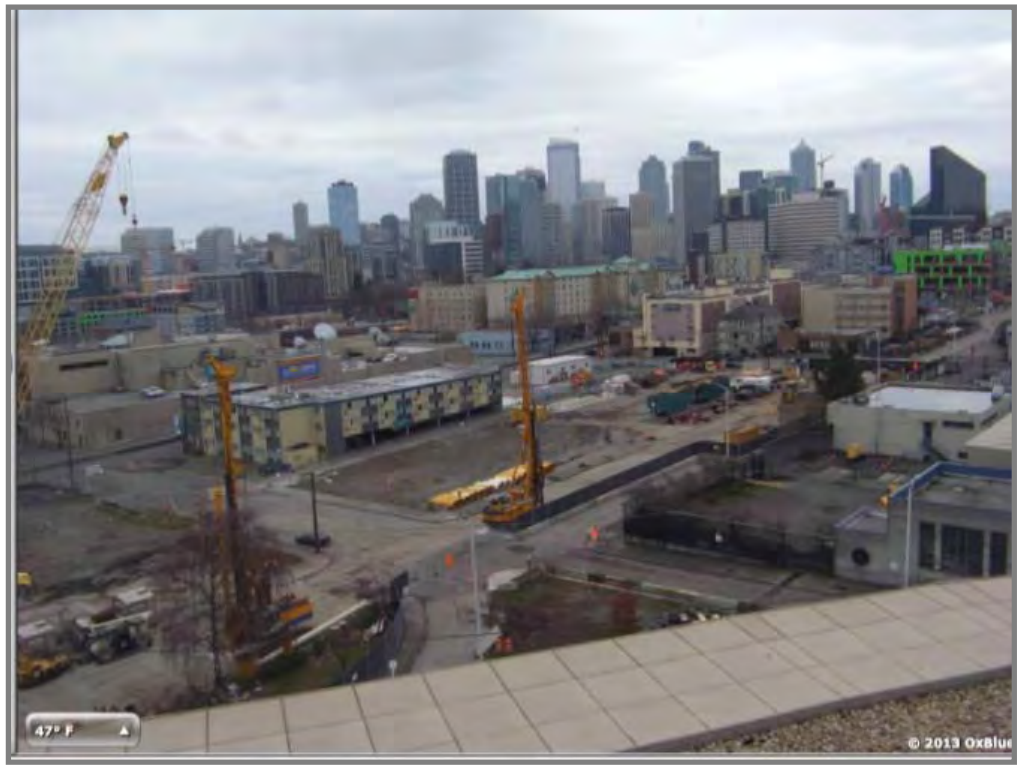
# A Installing Micropiles




- January to early spring 2013.
- Crews are drilling micropile walls to protect several buildings near the tunnel's future north portal.
- Lane closures on Sixth Avenue North between John and Thomas streets.

# B Build Tunnel Receiving Pit




- Early 2013 to summer 2013.
- Initial work includes drilling piles for receiving pit support walls.
- Excavation will begin following pile installation.

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# South End Construction Overview

A **Build tunnel launch pit**

B **Install facilities to support tunneling**

C **Build tunnel support walls**

D **Build South Atlantic Street overpass**

***North*** →

● = WSDOT work

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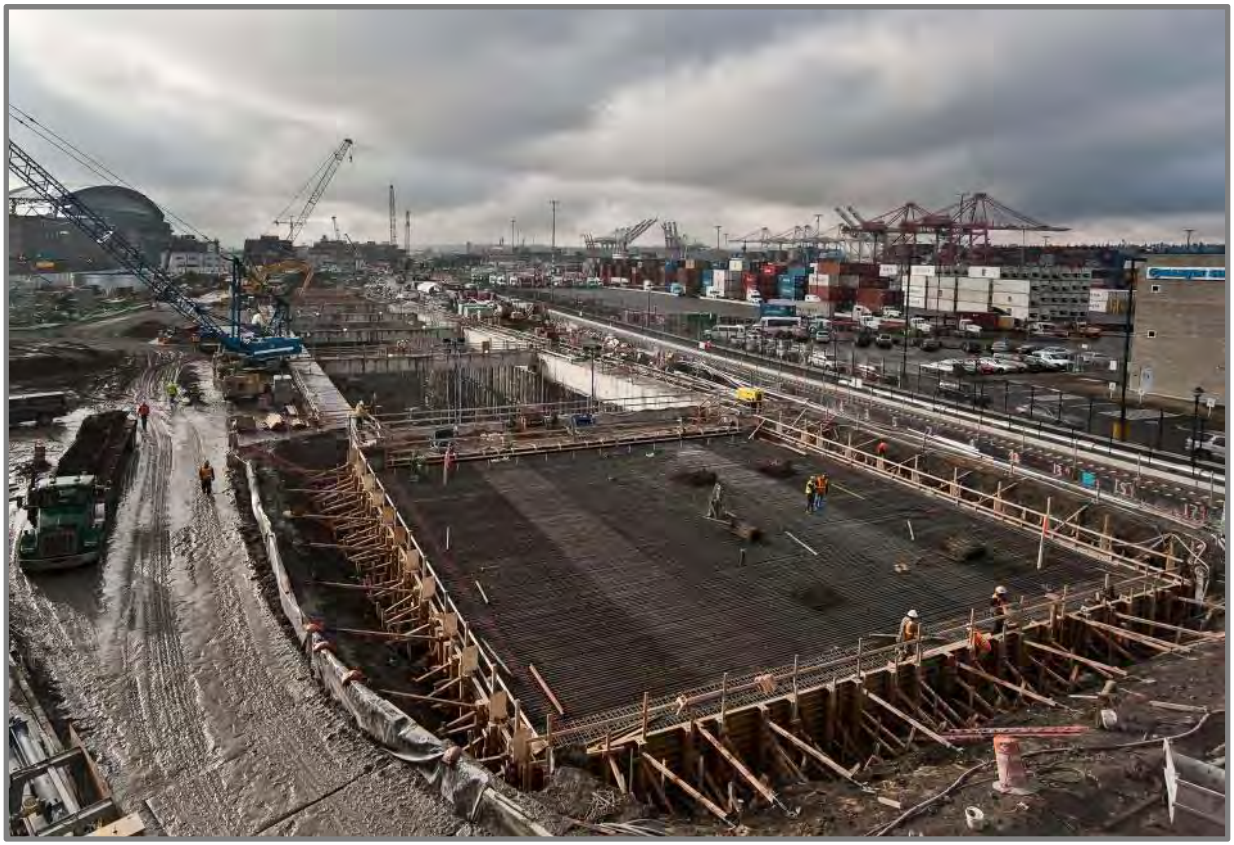
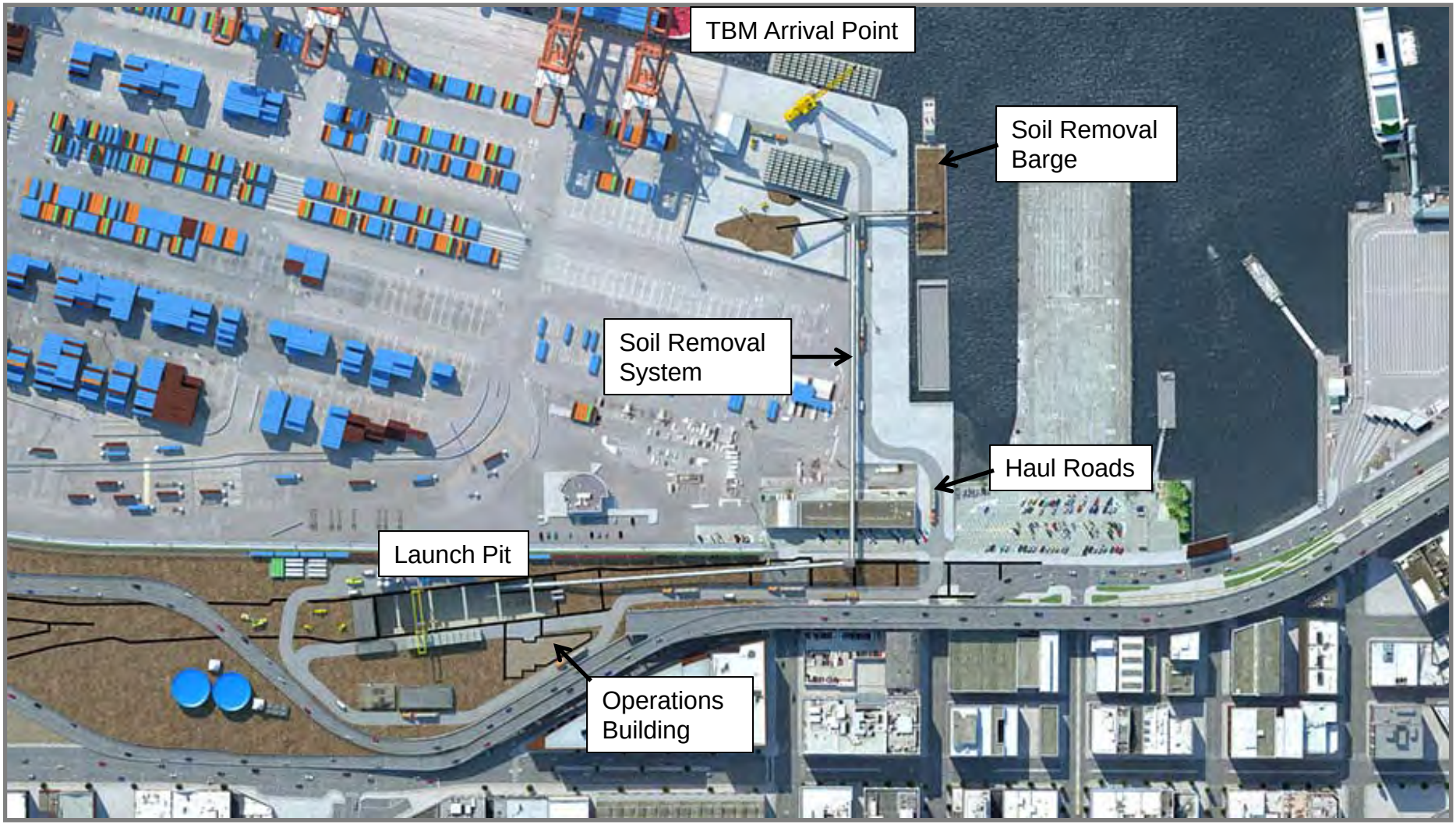
# A Preparing the Tunnel Launch Pit



- Launch pit construction will continue through spring 2013.
- Additional equipment is arriving at work site to prepare for TBM arrival this spring.

# B Jet Grout Plant at SR 99 Tunnel Work Site

# B SR 99 Tunnel Project Work Site



# B Tunnel Spoils Conveyor Belt

*A similar conveyor belt system at a tunneling project in Asia.*

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# C Building Tunnel Support Walls

- June 2012 to spring 2013.
- Secant piles form underground walls to provide a protected area where the TBM will start tunneling.
- Crews will use jet grouting to stabilize some areas.

# D Build South Atlantic Street Overpass

- July 2012 to December 2013.
- Upcoming work includes building bridge deck.
- Anticipate several closures of South Atlantic Street off-ramp.

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# TBM Update

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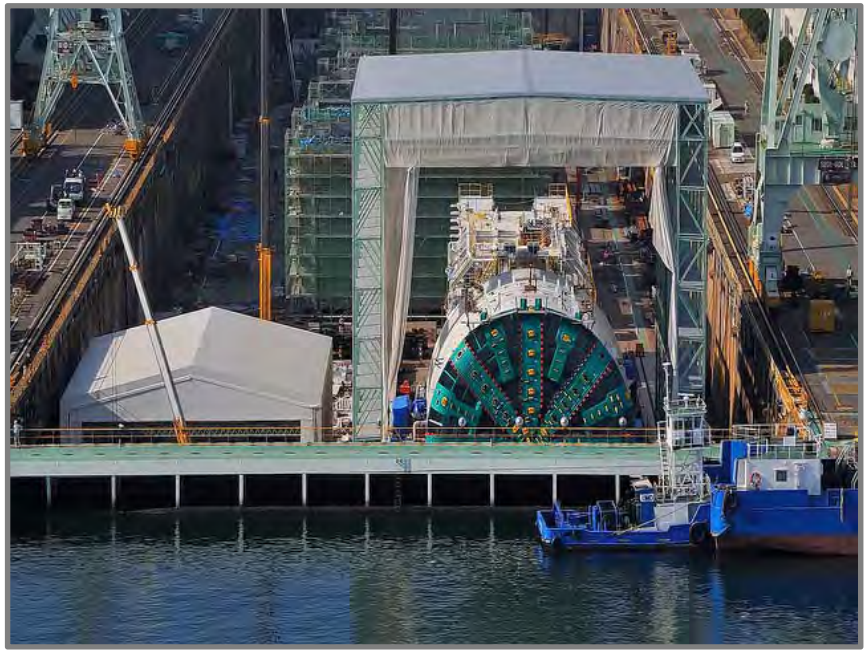
# Meet Bertha, The SR 99 Tunnel Boring Machine

- Named after Bertha Knight Landes; elected mayor of Seattle in 1926 and was the first woman to lead a major American city.

- Follow Bertha on Twitter: @BerthaDigsSR99



*Bertha, the tunnel boring machine, is being fabricated in Japan.*

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# Project Leaders in Japan

# Project Leaders in Japan

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# Upcoming SR 99 Tunnel Milestones

- TBM completed (January 2013).
- TBM disassembled and shipped to Seattle (early 2013).
- Tunneling starts (summer 2013).

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# Other Project Updates

A **Rebuild SR 99 timber bridge**

B **Repave I-5 near University District**

# A SR 99 Spokane Street Overcrossing Replacement Project (Timber Bridge)

- Replace a 50-year-old timber-supported bridge with a concrete column supported structure.
- South of South Spokane Street, maintain two lanes of northbound and one lane of southbound SR 99 traffic throughout construction by rebuilding the east and west halves alternately.
- Feb. 25 2013 – July 2014.
- More than half the vehicles on southbound SR 99 exit to the West Seattle Bridge.

# B I-5 Concrete Repair
# University District / Eastlake

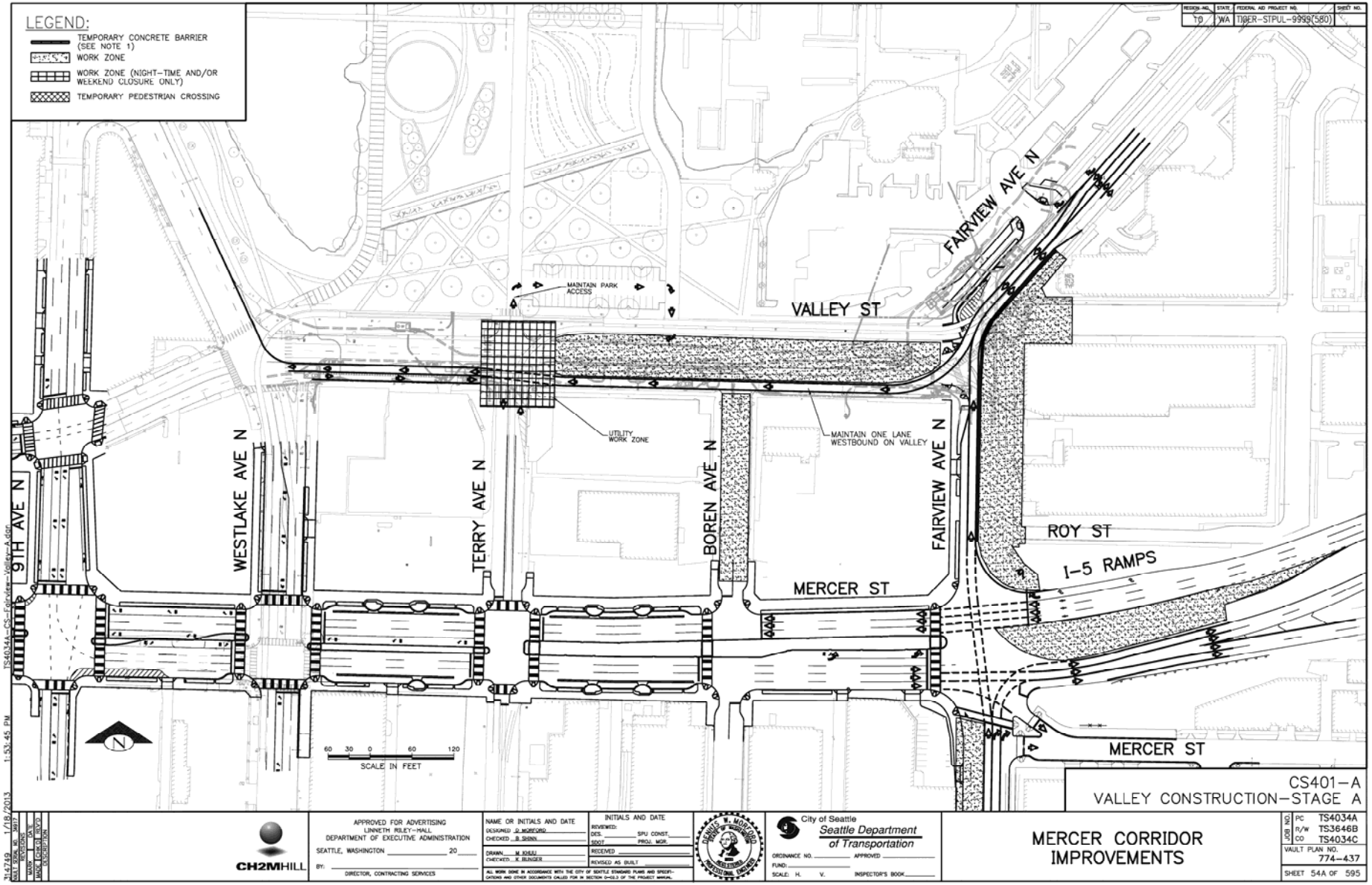
- Southbound I-5 from NE 50th Street to Lakeview, excluding Ship Canal.
- 8 consecutive Friday nights from 10 p.m. to 10 a.m.
- 3 of 4 lanes closed.
- Express lanes remain open.
- Work complete by April 1.

mercercorridorproject

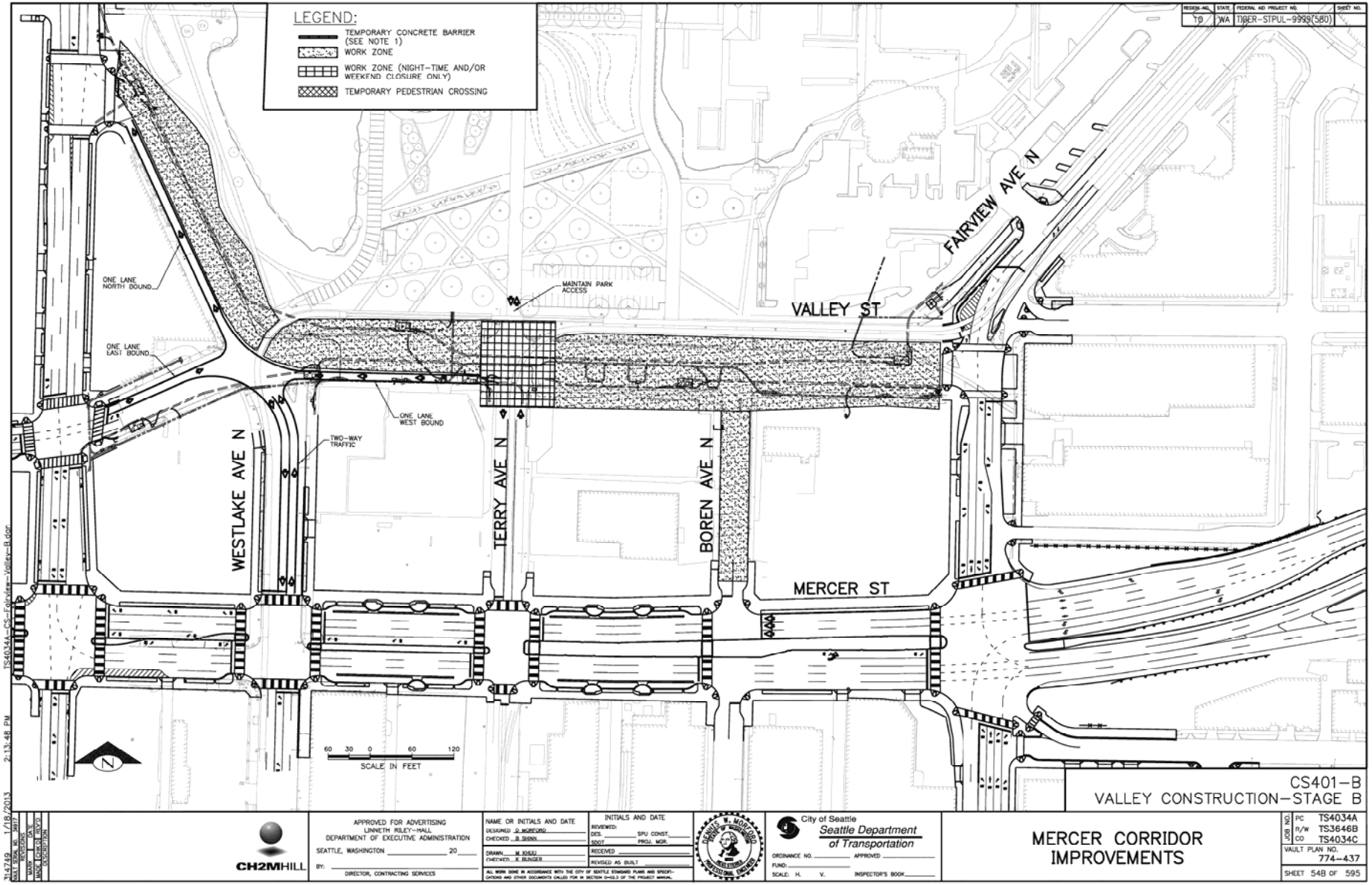
# February 2013

# Completing the Vision For Two-Way Mercer St.

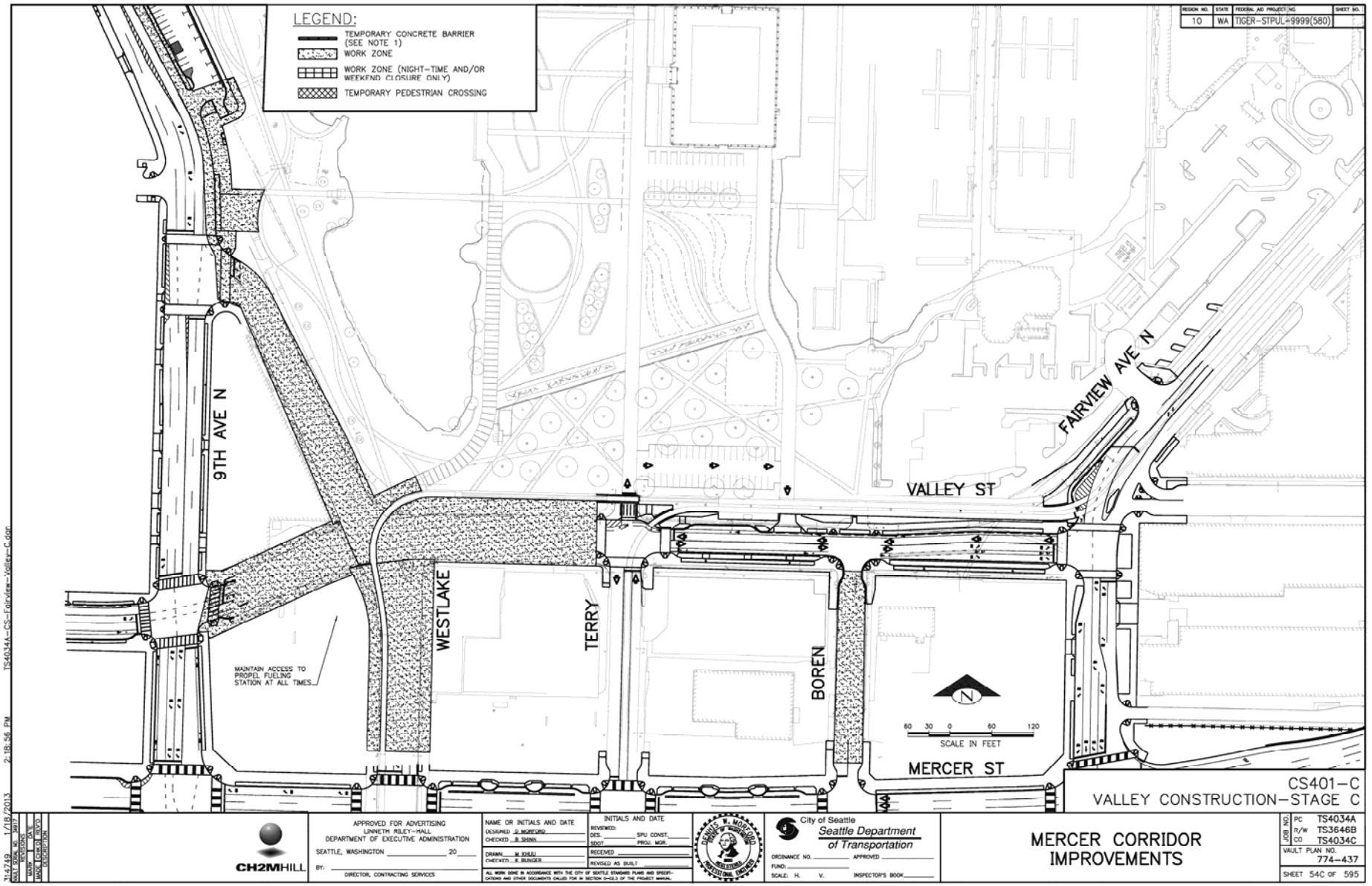
# Construction Staging on Valley St. (Part 1 of 3)



# Construction Staging on Valley St. (Part 2 of 3)



# Construction Staging on Valley St. (Part 3 of 3)



# *What to Expect in 2013*

## March 2013: Start Construction

- Broad St. open with two lanes in each direction
- Mercer St. restricted to 2 eastbound lanes from Fifth Ave. N to Dexter Ave. N
- Sidewalk open on one side of Mercer St.
- SR 99 restricted to 2 lanes in each direction and no sidewalks at Mercer St.
- SR 99 northbound off-ramp to Mercer St./Dexter Ave. N closed
- SR 99 transit stops at Mercer St. closed

# *What to Expect in 2014*

## July 2014: Close Broad St.

- Mercer St. open with 2 lanes in each direction from Queen Anne Ave. N to Dexter Ave. N
- Roy St. open with 1 lane in each direction from Queen Anne Ave. N to Fifth Ave. N
- SR 99 restricted to 2 lanes in each direction and no sidewalks at Mercer St.

# *What to Expect in 2015 and Beyond*

## July 2015: End Mercer Corridor Construction, Continue SR 99 Tunnel Construction

- SR 99 restricted to 2 lanes in each direction and no sidewalks at Mercer St.

## Following Mercer Corridor Project Completion:

- December 2015: Open SR 99 Tunnel (WSDOT)
- 2016: Construct surface street connections across Aurora Ave N (WSDOT)

# *Throughout Construction*

**Travelers can expect:**

- Early warning signs and alternate route information in advance
- Coordination and outreach designed to reduce the duration of construction impacts to the traveling public and project neighbors
- Signal timing will be monitored and updated throughout the Mercer Corridor to improve efficiency
- Maintained southbound transit-only lane on SR 99

# *SDOT contact information*

- **Email**
  mercerinfo@seattle.gov

- **24-hour Hotline**
  (206) 419-5818

- **Website**
  www.seattle.gov/Transportation/ ppmp_ mercer.htm

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# Working Group Member Feedback

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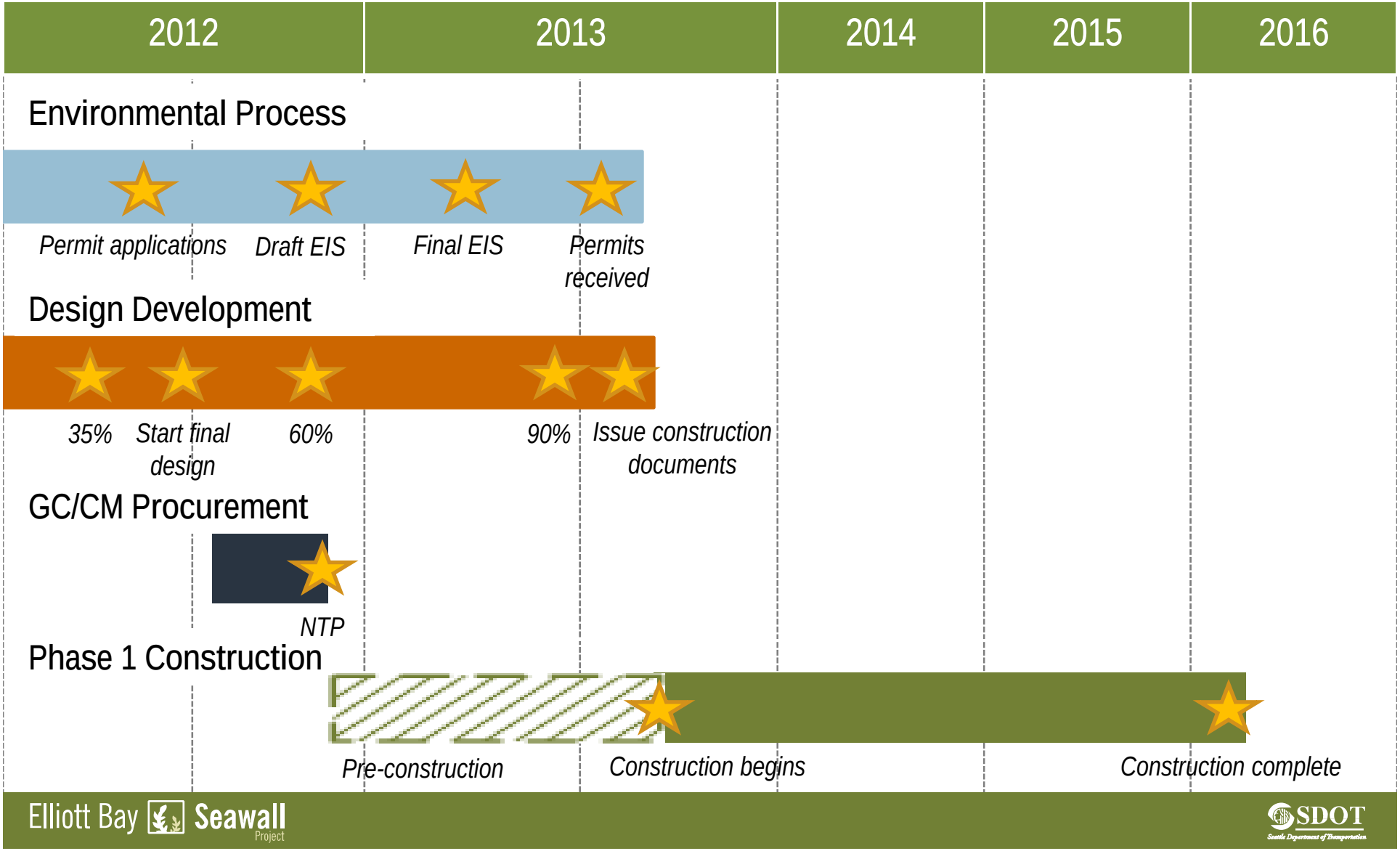
# Elliott Bay Seawall Project

# Project Milestones



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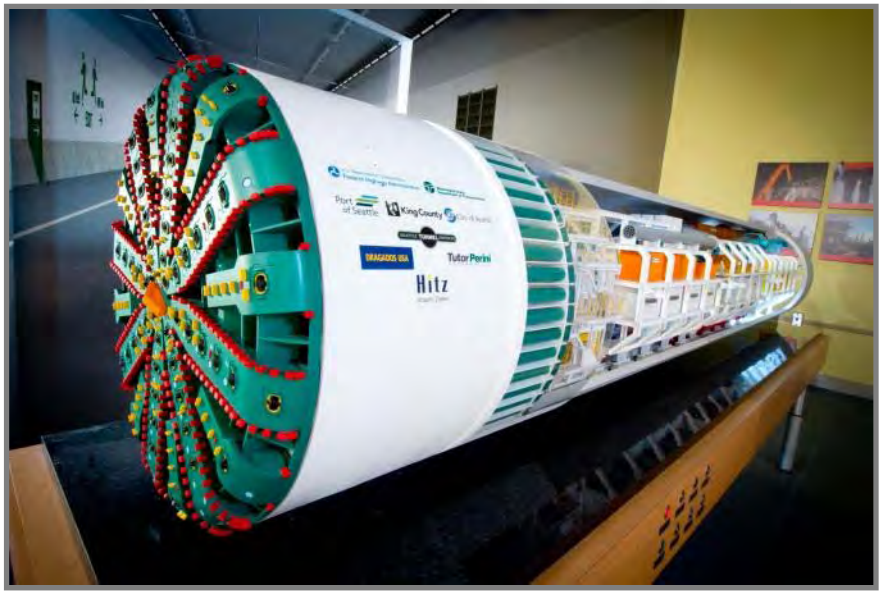
**Website:**
www.alaskanwayviaduct.org

**Twitter:** @BerthaDigsSR99

**Email:**
viaduct@wsdot.wa.gov

**Hotline:**
1-888-AWV-LINE

MP
Milepost Thirty-One




*Milepost 31 is located at 211 First Ave. S.*