



SEATTLE COMMUNITY DESIGN PROCESS FINAL REPORT

DRAFT 09.14.12
for public comment



**Washington State
Department of Transportation**

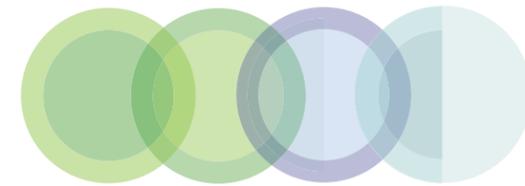


TABLE OF CONTENTS

01 EXECUTIVE SUMMARY	3
02 SEATTLE COMMUNITY DESIGN PROCESS OVERVIEW	11
03 VISION STATEMENT AND DESIGN FRAMEWORK	15
04 LOCAL AND REGIONAL NONMOTORIZED AND TRANSIT CONNECTIVITY	21
05 GEOGRAPHICAL SUBAREAS	29
Roanoke Area	
Portage Bay Bridge	
Montlake Area	
West Approach Bridge	
06 NEXT STEPS	71
07 GLOSSARY OF TERMS	75
08 APPENDIX	79
Public Comments [to be completed after public comment period]	
Olmsted Brothers' Seattle Legacy - Seven Design Principles	
Westside Operational Requirements and Commitments	
Additional Information Links	



Conceptual Rendering
Looking northwest near the location where a hand-carry boat launch will be retained at the east side of the integrated stormwater treatment facility in the Montlake area and adjacent to East Montlake Park

01 EXECUTIVE SUMMARY

“Transportation planners must make decisions that will support individuals and communities in making healthy choices. A well designed transportation project can go much beyond its primary purpose of moving motor vehicles by positively influencing the futures of communities and the health of their residents.”

SR 520 Health Impact Assessment,

Seattle & King County Public Health, 2008



EXECUTIVE SUMMARY

Introduction

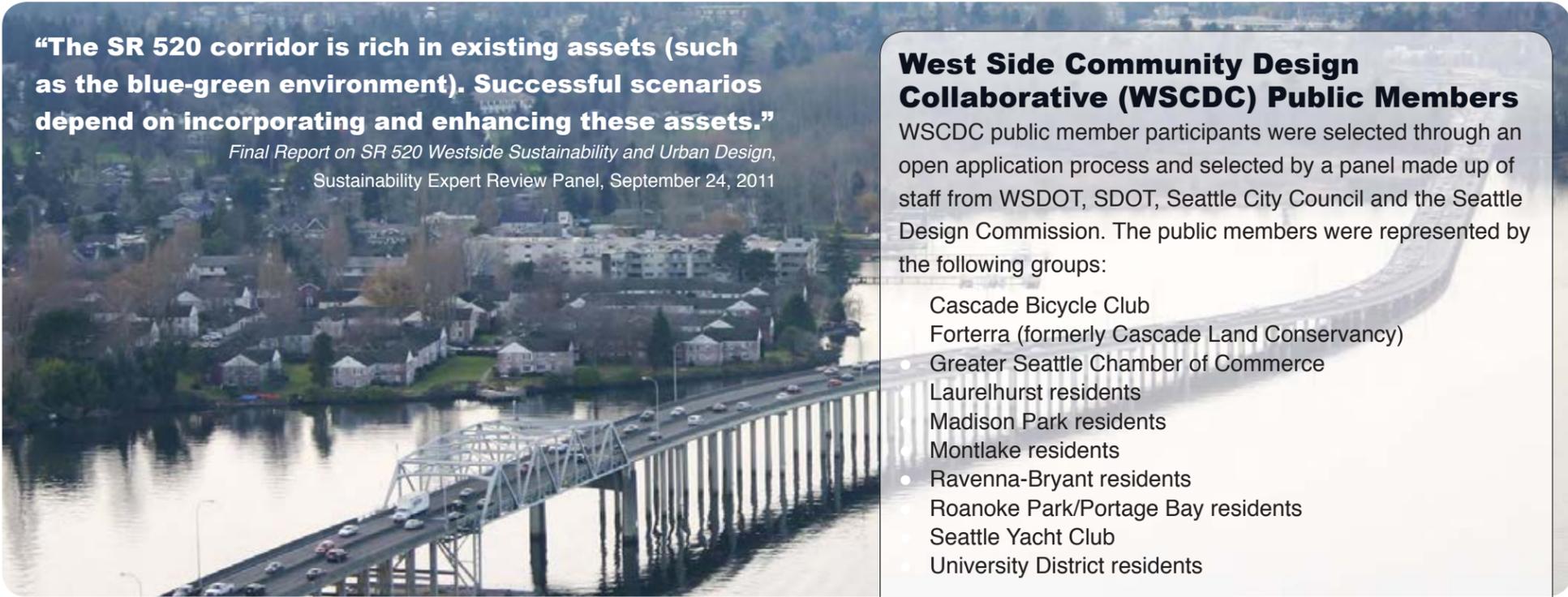
The Washington State Department of Transportation's (WSDOT) **SR 520 Bridge Replacement and HOV Program** is a long-term investment in one of the region's busiest corridors, one which connects major population and employment centers in Seattle and the east side of Lake Washington. The SR 520 program will replace the aging floating bridge across Lake Washington and complete critical safety and mobility improvements along the corridor from I-5 in Seattle to SR 202 in Redmond. The Eastside and floating bridge segments are currently under construction. However, WSDOT is still in the planning and design phases for the Seattle segment of the SR 520, I-5 to Medina Bridge Replacement and HOV Project.

In August 2011, the SR 520 project was granted approval from the Federal Highway Administration (FHWA) through a Record of Decision (ROD). This federal approval also included important **project commitments to surrounding communities** before, during and after construction. These commitments include noise reduction measures, traffic-calming strategies, construction management planning, park and natural environment mitigation, and a focus on context-sensitive urban design approaches.

In August 2011, WSDOT also began the **Seattle Community Design Process (SCDP)** with several specific goals to:

- Further **inform the public** about the federally approved baseline design
- **Seek community input and support for a refined vision and design preferences** for areas between I-5 in Seattle and the floating bridge

All design ideas explored through the SCDP considered the aesthetic guidelines of the 2006 Design Advisory Group (DAG), the approved environmental footprint, baseline design features and previous project commitments.



“The SR 520 corridor is rich in existing assets (such as the blue-green environment). Successful scenarios depend on incorporating and enhancing these assets.”

Final Report on SR 520 Westside Sustainability and Urban Design, Sustainability Expert Review Panel, September 24, 2011

What is in this document?

This report includes the following information based on work completed from August 2011 to July 2012:

- **An overview of the SCDP** including who participated and how WSDOT collected feedback on a refined vision and draft design concepts
- A **refined vision statement** that builds upon Seattle's 1909 planning to connect green spaces, waterways, and Seattle gateways
- A set of draft **design preferences** focused on areas between I-5 in Seattle and the floating bridge that are based on input provided by key stakeholders, design professionals and the general public
- **Next steps** for the SR 520 project design and delivery

Seattle Community Design Process Overview

The SCDP represents groundbreaking and inclusive efforts by WSDOT to address its commitments made by a 2010 multi-agency workgroup and in the Seattle/SR 520 project **Memorandum of Understanding (MOU)** to continue to work collaboratively with the City of Seattle and Seattle neighborhood stakeholders to refine the vision and design of the SR 520, I-5 to Medina Bridge Replacement and HOV Project.

West Side Community Design Collaborative (WSCDC) Public Members

WSCDC public member participants were selected through an open application process and selected by a panel made up of staff from WSDOT, SDOT, Seattle City Council and the Seattle Design Commission. The public members were represented by the following groups:

- Cascade Bicycle Club
- Forterra (formerly Cascade Land Conservancy)
- Greater Seattle Chamber of Commerce
- Laurelhurst residents
- Madison Park residents
- Montlake residents
- Ravenna-Bryant residents
- Roanoke Park/Portage Bay residents
- Seattle Yacht Club
- University District residents

WSCDC Partner Agencies

- King County Metro
- Seattle Bicycle Advisory Board
- Seattle City Council
- Seattle Department of Transportation
- Seattle Design Commission
- Seattle Parks and Recreation
- Seattle Pedestrian Advisory Board
- Sound Transit
- University of Washington

From August 2011 to July 2012, WSDOT worked with diverse group of stakeholders including the City of Seattle, other partner agencies, design professionals, including the Seattle Design Commission (SDC), and the public to further develop the project design. They focused on reconnecting Seattle neighborhoods and activity centers and improving the SR 520 project corridor. WSDOT also enlisted the guidance of the **West Side Community Design Collaborative (WSCDC)**, a group of neighborhood participants and partner agency staff that served as a sounding board for WSDOT staff on community concerns and feedback and helped WSDOT to direct development of new design ideas and refinements.

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OVERALL VISION

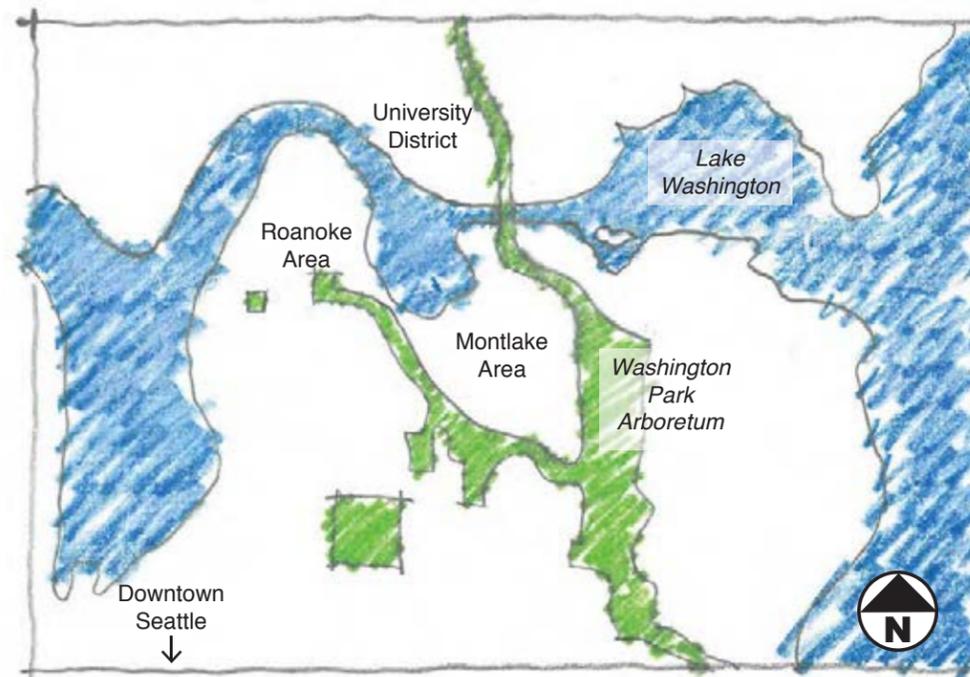
The SR 520 project corridor will be the premier gateway to the City of Seattle by reconnecting to the early Seattle vision of **“Nature meets City”**

A refined vision: Nature meets City

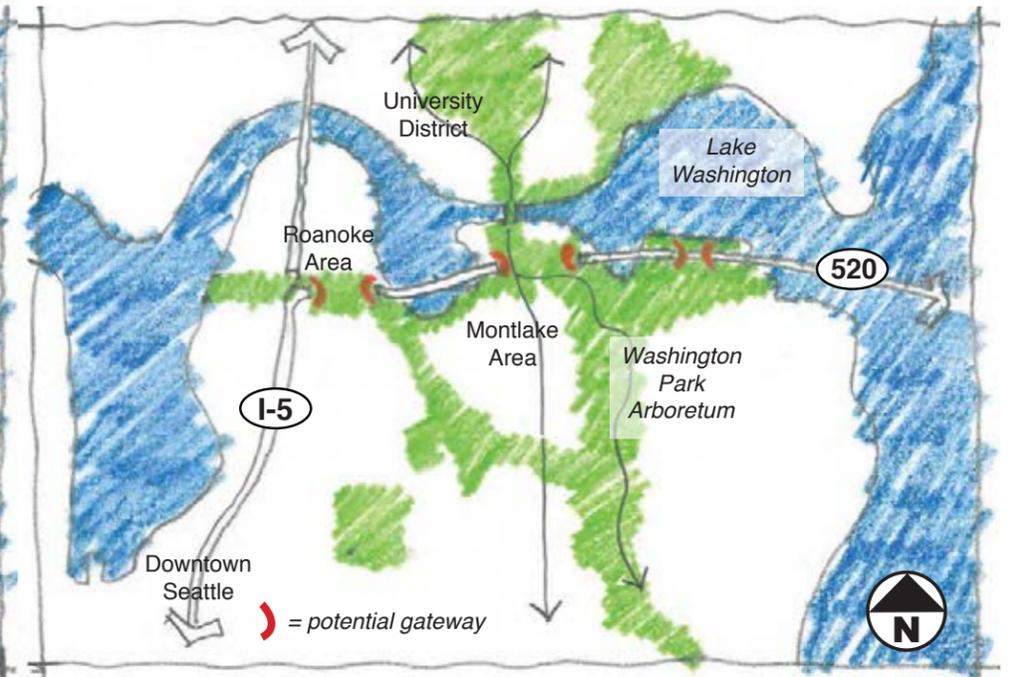
The new SR 520 project corridor is a critical regional highway facility that will support many modes of travel. WSDOT has the opportunity to build a more vibrant transportation facility through Seattle that could:

- Build upon Seattle’s vision set forth 100 years ago to become a **premier city** by creating infrastructure that embraces our unique natural setting and promotes a vibrant urban environment
- Yield **affordable solutions and sustainability practices** that support regional and local connectivity as well as ecology with a special focus on shoreline habitat and the use of low-carbon materials
- Provide a **memorable experience for all users**, including motorists, pedestrians, bicyclists, transit users, recreationists and residents of adjacent neighborhoods

Nature meets City



A conceptual-level diagram of Seattle’s 100-year vision as articulated in 1909 Seattle Parks and Boulevards Plan



A conceptual-level diagram of how SR 520 could build upon the 1909 vision to connect Seattle’s green spaces, waterways and gateways



A conceptual-level diagram of the potential natural (east-west) and urban (north-south) axes that define the Seattle corridor

What we have achieved:

- **Public awareness and community input**
- **Support of project elements**
- A **refined vision** and a set of **design preferences** based on the work completed to date

WSDOT will continue to engage with key stakeholders to affirm that the design preferences should be integrated into the I-5 to Medina project design.

**A full version of this document
Seattle Community Design Process Report
is available here:**

<http://www.wsdot.wa.gov/Projects/SR520Bridge/I5ToMedina/scdp.htm#reports>

Design Preferences

This graphic illustrates a summary list of design preferences based on stakeholder input heard to date. All of the design preferences explored considered the **environmental footprint, baseline design features and previous project commitments** that were approved in the 2011 SR 520, I-5 to Medina Bridge Replacement and HOV Project Record of Decision.

From **September 14 to October 5, 2012**, WSDOT will hear additional feedback through a public comment period on these design preferences and available in the complete **Seattle Community Design Process Final Report**. WSDOT will also brief the Mayor of Seattle and the Seattle City Council Special Committee on SR 520.

Throughout fall 2012, WSDOT will continue conversations with stakeholders to understand where agency feedback, public input, technical analysis and funding considerations align to support specific design refinements to the Seattle side of the SR 520 project corridor.



Roanoke Area

- 1 I-5 crossing:** Design new 30-foot wide landscaped bicycle and pedestrian shared-use path
- 2 Intersection design:** Improve T-intersection design at 10th Avenue East and Delmar Drive East
- 3 10th and Delmar lid:** Support passive uses as well as bicycle and pedestrian shared-use paths; balance tree preservation and safe public spaces by blending the lid into the hillside
- 4 Bagley Viewpoint:** Expand Bagley Viewpoint and provide street parking on Delmar Drive East
- 5 Boyer connection:** Provide a new, accessible and safe pedestrian connection between Delmar Drive East and Boyer Avenue East

Portage Bay Bridge

- 6 Bridge alignment:** Shift the alignment to the north on the west end of the bridge, in order to reduce construction duration
- 7 Bridge type:** Proceed with further technical analysis and refinements for two bridge types, the box girder and the cable stayed bridge; explore ways to integrate the structure with the surrounding neighborhoods
- 8 Bicycle and pedestrian connections:** Study safe, direct and comfortable bicycle and pedestrian connections from Montlake to downtown Seattle and north Capitol Hill, including a bicycle and pedestrian facility on the Portage Bay Bridge

Montlake Area



Montlake Area

- 9 Montlake Boulevard East:** Continue to work with the City of Seattle and King County Metro to improve safety, wayfinding, visual character and experience for cyclists and pedestrians
- 10 Canal Reserve:** Lower the westbound off-ramps under 24th Avenue East and shift the regional shared-use path onto the Montlake lid to preserve trees and open space between the neighborhood and the westbound off-ramps
- 11 West Montlake lid:** Develop a mobility hub that includes transit, bicycle and pedestrian facilities, safe connections to and from lid, and space for active uses
- 12 East Lake Washington Boulevard:** Design the roadway to buffer neighbors from traffic, improve visual character and integrate with Washington Park Arboretum by increasing the planted buffer between the roadway and homes on the south side

West Approach Bridge



West Approach Bridge

- 16 Bridge design:** Work toward a simple and clean structural design; include belvedere viewing areas for the regional shared-use path on the north side of the bridge

- 13 24th Avenue East:** Provide bicycle and pedestrian access only to East Montlake Park from 24th Avenue East
- 14 Stormwater facility:** Integrate a constructed wetland facility into the existing East Montlake Park and shoreline area
- 15 East Montlake lid:** Explore options to lower the transit/HOV ramps (see option B) and continue to work with the Seattle Design Commission (SDC), Seattle Department of Transportation (SDOT), Seattle Parks and Recreation, and Seattle Planning and Development to study options and refinements that best fit the project vision: to enhance connectivity for pedestrians, bicyclists and transit users; provide green space in an urban environment; and relate to the Arboretum

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How will WSDOT use this document?

- Share design progress with key decision-makers, including the Washington State Legislature and the City of Seattle, to help guide WSDOT's design refinements and to develop design recommendations
- Build partnerships to seek full funding and construct the complete project from I-5 to the floating bridge, including new, safer bridges and structures, lids, bicycle/pedestrian and transit improvements, and environmental enhancements
- Document the I-5 to Medina project's work to refine the vision and develop design preferences based on a wide range of stakeholder engagement and to guide the next phases of design

Design progression and next steps

The SCDP process started with a baseline design evaluated in the Final Environmental Impact Statement (FEIS) and urban design principles developed through previous public processes and conceptual design efforts. Through listening to feedback and exploring design opportunities, WSDOT developed a series of design preferences that addressed all of the project areas. In the fall of 2012, WSDOT will continue to listen and engage with key stakeholders and the public on design preferences and move into the next phase of design development.

How will WSDOT work with partners to complete the full program?

WSDOT is committed to building the full project from I-5 to Medina, including new, safer bridges and structures, transit/HOV improvements, community-connecting lids, bicycle/pedestrian improvements and environmental enhancements.

The SR 520 project is not currently fully funded. WSDOT continues to seek additional funding sources. Earlier this year, WSDOT received direction from the Legislature to analyze how I-90 tolling could manage traffic while providing funding for SR 520 projects from I-5 to the floating bridge. WSDOT has also applied a federal Transportation Infrastructure Finance and Innovation Act (TIFIA) loan, which would provide funding to construct the north half of the West Approach Bridge, the next phase of project construction.



SCDP 2011-2012

Next Steps: 2013 Construction

September 2012

Use the draft report as the means to affirm and hear additional input on the **refined vision and design preferences** and areas for further study from key stakeholders and the general public

October 2012

Review public comments and finalize the Seattle Community Design Process Report

December 2012

Seek Seattle City Council and Mayor action on the refined vision and design preferences shared in the report; continue to work with the City of Seattle and Washington State Legislature to implement the Seattle/SR 520 MOU and help guide WSDOT incorporation of design refinements and the next phase of design

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Conceptual Rendering
The western portion of the Montlake lid over SR 520 will serve as a mobility hub including transit stops and could have spaces for public markets or other active uses (view looking north from East Lake Washington Boulevard)



Conceptual Rendering
The western portion of the Montlake Lid over SR 520 will serve as a mobility hub connecting cyclists, pedestrians and transit riders (view looking northeast above Montlake Boulevard East)

02 SEATTLE COMMUNITY DESIGN PROCESS OVERVIEW

“Pedestrians, cyclists, and vehicle drivers each experience a street differently... each of these users’ eye levels and peripheral vision will be at different heights and ranges. These details significantly affect perceived distances, the ability to recognize signage and overall enjoyment of a route.”

Seattle’s Neighborhood Greenways Toolkit,

University of Washington Green Futures Lab, 2012

SEATTLE COMMUNITY DESIGN PROCESS OVERVIEW AND ACHIEVEMENTS

The Seattle Community Design Process (SCDP) is an **iterative and inclusive process** that meets WSDOT's requirements to continue working collaboratively with the City of Seattle and Seattle neighborhood stakeholders to refine the project vision and design. WSDOT made this commitment as part of a 2010 legislatively mandated multi-agency workgroup (ESSB 6392) and in the Seattle/SR 520 project Memorandum of Understanding (MOU). WSDOT continues to fulfill this commitment by working with the City of Seattle and a broad range of stakeholders to develop a refined vision and draft design preferences that improve the SR 520 project corridor and **reconnect Seattle neighborhoods** and activity centers.

An iterative and inclusive approach

Through the SCDP framework, the WSDOT design team:

- **Shares baseline information** about the SR 520 project requirements and designs
- Listens to feedback and explores ideas from other design professionals, partner agencies, and regional and community stakeholders
- Informs stakeholders about identified new design opportunities and listens to feedback
- Integrates **best practices for urban and sustainable design** into the SR 520 project
- Continues to collect additional input from agency partners and community stakeholders as the process moves forward

Urban Design and Sustainability Expert Review Panel (ERP)

A group of North American design professionals gave **independent feedback** about major opportunities and challenges. These professionals provided expertise in city planning, urban and sustainable design, water resource management and large-scale public infrastructure delivery.



Broader public

The public has provided ongoing and extensive feedback about design issues, opportunities and refinements. Input was collected at geographically focused community sessions, seven open public sessions and numerous small meetings with neighborhood councils and advocacy groups.



Memorandum of Understanding (MOU) Groups

The SR 520 project/City of Seattle MOU shared and discussed design concepts with the groups. The *Executive Advisory Group* includes senior leaders from WSDOT and the City of Seattle. The *Oversight Group* includes technical staff and managers from WSDOT, the Mayor's Office, City Council, Parks and Recreation and the Seattle Department of Transportation.



How do we collect feedback?

During the SCDP, WSDOT engaged multiple stakeholders to gain input from a broad range of perspectives.

Internal Sustainability Workshops

WSDOT hosted internal workshops to apply lessons learned from current SR 520 projects under construction. This resulted in a list of strategies and actions to implement sustainability measures for the west side.



Source: Tim Whelan

The Seattle Design Commission (SDC)

The Seattle Design Commission helped refine the project's vision. They also provide a **regional and citywide perspective** on design preferences and the associated effects on individual Seattle neighborhoods. The Commission also provides guidance in areas where there is diverse and conflicting feedback.



Bridge Architecture Consultant

WSDOT hired Donald MacDonald, a nationally recognized bridge architect, to help design a new Portage Bay Bridge that can serve as a **signature gateway** to the City of Seattle while remaining sensitive to the surrounding landscape and neighborhoods.



West Side Community Design Collaborative (WSCDC)

This group of neighborhood participants and partner agency staff served as a sounding board for WSDOT staff on community concerns and feedback and helped WSDOT direct the development of new design opportunities and preferences.



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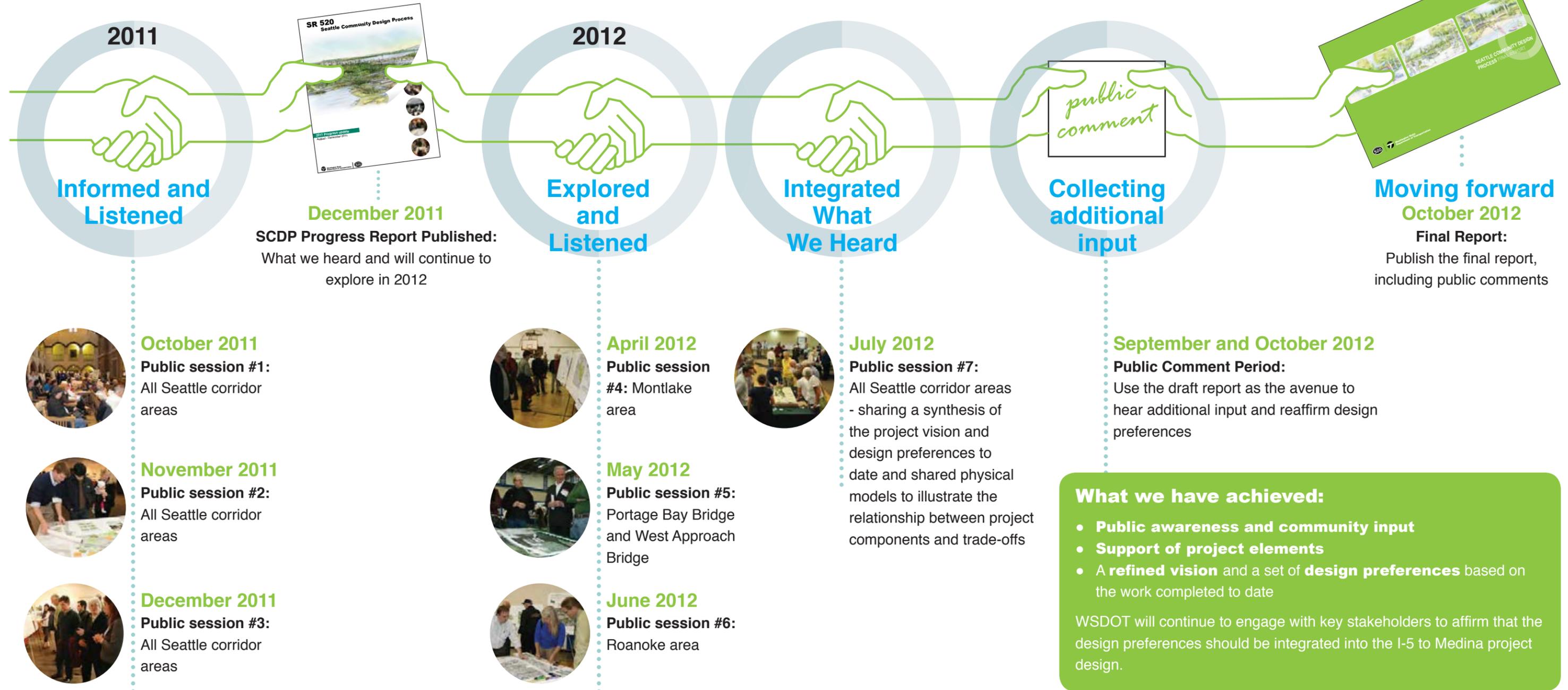
Partnering with the public

Between October 2011 and July 2012, WSDOT hosted a series of public sessions to inform people about the project, collect their feedback, and explore design opportunities with the broader public. At the final public session, WSDOT shared a synthesis of the project vision and design preferences based on the work to date. Between 110 and 220 people

attended each of seven public sessions. WSDOT collected hundreds of individual comments and held many interactive conversations. These meetings, along with electronic and written input, represented the avenues for broader public participation. Below is a timeline of WSDOT's engagement with the general public for the SCDP:

“Great neighborhoods bring residents together to foster relationships and support a greater sense of community... Neighborhood Greenways can significantly improve the safety and social experience of getting around one’s own neighborhood, inviting more residents to choose to walk or bike to local destinations.”

- Seattle’s Neighborhood Greenways Toolkit
University of Washington Green Futures Lab, 2012



What we have achieved:

- **Public awareness and community input**
- **Support of project elements**
- A **refined vision** and a set of **design preferences** based on the work completed to date

WSDOT will continue to engage with key stakeholders to affirm that the design preferences should be integrated into the I-5 to Medina project design.



Conceptual Rendering
Looking northeast where the stormwater treatment facility will be designed as an accessible open space and integrated into East Montlake Park and the Lake Washington shoreline

03 VISION STATEMENT AND DESIGN FRAMEWORK

“When seen from space, Seattle is quilted with streets, building roofs, parking lots, patches of trees, boulevards, parks, and waterbodies. Collectively, the planted (‘green’) component of our city influences air and water temperatures, air and water quality, and surface water runoff. Our green infrastructure is an important means of reducing global warming.”

Urban Forest Management Plan, City of Seattle, 2007

VISION STATEMENT AND DESIGN FRAMEWORK

OVERALL VISION

The SR 520 corridor will be the premier gateway to the City of Seattle by reconnecting to the early Seattle vision of **“Nature meets City”**

A Vision for Current Users and Future Generations

The SR 520 corridor is a critical regional highway facility that travels through Seattle, across Lake Washington and to the Eastside. The WSDOT team has developed the vision for this corridor to: **unify the relationship** of the project to the adjacent areas and opportunities; **build upon the footprint** of the early 20th-century Seattle parks and boulevards plan; and focus on creating the **premier gateway to the City of Seattle** by reconnecting to the early Seattle vision of “Nature meets City.” This builds upon the vision set forth in the environmental documentation and previous stakeholder engagement.

WSDOT intends to implement the SR 520 program in a manner that yields affordable solutions and fosters **groundbreaking sustainability practices** that support regional and local connectivity, ecology and the use of low-carbon materials. Further, the design of the corridor will balance aesthetics, functionality, scale and sense of speed along the SR 520 facility to provide a memorable experience for all users.



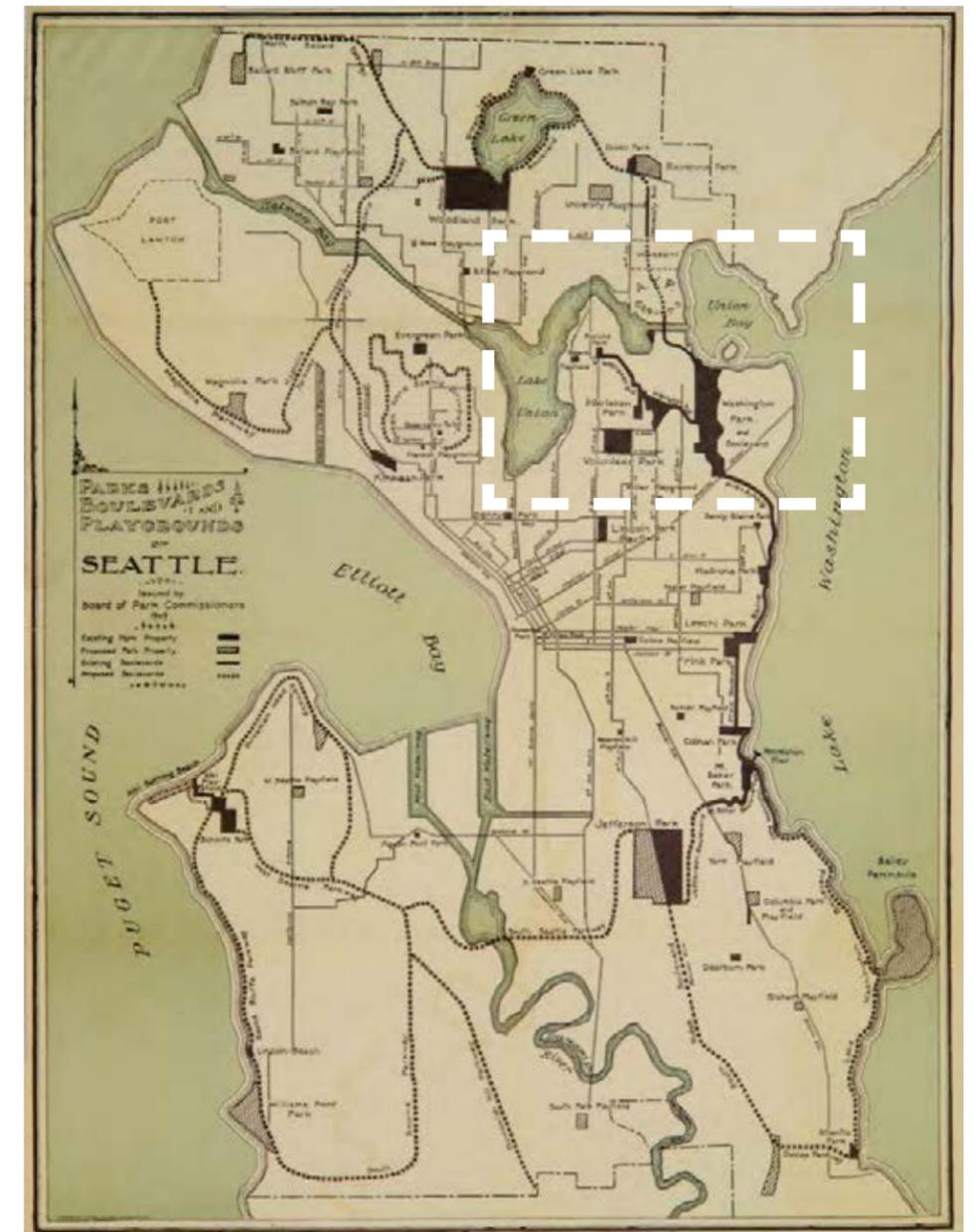
SCDP public workshops welcomed participants of all ages

Specifically:

- For motorists, the highway corridor will offer a **safe, efficient roadway** that represents a series of gateways to and from downtown Seattle, across Portage Bay, Montlake, and the shoreline of Lake Washington.
- For pedestrians, **pathways will be comfortable, visible and safeguarded from vehicles** on adjacent roadways. They will be well-marked and offer a mixture of amenities to suit specific needs including efficient pathways to transit stops, playgrounds and other destinations, and pathways for recreational purposes.
- For cyclists, routes will provide **excellent connections, sufficient sight distances, and reasonable grades.**
- For transit users, convenient access to transit systems will be supplemented by safe, comfortable shelters.
- For community, design features will be scaled to their location and vantage points including bridge elements, tunnel portals, and overlooks.
- For community, aesthetic features will be **“naturalistic-contemporary”** and complement their natural and residential surroundings.
- For habitat, the corridor will complement and enhance the **blue-green** (water-land) **ecological setting** through which it passes.

“The blue-green qualities of the corridor can be more vibrantly revealed and enhanced by the SR 520 project, benefiting those who live nearby and those who pass through.”

- Final Report on SR 520 Westside Sustainability and Urban Design, Sustainability Expert Review Panel, September 24, 2011



1909 Seattle Parks and Boulevard Plan based upon recommendations by John and Charles Olmsted for the City of Seattle master planning

Blue-Green Natural and Urban Axes

The SR 520 project has the opportunity to highlight a sequence of **stunning gateways and scenic panoramas** for the City of Seattle not present on I-5 and I-90. Existing and potential gateways include: Lake Washington, the wooded Foster Island, the portals of the Montlake lid, Portage Bay Bridge, the gateways of East Lake Washington Boulevard and Washington Park Arboretum, and the portals of the 10th and Delmar lid. As users on SR 520 travel through this sequence of gateways, they experience a blue-green tapestry of lakes, marshes, glades and urban forests. This natural tapestry transitions into the urban fabric of Montlake and Roanoke/ North Capitol Hill neighborhoods and parks as **“Nature meets City.”**

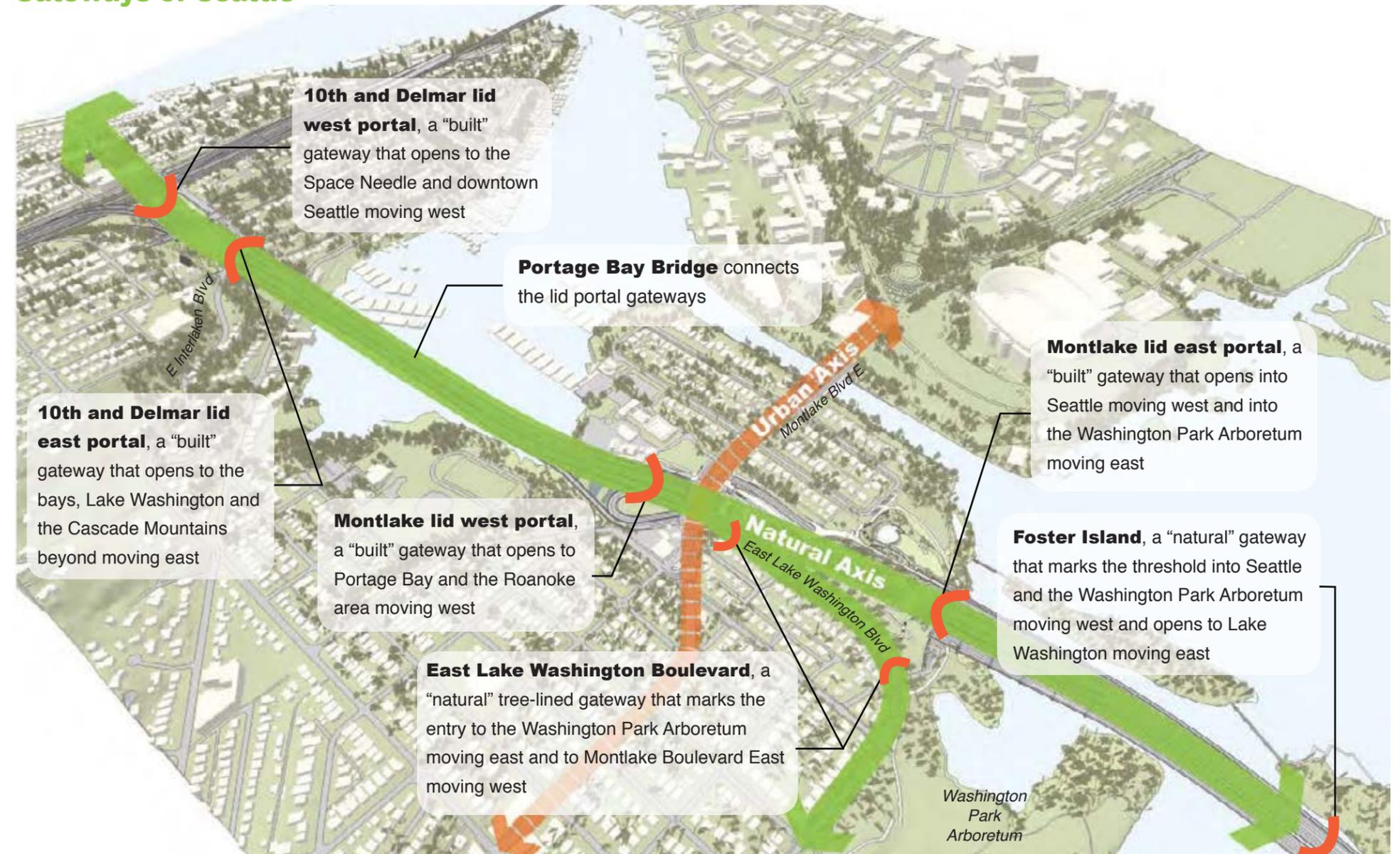
The SR 520 project has the potential to be a catalyst for connecting or reconnecting these vital **natural (ecological)** and **urban (built environment) axes**. The project honors the legacy established by the Olmsted brothers in the City of Seattle 1909 Parks and Boulevard Plan and looks forward to future sustainable infrastructure needs. These axes comprise:

- An east-west **natural axis** along which a reforested SR 520 project corridor and restored shorelines can complete a gap in the Seattle

open and green space network plan by linking East Interlaken Boulevard, the Washington Park Arboretum and Lake Washington

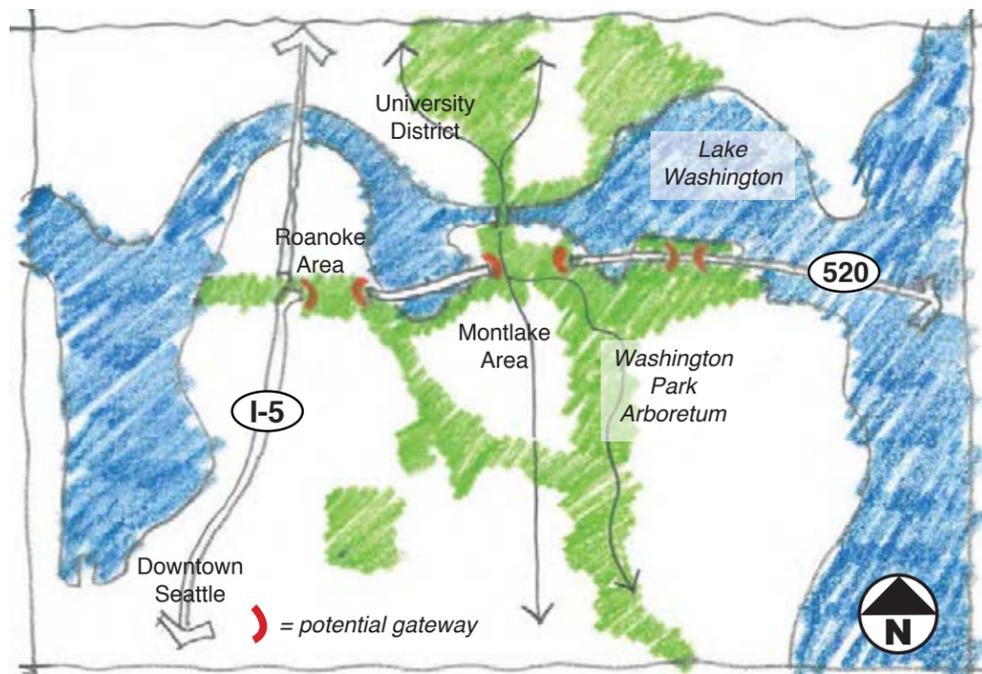
- A north-south **urban axis** that begins with Montlake Boulevard Northeast at the University of Washington and extends south along 23rd Avenue East to Capitol Hill as well as extending to East Lake Washington Boulevard, where the opportunity exists for the project to recreate the Olmsted vision of a grand “parkway” that extends through the Washington Park Arboretum.

Gateways of Seattle



What is a gateway?

Gateways are natural features, such as trees or waterways, or built elements, such as bridges, buildings, signage or art work, that define a city or area entrance or boundaries and provide a sense of identity and arrival. A gateway can be large or small in scale, and linear or singular, depending on context.



A conceptual-level diagram of how SR 520 could enhance gateway opportunities and build upon the 1909 vision to connect Seattle's existing green spaces, boulevards and waterways

DRAFT ONLY
for public comment

Design Framework

The design framework is the structure that supports the work of exploring **design opportunities**, developing **design preferences** and making choices that will lead to a coherent, integrated set of **design recommendations**. The framework is built upon the foundation established by the vision statement, and its structural elements are the shared goals and guiding principles that emerged through the SCDP.

The vision presented in the preceding section was derived from extensive feedback received during SCDP concerning the function, character and quality of the new places and connections created by the SR 520 project. They build upon the refined vision, which is rooted in the Olmsted brothers' concept of connected parks and green boulevards for the City of Seattle. These goals can be organized into the three broad principles of **Expression, Sustainability** and **Utility**.

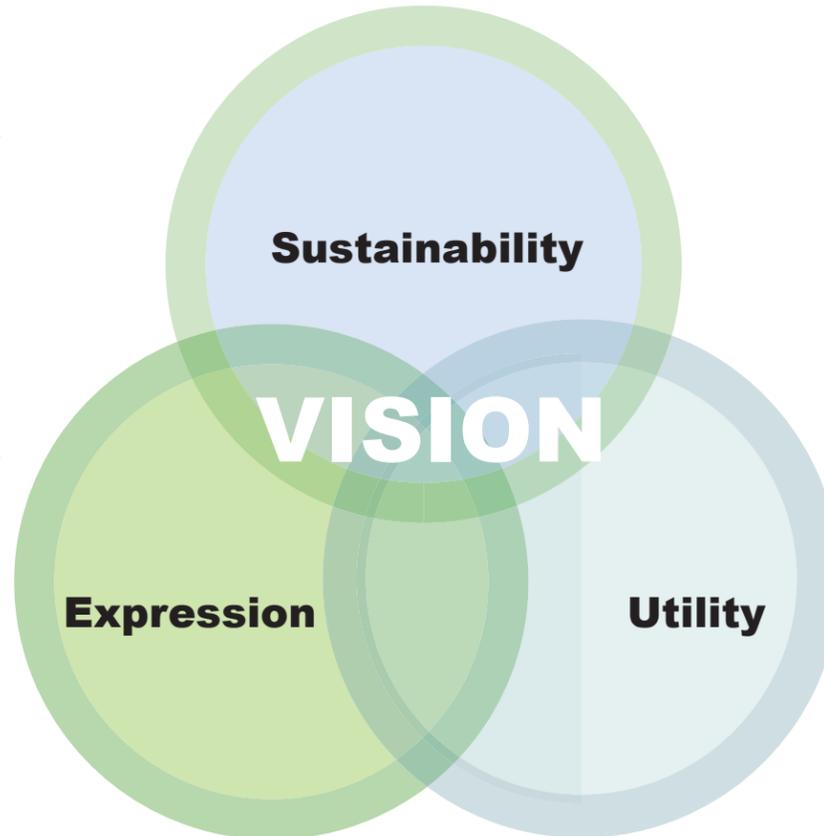
The principle of **Expression** conveys the importance of creating a corridor that is visually and physically compatible with the surrounding landscapes and communities and is hospitable to a variety of uses by people of all abilities. This supports the goals of providing safe travel routes, engaging a “naturalistic/contemporary” aesthetic that is in keeping with the surroundings and establishing the west side of SR 520 as a memorable and identifiable regional approach, or gateway, to Seattle.

The principle of **Sustainability** expresses the commitment to identifying design solutions that support the long-term reduction of greenhouse gases, the use of low-carbon materials and maintainable facilities. This supports the overarching goal of implementing affordable solutions and sustainable practices that support regional and local connectivity, ecology and the use of low-carbon materials.

The principle of **Utility** seeks to create places and connections that are functional during and after construction. In exploring urban design solutions, particularly around the 10th and Delmar and Montlake lids, the design team sought to maximize the benefits derived from the lids by “layering” as many functions (or “program elements”) as practical into the lids: ecological, social, aesthetic. Utility also seeks to reduce impacts during construction phasing and ensure that final design allows for flexibility and opportunities for innovation.

“Design this project with walking and biking as a priority. As with the rest of SR 520, let's not miss this once-in-a-lifetime opportunity to finish connecting our communities for use by all people.”

- Participant comment, SCDP Public Workshop, May 19, 2012



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for public comment



Existing East Lake Washington Boulevard, looking west

Elements of Continuity and Distinction

The refined vision and design principles that provide the foundation for continued design development build upon historic precedents, extensive public input and professional design experience. As part of the conceptual design process, the WSDOT design team explored opportunities for creating a consistent visual and aesthetic relationship among elements that appear throughout the corridor, or **elements of continuity**, to improve user guidance and experience. These include maintaining a similar treatment of:

- Architectural components (columns, railings, portals, etc.)
- Planting palettes and signage for the regional shared-use path
- Belvederes (a widened area of the shared-use path that provides a place to stop, rest, and enjoy the view, typically including benches and interpretive signage as well as a low screen wall for protection from the main path)
- Roadside vegetation
- Facility retaining walls

“One of the enduring principles that helped with neighborhood redevelopment along the Southwest Corridor in Boston is that every square foot of the highway corridor was to be owned (and maintained) by someone. Neighborhoods and businesses championed, adopted, and built elements along the Southwest Corridor in a way that enhanced the neighborhoods’ livability.”

- Final Report on SR 520 Westside Sustainability and Urban Design, Sustainability Expert Review Panel, Sept. 24, 2011

In other areas, the WSDOT design team listened to public feedback that indicated a desire for unique aesthetic approaches, or **elements of distinction**, based upon the surrounding context to the design - the “look and feel” - of singular elements such as the lid portal entries or the Portage Bay Bridge. These elements of continuity and distinction are articulated in subsequent sections of this document.



Conceptual Rendering

The planting strip on the south side of East Lake Washington Boulevard will be widened to protect and improve health of existing large trees and to be consistent with the design of the boulevard to the south and the north entrance to Washington Park Arboretum (view facing north)

04 LOCAL AND REGIONAL NONMOTORIZED AND TRANSIT CONNECTIVITY

“Nonmotorized systems may offer connections and enhancements to communities that cannot come from other sources—specifically, from highway systems... [to] reconnect communities that were isolated by construction of the highway.”

I-5 to Medina Project Final Environmental Impact
Statement, WSDOT, June 2011

LOCAL AND REGIONAL NONMOTORIZED AND TRANSIT CONNECTIVITY

Introduction

Ensuring efficient, safe and enjoyable nonmotorized and transit connections helps guide the design of the SR 520 project. Connectivity is a key component of each of the overall project principles of **Expression**, **Sustainability** and **Utility**. Enhanced connectivity informs the region's vibrant and growing bicycle and pedestrian network. The SR 520 project regional shared-use path will **improve connections and mobility** in the local areas for the regional network with a major new east/west nonmotorized link between Eastside communities and Seattle. "Connections" are defined as:

- Mobility and linkages along the SR 520 corridor
- Local linkages to and through the project area
- Agency and stakeholder coordination with existing and planned facilities and networks adjacent to and/or outside the WSDOT project area

In addition to improved nonmotorized mobility, ecological systems and visual experience are a priority important components of improving multimodal connectivity. The overlay of aesthetics, ecology and mobility reinforces the Olmsted brothers' vision for Seattle as a system of active green boulevards that connect parks and open spaces while passing through neighborhoods and other centers of activity.

Through the Seattle Community Design Process, the SR 520 team worked closely with diverse stakeholders to analyze existing nonmotorized and transit infrastructure and to improve the efficiency, safety and experience of the SR 520 regional shared-use path and its connections to the local Seattle network. In addition to neighborhoods and the broad public, these stakeholders include:

- Cascade Bicycle Club
- City of Seattle
- King County Metro
- Seattle Bicycle and Pedestrian Advisory Boards
- Seattle Neighborhood Greenways Group
- Sound Transit
- University of Washington

Connecting Green Spaces and Nonmotorized and Transit Travel - A Synthesis



Key Project Connections

The baseline design included a number of key elements, which, with ongoing public input, have been further refined to include:

- 1** New regional shared-use path along the north side of the floating bridge across Lake Washington
- 2** Improved connection along 24th Avenue East between Shelby Street and Lake Washington Boulevard
- 3** Grade-separated shared-use crossing under Montlake Boulevard to the Bill Dawson Trail
- 4** Reconstruction and improvement of the Bill Dawson trail within the SR 520 project right of way
- 5** New multi-use path along Lake Washington under SR 520 mainline connecting to the Washington Park Arboretum
- 6** Shared-use path across the new second bascule bridge
- 7** Grade-separated overcrossing of Montlake Boulevard near Husky Stadium
- 8** New path on the 10th and Delmar lid over SR 520 mainline
- 9** New path on the south side of the Roanoke Street bridge over I-5, either placed on a new bridge or achieved by widening the existing bridge

DRAFT ONLY
for public comment

Enhancing the Green and Open Space Network



Existing City of Seattle Green and Open Space Network

Proposed WSDOT Green and Open Space Enhancements

What We Heard

Many stakeholders provided input regarding their priorities and preferences throughout the SCDP (see SCDP Overview). Common themes included:

- Create continuous linkages to connect gaps in existing Seattle and regional paths and trails; plan for and build separated/protected bicycle facilities (cycle tracks, buffered bicycle lanes) to the greatest extent possible, minimizing the use of sharrows (on-street shared lanes with vehicles and less desirable for cyclists)
- Connect recreation sites and other community amenities with water trails as well as bicycle and pedestrian access
- Ensure safe places under bridges with connections and activities that activate the spaces
- Design now for the intuitive wayfinding of bicycle riders and pedestrians in the future

- Coordinate with the City of Seattle to enhance or create links between communities and recreation areas
- Provide spaces that offer visual and physical connections in Portage Bay, Union Bay and across Lake Washington
- Activate areas at Portage Bay Bridge with connecting paths and community spaces for safety
- Incorporate a bicycle/pedestrian facility in the design of the new Portage Bay Bridge by continuing the regional shared-use path further west across the bridge, allowing bicycle riders and walkers to easily, directly and safely connect from the new SR 520 floating bridge to Capitol Hill via Montlake as well as to bicycle routes connecting to Eastlake, South Lake Union and downtown

“With increasing concern about global warming, greenhouse gas emissions and rising fuel prices, nonmotorized modes such as bicycling and walking are gaining importance as viable choices in urban transportation.”

- Integration of Bicycling and Walking Facilities Into the Infrastructure of Urban Communities
Mineta Transportation Institute
February 2012

What We Explored

Based on ongoing public input, design goals were established to guide the development of efficient, safe and interesting connections. These include:

Access and mobility

- Mobility between and through neighborhoods with various travel modes and convenient routes
- Access to all levels, abilities and needs through best practices and compliance with Americans with Disability Act (ADA) requirements
- Capacity for current and future nonmotorized traffic volumes

Health and safety

- Safe and interesting cycling and walking routes to attract diverse users with varying skill and confidence levels for recreation and health
- Increased public activation through programming and landscape of bridge undercrossing areas for safety and experience
- Promotion of traffic-calming and reduction of potential conflicts among cyclists, pedestrians and vehicles using path separation, widening, safe surfacing and/or signage
- Promotion of commute-trip reduction, reduced congestion and reduction of greenhouse gas emissions

Character and clarity

- Build connections to and through green and blue (waterways) open space networks that can support multiple uses
- Use paths to activate open spaces and lids as well as to create easy connections to activity centers
- Develop clear wayfinding to promote cycling and walking as everyday means of travel



Bicycles and pedestrians use the shared path on the existing Montlake bascule bridge

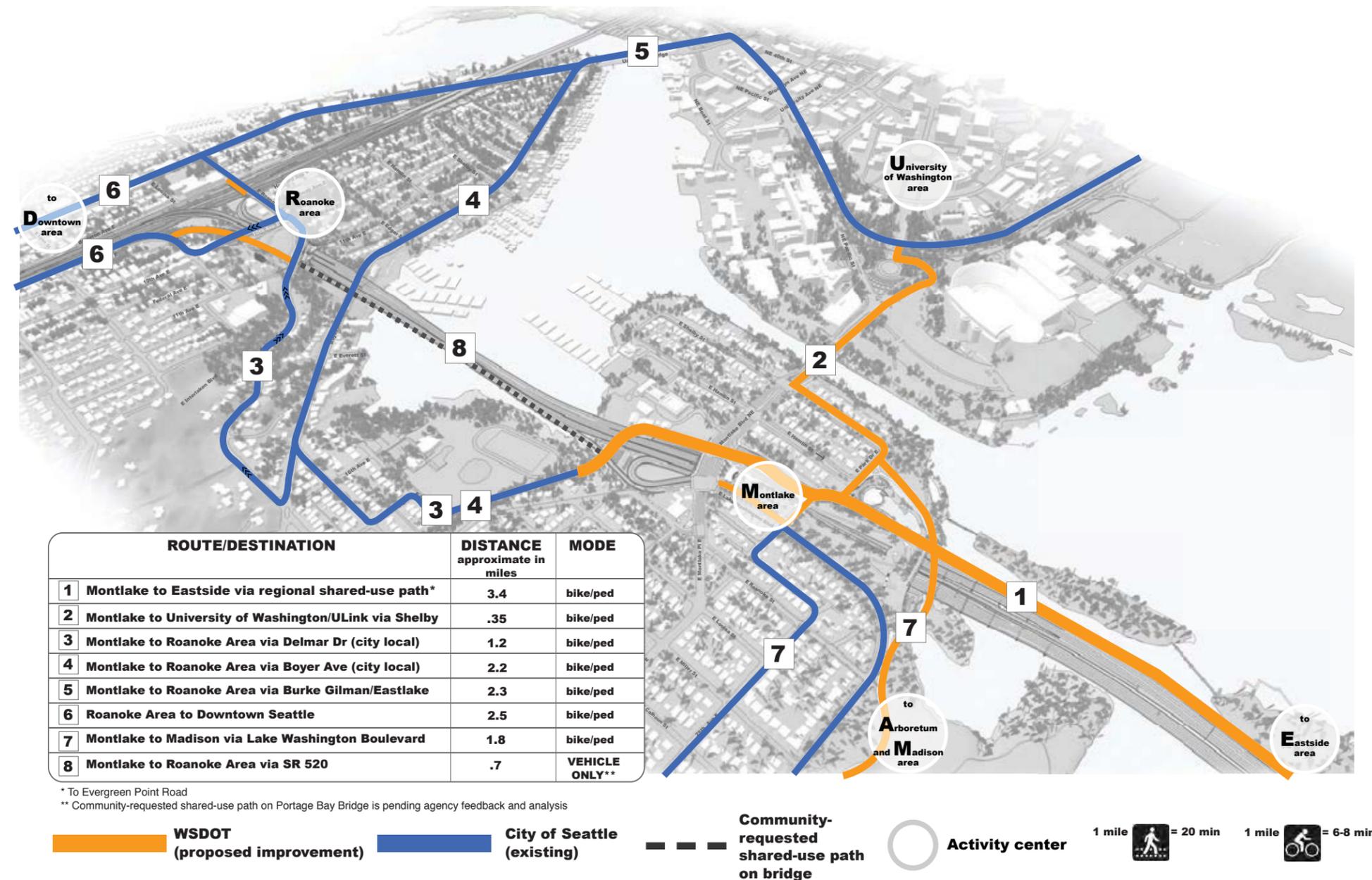
“The ability to walk and ride bicycles around the neighborhood to parks, community facilities and commercial areas is important. Safety should be addressed and walkways and trails enhanced.”

*Non-motorized Planning and Design Report Bicycle and Pedestrian Improvements
Washington State Department of Transportation 2004*

Design Preferences

- Include the use of appropriate and accessible wayfinding, lighting, and signalization, including provision for hearing- and sight-impaired users
- Provide safe and clear connections through underbridge areas
- Create belvederes on the regional shared-use path and other connections for resting, viewing and interpretation, and to eliminate conflicts between slower and faster users
- Connect the 10th and Delmar lid to a proposed greenway on Federal Avenue East with an accessible path and stairs
- Refine pedestrian connections from Delmar Drive East to Boyer Avenue East to create pleasant, safe, accessible routes and activated underbridge area while minimizing impacts to adjacent properties
- Provide a dedicated bicycle and pedestrian connection on the regional shared-use path from the Eastside to the Montlake Playfield
- Reconfigure the westbound off-ramp at 24th Avenue East to allow for safe and separated turns north and south from the regional shared-use path
- Study safe and effective bicycle and pedestrian connections from Montlake to downtown Seattle and north Capitol Hill
- Widen the Bill Dawson Trail within the FEIS footprint from Montlake Boulevard East to Montlake Playfield; improve turning radii and provide lighting, lane striping and corner mirrors for safety and comfort
- Support the completion of the Montlake Playfield pedestrian trail and boardwalk per shoreline permit requirements
- Support the restoration of the Arboretum Waterfront Trail at the Marsh Island boardwalk per shoreline permit requirements

Major Routes and Destinations: Existing and Proposed Nonmotorized Travel Distances



Distances between major destinations and activity centers for bicycles and pedestrians via existing and proposed facilities are shown in the graphic above. Average walking and cycling paces are included in the legend. Destinations include downtown Seattle, north Capitol Hill and Roanoke area,

Montlake area, University of Washington, Burke-Gilman Trail, Washington Park Arboretum and the Madison neighborhood. Community members have requested a shared-use path on the Portage Bay Bridge and travel distances for this publicly requested facility are included for comparison.

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Connectivity Precedents



Eastbank Esplanade shared-use path, Portland, OR

“Walking conditions along and across streets with high traffic volumes and high speeds are uncomfortable, especially in locations that have long blocks and auto-oriented development.”

- Seattle Pedestrian Master Plan Summary, City of Seattle, 2012



Golden Ears Bridge shared-use path, Vancouver, BC



Eastbank Esplanade shared-use path and viewing area, Portland, OR



Conceptual Rendering: The design preference for the south side of East Lake Washington Boulevard proposes widening the planting strip to allow more room and healthier conditions for existing larger trees and to be consistent with the design of the boulevard to the south and the north entrance to Washington Park Arboretum (view looking west along East Lake Washington Boulevard)

Completing the Blue-Green Network

The 2011 Urban Design and Sustainability Expert Review Panel (ERP) made a special note in their final report about the stunning “blue-green” environment (water and land) through which the SR 520 project corridor travels. The ERP chairman, Patrick Condon, noted that when one looks at the existing blue-green features on an aerial map of the SR 520 project corridor, one gets an impression of “nature interrupted.” The ERP encouraged the WSDOT design team to reduce or eliminate these “interruptions” by **enhancing and restoring the ecological and physical connectivity** among the lakes, bays, forests and glades that exist within the corridor. The SR 520 project has the potential to **fill the historic and ecological gaps in the blue-green network** by connecting Washington Park Arboretum with Interlaken Boulevard and Roanoke Park. The WSDOT team developed the following design preferences based upon this feedback to fill the identified gaps and provide both ecological connectivity and public access:

- The new east-west regional shared-use path from the Eastside to Seattle provides **major recreational opportunities and open space connectivity** across Lake Washington to Montlake.
- An important **north-south connection** is established with a multi-use pathway under the SR 520 project West Approach Bridge along the western shoreline of Lake Washington and into East Montlake Park
- East Montlake Park is connected to Portage Bay/Montlake Playfield to the west via the historic Canal Reserve area and the shared-use undercrossing at Montlake Boulevard East, preserving specimen trees and creating a dedicated path from lake shoreline to Portage Bay.
- A pedestrian stair and/or ADA path connection is made from Boyer Avenue East to the 10th and Delmar lid area, which helps to complete the connection to Interlaken Boulevard and Delmar Drive East.
- By extending the **tree-lined boulevard of East Lake Washington Boulevard** to Montlake Boulevard East, a second east-west greenway expands the function and aesthetic of the Washington Park Arboretum to the west.
- A smaller **green ribbon** extends from the 10th and Delmar lid across I-5 providing visual relief for users to and from The Option Program at Seward (TOPS) school and Rogers Playground, while potentially continuing westward on city streets to Lake Union.
- Both the 10th and Delmar and Montlake lids provide additional green and open space opportunities with appropriate plantings and activity programming.



Conceptual Rendering: A new landscaped bicycle and pedestrian connection across I-5 on the south side of East Roanoke Street will improve user experience and increase safety

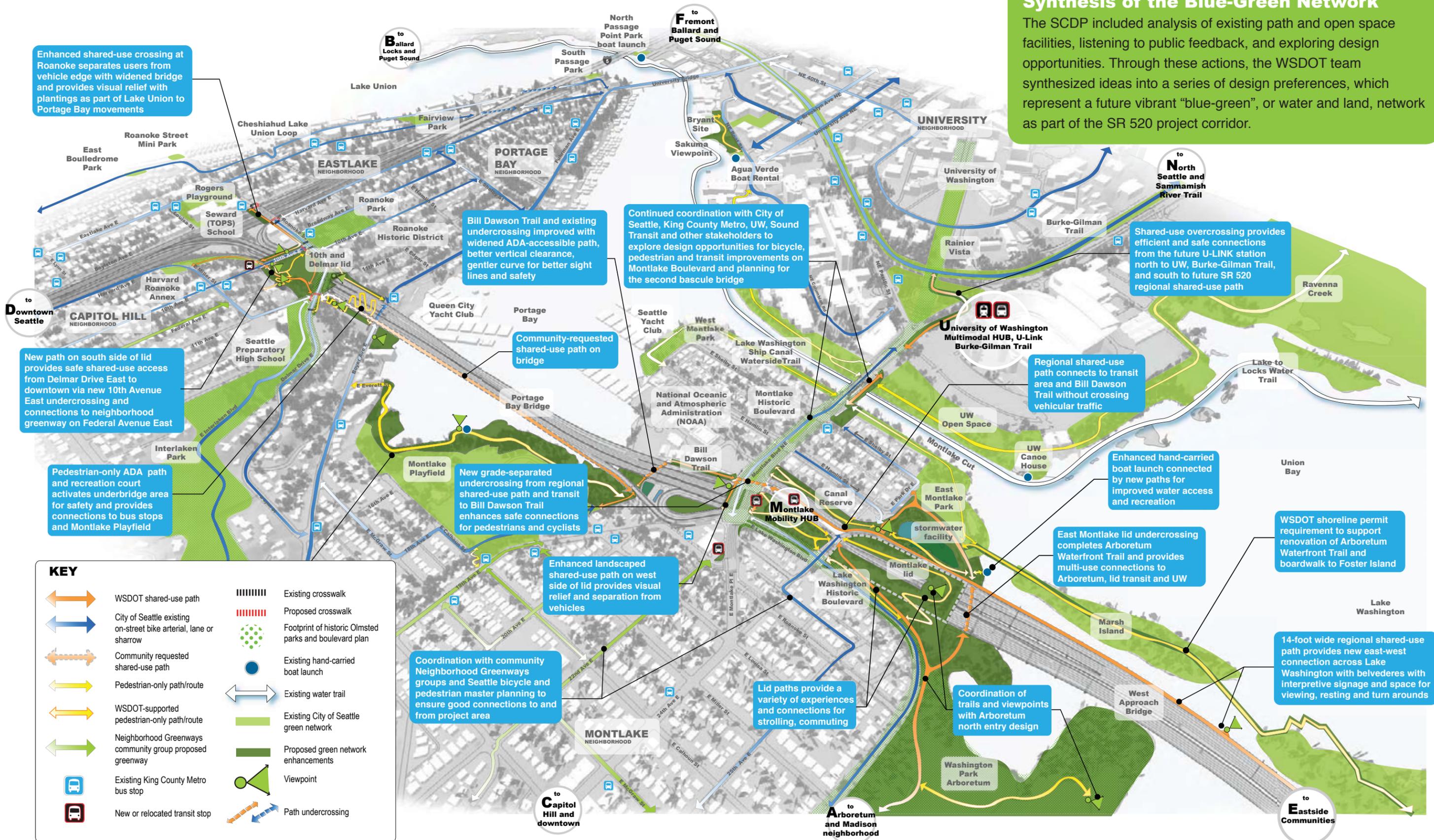
“Engineering should ensure that the city has the appropriate infrastructure to meet certain objectives: connect land uses and activity centers in the city; make cyclists and pedestrians feel and be safe; provide the appropriate amount of bicycle parking and other amenities.”

*- Integration of Bicycling and Walking Facilities into the Infrastructure of Urban Communities
Mineta Transportation Institute February 2012*



Existing conditions on the Burke-Gilman Trail

Synthesis of the Blue-Green Network
 The SCDP included analysis of existing path and open space facilities, listening to public feedback, and exploring design opportunities. Through these actions, the WSDOT team synthesized ideas into a series of design preferences, which represent a future vibrant "blue-green", or water and land, network as part of the SR 520 project corridor.



Enhanced shared-use crossing at Roanoke separates users from vehicle edge with widened bridge and provides visual relief with plantings as part of Lake Union to Portage Bay movements

Bill Dawson Trail and existing undercrossing improved with widened ADA-accessible path, better vertical clearance, gentler curve for better sight lines and safety

Continued coordination with City of Seattle, King County Metro, UW, Sound Transit and other stakeholders to explore design opportunities for bicycle, pedestrian and transit improvements on Montlake Boulevard and planning for the second bascule bridge

Shared-use overcrossing provides efficient and safe connections from the future U-LINK station north to UW, Burke-Gilman Trail, and south to future SR 520 regional shared-use path

New path on south side of lid provides safe shared-use access from Delmar Drive East to downtown via new 10th Avenue East undercrossing and connections to neighborhood greenway on Federal Avenue East

Community-requested shared-use path on bridge

Regional shared-use path connects to transit area and Bill Dawson Trail without crossing vehicular traffic

Pedestrian-only ADA path and recreation court activates underbridge area for safety and provides connections to bus stops and Montlake Playfield

New grade-separated undercrossing from regional shared-use path and transit to Bill Dawson Trail enhances safe connections for pedestrians and cyclists

Enhanced hand-carried boat launch connected by new paths for improved water access and recreation

WSDOT shoreline permit requirement to support renovation of Arboretum Waterfront Trail and boardwalk to Foster Island

KEY

	WSDOT shared-use path		Existing crosswalk
	City of Seattle existing on-street bike arterial, lane or sharrow		Proposed crosswalk
	Community requested shared-use path		Footprint of historic Olmsted parks and boulevard plan
	Pedestrian-only path/route		Existing hand-carried boat launch
	WSDOT-supported pedestrian-only path/route		Existing water trail
	Neighborhood Greenways community group proposed greenway		Existing City of Seattle green network
	Existing King County Metro bus stop		Proposed green network enhancements
	New or relocated transit stop		Viewpoint
			Path undercrossing

Coordination with community Neighborhood Greenways groups and Seattle bicycle and pedestrian master planning to ensure good connections to and from project area

Lid paths provide a variety of experiences and connections for strolling, commuting

Coordination of trails and viewpoints with Arboretum north entry design

14-foot wide regional shared-use path provides new east-west connection across Lake Washington with belvederes with interpretive signage and space for viewing, resting and turn arounds

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Conceptual Rendering

A new landscaped pedestrian and bicycle connection across I-5 on the south side of East Roanoke Street will improve user experience and increase safety (view facing west)

05 GEOGRAPHICAL SUBAREAS

“Seattle possesses extraordinary landscape advantages in having a great abundance and variety of water views and views of wooded hills and distant mountains and snow-capped peaks.”

Report to Seattle Park Commissioners,

John Charles Olmsted, 1903

GEOGRAPHICAL AREA STUDIES

Introduction

Geographical area studies focus on the individual areas and subareas that were explored during the SCDP and are informed by the project vision and principles. The geographical areas and their subareas are identified in the Geographical Areas Key Map on the opposite page. Within each subarea, the document provides a summary of public feedback, design opportunities and issues that were explored and design preferences that have been identified.

The project vision and principles play a key role in helping to shape the design exploration and decision making that inform the design preferences. The principles of **Expression**, **Sustainability** and **Utility** are realized in efforts to provide: graceful entries and scaled architectural features (expression); reduction of concrete and increased tree canopy cover (sustainability); and multilayered functionality and reduced construction impacts (utility). The SR 520 project integrates these three principles by:

Expression

- Incorporating the blue-green natural environment into project designs
- Addressing the needs of users
- Reflecting community preferences

Sustainability

- Increasing transit and HOV access
- Augmenting the regional bicycle and pedestrian network
- Helping complete the Olmsted vision of connected parks, greenways and boulevards
- Improving public access to Lake Washington and Portage Bay shorelines
- Creating naturalistic wetlands for stormwater to collect, treat and return runoff to the natural environment

Utility

- Maximizing functionality, as well as number of functions, in each subarea

Vision Key Map



As shown in the *Vision Key Map* above, integrating the vision of **"Nature meets city"** is realized in four critical ways:

- Enhancing the **natural blue-green axis** along the corridor
- **Integrating** Montlake Boulevard East, the west end of the Montlake lid, and East Lake Washington Boulevard into a parkway that extends to the Washington Park Arboretum and honors the historic footprint
- Improving the north-south **urban axis** that extends along Montlake Boulevard up along 23rd Avenue into Capitol Hill

- Identifying the individual **gateway opportunities** for the SR 520 to and from the City of Seattle

The WSDOT team will continue to refine the design preferences as the project moves forward. As such, not all aspects of the design principles are addressed in this report. For example, the scale and architectural style of the portal entries to the lids have not yet been determined.

Geographical Areas Key Map



ROANOKE AREA

Area Description

The Roanoke area comprises three subareas: the I-5 Crossing, the 10th and Delmar lid and Bagley Viewpoint, and the Delmar Drive East to Boyer Avenue East pedestrian connection. The area is characterized by both residential and commercial communities, including the nationally designated Roanoke Park Historic District and North Capitol Hill. Set on a high ridge, the area has panoramic views from Bagley Viewpoint to the east of Portage Bay, the University of Washington, Lake Washington and the Cascade Mountains; and from the 10th Avenue East bridge and the I-5 Crossing to the west of the Olympic Mountains, downtown Seattle and Lake Union. Three busy streets converge where the new lid will be located: 10th Avenue East, East Roanoke Street and Delmar Drive East. Steep grades act as both opportunities for exercise and views, while at the same time presenting obstacles to mobility for some users. The area also has two schools: The Option Program at Seward (TOPS) School and Seattle Preparatory High School.

Roanoke Park and Interlaken Park are important components of the Olmsted brothers' historic parks and green boulevards plan. The SR 520 project has the opportunity to enhance and reconnect these green spaces with the 10th and Delmar lid and by providing safe and memorable connections to Portage Bay and Lake Union.

Roanoke Subareas



Refined baseline design with Design Preferences based on community input (July 2012)



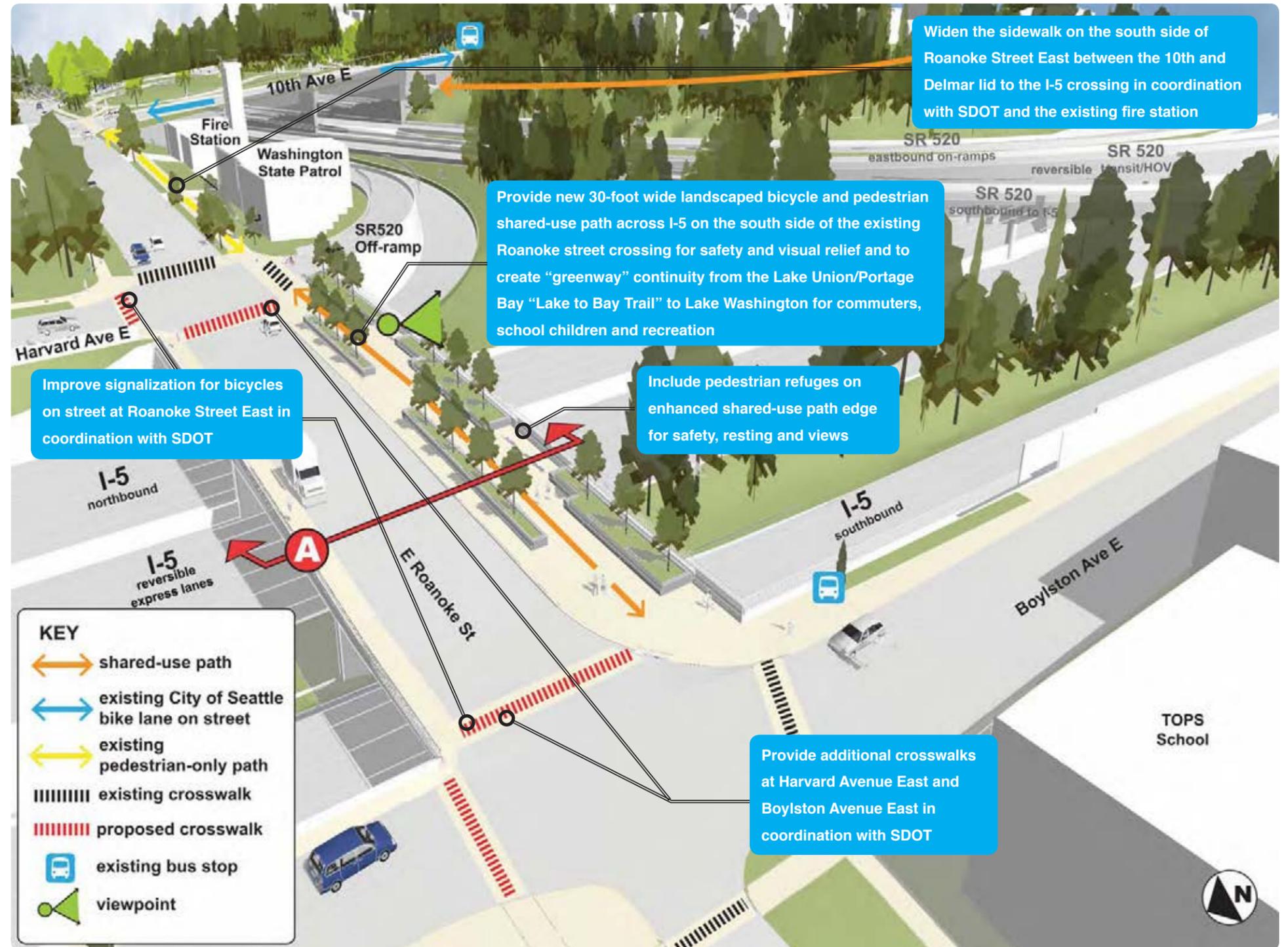
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ROANOKE SUBAREA: I-5 CROSSING

Subarea Description

The I-5 crossing subarea is located on East Roanoke Street between Boylston Avenue East and Harvard Avenue East. The existing substandard sidewalks are heavily used by surrounding neighbors to access Lake Union, Portage Bay and the Montlake Playfield, as well as area schools and transit access to Capitol Hill, University of Washington and downtown. Heavy on- and off-ramp traffic at East Roanoke Street presents a challenge to pedestrians and cyclists because of poor sight lines and vehicle-only signalization. The baseline design proposes a new 30-foot wide bridge structure with landscape planting on the south side of the existing bridge.

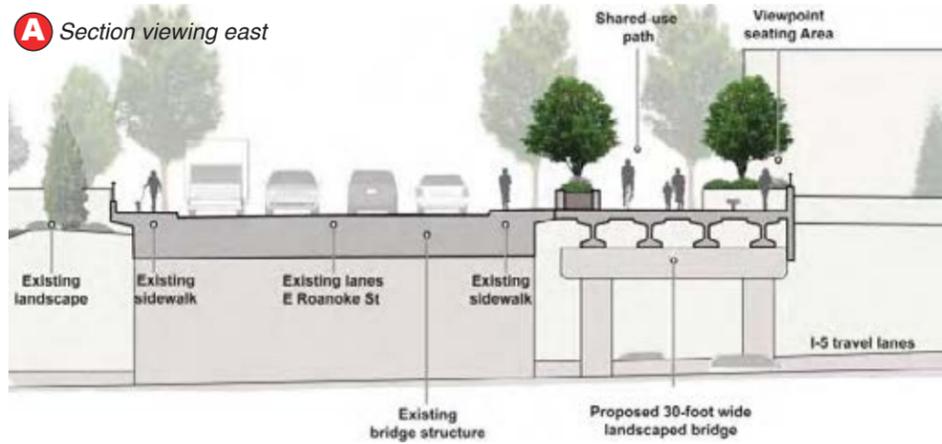
Design Preferences



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Section viewing east

A Section viewing east



What We Heard

- Support for enhanced green connection across I-5 that provides a safer, more pleasant connection for cyclists, pedestrians and transit users
- Desire for additional crosswalks and pedestrian signals
- Concern for safety of children walking to and from The Option Program at Seward (TOPS) School and Seattle Preparatory High School

What We Explored

- Evaluated opportunities for integrating landscape with a shared-use bicycle and pedestrian path on a new structure on the south side of the existing Roanoke Street East I-5 crossing
- Identified potential locations for new crosswalks and safety improvements to existing crosswalks in collaboration with SDOT
- Developed ideas for better separating on-street bicycle lanes from vehicles on East Roanoke Street, including a separate bicycle path structure



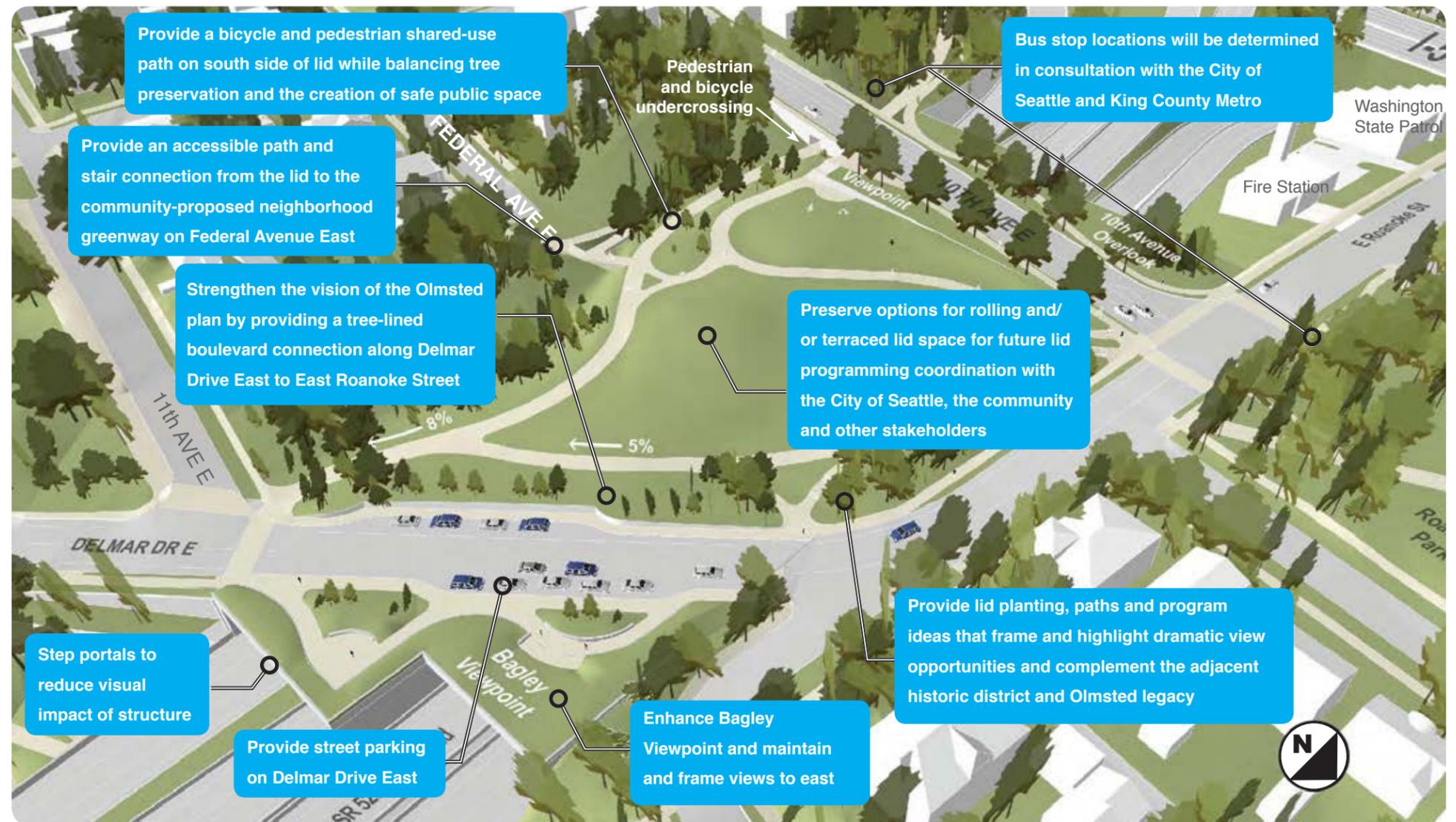
Conceptual Rendering: A new landscaped pedestrian and bicycle connection across I-5 on the south side of East Roanoke Street will improve user experience and increase safety (view facing west)

ROANOKE SUBAREA: 10th AND DELMAR LID AND BAGLEY VIEWPOINT

Subarea Description

This subarea is located in the heart of the Roanoke Historic District. The proposed lid will be constructed over what currently is airspace above the SR 520 highway and will reconnect neighborhoods across the roadway from 10th Avenue East to Delmar Drive East. The lid will span north to south from Roanoke Street East to the Federal Avenue East street end. The resulting lid area will slope down in a gently rolling grade from a high spot at the southwest corner at 10th Avenue East to the intersection of Delmar Drive East and 11th Avenue East.

Design Preferences



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Conceptual Rendering: View from 10th Avenue East looking east



Conceptual Rendering: View from 10th Avenue East and East Roanoke Street looking southeast



Conceptual Rendering: View from Federal Avenue East looking north

Roanoke Area connectivity diagram



What We Heard

- Provide safe and convenient regional and local shared-use path connections through the area
- Carefully locate bus stops where they can best serve primary users
- Create opportunities for viewing from the lid, keep heavy planting to the sides to frame views, and provide a contrasting sunny area
- Provide for a primarily passive open space on the lid with the possibility of some active, small-scale recreational uses
- Create good paths and visual sight lines across the lid to provide views and connections
- Blend the lid into the hillside to the south
- Remove off-street parking by Bagley Viewpoint and include a minimum number of on-street parking stalls on Delmar Drive East to reduce amount of pavement and visual impacts
- Ensure that the enhanced Bagley Viewpoint is green and that views are framed and otherwise unobstructed by trees or structures
- Provide easy access to the lid to encourage community ownership, safety and usability
- Maintain privacy for neighborhoods
- Create a T-intersection at 10th Avenue East and Roanoke Street East
- Explore the opportunity for visual continuity and physical connection of the new lid space to the existing Roanoke Park
- Maximize tree preservation in the lid area

What We Explored

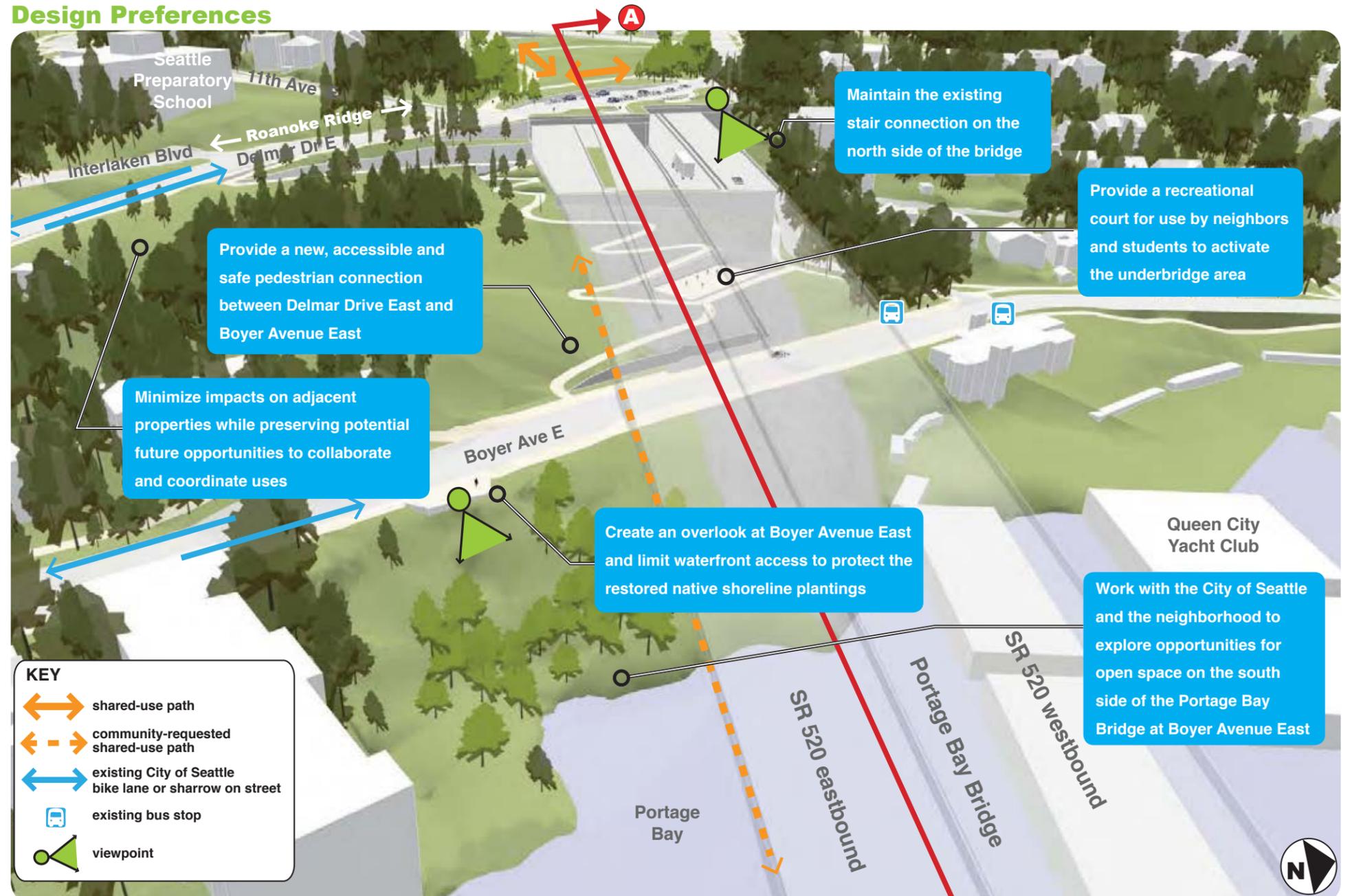
- Examined multiple locations for the regional shared-use path and other connections to and through the lid
- Identified bus stop locations
- Determined where it would be possible to locate large trees on the lid
- Evaluated the options for creating level, or terraced, spaces for the future consideration of programming ideas for the open space
- Defined where trees and open space would best help promote flexible use of the lid space while framing unique views
- Evaluated options for retaining existing significant trees on the south edge of the lid while ensuring that public spaces are safe for users
- Developed options for replacing and enhancing Bagley Viewpoint that also included both on-street and off-street parking options

ROANOKE SUBAREA: DELMAR DRIVE EAST TO BOYER AVENUE EAST CONNECTION

Subarea Description

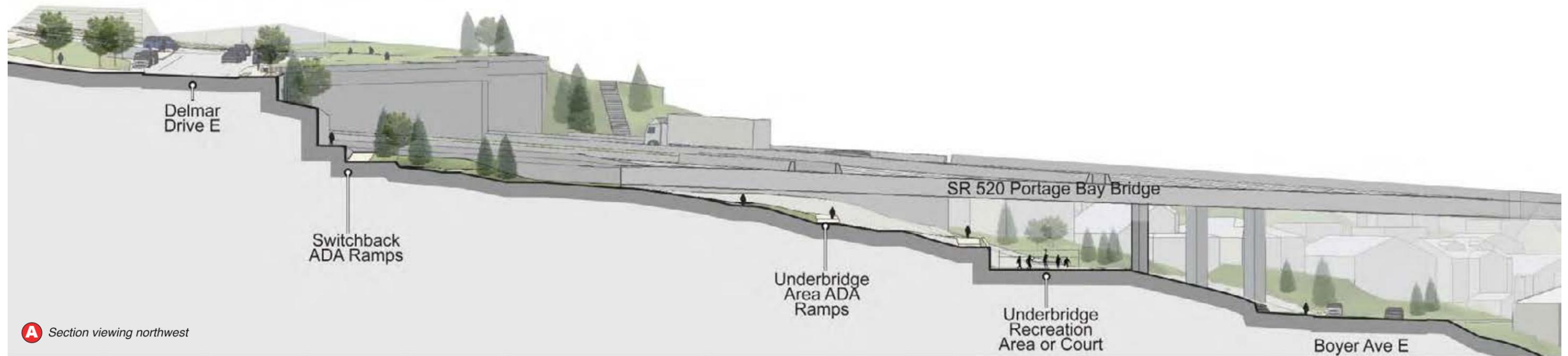
Within this subarea, the Roanoke ridge slopes steeply from Delmar Drive East to Boyer Avenue East and to Portage Bay. An existing substandard stairway on the north side of SR 520 is used by neighbors to connect to transit on Boyer Avenue East as well as to Montlake Playfield to the east and The Option Program at Seward (TOPS) School, Seattle Preparatory High School and Lake Union to the west. The existing underbridge area is overgrown and has been occupied by transients in the past leading to both the perception and reality of lack of safety.

Design Preferences



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Section viewing northwest



A Section viewing northwest



Conceptual Rendering: A new pedestrian path and active spaces under the bridge connect Boyer Avenue East with Delmar Drive East to activate the underbridge area and to make it feel safer by providing additional lighting, planting at edges, hardscape and wayfinding

What We Heard

- Replace and/or improve the existing Boyer steps
- Provide an accessible pedestrian connection on the south side of the bridge from Delmar Drive East to Boyer Avenue East
- Create access to the shoreline and develop shoreline property south of Portage Bay Bridge as a park or open space
- Address the safety of the underbridge area with a wide, well-used path to help activate the area

What We Explored

- Considered a potential partnership with Seattle Preparatory High School to coordinate use of the adjacent open spaces for paths and activities
- Determined that the existing Boyer steps can be maintained in either their current location or in a new location
- Evaluated issues and opportunities for shoreline access and/or view points between Boyer Avenue East and Portage Bay
- Incorporated areas along the path and under the bridge for resting, viewing, exercising to activate the space and make it safer, including lighting, good sight lines and other means

PORTAGE BAY BRIDGE

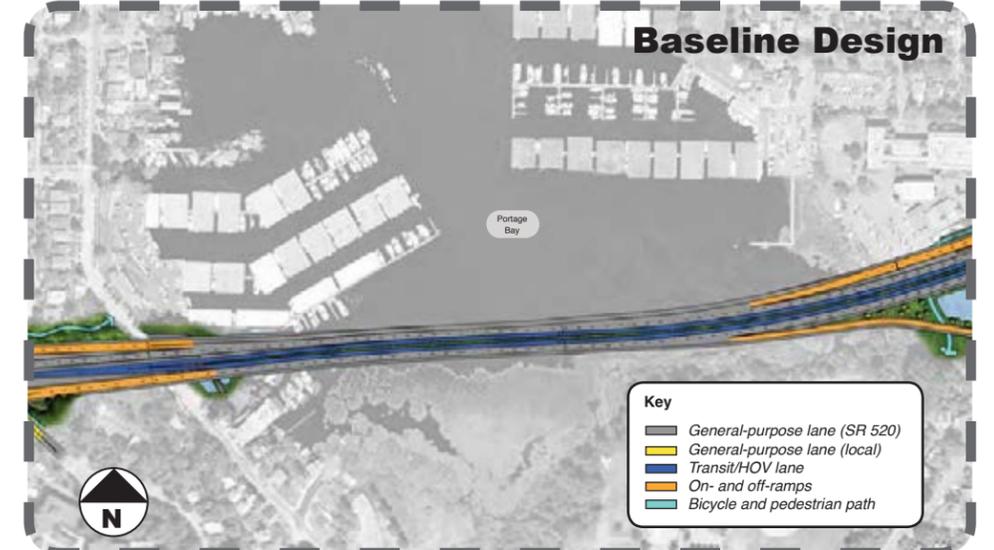
Area Description

The Portage Bay basin is a picturesque area enclosed by the ridge at Roanoke, hillside residences, the wetlands and park area of Montlake Playfield and the University of Washington. The basin is bisected by the Portage Bay Bridge, which links the Montlake, Capitol Hill and Portage Bay neighborhoods. The area is notable for regular boat activity from the Montlake Cut and the Seattle and Queen City Yacht Clubs. Opportunities exist to provide a contextually appropriate bridge type that both reflects the surrounding area and creates a local and regional gateway.

Design Preferences

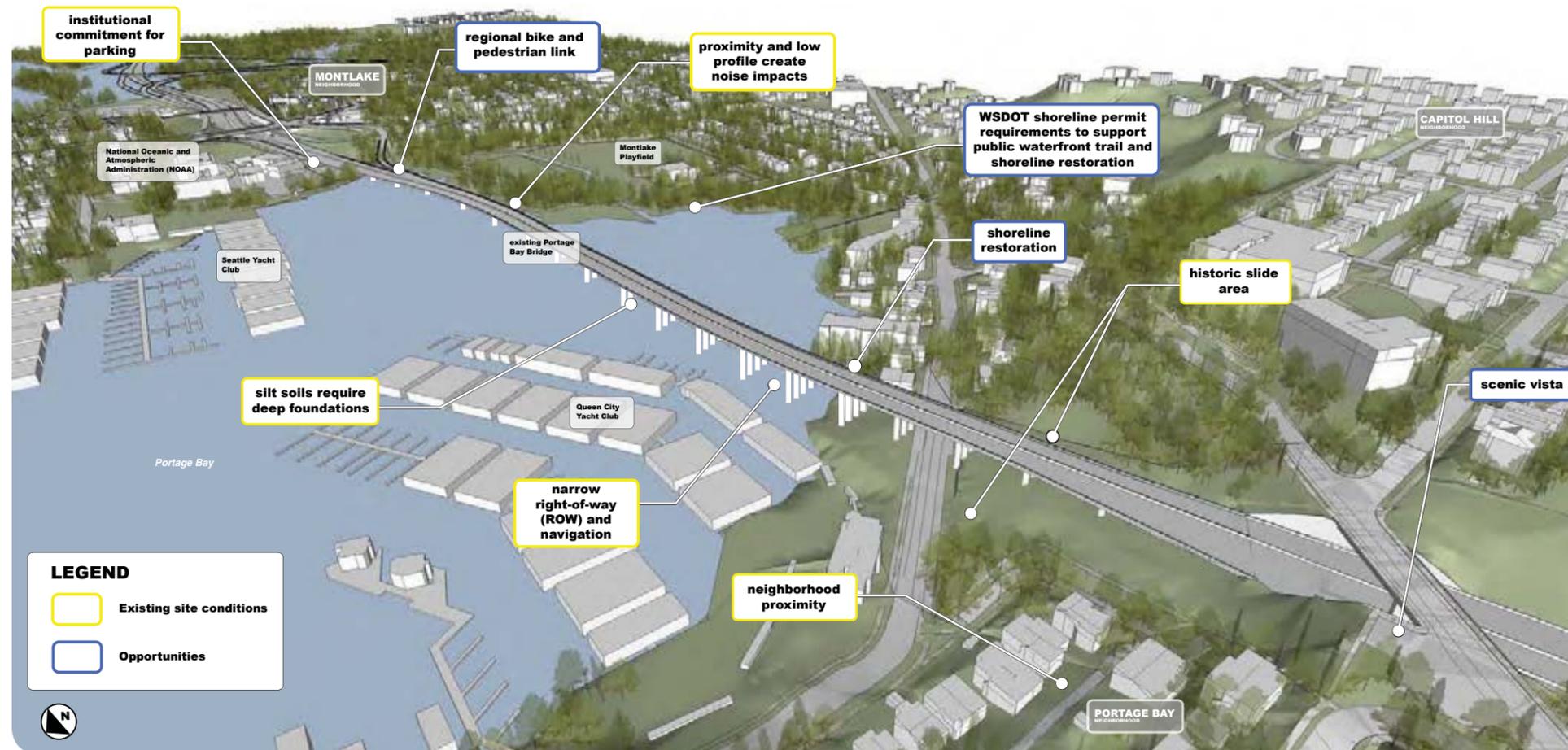


Portage Bay Bridge Area with SR 520 alignment for box girder bridge type



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Existing site conditions and future opportunities



“Assets and facilities should be efficient; that is, they should do more than one thing. As urban design progresses on SR 520, each asset should be viewed for its capacity to fulfill multiple functions.”

- Expert Review Panel *Final Report on SR 520 Westside Sustainability and Urban Design*
September 24, 2011

What We Heard

- Blend the Portage Bay Bridge structure into the surrounding historic neighborhoods
- Consider existing and future bicycle/pedestrian path connections in and around Portage Bay
- Develop a continuous green linkage from the Montlake lid to Montlake Playfield and the 10th and Delmar lid
- Incorporate a bicycle/pedestrian facility into the design of the new Portage Bay Bridge, allowing bicycle riders and pedestrians to easily and safely connect from the new SR 520 bridge to Capitol Hill via Montlake as well as to bike routes connecting to Eastlake, South Lake Union and downtown
- Take into account that the Portage Bay Bridge area presents a number of challenges to designing and constructing a new bridge

- Create continuous linkages to connect gaps in existing local and regional paths and trails; plan for and build separated/protected bicycle facilities (cycle tracks, buffered bicycle lanes) to the greatest extent possible, minimizing the use of sharrows
- Provide a continuous trail connecting the Portage Bay kayak launch, Bill Dawson Trail, the Seattle Yacht Club, West Montlake Park and the Arboretum Waterfront Trail
- Provide safe places under bridges with good connections and activities
- Reduce construction duration
- Design an iconic bridge
- Focus on box girder and cable stayed concepts going forward, because although there was mixed feedback regarding preferred bridge type, the most positive feedback was received for these types

What We Explored

- Studied safe and effective bicycle and pedestrian connections from Montlake to downtown Seattle and north Capitol Hill
- Evaluated views to and from the Portage Bay Bridge
- Reduced impacts on the community and the environment
- Examined a contextually appropriate signature bridge structure that accommodates all users
- Explored bridge types that take into account the difficult soil profile of the lake bottom and reduce visual impacts both in the water and above the bridge deck
- Evaluated multiple bridge types and selected the box girder, extradosed and cable stayed bridge types for further evaluation
- Studied trade-offs with a shifted alignment north that could reduce construction duration and project impacts

PORTAGE BAY BRIDGE DESIGN CONCEPTS

Highlights of the Portage Bay Bridge Cable Stayed Option

Cable Stayed Option

The cable stayed bridge design option maintains the roadway operations of the baseline design while shifting slightly to the north to reduce constructability issues. Other issues that relate to the bridge are:

Over

- Two sets of moderate-height cable stayed towers (approximately 180 feet tall from the bridge deck) at the west end of the bridge

Under

- One hillside foundation west of Boyer Avenue East with a main span of 800 feet, minimizing impacts on Queen City Yacht Club operations
- A longer span that reduces in-water foundations and allows for improved visibility and water access across Portage Bay
- A gap of approximately 15 feet between bridge structures that reduces the scale of the structure from below and allows light and air flow

On

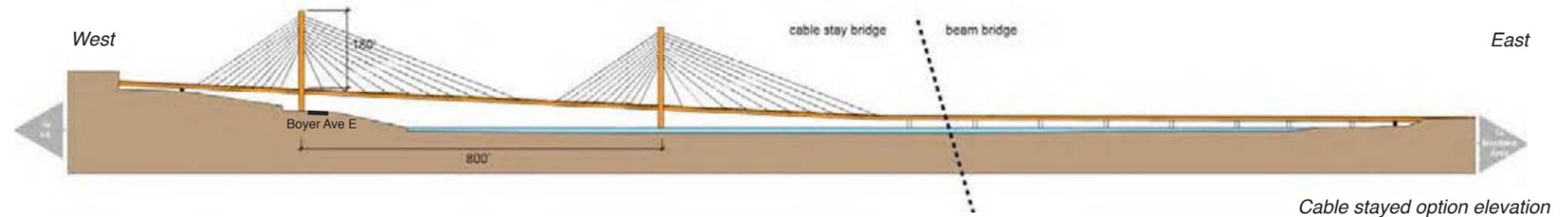
- A thin, light bridge deck supported by cable stays
- The eastern portion is a beam bridge with consistent span lengths

Benefits

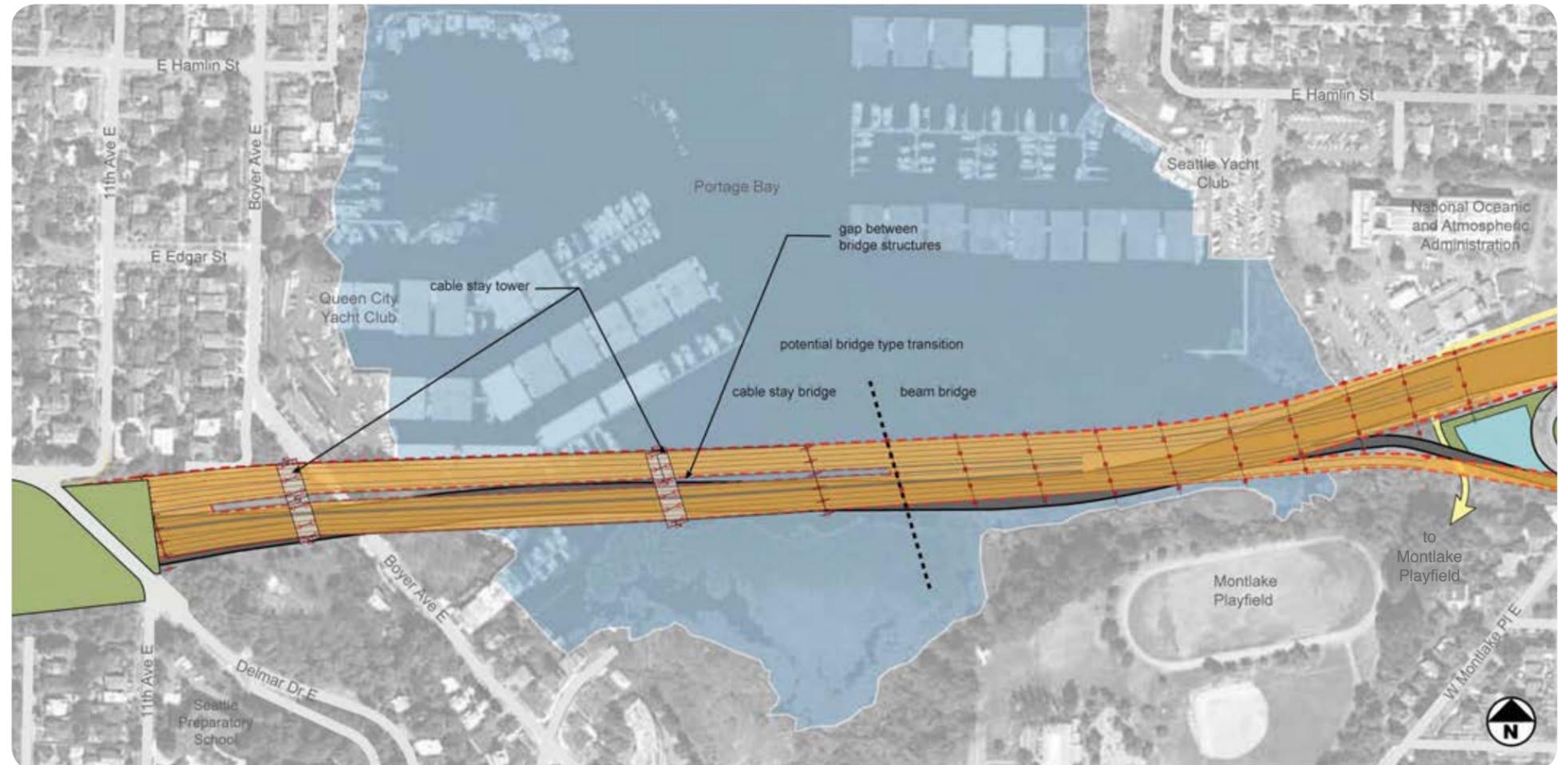
- Provides a signature bridge of regional significance at Portage Bay
- Represents a modern design with lightness and transparency
- Less below-deck structure, long span open the bay below for access and visibility
- Less material and less in-water work

Considerations

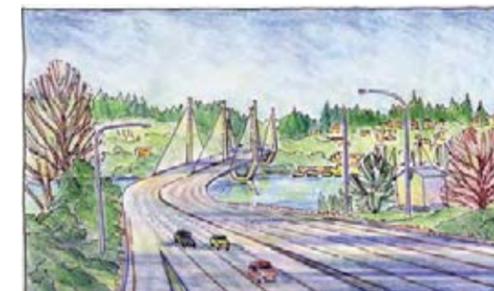
- More expensive option could present budget challenges
- The design should be contextually appropriate
- Slightly wider structure width with gap between structures



Cable stayed option alignment



View from West Montlake Park facing southwest



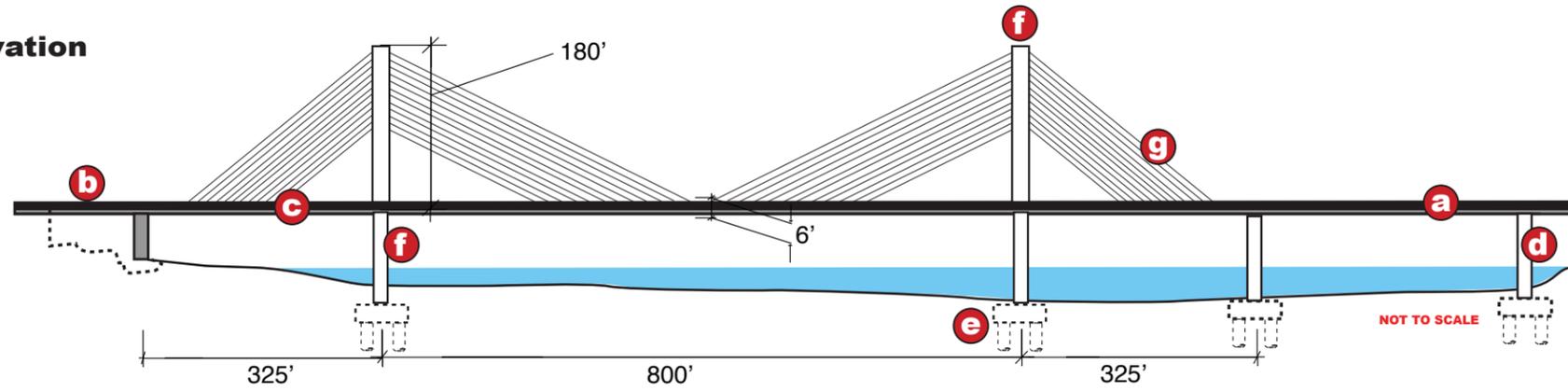
View from Montlake Boulevard East facing west



View from Montlake Playfield facing northwest

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Bridge Elevation



a

Approach Span

The bridge section or sections connecting the abutment with the main bridge span or spans

b

Deck

The roadway portion of a bridge that directly supports vehicular, bicycle and pedestrian traffic

c

Edge Girder

The outermost beams that support the edge of the roadway deck

d

Pier

A vertical supporting structure comprised of a series of columns

e

Foundation

A pile cap and piles, like a column, drilled into the ground to support the bridge

f

Tower

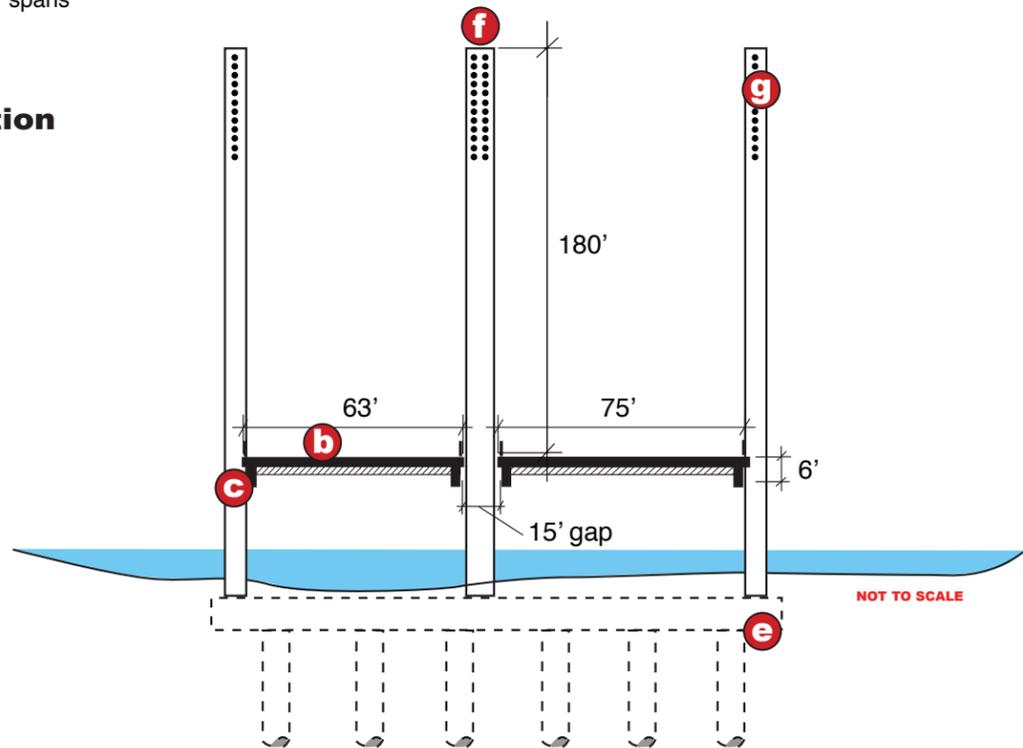
The vertical structure that extends above the deck with cables that support the deck

g

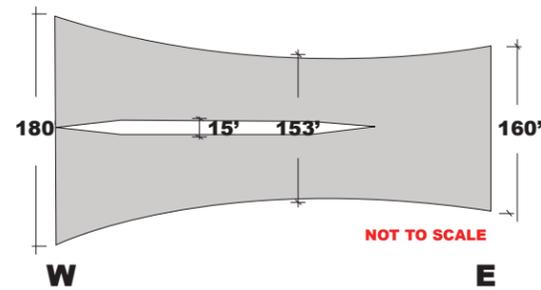
Stay Cable

A prestressing member comprised of numerous strands assembled together to form a tension member to support the deck

Bridge Section



Bridge Diagrammatic Footprint



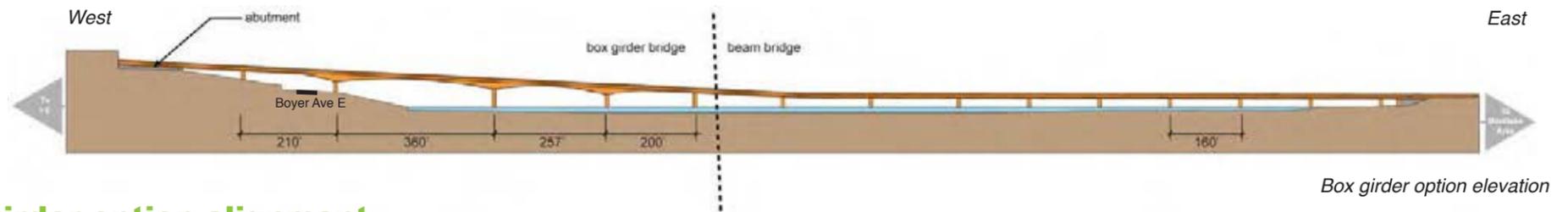
Cable stayed bridge components

Construction

- Minimal scaffolding required during construction
- Longest spans from 325 to 800 feet
- Thinnest deck thickness at 6 feet with minimum elevation changes to existing road systems
- 15-foot gap between east and westbound bridge decks allow light and air flow below bridge

Environment

- Overall footprint of bridge has same square footage as baseline bridge design
- Above deck, view impacts from 180 foot towers; however, cables appear to disappear in daylight, thereby easing visual obstructions
- Below bridge deck, less visual and physical (nautical and marine life) disruption to areas during or after construction due to minimal number of piers



Box girder option elevation

Box girder option alignment



Existing bridge alignment Design refinement alignment

Highlights of the Portage Bay Bridge

Box Girder Option

The box girder bridge design option maintains the roadway operations of the baseline design while shifting the alignment slightly to the north to reduce constructability issues. Other issues that relate to the bridge are:

Over

- No structure above the bridge deck, except required safety features, signage and lighting

Under

- The western portion is a box girder bridge type with a maximum span length of 360 feet
- More structure under the bridge

On

- Thicker bridge deck
- The east end of the bridge is a beam bridge

Benefits

- Cost-efficient structure with moderate span lengths
- Variable depth at the columns creates a curvilinear form
- Fewer above-deck structures allows for maximum visibility

Considerations

- Moderate span lengths create operational and construction impacts on the west end of the bridge
- More in-water and hillside foundations are located in poor soils because more spans are required



View from West Montlake Park facing southwest



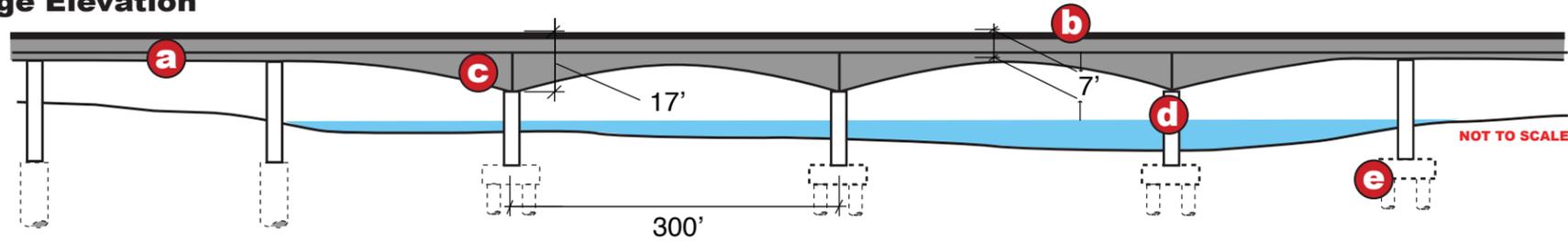
View from Montlake Boulevard East facing west



View from Montlake Playfield facing northwest

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Bridge Elevation



a

Approach Span
The bridge section or sections connecting the abutment with the main bridge span or spans

b

Deck
The roadway portion of a bridge that directly supports vehicular, bicycle and pedestrian traffic

c

Box Girder
A support beam below the bridge deck

d

Pier
A vertical supporting structure comprised of a series of columns

e

Foundation
A pile cap and piles, like a column, drilled into the ground to support the bridge

Box girder bridge components

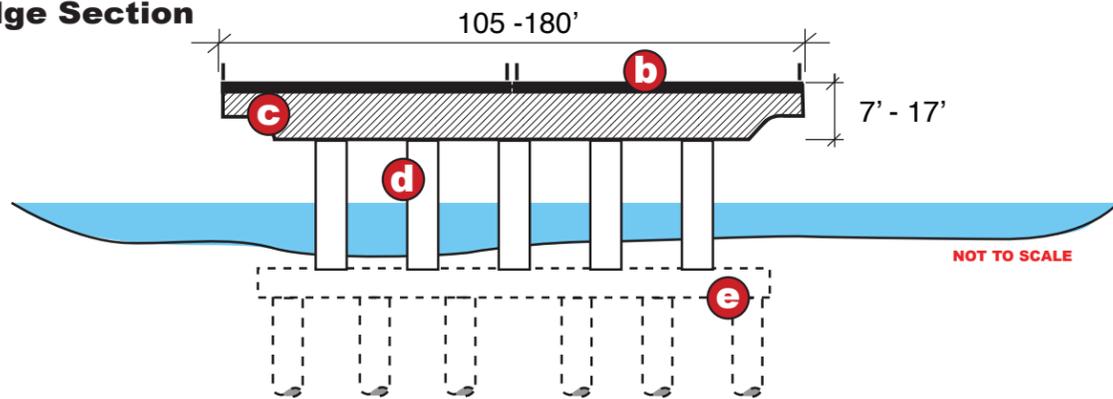
Construction

- Scaffolding required due to hourglass shape of bridge
- Deck spans shorter than cable stayed bridge type, typically between 120 and 300 feet
- Deeper superstructure required at piers, up to 17 feet

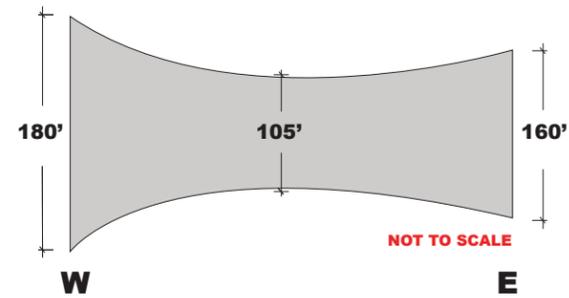
Environment

- Some view impacts above the deck
- Views below deck are obscured due to the number of piers required with the shorter spans
- Larger effects on marine life and the aquatic environment beneath bridge due to construction method and more piers in the water

Bridge Section



Bridge Diagrammatic Footprint





Conceptual Rendering
Montlake Lid Option B showing the lowered transit/HOV ramp (looking north)

MONTLAKE AREA

Area Description

The Montlake area is dynamic and urban, with a high concentration of uses, activity centers, and destination points, including residential, educational, medical, cultural, commercial, and recreational. The area comprises several subareas that were studied in the course of the SCDP including: East Lake Washington Boulevard, Montlake Boulevard East, west Montlake lid and Canal Reserve, Bill Dawson Trail, stormwater treatment area, east Montlake lid and the east entrance to the Montlake lid tunnel.

The Montlake neighborhood is eligible for historic district status through the National Register of Historic Places. It contains a number of designated historic sites, including the National Oceanic and Atmospheric Administration (NOAA), the Seattle Yacht Club, the Shelby-Hamlin neighborhood, the Montlake Cut, the Montlake bascule bridge, the University of Washington lower southeast campus, the Washington Park Arboretum, Montlake Boulevard East and East Lake Washington Boulevard. These boulevards are important as part of the footprint of the Olmsted brothers' parks and green boulevards legacy. Montlake Boulevard has the potential to become a more vibrant, user-friendly space with more accessible paths, safer crossings, usable open space, and augmented plantings.

Montlake Subareas



Refined baseline design with Design Preferences based on community input (July 2012)



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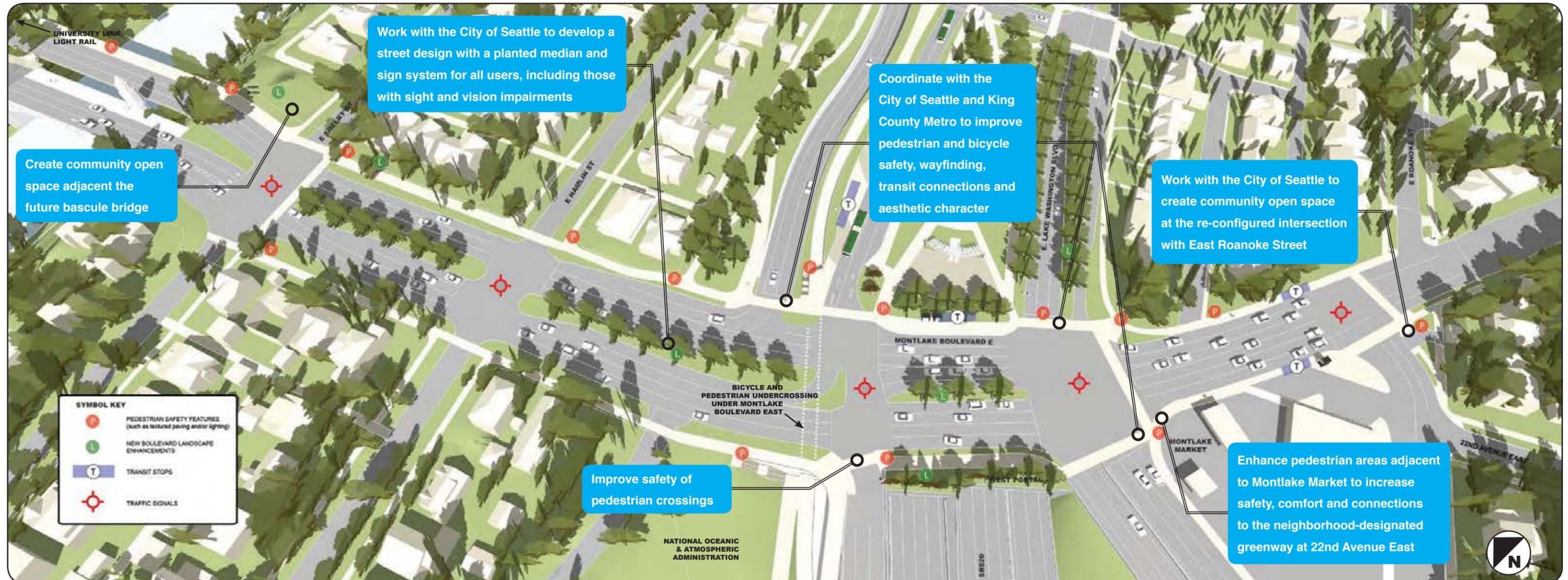
MONTLAKE SUBAREA: MONTLAKE BOULEVARD EAST

Subarea Description

The Montlake Boulevard East subarea serves as a busy crossroads for local and regional travel and multimodal connections. It is also within close proximity to the University Link Light Rail Station, which is currently under construction. Montlake Boulevard East is part of State Route 513 and is a City of Seattle truck route. It is also designated as part of the historic “University” Boulevard, which extended from the site of the 1909

Alaska-Yukon-Pacific Exposition and continued along Lake Washington Boulevard. High-volume traffic, narrow sidewalks and difficult pedestrian crossings converge to create an undesirable environment for pedestrians and cyclists. An important north-south axis, Montlake Boulevard East has the potential to become a successful urban boulevard, providing access to the Washington Park Arboretum and the series of gateways along the SR 520 corridor.

Design Preferences



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Bicycle and pedestrian connections



What We Heard

- Enhance bicycle and pedestrian safety and connectivity along Montlake Boulevard East
- Provide a buffer between the new bascule bridge and the adjacent neighborhood
- Reduce pedestrian crossing widths and include clear signs and appropriate orientation devices for sight- and hearing-impaired users

What We Explored

- Evaluated the best allocation of space to balance all uses within the existing 150-foot right-of-way width
- Evaluated curb geometry and design features such as landscaping and bollards to create safer pedestrian and bicycle environments
- Identified areas available for future community open space and/or neighborhood buffers
- Considered bus stop locations that best balance convenient and safe access with efficient transit operations
- Worked to provide a safe, comfortable connection from the regional shared-use path, the lid and transit to surrounding neighborhoods, the University of Washington, Burke-Gilman Trail and other destinations
- Accommodated multimodal mobility through this area
- Defined opportunities to reinforce Olmsted brothers' parks and green boulevards footprint and the historic character of the boulevard

Existing conditions at Montlake Boulevard East



Looking south along the existing Montlake Boulevard East at SR 520



Conceptual Rendering: The western portion of the Montlake lid over SR 520 mainline will serve as a mobility hub, including transit stops and could have spaces for public markets or other active uses

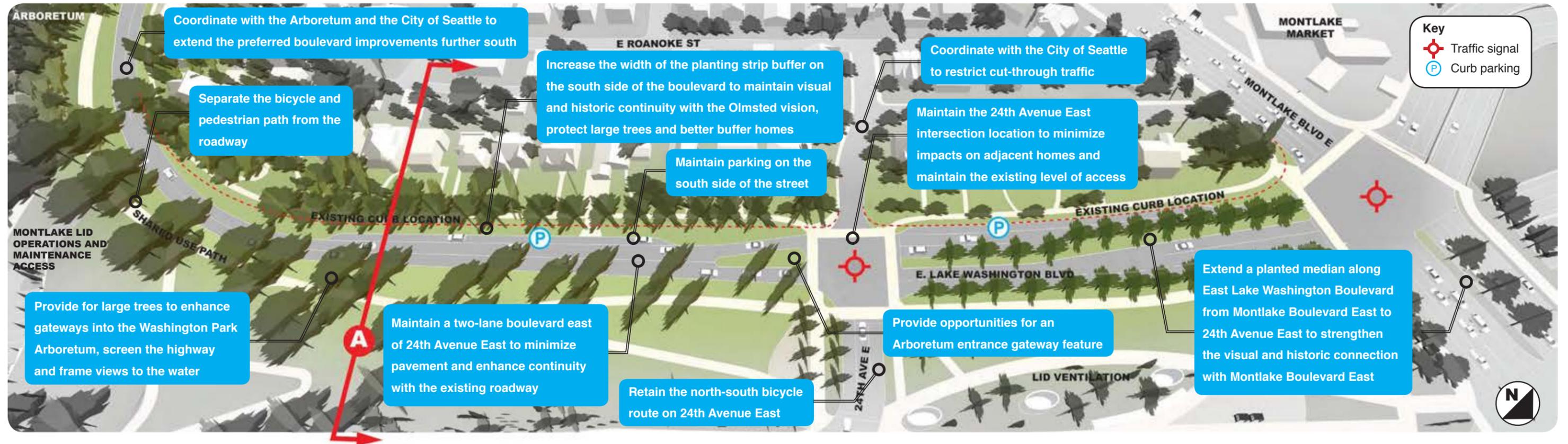
MONTLAKE SUBAREA: EAST LAKE WASHINGTON BOULEVARD

Subarea Description

The East Lake Washington Boulevard subarea is part of the historic “University Boulevard,” which included Montlake Boulevard and stretched from the 1909 Alaska-Yukon-Pacific Exposition to the Washington Park Arboretum. The roadway is well-traveled by vehicles and intrepid cyclists moving north and south between the University of Washington, Washington

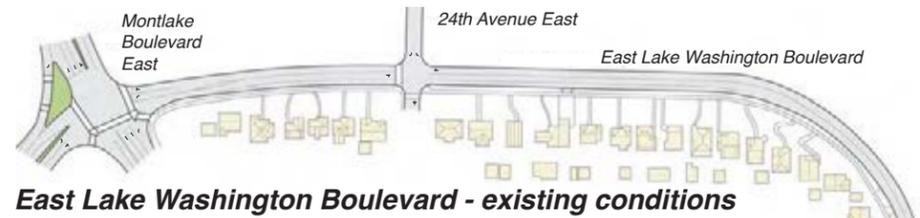
Park Arboretum and the Madison Park neighborhood. The existing boulevard is lined by large linden trees and gracious homes. The baseline design proposed a planted median stretching from Montlake Boulevard to Miller Street East. Proposed design refinements will require further study and consideration for consistency with historic and preservation guidelines.

Design Preferences

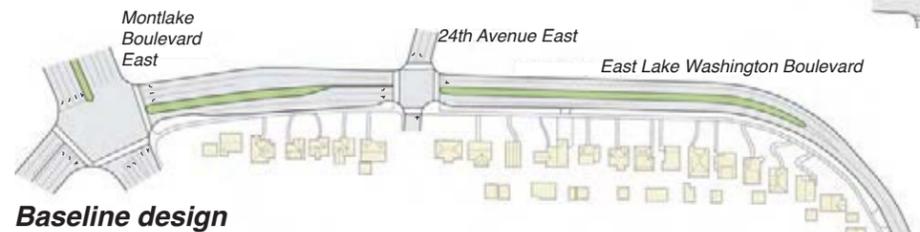


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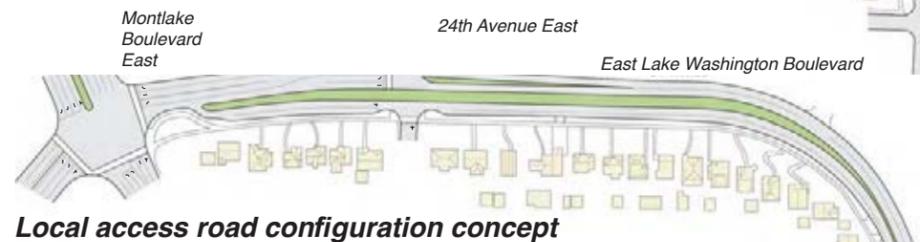
East Lake Washington Boulevard configurations studied



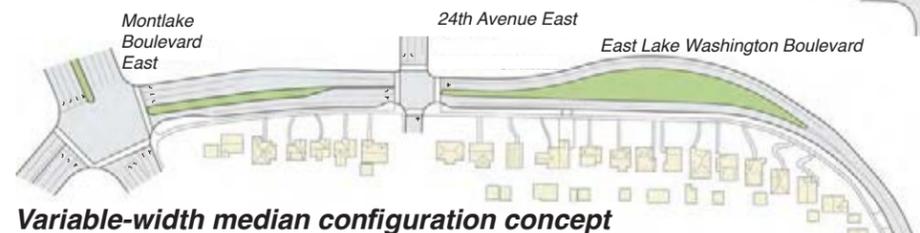
East Lake Washington Boulevard - existing conditions



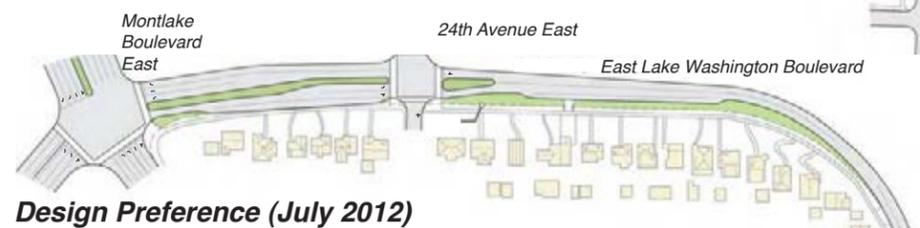
Baseline design



Local access road configuration concept



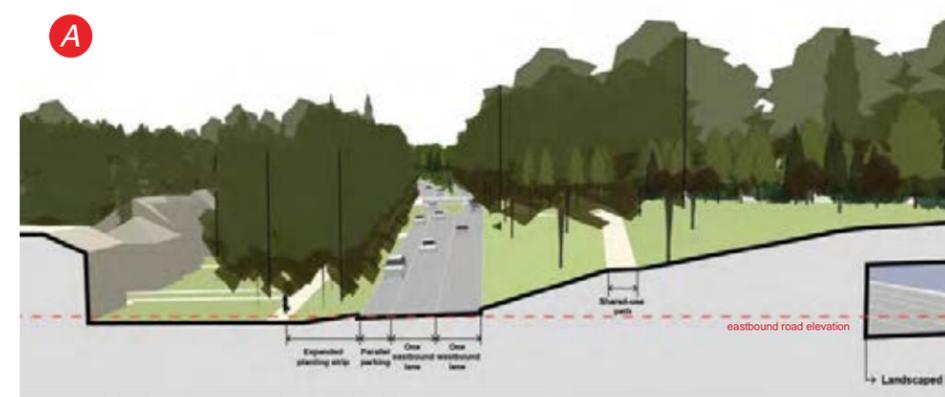
Variable-width median configuration concept



Design Preference (July 2012)

Section viewing northwest

See diagram on previous page for section location



Conceptual Rendering: The design preference for the south side of East Lake Washington Boulevard proposes widening the planting strip to allow more room and healthier conditions for existing larger trees and to be consistent with the design of the boulevard further south and at the north entrance to Washington Park Arboretum (view looking west along East Lake Washington Boulevard)

What We Heard

- Prevent traffic congestion on neighborhood streets as well as neighborhood cut-through traffic
- Screen residences from noise and visual impacts
- Provide a safer, more pleasant pedestrian and bicycle environment
- Preserve mature vegetation where possible
- Preserve the historic character of the boulevard and improve connections to the Washington Park Arboretum
- Address traffic control southbound on 24th Avenue East
- Extend boulevard improvements to the south as far as possible
- Blend the area with the character of the Washington Park Arboretum

What We Explored

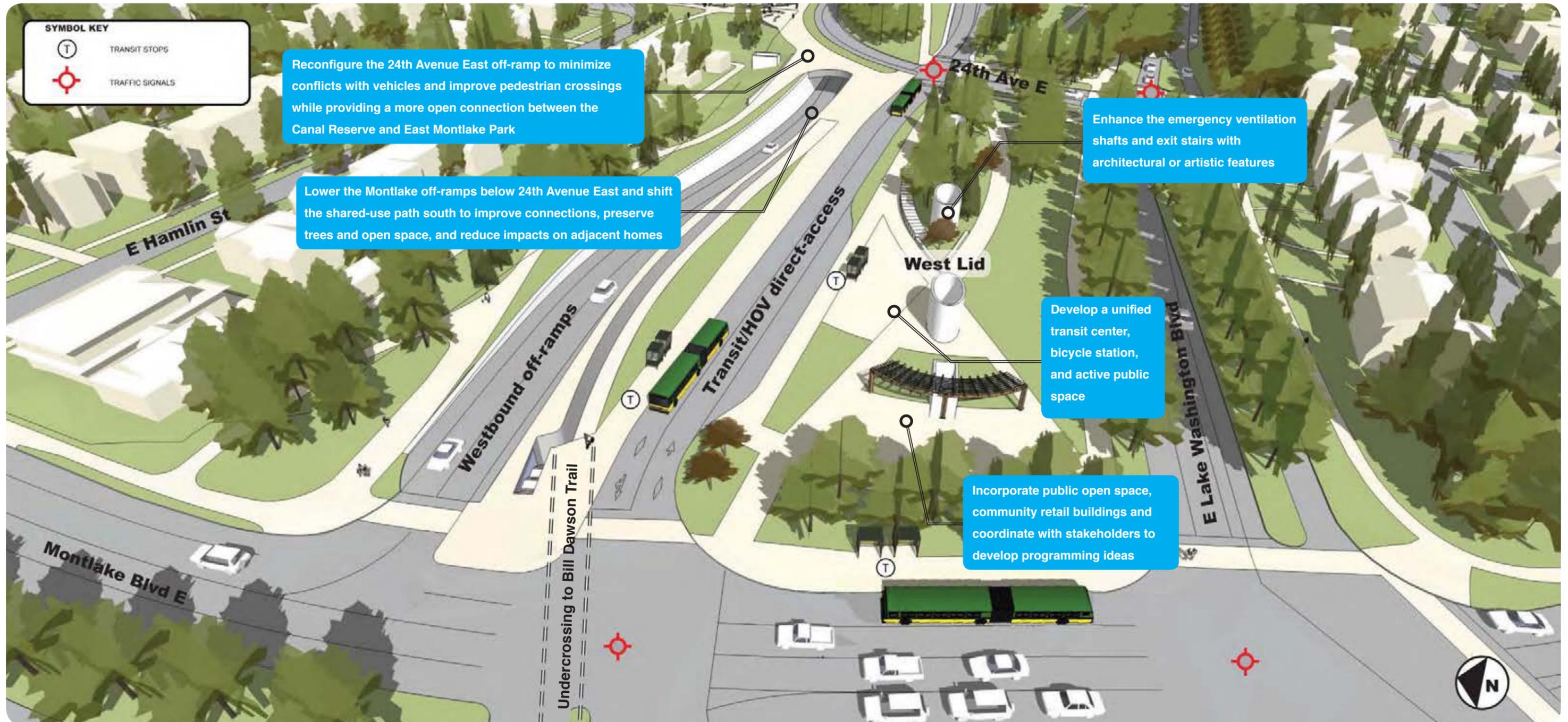
- Evaluated on- and off-ramp configurations and intersections that reduce cut-through traffic on neighborhood streets
- Developed and compared different configurations for reducing noise and visual impacts on adjacent homes while maintaining required access
- Considered different locations for bicycle and pedestrian paths adjacent the boulevard
- Evaluated which roadway configurations (see adjacent examples) would best realize the required Olmsted brothers' parks and green boulevards footprint in coordination with the Washington Park Arboretum North Entry project
- Worked to develop East Lake Washington Boulevard as a gateway, or series of gateways, to Washington Park Arboretum
- Explored options to restrict non-local vehicular cut-through traffic in the neighborhood
- Extended boulevard improvements south to Roanoke Street East where possible
- Selected a design preference that minimizes the total pavement area required to meet vehicular needs

MONTLAKE SUBAREA: WEST MONTLAKE LID AND CANAL RESERVE

Subarea Description

The western portion of the Montlake lid subarea includes all the project elements between Montlake Boulevard East and 24th Avenue East, the Canal Reserve area and East Lake Washington Boulevard. The west Montlake lid will span over SR 520 between these adjacent streets. The Canal Reserve area contains specimen and other significant trees and

public open space, as well as east- and westbound transit and a northbound transit stop. Montlake Boulevard East in this area adjacent to the West lid and Canal Reserve is a high-volume arterial and designated truck and transit route.



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West lid and Canal Reserve area connectivity



What We Heard

- Reduce the noise and visual impacts of the westbound off-ramps on adjacent homes
- Improve bicycle/pedestrian connectivity and safety
- Preserve as many of the existing trees as possible to maintain a visual buffer between the off-ramps and adjacent homes

What We Explored

- Explored different off-ramp and intersection configurations that move the off-ramps further from residential areas, reducing visual impacts
- Studied different off-ramp and intersection configurations that reduce conflicts between bicycles/pedestrians and vehicles
- Evaluated off-ramp and regional path options that preserve more existing trees and maximize landscaping opportunities
- Provided more direct connections to the Montlake lid transit stops from both the regional path as well as surrounding neighborhoods

Existing conditions at Montlake Boulevard East



Existing view south along Montlake Boulevard East



View west at where existing SR 520 off-ramps meet Montlake Boulevard East



Conceptual Rendering: The western portion of the Montlake Lid over SR 520 mainline will serve as a mobility hub connecting cyclists, pedestrians and transit riders (view looking northeast above Montlake Boulevard East)

- Straightened and shortened the regional shared-use path undercrossing connection to the Bill Dawson Trail to be more inviting, safe and attractive
- Activated the Canal Reserve area by providing both green and pathway connections to East Montlake Park, adjacent neighborhoods, the stormwater facility, Montlake Playfield and north to Montlake Boulevard East

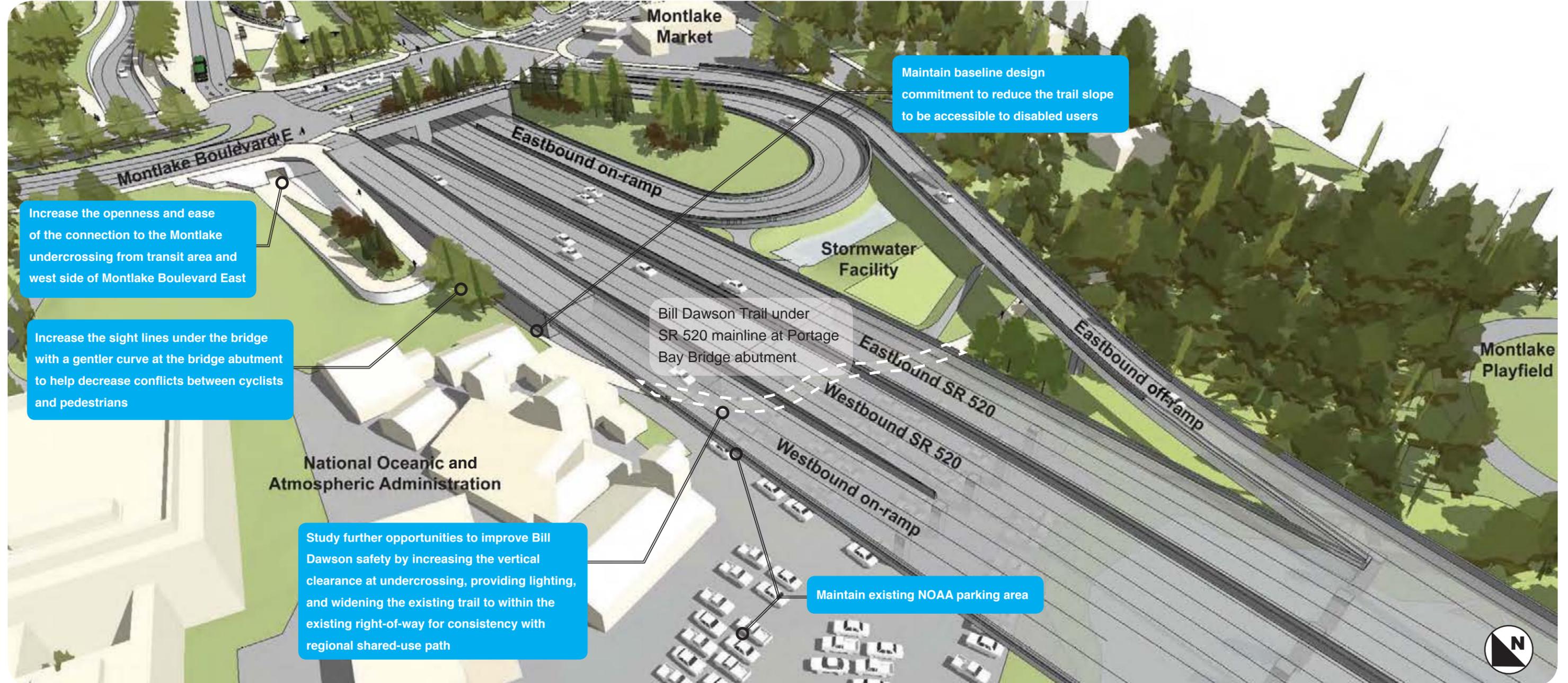
MONTLAKE SUBAREA: BILL DAWSON TRAIL/EAST PORTAGE BAY BRIDGE UNDERBRIDGE AREA

Subarea Description

The East Portage Bay underbridge area is located at the west edge of the proposed Montlake lid between the National Oceanic and Atmospheric Administration's (NOAA) Northwest Fisheries Science Center to the north and businesses, residences and the Montlake Playfield to the south. The

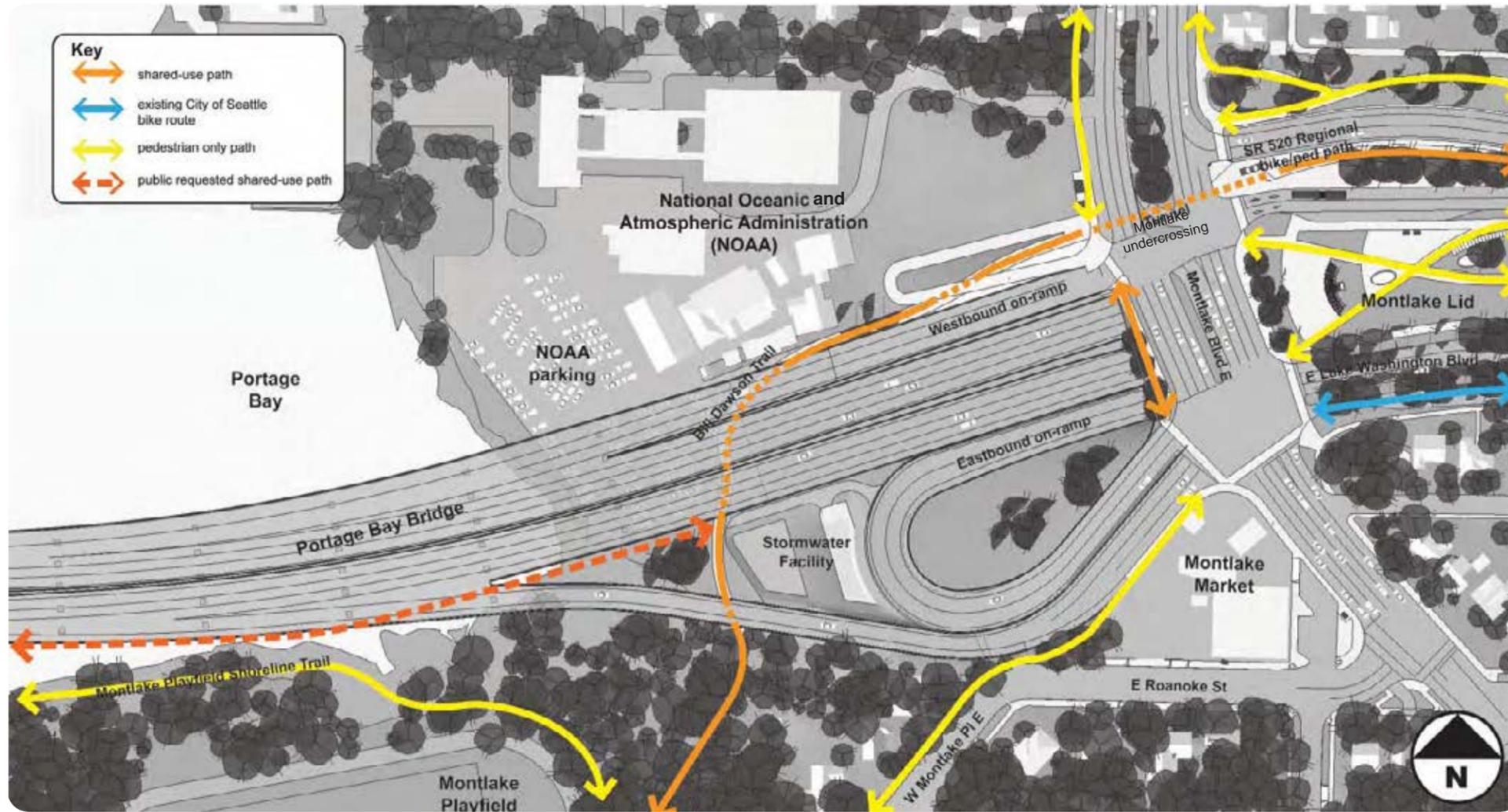
Bill Dawson Trail is a steep, narrow asphalt trail just south of NOAA that hugs the northern edge of SR 520. It turns sharply under SR 520 and has a low structural clearance. The path runs adjacent to NOAA parking, which extends from the shoreline to the path edge and further north.

Design Preferences



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Portage Bay Bridge east underbridge area connections



Existing conditions at Portage Bay underbridge



View of trail and NOAA parking area, facing west

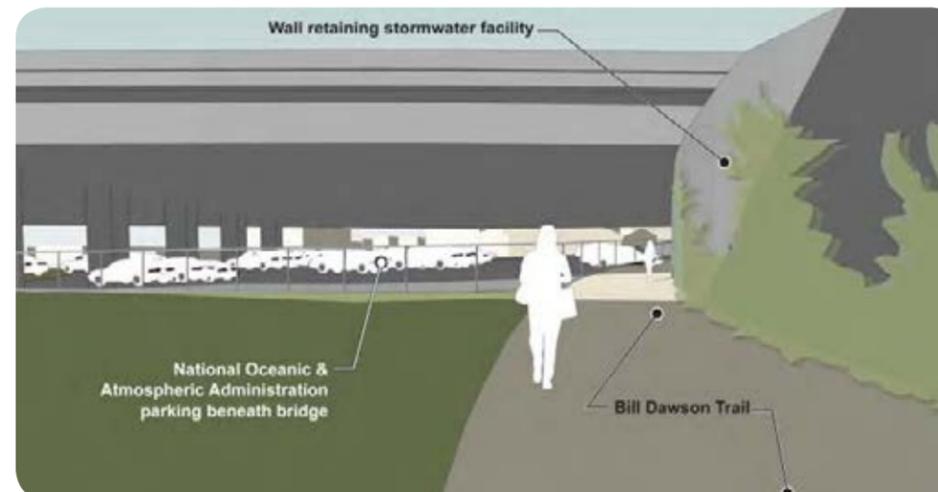


View of NOAA parking area, facing west

Perspective view of trail facing west



Perspective view of trail facing north



What We Heard

- Activate areas for safety and comfort with widened paths, improved lighting and better sight lines
- Improve visual and shoreline conditions at the underbridge area, including better vertical clearance under the structure along Bill Dawson Trail and improved relationship of trail to adjacent uses
- Explore opportunities to separate users on the path to reduce conflicts

What We Explored

- Explored opportunities to modify the adjacent westbound off-ramp abutment structure to improve sight lines and increase turning radii
- Studied increased height of the undercrossing and use of lighting and other design features to increase safety and comfort

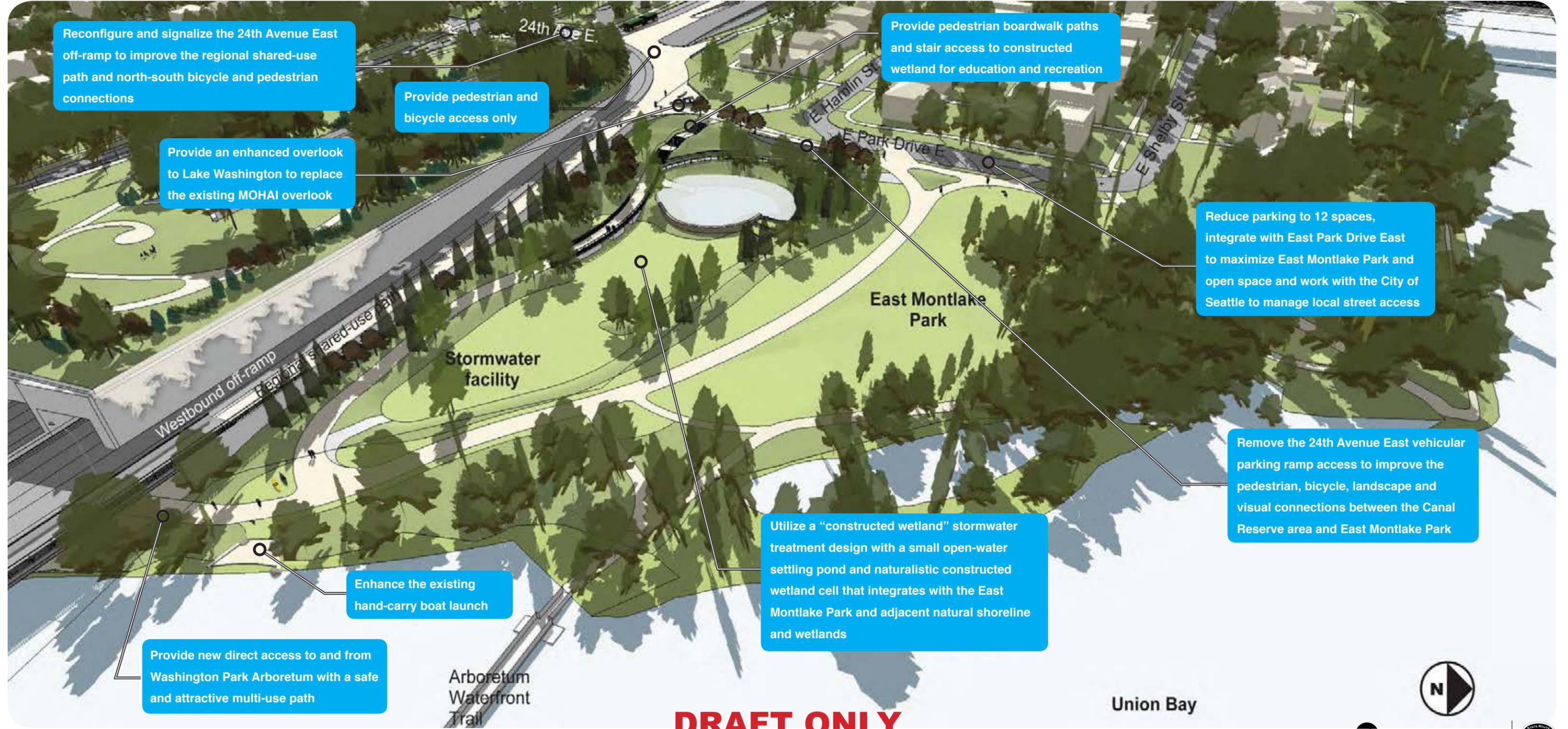
MONTLAKE SUBAREA: STORMWATER TREATMENT AREA AND EAST MONTLAKE PARK

Design Preferences

Subarea Description

The proposed stormwater facility will be sited where the current McCurdy Park and the former Museum of History & Industry are located and adjacent to East Montlake Park and Union Bay wetlands. The facility will include a constructed wetland that will meet all water quality standards as identified by the City of Seattle, WSDOT and the Department of Ecology.

This area provides neighbors and other users access to the Arboretum Waterfront Trail at Marsh Island and provides parking as well as a hand-carry boat launch. East Montlake Park, to the north, is retained as a neighborhood park that is intended to serve the surrounding neighborhoods.



Reconfigure and signalize the 24th Avenue East off-ramp to improve the regional shared-use path and north-south bicycle and pedestrian connections

Provide pedestrian and bicycle access only

Provide an enhanced overlook to Lake Washington to replace the existing MOHAI overlook

Provide pedestrian boardwalk paths and stair access to constructed wetland for education and recreation

Reduce parking to 12 spaces, integrate with East Park Drive East to maximize East Montlake Park and open space and work with the City of Seattle to manage local street access

Remove the 24th Avenue East vehicular parking ramp access to improve the pedestrian, bicycle, landscape and visual connections between the Canal Reserve area and East Montlake Park

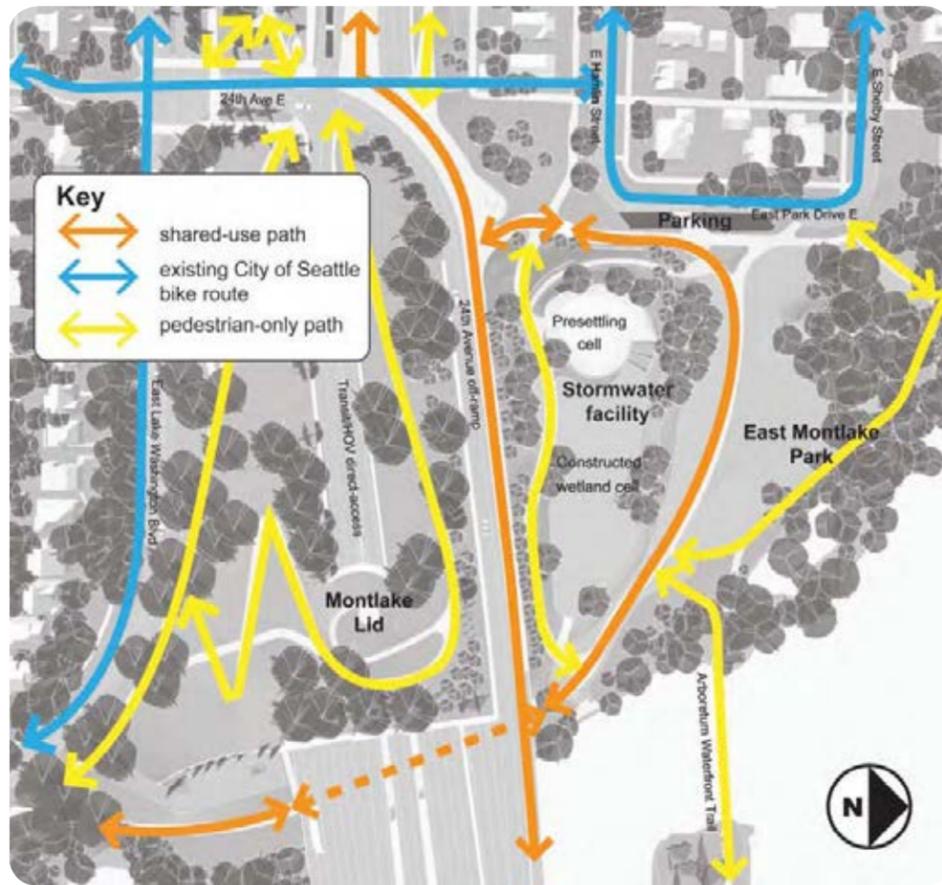
Utilize a "constructed wetland" stormwater treatment design with a small open-water settling pond and naturalistic constructed wetland cell that integrates with the East Montlake Park and adjacent natural shoreline and wetlands

Enhance the existing hand-carry boat launch

Provide new direct access to and from Washington Park Arboretum with a safe and attractive multi-use path

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Stormwater area connectivity



What We Heard

- Choose a treatment design that is visually attractive and that best integrates public access
- Reduce regional parking access for the hand-carry boat launch and the park
- Provide opportunities for access for education and recreation to the stormwater facility
- Improve connections from the regional shared-use path to the University of Washington



Conceptual Rendering: Looking northwest near the location where a hand-carry boat launch will be retained at the east side of the integrated stormwater treatment facility and adjacent to East Montlake Park

What We Explored

- Explored stormwater treatment methods and configurations that visually and functionally blend with the surrounding context by: using native wetland plant materials, complementing East Montlake Park functions, creating a more organic form for facility shape, and providing paths and observation points for interaction by users
- Studied alternate locations for regional parking access that discourage the use of local streets
- Evaluated design configurations that provide viewpoints over and access within the facility
- Shielded the park from visual impacts of the lid and ramps with landscaped buffers
- Provided a safer bicycle/pedestrian route in the neighborhood by terminating 24th Avenue East at the north side of the lid and lowering the Montlake off-ramps under 24th Avenue East
- Improved the connection between the Shelby/Hamlin neighborhood and the Washington Park Arboretum under SR 520 mainline at Lake Washington shoreline
- Retained and enhanced existing hand-carry boat launch and explored need and locations for additional hand-carry boat facilities



How Does A Constructed Wetland Work?

- Stormwater Inflows**
 - Drainage from approximately 24 acres of roadway through a piping system.
- Presetting Cell**
 - 5-foot depth open water basin with approximate .2 acre footprint OR a closed vault with the same capacity.
 - Highest concentrations of heavy metals and solids settle out in presetting cell.
 - Vehicular maintenance access required every 3-5 years to the bottom of the open water cell or to the top of a vault for removal of sediment.
- Constructed Wetland Cell**
 - Flat bottom basin, approximately .7 acres in size, with wetland plantings, which further treat for heavy metals and solids from water.
 - Water may be present for extended periods (days) after storm events with a depth of approximately 18 inches.
 - Primary maintenance activities include control of unwanted plant species on an annual or biannual basis.
- Stormwater Outfall**
 - Water discharged to Union Bay via an open channel.
- Fire Suppression and Spill Containment Vault (Underground)**
 - Captures effluent liquids used to manage fires and spills in the Montlake Lid Tunnel.
 - Vehicular maintenance access required to top of vault following operation/testing
 - Periodic inspection of fire suppression and containment system.

MONTLAKE SUBAREA: EAST MONTLAKE LID OPTION A

Subarea Description

The SR 520 improvements east of 24th Avenue East include a landscaped lid covering the highway lanes below. Two options are being evaluated. The lid triggers substantial requirements for fire and life safety where it extends beyond 800 feet in length, including an operations and maintenance facility as well as emergency ventilation stacks and tunnel exits.

Option A - High Transit/HOV Ramps

Lid Option A retains the 'high' transit/HOV lanes, which run along the surface of the lid. The transit/HOV lanes separate from the through lanes and rise over the Washington Park Arboretum wetlands area to meet a signalized intersection at 24th Avenue East.

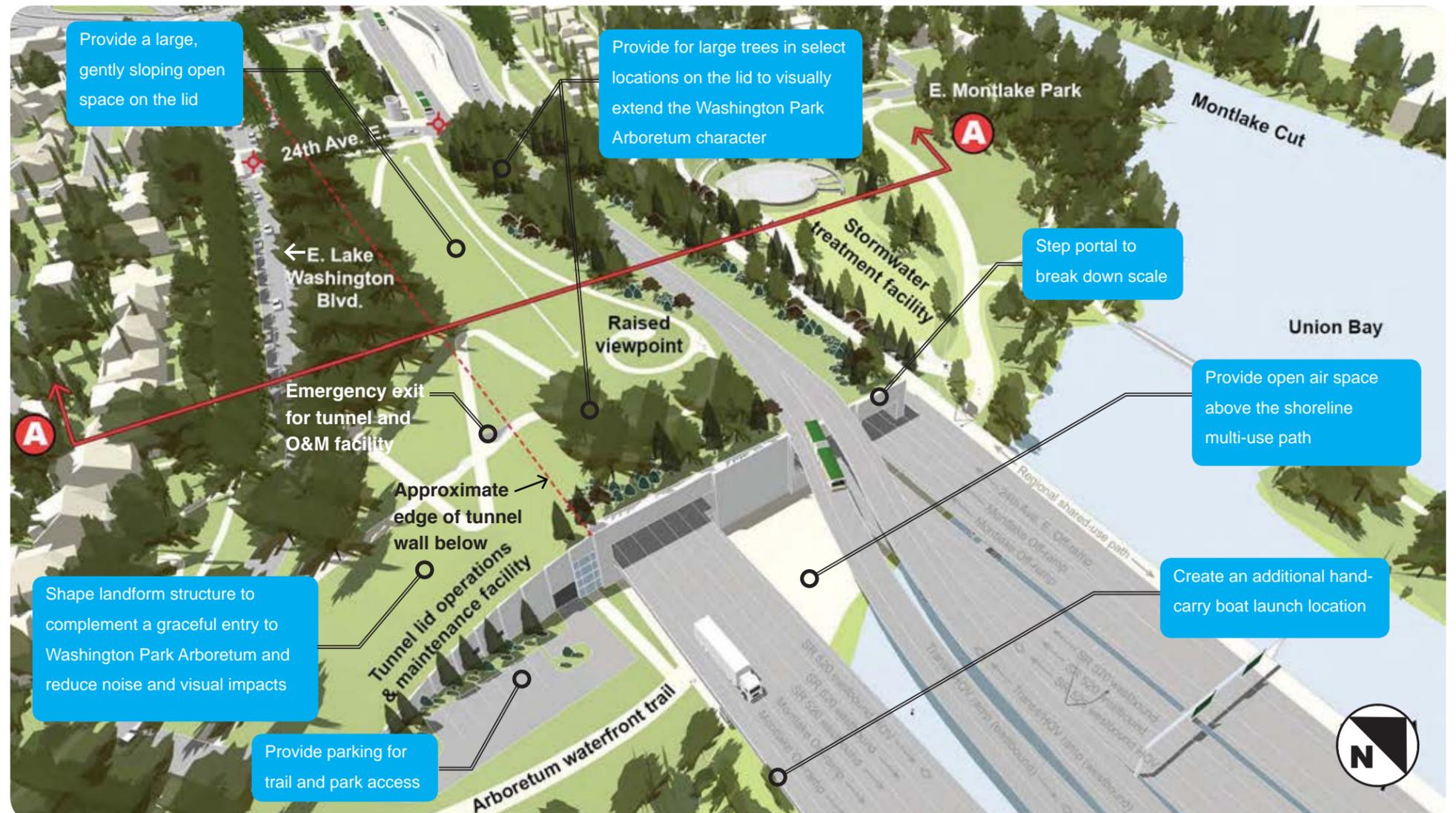
Benefits

- Provides a contiguous space on the lid south of the transit/HOV off-ramps
- Provides open air space above the shoreline path

Considerations

- The "high" transit/HOV ramps create greater visual impacts from surrounding vistas
- The transit/HOV lanes create a visual and physical barrier along the north edge of the lid

Design Preferences



Bird's-eye view looking northwest

North-south section looking west



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East lid with Option A high Transit/HOV ramps



VIEW 1: The eastern portion of Montlake Lid Option A looking northeast toward the transit/HOV lanes and Union Bay



VIEW 2: Montlake Lid Option A showing the high transit/HOV ramp (looking north)

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MONTLAKE SUBAREA: EAST MONTLAKE LID OPTION B

Subarea Description

The SR 520 improvements east of 24th Avenue East include a landscaped lid covering the highway lanes below. Two options are being evaluated. The lid triggers substantial requirements for fire and life safety where it extends beyond 800 feet in length, including an operations and maintenance facility as well as emergency ventilation stacks and tunnel exits.

Option B - Lowered Transit/HOV Ramps

Lid Option B proposes lowered transit/HOV lanes moved south and coming to grade at 24th Avenue East through a slot in the east lid.

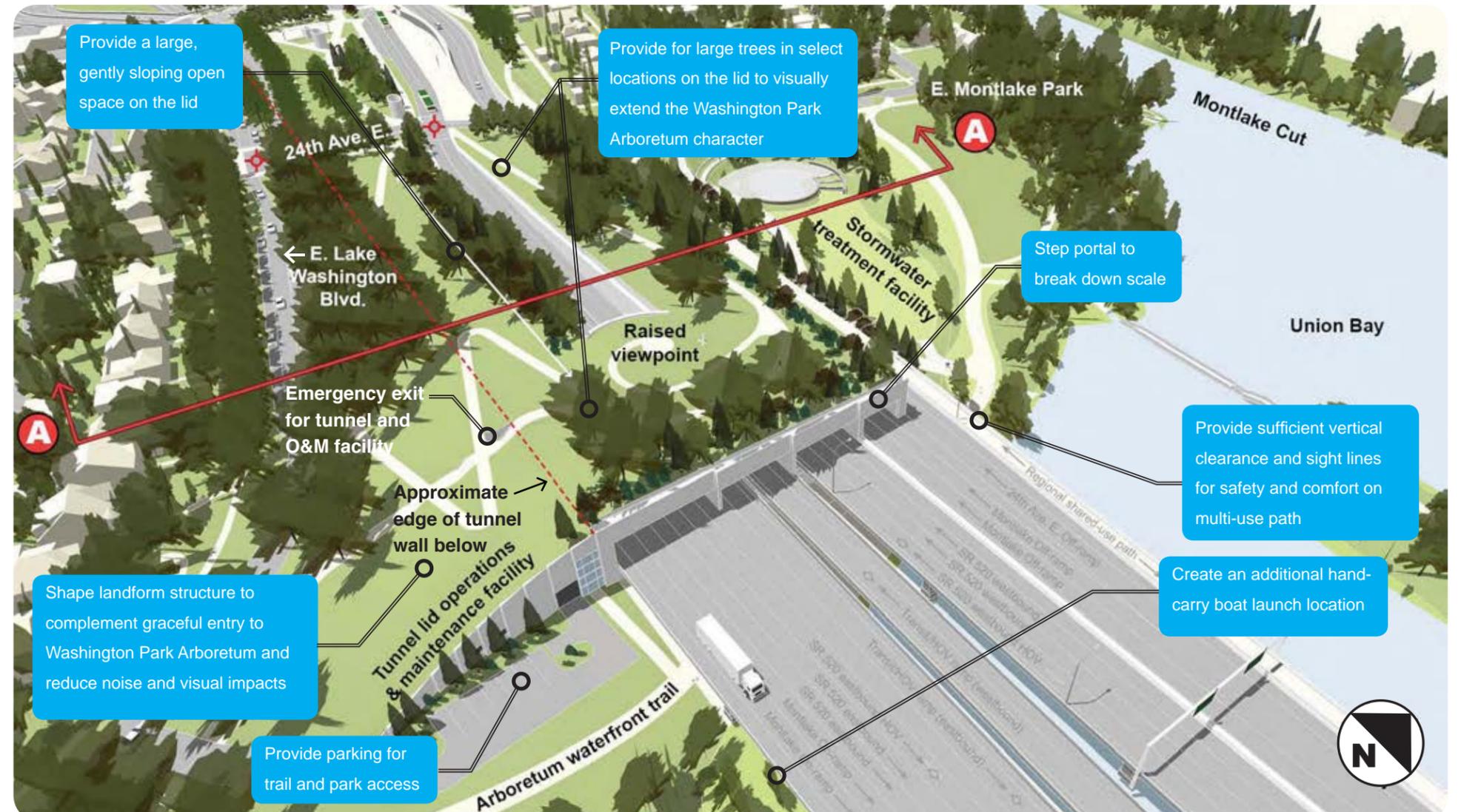
Benefits

- Reduces the visual impact of the transit/HOV ramps at the east end of the lid
- Reduces the visual impact of the surface transit/HOV lanes on views toward Union Bay
- Allows for overlook viewpoints along the northeast portion of the lid
- The lowered transit/HOV lanes may result in less noise than on the lid (needs further evaluation)

Considerations

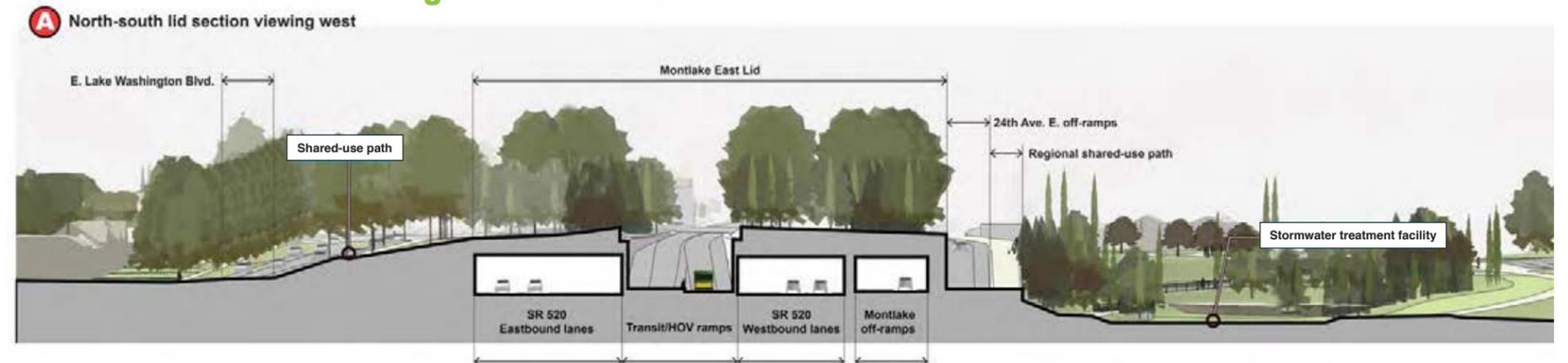
- The "slot" in the lid restricts opportunities for programmed uses or larger gatherings that would require a larger contiguous space

Design Preferences



Bird's-eye view looking northwest

North-south section looking west



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East lid with Option B lowered Transit/HOV ramps



VIEW 1: The eastern portion of Montlake Lid Option B looking northeast toward the transit/HOV lanes and Union Bay



VIEW 2: Montlake Lid Option B showing the lowered transit/HOV ramp (looking north)

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MONTLAKE SUBAREA: EAST MONTLAKE LID OPTIONS COMPARISON

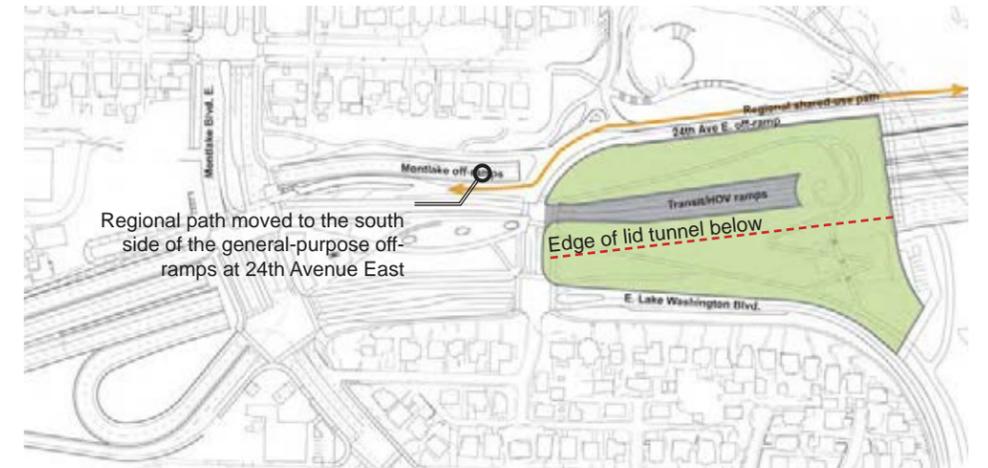
Quantitative comparison of east lid design options



Baseline design configuration

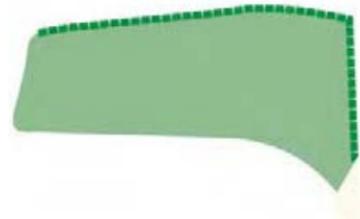


Option A - High Transit/HOV ramps (includes lid over lowered westbound off-ramp)



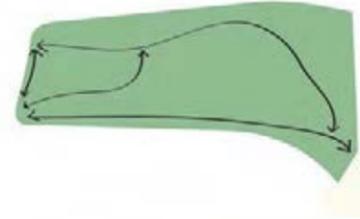
Option B - Lowered Transit/HOV ramps (includes lid over lowered westbound off-ramp)

Lid area/edges/barriers



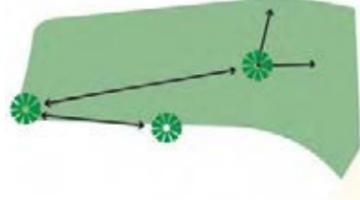
Access/connections

Narrow and constrained connection between Canal Reserve and East Montlake Park/stormwater treatment facility with a 10-foot-high wall adjacent East Hamlin Street with limited view opportunities and no pedestrian access to the north

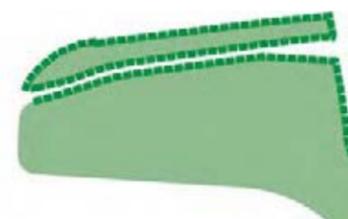


Sight lines/views

North edge of lid is adjacent to five lanes of off-ramps

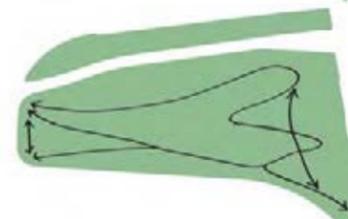


Lid area/edges/barriers



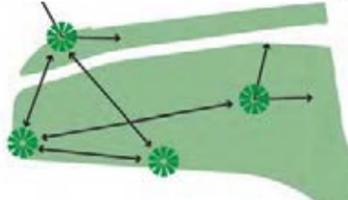
Access/connections

Wider and more direct connection between Canal Reserve and East Montlake Park/stormwater treatment facility without adjacent wall but with limited view opportunities and no pedestrian access to the north

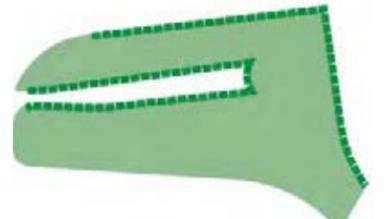


Sight lines/views

North edge of lid is adjacent to two lanes of transit/HOV off-ramps with limited view opportunities and no pedestrian/bicycle access to the park

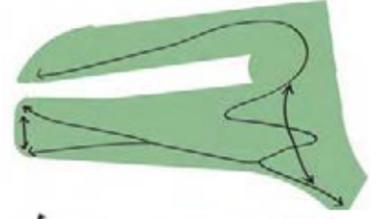


Lid area/edges/barriers



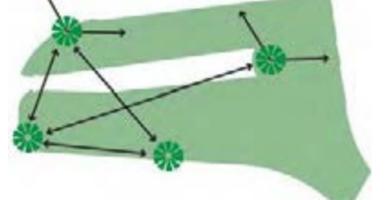
Access/connections

Wider and more direct connection between Canal Reserve and East Montlake Park/stormwater treatment facility without adjacent wall but with limited view opportunities and no pedestrian access to the north



Sight lines/views

North edge of lid directly overlooks East Montlake Park and Union Bay but provides no direct pedestrian/bicycle access to the park



What We Heard

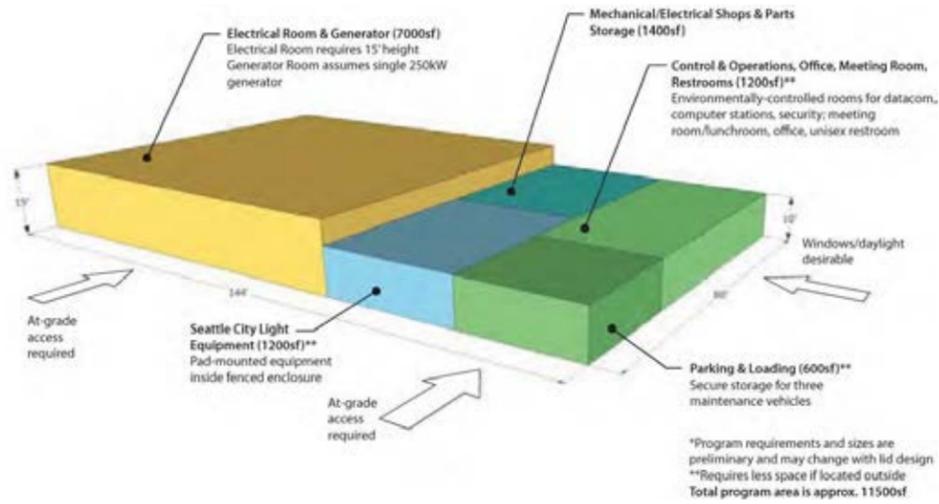
- Fit the highway more gracefully into the shoreline landscape
- Create a safer, more pleasant and accessible shoreline experience, in particular adjacent the abutment under the bridge
- Make a safe shoreline multi-use path connection between East Montlake Park and the Washington Park Arboretum
- Provide continued access and enhancement of hand-carried boat launch
- Integrate the required Operations and Maintenance (O&M) facility into the lid landscape

What We Explored

- Explored benefits and issues of high and lowered transit/HOV ramps
- Complemented and enhanced the surrounding natural environment by retaining existing significant trees, restoring shoreline and preserving maximum opportunities for new significant landscape on the lid
- Provided inviting, accommodating and safe pathways and open spaces
- Studied how to create viewpoints from the east lid to Lake Washington, the Cascade Mountains and Washington Park Arboretum
- Maintained or improved visual and noise buffers

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Operations and Maintenance Facility Program Summary*



Montlake Lid Operations and Maintenance Facility

Because the length of the Montlake lid is greater than 800 feet, it requires ventilation, fire and life safety equipment as well as an operations and maintenance facility, which houses mechanical, electrical and control spaces for tunnel operations.

The operations and maintenance facility has not yet been designed, but it will be located partially below grade to reduce visual impacts. Two potential locations for this facility were studied: 1) on top of the lid just east of 24th Avenue East, or 2) set into the slope at the southeast corner of the lid, which is the preferred location.

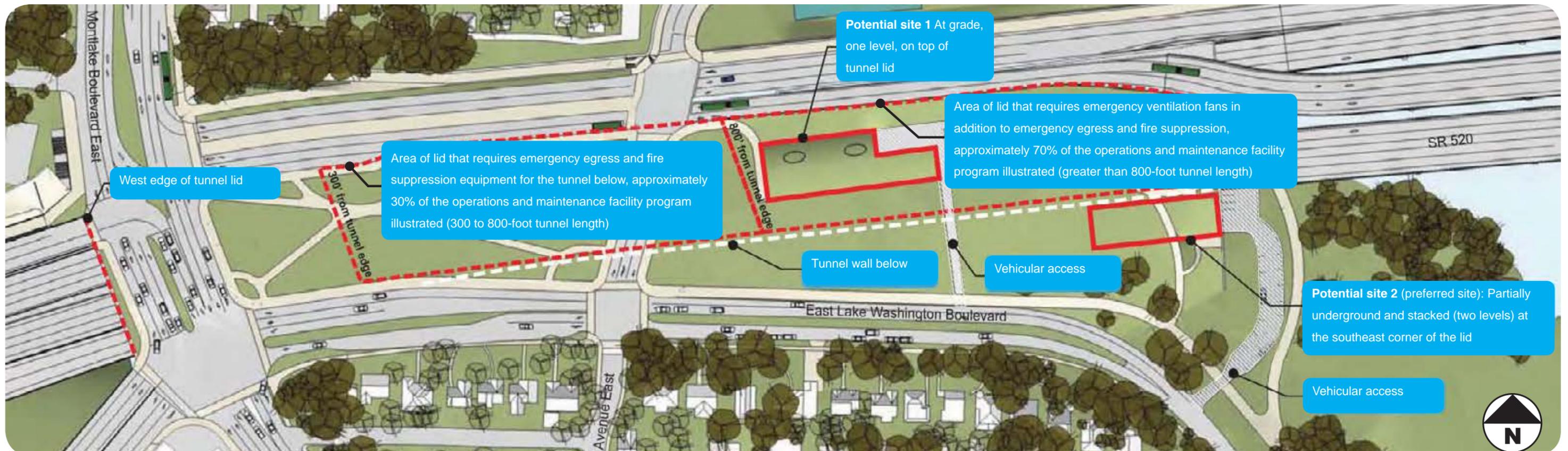
Other requirements of the lid and tunnel include a series of large vent stacks that need to be located on top of the lid. The project will continue to coordinate with Federal Highway Administration (FHWA) and the City of Seattle on additional specific requirements.

The design goals for the facility are to reduce visual impacts from East Lake Washington Boulevard and to integrate the building into the landscape at the southeast corner of the lid to the extent possible.

The operations and maintenance facility will serve the following functions:

- Contain electrical and mechanical equipment and shop space requirements of both regular and emergency ventilation for the tunnel under the lid as well as maintenance requirements of the west approach bridge
- Provide a minimum number of required office and work spaces for daily staff necessary for maintenance of the lid and west approach bridge

Site Locations Considered for the Lid Operations and Maintenance Facility (Baseline Configuration)



MONTLAKE SUBAREA: EAST ENTRANCE TO MONTLAKE LID TUNNEL

Subarea Description

The east entrance to the Montlake lid tunnel is located at the shoreline of Lake Washington and the west abutment of the West Approach Bridge. The proposed multi-use path at the shoreline creates a new connection, where one does not currently exist. The proposed path also completes the Arboretum Waterfront Trail loop detailed in the Washington Park Arboretum master plan while providing safe and efficient connections to and from the adjacent neighborhoods, the Washington Park Arboretum and the University of Washington. This subarea is affected by the elevation of the transit/HOV ramps.

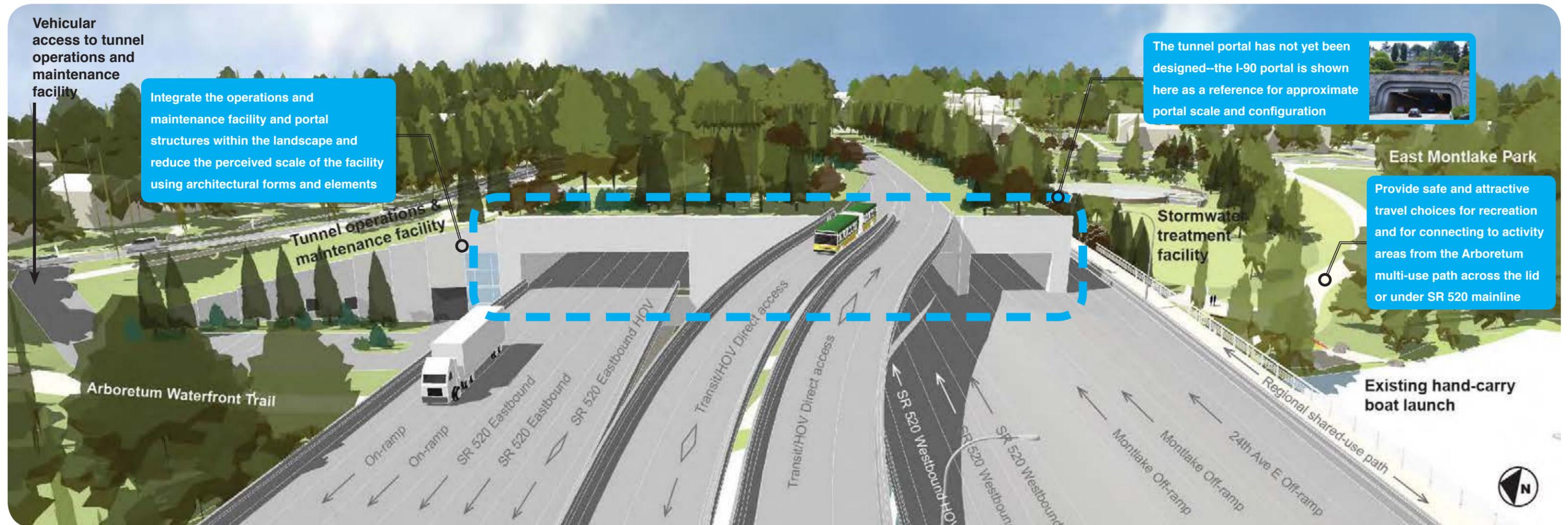
What We Heard

- Make pathways safe and attractive for users
- Provide good sight lines for pedestrians walking along the shoreline under the bridge as well as appropriate lighting along the pathway
- Disperse parking for access to the park, water and trails on the north and south sides of the West Approach Bridge

What We Explored

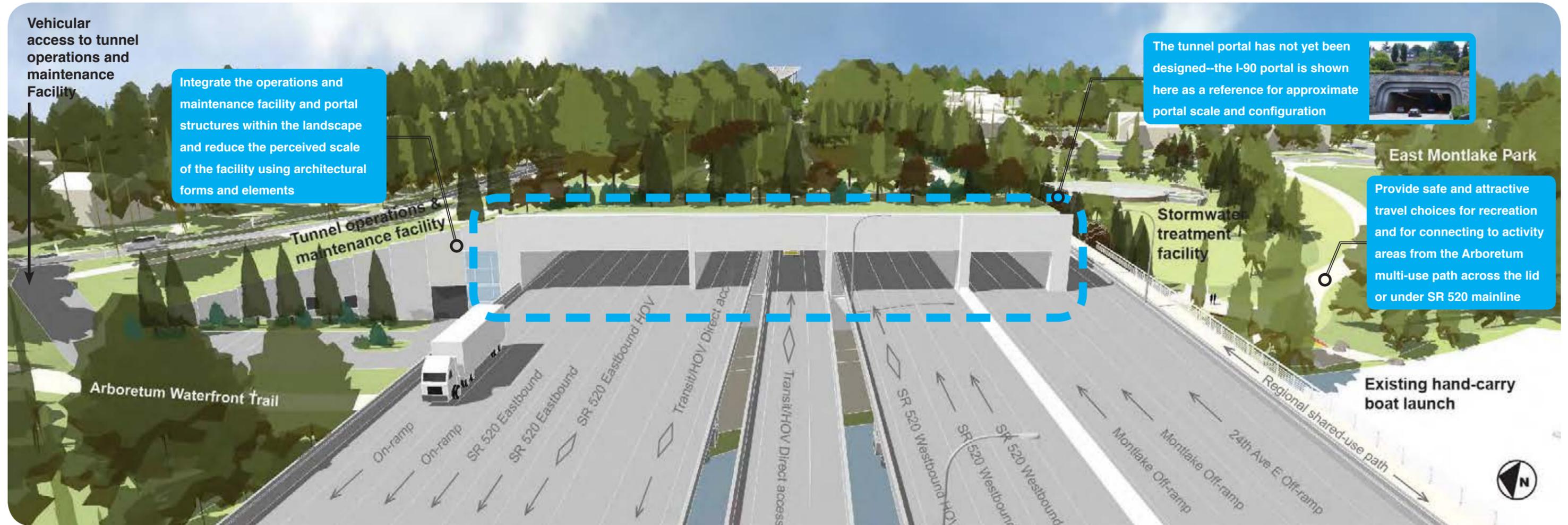
- Evaluated opportunities to increase sight lines entering and passing through the underbridge area
- Considered appropriate and sustainable uses for the underbridge area that could help increase security and visibility
- Maximized opportunities to provide landscape

Design Preferences: Option A - High Transit/HOV ramps (view looking west)



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Design Preferences: Option B - lowered Transit/HOV ramps (view looking west)



Vehicular access to tunnel operations and maintenance Facility

Integrate the operations and maintenance facility and portal structures within the landscape and reduce the perceived scale of the facility using architectural forms and elements

The tunnel portal has not yet been designed--the I-90 portal is shown here as a reference for approximate portal scale and configuration



East Montlake Park

Provide safe and attractive travel choices for recreation and for connecting to activity areas from the Arboretum multi-use path across the lid or under SR 520 mainline

Stormwater treatment facility

Existing hand-carry boat launch

WEST APPROACH BRIDGE

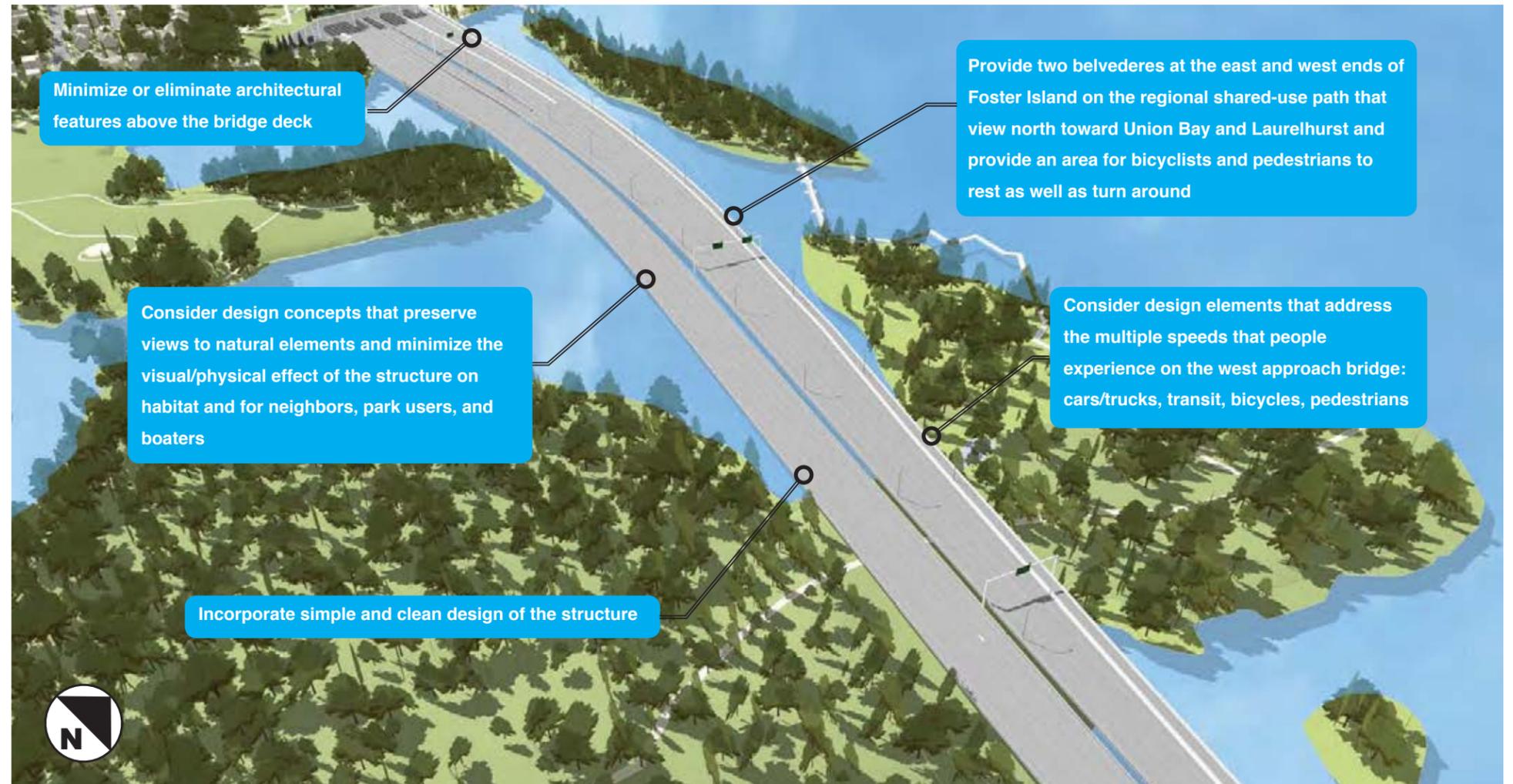
Area Description

The West Approach bridge links the SR 520 floating bridge segment to the Seattle neighborhoods surrounding it. Because of the natural beauty of the west approach area, it is a destination for passive and active outdoor recreation such as boating, bird-watching, picnicking, strolling, and sports. The West Approach area includes a number of recreational activity centers including the Washington Park Arboretum and Marsh and Foster Islands, the University of Washington's Waterfront Activities Center, and McCurdy and East Montlake parks. These activity centers and parks provide a green, soft, yet defined vegetated edge to the bay.



Existing view of SR 520 West Approach Bridge looking west

Design Preferences



Bird's-eye view of West Approach Bridge at Washington Park Arboretum and Foster Island looking northwest



What We Explored

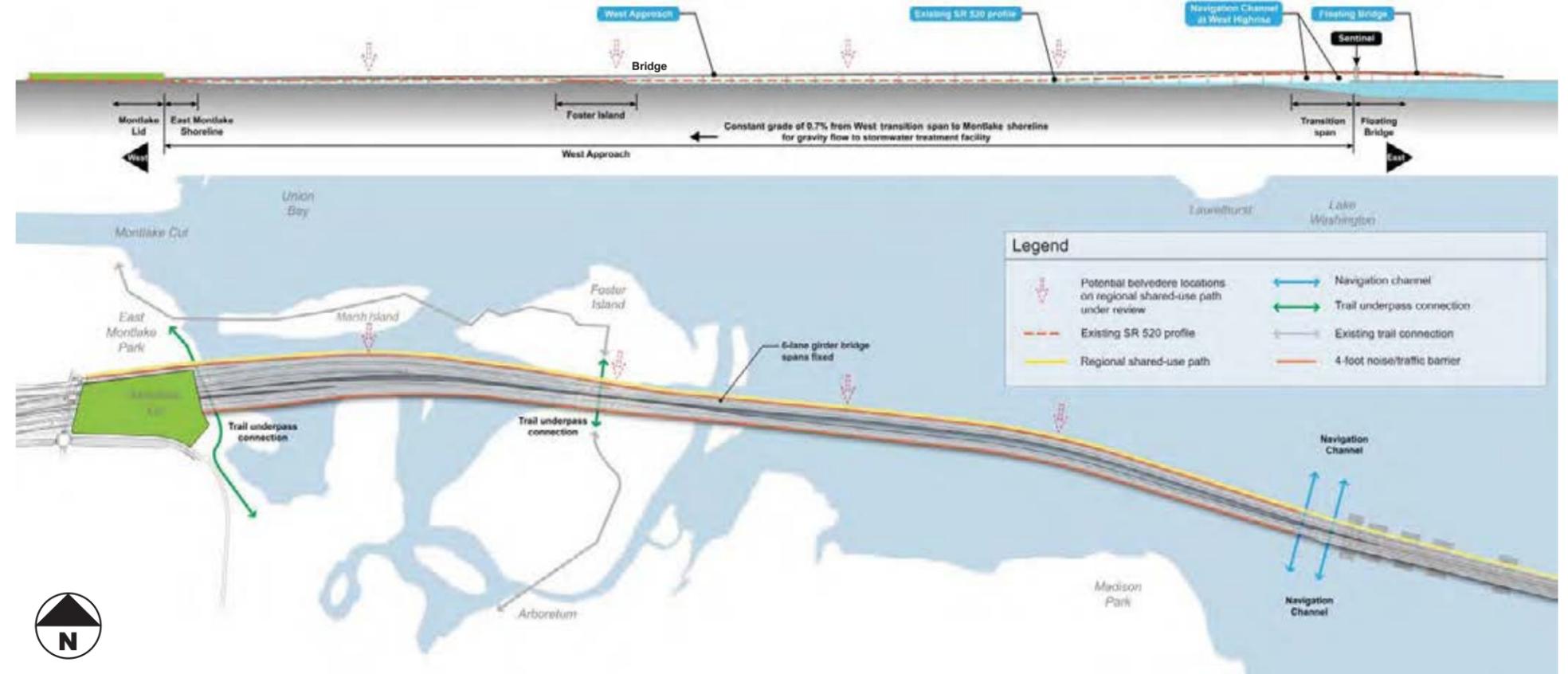
- Explored solutions that integrate structural and system elements into a unified design concept
- Examined solutions that simplify bridge structure and components
- Studied belvedere locations that provide interesting views and a logical place to rest and/or turn around on the regional shared-use path

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Existing view of SR 520 at Washington Park Arboretum looking east

West Approach Bridge Conceptual Design Features



SR 520 regional shared-use path view looking east

View from Laurelhurst

Comparable views of the existing West Approach bridge (top image) from the Laurelhurst neighborhood and how the same view would look with the proposed baseline design (bottom image).



View 1 key map



View 1 from Laurelhurst (existing)



View 1 from Laurelhurst (baseline design)



View 2 from Madison Park (existing)

View from Madison Park

Comparable views of the existing west approach bridge (top image) from the Madison Park neighborhood and how the same view would look with the proposed baseline design (bottom image).



View 2 key map



View 2 from Madison Park (baseline design)



Conceptual Rendering
View from 10th Avenue East and East Roanoke Street looking southeast

06 NEXT STEPS

“The boulevards were seen by the Olmsteds as an essential part of the park system, designed to... enable visitors to reach vantage points for spectacular views of the mountains and water; to preserve public access to the shoreline... to lend form and texture to surrounding neighborhoods; and to provide ‘linear parks’ through which visitors can travel for hours, seemingly without leaving the countryside.”

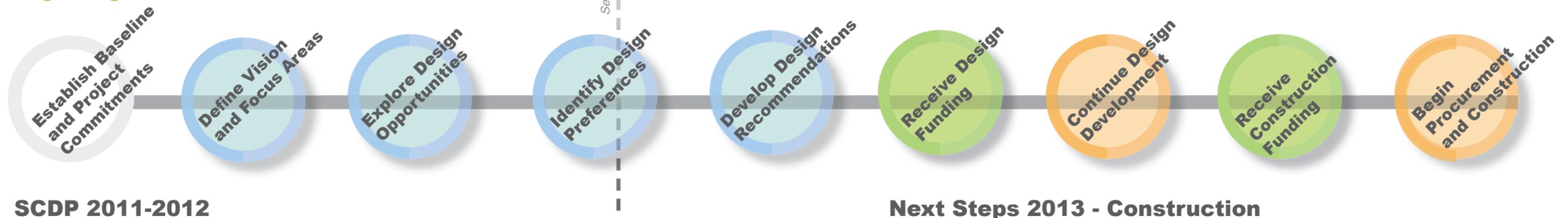
Bands of Green, City of Seattle Parks Foundation, 2006

NEXT STEPS

The **Seattle Community Design Process** began in 2011 after WSDOT received the federally approved Record of Decision for its baseline design. During 2011 and 2012, the WSDOT design team worked closely with neighborhood stakeholders and agencies to explore design opportunities and to develop a series of design preferences for the west side corridor and specific geographic subareas. As project funding is pending, WSDOT continues to develop these design preferences into design recommendations. They can continue toward construction in one of three ways (see also diagram on facing page):

- Identify potential projects that can advance to **Preliminary Design** development so that they become a priority for construction funding, particularly seismically vulnerable structures like the West Approach Bridge and the Portage Bay Bridge
- Evaluate projects as elements of continuity or distinction that can proceed into **Conceptual Design** development, which is the next step toward preliminary design
- Advance smaller-scale projects affiliated with nearby neighborhoods or advocacy groups to Preliminary Design through **Neighborhood Design Processes**

Design Progression



The WSDOT team has ambitious goals in 2012 and 2013 to advance to the next steps of the SR 520 project. The WSDOT team will:

- Develop and secure **formal design recommendations** for the project's key design elements for the west side
- Continue working through the joint WSDOT/City of Seattle **Memorandum of Understanding process** relating to the decision to construct and the timing of construction of a second bascule bridge over the Montlake Cut
- Move forward with **mitigation commitments** that are required as part of the environmental process and that WSDOT has agreed to implement to meet the City's goals and objectives for the project
- Ensure that the City of Seattle maintains a meaningful role and continued involvement throughout the project design process.
- Establish the intent of the City and WSDOT to meet SR 520 project timelines for project completion
- Continue to seek additional funding sources

How can I learn more?

Join the project e-mail update list. WSDOT will continue to keep the public informed about opportunities for input as the project moves forward with design and construction. If you provide your name, we will add you to the project mailing list, which allows you to receive regular email updates. You may join the mailing list by logging onto the WSDOT Web site at www.wsdot.wa.gov/projects/SR520Bridge, by calling the project office at 206-770-3500, or by emailing the project at SR520Bridge@wsdot.wa.gov.

Design Progression

The vision and principles shape the next steps as the project moves forward (see "Design Progression" diagram below), including design development, construction funding, procurement and construction. Where clear preferences have been identified, they will be carried forward into discussion with agency partners and WSDOT headquarters. The design team will refine these preferences during design development. Where options remain, the project will continue to work closely with stakeholders to solicit feedback.

The schedule for all three categories of projects will be further defined during the fall and winter of 2012. Some projects within all three categories can be expected to move forward in design in 2013.

Project work in the Seattle area is not yet funded for construction. WSDOT continues to work closely with the Governor, Legislature and the City of Seattle to secure construction funding.

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The beginning of the SCDP

A baseline design was established by the National Environmental Policy Act (NEPA) **Record of Decision** and community commitments.

SCDP design opportunities and design preferences

Design opportunities and **design preferences** were evaluated using the refined project vision and three key design principles:

- Expression
- Sustainability
- Utility

Three-part SCDP Design Development Plan

Design preferences contained within this report will be further developed in one of the following three ways:

Preliminary Design (funding priority)

- Components that support the West Approach Bridge North, such as stormwater treatment
- Vulnerable structures like the Portage Bay Bridge
- Mobility and connectivity elements like the regional shared-use path

Conceptual Design (to define Preliminary Design scope of work)

- Large-scale conceptual approaches that engage the vision, such as “city gateway,” “natural axis” and “urban axis”
- Smaller-scale approaches that use standardized criteria to develop “Elements of Continuity and Distinction”
- **Elements of Continuity** provide consistency in the look and feel of features that are present throughout the corridor such as retaining walls, roadside plantings or the regional shared-use path
- **Elements of Distinction** offer a unique aesthetic look and feel of singular elements such as the lid portal entries or the Portage Bay Bridge
- Basic configuration for subareas such as Delmar Drive East to Boyer Avenue East connection, including the Boyer steps

Neighborhood Design (to define Preliminary Design scope of work)

- Subareas that are strongly affiliated with and “owned” by local neighborhoods and advocacy groups, such as the 10th and Delmar lid
- Designs that can be further refined by neighborhood-centric processes such as design commissions that employ local artists or design firms and encourage innovation and new technologies
- Projects may range from determining activities for lid areas, design for signage or street furniture such as benches and lighting

“Capitalize on the “blue-green” idea to make every feature reflect that ethos.”

- Expert Review Panel *Final Report on SR 520*
Westside Sustainability and Urban Design
September 24, 2011



Pedestrians strolling in the Washington Park Arboretum



Conceptual Rendering

Looking southeast at the west edge of the stormwater treatment facility area that will provide an inviting and safe pedestrian and bicycle connection to the south and the regional path to the east across the bridge

07 GLOSSARY OF TERMS



“Both the natural and built environment impact walking opportunities and can create barriers that are especially challenging for children, people with disabilities, and older residents.”

Seattle Pedestrian Master Plan,

Seattle Department of Transportation, 2009

GLOSSARY OF TERMS

Activate

To make active through programming that provides opportunities for people-watching and engagement in activities or other interesting experiences

ADA

Americans with Disabilities Act

Belvedere

A widened area of the bicycle/pedestrian path that provides a place to stop, rest, and enjoy the view. Belvederes typically include benches and interpretive signage as well as a low screen wall for protection from the main path.

DAG

Design Advisory Group comprised of community-nominated stakeholders, agencies and design professionals convened by WSDOT in 2005 to establish the corridor aesthetic framework and vision to integrate with the engineering design process for the entire SR 520 Bridge Replacement and HOV Program

DAHP

Department of Archaeology and Historic Preservation

Design Build (DB)

Design-build is a method of project delivery in which WSDOT executes a single contract with one entity (the Design-Builder) for design and construction services to provide a finished product.

Design Bid Build (DBB)

In the traditional design-bid-build format, the design process is completed independent of the construction contract. WSDOT bears the entire responsibility and risk for any design-related issues. As the owner, all responsibility for design decisions and conformance to standards rests with WSDOT.

Elements of continuity

A design approach that ensures that elements that are located throughout the project corridor, such as retaining walls, roadside planting or the regional shared-use path, are consistent in the aesthetic treatments to provide positive user guidance and experience

Elements of distinction

A design approach that ensures that the look and feel of singular project elements, such as the Portage Bay Bridge or Montlake and 10th and Delmar lid portal entries, receive unique aesthetic treatments that are sensitive to the surrounding context

ERP

Expert Review Panel

FEIS

Final Environmental Impact Statement

FHWA

Federal Highway Administration

Gateway

Gateways are natural features, such as trees or waterways, or built elements, such as a bridge, buildings, signage or art work, that define a city or area entrance or boundaries and provide a sense of identity and arrival. A gateway can be large or small in scale, linear or singular, depending on context.

HOV

High occupancy vehicle

MOHAI

Museum of History & Industry

MOU

Memorandum of understanding

Naturalistic-contemporary

A “naturalistic-contemporary” visual character describes the use of materials and structures that appear organic and well established, but with a graceful, clean finish. The term was developed through public process.

NEPA

National Environmental Policy Act

NOAA

National Oceanic and Atmospheric Administration

ROD

Record of Decision

SCDP

Seattle Community Design Process

SDC

Seattle Design Commission

SDOT

Seattle Department of Transportation

Sharrow

Pavement markings comprising the image of a cyclist with directional arrows used when bicycle lane striping is not feasible and intended to help drivers and bicyclists share the roadway by clarifying where bicyclists should ride and alerting vehicles to the presence of bicyclists

SR

State Route

SR 520 Bridge Replacement and HOV Program

The program enhances safety by replacing the aging floating bridge and keep the region moving with vital transit and roadway improvements throughout the corridor

SR 520 I-5 to Medina: Bridge Replacement and HOV Project

The project replaces the interchanges and roadway between I-5 in Seattle and the eastern end of the floating bridge

TIFIA

Transportation Infrastructure Finance and Innovation Act that provides federal funding for transportation projects

UW

University of Washington

VMT

Vehicle miles traveled

WSCDC

West Side Community Design Collaborative

WSDOT

Washington State Department of Transportation



Conceptual Rendering
Vista over 10th and Delmar lid from 10th Avenue looking east

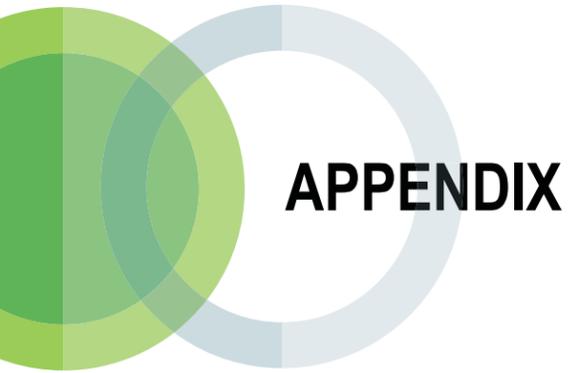
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08 APPENDIX

“In designing a system of parks and parkways the primary aim should be to secure and preserve for the use of the people as much as possible of these advantages of water and mountain views and of woodlands, well distributed and conveniently located.”

Report to Seattle Park Commissioners,

John Charles Olmsted, 1903



Public Comments

This section will include all of the public comments for this Seattle Community Design Process Final Report draft received during the public comment period from September 14 to October 5, 2012.

Olmsted Brothers' Seattle Legacy - Seven Design Principles Shaping the SR 520 Project Vision

SCENERY

"Design of 'passages of scenery' even in the small spaces and in areas intended for active use. Creation of designs that give an enhanced sense of space: indefinite boundaries, constant opening up of new views. Avoidance of hard-edge or specimen planting, creating instead designs that have either 'considerable complexity of light and shadow near the eye' or 'obscurity of detail further away.'"



Central Park, New York NY

SUITABILITY

"Creation of designs that are in keeping with the natural scenery and topography of the site: respect for, and full utilization of, the 'genius of the place.'"



Prospect Park, New York NY

STYLE

"Designing in specific styles, each for a particular effect. Primarily in the 'Pastoral' style (open greensward with small bodies of water and scattered trees and groves) for a soothing, restorative atmosphere, or in the 'Picturesque' style (profuse planting, especially with shrubs, creepers and ground cover, on steep and broken terrain), for a sense of the richness and bounteousness of nature, with chiaroscuro effects of light and shade to produce a sense of mystery."



Prospect Park, New York NY

SUBORDINATION

"Subordination of all elements, all features and objects, to the overall design and the effect it is intended to achieve. The 'Art to conceal Art.'"



Prospect Park, New York NY

SEPARATION

"Separation of areas designed in different styles, so that an 'incongruous mixture of styles' will not dilute the intended effect of each: separation of ways, in order to insure safety of use and reduce distractions for those using the space; separation of conflicting or incompatible uses."



Central Park, New York NY

SANITATION

"Provision for adequate drainage and other engineering considerations, not simply arranging of surface features. Planning or designs so that they promote both the physical and mental health of users."



Back Bay Fens, Boston MA

SERVICE

"Planning of designs so that they will serve a 'purpose of direct utility or service,' that is, will meet fundamental social and psychological needs: 'So long as considerations of utility are neglected or overridden by considerations of ornament, there will be no true Art.'"



Bethesda Terrace, Central Park, New York NY

* All quotes from Olmsted scholar Charles Beveridge <http://www.olmsted.org/the-olmsted-legacy/olmsted-theory-and-design-principles/seven-s-of-olmsteds-design>

The Olmsted Brothers In Seattle

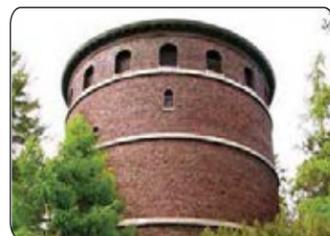
The Olmsted brothers were hired by the City of Seattle to develop a comprehensive plan for parks in 1903 and the 1909 Alaska-Yukon-Pacific Exposition design. "Although... [the] primary goal was to locate a park or a playground within one half mile of every home in Seattle, the dominant feature of the plan was a 20-mile landscaped boulevard linking most of the existing and planned parks [playgrounds and playfields,] and greenbelts within the city limits."

<http://www.seattle.gov/parks/parkspaces/olmsted.htm>

VIEWS



Lake Washington Boulevard, Seattle WA



Water Tower, Volunteer Park, Seattle WA

SHORELINES



Greenlake Park, Seattle WA

TREES AND PLANTS



Dunn Gardens, Seattle WA

DRIVES AND WALKS



Lake Washington Boulevard, Seattle WA



Wilcox Pedestrian Bridge over Lake Washington Boulevard, Seattle WA

DRAFT

October 2011

CONCEPTUAL

DRAFT - THIS SKETCH ONLY DEPICTS THE IDEAL. ENGINEERING, OPERATIONS AND ENVIRONMENTAL ANALYSIS REQUIRED.



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for public comment

Westside Operational Requirements and Commitments (per FEIS)



- Neighborhoods**
- a Add lids to reconnect neighborhoods.
 - b Minimize impacts to neighborhoods during construction.
 - c Incorporate aesthetic treatment on bridge structures.
 - d Reduce noise to the extent possible by using noise walls, noise barriers and other innovative methods.
 - e Narrow the footprint of the corridor through the neighborhoods.
 - f Reduce the height and width of the floating bridge.
 - g Minimize impacts on the Montlake Market.

- Natural Environment**
- a Remove existing R.H. Thomson and Lake Washington Boulevard ramps.
 - b Treat stormwater to meet current stormwater design and treatment standards.
 - c Minimize emissions and provide incentives for transit riders.
 - d Minimize impact to fish and wildlife habitat.

- Mobility**
- a Build a six-lane configuration with 4 general-purpose lanes and two transit/HOV lanes with narrower shoulders.
 - b Provide efficient connections for buses to/from the U-LINK station and SR 520.
 - c Provide grade-separated pedestrian crossing to U-LINK station.
 - d Improve bicycle and pedestrian connection at the Montlake/SR 520 interchange and across the Montlake Cut.
 - e Build a structure that accommodates future light rail transit.
 - f Provide bicycle and pedestrian connections across Lake Washington.
 - g Provide direct-access transit/HOV ramps to/from the east.
 - h Narrow width, lower height and incorporate a managed shoulder on Portage Bay Bridge.
 - i Reduce the number of in-water bridge columns.
 - j Replace Lake Washington Boulevard ramp function with managed access at 24th Avenue.

- Parks and recreation**
- a Minimize effects on the Arboretum and parklands adjacent to the corridor.
 - b During construction, minimize effects to Opening Day of boating season.
 - c Provide canoe access underneath SR 520 in Union Bay.
 - d Add lids to provide open space.
 - e Minimize impacts to the historical Foster Island.
 - f Remove existing R.H. Thomson and Lake Washington Boulevard ramps.

- Safety**
- a Move forward with the replacement of SR 520 as a six-lane corridor.
 - b Provide sufficient space for stalled vehicles and emergency access along the corridor.
 - c Provide grade-separated pedestrian crossing to U-LINK station.
 - d Improve bicycle and pedestrian connection at the Montlake/SR 520 interchange and across the Montlake Cut.
 - e Enhance bicycle and pedestrian connection over I-5.

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for public comment

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for public comment



ADDITIONAL INFORMATION LINKS

WSDOT Links

SR 520 Project Seattle Community Design Process (SCDP) Public Workshop Comment Summaries

<http://www.wsdot.wa.gov/Projects/SR520Bridge/I5ToMedina/scdp.htm#reports>

SR 520 Project SCDP Public Workshop Materials

<http://www.wsdot.wa.gov/Projects/SR520Bridge/I5ToMedina/scdp.htm#materials>

SR 520 I-5 to Medina: Bridge Replacement and HOV Project

<http://www.wsdot.wa.gov/Projects/SR520Bridge/I5ToMedina/Default.htm>

SR 520 Bridge Replacement and HOV Program

<http://www.wsdot.wa.gov/Projects/SR520Bridge/default.htm>

ESSB 6392 Workgroup

<http://www.wsdot.wa.gov/Projects/SR520Bridge/6392workgroup.htm>

ESSB 6392 Workgroup Reports

<http://www.wsdot.wa.gov/Projects/SR520Bridge/6392workgroup.htm#report>

SR 520 Final Environmental Impact Statement (FEIS) - June 2011

<http://www.wsdot.wa.gov/Projects/SR520Bridge/EIS.htm#FEIS>

Record of Decision - August 2011

<http://www.wsdot.wa.gov/Projects/SR520Bridge/EIS.htm#ROD>

Other Relevant Links

City of Seattle Bicycle Master Plan

<http://www.seattle.gov/transportation/bikeprogram.htm>

City of Seattle Pedestrian Master Plan

http://www.seattle.gov/transportation/pedestrian_masterplan/

Safe Routes to School

<http://www.seattle.gov/transportation/saferoutes.htm>

Seattle Complete Streets

<http://www.seattle.gov/transportation/completeStreets.htm>

Seattle Neighborhood Greenways

<http://seattlegreenways.org/>

<http://www.seattle.gov/transportation/greenways.htm>

Americans with Disabilities Act (ADA):

Materials can be provided in alternative formats for people with disabilities by contacting Shawn Murinko at 360-705-7097 or murinks@wsdot.wa.gov. Persons who are deaf or hard of hearing may contact the Office of Equal Opportunity through the Washington Relay Service at 711.

Title VI Information:

WSDOT ensures full compliance with Title VI of the Civil Rights Act of 1964 by prohibiting discrimination against any person on the basis of race, color, national origin or sex in the provision of benefits and services resulting from its federally assisted programs and activities. For questions regarding WSDOT's Title VI Program contact Jonte Sulton at 360-705-7082 or SultonJ@wsdot.wa.gov.

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**Washington State
Department of Transportation**