

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 and future compatible light rail design for the floating. "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 from Sound Transit Light Rail U-Link station to Rainier Vista and UW campus
- 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

Enhancing the Green and Open Space Network



"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

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



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

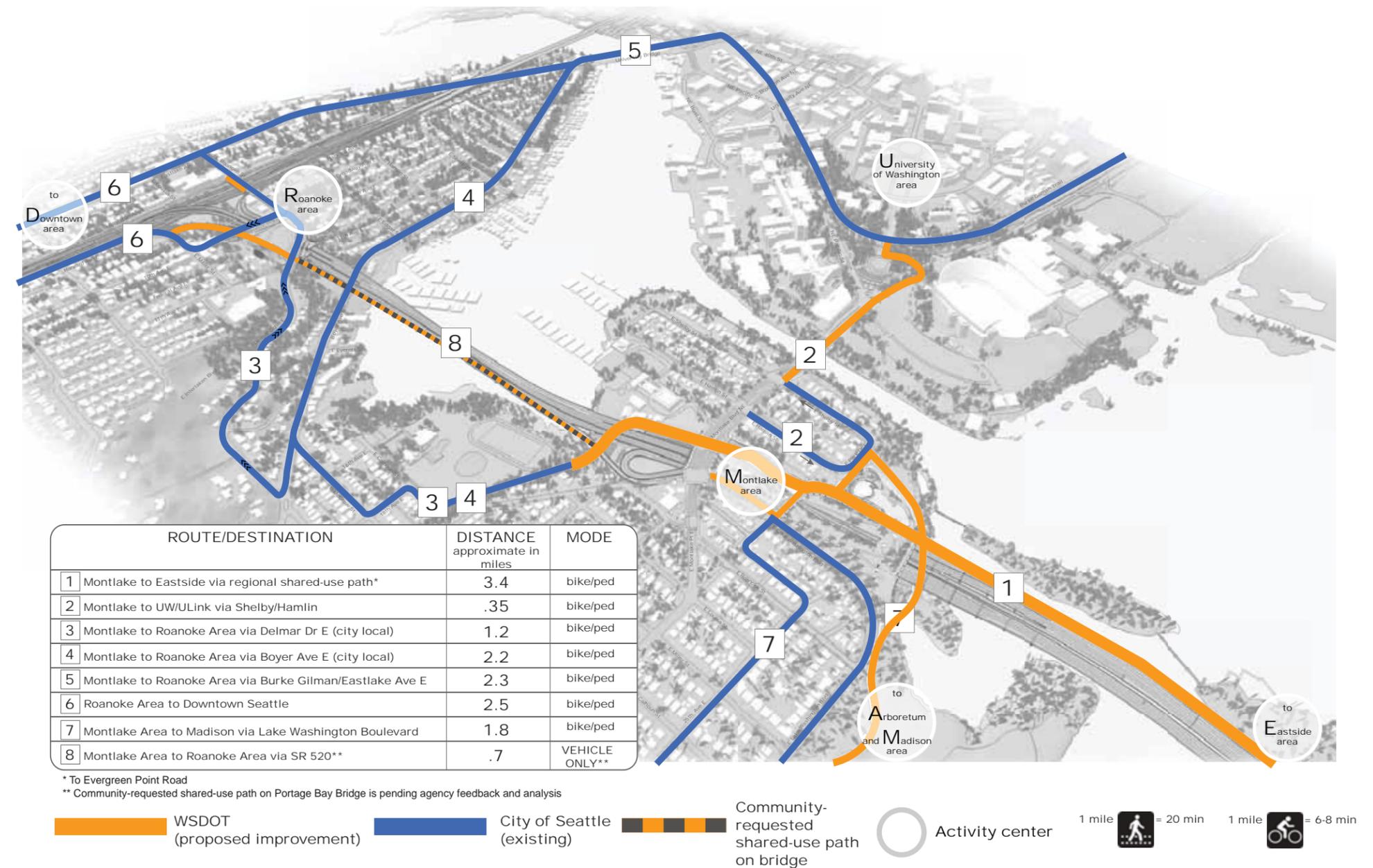
“The ability to walk and ride bicycles around the neighborhood to parks, community facilities and commercial areas is important. Safety should be addressed and walkways and trails enhanced.”

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

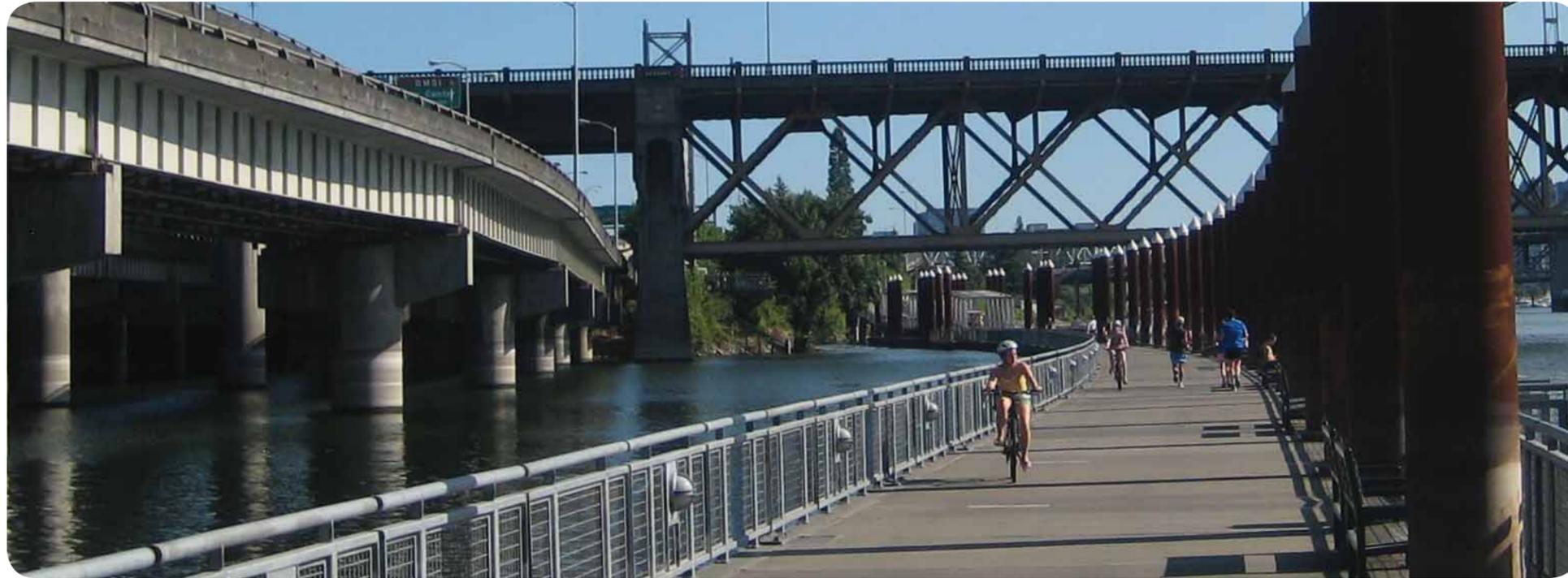
Major Routes and Destinations: Existing and Proposed Nonmotorized Travel Distances



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.

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

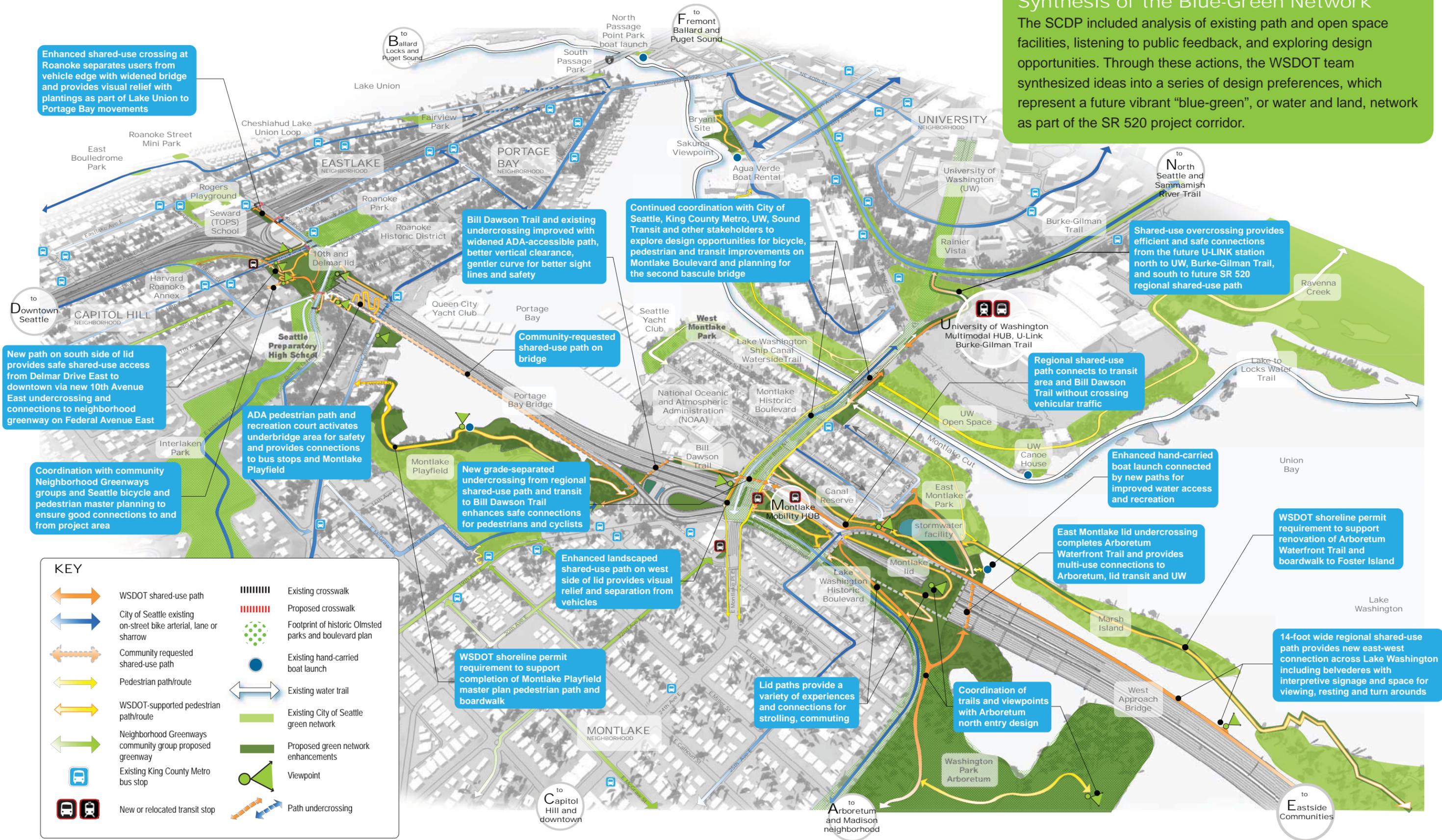
“Engineering should ensure that the city has the appropriate infrastructure to meet certain objectives: connect land uses and activity centers in the city; make cyclists and pedestrians feel and be safe; provide the appropriate amount of bicycle parking and other amenities.”

- *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.



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 path/route		Existing hand-carried boat launch
	WSDOT-supported pedestrian 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



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)