



*Central Waterfront  
Stakeholders Group  
June 18, 2013*



and



*Housekeeping*

## Elliott Bay Seawall Project Next Steps

- Design completion and construction schedule refinement
- Continue permit coordination
- Continued planning with waterfront stakeholders, with increased specificity
- Negotiate MACC and subcontracting



Elliott Bay Seawall



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## Moving ahead

Topic	Where to find...
<b>Freight</b>	Continue: North/South Portal Meetings
<b>Parking Mitigation</b>	Continue: Parking Stakeholders Group
<b>Immediate property impacts</b>	Individual briefings
<b>Immediate Construction Impacts</b>	NEW: Monthly construction meetings
<b>General Program Progress</b>	Continued: Email updates and briefings (invite us, we are available!...and we'll seek you out)
<b>Design Development</b>	Central Waterfront Committee (and Subcommittees)

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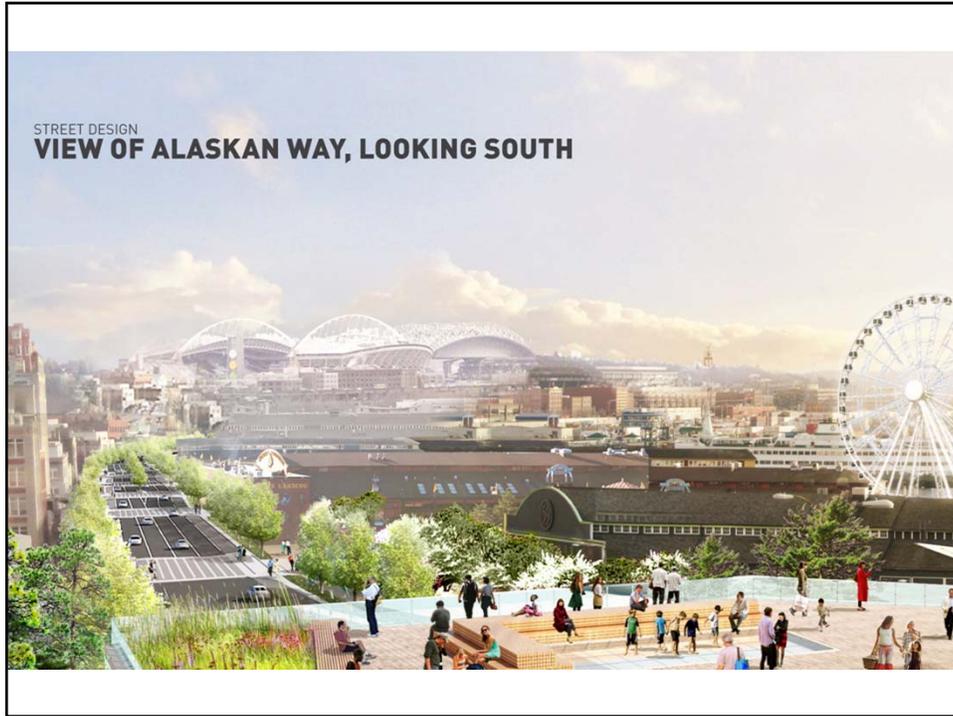
STREET DESIGN  
**GUIDING PRINCIPLES**  
CITY COUNCIL (RESOLUTION #31264)

**5. IMPROVE ACCESS AND MOBILITY**

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**THE DESIGN AND ENGINEERING OF THE STREET MUST BALANCE MANY DIFFERENT EXPECTATIONS IN ORDER TO SUPPORT TRAVEL NEEDS AND PLACE-MAKING OF THE NEW WATERFRONT:**

- DESIGN ALASKAN WAY TO FUNCTION AS A GOOD URBAN STREET FOR ALL USERS, SIMILAR TO FIRST AVE DOWNTOWN
- PROVIDE EFFECTIVE REGIONAL TRANSPORTATION CONNECTIONS
- INTEGRATE THE STREET INTO THE OVERALL DESIGN FOR THE WATERFRONT AND CENTER CITY CIRCULATION



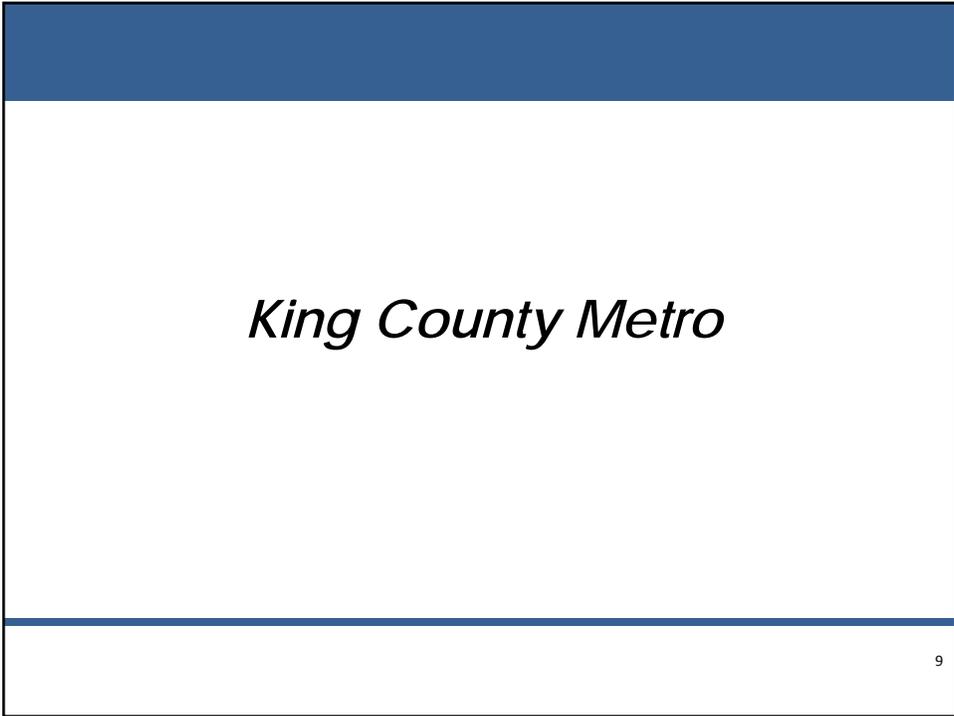
Waterfront For All

The logo for Waterfront Seattle, featuring a large, stylized yellow letter 'P' on the left and the words 'waterfront Seattle' in a white, lowercase, sans-serif font to its right.

**STREET  
+ TRANSIT  
UPDATE**

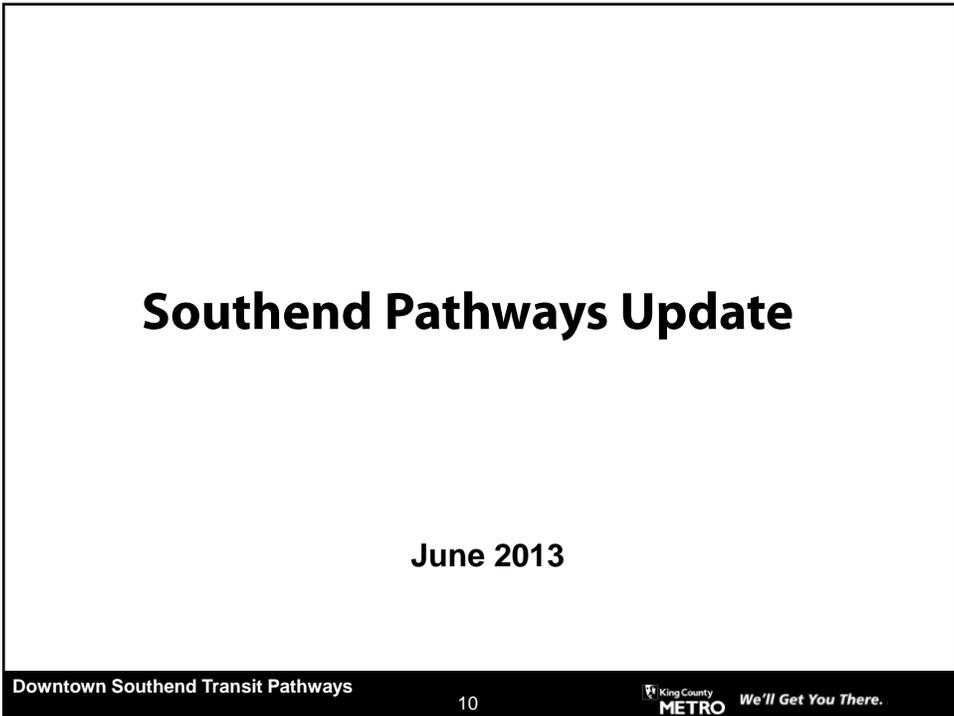
Learn about Alaskan Way design  
and options for waterfront transit

**WED JUNE 26  
WASHINGTON 5:30 PM  
STATE CONVENTION  
CENTER 800 CONVENTION  
FREE PLACE**



*King County Metro*

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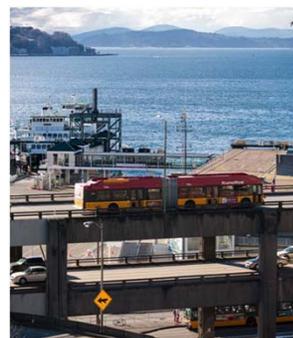
**Southend Pathways Update**

**June 2013**

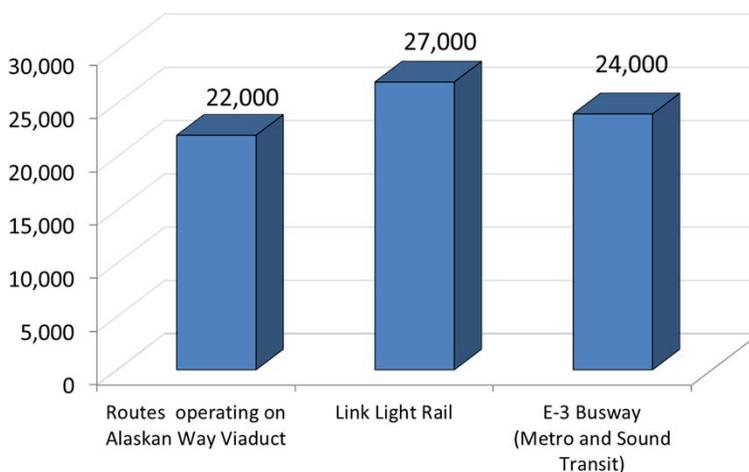
Downtown Southend Transit Pathways 10  *We'll Get You There.*

## Alaskan Way is key transit corridor

- 22,000 riders on 12 routes rely on this corridor
- Nearly 50% of people on the Columbia Street ramp in the peak hour are on transit
- 22% increase in ridership on Viaduct-related services
- 25,000 fewer vehicles on the Viaduct



## Estimated Weekday Ridership



## Pathway Studies Completed

### Metro Pathways Study

- Evaluate potential pathways from West Seattle, Ballard and southwest King County to downtown Seattle.



### City of Seattle Study

- Evaluate potential pathways on 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup> Avenues and SODO busway.

## Pathways Evaluated

- Interstate 5
- Airport Way
- 1<sup>st</sup> and 4<sup>th</sup> Avenues
- Yesler and James Streets
- Jackson Street
- Main and Washington Streets
- Columbia Street



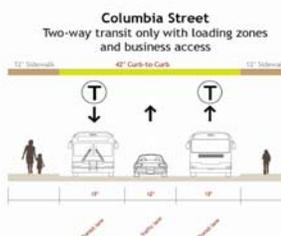
## 1<sup>st</sup> and 4<sup>th</sup> Avenues: Slower and less reliable pathway

- 5-8 minute increase in travel time
- At-grade rail crossings and stadium events
- \$20-30 million for transit lanes, other improvements
- \$150 million for Lander Street Overcrossing



## Key Elements of Columbia Street Pathway

- Continuous Priority Pathway
- Improvements to Pedestrian Experience
- Access for pedestrians, residents and business traffic
- Enhanced bus stops



## Next Steps

- Work with stakeholders to design a Columbia Street pathway that works for everyone.
- Further analyze pathway to better understand local access, bus and traffic operations and bus stop options.



## For More Information:

[www.metrofutureblog.wordpress.com](http://www.metrofutureblog.wordpress.com)

Look for blog post on Southend Pathways

# *Waterfront Seattle*

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WATERFRONT SEATTLE

## **LOCAL WATERFRONT TRANSIT**

JUNE 2013



## WATERFRONT TRANSIT CONCEPT



- SERVES LOCAL WATERFRONT MARKET
- OPERATES IN STREET IN SHARED LANE
- FREQUENT
- USER FRIENDLY
- LEGIBLE
- ICONIC
- FITS WATERFRONT CHARACTER AND DEMAND
- COMPELLING ALTERNATIVE TO DRIVING
- COMPLIMENTARY TO OTHER DOWNTOWN TRANSIT

## WATERFRONT TRANSIT ACCESS



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**Option A**

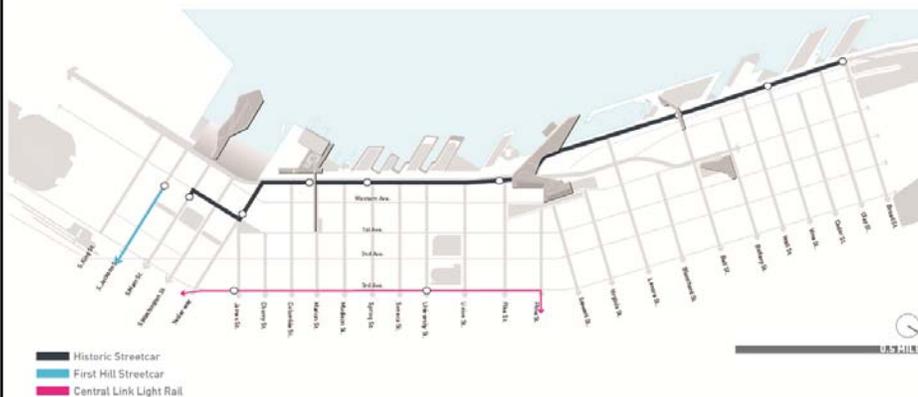
- Lower level of investment
- Includes doors on both sides of the vehicle and an additional operator
- High platform

**Option B**

- Option A plus elective upgrades (higher investment)
- Automated door operation, improved lighting, similar power service as modern streetcar, and wheelchair lifts
- Low platforms

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ALIGNMENT + STATION LOCATIONS  
**HISTORIC STREETCAR**

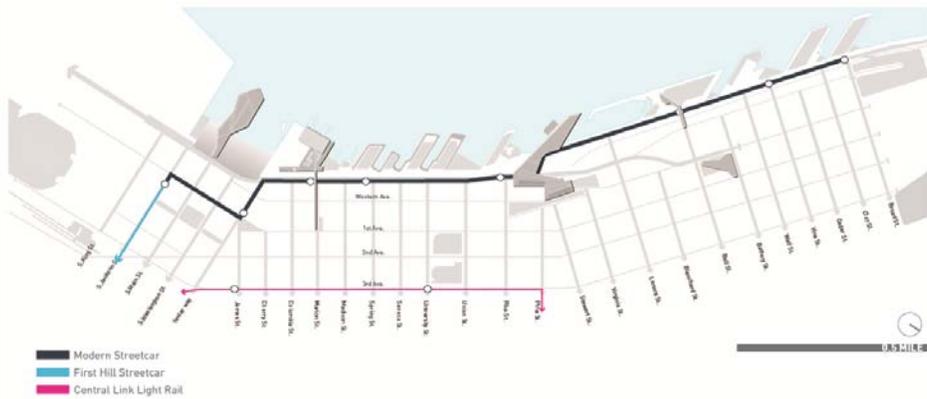


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ALIGNMENT + STATION LOCATIONS  
**MODERN STREETCAR**



### RUBBER TIRE TRANSIT



**Option A**

- Mini-bus style vehicle
- Large side windows and exterior row seating
- Low floor boarding (vehicle dependent)
- Lower passenger capacity

**Option B**

- Coach style bus with 2 doors
- Diesel-hybrid or electric propulsion
- Higher passenger capacity

### ALIGNMENT + STATION LOCATIONS RUBBER TIRE TRANSIT



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3.0 TRANSIT ALIGNMENT + ANALYSIS ASSUMPTIONS  
**ANALYSIS ASSUMPTIONS**

The following analysis assumptions were used for evaluating the system performance, environmental effects, and cost for the selected transit alternatives.

	Historic Streetcar	Modern Streetcar	Rubber Tire Transit
<b>NUMBER OF VEHICLES</b>	3 vehicles in service, 2 in reserve	3 vehicles in service, share reserve vehicle with First Hill streetcar system.	Option A: 5 vehicles, 1 in reserve Option B: 5 vehicles, 1 in reserve
<b>PASSENGER CAPACITY</b>	43 seated and 53 standing for a total of 96 passengers per vehicle.	27 seated and 80 standing for a total of 107 passengers per vehicle.	Option A: 30 to 40 passengers. Option B: 50 to 70 passengers.
<b>HEADWAYS</b>	15 minute headways	15 minute headways	Option A: 10 minute headways Option B: 10 minute headways
<b>STATION DWELL TIMES</b>	Option A: 30-40 seconds Option B: 20-30 seconds	10-15 seconds	Option A: 30-40 seconds Option B: 15-20 seconds
<b>STATION DESIGN</b>	Option A: high platform, center median stations Option B: low platform, center median stations	Low platform, center median stations	Low platform, curbside stations

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**SUMMARY RESULTS**  
OPERATING CHARACTERISTICS

1. Vehicle System Capacity

				
<b>Historic Streetcar Option A: Lower Investment</b>	<b>Historic Streetcar Option B: Higher Investment</b>	<b>Modern Streetcar</b>	<b>Rubber Tire Transit Option A: Mini-bus</b>	<b>Rubber Tire Transit Option B: Coach</b>

- Modern streetcar, highest passenger capacity of 1,800 passengers/hour
- Rubber tire transit option A would not meet potential future ridership demand.



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## SUMMARY RESULTS

### OPERATING CHARACTERISTICS

#### 2. Vehicle Operations (flexibility, grade)

				
<b>Historic Streetcar</b> Option A: Lower Investment	<b>Historic Streetcar</b> Option B: Higher Investment	<b>Modern Streetcar</b>	<b>Rubber Tire Transit</b> Option A: Mini-bus	<b>Rubber Tire Transit</b> Option B: Coach

- All alternatives can operate on steepest grades on route
- Rubber tire easier to reroute during construction or to avoid lane blockages.



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## SUMMARY RESULTS

### OPERATING CHARACTERISTICS

#### 3. Connectivity

				
<b>Historic Streetcar</b> Option A: Lower Investment	<b>Historic Streetcar</b> Option B: Higher Investment	<b>Modern Streetcar</b>	<b>Rubber Tire Transit</b> Option A: Mini-bus	<b>Rubber Tire Transit</b> Option B: Coach

- Rubber tire route can be easily extended
- All alternatives have similar proximity to Pioneer Square light rail station

## SUMMARY RESULTS

### OPERATING CHARACTERISTICS

#### 4. Travel Time



**Historic Streetcar**  
Option A: Lower Investment

**Historic Streetcar**  
Option B: Higher Investment

**Modern Streetcar**

**Rubber Tire Transit**  
Option A: Mini-bus

**Rubber Tire Transit**  
Option B: Coach



- Modern streetcar has fastest travel time and load time: 30 minute round trip (16 min NB / 14 min SB)
- Historic streetcar option B and rubber tire option A have slowest ADA loading.

## SUMMARY RESULTS

### OPERATING CHARACTERISTICS

#### 5. Safety



**Historic Streetcar**  
Option A: Lower Investment

**Historic Streetcar**  
Option B: Higher Investment

**Modern Streetcar**

**Rubber Tire Transit**  
Option A: Mini-bus

**Rubber Tire Transit**  
Option B: Coach



- Rubber tire and modern streetcar: meet all safety standards
- Historic streetcar would need to obtain safety certification

## SUMMARY RESULTS

### OPERATING CHARACTERISTICS

#### 6. Rider Attraction



**Historic Streetcar**  
Option A: Lower Investment

**Historic Streetcar**  
Option B: Higher Investment

**Modern Streetcar**

**Rubber Tire Transit**  
Option A: Mini-bus

**Rubber Tire Transit**  
Option B: Coach



- Historic and modern streetcar: legible and predictable service



## SUMMARY RESULTS

### OPERATING CHARACTERISTICS

#### 7. Rider Comfort + Satisfaction



**Historic Streetcar**  
Option A: Lower Investment

**Historic Streetcar**  
Option B: Higher Investment

**Modern Streetcar**

**Rubber Tire Transit**  
Option A: Mini-bus

**Rubber Tire Transit**  
Option B: Coach



- Modern streetcar has 3 doors, operates smoothly, and is climate controlled

## SUMMARY RESULTS

### OPERATING CHARACTERISTICS

#### 8. ADA + Accessibility



**Historic Streetcar**  
Option A: Lower Investment

**Historic Streetcar**  
Option B: Higher Investment

**Modern Streetcar**

**Rubber Tire Transit**  
Option A: Mini-bus

**Rubber Tire Transit**  
Option B: Coach

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- Rubber tire vehicles would be low-floor
- Passengers would wait curbside instead of in median



## SUMMARY RESULTS

### ENVIRONMENTAL EFFECTS

#### 1. Noise



**Historic Streetcar**  
Option A: Lower Investment

**Historic Streetcar**  
Option B: Higher Investment

**Modern Streetcar**

**Rubber Tire Transit**  
Option A: Mini-bus

**Rubber Tire Transit**  
Option B: Coach

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- Rubber tire: electric bus is quietest

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## SUMMARY RESULTS

### ENVIRONMENTAL EFFECTS

#### 2. Air Quality

				
<b>Historic Streetcar Option A: Lower Investment</b>	<b>Historic Streetcar Option B: Higher Investment</b>	<b>Modern Streetcar</b>	<b>Rubber Tire Transit Option A: Mini-bus</b>	<b>Rubber Tire Transit Option B: Coach</b>

- All powered by electricity; Washington State's electric power is 98% non-GHG generating

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## SUMMARY RESULTS

### ENVIRONMENTAL EFFECTS

#### 3. Visual Quality

				
<b>Historic Streetcar Option A: Lower Investment</b>	<b>Historic Streetcar Option B: Higher Investment</b>	<b>Modern Streetcar</b>	<b>Rubber Tire Transit Option A: Mini-bus</b>	<b>Rubber Tire Transit Option B: Coach</b>

- All vehicles operate in shared lanes
- General purpose traffic could experience some delay when any of the alternatives serves a station/stop
- Modern streetcar and rubber tire option B have faster ADA load times with low floor boarding



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## SUMMARY RESULTS

### ENVIRONMENTAL EFFECTS

#### 4. Traffic Impacts

				
<b>Historic Streetcar Option A: Lower Investment</b>	<b>Historic Streetcar Option B: Higher Investment</b>	<b>Modern Streetcar</b>	<b>Rubber Tire Transit Option A: Mini-bus</b>	<b>Rubber Tire Transit Option B: Coach</b>

- Rubber tire creates little visual clutter with no catenary system and low platform stops.
- Historic and modern streetcars visually appealing



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## SUMMARY RESULTS

### ENVIRONMENTAL EFFECTS

#### 5. Utility Conflicts

				
<b>Historic Streetcar Option A: Lower Investment</b>	<b>Historic Streetcar Option B: Higher Investment</b>	<b>Modern Streetcar</b>	<b>Rubber Tire Transit Option A: Mini-bus</b>	<b>Rubber Tire Transit Option B: Coach</b>

- Rubber tire has minimal conflicts with utilities

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## SUMMARY RESULTS

### COST

#### 1. Operations + Maintenance Costs

				
<b>Historic Streetcar Option A: Lower Investment</b>	<b>Historic Streetcar Option B: Higher Investment</b>	<b>Modern Streetcar</b>	<b>Rubber Tire Transit Option A: Mini-bus</b>	<b>Rubber Tire Transit Option B: Coach</b>

- Rubber tire mini-bus (A) O & M \$1.5-\$3.1 million/year depending on operator
- Other alternatives O & M \$3.1 - \$3.5 million/year



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## SUMMARY RESULTS

### COST

#### 2. Capital Costs

				
<b>Historic Streetcar Option A: Lower Investment</b>	<b>Historic Streetcar Option B: Higher Investment</b>	<b>Modern Streetcar</b>	<b>Rubber Tire Transit Option A: Mini-bus</b>	<b>Rubber Tire Transit Option B: Coach</b>

- Rubber tire capital costs the lowest (\$6-\$7 million)
- Modern: \$32-39 million
- Historic option A: \$35-41 million
- Historic option B: \$49-55 million



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### SUMMARY RESULTS

The following table summarizes the results of each waterfront transit alternative's operating characteristics, effects on the environment, and costs.

	Historic Streetcar	Modern Streetcar	Rubber Tire Transit		
<b>Vehicle Description</b>	<b>Option A: Low Investment</b> Added doors on both sides, no change to high floor loading, not integrated with the rest of the Seattle streetcar system.	<b>Option B: High Investment</b> Option A improvements plus upgrades for low platform boarding and operation on other electrified streetcar alignments - automated doors, power system, wheelchair lifts.	Vehicles similar to South Lake Union and First Hill service.	<b>Option A: Mini-bus</b> Small battery powered mini-bus-style vehicle with low floor boarding and a single door.	<b>Option B: Coach</b> Large battery powered coach style bus with quick charge system, low floor boarding and front and back doors.
					
<b>Operating Characteristics</b>					
Vehicle Capacity/Performance					
Safety/ADA - Accessibility					
Rider Attraction - Satisfaction					
<b>Effects on the Environment</b>					
<b>Cost</b>					
Operations and Maintenance					
Capital					

**KEY TO RANKING**  
 LOWER PERFORMING (Yellow) to HIGHER PERFORMING (Dark Green)



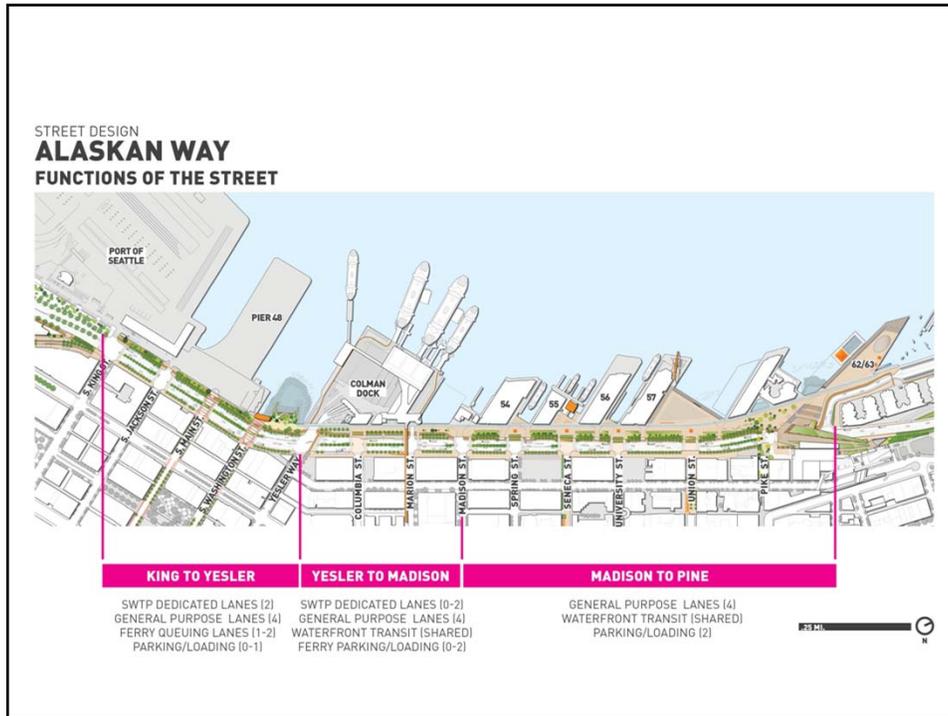
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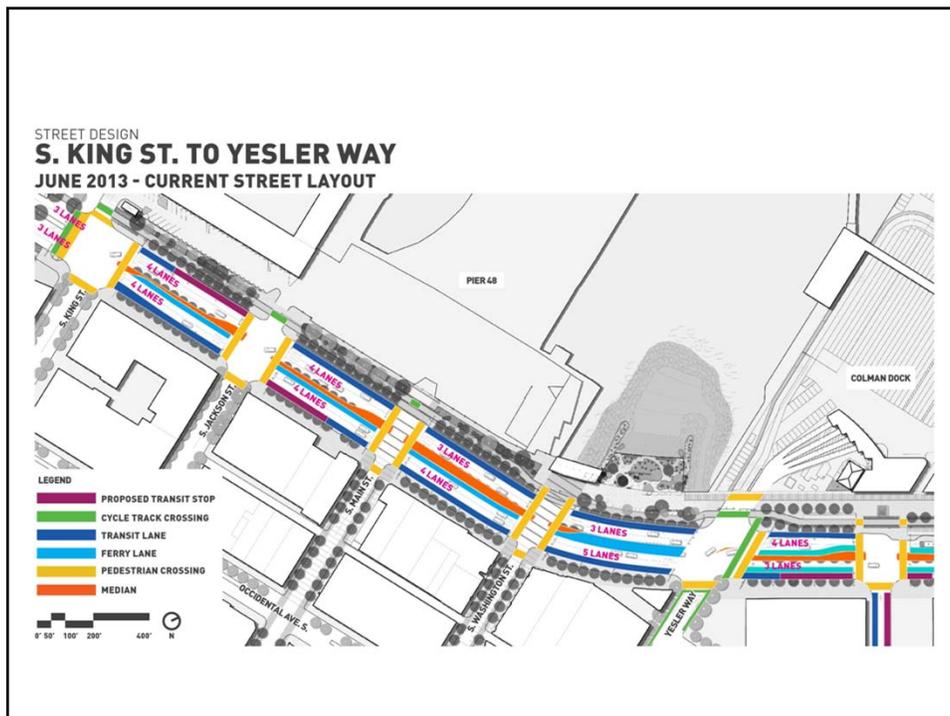
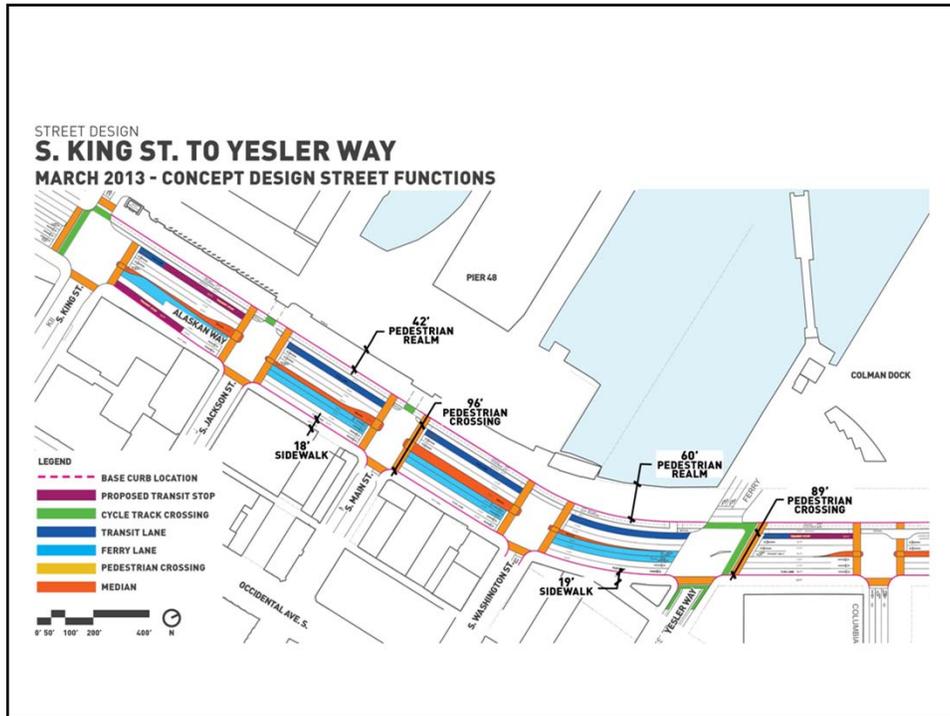
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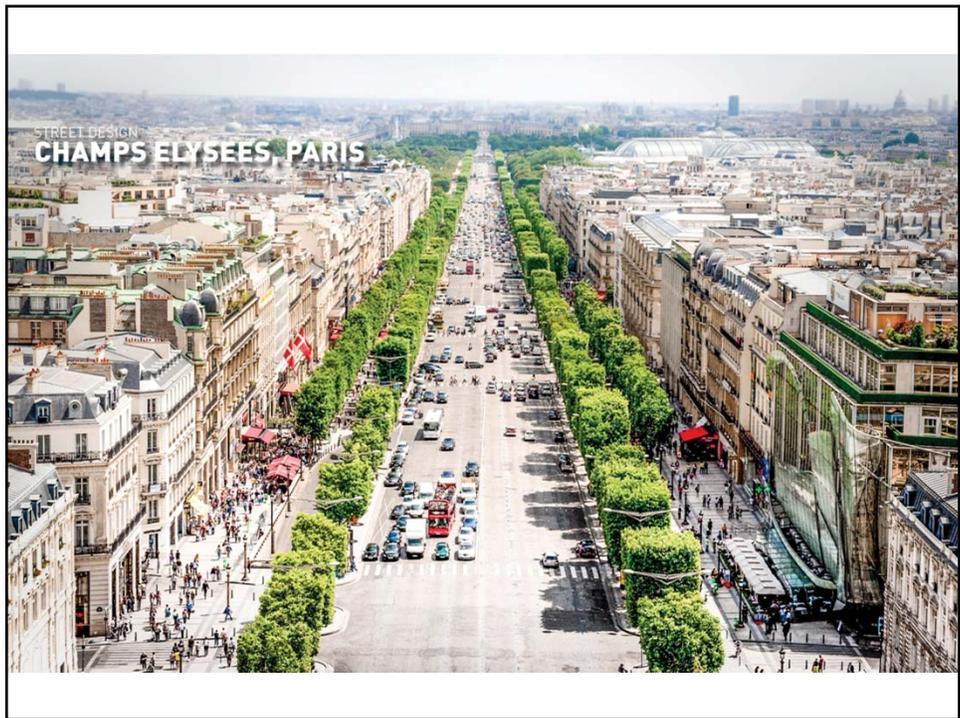
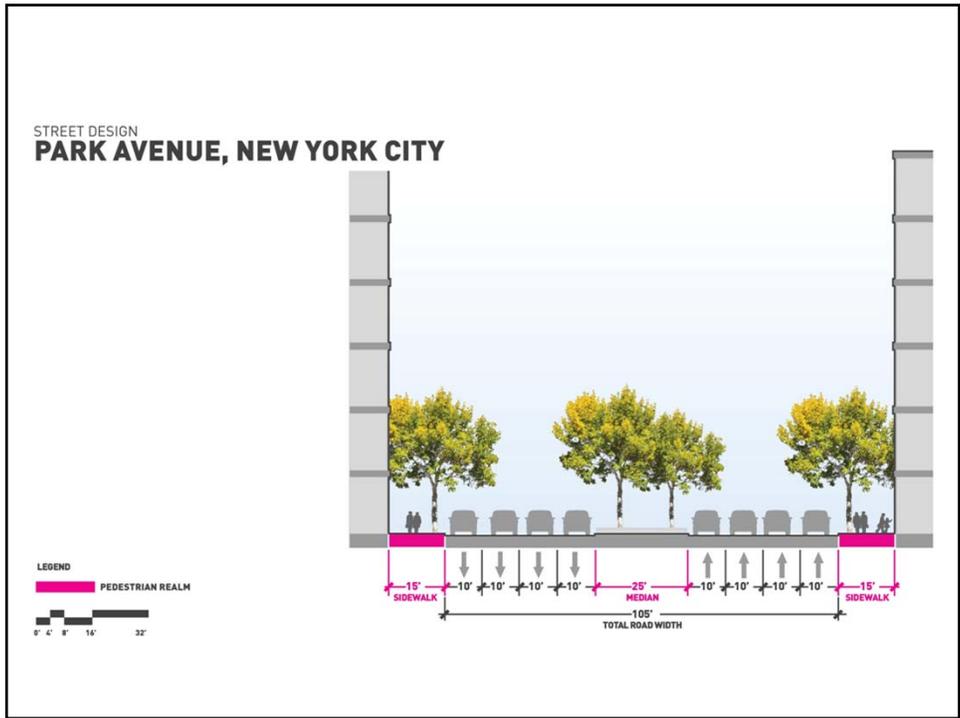
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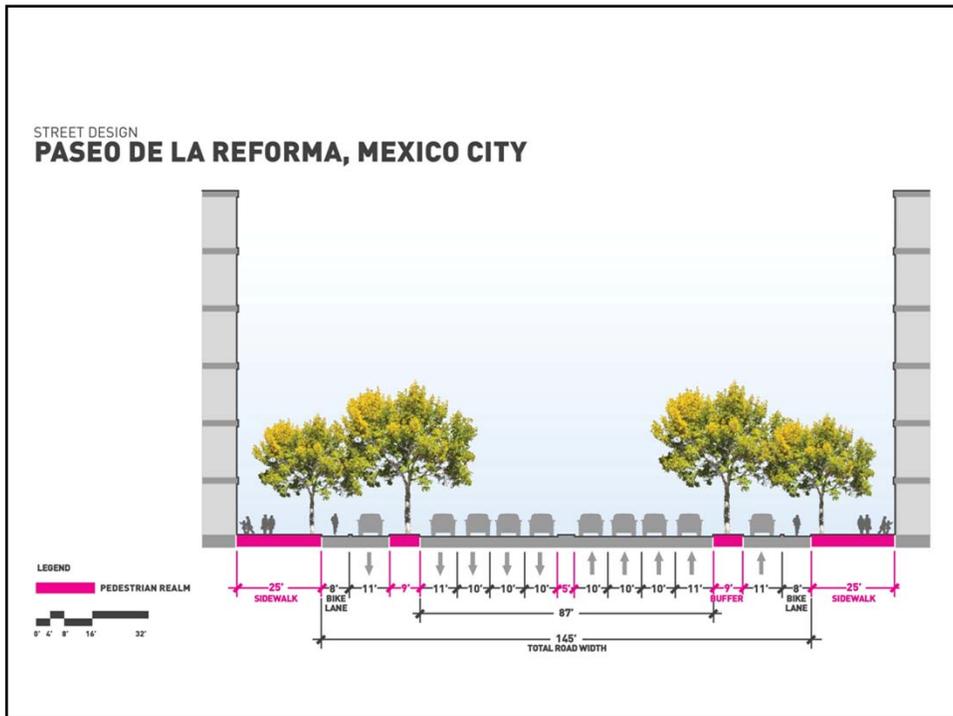
**S. KING ST. TO YESLER WAY**







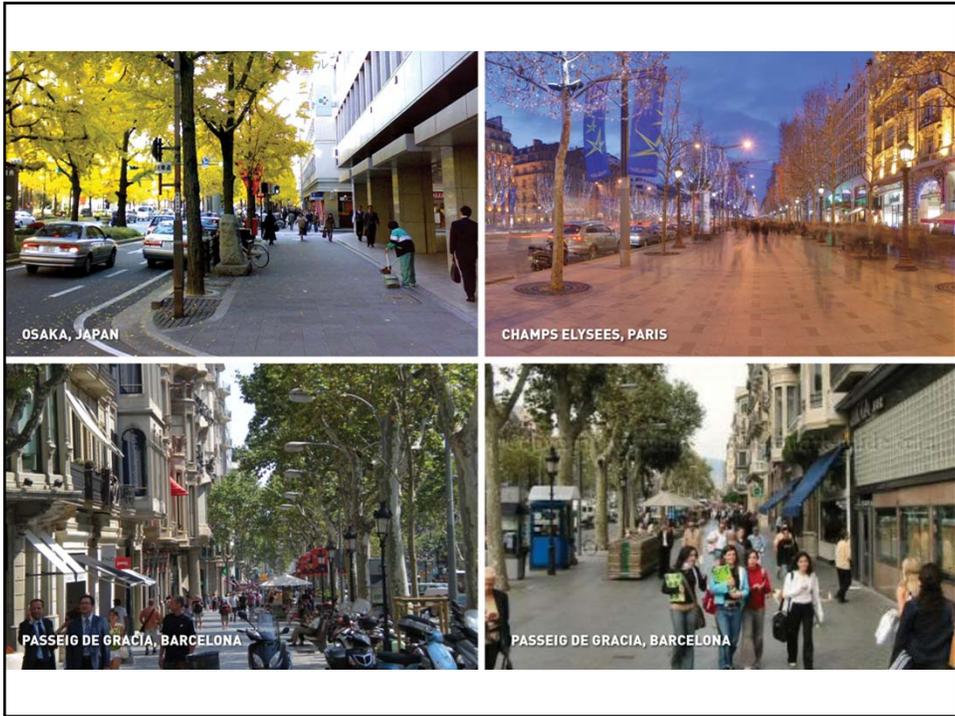




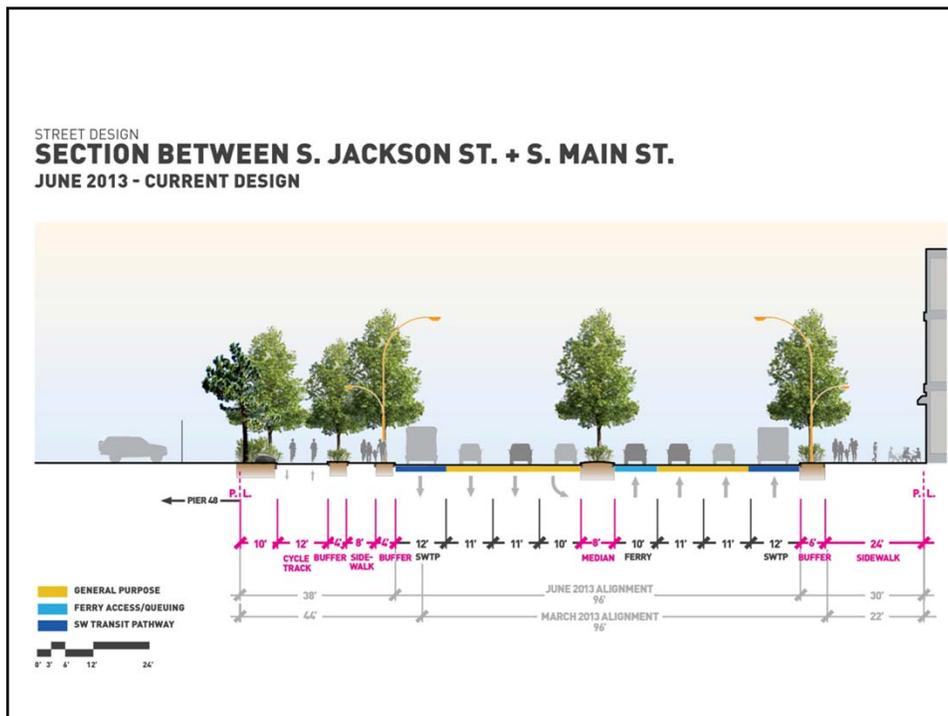
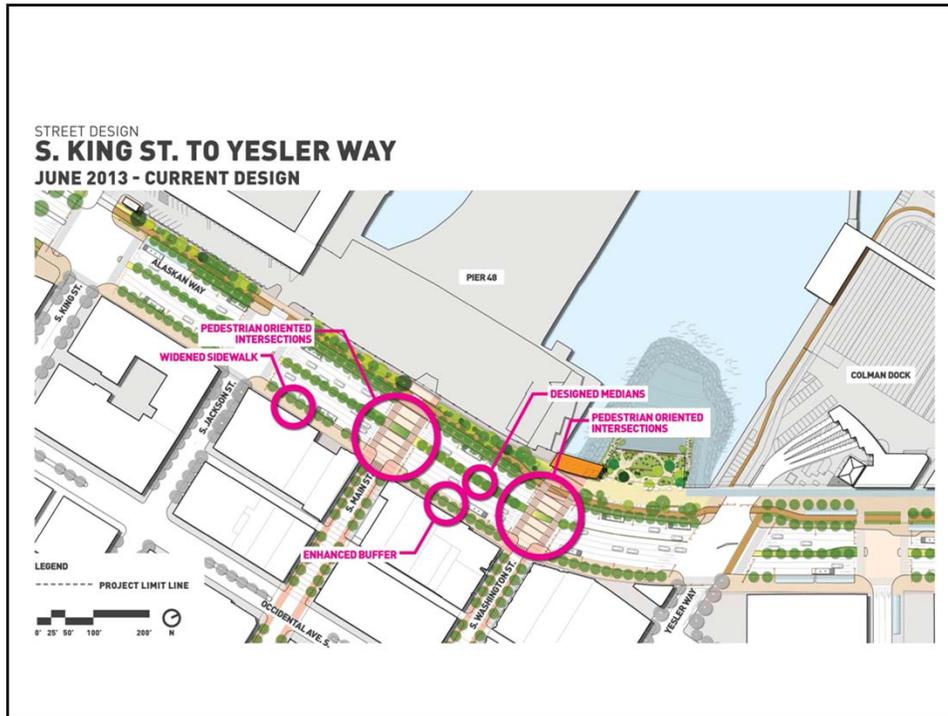


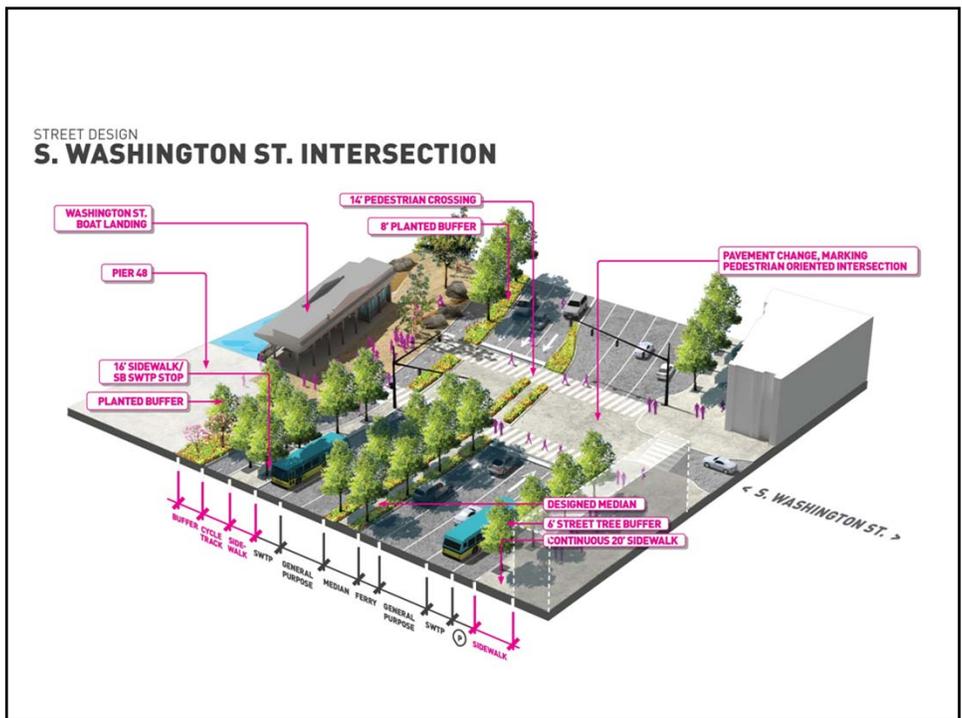
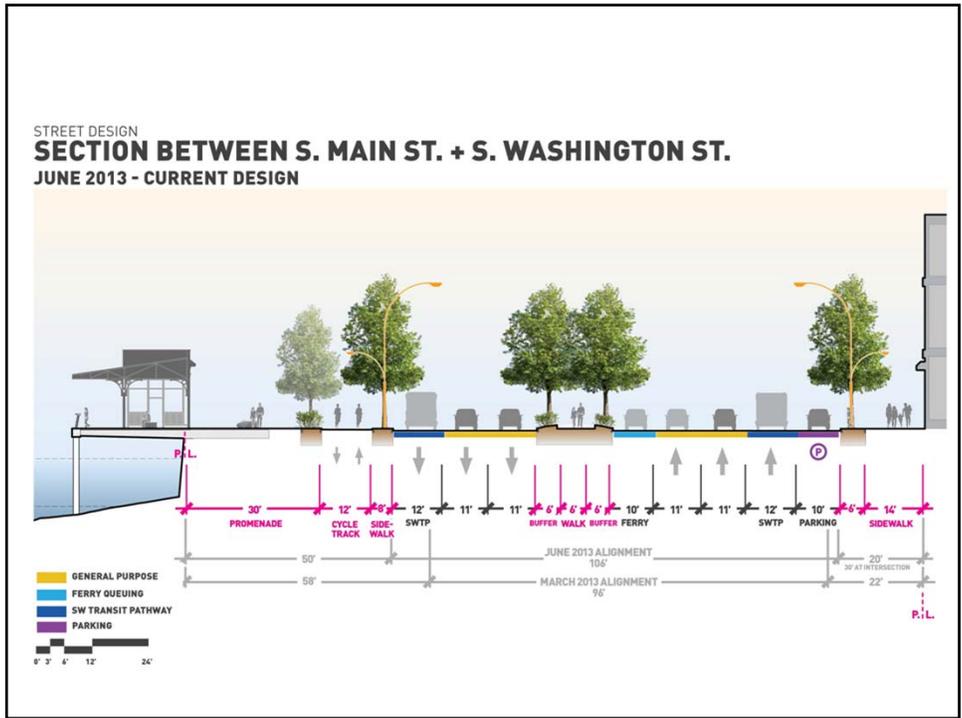
STREET DESIGN  
**BEST PRACTICES FOR LARGE STREETS DESIGN**

- 1. ADEQUATE SIDEWALK SCALE RELATIVE TO THE STREET SCALE**
- 2. ADEQUATE BUFFER BETWEEN PEDESTRIANS AND TRAFFIC**
- 3. PEDESTRIAN ORIENTED INTERSECTION TREATMENT**
- 4. DESIGNED MEDIANS**



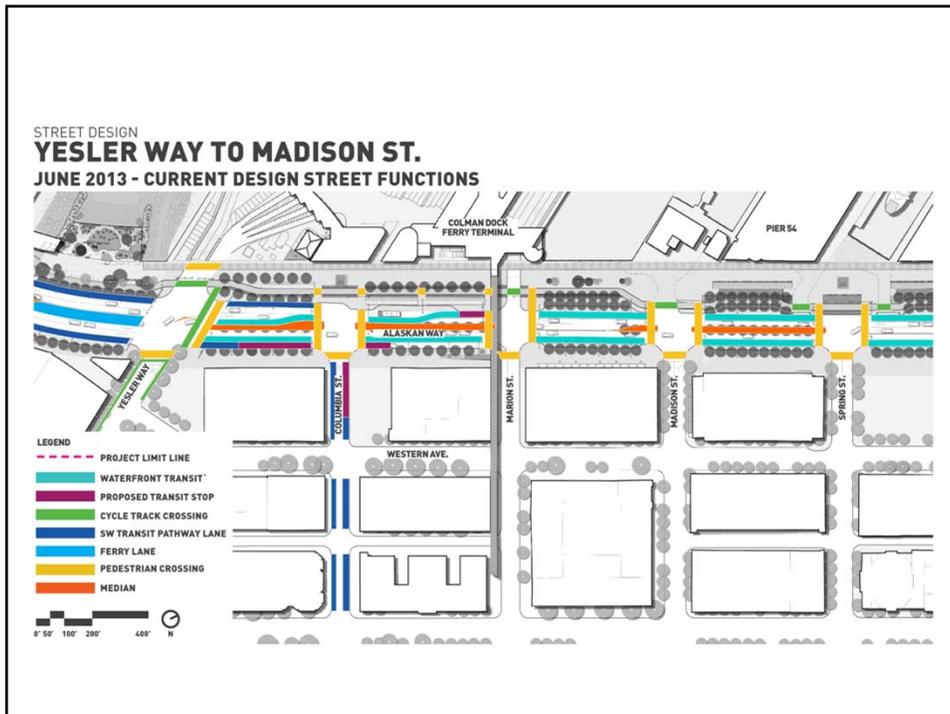


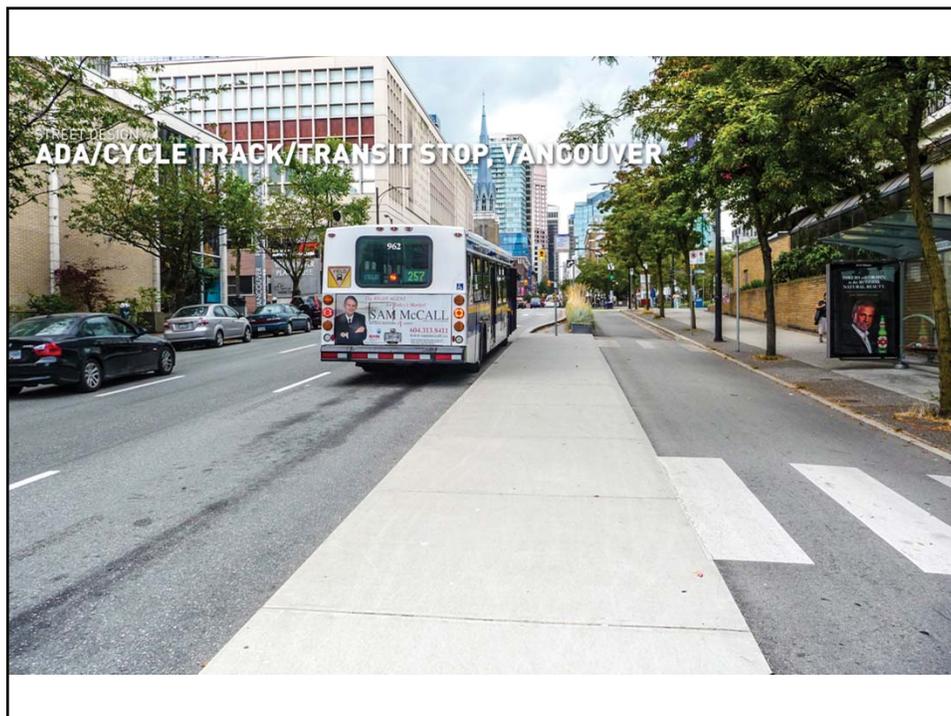
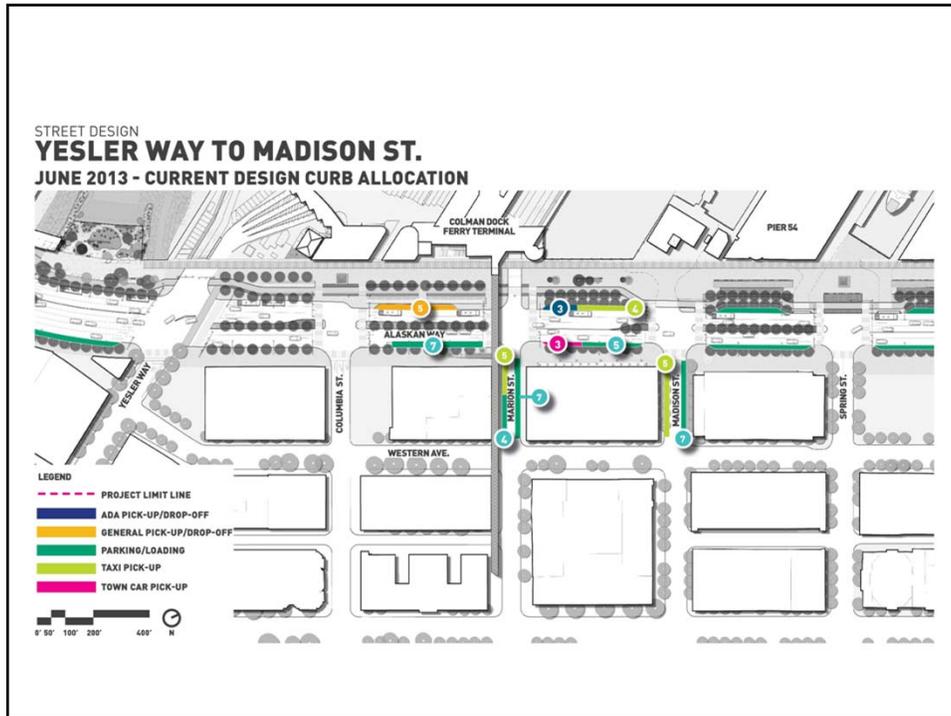


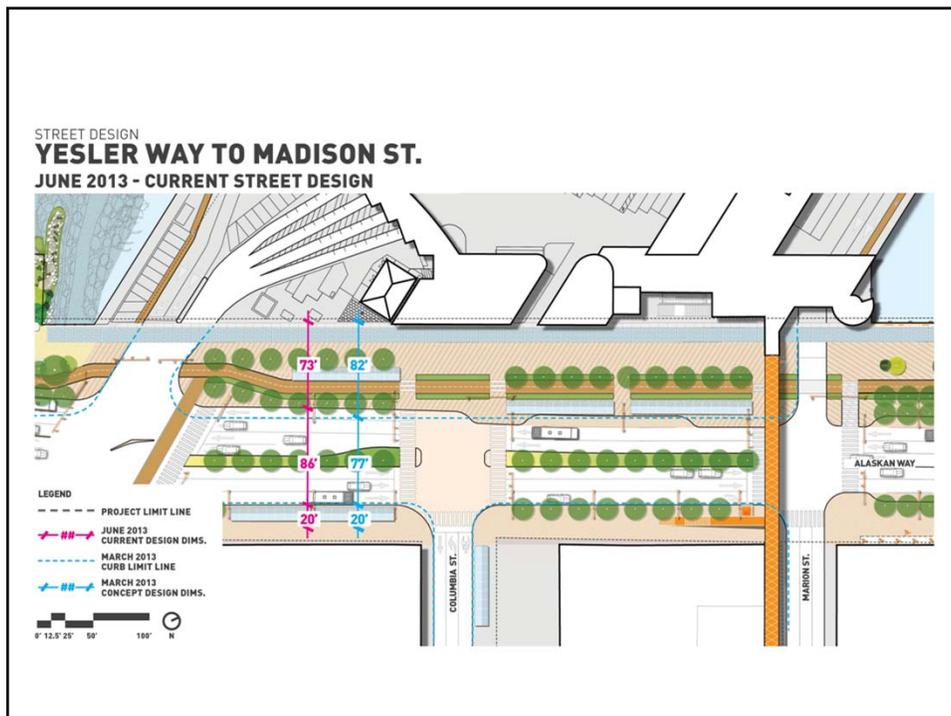
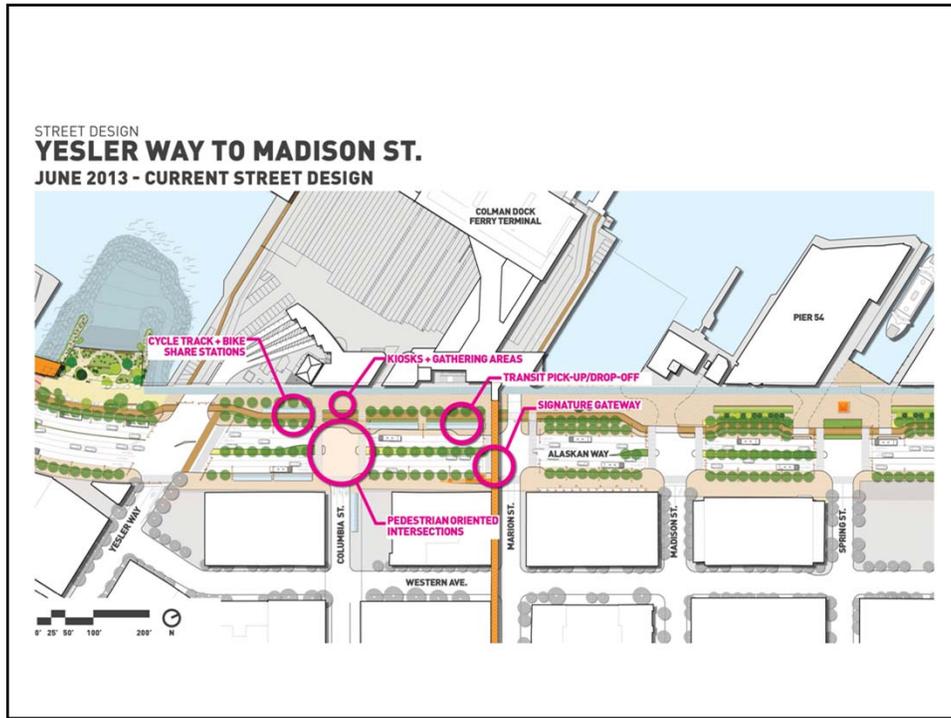


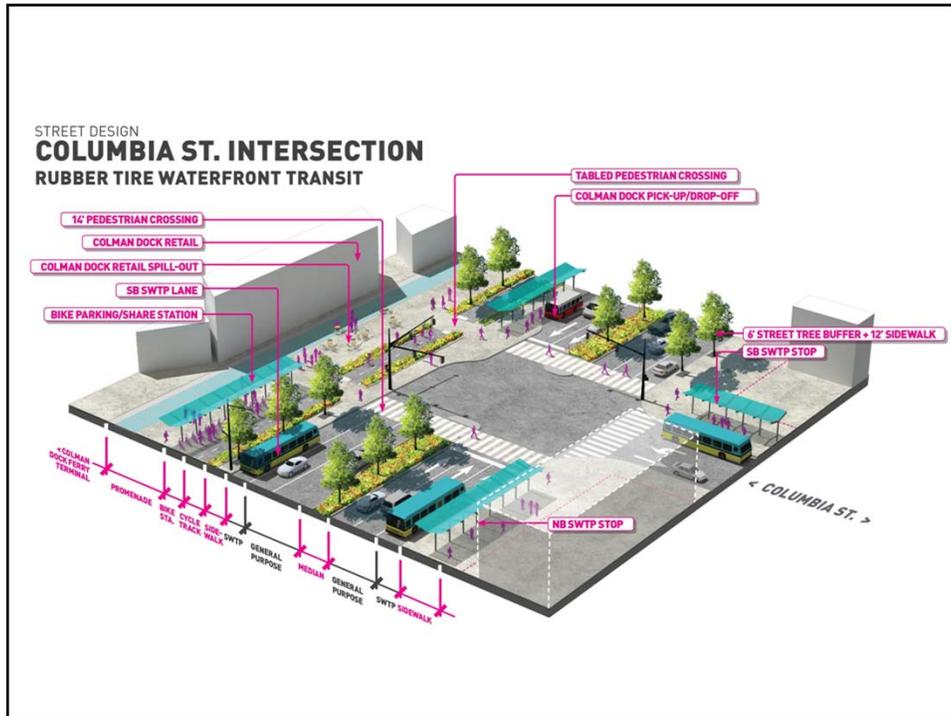


# YESLER WAY TO MADISON ST.

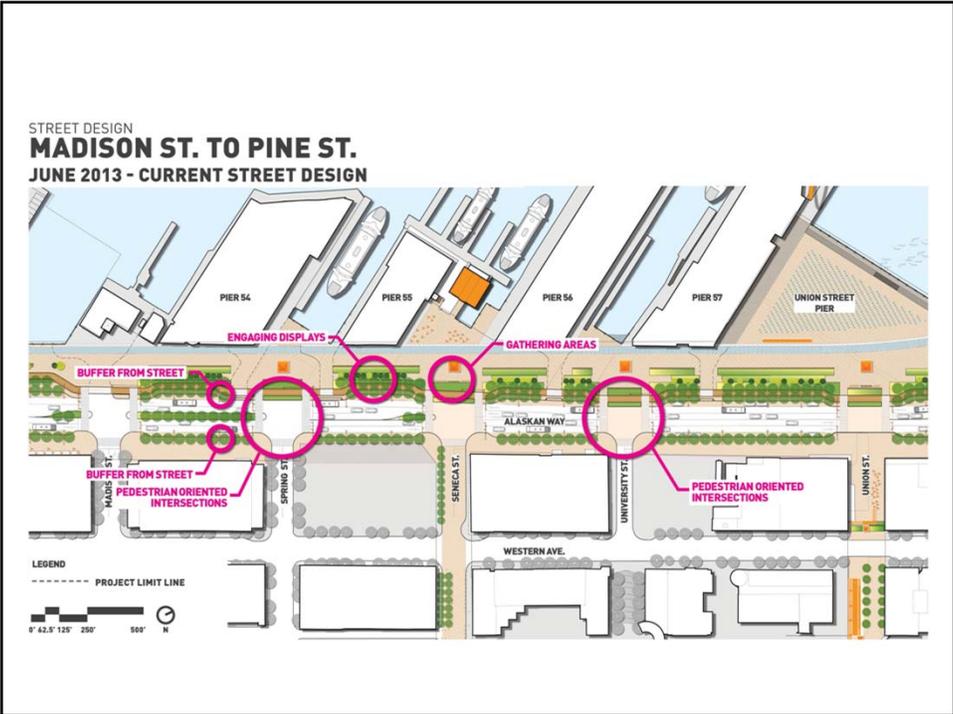


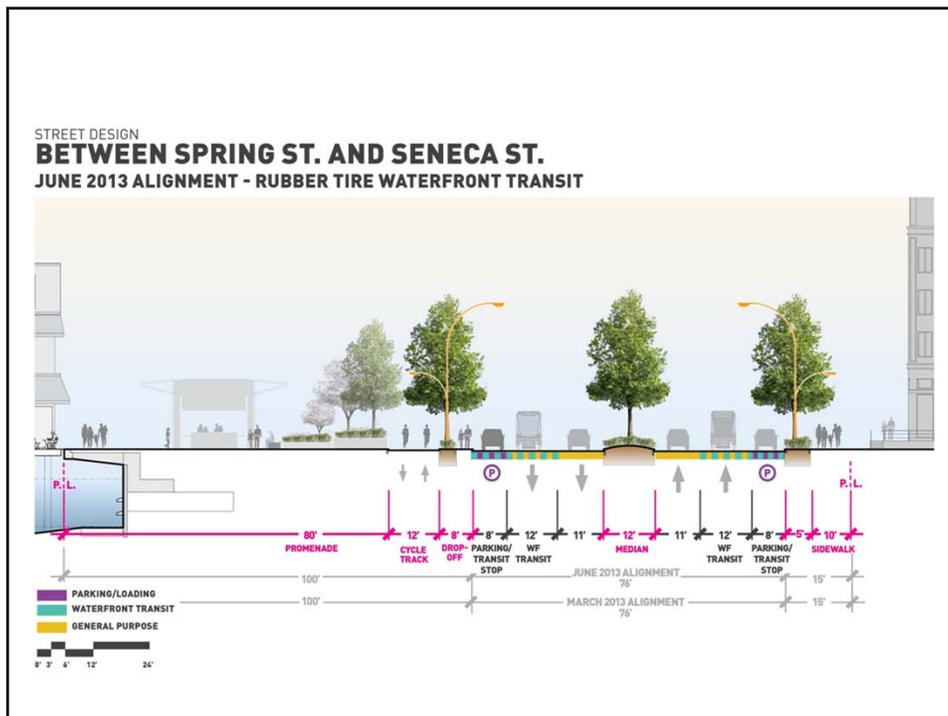
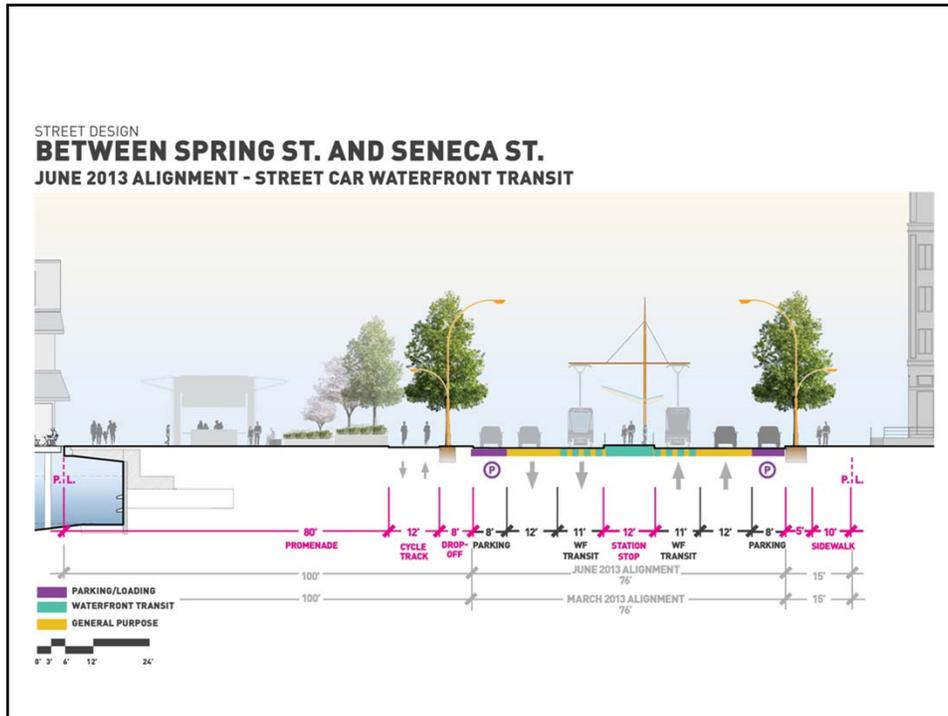


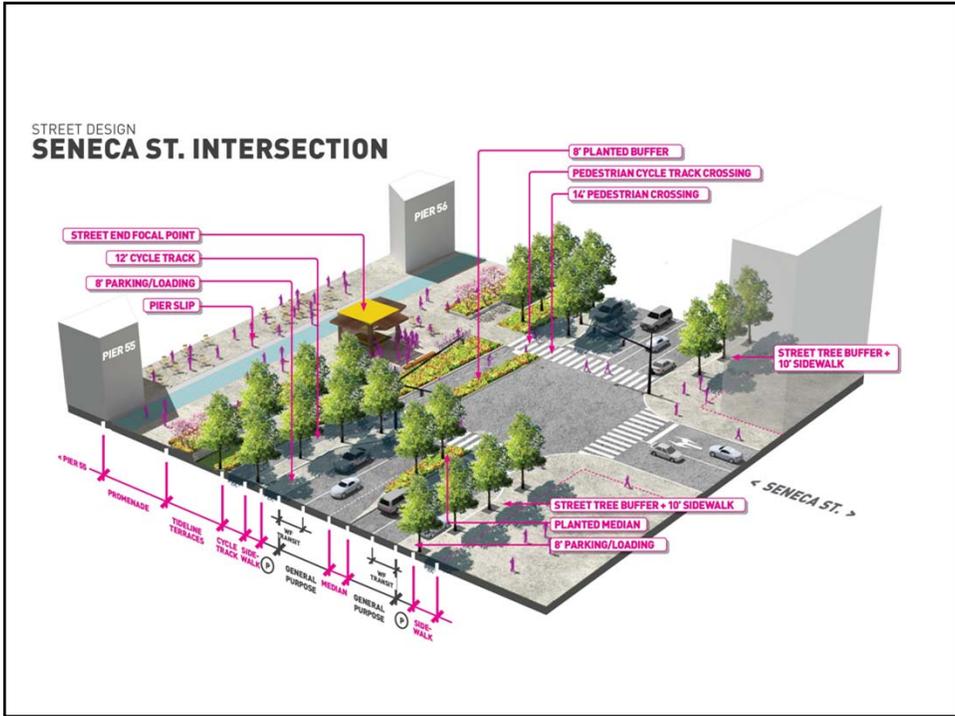


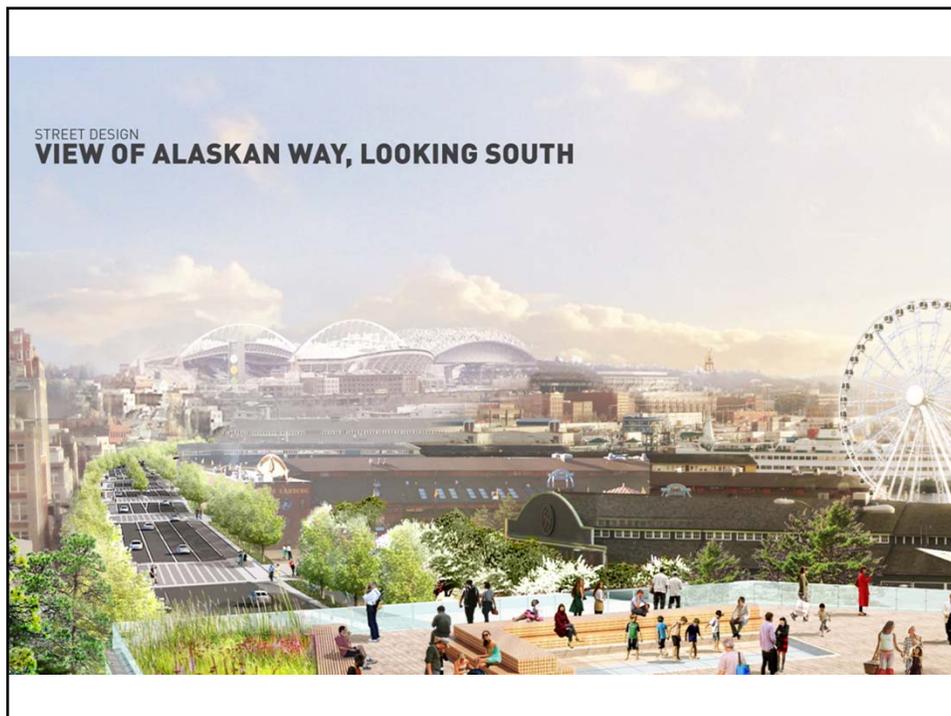
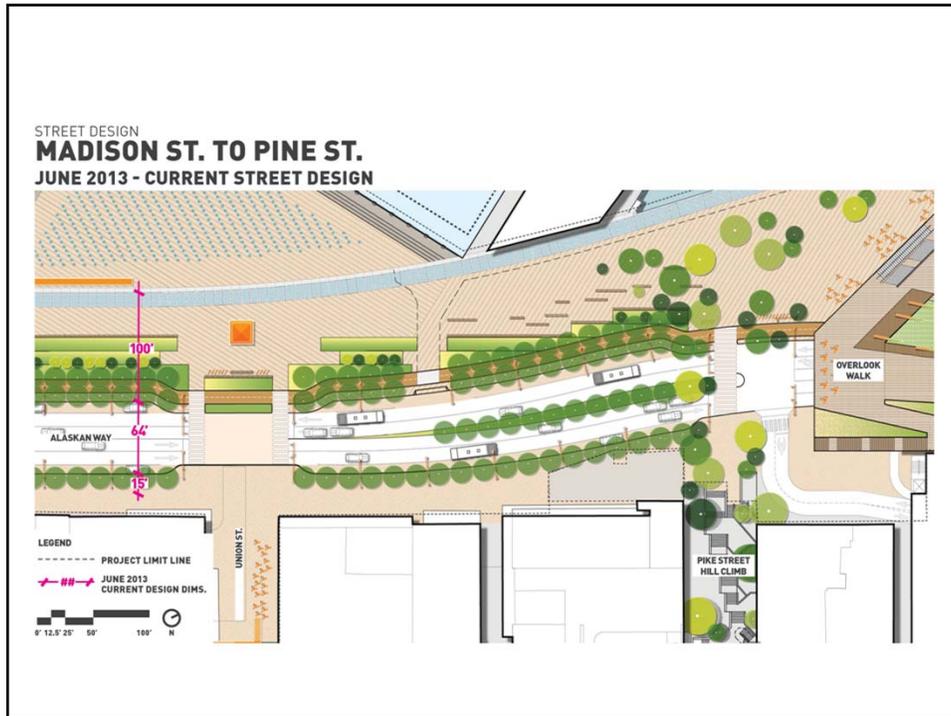


# MADISON ST. TO PINE ST.









*Did we protect the right street priorities?*

*On future waterfront transit options, what rises to the top in terms of preference?*

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*Stakeholder Once Around*

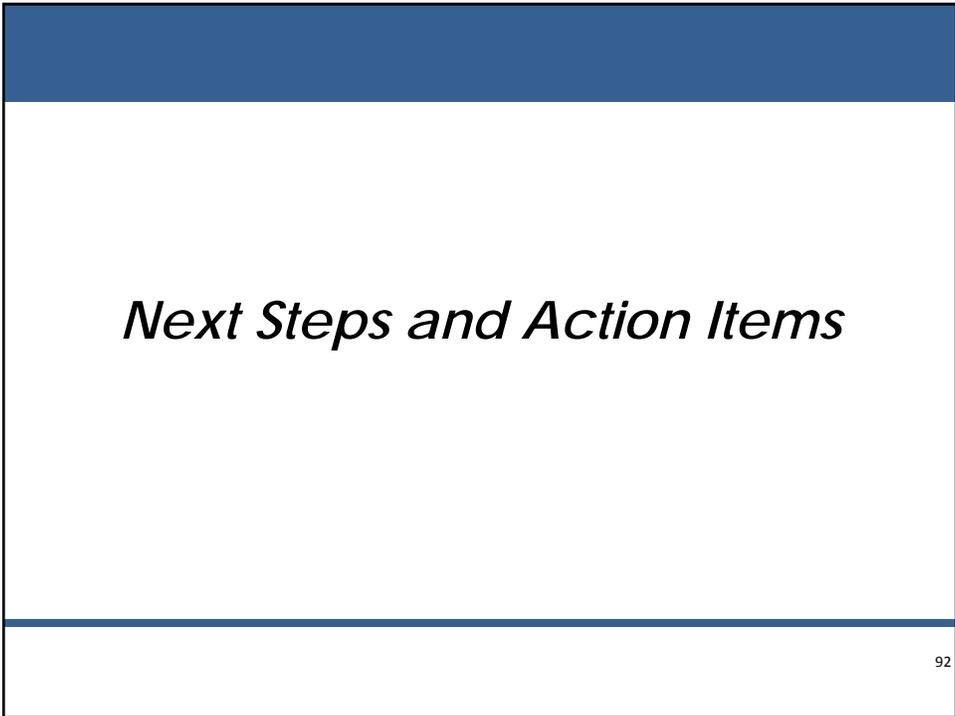
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*Public Comment*

91



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*Next Steps and Action Items*

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## Actions and Contact Information

Elliott Bay  **Seawall**  
Project

**Jessica Murphy, Project Manager**

Hotline phone: 206-618-8584

Web: <http://www.seattle.gov/transportation/seawall.htm>

Email: seawall@seattle.gov

**Waterfront**  
**Seattle.org**

**Angela Brady, Waterfront Program Manager**

Phone: 206-499-8040

Web: <http://www.waterfrontseattle.org>

Email: info@waterfrontseattle.org

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