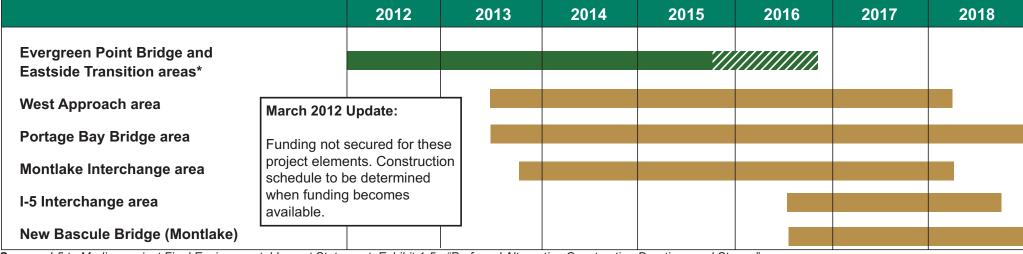




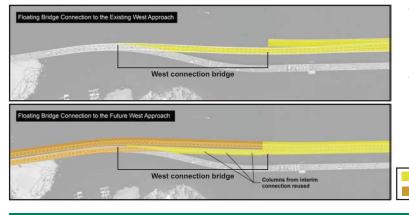


I-5 to Medina project construction sequencing



Source: I-5 to Medina project Final Environmental Impact Statement, Exhibit 1-5 - "Preferred Alternative Construction Durations and Stages"

Note: * Bridge opening as early as 2014; construction would be finalized in 2015. Final completion in 2016.



- We are committed to completing the SR 520 corridor from I-5 to Redmond, with funding needed for I-5 to the floating bridge. We are actively pursuing federal funding for the next phase of construction.
- As shown in the I-5 to Medina project final environmental impact statement, the next
 phase of construction would likely be a new West Approach Bridge. Given that the new
 floating bridge includes a west connection bridge (interim) to the old structure, WSDOT
 plans to replace the vulnerable West Approach with a new structure as soon as
 possible.
- Floating bridge and west connection bridge

 West approach bridge



I-5 to Medina: Bridge Replacement and HOV Project

How will we fund I-5 to the floating bridge?

Preferred Alternative



Earlier this year, WSDOT received direction from the Legislature to analyze how I-90 tolling could manage traffic and provide funding for SR 520 projects from I-5 to the floating bridge. By passing ESHB 2190, the Legislature has provided \$1.5 million in funding to begin the environmental process and community outreach to study I-90 tolling.

Additionally, we have also applied for a federal Transportation Infrastructure Finance and Innovation Act (TIFIA) loan, which would provide funding to construct the north half of the West Approach bridge.

We will continue to work with the Legislature to seek additional funding for construction west of the SR 520 floating bridge. WSDOT is committed to implementing the full corridor shown above in the I-5 to Medina project preferred alternative.

North half of the West Approach bridge

Why would WSDOT move forward with the West Approach bridge next?

The two remaining vulnerable, unfunded structures in the SR 520 Bridge Replacement and HOV Program are the West Approach and the Portage Bay bridges in Seattle.

Moving forward with the north half of the West Approach bridge would continue to build the corridor westward, replacing a portion of the vulnerable West Approach Bridge and maximizing available funding to begin closing the program's \$2 billion funding gap.

What additional work would be funded with West Approach bridge construction?

If the north half of the West Approach bridge were funded, construction would also begin on the following mitigation projects:

- · Public park at Bryant Building site
- Union Bay Natural Area restoration
- WSDOT Peninsula wetland restoration and ownership transfer
- · Washington Park Arboretum improvements
- West Approach Community Construction Management Plan

How will the public be involved in the West Approach bridge?

More work will be done through the Seattle Community Design Process and through the City of Seattle Memorandum of Understanding to determine other design features that could be included in the West Approach bridge.

Future design discussions will help determine how or whether we:

- Integrate the stormwater pond with a park
- · Create usable space under the bridge structure
- Improve the buffer between homes and highway
- · Separate the historic Lake Washington Boulevard from arterial traffic
- · Evaluate traffic operations at the Montlake Interchange
- Connect bicycles, pedestrians and transit to SR 520



North half of West Approach bridge would be funded by TIFIA loan.

Construction of the south half of the west approach and Montlake lid would be built with additional future funding.

CONCEPTUAL





SR 520 Sustainability

The SR 520 Bridge Replacement and HOV Program is the first program in the U.S. working to implement measurable sustainability criteria across an entire corridor. These criteria seek to improve the environmental, social, and economic welfare of communities affected by construction and operation of public infrastructure.

SR 520 Golden Thread

The SR 520 Program includes a Golden Thread of Sustainability, four key sustainability goals that are woven through the design, construction, and operation of the new SR 520 corridor. These goals are:

- Reuse, reduce, or recycle construction materials
- Reclaim existing sites and facilities for new uses
- Reduce greenhouse gases during construction and for the life of the corridor
- Improve access for all users to transportation options and community space

Eastside Transit and HOV Project

- ♦ Enhance public open space.
- Improve transit access and quality of experience.
- ♦ Recycle construction materials.
- Improve fish passage.
- Provide continuous HOV lanes.

Rendering of Evergreen Point Road lid with improved transit operations and new open space.

Floating Bridge and Landings

- Minimize in-water impacts.
- Reduce construction duration.
- Increase structural durability and life cycle costs.
- Reuse and recycle materials.
- Decommission the existing floating bridge.
- Use existing industrial sites.

New and wider culverts will provide better fish passage on the Eastside.

Westside Design and Construction

- ♦ Reduce stormwater pollution discharges to the lake.
 ♦ Assure integration of urban and sustainability design principles.
 - Increase transit and HOV access.
 - Increase access to public open space.
 - Reduce infrastructure impacts on the natural environment.
 - Reduce construction-related noise and pollution.



Pontoon construction under way at an existing site in Tacoma.



Rendering of the new path on the floating bridge that will connect cyclists and pedestrians to regional trails on both sides of Lake Washington.



SR 520 Sustainability+Urban Design Strategies and **Outcomes for Westside Design and Construction**

The SR 520 Bridge Replacement and HOV Program is the first program in the U.S. working to implement measurable sustainability criteria across the design, construction, and operational phases of the project as well as across an entire corridor. These criteria seek to improve the environmental, social, and economic welfare of communities affected by construction and operation of the corridor.

The Westside project is the final segment of the SR 520 Program and represents nearly 50% of the cost of the entire program. The project is a unique opportunity to fully integrate urban design and sustainability principles into design and construction. Strategies to accomplish this are identified for the following areas and lead to three primary outcomes.

CONNECTIVITY

- Increase transit and HOV access.
- Complete regional bicycle and walking facilities.
- Connect communities situated north and south of the corridor.
- ♦ Help complete the Olmstedian vision of connected parks and greenways.
- ♦ Improve public access to Lake Washington and Portage Bay shorelines.

ECOLOGY

- Restore natural habitat.
- Collect, treat, and return water run-off to the natural environment.
- Reduce noise and pollution during construction and for the life of the corridor.
- Reduce the accumulation of greenhouse gases (GHG) from construction materials, traffic delays during construction, and on-going operation of the corridor.

MATERIALS

- Reduce use of new materials through use of recycled materials and product innovation.
- Obtain 'locally sourced' materials to help the regional economy and reduce transportation-generated GHG.
- Reduce the use of carbon-intensive materials.
- Select materials and systems on a life-cycle cost basis.

OUTCOMES

- Improved transit, cycling, and walking options can lead to more economically robust and 'livable' communities.
- Increased modal options, decreased congestion due to construction, improved long-term operations of the highway, and use of lower carbon intensive materials can lead to improved short-term and long-term air quality.
- Life cycle material and systems selection leads to better long-term value.



Community connections



Collect and treat run-off



Locally sourced materials



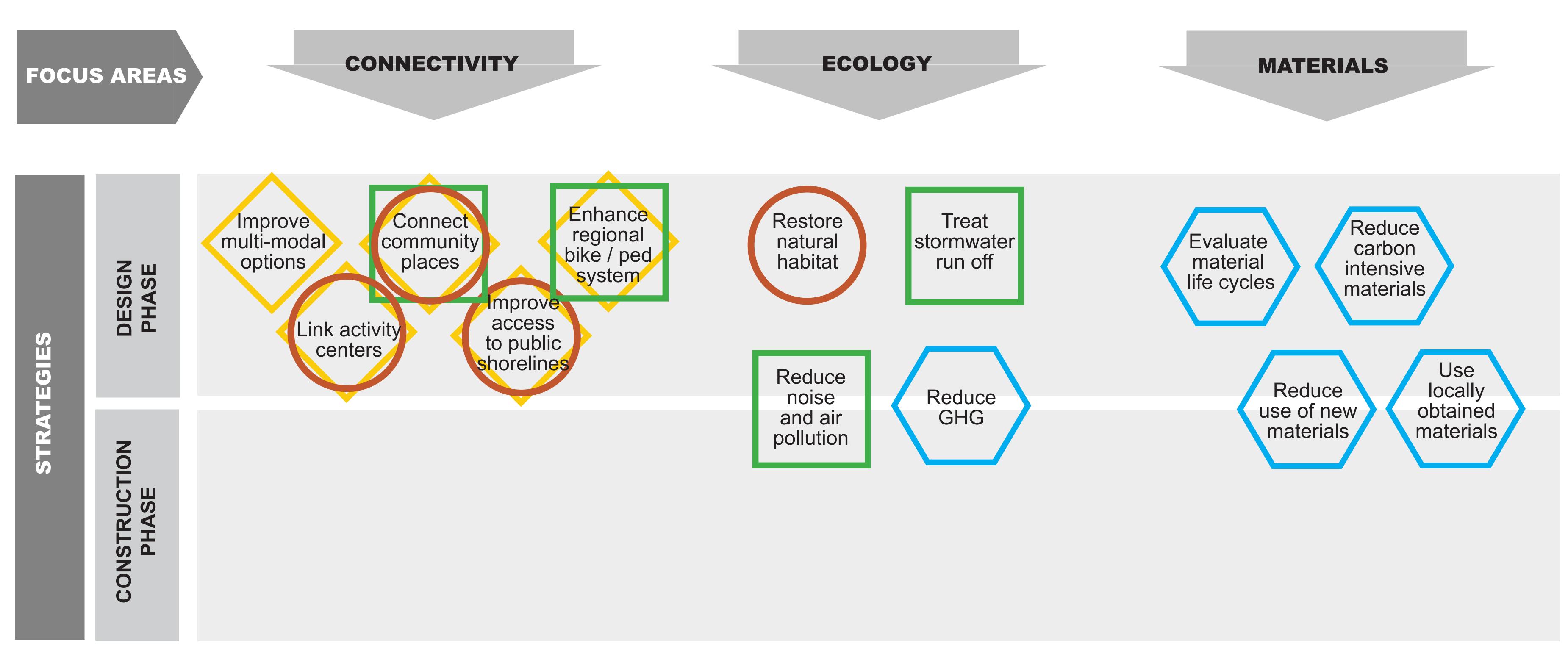
Multi-modal options

I-5 to Medina: Bridge Replacement and HOV Project



Sustainability Strategies for Westside Design

This diagram illustrates the connections between desired sustainability outcomes and the associated criteria for the design and construction phases of the corridor.













Seattle Community Design Process - How it all Connects











SR 520 Bicycle, Pedestrian, Transit and Water Network

Partnering to Connect the Gaps between Seattle's Neighborhoods, Parks and Activity Centers

Description

Seattle has a vibrant and growing bicycle and pedestrian network. Existing routes help people to connect safely and efficiently to work, home, parks and other activity centers. The SR 520 Regional Bicycle and Pedestrian Shared Use Path will improve mobility in the local and regional network by filling gaps in the network with a major new east-twest non-motorized link between Redmond and Seattle. The SR 520 non-motorized path complements proposed improvements by the City of Seattle, Washington Park Arborotum Master Plan, and the University of Washington. The character of the SR 520 Regional Path and its connections to the local Seattle network will be shaped by public feedback and interagency cooperation.

Design Goals

Access and mobility

- Mobility between and through neighborhoods with convenient travel options and 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 non-motorized traffic volumes.

Health and safety

- Safe and interesting cycling and walking routes to attract the most users for recreation and health.
- Reduction of potential conflicts among cyclists, pedestrians and vehicles to prevent accidents and promote traffic calming.
- Promoting commute-trip reduction (CTR), congestion, and greenhouse gas (GHG) reduction

Character and clarity

- Building connections to and through green open space networks which can support multiple uses.
- Use of paths to activate open spaces and lids, and make easy connections to activity centers.
- Clear wayfinding (good signage) to promote cycling and walking as an everyday activity for travel.











East Lake Washington Boulevard - Baseline Design

Description

East Lake Washington Boulevard is a historic Olmsted Boulevard that provides connection through the Montlake neighborhood and the Arboretum

Function

- Accommodate traffic accessing SR 520 and local streets
- Maintain existing on-street parking and access to adjacent homes
- Create new and improved bicycle/pedestrian connections
- Provide access to the Montlake lid operations and maintenance building
- Provide a planted median to buffer traffic, noise, and visual effects

Design Goals

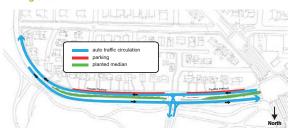
- Integrate design elements that reflect the character of a historic boulevard
- Establish a new gateway to the Arboretum
- Improve bicycle/pedestrian linkages to the Arboretum and the surrounding neighborhoods
- Buffer noise, visual, and traffic effects of the project from adjacent homes and surrounding neighborhoods
- Reduce opportunities for "cut-through" traffic in the neighborhood

Sustainability Opportunities

- Connectivity Complete key regional connections
- Ecology Increase green and open spaces
- Materials Reduced paving materials



Bird's eye looking south



Automobile traffic circulation



Perspective section looking west, see location above









East Lake Washington Boulevard - Option A Parkway

Refinement Opportunity

 Maintains the couplet (split two-way traffic) roadway design and introduces a wider planted median

Benefits

- Wider median creates additional planted buffer from westbound traffic on East Lake Washington Boulevard
- Enhances the Olmsted character of the boulevard
- Enhances an opportunity for an Arboretum entrance feature

Considerations

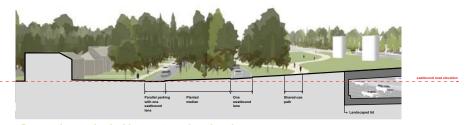
- Explore improved bike and pedestrian linkages to Arboretum and adjacent neighborhoods
- Opportunities for how the wider median is designed and utilized
- Opportunities for elevation change at median and westbound lane to help buffer noise and views of traffic



Bird's eye looking south



Automobile traffic circulation



Perspective section looking west, see location above









East Lake Washington Boulevard - Option B Local Access Road

Refinement Opportunity

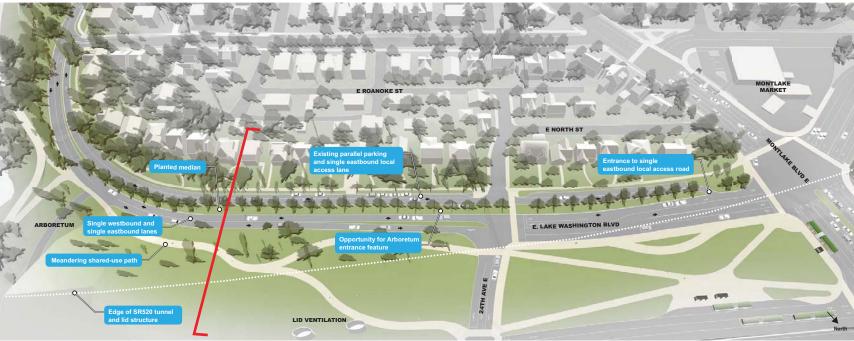
- Reconfigures roadway with eastbound and westbound lanes north of the planted median
- Maintains existing historic roadway as one-way eastbound local access with parallel parking

Benefits

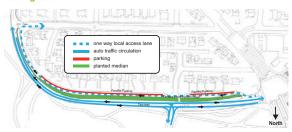
- Enhances an opportunity for Arboretum entrance feature
- Separates local traffic from regional traffic
- Buffers majority of traffic from adjacent homes

Considerations

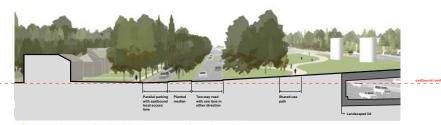
- Restricts through traffic on 24th Avenue across East Lake Washington Boulevard
- May be perceived as less Olmsted (historic) in design character
- May result in additional paved area



Bird's eye looking south



Automobile traffic circulation



Perspective section looking west, see location above









Montlake Lid Operations & Maintenance Facility - Description & Program Summary

Description

The length of the Montlake lid requires ventilation, fire and life safety equipment, and an Operations and Maintenance (O&M) Facility. The project will continue to coordinate with FHWA and the City of Seattle on the specific requirements. Two potential locations for this facility have been identified: 1) on top of the lid just east of 24th Avenue East, or 2) set into the slope at the SE corner of the lid. The requirements include two large vent stacks that need to be located on top of the lid to the east of 24th Avenue East.

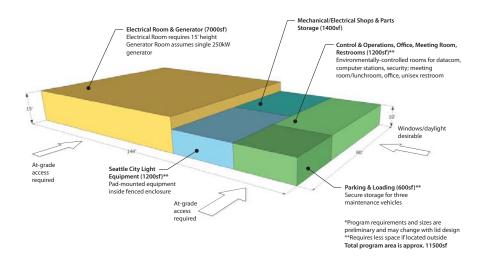
Function

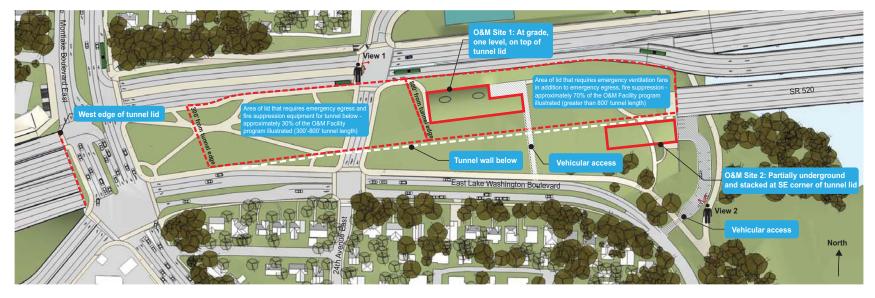
- Contain electrical and mechanical equipment and shop space requirements of both regular and emergency ventilation for the tunnel under the lid as well as maintenance requirements of the west approach bridge
- Provide a minor amount of required office and work space for daily staff necessary for the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

Design Goals

- Reduce visual impacts from East Lake Washington Boulevard
- Integrate the building into the landscape as much as possible

O&M Facility Program Summary*





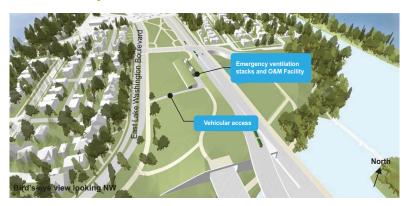






Montlake Lid Operations & Maintenance Facility - Potential Locations

Site 1: On top of tunnel lid



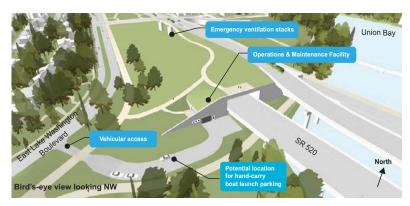


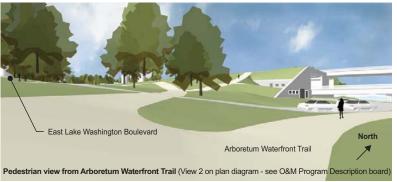
O&M Facility Precedent -On Top of Lid

View of Operations & Maintenance Facility for the 3,400'-long Mount Baker tunnel and lid. The facility is located on top of the tunnel lid within Sam Smith Park.



Site 2: SE corner of tunnel lid





O&M Facility Precedent -Under Lid

View of Operations & Maintenance Facility for the 2,600'-long I-90 Mercer Island lid with vent stacks shown in background. The Montlake Lid facilities will be smaller due to the shorter 1,400' lid length.











East Montlake Shoreline - Baseline Design

Description

The East Montlake shoreline includes the area under the western landing of the new west approach bridge structure that connects the Arboretum to East Montlake Park. The abutment is located approximately 20' from the water at its narrowest spot at the northeast corner, with approximately 10' of clearance.

Function

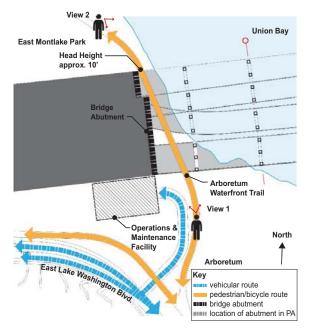
- Accommodate the abutment foundation for the west end of the new west approach bridge
- Accommodate a new 14'-wide bicycle/pedestrian path connection along the shoreline between East Montlake Park and the Arboretum

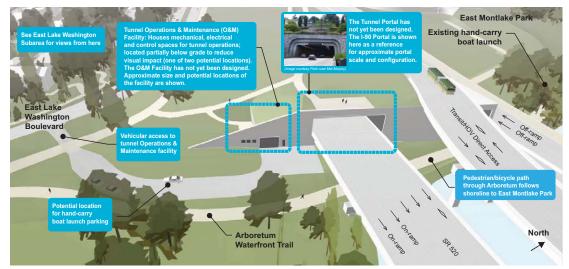
Design Goals

- Provide an inviting and safe experience for bicyclists and pedestrians traveling under the SR 520 bridge and along the edge of the shoreline
- Discourage undesirable and unintended uses by providing adequate sightlines and encouraging active public uses of the areas near and under the bridge
- Integrate the highway with the surrounding park and natural landscape

Sustainability Opportunities

- Connectivity Provide a pedestrian and bicycle connection from East Lake Washington Boulevard and the Arboretum to East Montlake Park
- Ecology Minimize project effects on the adjacent shoreline
- Materials Use permeable paving to the extent possible for required access, parking, and loading areas for the lid operations and maintenance facility



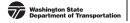














East Montlake Shoreline - Option A Stepped Abutment

Refinement Opportunity

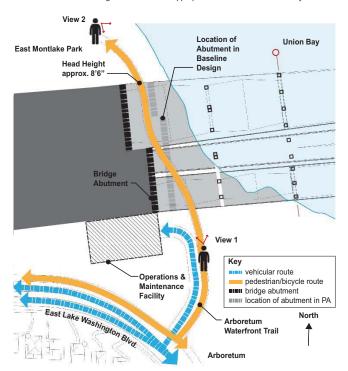
- Option A modifies the baseline design into two adjacent 'stepped' abutments which increase the width for the path along the shoreline
- Incorporates changes to the bridge column and beam designs that maximize headroom and views toward the water
- Allows for a required tunnel Operations and Maintenance building at the southeast corner
 of the lid (one of two potential locations)

Benefits

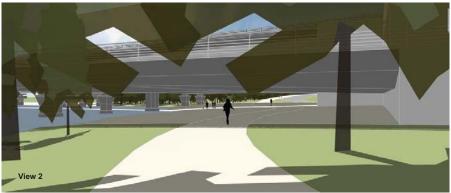
- Provides a more inviting space under the bridge structure for the path
- Increases the visual sightlines along the path (abutment changes) and toward the water (column/beam design changes)

Considerations

- Reduces the area of the lid at the northeast corner
- Creates a larger covered space than the baseline to accommodate both potential public
 activities under the bridge and to maintain appropriate maintenance and security access







Precedents for public spaces below bridge structures



"Moodwall," Amsterdam Light sculpture (image courtesty Flickr user Golfstromen)



Marsupial Bridge, Milwaukee
Public seating, outdoor movie screen



Zaanstad, The Netherlands Kayak launch









East Montlake Shoreline - Option B Larger Setback

Refinement Opportunity

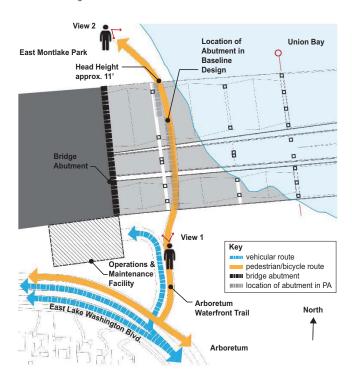
- Option B modifies the baseline design by shifting the entire abutment to the west and creates a large space under the bridge
- Incorporates changes to the bridge column and beam designs that maximize headroom and views toward the water
- Allows for a required tunnel Operations and Maintenance building at the southeast corner
 of the lid (one of two potential locations)

Benefits

- Provides a more inviting space under the bridge structure for the bicycle/pedestrian path
- Increases the visual sightlines along the path (abutment changes) and toward the water (column/beam design changes)

Considerations

- Reduces the area of the lid along the entire eastern edge
- Creates the largest covered space compared to the baseline potential public activities under the bridge







Precedents for public spaces below bridge structures



Buffalo Bayou Promenade, Houston Multi-use trail (Image courtesty Flickr user D.Foss)



North False Creek, Vancouver, BC Secure kayak storage



North False Creek, Vancouver, BC Soccer/basketball court, playground (image courtesty Davidya Kasperzyk, WSDOT)









East Montlake Shoreline - Transit/HOV Off-ramp Options

Refinement Opportunity

• The Transit/HOV on/off-ramps are lowered at the east end of the lid

Design Option: Baseline Transit/HOV Off-ramps







Benefit

Reduced visual effects from both East Lake Washington Boulevard and East Montlake Park

Consideration

The useable area of the lid is reduced

Design Option: Lowered Transit/HOV Off-ramps













East Montlake Park - Baseline Design Constructed Wetland Concept

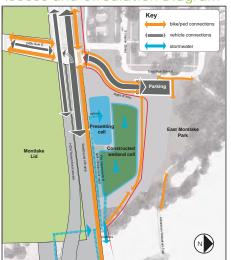
Description

A planned west side enhanced stormwater treatment facility will occupy the current site of McCurdy Park and the Museum of History & Industry.

Currently all stormwater is untreated and discharged into Lake Washington.

The baseline design calls for a constructed wetland type of facility to treat stormwater runoff. East Montlake Park, to the north, is retained as a neighborhood park and intended to serve the surrounding neighborhoods.

Access and Circulation Diagram



Precedents





Function

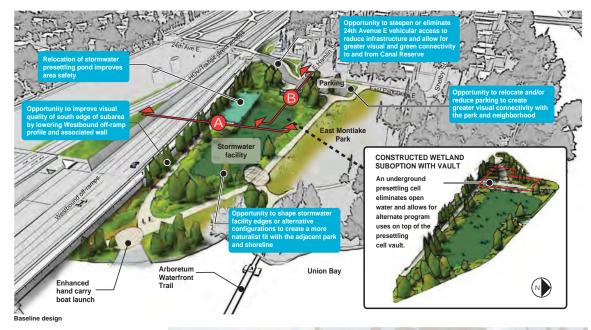
- Treat all stormwater runoff from new SR 520 west approach bridge and floating bridge as well as the Montlake lid area
- Facilitate regional bicycle/pedestrian path and north-south bicycle/pedestrian connections at 24th Avenue E
- · Provide access to the Arboretum and waterfront trail
- · Replace the existing hand carry boat launch with new facility
- Potential location of tunnel fire suppression and spill containment vault

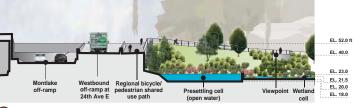
Design Goals

- Integrate functional requirements with the current design of East Montlake Park and shoreline
- Reduce visual and noise impacts on the adjacent homes along East Hamlin Street and East Park Drive E
- · Preserve and provide scenic viewpoints

Sustainability Options

- Connectivity accomodate the bicycle/pedestrian path
- Ecology treat stormwater and enhance shoreline habitat
- Materials lowered westbound off-ramp and potential alternative parking access reduces amount of material needed















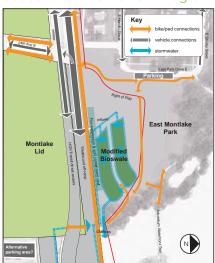


East Montlake Park - Option A Modified Bioswale

Refinement Opportunity

- This design option evaluates the opportunities associated with a modified bioswale to treat stormwater
- The bioswale treats stormwater to the same standard as the constructed wetland proposed in the baseline design, but in a smaller area and does not require standing water

Access and Circulation Diagram



Precedents





Modified Bioswale

Modified Bioswale with sediment trap

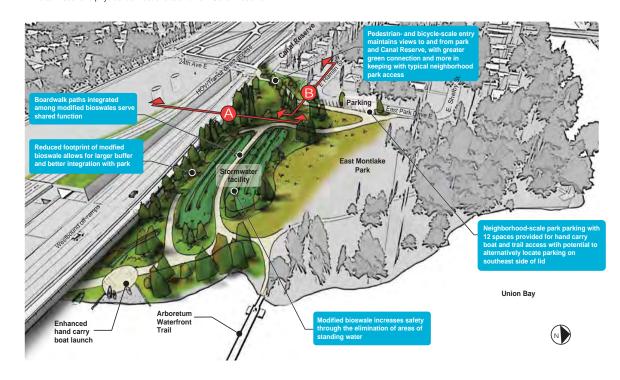
This option also illustrates a reduced number of parking spaces for the park as well as alternate parking access from local streets

Benefits

- Reduced facility area and meadow-like character allows for more opportunities to integrate the design with the adjacent park
- · Parking location maintains usable green space in the neighborhood park
- · Better visual and physical connections to and from Canal Reserve

Considerations

- Less wetland habitat
- · Bioswale areas are not accessible to public except by boardwalks
- Requires further technical evaluation by regulatory agencies before it can be an approved option













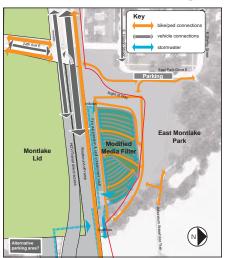


East Montlake Park - Option B Modified Media Filter Drain Concept

Refinement Opportunity

- · This design option evaluates the opportunities associated with a modified media filter drain concept design to treat stormwater
- · This design treats stormwater to the same standard as the constructed wetland proposed in the baseline design, but with a different method of filtering the stormwater that does not result in standing water

Access and Circulation Diagram



Precedents







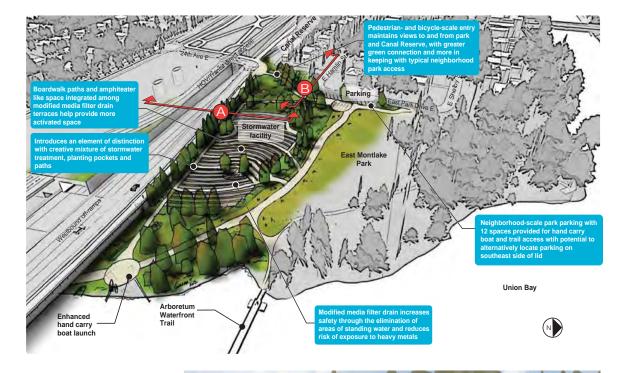
. This option also illustrates a reduced number of parking spaces for the park as well as parking access from local streets

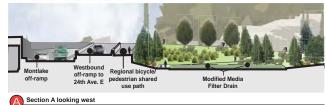
Benefits

- Opportunity for more public access stormwater facility using boardwalk paths
- · No standing or open water
- · Parking location matains usable green space in the neighborhood park
- · Better visual and physical connections to and from Canal Reserve

Considerations

- · Larger stormwater facility footprint; less available green space for integration with the park
- · Provides less habitat value for wildlife
- · Character of facility is most "urban" aesthetically in contrast to other facility alternatives and meadow-like adjacent park
- · Requires further evaluation by regulatory agencies for approval







Section B looking south



Modified Media

shared use path





Canal Reserve - Baseline Design

Description

The Canal Reserve area contains original Arboretum specimen plantings along its northwest edge. Currently public access is from the existing adjacent alley behind East Hamlin Street



Plan view of existing condition







Existing looking

Sustainability Opportunities

- Connectivity Make important pedestrian and bicycle connections
- Ecology Preserve existing trees
- Materials Requires less material than the baseline off-ramp configuration

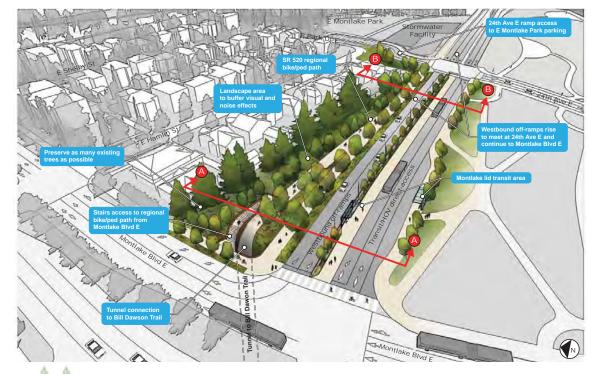


Function

- Accommodate the new SR 520 westbound off-ramp configuration
- Provide a safe and usable connection for the new regional bicycle/pedestrian path
- Buffer traffic noise and visual effects

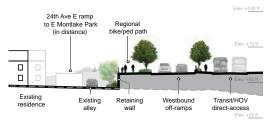
Design Goals

- Determine the most appropriate configuration and use of the public space
- Reduce visual and noise effects on the adjacent homes
- Preserve the maximum number of trees
- Create an inviting and safe bicycle and pedestrian environment

















Canal Reserve - Option A Path Adjacent to Off-ramps

Refinement Opportunity

Modifies the baseline design by lowering the westbound off-ramp under 24th Avenue East and realigns the bicycle/pedestrian path closer to the westbound off-ramp



Plan view of Option A

Precedents



Example of a tunnel connection that is safe and pleasant to travel through (photo source: Prein & Newhof)



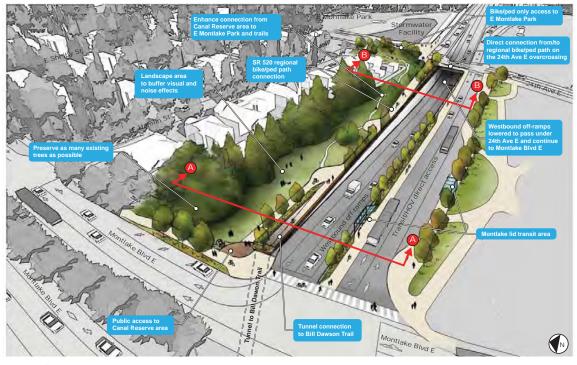
Example of a park-like environment with path and open space (photo source: Chris Devers, Flickr)

Benefits

- Reduces noise and visual effects from the westbound off-ramp
- Increases opportunity to preserve existing trees
- Opportunity to better activate the area and connect to adjacent greenspaces

Considerations

- Design of the regional bicycle/pedestrian tunnel entrance
- Coordination with the Arboretum for potential usage of the area













Canal Reserve - Option B Path on Lid

Refinement Opportunity

Modifies the baseline design by lowering the westbound off-ramp under 24th Avenue East and realigns the bicycle/pedestrian path from the Canal Reserve area onto the Montlake lid



Plan view of option B

Precedents



Opportunity for wall and landscape treatment along bike/ped path



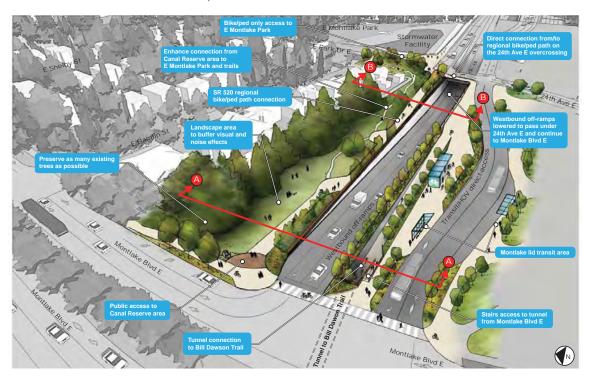
Opportunity to incorporate bicycle facility on the lid and near the regional bike/ped path (photo source: Steven Vance, Flickr)

Benefits

- Reduces noise and visual impacts from the westbound off-ramp
- Increases opportunity to preserve existing trees
- Opportunity to better activate the area and connect to adjacent greenspaces
- More direct connection to the Montlake lid transit stops

Considerations

- Design of the regional bicycle/pedestrian tunnel entrance
- Coordination with the Arboretum for potential usage of the area
- Potential adverse imapct at Montlake interchange area













Montlake Boulevard East - Baseline Design

Description

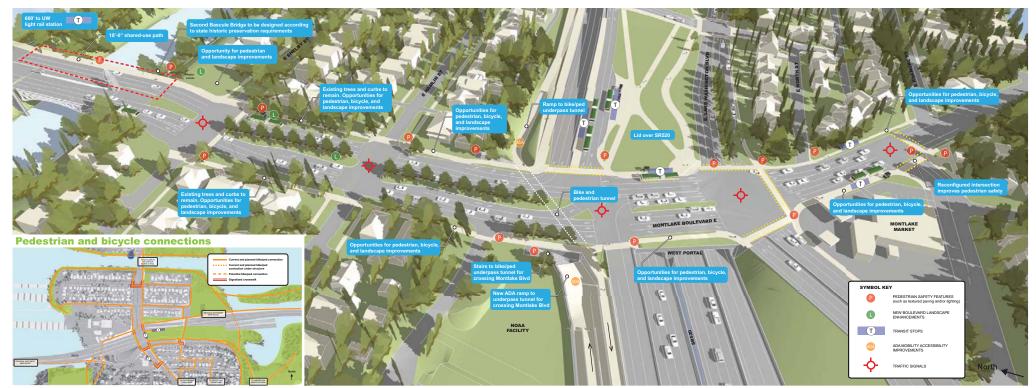
Montlake Boulevard East north of Lake Washington Boulevard is designated as part of the historic Lake Washington Boulevard, a state route, and serves regional and multi-modal connections. Montlake Boulevard near SR 520 and the ship canal is a busy crossroads of activity for local and regional travel.

Function

- Accommodate multi-mode mobility (pedestrian, bicycle, transit, freight, and vehicle) for movement through and to this area
- Coordinate requirements of SDOT, King County Metro, Sound Transit, and WSDOT

Design Goals

- Improve pedestrian and bicycle continuity, safety, and experience
- Enhance the Olmsted features and character of the designated historic boulevard
- Create a more cohesive and less cluttered visual environment











Montlake Boulevard East

Areas of Opportunity on Montlake Boulevard East

Three unique areas exist along the boulevard where a variety of program uses or design ideas are possible.

The areas are:

- 1.) Adjacent the future second bascule bridge
- 2.) Both sides of Montlake Boulevard at the new lid
- 3.) Public property adjacent the Montlake Market

Further exploration of the design opportunities on Montlake Boulevard will occur in coordination with the City of Seattle,

King County Metro, Sound Transit, the Department of Archeology and Historic Preservation and the University of Washington.

