

*Attachment 9*  
***Arboretum Mitigation Plan***





## Washington Park Arboretum Mitigation Plan

December 22, 2010





Dec. 22, 2010

TO: Governor Chris Gregoire  
Washington State Senate and House Transportation Committee members

FROM: David L. Dye, Washington State Department of Transportation

SUBJECT: ESSB 6392 Washington Park Arboretum Mitigation Plan

Please find attached WSDOT's final Washington Park Arboretum Mitigation Plan. As required by the Engrossed Substitute Senate Bill 6392, WSDOT consulted with the Arboretum and Botanical Garden Committee (ABGC) from May to December 2010 to develop a mitigation plan for anticipated effects from the SR 520, I-5 to Medina Project preferred alternative in the Arboretum. The ABGC is composed of representatives from the city of Seattle (Seattle Parks and Recreation and mayoral appointees), University of Washington, Arboretum Foundation and Washington State Governor's office. The Seattle Department of Transportation also participated in ABGC coordination meetings as needed to discuss traffic calming and traffic management in the Arboretum.

Based on coordination with the ABGC and WSDOT's technical evaluation, WSDOT identified a suite of projects that could mitigate for the anticipated adverse effects of the I-5 to Medina project on the parks and wetlands within the Arboretum. These projects are described in the Arboretum Mitigation Plan, which was approved by the ABGC in early December. The plan also provides an overview of the public comments submitted during the public comment period.

Anticipated effects and associated mitigation measures for the I-5 to Medina project, including those described in this plan, will be memorialized in the final environmental impact statement (EIS) that will be published in spring 2011. After the final EIS is published we will obtain a record of decision and move forward with construction permits. WSDOT will continue to work with the ABGC to scope identified mitigation projects to better understand their scale and estimated cost. WSDOT will also facilitate coordination between the ABGC and interested tribes regarding potential design concepts and improvements on Foster Island. Finally, WSDOT will continue to coordinate with SDOT and the ABGC to implement traffic calming measures in the Arboretum in 2011 and develop a traffic management plan for the Arboretum.

We appreciate your review of these recommendations and look forward to working with the Legislature to obtain funding for SR 520 corridor plans from I-5 to the floating bridge. Construction of these elements will also allow us to move forward with implementation of the identified mitigation measures.

Sincerely,



David L. Dye, Deputy Secretary  
Washington State Department of Transportation





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# Arboretum Mitigation Plan | Executive summary

## What is the purpose of this plan?

During the 2010 legislative session, the Washington State Legislature passed and Governor Gregoire signed Engrossed Substitute Senate Bill (ESSB) 6392. Among other requirements, this bill directed the Washington State Department of Transportation (WSDOT) to consult with the governing board of the Washington Park Arboretum (the Arboretum), the city of Seattle and the University of Washington to develop a mitigation plan for the SR 520, I-5 to Medina: Bridge Replacement and HOV Project (I-5 to Medina project) effects on the Arboretum. This Arboretum mitigation report was prepared as a response to the direction of ESSB 6392. This plan describes the Arboretum and existing conditions, coordination processes, anticipated effects from the new SR 520 highway, recommended mitigation measures in the Arboretum and next steps for implementation.

## How is the Arboretum managed?

The Arboretum is managed cooperatively by Seattle Parks and Recreation and the University of Washington. The Arboretum Foundation is its major support organization. The city of Seattle owns the Arboretum's land and buildings, Seattle Parks and Recreation maintains the park functions and the University of Washington owns, maintains and manages the plant collections and associated programs. The Arboretum and Botanical Garden Committee (ABGC) is the legally mandated advisory committee for the Arboretum, established by the Arboretum's enabling legislation in 1934. It is composed of nine members appointed by the University of Washington, city of Seattle, the Governor and the Arboretum Foundation. The ABGC advises the owners and managers of the Arboretum (Seattle Parks and Recreation and the University of Washington) on important issues such as the 2001 Arboretum Master Plan and mitigation for the SR 520 project.

## How did WSDOT consult with the governing board of the Arboretum?

Through coordination with the ABGC, city of Seattle and University of Washington, WSDOT identified the ABGC as the appropriate advisory committee for consulting

on Arboretum mitigation. The ABGC members include representatives from the Arboretum Foundation, the city of Seattle, the University of Washington and a Washington State Governor's Office representative. Prior to the working meetings, the ABGC adopted *Guiding Principles for the I-5 to Medina Project* that stressed the importance of reducing and possibly alleviating the effects of the I-5 to Medina project to the Arboretum through design, construction and operation of SR 520.

Through a series of 12 meetings starting in May 2010, WSDOT consulted with the ABGC to develop an initial list of mitigation ideas addressing park and natural resource effects within the Arboretum. The ABGC provided WSDOT with a prioritized list of projects derived from the 2001 Arboretum Master Plan, a long-range master plan for the Arboretum adopted by the Seattle City Council, the University of Washington Board of Regents and the Arboretum Foundation. Some projects could potentially be funded by WSDOT as mitigation measures. WSDOT then conducted an evaluation to screen this initial list of potential mitigation projects to ensure that they addressed identified project effects and met regulatory requirements. WSDOT and the ABGC also discussed noise effects of the project, as measures to address noise in the Arboretum are included as part of the I-5 to Medina project. The Seattle Department of Transportation (SDOT) also participated in ABGC meetings as needed to



*The existing ramps in the Arboretum will be removed as part of the I-5 to Medina project.*

develop measures to address traffic in the Arboretum, as suggested by the Seattle City Council in their April 2010 and September 2010 letters (Appendix D).

Throughout the discussions, ABGC members stressed the importance of protecting the Arboretum, as they believe it is one of the most respected and loved educational and cultural resources in the Pacific Northwest. When the original SR 520 was built, environmental regulations protecting park land and wetlands were not in place and the Arboretum suffered damage and property loss. The ABGC stressed throughout their discussions with WSDOT that the region now has an opportunity to design a roadway that will protect the Arboretum from excessive traffic volumes along Lake Washington Boulevard, address traffic safety concerns and reduce noise and aesthetic effects in the park.

### **What are the results of the Arboretum coordination process?**

Based on consultation with the ABGC and WSDOT's technical evaluation, WSDOT identified a suite of projects that could mitigate for anticipated adverse effects of the I-5 to Medina project on the parks and natural resources within the Arboretum. Some of these projects would be implemented by WSDOT in conjunction with SR 520 construction, and others would be funded by WSDOT and implemented by the city of Seattle or the University of Washington. The ABGC will be actively involved in the design process for all of these projects. The ABGC and WSDOT will continue to clarify the scope of each mitigation project, timing of implementation and implementation responsibility. These projects are described in detail in this plan and shown on the graphic



*The SR 520 ramps are currently located above water and park areas of the Arboretum. These will be removed as part of the I-5 to Medina project.*

titled “WSDOT Evaluation of Potential Mitigation Projects in Washington Park Arboretum.” In addition, WSDOT will continue to coordinate with the ABGC on urban design standards, landscaping, aesthetics, and construction through future processes, such as development of a community construction management plan. These coordination efforts are described in more detail in the “Next steps and future coordination” section of this plan.

Although the I-5 to Medina project would reduce traffic volumes on Lake Washington Boulevard in 2030 when compared to no action (or no build), WSDOT and SDOT recognize that the ABGC is concerned with traffic volumes in the Arboretum resulting from traffic currently using Lake Washington Boulevard to access SR 520. WSDOT, SDOT and the ABGC discussed traffic management and traffic calming measures in ABGC meetings. Some traffic calming measures collaboratively identified will be funded by WSDOT and implemented by SDOT starting in 2011. SDOT is also working collaboratively with WSDOT to evaluate a number of traffic management measures, as described in their Arboretum Traffic Management Evaluation Matrix (Appendix F), which will be considered and may be recommended by SDOT.

- Consult with and receive concurrence from tribes on any improvements to Foster Island, including restoration of the ramp area.
- Include the ABGC in future work on urban design concepts and related design details to ensure that they fit both within WSDOT’s overall I-5 to Medina corridor design and within the context of the Arboretum.

## **Next steps**

WSDOT and the ABGC identified the need for additional coordination to address outstanding topics and accomplish the next steps, including the following:

- Develop scopes and estimated costs for the recommended mitigation projects and a timeline for implementation.
- Develop a series of agreements to implement the mitigation projects and processes identified in this plan.
- Identify and implement appropriate traffic calming measures for the Arboretum with SDOT (see Appendix E).
- Further evaluate traffic management measures for the Arboretum with SDOT (see Appendix F).
- Continue to work with regulatory agencies (listed in the full Arboretum Mitigation Plan) to clarify implementation, potential monitoring and other requirements associated with regulated mitigation.

# Arboretum Mitigation Plan |

## Background

### What is ESSB 6392 and how does it relate to mitigation in the Arboretum?

During the 2010 legislative session, the Washington State Legislature passed Engrossed Senate Substitute Bill (ESSB) 6392. Signed into law by Governor Gregoire, the bill directed the Washington State Department of Transportation (WSDOT) to work with the governing board of the Washington Park Arboretum (Arboretum), the Mayor and City Council of the city of Seattle and the University of Washington to develop a mitigation plan for the effects from the SR 520, I-5 to Medina: Bridge Replacement and HOV Project (I-5 to Medina project) on the Arboretum. This legislation specifically requires WSDOT to develop:

*A plan to address mitigation as a result of the state route number 520 bridge replacement and HOV program at the Washington park arboretum. As part of its process, the department shall consult with the governing board of the Washington park arboretum, the Seattle city council and mayor and the University of Washington to identify all mitigation required by state and federal law resulting from the state route number 520 bridge replacement and HOV program's impact on the arboretum, and to develop a project mitigation plan to address these impacts. The department shall submit the mitigation plan by December 31, 2010, to the governor and the transportation committees of the legislature. Wetland mitigation required by state and federal law as a result of the state route number 520 bridge replacement and HOV program's impacts on the arboretum must, to the greatest extent practicable, include on-site wetland mitigation at the Washington park arboretum, and must enhance the Washington park arboretum. This subsection (4) (b) (v) does not preclude any other mitigation planned for the Washington park arboretum as a result of the state route number 520 bridge replacement and HOV program.*

The Arboretum and Botanical Garden Committee (ABGC) acted as the lead for consulting with WSDOT on Arboretum mitigation. The ABGC is the legally mandated advisory committee to the owners and managers of the Arboretum and is composed of representatives

### **Arboretum and Botanical Garden Committee Voting Members**

#### *Arboretum Foundation*

- *Paige Miller, Arboretum Foundation Executive Director*
- *Barbara Wright, Arboretum Foundation Immediate Past President and ABGC Chair*

#### *City of Seattle*

- *Jack Collins, Citizen Mayoral Appointee*
- *Donald Harris, Seattle Parks and Recreation Planning and Development Manager*
- *Kjris Lund, Citizen Mayoral Appointee*

#### *University of Washington*

- *Theresa Doherty, University of Washington, Assistant Vice President for Regional Affairs*
- *Sandra Lier, University of Washington Botanic Gardens Executive Director*
- *Iain Robertson, University of Washington Associate Professor, Department of Landscape Architecture*

#### *State of Washington*

- *Dave Towne, Washington State Governor's Appointee*

#### *Additional ABGC participating members:*

- *Nancy Belcher, Arboretum Foundation*
- *David Graves, Seattle Parks and Recreation Senior Planner*
- *Fred Hoyt, University of Washington Botanic Gardens Associate Director*
- *Michael Shiosaki, Seattle Parks and Recreation Planning and Development Deputy Director*

from the University of Washington, the city of Seattle, the Arboretum Foundation, and a Washington State Governor's Office representative. Its mission is to advise the owners and managers on the management and stewardship of the Arboretum for the benefit of current and future generations. WSDOT has met with the ABGC regularly since May 2010 to build a common understanding of the project effects and then to identify and define Arboretum mitigation per the requirements of ESSB 6392. The Seattle Department of Transportation (SDOT) participated in ABGC meetings as needed to develop measures to address traffic speeds and volumes in the Arboretum.

This Arboretum Mitigation Plan summarizes WSDOT's commitment to mitigate for effects of the I-5 to Medina project on the Arboretum. WSDOT's coordination efforts with the ABGC, anticipated effects to the Arboretum, proposed Arboretum mitigation projects, and future and ongoing coordination steps are described within this plan.

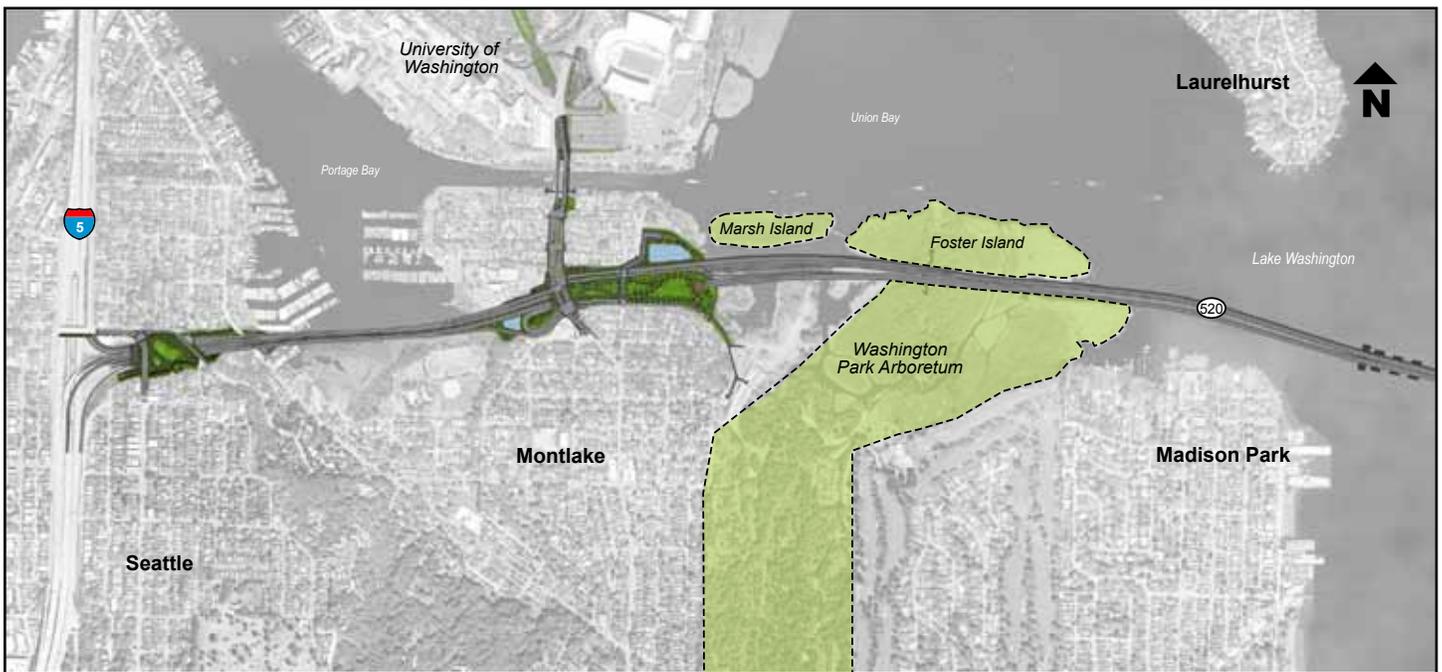
### What is the preferred alternative for the I-5 to Medina project?

The I-5 to Medina project replaces the SR 520 floating bridge as well as the landings, vulnerable structures, interchanges and roadway between I-5 in Seattle and

the eastern shore of Lake Washington in Medina. Based on comments on the 2006 draft environmental impact statement (EIS), the 2010 supplemental draft EIS, and extensive public input, WSDOT announced a preferred alternative for the I-5 to Medina project in April 2010.

The preferred alternative includes a new floating bridge and highway with six lanes, providing two general-purpose lanes, a new transit/HOV lane in each direction, and a regional bicycle/pedestrian path. Compared to previous design options studied, the preferred alternative also:

- Lowers the floating bridge while maintaining navigation access under the east and west high rises, including access for the Seattle Fire Department.
- Narrows the Portage Bay Bridge by including a westbound managed shoulder instead of an auxiliary lane.
- Elevates the profile of the west approach off of Foster Island.
- Restores park lands and recreation areas, improves pedestrian and bicycle connections to the Arboretum, including Foster Island, and removes the existing ramps in the Arboretum.



The I-5 to Medina project replaces the SR 520 floating bridge as well as the landings, vulnerable structures, interchanges, and roadway between I-5 in Seattle and the eastern shore of Lake Washington in Medina. Environmental regulations require WSDOT to analyze project effects on the Arboretum and mitigate for those effects.

- Creates a pedestrian-friendly urban interchange at Montlake Boulevard, including an extended lid from Montlake Boulevard east to the shoreline that reconnects the Montlake neighborhood and maximizes open space and pedestrian/bicycle connections.
- Provides transit connections and priority at key intersections and along Montlake Boulevard.
- Includes a lid over SR 520 at 10th Avenue East and Delmar Drive, and improves pedestrian/ bicycle connections in the Roanoke Park/North Capitol Hill neighborhoods.
- Accommodates the potential for light rail transit service in the future.

### What is an arboretum?

In its essence, a public garden (including arboreta and botanical gardens) is a mission-based institution that maintains collections of plants for the purposes of education, research, and/or public display. This coincides with one of the goals of the University of Washington's College of the Environment, to look at human activities through scientific endeavor.

Plant collections are fundamentally distinct from purely ornamental displays. Collections can either be grouped taxonomically (i.e., by family association), geographically (all plants from one region of the world), functionally (groundcovers), or by plant needs (shade plants; dry soil plants). In addition, plants of known origin are of extreme importance for an arboretum. An essential component of plant collections for all public gardens is the accessioning and de-accessioning of individual plants through plant records. One of the greatest challenges for public garden managers is how to merge the method by which collections are organized with the aesthetic goals of the garden.

Botanical gardens contain a wide array of both herbaceous and woody plant collections, varied educational offerings for all ages, and research programs focused on plant improvement, conservation, ecology, or basic science. If there is one characteristic that unites all botanical gardens, it is that they have botanically diverse, rather than simply aesthetic, collections of plants.

Arboreta, as contrasted with botanical gardens, focus on the study and display of woody plants, primarily trees and shrubs. They also typically offer educational programs

for children, school students and adults. Their collections may be organized systematically, with each plant family assigned to its own area, or functionally, with plants located where their needs can best be met.

### What is the Washington Park Arboretum?

The ABGC provided the following description of the Arboretum:

*The Arboretum has had a rich 75-year history as one of the most loved educational and cultural resources in the Pacific Northwest. The Arboretum (including Foster and Marsh Islands) is situated on the shores of Lake Washington and is jointly owned and managed by the University of Washington and the city of Seattle with major support from the Arboretum Foundation. It is a 230-acre living plant museum of over 4,400 species and cultivated varieties from around the world. One specialty garden exists in the Arboretum: the Japanese Garden. This beautiful, culturally significant garden is located at the south end of the Arboretum near Madison Avenue and is managed by the city of Seattle.*

*The Arboretum is managed cooperatively by Seattle Parks and Recreation and the University of Washington. The Arboretum Foundation is its major support organization. The city of Seattle owns the Arboretum's land and buildings; Seattle Parks and Recreation maintains the park functions; and the University of Washington owns, maintains, and manages the plant collections and associated programs. The ABGC is the legally mandated advisory committee for the Arboretum, established by the Arboretum's enabling legislation in 1934. It is comprised of nine members appointed by the University of Washington, city of Seattle, the Governor and the Arboretum Foundation. The ABGC advises the owners and managers of the Arboretum (Seattle Parks and Recreation and the University of Washington) on important issues such as the 2001 Arboretum Master Plan and mitigation for the SR 520 project.*

The Arboretum began as "Washington Park" in the early 1900s on private park land the city had acquired. In 1907, the University of Washington hired the Olmsted Brothers Landscape Architecture firm to create a boulevard entry

for the Alaska-Yukon-Pacific Exposition at East Lake Washington Boulevard, contiguous with the southern portion of Washington Park. The formal entity of the Washington Park Arboretum was established in 1934 by an agreement approved by the University of Washington (Board of Regents) and the city of Seattle (City Council/ Mayor). In 1936, the Olmsted firm developed the first formal plan for the Arboretum.

The Arboretum contains a number of important natural and cultural resources. In addition to the Arboretum's extensive plant collections and the Japanese Garden, the northern portion of the Arboretum contains a large area of emergent, forested, and open-water wetlands that provide nesting and forage for many animal species. Arboretum Creek flows into Union Bay from the south via a culvert under Lake Washington Boulevard.

Future development of the Arboretum is guided by the ABGC's 2001 Arboretum Master Plan. The Arboretum Master Plan was developed collaboratively by of the city of Seattle, University of Washington, Arboretum Foundation and citizens of the area. It was adopted by the Seattle City Council, the University of Washington Board of Regents and the Arboretum Foundation in 2001. The 20-year Master Plan ensures the Washington Park Arboretum will effectively fulfill three primary purposes—conservation, recreation and education—for decades to come.

Substantial public and private funds have been invested to begin implementation of the Arboretum Master Plan and enhance visitors' experience of the park. The first Pacific Connection Gardens have been created, the Japanese Garden Entry Gatehouse has been built and the Gateway to Chile Garden was installed this year. Many of the potential mitigation projects proposed by the ABGC and WSDOT were defined through the ABGC's Arboretum Master Plan. The projects in the original Master Plan have been reviewed, and project scopes and estimates are now being updated.



*Washington Park Arboretum footbridge over water between Foster and Marsh Islands in 1939. Courtesy of the Museum of History and Industry.*



*Visitors walking through a field in the Washington Park Arboretum in 1957. Courtesy of the Museum of History and Industry.*



*Construction of the existing SR 520 bridge west approach section in 1962.*

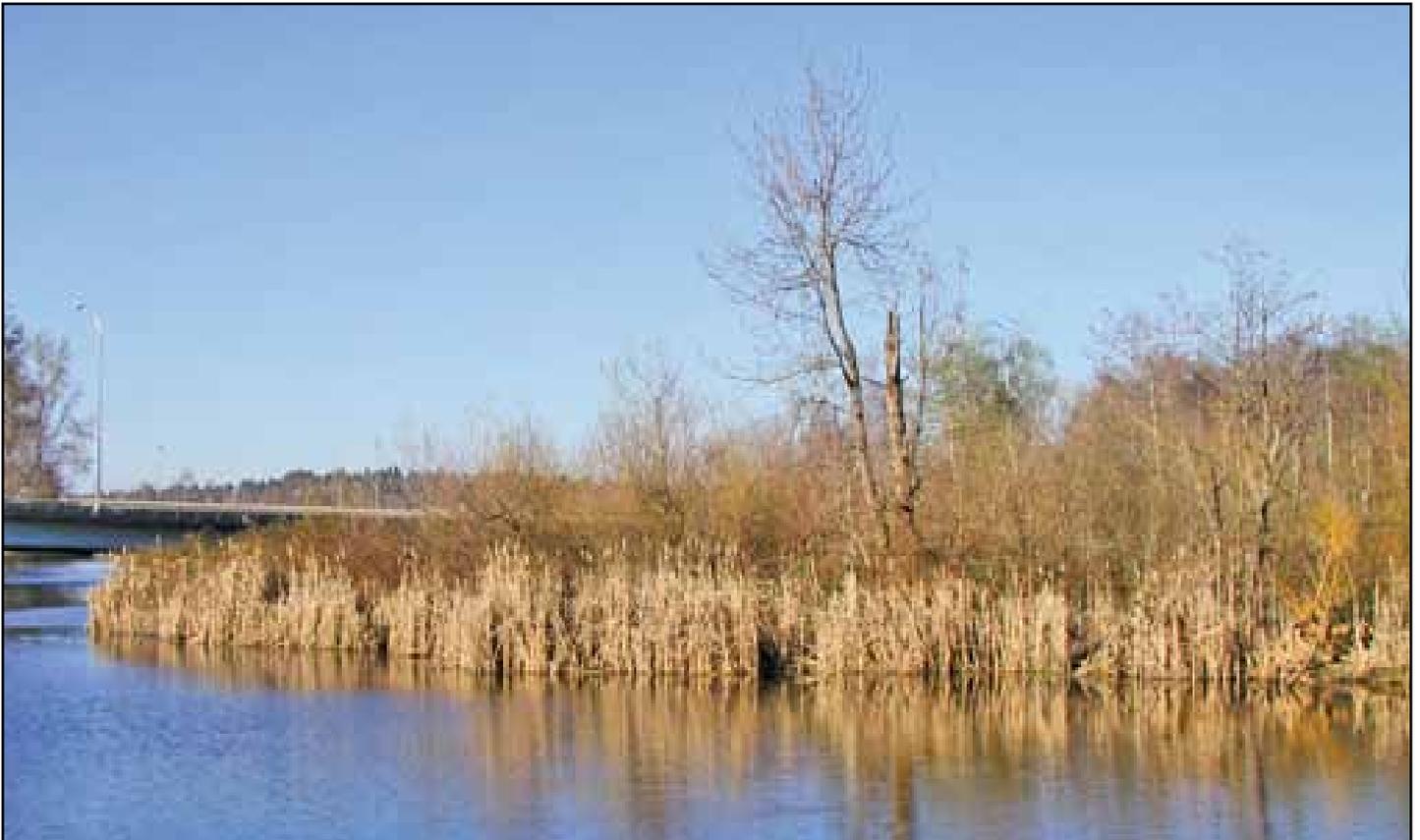
## Why is WSDOT working to protect the Arboretum?

At the time of SR 520 construction in the 1960s, environmental regulations were not in place to protect resources like the Arboretum. SR 520 currently passes through the Arboretum south of Marsh Island and across Foster Island. The northern portion of the Arboretum, including areas of Marsh Island and Foster Island, was substantially altered by the original construction of SR 520 in the 1960s. The then-Highway Commission (now WSDOT) acquired 47 acres of Arboretum property for right of way and did extensive dredging around Foster and Marsh Islands, which are within the Arboretum boundaries. Ramps were installed connecting SR 520 to Lake Washington Boulevard and to the proposed RH Thompson Expressway. The RH Thompson Expressway project was abandoned under protest by neighborhood groups, though the unused ramps are still present.

Foster Island is a highly sensitive cultural area to regional tribes. WSDOT and the Federal Highway Administration (FHWA) consider Foster Island to be a “traditional cultural property” eligible for listing in the National Register of

Historic Places (NRHP). Both the Arboretum itself and Lake Washington Boulevard are also NRHP-eligible as examples of Seattle’s historic Olmsted legacy. Marsh Island is largely owned by the Washington State Department of Natural Resources.

WSDOT recognizes the regional significance of the Arboretum. Currently, a variety of environmental regulations guide development in and near environmental resources. Regulatory requirements influencing mitigation for WSDOT’s I-5 to Medina project in the Arboretum are described in the following section. While WSDOT is not mitigating for the effects of the original SR 520 bridge at this time, avoidance, minimization, and mitigation measures will be implemented as part of the I-5 to Medina project. In addition to regulatory requirements, WSDOT is protecting the Arboretum in response to numerous community organizations, the public and tribes, who value the Arboretum and have requested that WSDOT avoid, minimize, and mitigate effects to the area.



*An existing wetland in the Arboretum.*

The ABGC's April 2010 comment on the I-5 to Medina project supplemental draft EIS states:

*The Arboretum is a stunning gem of the Seattle Park system, a 230-acre oasis of gently rolling land, bucolic watery islets, and home to the best of the city's wildlife. It provides respite, scenery, recreation, and solace to thousands of visitors in every season of the year. It provides educational and volunteering opportunities to thousands of friends, sightseeing to thousands of visitors, and cultural enrichment in gardening styles and distant ecosystems to those who seek it out. Proposed upgrades to State Route 520 (SR 520) across the north end of the Arboretum threaten to significantly impact the park for many, many years due to construction, and will impose a base set of permanent adverse impacts once the bridge is completed.*

Similarly, a variety of public comments on the 2006 draft EIS and the 2010 supplemental draft EIS describe the significance of the Arboretum, express concern for potential effects from the new SR 520 bridge, and ask WSDOT to protect it. Examples of these include:

*The Washington Park Arboretum is a regional treasure and resource for our citizens and needs to be valued and protected. The new SR 520 Bridge will have significant adverse impacts on the Arboretum—every effort needs to be made to reduce those impacts and to enhance the Arboretum.*

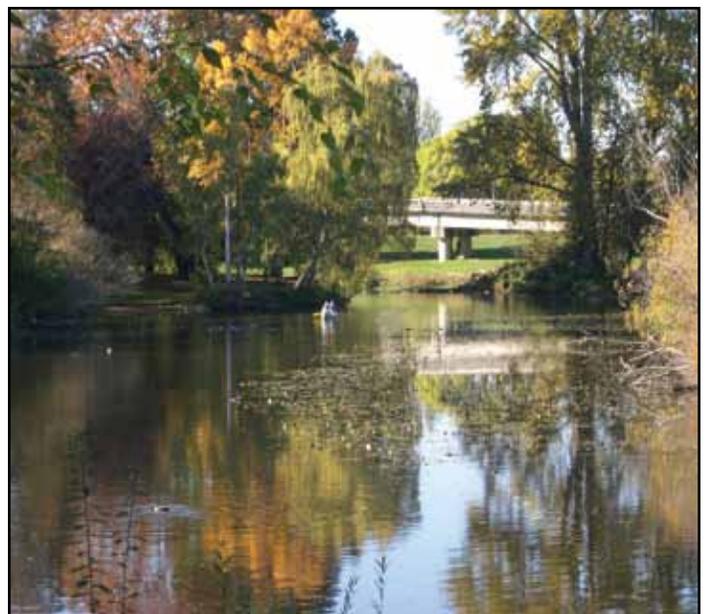
*I have strong concerns regarding the environmental effects of the proposed rebuild of the SR 520 bridge, particularly the effects on the beautiful, sensitive wetlands in the Arboretum in Seattle. These wetlands are a rare and precious gift of nature that are already seriously affected by the existing SR 520 bridge.*

*I live near the arboretum and find it to be a really wonderful treasure in the city. One of the best parks around.*

In November 2010, the ABGC provided the following statement regarding the Arboretum:

*Throughout impact and mitigation discussions with WSDOT, ABGC members stressed the importance of protecting the Arboretum as it is one of the most loved educational and cultural resources in the Pacific Northwest. At the time the original SR 520*

*was built, environmental regulations protecting park land and wetlands were not in place and the Arboretum suffered severe damage and property loss. ABGC members have stressed that we now have an opportunity to address ongoing impacts from the first bridge that have reduced the quality of the Arboretum experience and to protect the Arboretum in the future. Some of those impacts include high traffic volumes, traffic safety concerns, noise, degradation of the habitat and aesthetics.*



*The Arboretum and nearby water bodies provide visitors with educational, cultural and recreational resources.*

# Arboretum Mitigation Plan |

## Effects in the Arboretum

### What are the regulatory requirements influencing Arboretum mitigation?

WSDOT must comply with a variety of local, state and federal regulations that require mitigation for the effects of the I-5 to Medina project throughout the project corridor. Documentation of anticipated effects and associated mitigation for the entire project is required through the National Environmental Policy Act (NEPA) and the State Environmental Policy Act (SEPA). WSDOT plans to release a final EIS in spring 2011 to comply with NEPA and SEPA requirements. Anticipated effects and associated mitigation measures for the I-5 to Medina project, including those described in this plan, will be memorialized in the final EIS.

This plan specifically describes anticipated effects from the I-5 to Medina project, as well as associated mitigation measures, within the Arboretum boundary. Construction and operations within the Arboretum will require compliance with the environmental resources and associated regulations described below.

### **Park effects within the Arboretum**

*Section 4(f), Department of Transportation Act.* The use of publicly owned land from a park, refuge, or historic property for a federal transportation project may be approved only if:

- There is no prudent and feasible alternative to use of the land.
- The project uses all possible planning to minimize harm to the resource (i.e. avoidance, minimization, mitigation, and/or enhancement) or use of the property, including measures to minimize harm, will have a *de minimis* impact on the property.

*Section 6(f), Land and Water Conservation Fund (LWCF) Act.* The National Park Service administers this regulation, which restricts the conversion of parks and recreation facilities acquired and/or developed using LWCF funds unless:

- Approval is received from National Park Service and Washington Recreation and Conservation Office.

### **SR 520, I-5 to Medina: Bridge Replacement and HOV Project Regulatory Compliance Requirements**

Anticipated permits and approvals that would be required for the project, as well as regulatory processes that must be followed, include:

#### **Federal**

- *Department of Archaeology and Historic Preservation: National Historic Preservation Act Section 106 Consultation*
- *Environmental Protection Agency*
  - Review of Army Corps of Engineers' Clean Water Act Section 404 Permit
  - Review and Rating of NEPA Document(s)
- *National Park Service: Confirm Recreation and Conservation Office Section 6(f) Approval*
- *Tribes*
  - Participate in Resolution of Section 106 Impacts
  - Resolution of Impacts to Usual and Accustomed Areas
- *U.S. Army Corps of Engineers*
  - Clean Water Act Section 404, Individual Permits
  - Section 10, Rivers and Harbors Act of 1899
- *U.S. Coast Guard*
  - General Bridge Permit
  - Private Aids to Navigation Permit
- *U.S. Fish and Wildlife Service and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service*
  - Section 7, Endangered Species Act Consultation
  - Magnuson-Stevens Essential Fish Habitat Consultation
  - Marine Mammal Protection Act Compliance
  - Bald and Golden Eagle Protection Act Compliance
  - Migratory Bird Treaty Act Compliance
  - Fish and Wildlife Coordination Act Compliance

- The conversion is mitigated through replacement with property of at least equal fair market value and reasonably equivalent usefulness and location.

Section 6(f) lands used longer than 180 days (for example, during construction) are considered a conversion. The I-5 to Medina project would convert approximately 4.75 acres of Section 6(f) land for temporary and/or long-term use. Of this, approximately 0.5 acre is permanent acquisition within the Arboretum. Section 6(f) replacement requirements for the project are being addressed in the final EIS and Section 6(f) Environmental Evaluation due for publication in spring 2011.

### **Historic resources effects within the Arboretum**

*Section 106, National Historic Preservation Act.* The Washington Department of Archaeology and Historic Preservation administers Section 106 to protect historic and cultural resources, including the Arboretum, Foster Island and Lake Washington Boulevard. Section 106 requires a Memorandum of Agreement or Programmatic Agreement specifying mitigation for adverse effects and coordination with “consulting parties” that have stewardship responsibility for historic and cultural resources.

### **Wetland effects within the Arboretum**

*Sections 401 and 404, Clean Water Act.* The U.S. Army Corps of Engineers regulates filling of “navigable waters of the U.S.,” including adjacent wetlands, and requires compensatory mitigation for effects that cannot be avoided or minimized under Section 404. The Section 401 Water Quality certification issued by the Department of Ecology confirms compliance with state water quality standards and other state aquatic resource protection requirements.

*Critical Areas Ordinance (CAO).* The city of Seattle regulates development in environmentally sensitive areas, including wetlands, wetland buffers and fish and wildlife habitat conservation areas. The city has also codified development standards within critical areas and mitigation requirements.

### **Noise effects within the Arboretum**

*Noise Abatement Criteria.* FHWA sets a maximum average noise level for highway projects according to land use. Parks have the highest level of protection. Where effects exceed the criteria, FHWA requires a cost/benefit analysis of mitigation.

## **SR 520, I-5 to Medina: Bridge Replacement and HOV Project Regulatory Compliance Requirements continued...**

### **State and Regional**

- *Puget Sound Clean Air Agency: Clean Air Conformity Certification*
- *Recreation and Conservation Office: Section 6(f) Replacement Package Approval*
- *Washington Department of Fish and Wildlife: Hydraulic Project Approval*
- *Washington Department of Natural Resources: Aquatic Lands Use Authorization*
- *Washington State Department of Ecology*
  - Clean Water Act Section 401 Water Quality Certification
  - Clean Water Act Section 402 National Pollutant Discharge Elimination System, general or individual construction permits
  - Coastal Zone Management Act Consistency Determination
  - Shoreline conditional use, final approval
  - Various construction notices/approvals
- *WSDOT: State Environmental Policy Act*

### **Local**

- *WSDOT will obtain the applicable local permits and meet all local requirements from King County, and the cities of Seattle and Medina, where the project will be located.*

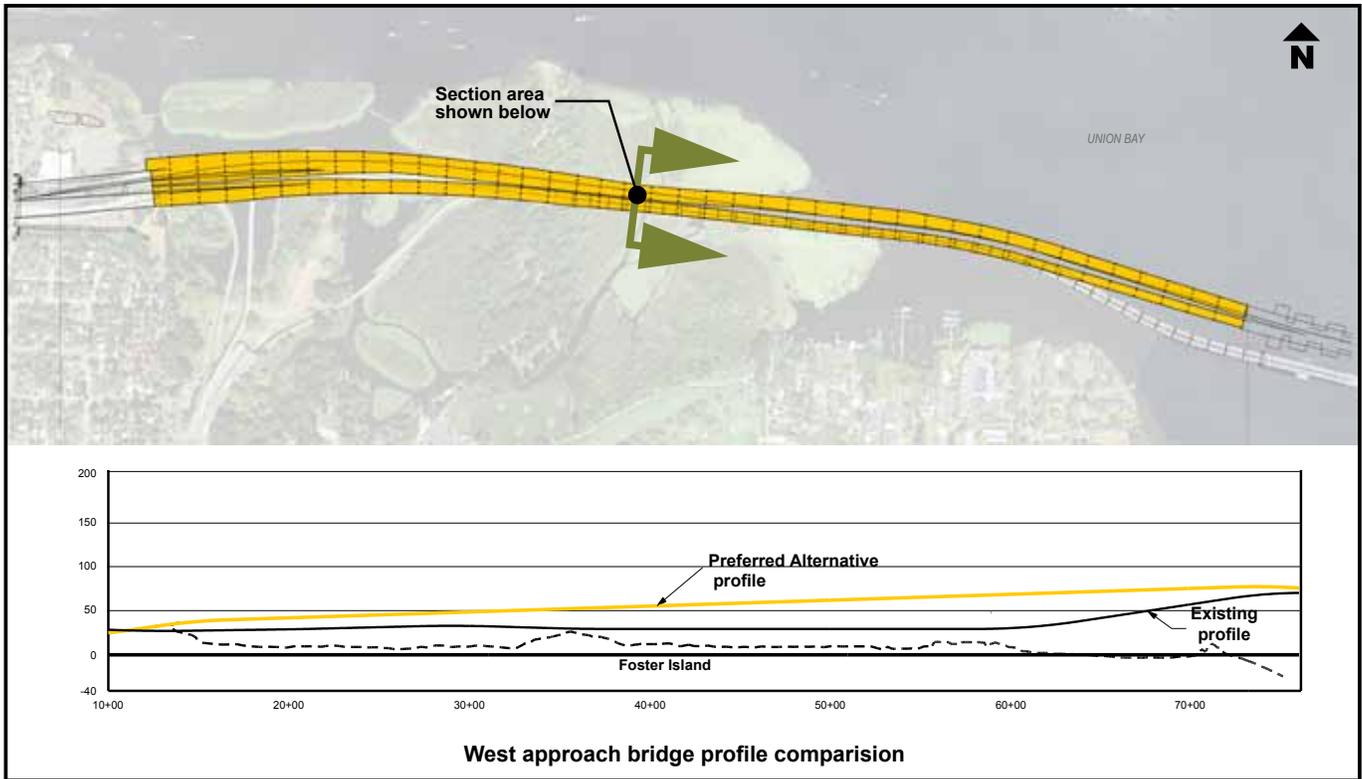
## **How did WSDOT avoid and minimize effects to the Arboretum?**

WSDOT selected a preferred alternative that avoids and minimizes project effects in a variety of ways. In the Arboretum, the following measures are incorporated into the design to avoid and minimize effects from the I-5 to Medina project:

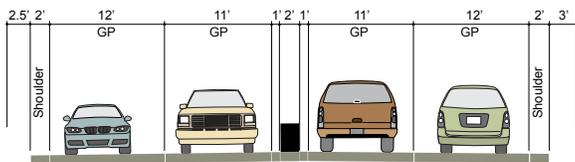
- Removed existing SR 520 ramps in the Arboretum to help reduce traffic, noise and permanent right of way needs in the Arboretum compared to no action.
- Raised bridge profile on Foster Island to improve and expand trail user access compared to existing conditions. This will also reduce noise levels for Arboretum users.
- Designed bridge piers on Foster Island to minimize disturbance in culturally sensitive areas. Coordinated with tribes to plan and conduct archaeological investigations verifying no disturbance to cultural resources in advance of construction.
- Narrowed lane and shoulder widths to minimize effects on environmental resources compared to previously evaluated options.
- Narrowed gap between westbound and eastbound structures across Foster Island compared to previously evaluated options. This will minimize Arboretum effects while also minimizing effects to vegetation by allowing light to reach the ground and water.
- Reduced Sections 4(f) and 6(f) effects in the Arboretum compared to previously evaluated options.
- Enhanced open space connectivity to the Arboretum through pedestrian and bicycle connections across the expanded Montlake lid and a crossing beneath the roadway, adjacent to the lid to East Montlake Park.
- Developed best management practices to minimize construction disturbance and effects.
- Proposed using existing ramps for construction staging to reduce effects on Arboretum park lands and wetlands during construction.

WSDOT will continue ongoing coordination with the ABGC to address and minimize construction effects and traffic management.

# West approach bridge profile and width comparison Existing and Preferred Alternative bridge designs

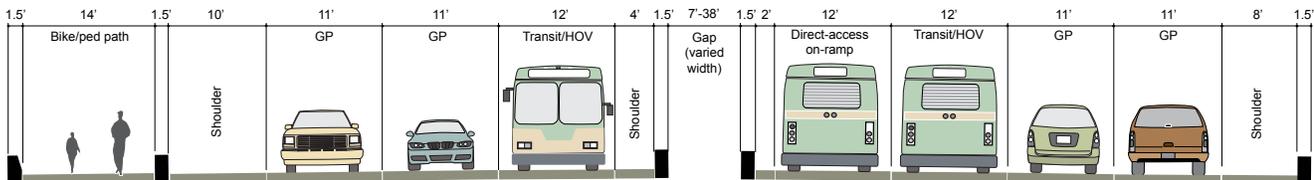


## EXISTING BRIDGE - TYPICAL CROSS SECTION



Note: Typical sections at same scale to allow for visual comparison.

## PREFERRED ALTERNATIVE BRIDGE - TYPICAL CROSS SECTION



VICINITY MAP

**CONCEPTUAL**

DRAFT ENGINEERING, OPERATIONS AND ENVIRONMENTAL ANALYSIS REQUIRED. VISUALIZES THE IDEA. ANALYSIS REQUIRED.

## How will the I-5 to Medina project affect the Arboretum?

The I-5 to Medina project preferred alternative has the least overall effects within the Arboretum of all options evaluated for the project. However, WSDOT anticipates operational and construction effects from the project within the Arboretum that will require mitigation. Information regarding the effects and associated mitigation for the entire I-5 to Medina project will be detailed in the final EIS, scheduled to be published in spring 2011.

Comparison to no action (or no build) is the established standard for NEPA analysis. However, the final EIS will include a more detailed comparison of existing, 2030 no build, and preferred alternative traffic volumes and noise levels.

The following table summarizes the permanent effects, associated regulations and mitigation requirements that WSDOT anticipates in the Arboretum as a result of the I-5 to Medina project. Effects are also shown on the graphics following this table. Additional details regarding Arboretum effects are described in the section following this table.

## Project effects within the Arboretum

Arboretum Effect	Description of Effect	Governing Regulation(s)	Regulatory Mitigation Requirements
<b>Park effects within the Arboretum</b>			
Section 6(f) conversion	Approx. 0.5 acre converted in Arboretum	Section 6(f)	Purchase replacement land of reasonably equivalent function and at least equal fair market value
Right-of-way acquisition and expanded footprint of SR 520 across Foster Island	Approx. 0.5 acre land acquired	Section 4(f)	Measures to minimize harm <sup>1</sup>
Disruption in and near north end of the Arboretum for reconstruction of Lake Washington Boulevard	During construction	Section 4(f)	Measures to minimize harm <sup>1</sup>
Removal of existing Lake Washington Boulevard ramps	Benefits Arboretum, but will cause construction disturbance	Section 4(f)	Measures to minimize harm <sup>1</sup>
Wider/higher Foster Island crossing	Larger visual presence, greater footprint in traditional cultural area, and increased shading	Section 4(f) and Section 106	Pier placement to minimize disturbance; aesthetic treatment to reduce visual effects
<b>Natural resources effects within the Arboretum</b>			
Wetland fill	Approx. 0.05 acre (2,000 square feet) of wetland fill in Arboretum <sup>2</sup>	Sections 401, 404, Seattle CAO	Replace and/or enhance wetlands
Wetland buffer fill	Approx. 0.01 acre (400 square feet) of wetland buffer fill in Arboretum <sup>2</sup>	Sections 401, 404, Seattle CAO	Replace and/or enhance wetland buffers

<sup>1</sup> Measures to minimize harm under Section 4(f) can include mitigation and enhancement.

<sup>2</sup> Quantities for wetlands and wetland buffers include those affected in and adjacent to the Arboretum (not only within the Arboretum boundary).

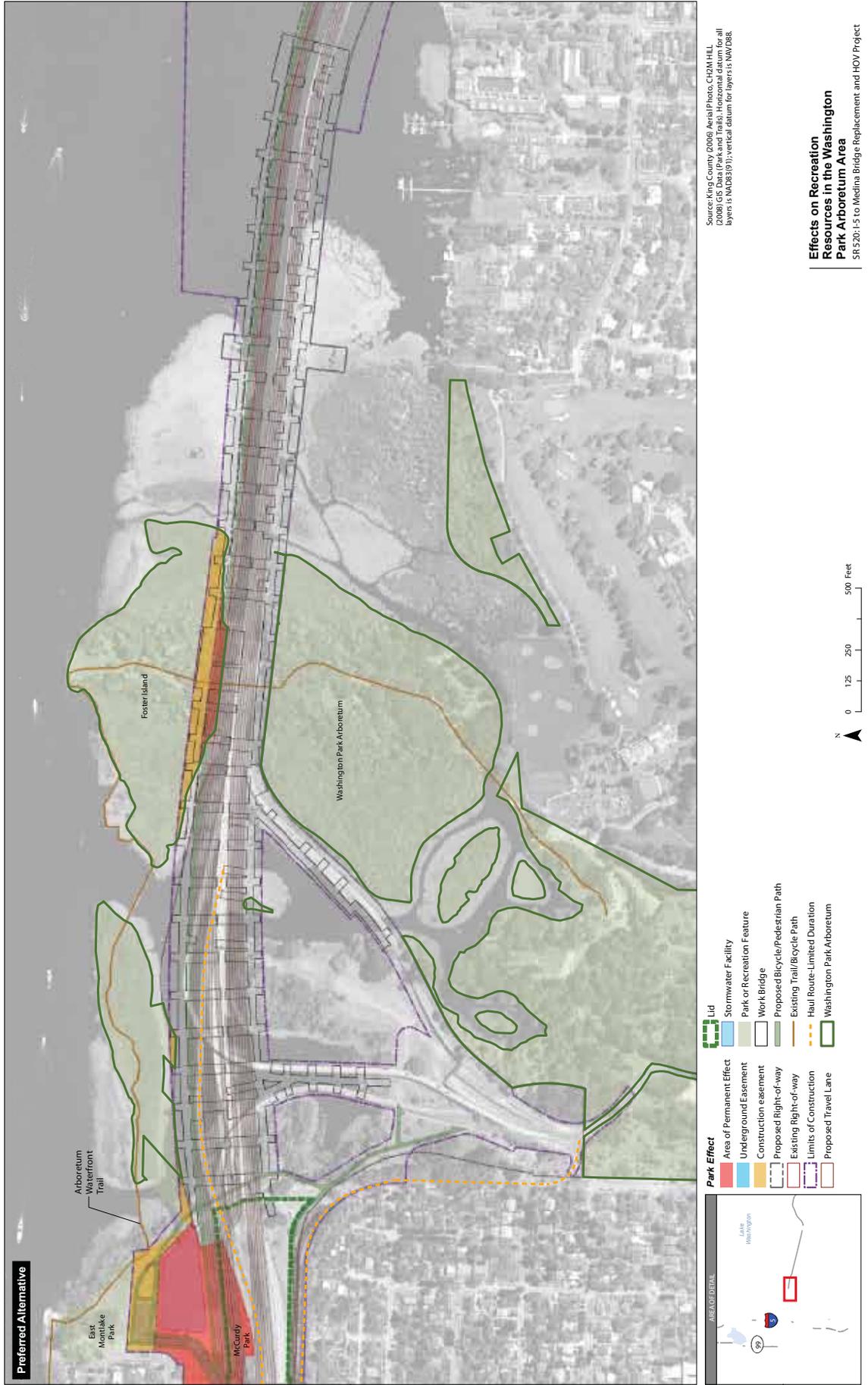
**Project effects within the Arboretum continued...**

Arboretum Effect	Description of Effect	Governing Regulation(s)	Regulatory Mitigation Requirements
Wetland shading	Approx. 4.2 acres of wetland shading in Arboretum <sup>2</sup>	Sections 401, 404, Seattle CAO	Replace and/or enhance wetlands
Temporary clearing	Removal of shoreline vegetation	Sections 401, 404, Seattle CAO	Restore and/or enhance
Aquatic shading	TBD	Sections 401, 404, Seattle CAO	Restore and/or enhance)
<b>Noise effects within the Arboretum</b>			
Reduction in noise due to project design features <sup>3</sup>	Noticeable reduction in noise levels	FHWA Noise Abatement Criteria	No further mitigation required
<b>Traffic effects within the Arboretum</b>			
Through traffic volumes and speed in Arboretum, specifically on Lake Washington Boulevard <sup>4</sup>	Positive effect (reduction in traffic compared to No Build)	NEPA and SEPA require evaluation of traffic effects, though there are no adverse effects in the Arboretum	None, but a partnership with SDOT and WSDOT has been agreed upon to create traffic calming plans and to coordinate on traffic management plans

<sup>3</sup> The I-5 to Medina Project preferred alternative includes a higher roadway profile, 4-foot-high traffic barrier with noise absorptive material, removal of the existing ramps and quieter concrete pavement. As a result of these design features, WSDOT's noise analysis indicates that noise levels in the Arboretum will be reduced compared to existing and 2030 no build projections.

<sup>4</sup> Projected traffic is expected to reduce compared to a no action alternative but be higher than existing. The additional traffic by the year 2030 would occur as a result of projected regional growth in population and employment that is independent from the project. No changes in regional population and employment growth have been attributed to the project build alternative.

**Park effects identified within the Arboretum boundary.**





## Permanent effects during project operation

The I-5 to Medina project would have both positive and negative permanent effects on park lands and natural resources within the Arboretum. Mitigation measures are described in pages 27 to 30 of this plan. These effects would include the following:

- **Conversion of about a half-acre of land in the Arboretum from recreation use to transportation use.** This acquisition would be north of the existing SR 520 roadway and would comply with applicable laws and regulations.
- **Effects to natural resources.** Construction and operations of the project would result in temporary and permanent filling and shading of both wetlands and wetland buffers within the Arboretum. Some tree removal within the limits of the work area may also occur.
- **Wider and higher structure over Foster Island.** The new SR 520 would cross Foster Island with a bridge that meets current highway standards and provides an additional transit/HOV lane in each direction by widening the existing structure. The new SR 520 bridge across Foster Island would range from 150 feet wide (with a 7-foot gap) to 180 feet wide (with a 9.5 foot gap). The width of the current roadway is 60 feet wide where it crosses Foster Island. The new highway mainline would also be higher than the existing SR 520 and would therefore provide additional clearance and better lighting conditions for users at the crossing of the Arboretum Waterfront Trail on Foster Island. The current roadway clearance on Foster Island ranges from zero to approximately 8 feet. The new SR 520 clearance on Foster Island will vary from 14.5 to 25.5 feet on the north bridge and 12.5 to 16 feet on the south bridge.
- **Gap between westbound and eastbound structures.** The westbound and eastbound lanes of the west approach would be constructed as two structures separated by a gap. This could allow growth of vegetation in water and on land between the westbound and eastbound lanes.
- **Shading on Foster Island.** The permanent structure would result in shaded areas on Foster Island that could affect the amount of light and precipitation reaching the ground, potentially limiting some vegetation growth.
- **Maintenance access needs.** Similar to today, WSDOT maintenance crews would need to access the area beneath the SR 520 highway on Foster Island. Although the land underneath the footprint of the highway would be within the WSDOT right of way, it would be available for Arboretum use after construction (except for the area necessary for the columns to support the highway structure). WSDOT does not anticipate that maintenance in this area would require the use of vehicles. Maintenance access will primarily occur from the SR 520 mainline, as it is today.
- **Changes to trail user experience.** The Arboretum Waterfront Trail currently crosses under SR 520 in a low and narrow pedestrian underpass. The new SR 520 structure would allow the trail to pass between piers of an elevated structure, opening views at ground level. Because the highway mainline would be higher than the existing roadway, the structure would become a more dominant and noticeable feature.
- **Removal of existing ramps.** The existing SR 520 ramps and unused R.H. Thomson Expressway ramps would be removed, which would open views for Arboretum users, eliminate some columns that currently impede boat access, and allow the area to be restored to natural conditions and additional park access.
- **Reduced highway traffic noise levels.** Due to the proposed four-foot noise absorptive traffic barrier and the increased height of the new SR 520 structure, highway traffic noise in the Arboretum would decrease from the existing levels and improve the experience of Arboretum users. In addition, WSDOT committed to quieter concrete pavement throughout the corridor as a means to potentially reduce noise.
- **Cultural effects.** The new highway will have a larger footprint on Foster Island, which is considered to be a traditional cultural property. Design of SR 520 across Foster Island has been revised to minimize the width of the structure and right of way needed. This resulted in reducing the amount of excavation needed in this culturally sensitive area. WSDOT has worked closely with the tribes to plan and conduct geotechnical investigations to reduce the risk of encountering cultural resources during construction.

## Temporary effects during project construction

WSDOT also anticipates temporary effects to the Arboretum during construction, including:

- **Periodic closures of a section of the Arboretum Waterfront Trail.** Construction of the proposed improvements would require the periodic closure of the section of the Arboretum Waterfront Trail located under SR 520 and within WSDOT right of way on Foster Island. During such closures, trail users would be unable to use any portion of the trail between East Montlake Park and the limits of construction. Arboretum users would be able to access the remainder of the trail, including the portion of Foster Island south of SR 520, from the Graham Visitor Center throughout the construction period. There may also be intermittent short-term trail closures in the Arboretum between Marsh and Foster Islands.
- **Use of temporary construction structures.** Construction would include an access work bridge on and adjacent to Foster and Marsh Islands. These work bridges would be temporarily located parallel to SR 520, on both the north and south sides. The work bridges would be removed after completion of the permanent structure.
- **Temporary construction easements.** WSDOT would use easements during construction to allow temporary use of areas adjacent to the SR 520 roadway. The areas used for construction would be restored and returned to Arboretum use once construction is completed.
- **Noise, dust and vibrations.** Construction activities would generate dust and construction-related noise and vibration in close proximity to the active areas of the Arboretum. Pile-driving equipment would be used in the nearshore areas of the Arboretum south of Marsh Island and on either side of Foster Island to construct bridges over the water. WSDOT will communicate and coordinate with the ABGC on potentially disruptive activities and consider other events planned in the Arboretum. WSDOT will continue to work with the ABGC on these effects as they develop the Community Construction Management Plan.
- **Visual effects during construction.** Construction activities and staging areas will be visible from Lake Washington Boulevard, Montlake Boulevard and within the Arboretum. Additional information regarding construction activities and staging areas will be included in the Community Construction Management Plan.



*Existing view of the Foster Island pedestrian tunnel, looking northwest at south entrance of tunnel under SR 520.*



*View after construction of the I-5 to Medina project.*



*Existing view from the north side of Foster Island looking south.*



*View after construction of the I-5 to Medina project.*



*Existing view from the WSDOT peninsula looking northwest where ramps will be removed.*



*View after construction of the I-5 to Medina project.*

# Arboretum Mitigation Plan |

## Process for developing the Arboretum mitigation plan

### How did WSDOT consult with the governing board of the Arboretum?

WSDOT identified the ABGC as the appropriate advisory committee for consulting on Arboretum mitigation. The ABGC members include representatives from the Arboretum Foundation, city of Seattle, University of Washington, and a Washington State Governor's Office representative. The following sections describe how WSDOT coordinated with these parties regarding Arboretum mitigation, as well as through separate processes associated with the I-5 to Medina project.

### Coordination on ESSB 6392 with the Arboretum and Botanical Garden Committee

In 2009, the ABGC established a set of guiding principles regarding the I-5 to Medina project for WSDOT and FHWA to consider as they move the project forward. These principles were provided to WSDOT as part of the ABGC's comments on the supplemental draft EIS in April 2010. WSDOT considered the ABGC's guiding principles when the preferred alternative was selected, and continued to consider these principles as they refined the project design and identified mitigation measures.

Following the announcement of the preferred alternative in April 2010, and as directed by ESSB 6392, WSDOT and the ABGC began coordination efforts in May 2010 to identify mitigation for effects of the I-5 to Medina project on the Arboretum. A consultation process was developed with the ABGC chair, and subsequently the full ABGC and WSDOT developed a common understanding of project benefits and effects through discussion of technical analyses of the preferred alternative. WSDOT identified the following objectives for coordinating with the ABGC on Arboretum mitigation:

- Establish a forum to work collaboratively with the ABGC on Arboretum mitigation.
- Identify Arboretum resources potentially affected by the project.
- Clarify effects to identified resources.

### ABGC Guiding Principles on the I-5 to Medina Project

*The proposed SR 520 project in and around the Washington Park Arboretum should:*

1. *Enhance the Washington Park Arboretum through the design, construction and operation of SR 520 and the SR 520, I-5 to Medina: Bridge Replacement and HOV Project;*
2. *Avoid harm to the Washington Park Arboretum and its collections;*
3. *Respect the historical, aesthetic and design integrity of the Park;*
4. *Fully compensate the Arboretum for loss of property and function if harm is unavoidable;*
5. *Reduce traffic on Lake Washington Boulevard below levels that exist today on the boulevard between Montlake Boulevard and East Madison Street; and,*
6. *Preserve and restore the Arboretum as an accessible place of quiet and respite.*

- Identify appropriate mitigation opportunities within the Arboretum for these effects.
- Provide an information link to and from legislative and regulatory technical working groups (TWGs).
- Submit a final plan to the Governor and Transportation Committees of the Washington State Legislature by Dec. 31, 2010.

Through a series of 12 meetings, the ABGC and WSDOT developed an initial list of mitigation ideas addressing park and natural resources effects. WSDOT and the ABGC also discussed noise, as measures to address noise in the Arboretum are included as part of the I-5

to Medina project. During this coordination process, WSDOT recognized that traffic calming and traffic management are important issues to the ABGC members due to concern with existing traffic conditions and future predictions within the Arboretum. Therefore, coordination was expanded to include participation by SDOT to focus on calming and managing traffic in the Arboretum.

ABGC provided WSDOT with a prioritized list of projects from the 2001 Arboretum Master Plan that could be funded by WSDOT as mitigation measures. WSDOT then conducted an evaluation to screen the initial list of potential mitigation projects developed jointly with the ABGC. Through this evaluation, WSDOT determined which projects would meet legislative intent and satisfy regulatory requirements for mitigation. The ABGC approved the Arboretum Mitigation Plan at their Dec. 8, 2010 meeting.

### ***Section 106 consultation***

WSDOT and FHWA consulted with the Arboretum Foundation, city of Seattle, University of Washington and ABGC on the Section 106 process. The consultation process is defined as “the process of seeking, discussing, and considering the views of other participants, and, where feasible, seeking agreement with them regarding matters arising in the Section 106 process.” The consulting parties representing the Arboretum play a role with the FHWA, WSDOT, state and local Historic Preservation Officers, Native American tribes, and other consulting parties, in identifying and seeking mitigation for historic properties and cultural resources potentially affected by the I-5 to Medina project. The agreed-upon measures to address the adverse effect are being incorporated into a Programmatic Agreement, which is scheduled to be signed in spring 2011. Since it is still under development and is specific to historic and cultural resources, the Programmatic Agreement may include additional mitigation measures not described in this plan that would also benefit the Arboretum.

### ***Coordination with SDOT on traffic in the Arboretum***

While the I-5 to Medina project preferred alternative would reduce traffic volumes in the Arboretum in 2030 compared to no action, WSDOT and SDOT recognize the ABGC’s desire to reduce existing traffic volumes, reduce vehicle speeds and improve pedestrian and bicycle safety. Also, in an April 2010 letter to WSDOT, the Seattle City Council emphasized the importance of developing a traffic management plan for the Arboretum.

In a September 2010 letter to WSDOT, the Seattle City Council identified traffic improvements in the Arboretum as one key goal for the city’s continued coordination on the I-5 to Medina project. The City Council expressed a specific interest in understanding:

- Effects from restricting a left turn from southbound 24th Avenue onto Lake Washington Boulevard.
- WSDOT’s commitment to work with SDOT on Arboretum traffic calming and traffic management.
- SDOT’s plans for implementing traffic calming measures in the Arboretum as early as 2011.
- SDOT’s plan for ongoing traffic monitoring in the Arboretum.

To address the ABGC’s concern and the City Council’s requests, SDOT began participating in ABGC meetings prior to WSDOT initiating coordination on the ESSB 6392 Arboretum mitigation plan. SDOT continued participating in ABGC meetings with WSDOT to assist in developing potential traffic management and traffic calming measures for the Arboretum. Through coordination with the ABGC and WSDOT, SDOT identified and recommended pedestrian improvements and traffic calming measures in an attached plan (see Appendix E). SDOT also recommended a number of traffic management measures for consideration, as described in the Arboretum Traffic Management Measures for Evaluation (Appendix F), that will be evaluated with the ABGC and WSDOT and may be implemented in the future.

### **How did WSDOT involve agencies in mitigation planning?**

Local, state and federal regulations require WSDOT to mitigate for effects to parks and natural resources from the I-5 to Medina project, both project-wide and within the Arboretum. WSDOT began coordinating with regulatory agencies through the Regulatory Agency Coordination process (RACp) and associated TWGs in 2007. Since the preferred alternative was announced in April 2010, WSDOT has continued to meet regularly with agency staff through the Parks and Natural Resources TWGs to identify effects and associated mitigation. Members of the TWGs have had input into the development of mitigation measures for the Arboretum that are proposed in this plan, and all the proposed measures are consistent with those agencies’ regulatory requirements.

Natural resource agencies will continue to play a role in natural resources mitigation, as they must review and approve the I-5 to Medina project's wetland and aquatic mitigation plans as part of permitting the projects. These mitigation plans will be submitted to regulatory agencies with state and federal aquatic permit applications. Regulatory agencies will review and comment on the plans, and WSDOT will then revise the mitigation plans. The final mitigation plans will be included by reference in the federal and state permits issued for the project.

Similarly, WSDOT will continue to coordinate with regulatory agencies on mitigating effects to the built environment. The Section 4(f) evaluation for the project, which focuses on effects and mitigation for parks and historic resources, will be reviewed by FHWA and the Department of Interior prior to its release with the final EIS. The National Park Service and the Washington State Recreation and Conservation Office will have review and approval authority for compliance with Section 6(f). The Department of Archaeology and Historic Preservation, FHWA, and the tribes will review cultural resource findings, along with the draft Programmatic Agreement under Section 106, and will need to concur with the mitigation measures set forth in that document.

### **How did WSDOT involve tribes in mitigation planning?**

WSDOT is coordinating with the federally-recognized Muckleshoot Indian Tribe, Suquamish Indian Tribe, Tulalip Tribes, Snoqualmie Indian Nation and the Yakama Nation on cultural resources and treaty fishing rights related to the I-5 to Medina project area. In addition, WSDOT is consulting with the Duwamish Tribe on cultural resources. Under Section 106, WSDOT is seeking concurrence from the tribes regarding potential effects to cultural resources. Tribes have also been invited to participate in the agency coordination processes described above and Muckleshoot Indian Tribe Fisheries Division and Preservation Department staff have participated in many of the RACp and TWG processes.

Commitments described in this mitigation plan related to cultural resources are pending tribal concurrence. WSDOT continues to conduct ongoing conversations regarding tribal interests in the area of the Arboretum. Resolution of issues is expected prior to commencement of construction.

### **Technical Working Groups**

*Since 2007, WSDOT has convened technical working groups (TWGs) with agency and tribal staff as needed to address specific topics related to the I-5 to Medina project. The TWGs provide forums for detailed explorations of project issues and collaboratively address topics such as mitigation, fish passage, parks, stormwater, in-water construction, and bridge maintenance facility siting and design. In 2010, the Parks and Natural Resources TWGs met regularly, as described below.*

#### **Parks TWG (ongoing)**

*Participants have regulatory authority over built environment resources in the project area, including the Arboretum. Participants are responsible for identifying potential mitigation strategies and packages for effects to resources regulated under Sections 4(f) and 6(f).*

*Participants represent the following entities:*

- *Federal Highway Administration*
- *National Park Service*
- *Seattle Parks and Recreation*
- *Washington State Recreation and Conservation Office*
- *University of Washington*

## How was the public involved in developing the Arboretum Mitigation Plan?

As described in the background section, the public provided comments on WSDOT's potential project effects in the Arboretum during the 2006 draft EIS and 2010 supplemental draft EIS comment periods. WSDOT recognizes the public's concern with the Arboretum and desire to ensure the Arboretum is protected when the new SR 520 bridge is constructed.

WSDOT has engaged the public in development of the Arboretum Mitigation Plan in a number of ways. The ABGC meetings where this plan was discussed were open to and generally attended by the public. The ESSB 6392 Workgroup discussed the traffic management and traffic calming measures described in the Arboretum Mitigation Plan at their meetings, which were also open to the public.

WSDOT and SDOT also presented key findings related to the Arboretum Mitigation Plan at the Dec. 1, 2010 ESSB 6392 Workgroup meeting, which was open to the public and provided an opportunity for public comment. This date marked the beginning of the Arboretum Mitigation Plan public comment period, which ran through Dec. 15, 2010. Information about the public comment period was also included in regular SR 520 program e-mail updates to the public.

In summary, WSDOT received a total of 34 comments on the Arboretum Mitigation Plan, submitted through the following methods:

- 11 through an online survey.
- 13 by e-mail.
- Seven verbal comments at the Dec. 1 Workgroup meeting.
- Three hard-copy letter comments.

Comments received were diverse, and focused on a variety of topics related to the Arboretum Mitigation Plan. Topics that were the most frequently addressed in the comments include:

- Traffic: 30 comments. Of these, key topics were related to traffic management or calming and tolling within the Arboretum.
- Project design: 18 comments
- Mitigation: 17 comments

### **Technical Working Groups continued...**

#### **Natural Resources TWG (May 2010 - October 2010)**

*Participating regulatory agencies have regulatory authority over natural environment resources in the project area, including the Arboretum. Participants are responsible for identifying potential mitigation strategies and packages for effects to regulated natural resources. Participants represent the following entities:*

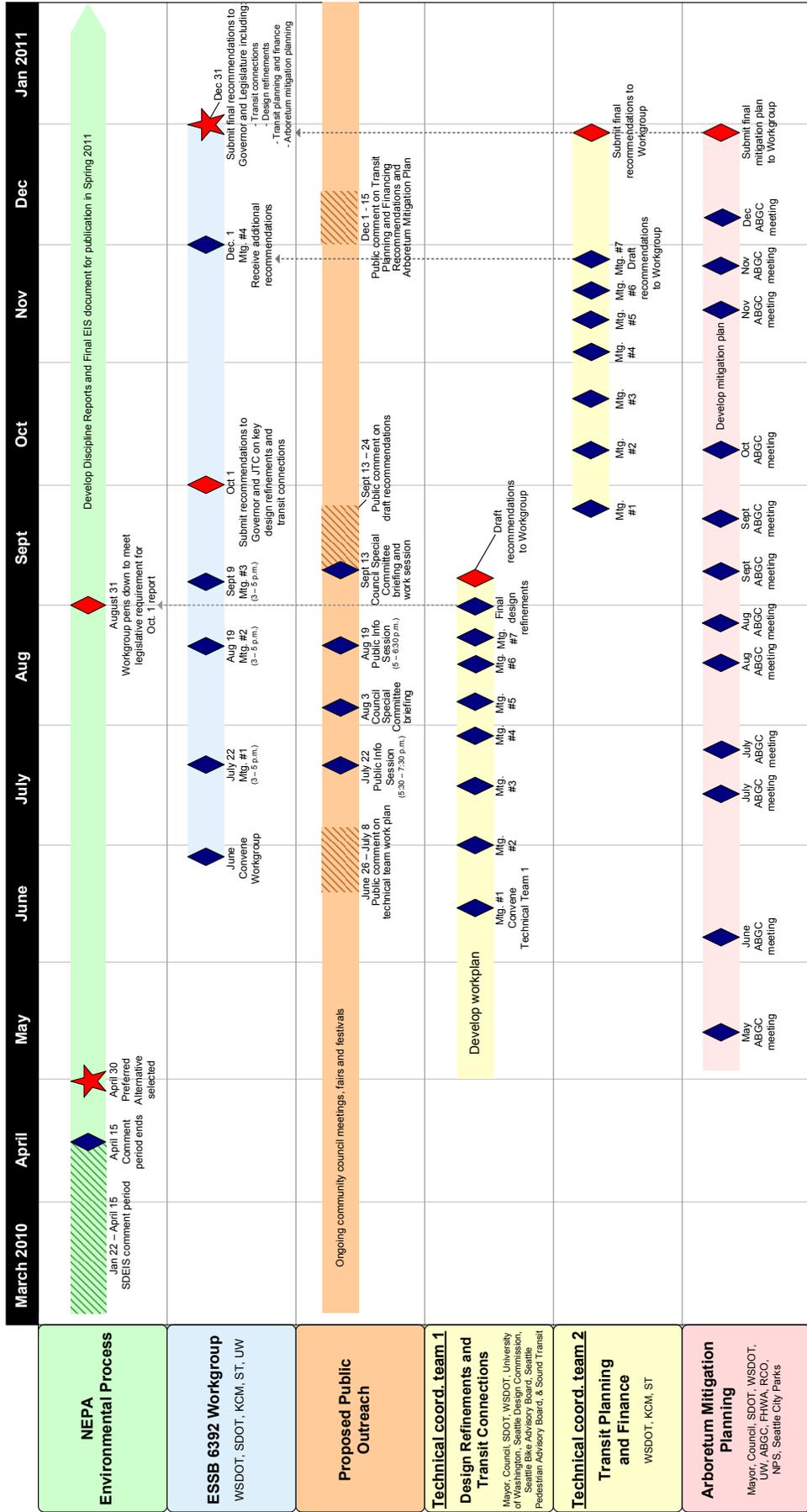
- Muckleshoot Indian Tribe Fisheries Division
- NOAA's National Marine Fisheries Service
- Seattle Department of Planning and Development, Department of Transportation, Parks and Recreation
- Washington State Department of Ecology
- Washington State Department of Fish and Wildlife
- Washington State Department of Natural Resources
- University of Washington
- US Army Corps of Engineers
- US Coast Guard
- US Environmental Protection Agency
- US Fish and Wildlife Service

- Neighborhood and community effects: 16 comments
- Public involvement and coordination: 15 comments
- Environmental effects: 10 comments
- Land use: Nine comments
- Sections 4(f) and 6(f): Seven comments
- Support for the process: Seven comments
- Transit: Seven comments

WSDOT will consider these comments as the projects move toward further design and implementation. Due to the content of some of the comments, clarifying information has been added to the Arboretum Mitigation Plan. A more detailed summary of the comments and the verbatim comments are included in Appendix H.

# ESSB 6392 Workgroup Milestones

DRAFT – Updated: November 30, 2010



# Arboretum Mitigation Plan |

## Recommended mitigation measures

### How did WSDOT identify and prioritize Arboretum mitigation measures?

The ABGC initially identified potential mitigation opportunities in the Arboretum. WSDOT then conducted a preliminary evaluation to screen the initial list of potential mitigation projects developed through consultation with the ABGC. Through this evaluation, WSDOT determined which projects could potentially be considered mitigation for anticipated effects from the I-5 to Medina project on the Arboretum. The criteria used to evaluate the projects were:

- Is there an effect of the SR 520 project that triggers the need for mitigation?
- Could the proposed mitigation project potentially satisfy one or more regulatory requirements?
- Does the proposed project have a high priority in the Arboretum Master Plan?

### What are WSDOT's proposed mitigation measures in the Arboretum?

After consultation with the ABGC and technical evaluation, WSDOT plans to mitigate for effects in the Arboretum through funding and/or implement action of a suite of projects. The table on page 27 summarizes the results of WSDOT's evaluation, describes the regulatory nexus between the project's effects and the potential mitigation measures, and identifies the likely lead for project implementation. Six of the potential mitigation projects are in the 2001 Arboretum Master Plan and are designated as high priorities for implementation. The ABGC supports implementation of the remaining projects although they were not identified in the Master Plan.

All the projects are anticipated to enhance the Arboretum. Of these, three projects include feasible opportunities for on-site wetland mitigation. Activities associated with specific mitigation projects are described in detail in the table. WSDOT and the ABGC recognize that the project scopes and estimates in the adopted Arboretum Master Plan need to be updated, therefore ABGC and WSDOT will continue to refine specific details of the representative projects described in the table. The letters in the table correspond with the graphic titled "WSDOT Evaluation of Potential Mitigation Projects in Washington Park Arboretum" on page 28.



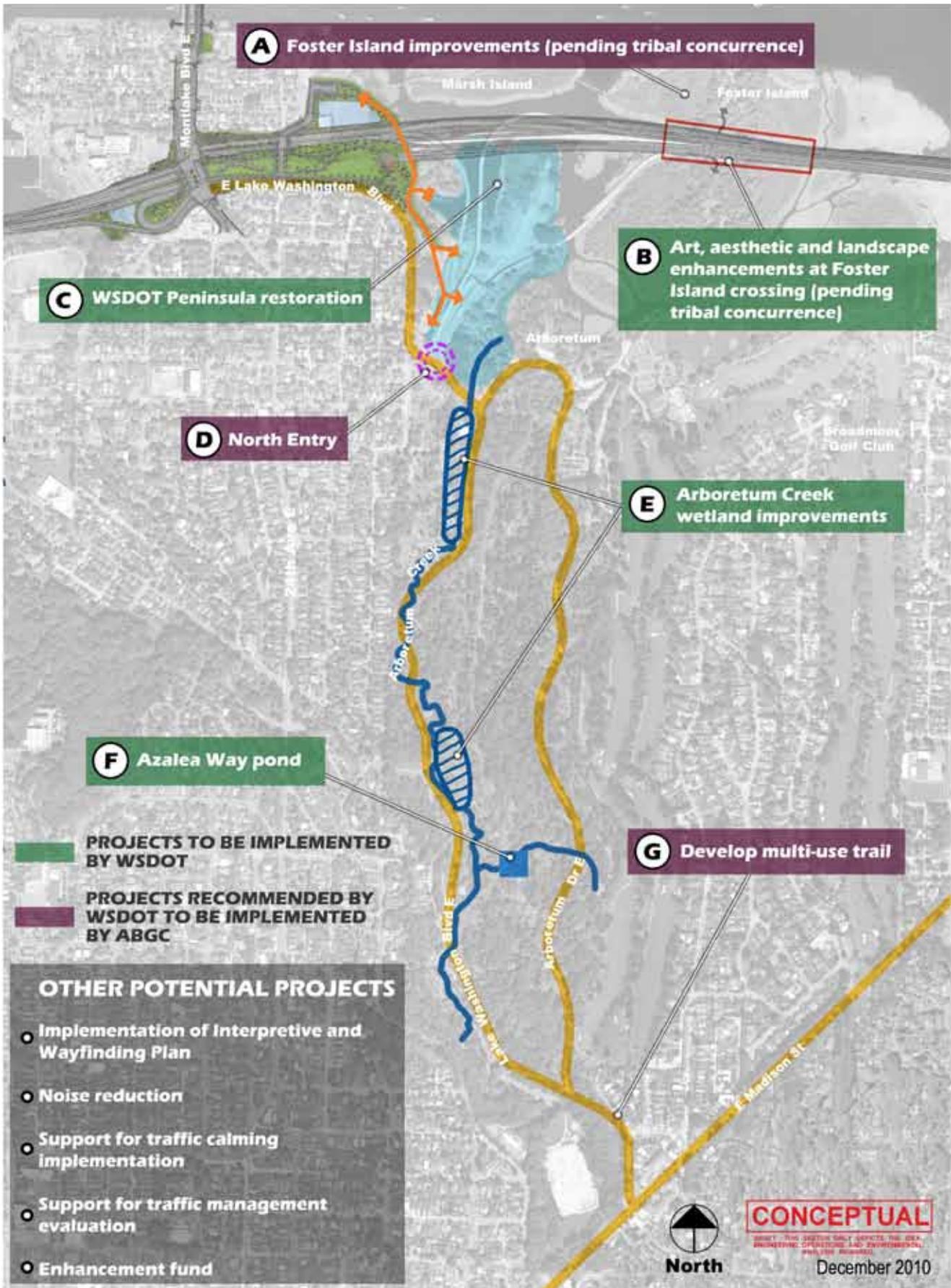
*The Arboretum provides habitat for many birds and wildlife, such as this heron.*

## Recommended mitigation measures

Key to graphic on pg. 28	Project/Measure	Addresses adverse effect?	Potentially satisfies regulatory requirements for mitigation?	Master Plan priority project?	Lead
A	Foster Island Improvements (pending tribal coordination) <sup>1</sup>	Yes (increased footprint, construction disturbance)	Yes (Section 4f)	Yes	ABGC
B	Art, aesthetic and landscape enhancements at Foster Island crossing (pending tribal coordination)	Yes (increased footprint and structure bulk)	Yes (Section 4f, general NEPA requirements)	N/A <sup>2</sup>	WSDOT
C	WSDOT Peninsula wetland restoration	Yes (wetland effects elsewhere in Arboretum)	Yes (Sections 401 and 404, Seattle CAO, Section 4f)	N/A <sup>2</sup>	WSDOT
D	North Entry <sup>1</sup>	Yes (ramp removal, Lake Washington Boulevard changes)	Yes (Section 4f)	Yes	ABGC
E	Arboretum Creek wetland improvements	Yes (wetland effects elsewhere in Arboretum)	Yes (Sections 401 and 404, Seattle CAO, Section 4f)	Yes	WSDOT
F	Azalea Way Pond	Yes (wetland effects elsewhere in Arboretum)	Yes (Sections 401 and 404, Seattle CAO, Section 4f)	Yes	WSDOT
G	Multi-use trail <sup>1</sup>	Yes (restores/enhances trail connections)	Yes (Section 4f)	Yes	ABGC
Other	Implementation of Interpretive and Wayfinding Plan in areas being improved by WSDOT	Yes (changes in this area create additional wayfinding needs)	Yes (Section 4f)	Yes	ABGC
Other	Noise reduction (4-foot barriers with sound absorption, quieter concrete pavement, and raised profile)	Yes (increased noise in some areas of Arboretum)	No (does not meet FHWA mitigation requirements); proposed as enhancement	N/A <sup>2</sup>	WSDOT
Other	Support for traffic calming implementation	Yes (potential increase in pedestrian use as a result of project-related traffic reductions)	Yes (general NEPA requirements)	N/A <sup>2</sup>	SDOT
Other	Support for traffic management evaluation	TBD	TBD	N/A <sup>2</sup>	SDOT
Other	Enhancement Fund	Allows for project overruns or other approved Master Plan projects if one of the above projects is unbuildable or becomes a diminished priority	Yes	Yes	ABGC

<sup>1</sup> WSDOT may fund these projects in whole or part, pending additional project scoping and coordination with the ABGC.

<sup>2</sup> These projects are not identified in the 2001 Arboretum Master Plan because they are action-specific effects. Nevertheless, the ABGC supports their implementation and has suggested WSDOT evaluate them as potential mitigation.



WSDOT Evaluation of potential mitigation projects in the Washington Park Arboretum.

The mitigation projects are described in more detail below. WSDOT may fund these projects in whole or part, pending additional project scoping and coordination with the ABGC.

### **A: Foster Island improvements**

The Arboretum Master Plan outlines a variety of improvements that the ABGC has prioritized on Foster Island. Foster Island, which the new SR 520 will cross, is considered to be a traditional cultural property with ongoing cultural value to Native American tribes. Therefore, implementation of any Foster Island improvements is pending tribal concurrence. Due to ongoing coordination with tribal staff, this plan does not include specific recommendations for mitigation on Foster Island.

### **B: Art, aesthetic and landscape enhancements at Foster Island crossing**

Art, aesthetic and landscape enhancements and other design features could occur within future WSDOT right of way areas. Due to ongoing coordination with tribal staff, this plan does not include specific recommendations for mitigation on Foster Island. WSDOT will continue to work with the tribes and ABGC to identify and implement appropriate aesthetic treatments for the new crossing of Foster Island.

### **C: WSDOT Peninsula restoration**

As part of the I-5 to Medina project, WSDOT will remove the existing unused freeway ramps as well as the SR 520 on- and off-ramps in the Arboretum. WSDOT would also construct improvements as part of ramp removal and reconstruction of Lake Washington Boulevard, potentially including:

- Restoration following ramp removal.
- Restoration of wetlands on the northern portion of property.
- Rehabilitation of existing wetlands.
- Establishment of forested buffers around the restored wetland.

A portion of the WSDOT Peninsula will be graded and planted to restore and expand wetland areas. WSDOT is evaluating the possibility of transferring property from the WSDOT to the Arboretum owners as part of its mitigation for wetland and Section 4(f) effects. Should all or part of the property need to be surplus, Arboretum owners would be offered an opportunity to purchase it as a contiguous landowner.

### **D: North Entry**

The ABGC has identified potential improvements to the Arboretum North Entry in their Arboretum Master Plan. Additional project scoping is needed to identify and prioritize project elements.

### **E: Arboretum Creek wetland improvements**

The Arboretum Master Plan describes a variety of modifications to Arboretum Creek that could enhance the creek's natural appearance and ecological function. WSDOT proposes to:

- Restore the forest through buffer enhancement and conifer planting at the mouth of Arboretum Creek.
- Convert piped sections of the stream to natural open channel and remove/reconfigure the parking lots to restore the stream channel and riparian forest.
- Add stream bends and wood habitat structures at north end of Arboretum creek and excavate the middle section of the creek to establish wetland hydrology along the creek margins.
- Rebuild creek bed and restore riparian zone.

### **F: Azalea Way Pond**

Improvements to the Azalea Way Pond have also been described in the Arboretum Master Plan. WSDOT proposes to:

- Restore hillside seep wetland above pond and revegetate.
- Remove pipe drain and restore an open channel from the pond to Arboretum Creek.

### **G: Develop multi-use trail**

The ABGC has also identified potential improvements to a multi-use trail in their Arboretum Master Plan. Additional project scoping is needed to identify and prioritize project elements.

### **Other: Implementation of Interpretive and Wayfinding Plan**

In areas being improved as part of the I-5 to Medina project, WSDOT would implement (or fund the implementation of) signage and other measures consistent with the Arboretum's Interpretive and Wayfinding Plan. The 2004 Interpretive and Wayfinding Plan guides development of a consistent wayfinding system throughout the Arboretum and application of Arboretum-wide interpretive messages.

### **Other: Noise reduction**

Noise reduction measures are included as part of the preferred alternative for the I-5 to Medina project. The preferred alternative is an elevated structure that includes a 4-foot-high traffic barrier with noise absorptive material. This barrier, in conjunction with the higher roadway profile, is predicted to reduce noise levels on Foster Island.

WSDOT also plans to construct the SR 520 road surface using quieter concrete. WSDOT cannot guarantee specific noise reduction amounts or acoustic longevity of the noise performance until quieter concrete pavement has been tested and implemented in Washington. However, WSDOT recognizes the benefits that quieter concrete may provide based on tests performed in other states and therefore plans to implement quieter concrete pavement as part of the project and monitor the effectiveness.

### **Other: Support for traffic calming implementation**

The I-5 to Medina project preferred alternative will enhance non-motorized mobility and connections to the Arboretum, thereby resulting in increased Arboretum use by pedestrians and bicyclists. Over the long term, traffic calming measures would reduce traffic speeds, potentially contributing to increased pedestrian and bicyclist safety in the Arboretum.

WSDOT plans to contribute \$200,000 to traffic calming measures that SDOT can implement as early as 2011. Implementing these measures in advance of I-5 to Medina project construction could offset some of the temporary effects to pedestrian and vehicle mobility during construction.

Through ongoing coordination with SDOT, the following potential pedestrian safety and traffic calming improvements are recommended:

- Marked crosswalks on Lake Washington Boulevard to provide visibility at areas frequently used by pedestrians.
- Radar speed signs to educate drivers and reduce speeds through the Arboretum.
- Raised crosswalks to reduce vehicle speeds and improve pedestrian visibility.
- Speed cushions to reduce vehicle speeds.

- Landscaped curb bulbs to reduce vehicle speeds, increase pedestrian safety, and provide a connection to Arboretum character.
- Sign improvements to improve clarity and direct traffic to arterial streets.

Appendix E provides additional information about SDOT's recommended traffic calming measures as well as information about additional ABGC-requested measures (e.g., pedestrian-activated signals).

### **Other: Support for traffic management evaluation**

Although the I-5 to Medina project would reduce traffic volumes on Lake Washington Boulevard compared to a no action alternative, projected traffic is expected to be higher than existing levels. The additional traffic by the year 2030 would occur as a result of projected regional growth in population and employment that is independent from the project.

Through ongoing coordination with the ABGC and WSDOT, SDOT has recommended further evaluation of the following potential traffic management measures:

- Signing improvements to direct SR 520-related traffic to the Montlake interchange on routes other than Lake Washington Boulevard.
- Traffic signal modifications to discourage traffic from routing through the Arboretum.
- Traffic calming treatments to slow traffic and create a safer environment for pedestrians and bicyclists within the Arboretum (see Appendix E).
- Turn restrictions to direct SR 520-related traffic away from the Arboretum during off-peak times.



*Trail improvements would provide additional recreation areas and connectivity to existing trails. Photo courtesy of the Arboretum Foundation/Joy Spurr.*

- Traffic restrictions to discourage traffic from SR 520 from using the Arboretum.
- Tolling of Lake Washington Boulevard through the Arboretum to discourage traffic from accessing SR 520 via the Arboretum.

WSDOT will continue coordinating with SDOT and the ABGC to further evaluate traffic management measures that could benefit SR 520 operations and the Arboretum experience. Appendix F provides additional information about SDOT’s recommended traffic management measures for evaluation.

**Other: Washington Park Arboretum Enhancement Fund**

As part of the mitigation for the SR 520 construction project, a fund could be created for the benefit of the Arboretum. In recognition that Arboretum project funding and priorities may change, the purpose of the fund would be to provide mitigation monies for the enhancement of the Arboretum. Monies from the fund would be used for capital projects at the Arboretum

(as it currently exists or as it may be expanded) and for stewardship of new projects. Priority would be given to projects in the following order: (1) to provide any additional funding needed for mitigation projects identified in the Arboretum Mitigation Plan for WSDOT funding, and (2) to other projects specified in the 2001 Arboretum Master Plan.

Contributions may be made to the fund in the event that a specific mitigation project committed to by WSDOT for the benefit of the Arboretum is unable to be accomplished or cannot be accomplished at a cost within the funds available for the project.



*The leaves change colors during fall in the Arboretum. Courtesy of the Arboretum Foundation/Joy Spurr.*

## Arboretum Mitigation Plan | Next steps and future coordination

With the SR 520 program funding secured to date, WSDOT is moving forward in 2011 with construction of pontoons, launching Eastside construction, and selecting a contractor for the floating bridge. WSDOT has not yet secured funding for construction of the west approach, which is the area that would primarily affect the Arboretum and would include Arboretum mitigation.

Publishing the final EIS for the I-5 to Medina project in spring 2011 and obtaining the Record of Decision (ROD) from FHWA will memorialize mitigation measures. WSDOT can then move forward with construction permits and ultimately construction of the floating bridge, which has funding secured. WSDOT will continue to work with the Washington State Legislature and the Governor's office to secure additional funding for the I-5 to Medina project.

### **How will identified mitigation projects be funded and implemented?**

WSDOT generally implements mitigation concurrently with the effects that necessitate it. For Arboretum mitigation, WSDOT plans to primarily implement the recommended mitigation projects when the associated effect occurs. In addition to satisfying regulatory requirements, funding for mitigation will be available on the same timeline as funding for project construction. With WSDOT's funding and continued coordination, SDOT will be able to implement some traffic calming measures as early as 2011.

However, before mitigation project funding and implementation can begin, WSDOT will continue to work with the ABGC to develop scopes of work and estimated costs for the recommended projects. This will allow WSDOT to allocate funding for mitigation projects with a higher degree of certainty and also allow the ABGC to integrate the proposed projects into ongoing implementation of the Arboretum Master Plan.



*Water lilies beneath the existing SR 520 ramps. The ramps will be removed as part of the I-5 to Medina project.*

WSDOT and the ABGC are working together to develop a Memorandum of Understanding, which will identify the roles and responsibilities of each party involved in scoping and implementing Arboretum mitigation projects. WSDOT will enter into agreements as appropriate to implement these commitments. Mitigation project scoping is planned to begin in spring 2011 so that the ABGC and WSDOT can then prioritize project elements and develop an implementation schedule. Concurrence on the scopes and implementation schedule of the mitigation projects will be documented through a series of agreements between the parties involved. As described above, funding and implementation of mitigation projects will correspond with construction funding and commencement.

### How will WSDOT continue coordinating with the ABGC?

WSDOT anticipates continuing to work closely with the ABGC in advance of and during project construction. This includes the following mechanisms:

- **Mitigation plan.** As described in the previous section, WSDOT will continue to coordinate with the ABGC to define and prioritize mitigation projects in order to clarify the overall budget and implementation responsibilities. The information is intended to be included in the final EIS.
- **Urban design process.** WSDOT and the ABGC, in coordination with the Seattle Design Commission, will continue to work closely on urban design concepts and related design details that fit both within WSDOT's I-5 to Medina corridor, as well as within the context of the Arboretum. This could include art, aesthetic and landscape improvements on Foster Island (pending tribal concurrence) and the Montlake lid.
- **Ongoing planning for mitigation under Sections 4(f) and 6(f).** WSDOT will continue to work with the Parks TWG, whose participants include the city of Seattle and the University of Washington, to define park-related mitigation measures, including the Arboretum, for inclusion in the I-5 to Medina project final EIS and ROD. The ROD serves as the FHWA and WSDOT formal commitment to implement the agreed-upon mitigation measures.
- **Section 106.** The Arboretum Foundation, city of Seattle, and University of Washington will continue to work with WSDOT and FHWA to describe effects to historical and cultural resources and identify mitigation measures.

Mitigation in the Section 106 process could be outside of mitigation identified in the ESSB 6392 process.

- **Fieldwork notification.** WSDOT anticipates additional fieldwork needs in and around the Arboretum to assess existing conditions before construction begins. As is currently done, WSDOT will continue to notify the Arboretum Foundation, city of Seattle, and University of Washington in advance of any nearby fieldwork.
- **Ongoing correspondence during construction.** WSDOT will also continue to maintain close coordination with the Arboretum Foundation, city of Seattle, and University of Washington during construction to ensure proper notification when noisy work or other disturbances could occur. The process for correspondence during construction will be outlined through a community construction management plan.

### What are WSDOT's next steps?

In addition to coordinating with the ABGC on scoping and the additional processes previously described, the following next steps were identified for WSDOT:

- **Ensure compliance with environmental regulations.** Most of the mitigation projects WSDOT plans to implement are subject to evaluation and approval by regulatory agencies. WSDOT will continue to work with these agencies through existing forums and the permitting process to clarify implementation and potential monitoring requirements.
- **Facilitate coordination with tribes.** As an extension of the ongoing Section 106 process, WSDOT will assist the ABGC in working with interested tribes to ensure that their interests are considered in the design of the Foster Island crossing and in the design and implementation of any additional improvements on Foster Island.
- **Traffic management plan.** SDOT will continue to work with the ABGC and WSDOT to evaluate the traffic management measures identified in Appendix F. The outcome of this evaluation will be the development of an Arboretum traffic management plan. Although the I-5 to Medina project would reduce traffic volumes on Lake Washington Boulevard in 2030 compared to no action, WSDOT will continue coordinating with SDOT and the ABGC to identify and potentially implement appropriate traffic management measures for the Arboretum.

## Arboretum Mitigation Plan | References

BOLA Architecture + Planning and Karen Kiest. 2003. Washington Park Arboretum Historic Review. [www.seattle.gov/parks/arboretum/History.pdf](http://www.seattle.gov/parks/arboretum/History.pdf). Accessed April 2009. Prepared for the city of Seattle Parks and Recreation, Seattle, Washington. September 2003.

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City of Seattle, University of Washington, and The Arboretum Foundation. 2001. Washington Park Arboretum Master Plan. January 2001. [www.cityofseattle.net/parks/arboretum/Docs/apx-a1.pdf](http://www.cityofseattle.net/parks/arboretum/Docs/apx-a1.pdf). Accessed August 2010.

Cascade Interpretive Consulting and Lehrman Cameron Studio. 2005. Washington Park Arboretum Interpretive and Wayfinding Plan. [depts.washington.edu/uwbg/docs/finaliwplan.pdf](http://depts.washington.edu/uwbg/docs/finaliwplan.pdf). Accessed October 2010.

# Arboretum Mitigation Plan | **Appendices**

Appendix A: ABGC Coordination Process

Appendix B: Meeting Summaries

Appendix C: ABGC Letter of Support

Appendix D: Seattle City Council letters (April and September 2010)

Appendix E: SDOT's Recommended Pedestrian Improvements and Traffic Calming Plan

Appendix F: SDOT's Arboretum Traffic Management Matrix

Appendix G: Washington Park Arboretum Master Plan Priorities

Appendix H: Public Comments



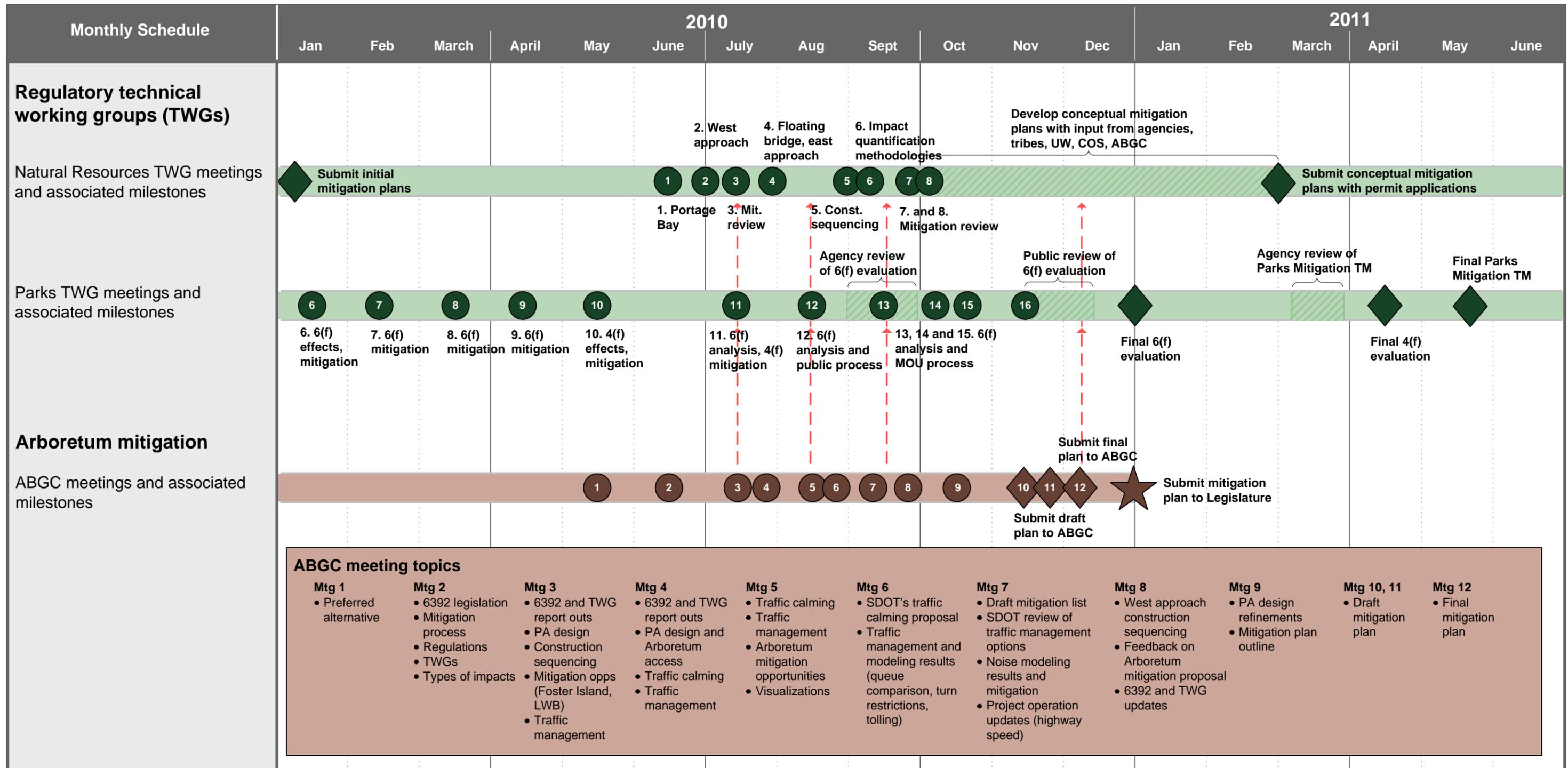


# SR 520 Bridge Replacement and HOV Program



## Mitigation Coordination and Approval Milestone Schedule Updated Nov. 10, 2010

I-5 to Medina: Bridge Replacement and HOV Project





## Arboretum and Botanical Garden Committee Meeting Summary

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Wednesday, May 12, 2010, 9:30 to 10:30 a.m.

Graham Visitors Center, Arboretum Drive, Seattle, WA

### Attendees

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#### SR 520 Program:

- Julie Meredith, SR 520 Program Director
- Michael Horntvedt, SR 520 Transportation Manager
- Kerry Ruth, I-5 to Medina Project Engineering Manager
- Jenifer Young, I-5 to Medina Project Environmental Manager
- Katie DeLeuw, SR 520 Program Environmental Communications

#### ABGC:

- Theresa Doherty, University of Washington, Assistant Vice President for Regional Affairs
- Sandra Lier, Vice-Chair and UW Botanic Gardens Director
- Paige Miller, Arboretum Foundation Executive Director
- David Graves, City of Seattle Parks Department
- Jack Collins, Mayoral Appointee

### Meeting overview

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The purpose of the briefing was to provide ABGC members with information about the preferred alternative, including the following topics:

- Background, getting to the preferred alternative – Julie Meredith.
- SDEIS comments and what we heard from ABGC – Jenifer Young.
- Detailed overview of preferred alternative – Kerry Ruth, Julie Meredith.

## Discussion of meeting topics

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### Montlake lid

- Theresa Doherty: How long is the proposed Montlake lid?
  - Julie Meredith: The Montlake lid is proposed to be 1400 to 1500 feet long. This exceeds the length originally planned for each lid (500 – 700) feet at which ventilation would not be required.
- David Graves: Will ventilation be required?
  - Julie Meredith: There would likely be some fans but additional analysis is needed to determine the type, size, etc. of the ventilation system. This is the trade off of the longer lid.
- Barbara Wright: How will bicycle and pedestrian traffic be able to cross the lid? The original design for the lid seemed to be more like a park, while this new proposed design seems more like green space between traffic lanes. It is important to the ABGC that the Arboretum remains accessible to all users.
  - Kerry Ruth: The lid design does include bike and pedestrian connections to the existing parks, and connects the Montlake neighborhood to the Arboretum.
- How many lanes of traffic are proposed on the north side of the lid?
  - Kerry Ruth: There would be four lanes of traffic total – two HOV and two general purpose lanes. A left turn lane is also included on a portion of the lid.
- Theresa Doherty: How will the function of the removed Montlake Flyer Stop be replaced?
  - Kerry Ruth: From the Eastside, transit users will need to decide whether to board a bus to the UW or to downtown Seattle at the Evergreen Point Road transit stop.

### Lake Washington Boulevard

- Will there be a traffic signal at Lake Washington Boulevard?
  - Yes. Drivers will be able to turn left or right on to Lake Washington Boulevard at a traffic light once they cross the lid.
- Will drivers be incentivized to use 23rd Avenue E. rather than Lake Washington Boulevard?
  - Julie Meredith: We will be coordinating with SDOT to develop traffic management plan for the Arboretum that would include traffic calming mechanisms and potentially a fee system for use of Lake Washington Boulevard from SR 520.

### Montlake bridge and triangle

- What are the two green spots on either side of the new bascule bridge?
  - Julie Meredith: These are meant to show that the two properties currently at those locations will need to be acquired.
- Theresa Doherty: Can you explain the concept being evaluated for the Montlake triangle area?
  - Julie Meredith: We are moving forward with the UW to help fund a portion of the Rainier Vista plan. The proposed design in this area includes lowering a portion of

Montlake Boulevard E. so that a grade-separated pedestrian crossing can connect over the roadway. This should improve bicycle and pedestrian connections in the area. We will continue to evaluate this concept through the legislatively-mandated workgroups.

### **Portage Bay bridge**

- Barbara Wright: Will WSDOT irrigate the planting strip on the bridge?
  - Kerry Ruth: The details of how the planting strip will be maintained are to be determined.

### **Traffic and transit**

- WSDOT should consider lowering the speed limit earlier rather than just between Montlake and I-5. As drivers travelling eastbound enter the Seattle side, it would be good to lower the speed limit through Marsh and Foster Islands so that the noise would be reduced in these areas as well.
  - Julie Meredith: This is still under discussion. We understand the difficulty in significant speed limit changes and may consider gradual reductions. We're also incorporate active traffic management mechanisms in this area. Also, to clarify, this project will not result in alleviated general purpose congestion. There will still be traffic and queues. The benefits will primarily be related to transit and HOV mobility.
- Paige Miller: It is very important to ABGC that WSDOT minimizes potential future impacts to the Arboretum when a light rail system is incorporated.
  - Julie Meredith: The proposed preferred alternative design includes a gap between the eastbound and westbound lanes so that the bridge would not need to be widened to accommodate potential light rail in the future.

### **Foster Island**

- Paige Miller: Can you describe how the proposed design crosses Foster Island?
  - Kerry Ruth, Julie Meredith: This area needs additional work. We hope to minimize impacts and provide pedestrian access during construction. The structure will have a constant slope, reduced toward Montlake. The profile at Foster Island will allow for permanent pedestrian access. We hope that the columns can be constructed far enough apart to span Foster Island but have not determined if this is possible yet. The west approach height was determined by balancing input from agencies and the public.
  - Julie Meredith: Additional work is needed with the tribes on both fishing rights and cultural resources. Now that we have identified a preferred alternative, we are beginning Government to Government consultation. We will not be able to further Foster Island discussions with the ABGC until we have clarified this with the tribes.

## Noise

- The majority of nearby residents don't seem to want noise walls – is this what you've heard?
  - Julie Meredith: Yes, this seems to reflect what we've heard. It is important to note that other noise features are also proposed as part of the preferred alternative. We are calling these features rather than noise reduction methods because they are not federally recognized methods for reducing noise.

## Coordinating on Arboretum mitigation

- Theresa Doherty: Rather than convening a separate group, it might be the most efficient for WSDOT to meet directly with ABGC regarding Arboretum mitigation. We can convene special meetings or dedicate full ABGC meetings to the SR 520 project as needed.
- The ABGC can provide more input and interact with WSDOT on this project rather than just be briefed.

## General input and questions

- Although it seems like there is still a ways to go with the design, WSDOT's sensitivity to ABGC's recommendations is appreciated.
- What are the current hurdles for the project? Are there currently any legal challenges?
  - Julie Meredith: There are currently no legal challenges. We plan to issue a final EIS in late 2010 or early 2011, and then the record of decision. The period of potential legal challenges would occur after these environmental milestones are completed.

## Requests and action items

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- The SR 520 team will meet with Barbara to confirm the coordination process with ABGC moving forward.
- The SR 520 team will return to the ABGC in June.
- Barbara Wright will gather questions and requests from the ABGC members in advance so that the SR 520 project team can be prepared to address these topics.

## Arboretum and Botanical Garden Committee Meeting Summary

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Wednesday, June 9, 2010, 8:30 – 9:45 a.m.

Graham Visitors Center, Arboretum Drive, Seattle, WA

### Attendees

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#### SR 520 Program:

- Heather Catron, SR 520 Program Operations Manager
- Rob Berman, SR 520 Program Planning Manager
- Kerry Ruth, I-5 to Medina Project Engineering Manager
- Jenifer Young, I-5 to Medina Project Environmental Manager
- Katie DeLeuw, SR 520 Program Environmental Communications

#### ABGC:

- Barbara Wright, Chair and Arboretum Foundation President
- Sandra Lier, Vice-Chair and University of Washington Botanic Gardens (UWBG) Director
- Paige Miller, Arboretum Foundation Executive Director
- Jack Collins, Mayoral Appointee
- Theresa Doherty, University of Washington, Assistant Vice President for Regional Affairs
- Dave Towne, Washington State Governor's Appointee
- David Graves, Seattle Parks, Project Manager
- Donald Harris, Seattle Parks, Property Manager
- Fred Hoyt, UW Botanical Gardens, Associate Director
- Michael Shiosaki, Seattle Parks, Planning & Development Deputy Director
- Nancy Belcher
- Terry Dunning, City of Seattle Parks Department
- Sandy Brooks, ABGC coordinator

#### Public and other:

- Susan Black
- Sara Belz, City Council staff

## Meeting overview

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- Traffic management
- Mitigation
- Updates and next steps

## Meeting topics and associated comments/questions

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### ESSB 6392 workgroups and Arboretum mitigation plan

- Sandra Lier emphasized the word “enhance” in the legislation, which could be interpreted as including mitigation beyond what the regulations require.
- Paige Miller expressed interest in weighing in on the traffic management plan before it is complete. She is primarily concerned with traffic in and around the Arboretum. Rob stated that he plans to ensure information is shared between the various work groups.
- Nancy Belcher requested clarification on what is meant by “mitigation.” Rob explained that, to meet regulatory requirements, the team worked to avoid effects (as evident by the preferred alternative design) and is continuing to refine the design to minimize unavoidable effects. Remaining effects will be mitigated per environmental resource regulations.
- Paige Miller reemphasized her concern with traffic management and the ABGC’s role in designing a traffic management plan. Stephanie Brown suggested that the SR 520 team discuss this with Julie Meredith and Dave Dye. Paige requested the team walk the ABGC through the proposed traffic management plan at a future meeting. Rob agreed to address this at the July meeting.
- Nancy Belcher requested more detailed design and project footprint information; Rob agreed to provide this at subsequent meetings.
- Jack Collins requested information on noise from Lake Washington Boulevard at a future meeting.
- Barbara Wright suggested the group consider whether longer or more frequent meetings will be needed to discuss all the identified topics.

### ABGC’s guiding principles and SDEIS comments

Rob Berman led a discussion of ABGC’s guiding principles and primary topics addressed in SDEIS comments regarding the Arboretum, including Lake Washington Boulevard and ramps, noise, mitigation, bicycle and pedestrian connections, Foster Island. Comments included:

- Donald Harris emphasized the importance of traffic calming as the ABGC thought they would be coordinating more closely with SDOT on this.
- Rob Berman suggested the group also discuss the timing of various mitigation elements, specifically when they can be implemented.
- Nancy Belcher expressed a concern regarding effects to air and water quality.

## Agency coordination

Rob Berman provided an overview of

- Existing regulatory **agency coordination** processes – RACp/TWGs, separate Section 106 process (Rob).
  - Jack Collins commented on the process of working with the ABGC. He is concerned that WSDOT continues to give presentations rather than allow for discussions or working sessions. Rob agreed and explained that the team wanted to ensure that everyone is on the same page and has the same background at this first meeting. Subsequent meetings will be structured like working sessions and the team will be soliciting ABGC input on various components.
  
- Overview of **regulations** pertaining to Arboretum resources and mitigation – Sections 4(f), 6(f), 106, Clean Water Act 404 and 401, Seattle CAOs, FHWA noise abatement criteria (Jenifer).
  - Paige Miller asked if separate Section 4(f) analyses are conducted for effects from the SR 520 mainline and the ramps. Jenifer explained that they are evaluated holistically in terms of the resource being affected. Indirect effects such as traffic, noise and air quality are also evaluated.
  - Theresa Doherty clarified the process the Parks TWG has worked through to identify potential Section 6(f) replacement properties, starting from 87 potential properties. Replacement properties must be equal value and provide similar uses as the affected property. The UW and city of Seattle would prefer the replacement properties for affected Arboretum property is located near the Arboretum.
  - The group discussed the challenge in finding a large enough replacement property, what the waterfront trail would look like once the project is complete (restored) , the appraisal process for 6(f) properties and the overlap between 4(f) and 6(f).
  - Terry Dunning suggested distributing the Section 6(f) maps from the Parks TWG at the next ABGC meeting.
  - Paige Miller inquired about the amount of wetland fill anticipated. Jenifer explained that wetland fill will be less than a half-acre.
  - Jack Collins requested more information on how the height of the bridge affects Foster Island as he's heard conflicting opinions. Rob explained there are many factors and this can be subjective – this can be a discussion at the next meeting.
  - Nancy Belcher inquired about noise walls in the Arboretum – the SDEIS states that they are the only approved noise reduction method but are not reasonable and feasible in the Arboretum. Jenifer explained that noise walls for the Arboretum would not be cost-effective due to the cost of the noise walls and the number of benefitted users. However, the project team does anticipate discussing noise walls among other noise-reduction techniques for the Arboretum. Nancy requested the team evaluate transparent noise walls among other methods. The team will return with more information about potential benefits and noise-reduction options.

- Paige Miller suggested the team develop a physical 3D model of the preferred alternative for discussion. Other ABGC members supported this concept and thought Julie M. and Dave Dye had previously agreed to consider this. Rob and Heather agreed to discuss potentially developing a model.

## **Action items**

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- Provide handouts to Barbara Wright electronically – for the June meeting and in advance of future meetings.
- Return in July for a longer working session; be prepared to discuss:
  - Traffic management and potential ideas for traffic calming. (Paige requested a more detailed walk-through.)
  - Clarity on design and project footprint.
  - Resources and impacts in detail, including Section 6(f) impact maps per Terry's suggestion.
  - How the height of the bridge affects impacts to Foster Island – noise, wildlife, etc.
- Continue updating ABGC on the Section 106 process.
- Consider developing a preferred alternative 3D model.
- Ensure all future graphics include comparisons for existing, construction, project complete/operational.



## Arboretum and Botanical Garden Committee Meeting Summary

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Wednesday, July 14, 2010, 8:45 – 11:15 a.m.

Graham Visitors Center, Arboretum Drive, Seattle, WA

### Attendees

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#### SR 520 Program:

- Rob Berman, SR 520 Program Planning Manager
- Kerry Ruth, I-5 to Medina Project Engineering Manager
- Jenifer Young, I-5 to Medina Project Environmental Manager
- Michael Horntvedt, SR 520 Program Transportation Manager
- Bruce Jamieson, I-5 to Medina Project Construction Specialist
- Katie DeLeuw, SR 520 Program Environmental Communications

#### Seattle Department of Transportation:

- Andrew Barash
- Luke Korpi

#### ABGC:

- Barbara Wright, Chair and Arboretum Foundation President
- Sandra Lier, Vice-Chair and UW Botanic Gardens Director
- Paige Miller, Arboretum Foundation Executive Director
- Jack Collins, Mayoral Appointee
- Donald Harris, Seattle Parks, Property Manager
- Fred Hoyt, UW Botanical Gardens Associate Director
- Michael Shiosaki, Seattle Parks, Planning & Development Deputy Director
- Iain Robertson, UW Associate Professor, Department of Landscape Architecture
- Kjris Lund, Mayoral Appointee
- Sandy Brooks, ABGC coordinator

#### Public:

- Nancy Belcher
- Susan Black
- Other public attendees

### Meeting overview

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- Purpose of today's discussion – Rob Berman.
- Recap of June SR 520 presentation – Rob Berman.
- Updates from other work groups – Kerry Ruth, Jenifer Young.
- Preferred alternative design and construction sequencing – Kerry Ruth, Bruce Jamieson.

- Foster Island, Lake Washington Boulevard Ramps: ABGC questions, ideas for potential improvements – All.
- SDOT Arboretum Traffic Management – Andrew Barash, Luke Korpi.

## **Discussion of meeting topics**

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### **3-D model**

Rob Berman explained that the SR 520 team does not plan to develop a physical three-dimensional model (which the ABGC had previously requested), but are developing a computer simulation that shows the preferred alternative (PA) design through a video. Questions and comments included:

- Paige Miller: All visualizations so far have been from the highway. It would be helpful to have views from the ground toward the SR 520 highway. A physical model (rather than a computer simulation) would be ideal.
- Kjris Lund: The ABGC may consider writing a letter to Paula Hammond and Dave Dye requesting a physical model of the SR 520 project since the SR 520 project team is not planning to provide one.
- Michael Shiosaki: Some of the stills from the computer simulation will likely be more accurate than a physical model would be. It will be good to see the visualizations the team has developed.
- Rob Berman: We can create additional viewpoints based on your input. We'd like to show you what our team has developed and hear from you about additional viewpoints.

### **ESSB 6392 workgroups and process**

Kerry Ruth reviewed the ESSB 6392 workgroup coordination chart and the ABGC/Technical Coordination Team (TCT) coordination chart. Questions and comments included:

- Jack Collins: I am surprised to see that you are not planning to attend the ABGC meeting in November, as this seemed like an important time to review the draft mitigation plan.
  - Rob Berman: This is an oversight; we will correct this.
- Kjris Lund: It is great to see that you plan to incorporate additional meetings to cover traffic management. We appreciate the recognition that this topic will take more time.
- Jack Collins: The Master Plan Implementation Group (MPIG) meets between the monthly ABGC meetings. Maybe we could use the MPIG meetings for traffic management discussions.
  - The group agreed that this would be appropriate. The MPIG generally meets the fourth Monday of each month; Michael Shiosaki chairs this group. Barbara Wright will follow up with Rob Berman regarding specific meeting dates and times. Barbara Wright and Sandy Brooks will determine how to include other meeting participants in the MPIG meetings.

### **PA design and construction sequencing**

Kerry Ruth walked through an engineering drawing that shows the PA design. Kerry also reviewed still visualizations of the removed Lake Washington Boulevard ramps and Foster Island path/undercrossing.

She explained that the team wants to hear ABGC's input on the conceptual design and aesthetics of these areas. Questions and comments included:

- There is no noise barrier shown on the visualization. Will one be provided?
  - Noise barriers are not assumed to be part of the design in this area at the moment. The SR 520 team would like ABGC's input on whether this assumption is accurate.
- Will the berm where the Lake Washington Boulevard ramps currently enter the Arboretum be removed?
  - The SR 520 team would like ABGC's input on this.
- Can any of the columns under the SR 520 bridge on Foster Island be removed?
  - No. All the columns shown in the visualization are necessary to support the bridge structures.
- Has the shape of the columns been determined?
  - The shape of the columns is not set. They may be round or square.
- Barbara Wright: The ABGC would like to provide input regarding the aesthetics of these structures.
- Iain Robertson drew the locations and perspectives of additional viewpoints that he feels would be useful for the ABGC on the engineering drawing.
- Paige Miller: Has anyone evaluated the potential impacts of shading Foster Island?
  - Jenifer Young: Yes, the natural resources team has evaluated shade impacts in terms of vegetation growth. They found that vegetation does not generally grow beneath bridges that are eight feet high or lower. Some vegetation grows underneath bridges between eight and 24 feet high. Bridge structures above 24 feet high seem to have no impact on vegetation growth.
- Paige Miller: It would be helpful to understand the types of plants that will grow in these areas.
- Jack Collins: A physical model would help illustrate what the area underneath the bridge structures would look like. Additional computer simulation images would be helpful.
  - Kerry Ruth: We will develop additional simulation stills to help you understand what this area will look like.
- Fred Hoyt: Simulations from underneath the bridge would be helpful to better understand the amount of shade.

Bruce Jamieson walked through the temporary work structures roll plot and construction sequencing schedule. Questions and comments included:

- Paige Miller: Will pile driving be part of the construction in this area?
  - Bruce Jamieson: Yes, there will be both vibratory pile driving and impact pile driving. The contractor will use the vibratory technique as much as possible but will likely need to conduct some impact pile driving to complete some of the piles.
- What time of year will pile driving occur?
  - Bruce Jamieson: Pile driving can only take place in certain times of year based on in-water construction windows. There would be about six months worth of pile driving.
- Will the path on Foster Island remain open during construction?

- Bruce Jamieson: The team hopes to keep the path open as much as possible. Some closures will be required to ensure safety during certain construction activities.
- Kjris Lund: What is the problem with pile driving? Why is it a concern?
  - Paige Miller: Pile driving cause noise and vibration impacts. ABGC needs more information about the timing, duration, and impact minimization measures associated with pile driving.
- Iain Robertson: The engineering drawing is very confusing. There are too many lines and no legend. It is too difficult to understand.

## Mitigation

Jenifer Young described the mitigation ideas that the agencies have suggested through the TWG processes. She explained that the SR 520 team would like to hear ABGC's input on these concepts, and any additional ideas for mitigating within the Arboretum. The ABGC provided the following suggestions for mitigation opportunities:

- Arboretum Creek
  - Enhance the flow by the Japanese Gardens.
  - Divert flow from the Seattle Public Utilities stormwater facility.
  - Evaluate opportunities for improving flow past Madison Street.
- Foster Island
  - Consider including amenities on the bridge structure/undercrossing; use Discovery Park as an example.
  - Improve the Foster Island trail.
- Lake Washington Boulevard ramps
  - Define a process for ABGC's/UW's participation in the design of ramp area restoration.
  - Remove the berm at the north entry to the Arboretum.
- Bicycle and pedestrian mobility/connections
  - Improve the connection between "Arboretum North" and the main part of the Arboretum.
  - Incorporate the multi-use bicycle trail identified in the Arboretum Master Plan.
  - Evaluate the connection of roadways, trails and traffic, especially at the entrance to the Arboretum and connections with Foster Island Drive.
  - Include methods to improve wayfinding, e.g. signage, so that getting to the Arboretum is more intuitive.
- Use concepts identified in the Arboretum Master Plan.
- Consider opportunities to provide Arboretum offices, as this was a verbal agreement with MOHAI that may be lost.

Questions and comments included:

- Kjris Lund: Is funding for mitigation available?
  - Jenifer Young: Funding for mitigation is included in the overall project budget. Certain types of mitigation are required so funding is accounted for. Other types may not be

required through regulations so they may need to be prioritized based on available funding.

- Iain Robertson: How can we ensure that the funding for mitigation is not lost or used to cover other cost overruns?
  - Paige Miller: Some mitigation activities are required by law and cannot be overlooked. The ABGC needs more information about exactly what types of mitigation are required.
- Kjris Lund: Thank you for considering these out-of-the-box concepts. It is helpful for the ABGC to understand these types of options.
- Jack Collins: Can you explain the roles of the SR 520 team? It seems that roles may have shifted and clarification is needed about who fills which role.
  - Rob Berman: Understandable, there are a lot of people with different roles and responsibilities on the project. I am the Planning Manager and deal with all environmental and traffic analyses. In terms of ABGC coordination, I am responsible for ensuring you get the information you need and coordinate directly with Barbara. Jenifer Young leads the environmental side of the project and Kerry Ruth leads the engineering side of the project.

### **Traffic management**

Andrew Barash provided an overview of traffic management concepts suggested by the TCT at a previous meeting and discuss traffic calming vs. traffic volume objectives. Luke Korpi discussed proposed changes to traffic operations within the Arboretum. The ABGC provided the following suggestions for traffic management and operational improvements:

- Improve bicycle and pedestrian “usage” (not just safety).
- Provide incentives for drivers to use alternative routes.
- Traffic studies should incorporate Arboretum needs, e.g. trip diversion.
- The ABGC prefers raised crosswalks rather than marked crosswalks.
- Develop a prioritized list of traffic management solutions. (Rob Berman suggested the ABGC complete this task.)
- Consider a stop sign at Boyer Avenue.
- Consider tolling drivers who use Lake Washington Boulevard to connect to the SR 520 highway.

Questions and comments included:

- Jack Collins: It is important for WSDOT and SDOT to coordinate on traffic management in the Arboretum. I am disappointed that the city is not funded to implement concepts preferred by the ABGC. Maybe WSDOT can fund these as part of SR 520 traffic mitigation.
- The group discussed their preference for raised crosswalks rather than marked crosswalks. SDOT only has funding for a few marked crosswalks. Some ABGC members emphasized the importance of SDOT funding raised crosswalks while others suggested WSDOT fund these types of projects as traffic improvements/mitigation. One suggestion included writing a letter to SDOT to request funding.

- Rob Berman: It would help WSDOT and SDOT to see a list of prioritized traffic management ideas for the Arboretum. I encourage you to prioritize the concepts that you would like to see implemented so that WSDOT and SDOT can determine if and how these can be funded.
- Donald Harris: Since we are continuing to hear the same answer from SDOT representatives regarding funding raised crosswalks, it is likely that a letter will also result in the same answer. It might help if the ABGC changes focus.

## Action items

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- Rob Berman will provide Barbara Wright with additional information regarding Foster Island survey work once finalized and available.
- Katie DeLeuw will ensure the ESSB work group coordination chart is updated to reflect the rescheduled August meeting date (Aug. 18) and add a November ABGC meeting.
- Barbara Wright will follow up with Rob Berman regarding specific Master Plan Implementation Group (MPIG) meeting dates (the next one is July 26) and times. Barbara Wright and Sandy Brooks will determine how to include other ABGC meeting attendees in MPIG meetings at which Arboretum traffic management will be discussed.
- The ABGC is planning to reprioritize elements identified in the Arboretum Master Plan and will provide these updates to the SR 520 team in August.
- The SR 520 team will develop visualizations for additional viewpoints, as suggested by ABGC members. Visualizations will be “user” level views.
- The SR 520 team will provide the following information:
  - Foster Island design – Details regarding the gap in the highway over Foster Island and the height of the bridge at Foster Island so that ABGC members can conceptualize potential improvements.
  - Shade – Describe how shade could affect vegetation beneath the bridge structures and the users’ experience/perspective.
  - Pile-driving – Timing, duration, and methods that will be used to minimize the noise and vibration from pile-driving.
  - Construction windows, e.g. the time of year of certain activities, and the range/distance of noise impacts.
  - A clearer west approach drawing with a legend (attendees found the engineering drawing to be complicated and confusing).
  - SR 520 regulatory mitigation requirements, e.g. the amount and type of mitigation needed, potential ratios. This will help the ABGC understand how the “amenities” they suggest may fit into the regulations.
- The SR 520 team will develop a matrix of mitigation ideas and connections to regulations for discussion at future meetings. Input from the ABGC will be incorporated into the matrix as additional ideas or to characterize identified ideas.
- The ABGC will consider developing a prioritized list of traffic management ideas for the Arboretum – this will help WSDOT and SDOT evaluate their roles in traffic management improvements.
- Luke Korpi will evaluate SDOT’s rationale for not including a stop sign at Boyer Avenue.

- The SR 520 team will follow up with Nancy Belcher regarding the haul routes described in the Section 106 consulting parties briefing on July 8 – more information is needed regarding whether the haul routes near the Miller Street landfill area would be continuous or temporary, and if temporary, then when will this area be used.



## Arboretum and Botanical Garden Committee Meeting Summary

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Monday, July 26, 2010, 3 – 5 p.m.

Graham Visitors Center, Arboretum Drive, Seattle, WA

### Attendees

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#### SR 520 Program:

- Kerry Ruth, I-5 to Medina Project Engineering Manager
- Jenifer Young, I-5 to Medina Project Environmental Manager
- Tresa Bass, SR 520 Program Traffic Operations Lead
- Katie DeLeuw, SR 520 Program Environmental Communications

#### Seattle Department of Transportation:

- Andrew Barash
- Luke Korpi
- Jennifer Wieland

#### ABGC:

- Barbara Wright, Chair and Arboretum Foundation President
- Paige Miller, Arboretum Foundation Executive Director
- Donald Harris, Seattle Parks, Property Manager
- Fred Hoyt, UW Botanical Gardens Associate Director
- Michael Shiosaki, Seattle Parks, Planning & Development Deputy Director

#### Public:

- Nancy Belcher
- George Gunby
- Virginia Gunby
- Jorgen Bader
- Larry Sinnott
- John Barber

### Meeting overview

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- Welcome: Purpose, update on Foster Island field work – Jenifer Young, Kerry Ruth
- Preferred Alternative: Review of Arboretum focus area, access to/from the Arboretum – Kerry Ruth
- Traffic Calming and Traffic Management: Goals and measures of success – Andrew Barash, Luke Korpi, ABGC members

## Discussion of meeting topics

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### Foster Island

Kerry Ruth provided an overview of the fieldwork the team plans to begin in early August. Trained archaeologists will complete all fieldwork by hand. No mechanized equipment will be used. The findings of this fieldwork will be released in the final environmental impact statement (EIS) after close coordination with the tribes.

**ACTION:** The SR 520 communication team will distribute a Foster Island fieldwork fact sheet to Barbara Wright and Paige Miller once it is complete.

### Review of preferred alternative in Arboretum area

Kerry Ruth reviewed the preferred alternative design in the Arboretum area by walking through an engineered preferred alternative layout that the SR 520 team had further clarified based on feedback from the ABGC. Kerry described the following components of the preferred alternative:

- The preferred alternative includes a two-lane westbound off-ramp for general-purpose vehicles along the north side of the Montlake lid.
- The preferred alternative includes transit/HOV direct-access ramps on the Montlake lid to and from the Eastside.
- To access eastbound SR 520 from Montlake Boulevard, like today, vehicles can use the general-purpose loop ramp. Transit/HOV users can use the direct-access on-ramp from the lid.
- At the widest location, there would be 12 lanes across the SR 520 highway east of the Montlake lid.
- The preferred alternative includes removal of the existing Arboretum / Lake Washington Boulevard ramps.
- Drivers using the westbound off-ramp would be able to access Lake Washington Boulevard via 24th Avenue E.

Questions and comments included:

- Local access to 24th Avenue E., just south of SR 520 where it is an alley, may be a concern.
  - Kerry Ruth: Local vehicles could go straight across the lid to access 24th Avenue E.
- Barbara Wright: How will vehicles be discouraged from driving through neighborhoods north of SR 520?
  - Kerry Ruth: This is a topic that the ABGC and SR 520 team can discuss further.
- Nancy Belcher: How much wider is the future Lake Washington Boulevard than the existing Lake Washington Boulevard at the lid?
  - The SR 520 team will follow up to provide this information.
- Paige Miller: WSDOT should model the traffic calming measures that the ABGC has suggested.

## Traffic volumes

Kerry described the volumes for traffic moving through the Arboretum. WSDOT's analysis shows that the volume on Lake Washington Boulevard through the Arboretum today is around 18,000 average daily trips (ADT). Approximately 50% of these are trips that cross Lake Washington via SR 520 and 10% are accessing SR 520 westbound to I-5. The remaining 40%, or about 7,000 vehicles, are not accessing SR 520.

The team also evaluated future traffic volumes in the year 2030 based on the SDEIS forecast. All forecast data will be updated for the FEIS. Under the "No Build" scenario, the ADT is estimated to increase by 25% to 22,500 due to population and employment growth in the area. With construction of the preferred alternative, the ADT would be reduced by 10-15% to 20,000 in 2030. This estimate does not include incorporation of any traffic management measures.

Questions and comments included:

- Barbara Wright: Is it possible to determine where cars are coming from when they travel through the Arboretum?
  - Kerry Ruth: This has not yet been evaluated, but an origin-destination study could be completed.
  - **ACTION:** WSDOT and SDOT will coordinate to develop this study and report back.
  - Larry Sinnott: There is a Lake Washington Boulevard traffic analysis from 2002 that includes an origin-destination study.
- Paige Miller: Many vehicles travel down First Hill and through Madison to access SR 520, as well as from Martin Luther King, Jr. Way.
- Paige Miller: What was the ADT estimated for option A?
  - **ACTION:** The team will report back to the ABGC on the ADT for option A.

## Peak hour traffic

Kerry Ruth provided a comparison of peak hour traffic. During the PM peak hour, there are about 1,400 trips through the Arboretum today. This increases to 1,800 by the year 2030 due to population and employment growth in the area. The SR 520 preferred alternative would reduce this volume by about 300 vehicles per hour to 1,500.

Questions and comments included:

- Larry Sinnott: The number of peak hour trips estimated for option A in 2030 was 1,200.
  - **ACTION:** The SR 520 team will verify this data and report back.
- Nancy Belcher: What does the traffic model show for impacts to Boyer Avenue?
  - Tresia Bass: We had not initially evaluated the arterial streets to this level but are evaluating these effects now.
  - Paige Miller: It would be helpful to have this data.
  - **ACTION:** Provide results of modeling effects to arterial streets when available.
- Barbara Wright: How will bicyclists and pedestrians cross the lid between the Arboretum and Montlake?

- Kerry Ruth: Enhancements are being developed to connect to the lid from the Arboretum. Bicyclists and pedestrians would be able to access the top of the lid where there would be a signalized intersection. They would also be able to cross north-south under the lid.
- George Gunby: Would cars traveling south across the lid be able to turn left on to Lake Washington Boulevard?
  - Kerry Ruth: Yes. Traffic models have indicated that traffic would not increase beyond the No Build 2030 projections.

### Goals for traffic management

Andrew Barash described the traffic management goals the SR 520 Technical Coordination Team (TCT) had previously identified:

- Increased bicycle and pedestrian use and safety through the Arboretum.
- Reduced queue lengths in the Arboretum (compared to a No Build scenario).
- Reduced noise in the Arboretum area.
- Increased use of the Arboretum park.
- Reduced total number of automobile trips through the Arboretum.
- Maintain transit reliability on Montlake Boulevard and 23rd Avenue.

The group suggested the following additions and changes:

- Add “maintain existing character of the Arboretum.”
- Add “reduce speed.”
- Add “vehicle safety” in addition to increased pedestrian and bicycle safety. This could include both real and perceived safety improvements.
- Reduced queue lengths in the Arboretum should be compared to **current** queue lengths rather than the 2030 No Build scenario.
- Reduced noise levels in the Arboretum should be compared to **current** noise levels.
- Increased use of the Arboretum park should specify **visitor** use.
- Reduced total number of automobile trips in the Arboretum should be compared to **current** number of trips.
- Transit reliability should be a measure of success rather than a goal.
- Consider incorporating the following:
  - Limit Arboretum traffic by restricting to local use only (and minimize inconvenience to neighbors using local streets).
  - Discourage use of Lake Washington Boulevard through traffic calming features.
  - Encourage traffic to use alternative arterial routes.

Questions and comments included:

- Paige Miller: Reducing speed could also result in reduced traffic volumes. One of the ABGC’s desires is to reduce traffic volumes at all times of the day. The ABGC has previously stated the goal to reduce cars to 4,000 per day in the Arboretum. I suggest limiting traffic through the

Arboretum to locals only. We do not want to cause difficulties for neighbors. The most important change is that Lake Washington Boulevard is no longer used as an on- or off-ramp for the SR 520 highway. Reduced traffic could also result in reduced noise levels.

- Andrew Barash: A reduction and/or elimination of non-local traffic may potentially encourage additional local use. As such, specifying a maximum number of vehicles per day may not be a practicable goal. However, it is understood that the ABGC desires that traffic volumes are reduced at all times of the day and limited to locals only.
- Michael Shiosaki: The ABGC wants to discourage use of Lake Washington Boulevard as an on- or off-ramp for SR 520. We would like traffic in the Arboretum to be a consistent, slower speed.
- Paige Miller: One option for reducing traffic would be tolling drivers who use Lake Washington Boulevard to access to/from SR 520.
- Luke Korpi: Regarding the goal of safety, is this intended to address perceived safety or actual safety?
  - Barbara Wright, Paige Miller: Likely both. It should be easier for bicyclists and pedestrians to safely access various areas within the Arboretum. Right now visitors are not encouraged to cross the road. A pedestrian crossing would help.
- Andrew Barash: Would limiting vehicle access from roads that link to the Arboretum also be a goal?
  - Paige Miller: The ABGC would like more information about whether closing the Boyer Avenue E. and E. Interlaken Boulevard Arboretum entrances would help reduce traffic in the Arboretum.

### **Traffic management measures of success**

Andrew Barash led a discussion of measures of success. The group suggested the following measures (associated with the goals shown):

- Goal: Reduced total number of automobile trips in the Arboretum.
  - Measure: Model various traffic calming and traffic management scenarios, e.g. tolling Lake Washington Boulevard, preventing a left turn on to Lake Washington Boulevard.
  - Measure: Model Arboretum traffic without SR 520 users.
- Goal: Increased bicycle and pedestrian use and safety through the Arboretum.
  - Measure: Count existing pedestrian crossings and compare to future additions.
  - Measure: Assume new bicycle and pedestrian improvements, along with any reduction in the volume of speed of traffic, provide benefits that lead to increased use (qualitative measure).
- Goal: Reduced queue lengths in the Arboretum.
  - Measure: Model existing and future queue lengths.
  - This could also result in reduced pollution and improved air quality.
- Goal: Reduced noise in the Arboretum area.
  - Measure: Model existing and future noise levels.
- Goal: Increased [visitor] use of the Arboretum park.

- Measure: Assume new features lead to increased visitor use (qualitative measure).
- Goal: Maintain transit reliability on Montlake Boulevard E. and 23rd Avenue E.
  - This goal should be changed to a measure of success under “increased visitor use.”
- Goal: Maintain existing character of the Arboretum.
  - Measure: This is qualitative and could be evaluated by comparing to the Arboretum Master Plan.
- Goal: Reduced speed in the Arboretum.
  - Measure: Model/analyze how traffic calming and other features that contribute to speed reduction.

Questions and comments included:

- Larry Sinnott: We need to be careful in terms of setting the bar to WSDOT standards. The preferred alternative should meet or beat the metrics evaluated for option A and should be compared to option A without the ramps.
- Paige Miller: Reduced queue lengths could lead to improve air quality.
- Barbara Wright: Reducing traffic volumes seems like it is an overarching goal because it affects noise levels, air quality, safety, etc.
- Paige Miller: Measuring the success of increased visitor use will be challenging because we don't have current visitor data. We need to survey the number of people who currently visit the Arboretum. Maybe this is something WSDOT could consider funding.
- Michael Shiosaki: The intention of measuring queue lengths is not clear. How would we measure queue length and why?
  - Jenifer Young: This may not be relevant once we evaluate the traffic data.
- Luke Korpi: Regarding the goal of discouraging use of Lake Washington Boulevard, some traffic calming measures may be more effective than others to divert trips. Speed humps have been proven effective for this goal. Traffic calming measures are generally effective for trip diversion if they force drivers to behave better.
- Fred Hoyt: What would SDOT recommend in terms of traffic calming in the Arboretum?
  - Luke Korpi: Some safety measures can be implemented immediately. Safety measures that are installed now can be combined with traffic calming measures in the future for overall improvements. Speed signs might also be effective.
- Barbara Wright: It would be helpful to see examples the speed signs you suggest so the ABGC can evaluate them.
- Paige Miller: Would SDOT's recommendation change based on the ABGC's goals to reduce vehicle usage? SDOT's goal would generally be to improve pedestrian safety while maintaining vehicle use.
  - Luke Korpi: Vertical obstructions such as speed humps are generally effective for reducing vehicle use. It is a challenge to find the right balance of traffic calming measures.
- Fred Hoyt: What about evaluating the traffic lights on E. Madison Street, and the impacts on queue lengths?

- Luke Korpi: SDOT can evaluate the signal cycles on E. Madison Street and 24th Avenue E.
- Barbara Wright: It would also be helpful if the ABGC could evaluate the whole package of features available.

### Next steps

Kerry Ruth described the next steps for coordinating with ABGC on traffic management. At the next meeting regarding traffic management (Aug. 23), the team plans to provide a summary of the revised goals to review. Then the group can review ideas and options for potential traffic calming and traffic management features, and prioritize these options.

**ACTION:** SDOT will revise the Arboretum traffic management goals for review at the next ABGC meeting.

Questions and comments included:

- Paige Miller: What measures are being taken to ensure 23rd and 24th Avenues E. can handle additional capacity? Who is working on this and how will the ABGC be informed?
  - Jennifer Wieland: SDOT will follow up with the ABGC on this topic. SDOT does not plan to evaluate widening 23rd or 24th Avenues E., but are evaluating other options and will report back to ABGC.
  - Barbara Wright: SDOT should evaluate turning left on to 23rd Avenue E. from E. Thomas and John Streets.
  - Additional suggestions of traffic movements to evaluate include 24th Avenue E., north on to E. Shelby and Hamlin Streets, and south in to the alley at 24th Avenue E.
- Donald Harris: How does WSDOT respond to people who are concerned with the number of lanes, e.g. 12 lanes at the widest location?
  - Kerry Ruth: The project is a 6-lane corridor, plus associated merging, off- and on-ramps.
- Michael Shiosaki: What is the possibility of being able to narrow the highway footprint?
  - Kerry Ruth: The preferred alternative design has already been narrowed where possible. WSDOT is balancing many different factors, including safety, which limits the amount of flexibility in terms of reducing shoulder widths or other safety features.
- Paige Miller: Can WSDOT evaluate the possibility of reducing the speed to 45 miles per hour on SR 520 through the Arboretum? Similar to the Portage Bay bridge, perhaps reducing the speed could result in reduced shoulder widths and therefore narrow the highway overall.
  - Kerry Ruth: WSDOT can evaluate this. The Federal Highway Administration (FHWA) must approve reduced shoulder widths and reduced speed.n.

### Requests and action items

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- Distribute the Foster Island fieldwork fact sheet to Barbara Wright and Paige Miller once complete. *Note: Katie DeLeuw distributed this on July 28.*
- Report back to the ABGC on the width of the current Lake Washington Boulevard and the width of Lake Washington Boulevard at the proposed lid location in the preferred alternative. (WSDOT)

- Conduct an origin-destination analysis on traffic using Lake Washington Boulevard. Compare previous data with new data. (WSDOT)
- Provide data on average daily trips for Option A without the ramps. (WSDOT)
- Provide modeling results for why traffic decreases with new ramp configuration and where it goes, e.g. Boyer Avenue E., E. Interlake Boulevard. (WSDOT/SDOT)
- Compare queue lengths today vs. 2030 (both no build and preferred alternative) at various locations. (WSDOT)
- Evaluate the potential to close E. Interlaken Boulevard and Boyer Avenue E. Arboretum entrances; report back on likely traffic effects. (WSDOT/SDOT)
- Evaluate the potential to reduce the speed limit of SR 520 to 45 miles per hour through the Arboretum. (WSDOT)
- Investigate whether data is available for existing bicycle and pedestrian use of the Arboretum. (SDOT will follow up on bicycle use; pedestrian use is harder to quantify and data is likely not available.)
- Provide a proposal for modeling local use only through the Arboretum, including options such as tolling and preventing left turns on to 24th Avenue E. (WSDOT)
- Provide a list of potential traffic calming and speed reduction features for the Arboretum. (Luke Korpi, SDOT)
- Evaluate the capability of 24th Avenue E. to accommodate additional diverted traffic from Lake Washington Boulevard. (SDOT will provide a timeline for when this work could be complete.)
- Evaluate traffic effects from left turns on 23rd Avenue E. from E. Thomas/John St. (SDOT)
- Revise the Arboretum traffic management goals for review at the next ABGC meeting. (SDOT)



## Arboretum and Botanical Garden Committee Meeting Summary

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Wednesday, Aug. 18, 9:30 to noon

Graham Visitors Center, Arboretum Drive, Seattle, WA

### Attendees

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#### SR 520 Program:

- Tresia Bass, SR 520 Program Traffic Operations Lead
- Rob Berman, SR 520 Program Planning Manager
- Katie DeLeuw, SR 520 Program Environmental Communications
- Michael Horntvedt, SR 520 Program Transportation Manager
- Kerry Ruth, I-5 to Medina Project Engineering Manager
- Susan Wessman, SR 520 Program Landscape Architect
- Jenifer Young, I-5 to Medina Project Environmental Manager

#### Seattle Department of Transportation:

- Andrew Barash
- Stephanie Brown
- Luke Korpi
- Jennifer Wieland

#### ABGC:

- Sandy Brooks, ABGC coordinator
- Jack Collins, Mayoral Appointee
- Theresa Doherty, University of Washington, Assistant Vice President for Regional Affairs
- David Graves, Seattle Parks Project Manager
- Donald Harris, Seattle Parks, Property Manager
- Fred Hoyt, UW Botanical Gardens Associate Director
- Sandra Lier, Vice-Chair and UW Botanic Gardens Director
- Paige Miller, Arboretum Foundation Executive Director
- Iain Robertson, UW Associate Professor, Department of Landscape Architecture
- Michael Shiosaki, Seattle Parks, Planning & Development Deputy Director
- Dave Towne, Washington State Governor's Appointee

#### Public:

- Jorgen Bader
- Nancy Belcher
- Susan Black
- Maurice Cooper

- Virginia Gunby

- Larry Sinnott

## Meeting overview

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- Action item review and updates – Rob Berman.
- Traffic calming and management in the Arboretum – Andrew Barash.
- ABGC and MPIG Master Plan priorities overall – Rob Berman, Jenifer Young.
- Visualizations in the Arboretum – Rob Berman, Susan Wessman.
- Updates and next steps – All.

## Discussion of meeting topics

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### Action item review and updates

Rob Berman provided a brief meeting overview, reviewed action items from the previous meeting and provided an update on progress. To complete one action item, Kerry Ruth reviewed the Lake Washington Boulevard graphic.

Questions and comments included:

- Paige Miller: What are the standards for Olmsted Boulevards? Is the existing boulevard width standard for an Olmsted Boulevard?
  - Stephanie Brown: There are no standards for Olmsted Boulevards in Seattle.
- Paige Miller: Wider lane widths lead to increased traffic speeds. The Arboretum should have a park-like feel with traffic traveling at slower speeds. There should not be any signaling to drivers that faster speeds are permitted.
  - Jennifer Wieland: In addition to emergency access, the wider lanes also allow for the possibility of a bicycle lane to Lake Washington Boulevard. The proposed planted median can be discussed further. If there is no median, that would change emergency access concerns.
- Fred Hoyt: Will there be a bicycle path across the lid?
  - Jennifer Wieland: A bicycle path is proposed across the lid as well as a sidewalk that could serve as a multi-use trail.

Jennifer Wieland clarified SDOT's concerns with emergency access and safety. Wider lanes are needed to accommodate emergency vehicles, which cannot cross the road due to the curbs along the planted median.

- Nancy Belcher: Perhaps the planting strip is not needed.
- Theresa Doherty, Jack Collins and Michael Shiosaki: The planted median is beneficial and contributes to the park-like feel.
- Kerry Ruth: Why was a planted median added to the design?
  - Susan Wessman: The planted median strip creates a more classic boulevard feel.
- Iain Robertson: What is the length of the roadway that requires additional width for emergency access? It may be possible to reduce the widths in some areas.

- Rob Berman: That topic can be discussed further at the September meeting and after those concerns have been evaluated.

### **Feedback on SDOT's pedestrian and traffic calming improvements**

Luke Korpi reviewed the roll plot, walked the group through the traffic calming options for the Arboretum and distributed a matrix of potential traffic calming options. He then outlined SDOT's recommendations, beginning with marked crosswalks.

Questions and comments included:

- Paige Miller: The Arboretum Master Plan included a pedestrian-activated signal at the Japanese Garden parking lot. Why hasn't SDOT proposed this?
  - Luke Korpi: SDOT's evaluation shows that a marked crosswalk would be sufficient. A pedestrian-activated signal would look like a traffic signal. This could be considered but it would have aesthetic affects. It can be added to the list of items for review.
  - Paige Miller, Sandra Lier: It would be helpful to understand the trade-offs. Maybe SDOT could add this to the list of traffic calming considerations.
  - Jack Collins: Flashing traffic lights might reduce the number of signs needed in this area.
  - Andrew Barash: SDOT is working to balance pedestrian safety with Arboretum character, and can explore various options such as the size of signs.
  - Stephanie Brown: SDOT will add pedestrian-activated signals to the list.
- Iain Robertson: What are the traffic-speed figures?
- Luke Korpi: Speeds are 34-35 miles per hour at the north end of Lake Washington Boulevard, south of Foster Island Road. Approximately 85 percent are going 10 miles per hour (mph) over the speed limit. For context, in other residential streets, 85 percent of drivers travel at 29 mph. On arterials, this number increases to about 35 mph. Drivers are not seeing obstacles that would normally slow them down like driveways and pedestrians.
- Sandra Lier: Regarding the list of goals, is it within our purview to think about enhancing access for public transit?
  - Andrew Barash: It would be helpful to hear the ABGC's input on traffic calming to ensure that SDOT's list is complete and the correct elements are captured.
- Jack Collins: Could speed cushions be used?
  - Luke Korpi: There is concern about aesthetics with speed cushions and accompanying signage.
- Paige Miller: There is no good way for pedestrians to cross Lake Washington Boulevard at Foster Island Road. This whole intersection needs to be evaluated.
  - SDOT will check into this.
- Fred Hoyt: SDOT should also consider a striped crosswalk across E. Interlaken Boulevard rather than Lake Washington Boulevard.

Barbara Wright and Sandy Brooks will collect input from the ABGC on the traffic calming matrix and send this to SDOT by end of the day Friday, Aug. 20.

### **Traffic management discussion**

Tresia Bass reviewed some of the key findings of the origin-destination license plate survey that was conducted at the SR 520 ramps at Lake Washington Boulevard. There were more regional trips than originally thought. Many of the drivers using the SR 520 ramps are from the western shore of Lake Washington, Montlake, Capitol Hill, and downtown Seattle. Tresia then reviewed how trips are estimated to operate with the preferred alternative. Trips from the north areas would shift to Montlake Boulevard and potential Boyer Avenue.

Questions and comments included:

- Paige Miller: Did the modeling show a shift to I-90?
  - Tresia Bass: The modeling shows some shift to I-90 and I-5, approximately 10 percent. The transportation team is currently updating the traffic model and will share that information when it is available.
- Paige Miller: What about signal timing modifications?
  - Stephanie Brown: These are on the table, although SDOT and WSDOT have not identified where or when signal timing modifications could be implemented.
- Kerry Ruth: WSDOT does want to keep the southbound left turn movement from 24th Avenue E. on to Lake Washington Boulevard as part of the preferred alternative.
  - Paige Miller: WSDOT should evaluate potential improvements to Montlake Boulevard before removing the left turn from 24th Avenue East from consideration. Lake Washington Boulevard is considered a Section 4(f) resource and the use of this road for SR 520 is objectionable.
  - Jenifer Young: There are different interpretations of how to apply Section 4(f) in this case.
- Nancy Belcher: Will the direct-access ramps be high-occupancy tolling (HOT) lanes?
  - Kerry Ruth clarified that WSDOT is not considering HOT lanes in that area and that WSDOT is not proposing to toll this area.
- Rob Berman: Has the Master Plan Implementation Group (MPIG) reprioritized the projects identified in the Arboretum Master Plan?
  - Sandra Lier: Yes, the MPIG has completed this and will send the list to WSDOT later in the week.

### **Feedback on initial mitigation ideas and format of materials**

Jenifer Young reviewed a matrix mitigation projects being evaluated, formatted in response to an earlier request. The projects described in the matrix are also shown on the Arboretum mitigation projects graphic.

Some of the individual projects shown on the graphic could be consolidated into a few larger projects. The ABGC would like to be included in the design of restoration projects and aesthetic improvements and would like WSDOT to consider surplusing the WSDOT peninsula to the Arboretum as mitigation and the possibility of constructing a well to supplement Arboretum Creek flow.

Questions and comments included:

- Jack Collins, Nancy Belcher: The group has previously discussed an Arboretum “office space.” This could be a curatorial, educational, or interpretative space (potentially coordinated with tribes). This could be located in the area where the ramps will be removed.
- Paige Miller: Could WSDOT consider constructing a well? Additional work would be needed to understand the water rights and feasibility, but this is an idea to consider.
- Fred Hoyt: It also might be possible to capture surface water where it extends into Broadmoor. That could also help with water flow.
- Jack Collins: The wayfinding plan includes very specific improvements rather than overall improvements. It is not clear how WSDOT would implement wayfinding improvements.
  - Rob Berman: This warrants further discussion.
- Paige Miller: What should be done for Native American interpretation? It might be useful to coordinate with the tribes, but the ABGC does not know which tribes would be interested.
  - Jenifer Young: WSDOT is coordinating with the tribes regarding Section 106. Discussions have not yet reached minimization measures but coordination can address this topic.
- Jack Collins, Theresa Doherty: The graphic is a great starting point and is easy to understand.

### **Discussion of revised and new visualizations**

The group reviewed a set of existing photos in comparison with visualizations once the preferred alternative is constructed. Questions and comments included:

- Jack Collins: Regarding the MOHAI trailhead visualization, does the bridge height shown represent the final height?
  - Kerry Ruth: The height shown will be the final height. It is higher to allow for stormwater drainage and treatment.
- Fred Hoyt: Can an imprinted texture or the concrete tinted be used on the bridge so that the bridge blends with the Arboretum better?
  - Kerry Ruth: Urban design guidelines have not yet been established. WSDOT will follow up with the ABGC after the preferred alternative design refinements have been developed to discuss urban design and aesthetics.
- Iain Robertson: How wide is the bridge at the location of the Foster Island undercrossing visualization? It seems like more of the underside should be visible.
  - WSDOT will follow-up on this to confirm the accuracy of the visualization.
- Iain Robertson: What are the poles for in the visualization and what is the length of the lit area?
  - Michael Horntvedt: The poles are light poles. The lighting is needed for merge areas and “conflict” areas.
- Fred Hoyt: WSDOT should consider removing the right of way chainlink fence near the Foster Island undercrossing.
  - Kerry Ruth: WSDOT can remove the chainlink fence if this is the ABGC’s preference, and potentially provide other, more aesthetically-pleasing barriers.
- Other comments:
  - Consider methods to avoid risk of vagrants or homeless encampments beneath the SR 520 bridge on Foster Island.

- The visualizations are very helpful and represent a lot of work by WSDOT.

### Upcoming meetings

- Aug. 23 – Continue traffic management discussion.
- Sept. 8. – Discuss noise, continue mitigation discussion.

### Requests and action items

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- Distribute the Foster Island fieldwork fact sheet to Barbara Wright and Paige Miller once it is complete.
- Lake Washington Boulevard
  - Update the existing and proposed sections graphic to include the bike lane that is assumed as part of the 16-foot vehicle lane. (WSDOT)
  - Consider reducing the width of the Lake Washington Boulevard lanes to 10 feet. (WSDOT)
  - Consider reducing the width of the 14-foot sidewalk if the 16-foot vehicle lane includes a bike lane. (WSDOT)
  - Identify the total length of the section of Lake Washington Boulevard where additional lane width for emergency vehicles is required. (WSDOT)
- Traffic calming and traffic management
  - Provide input to Sandy Brooks and Barbara Wright on the list of recommended traffic calming improvements; consolidate this list and submit to SDOT. (ABGC)
  - Revise the pedestrian and traffic calming improvements matrix based on ABGC input. (SDOT)
  - Reorder the goals listed on the “Traffic management in the Arboretum” handout:
    - The first one should remain first (increase safety).
    - Reduce automobile trips should be second.
    - Reduce speed of vehicles should third.
    - Reduce noise should be fourth.
  - Revise the traffic goals and measures of success base on ABGC input. (SDOT)
  - Provide MPIG priorities list. (ABCG)
- Mitigation
  - Provide the list of reprioritized Master Plan projects to WSDOT for consideration as mitigation projects. (ABGC)
  - Revise the “Potential Mitigation Projects Identified by the ABGC” graphic based on ABGC input. (WSDOT)
  - Determine if/how changes to Lake Washington Boulevard would be constrained as a historic resource. (WSDOT)
  - Determine whether the state can surplus WSDOT peninsula to the Arboretum. (WSDOT)
- Visualizations / aesthetics

- Evaluate possibility of incorporating tinted/modified concrete color into urban design guidelines. (WSDOT)
- Provide more information about operational lighting (e.g., where will lighting be included on the bridge). (WSDOT)

## **Materials**

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- Action items tracker.
- Visualizations and key.
- Mitigation and Enhancement for Washington Park Arboretum matrix.
- Traffic Management in the Arboretum – goals and measures of success matrix.
- Potential mitigation projects identified by the ABGC graphic.
- Preferred alternative engineered layout.



## Arboretum and Botanical Garden Committee Meeting Summary

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Monday, Aug. 23, 3 to 5 p.m.

Graham Visitors Center, Arboretum Drive, Seattle, WA

### Attendees

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#### SR 520 Program:

- Katie DeLeuw, SR 520 Program  
Environmental Communications
- Michael Horntvedt, SR 520 Program  
Transportation Manager
- Kerry Ruth, I-5 to Medina Project  
Engineering Manager
- Jenifer Young, I-5 to Medina Project  
Environmental Manager

#### Seattle Department of Transportation:

- Stephanie Brown
- Jennifer Wieland

#### ABGC:

- Nancy Belcher, Arboretum Foundation
- Sandy Brooks, ABGC coordinator
- Theresa Doherty, University of  
Washington, Assistant Vice President  
for Regional Affairs
- David Graves, Seattle Parks Project  
Manager
- Donald Harris, Seattle Parks, Property  
Manager
- Fred Hoyt, UW Botanical Gardens  
Associate Director
- Sandra Lier, Vice-Chair and UW Botanic  
Gardens Director
- Kjris Lund, Mayoral Appointee
- Paige Miller, Arboretum Foundation  
Executive Director
- Michael Shiosaki, Seattle Parks,  
Planning & Development Deputy  
Director

### Meeting overview

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- Update on traffic calming – SDOT.
- 2030 No Build and Preferred Alternative queue comparison – Michael Horntvedt.
- Evaluation of traffic management options – Michael Horntvedt.

## **Recap of discussion topics**

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Kerry Ruth provided an overview of WSDOT's and SDOT's presentation to the ABGC. Kerry also provided updates on action items from previous meetings.

- The last Workgroup meeting was the previous Thursday, Aug. 19 and the next Workgroup meeting will be Sept. 9.
- The west approach off-ramp does not need to begin until just west of Foster Island. This will reduce the road width across Foster Island by one lane.
- WSDOT is evaluated whether removing the planted median at the Portage Bay Bridge would result in reduced overall bridge width.
- The Design Refinements and Transit Connections recommendations report public comment period will be Sept. 13 to 24.

### **Traffic calming improvements – matrix of traffic calming options**

Jennifer Wieland explained that the legislative recommendations report includes white papers on both traffic calming and traffic management. Questions and comments included:

- Paige Miller: The in-lane bus stop on Montlake Ave E. could affect traffic in the area.
- Nancy Belcher: The ABGC was not clear on how the time-of-day closures would work. It would be helpful if Michael Horntvedt could elaborate on this.

The group agreed that SDOT should move forward with the list of traffic calming options presented at the Aug. 18 ABGC meeting, after incorporating the feedback from ABGC discussed at the meeting. Nancy Belcher would like to compare existing channelization with the proposed channelization.

### **2030 No Build and Preferred Alternative queue comparison**

Michael Horntvedt reviewed queue data with the group. While the preferred alternative is estimated to reduce p.m. peak trips compared to the 2030 No Build scenario, the ABGC is concerned that the number of trips is not reduced when compared to existing data. The increase compared to existing is not related to the SR 520 project. Traffic management in the Arboretum is an issue that the city will address with ABGC.

Questions and comments included:

- Paige Miller: Was the a.m. peak modeled?
  - Michael Horntvedt: WSDOT did not model the a.m. peak at this time because we are planning to reanalyze this for the FEIS.
- Paige Miller: When will a.m. peak data be available for review?
  - Michael Horntvedt: It will be available with the FEIS.
- Paige Miller: If it is only possible to model one peak period, then the p.m. peak is the better period to model.
- Theresa Doherty: What are the predicted trip numbers?

- Michael Horntvedt: The existing p.m. peak number of trips is 1,400. In 2030 with the no-build alternative 1,800 trips are expected. Under the preferred alternative in 2030, the model predicted 1,500 trips are expected, and with Option A in 2030, 1,200 trips are expected.
- Stephanie Brown: A better comparison would be to model existing traffic conditions under the preferred alternative and compare that to the predicted conditions in 2030 with the preferred alternative in place.
- Paige Miller: The Arboretum is already experiencing 1400 trips during the peak period, and that is too much. The preferred alternative increases the number of trips and does not meet the ABGC's goal.
  - Stephanie Brown: That is unrelated to the SR 520 project and will be addressed by SDOT rather than WSDOT. The traffic information that is released in the FEIS will be beneficial in terms of supporting traffic improvements in the Arboretum.

### **Evaluation of traffic management options**

Michael Horntvedt reviewed the anticipated results of restricting a left turn from southbound 24th Avenue E. to Lake Washington Boulevard, including possible congestion increase in the Arboretum and diversions to other roads. Without improvements to local streets, it seems that this would reduce the number of trips at the expense of queue lengths. While it may improve noise and pollution effects at the south end of the Arboretum, it may also worsen these effects in the north end. The tradeoffs for restricting this left turn will be described in the traffic management plan, although a full restriction will not be a recommendation of the ESSB 6392 Technical Coordination Team. SDOT and WSDOT can evaluate the possibility of a time-of-day restriction to inform the traffic management plan.

Questions and comments included:

- Paige Miller: Could capacity be added to southbound Montlake Boulevard through a pullout bus stop rather than an in-lane stop?
  - WSDOT will evaluate this suggestion.
  - Stephanie Brown, Michael Horntvedt: To reduce traffic in the Arboretum, both Lake Washington Boulevard and Montlake Boulevard would need to be widened.
- Paige Miller: Would this reduce the width of 24th Avenue E.?
  - Michael Horntvedt: No, the width of 24th Avenue E. would remain as proposed (two southbound lanes and one northbound lane).

The group discussed the potential to close 24th Avenue E. This would require additional widening in the corridor. Stephanie Brown explained that the Seattle Mayor and City Council have requested that WSDOT not expand the 23rd/24th/Montlake corridor. If the ABGC would like WSDOT and SDOT to continue evaluating this option, then this will need to be approved by the Mayor and City Council.

- Paige Miller: How many more vehicles can the turn lane accommodate before it becomes a problem? Can other options be considered to encourage a right turn from 24th Avenue E.?

- Michael Horntvedt: The number will be very small, approximately 0.02. It is unlikely that a solution during the peak can be found. However, a time-of-day closure might be appropriate.
- Krjis Lund: The time-of-day restrictions should be further evaluated. How will this be captured for additional evaluation?
  - Theresa Doherty: This should be a suggestion by the ABGC for WSDOT and SDOT to consider.
- Paige Miller: Regardless of the solution the ABGC proposes, it is important to ensure traffic is not encouraged to use the Arboretum. Also, it seems like an adjustable traffic management plan should be implemented to allow the system to function.
  - Stephanie Brown: SDOT can evaluate methods for adjustable traffic management.

The group discussed the potential to toll local streets as a traffic management measure. Tolling will be described in the traffic management plan as it is considered an effective tool ultimately; however there are challenges associated with implementation and logistics. Because tolling would require authorization from The Seattle City Council at the very least, the ABGC would need to advocate for early implementation of such a measure.

- Nancy Belcher: Which agency would be responsible for tolling evaluation and implementation?
  - Stephanie Brown, Kerry Ruth: The infrastructure would likely be on city streets but coordination with WSDOT would be needed.
- Paige Miller: Perhaps the state could collect a toll from Lake Washington Boulevard users when a toll is collected to use SR 520. The state could pay this back to the city. However, there is no legislative authority for this currently.

The group discussed other options that may be evaluated through SDOT's traffic management plan. SDOT will describe the trade-offs of the traffic management measures evaluated, but may not recommend implementation of all evaluated options.

- Paige Miller: The biggest challenge for regional transit is bus mobility.
- Michael Shiosaki: The ABGC should consider the potential effects to other neighborhoods and be careful not to create issues with the community.
- Sandra Lier: The ABGC needs to thoroughly vet all options.

Evening peak traffic to and from the north via Boyer Avenue is 160 cars per hour. The morning peak is 360 cars per hour. Those trips are likely from the Capitol Hill and First Hill neighborhoods. It is not clear where the drivers currently making these turns are coming from – the ABGC should consider that they could be local. The tradeoffs for restricting these turns will be described in the traffic management plan by SDOT.

Questions and comments included:

- Paige Miller: Will the pattern of vehicle use in this area change as a result of the preferred alternative? The number of a.m. trips should go down since it will be more difficult to access SR 520 eastbound from Lake Washington Boulevard.
  - There is no data to support this supposition.

- Stephanie Brown: From SDOT’s perspective, the ABGC should not try to change the preferred alternative, but instead think of these measures as mitigation for traffic in the Arboretum. Could the I-5 to Medina project record of decision contain language regarding WSDOT’s commitment to reduce traffic in the Arboretum?
  - Jenifer Young: the measures WSDOT is responsible for will be described in the NEPA process.
- Kjrj Lund: Are any of the “road diets” theories applicable in the Arboretum?
  - Jennifer Wieland: “Road diets” can work well for turning but they do not work well everywhere.

Kerry Ruth described the channelization of Lake Washington Boulevard. Questions and comments included:

- Paige Miller: How do bicyclists and pedestrians connect from the Arboretum across SR 520? Why have bicycle lanes on Lake Washington Boulevard if there are already bike paths elsewhere?
  - Stephanie Brown: It is important that cyclists can get through while still allowing cars to queue. Additionally, there is no bike lane between 24th Avenue E and Montlake Boulevard.

### **Next meeting – Sept. 8**

WSDOT and SDOT will return on Sept. 8 from 9:30 to noon to discuss the following:

- Follow up on traffic and the draft traffic management plan, including the ABGC’s request to evaluate reducing the speed of SR 520 to 45 mph in the Arboretum.
- Continue the mitigation discussion; present a revised mitigation graphic and table based on Master Plan projects.
- Operational lighting.
- Noise.

### **Requests and action items**

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- Traffic calming
  - Incorporate ABGC’s comments on the traffic calming list from the Aug. 18 meeting into the traffic calming matrix. (SDOT)
  - Send revised traffic calming matrix to the ABGC. (SDOT)
  - Continue moving forward with evaluation of traffic calming option; begin cost estimates. (SDOT).
- Distribute ABGC decision matrix to SDOT and WSDOT. (ABGC – Sandy Brooks)
- Queue length comparisons
  - Develop a graphic to compare existing queue lengths to the 2030 analysis; send to ABGC. (WSDOT)

- Provide updated traffic data, including a.m. peak data, once available (targeting October). (WSDOT)
- Traffic management
  - Evaluate the possibility of implementing a pull-out bus stop rather than an in-lane bus stop on southbound Montlake Boulevard; determine whether this would add capacity to Montlake Boulevard. (WSDOT)
  - Evaluate options for an adjustable traffic management plan (e.g., activate 24th Ave left turn only when needed) that maximizes current available capacity while reducing traffic in the Arboretum. (WSDOT/SDOT)
  - Develop methods for monitoring the effectiveness of traffic management measures once implemented. (WSDOT/SDOT)
  - Continue to evaluate the possibility of managing traffic through tolling. (WSDOT/SDOT)
  - Determine whether the ABGC should request that the city expand the capacity of Montlake Boulevard/24th Avenue to accommodate the potential left turn restriction. (ABGC)
  - Continue evaluating turning restrictions between Boyer Avenue and Lake Washington Boulevard.
  - Evaluate turning restrictions between Interlaken Boulevard and Lake Washington Boulevard. (WSDOT)
  - Evaluate options for improving the Foster Island Drive and Lake Washington Boulevard intersection. (WSDOT/SDOT)

## **Materials**

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- Typical PM Peak Period Queues on Lake Washington Boulevard – 2030 No Build vs. 2030 Preferred Alternative



## Arboretum and Botanical Garden Committee Meeting Summary

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Wednesday, Sept. 8, 9:30 to noon

Graham Visitors Center, Arboretum Drive, Seattle, WA

### Attendees

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#### SR 520 Program:

- Rob Berman, SR 520 Program Planning Manager
- Katie DeLeuw, SR 520 Program Environmental Communications
- Michael Minor, SR 520 Program Noise Consultant
- Kerry Ruth, I-5 to Medina Project Engineering Manager
- Jenifer Young, I-5 to Medina Project Environmental Manager

#### Seattle Department of Transportation:

- Andrew Barash
- Stephanie Brown

#### ABGC:

- Nancy Belcher, Arboretum Foundation
- Sandy Brooks, ABGC coordinator
- Theresa Doherty, University of Washington, Assistant Vice President for Regional Affairs
- David Graves, Seattle Parks Project Manager
- Donald Harris, Seattle Parks, Property Manager
- Fred Hoyt, UW Botanical Gardens Associate Director
- Sandra Lier, Vice-Chair and UW Botanic Gardens Director
- Kjris Lund, Mayoral Appointee
- Paige Miller, Arboretum Foundation Executive Director
- Michael Shiosaki, Seattle Parks, Planning & Development Deputy Director
- Dave Towne, Washington State Governor's Appointee
- Barbara Wright, Arboretum Foundation and ABGC Chair

#### Public:

- Jorgen Bader
- Susan Black
- Virginia Gunby
- Larry Sinnott

## Meeting overview

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- Update on WSDOT's proposal for mitigating in the Arboretum – Rob Berman and Jenifer Young
- Traffic management requests from ABGC – Stephanie Brown and Andrew Barash
- Noise in the Arboretum – Michael Minor
- Update on project operations – Kerry Ruth
- Updates and next steps – Rob Berman, Barbara Wright

## Discussion of meeting topics

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### Update on WSDOT's proposal for mitigating in the Arboretum

Rob Berman walked meeting participants through a graphic and matrix describing WSDOT's mitigation proposal for effects in the Arboretum. The team is not proposing to restore Arboretum Creek due to the need for flow augmentation and water storage, as well as the unlikelihood of receiving regulatory mitigation credit for the project. ABGC members recognized and appreciated the amount of work WSDOT has done to evaluate suggested projects and develop a proposal.

The group discussed the following comments and questions:

- Paige Miller: Arboretum Creek restoration is important for fish habitat, as well as educational and cultural purposes. One method for supplementing stream flow could be to drill a well rather than store and release water in a storage facility.
- Fred Hoyt: How will effects to wildlife be mitigated?
- Paige Miller: WSDOT should consider partnering with other organizations to improve Arboretum Creek, and identify what benefits WSDOT could provide if the flow augmentation were funded and implemented through other means.
- Theresa Doherty: Would a well need to augment flow by the same amount that a storage facility would?
  - Rob Berman: Yes, but with a well additional storage would not be needed.
- Theresa Doherty: Is it feasible to drill a well in the Arboretum?
  - Paige Miller: Yes, it is physically feasible but additional information is needed regarding the costs, regulatory constraints, water rights, and other factors associated with drilling a well to supplement flow to Arboretum Creek.

Rob Berman explained that mitigation on Foster Island is pending tribal coordination, as the Muckleshoot Indian Tribe has requested a meeting with the ABGC to discuss mitigation on Foster Island. WSDOT plans to facilitate dialogue between the Muckleshoot Indian Tribe and the ABGC. The ABGC agreed to meet and thought this should occur as soon as possible.

- Fred Hoyt: What is the wetland mitigation ratio?
  - Jenifer Young: The wetland mitigation ratios depend on the category of wetlands being affected. That will be covered at the next natural resources technical working group meeting.
- Krjis Lund: Does the north entry project include Foster Island Drive?

- Michael Shiosaki: The project includes Foster Island Drive to the existing SR 520 ramps.
- Fred Hoyt: WSDOT should discuss their plans for the Union Bay Natural Area with the ABGC.
- Paige Miller: Reducing the speed of the SR 520 highway through the Arboretum could allow WSDOT to narrow the roadway and minimize impacts. WSDOT should evaluate this option.
- Krjis Lund: Regarding Rob's previous questions of whether WSDOT can proceed with the identified questions, what would the ABGC be committing to?
  - Rob Berman: While there may not be a clear answer right now, the SR 520 team needs to know if the projects discussed today are on the right track.

### **Traffic management requests from ABGC**

Andrew Barash distributed a matrix of traffic management ideas for discussion with the ABGC and reviewed these with the group. The potential traffic management measures listed are all ideas and SDOT is not advocating for any particular concepts at this time.

SDOT clarified that WSDOT is not planning to fund any of these measures, but, depending on the cost, SDOT may be able to implement some improvements. Funding will need to be identified for other projects, and some projects will need to be elevated and approved before they can be pursued. SDOT would like the ABGC to review and prioritize the projects, and will provide a new matrix that includes relative costs for the projects.

Questions and comments included:

- Paige Miller: Major traffic management measures, such as signal timing improvements, should be implemented to discourage drivers from using Lake Washington Boulevard to access SR 520 eastbound.
- Krjis Lund: What is SDOT's intent for 24th Avenue E.?
  - Andrew Barash: This would be a signal.
- Nancy Belcher: Does this assessment show that local-access only signs are not effective?
  - Andrew Barash: Correct, though this could be implemented part time.
- Paige Miller: The ABGC needs more information about potential implementation costs and how revenues could be used.
  - WSDOT and SDOT plan to return in October with more information about tolling options, although may not be able to provide much information on potential revenue at this time.

Andrew Barash explained that turning restrictions on to Lake Washington Boulevard from southbound 24th Street would require expanding capacity at multiple locations in the corridor, which would require policy exemptions. The ABGC should carefully consider the pros and cons of this option. SDOT should evaluate peak vs. off-peak restrictions.

- SDOT will return in October with traffic management recommendations based on minimal effects to the surrounding areas.
- Krjis Lund: What is the assumption regarding bicyclists?
  - Paige Miller: It is assumed that commuters will use the road; recreational bicyclists will use the multi-use trail.

## Noise in the Arboretum

Michael Minor provided an overview of traffic noise, how noise is measured, preliminary noise modeling results in the Arboretum, and options for reducing and mitigating traffic noise. The preferred alternative being analyzed includes a solid concrete 42-inch traffic barrier and a 42-inch traffic barrier with noise absorptive material. Due to the increased height of the SR 520 bridge and the traffic barrier, preliminary traffic noise modeling indicates that future build noise levels will be reduced when compared to existing and 2030 no build noise levels.

Only noise walls and berms can be evaluated as noise mitigation measures. Speed reductions, lids, truck restrictions and depressed highways cannot be evaluated as a noise mitigation measure, but can be included in the noise model if it is included as part of the overall project design. Quieter concrete cannot be included in the model as a noise mitigation measure because the Federal Highway Administration has not approved it for us in Washington. WSDOT is continuing to study quieter concrete and is committed to providing the best overall pavement surface, both from a noise and longevity standpoint, along the SR 520 corridor.

Questions and comments included:

- Paige Miller: How did WSDOT identify the number of Arboretum visitors?
  - Michael Minor: This was a number the Arboretum provided years ago.
- Paige Miller: Can two different models be run, one based on 45 mph and one based on 60 mph?
  - Michael Minor: Yes.
- Paige Miller: It seems that lowering the posted speed limit results in behavior changes. Does it seem like people adapt to the lowered limit and only travel 5 mph above the new posted limit?
  - Michael Minor: The model runs at the posted speed limit provide by traffic engineers. However, radar gun measurements how that traffic actually travels slightly faster than the posted speed limit during peak free-flowing traffic.
- Kjris Lund: What about the Ship Canal Bridge? Would a higher bridge create more noise?
  - Michael Minor: The Ship Canal Bridge is an old bridge. It has old technology and more expansion joints. Noise is also reflected from the top deck. However, a higher bridge would result in less noise at the ground because the noise would be diffracted before it reaches the ground.
- Paige Miller: Assuming a 42-inch-high barrier, can noise absorptive materials be applied?
  - Michael Minor: Yes, and this is the option that is currently being analyzed. A taller barrier could also be considered.
- Nancy Belcher: Noise walls were not recommended in the SDEIS. Is that still the case for the preferred alternative?
  - Michael Minor: Noise walls were not recommended in the SDEIS because the high cost made them unreasonable. The new evaluation may find that they are financially feasible.
- Nancy Belcher: If the area of potential effects (APE) were expanded to include the whole Arboretum, would the noise model be expanded?

- Michael Minor: All arterial roads are considered in the model. The APE is different for noise than other evaluated effects because noise walls are generally ineffective past 300 or 400 feet.
- Theresa Doherty: Overall, does the noise level increase?
  - Michael Minor: Overall the noise level decreases. The traffic barrier reduces the amount of noise reaching adjacent neighborhoods.
- The SR 520 team will provide additional information on traffic and construction noise in November.

### **Update on project operations**

Kerry Ruth updated the group on project operations. WSDOT is unable to reduce the highway speed in the Arboretum area to 45 mph. The SR 520 team evaluated this option and presented the proposal to WSDOT management and FHWA, but was not approved to deviate from standard highway speed. The speed reduction on the Portage Bay bridge was approved because a logical termini exists, so that drivers can easily observe the change in highway conditions.

The SR 520 team was able to reduce the overall width of the highway in the Arboretum by reducing the eastbound shoulders by two feet on each side. The westbound shoulder widths cannot be reduced any further and are needed for construction of the west approach. From a noise standpoint, the elevated profile, four-foot barrier, and quieter concrete will likely result in reduced noise levels.

The ABGC requested a more detailed explanation of the constraints associated with reducing the highway speed and the inability to reduce the westbound shoulder widths. This will be described in the Section 4(f) report. In addition, the SR 520 team will walk through construction sequencing for the west approach, including an explanation of the westbound width requirements, at the next meeting.

### **Updates and next steps**

- WSDOT will return on Sept. 27 to discuss west approach construction sequencing, follow up on the Arboretum mitigation discussion, and provide an overview of preferred alternative design refinements.
- WSDOT and SDOT will return on Oct. 13 to discuss tolling, provide recommendations on traffic management options, and provide additional information on noise if it is available at this time (more likely to be in November). WSDOT will invite the tolling division.
- ABGC members provided positive feedback about WSDOT's and SDOT's presentations and engagement with the ABGC. Discussions have been useful and have included a good level of detail.

## Requests and action items

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- Provide year-by-year construction sequencing information for the west approach at the Sept. 27 meeting. (WSDOT)
- Describe projects considered but not proposed as part of Arboretum mitigation, and the rationale for removing those from consideration. (WSDOT)
- Consider identifying options to implement flow supplementation improvements for Arboretum Creek through a partnership. (WSDOT)
- Coordinate with the Muckleshoot Indian Tribe and the ABGC to schedule a meeting to discuss mitigation options on Foster Island. (WSDOT) *Update: Rob Berman is coordinating with the WSDOT cultural resources specialist to identify potential meetings dates that will work for Muckleshoot Indian Tribe representatives.*
- Present the SR 520 team's plans for wetland and aquatic mitigation at the Union Bay Natural Area to the ABGC. (WSDOT)
- Add a cost column to the traffic management measures matrix and send this to the ABGC. (SDOT)
- Review and prioritize the traffic management concepts developed by SDOT. (ABGC)
- Evaluate peak vs. off-peak turning restrictions from 24th Avenue on to Lake Washington Boulevard. (SDOT)

## Materials

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- Project Operations: Highway and Arterial Street Lighting handout.
- Traffic Noise: Introduction to Traffic Noise Analysis and Abatement presentation.
- Draft Proposed Mitigation for Effects to the Washington Park Arboretum matrix.
- Action items tracker.
- WSDOT Evaluation of Potential Mitigation Projects in Washington Park Arboretum graphic.



## Arboretum and Botanical Garden Committee Meeting Summary

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Monday, Sept. 27, 3 to 5 p.m.

Graham Visitors Center, Arboretum Drive, Seattle, WA

### Attendees

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#### SR 520 Program:

- Rob Berman, SR 520 Program Planning Manager
- Shane Cherry, SR 520 Program Mitigation Lead
- Katie DeLeuw, SR 520 Program Environmental Communications
- Bruce Jamieson, I-5 to Medina Project Construction Consultant
- Dawn Yankauskas, I-5 to Medina Project Engineer
- Jenifer Young, I-5 to Medina Project Environmental Manager

#### ABGC:

- Nancy Belcher
- Sandy Brooks, ABGC coordinator
- Theresa Doherty, University of Washington, Assistant Vice President for Regional Affairs
- Donald Harris, Seattle Parks, Property Manager
- Fred Hoyt, UW Botanical Gardens Associate Director
- Sandra Lier, Vice-Chair and UW Botanic Gardens Director
- Paige Miller, Arboretum Foundation Executive Director
- Michael Shiosaki, Seattle Parks, Planning & Development Deputy Director
- Dave Towne, Washington State Governor's Appointee
- Barbara Wright, Arboretum Foundation and ABGC Chair

#### Public:

- Jorgen Bader
- Virginia Gunby
- Larry Sinnott

### Meeting overview

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- West approach construction sequencing
- Mitigation
- Updates and next steps

## Discussion of meeting topics

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### West approach construction sequencing

Dawn Yankauskas reviewed the constraints the team worked within to develop the west approach construction sequencing and schedule. Dawn also described the avoidance and minimization measures that WSDOT will implement during construction, and walked the group through the construction sequencing schedule. The group discussed the following questions:

- Paige Miller: Why will WSDOT maintain two-way traffic on Lake Washington Boulevard during construction?
  - This is to alleviate potential congestion on Montlake Boulevard during construction.
- Paige Miller: Will truck hauling along the identified haul routes occur consistently or will it be bursts of activity?
  - Bruce Jamieson: Hauling activity will likely be intermittent.
- Fred Hoyt: Has WSDOT considered measures to minimize homeless encampments on Foster Island, such as filling beneath the bridge?
  - Dawn Yankauskas, Rob Berman: WSDOT is not planning to fill the area beneath the SR 520 bridge on Foster Island. The tribes have indicated that filling on Foster Island is not acceptable either during construction or permanently.
- Nancy Belcher: Is there a process for establishing ongoing communication during construction? How will the ABGC be engaged in development of the construction management plan? What is the timing of the plan?
  - Rob Berman: WSDOT hopes to receive input from the community regarding their priorities and commitments to be made through the construction management plan. The ABGC can request specific elements to be included in the construction management plan.

Bruce Jamieson walked through year-by-year construction sequencing graphics and described the activities proposed to occur during each year of construction. Questions and comments included:

- Paige Miller: What are the restrictions associated with driving piles on Foster Island?
  - Bruce Jamieson: The project can drive piles on land, above the ordinary high water mark, any time of year. However, there are restrictions regarding the time of year piles can be driven in water due to protect fish.
- Nancy Belcher: Please be sure to provide advance notice for any tree trimming or clearing work that you plan to complete.
  - Rob Berman: This is an element that can be included in the construction management plan.
- Paige Miller: How long into project construction will it be before Lake Washington Boulevard is operational?
  - Bruce Jamieson: It will be up to the contractor to determine these specific timelines, though it is likely that Lake Washington Boulevard would be used for hauling initially. Construction personnel and equipment will be staged at the end of the existing Lake

Washington Boulevard ramps. There will likely be construction activity along Lake Washington Boulevard for the full construction duration.

- Nancy Belcher: What types of construction staging activities are likely to occur on the WSDOT peninsula?
  - Bruce Jamieson: This will be up to the contractor, although it will likely be used for equipment storage and access to and from the Lake Washington Boulevard ramps.
- Paige Miller: The ABGC anticipates that the WSDOT peninsula will be returned to the Arboretum.
  - Dawn Yankauskas: WSDOT will limit effects to the WSDOT peninsula and plans to restore the area once construction is complete.
- Paige Miller: Can the workbridges handle public traffic? If public traffic could use the workbridges then maybe the permanent structure would not need the extra four feet of width.
  - Bruce Jamieson: The workbridges are not designed to carry public traffic. They will be designed by the contractor, likely to carry cranes and construction vehicles. None of the safety and design requirements, such as barrier and shoulders, will be included in the design. During 2015 and 2016, an interim connection bridge will transition public traffic between the new floating bridge and the existing west approach. Once the new northern west approach structure is completed, all SR 520 traffic will be placed on the new structure while the existing structure is removed and the southern west approach structure is built. During this intermediate phase, four additional feet of width in the west approach is needed to allow both eastbound and westbound traffic to flow. The four additional feet is the minimum to safely have two-way traffic on the northern west approach structure.
- Nancy Belcher: What is falsework?
  - Bruce Jamieson: Falsework is temporary structure constructed to hold permanent structure in place, and is removed once the permanent structure is able to support itself.
- Fred Hoyt: When will the Lake Washington Boulevard ramps and nearby berm be removed?
  - Bruce Jamieson: Demolition of the mainline of the existing bridge and the ramps is anticipated to begin in 2015; however, they may not be completely removed until 2016. Restoration and grading would likely occur starting in 2018.
- Nancy Belcher: How will stormwater be managed during construction?
  - Bruce Jamieson: Best management practices will be used to capture and treat stormwater during construction as part of temporary erosion and sediment control. While stormwater pumps are not proposed as part of the permanent project, it is possible that they might be used during the construction phase to ensure proper stormwater collection and management.

## Mitigation

Rob Berman described the legislative direction the project received through ESSB 6392 in terms of Arboretum mitigation. While the legislation specifically calls out wetland mitigation, the team has found it challenging to identify quality wetland mitigation within the Arboretum.

Shane Cherry described the regulatory priorities under consideration as the team has identified candidate mitigation for effects to natural resources. In searching for mitigation opportunities, the team prioritized nearby sites and evaluated opportunities described in the Arboretum Master Plan. The team exhausted all mitigation possibilities in the Arboretum for regulated natural resources.

Questions and comments included:

- Dave Towne: How does the SR 520 team measure impacts and tie impacts to mitigation?
  - Shane Cherry: There are many different types of impacts to natural resources, including temporary, permanent, fill and shade. The team plans to mitigate for shade impacts in addition to fill impacts.
- Nancy Belcher: Were the wetlands reclassified since the release of the SDEIS? There was concern regarding the accuracy of the wetland classifications described in the SDEIS.
  - Shane Cherry: There was a question about whether to apply the wetland classification systems used by the city of Seattle or the Department of Ecology, as these systems have some slight differences. To be conservative, the team is proposing to mitigate for wetlands that were calculated to be on the cusp between two categories as though they are in the higher category. Mitigation ratios are prescribed based on the category of the impacted wetland and the type of mitigation activity proposed (e.g. restoration, creation, or enhancement). Wetland enhancement must improve a wetland one whole category, and this would prove difficult in the Arboretum.
- Paige Miller: If the flow of Arboretum Creek were enhanced, would that provide the benefits needed for effective mitigation?
  - Shane Cherry: Replumbing the stream or improving the hydrology would be considered rehabilitation and could increase the value.

Shane Cherry provided an overview of the sites the team is considering for wetland mitigation in the Arboretum, including the WSDOT peninsula and Arboretum Creek. Arboretum Creek is challenging due to its shape, size and location. A wetland would require a buffer, but space constraints in the Arboretum would result in very little wetland once the buffer is applied. While state and federal mitigation requirements may not be met at Arboretum Creek, it is likely that the site could provide wetland buffer replacement necessary for city of Seattle mitigation requirements.

Questions and comments included:

- Fred Hoyt: What are the buffer requirements?
  - Shane Cherry: Traditionally the buffer would be a 175-foot along the wetland boundary, although this could potentially be negotiated based on the category of wetland. The buffer is usually calculated from the delineated wetland. If there is a space constraint then a “paper” buffer could be calculated from the nearest road or development. The paper buffer would result in decreased wetland value.

- Nancy Belcher: Could a special consideration be made to account for the uniqueness of the Arboretum?
  - Shane Cherry: WSDOT must be consistent with regulations that apply to the project. It would be a challenge to redeem much wetland mitigation in the Arboretum under state and federal regulations.
- Paige Miller: Would stream flow enhancement help you meet regulatory requirements?
  - Shane Cherry: Flow enhancement would not be relevant for wetland mitigation, and still would not elevate Arboretum Creek to the top of the list in terms of fish habitat mitigation. Wetland improvements to Arboretum Creek will be designed to be compatible with future flow changes should this occur.
- Fred Hoyt: Would fencing be installed around the areas that would be used for wetland mitigation?
  - Shane Cherry: The team hopes to minimize fencing and use low-profile signs or other methods to fit within the context of the Arboretum.

Shane Cherry briefly described the team’s evaluation of the Union Bay Natural Area as wetland mitigation. The University of Washington has been engaged in discussions about potential activities and uses of the Union Bay Natural Area. This large area is ideal for mitigation because applying a buffer would not prohibit compliance with state and federal mitigation requirements. A site along the Cedar River is also under consideration due to its ecological connection to the Lake Washington system.

- Fred Hoyt: It would be helpful for the ABGC to visit both the Union Bay Natural Area and the Arboretum Creek sites under consideration.
- Theresa Doherty: It would also be helpful to see a graphic that shows specific improvements WSDOT is proposing at the Union Bay Natural Area.

Jenifer Young provided an overview of the regulatory processes associated with mitigation for impacts to parks. The project primarily impacts park resources regulated by Section 6(f) of the Land & Water Conservation Fund Act. Many of the projects evaluated for potential Arboretum mitigation would fulfill the requirements of Section 4(f) of the Department of Transportation Act.

Jenifer also walked through a handout titled “WSDOT’s Preliminary Evaluation of Potential Mitigation Projects in the Washington Park Arboretum,” including a table that identifies the potential mitigation and enhancement projects under consideration. Questions and comments included:

- Paige Miller: Three of the projects on the table are described to not be priority projects in the Arboretum Master Plan. The ABGC does feel that these projects are important but did not want to amend the Master Plan to include them.
- Paige Miller: How is traffic management included in the mitigation evaluation?
  - Jenifer Young: WSDOT is not required to provide traffic management as mitigation because there is no nexus to effects. The SR 520, I-5 to Medina project would reduce traffic volumes on Lake Washington Boulevard compared to no action. However, WSDOT will continue coordinating with SDOT and the ABGC to identify and implement appropriate traffic management measures for the Arboretum.

- The ABGC provided positive feedback regarding the format and type of information included in the table of potential mitigation projects.
- The ABGC will compare WSDOT’s list of potential mitigation projects to their initial list. Rob clarified that the ABGC should not lose sight of the nuance of “contribution” as used in the list of potential mitigation projects.
- Paige Miller: Has anyone considered leaving the existing ramps in place and using them as viewing platforms or other uses? The cost savings could be used for Arboretum mitigation.
  - Michael Shiosaki: The ramps do not fit into the context of the Arboretum.
- Rob Berman: Would it be possible for WSDOT to contribute to a fund that already exists, e.g. for operations and maintenance?
  - ABGC members indicated that this is worth considering.
- Paige Miller: This evaluation seems to be heading in the right direction based on previous feedback and discussions.

## Updates and next steps

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- WSDOT will return in October to discuss mitigation in more detail, and potentially provide preliminary cost estimates.

### Public comment

- Virginia Gunby expressed concern with the disconnect between the Workgroup and ABGC processes and recommended the ABGC evaluate the white papers and reports developed by the Workgroup.
- Larry Sinnott suggested the ABGC consider fencing mitigation sites to prevent dogs from accessing the sites.
- Jorgen Bader expressed concern for the potential use of funds WSDOT will provide to the city of Seattle for MOHAI compensation.

### ABGC roundtable

- Paige Miller stated that this was a good session and she learned a lot.
- Sandra Lier thanked WSDOT.
- Fred Hoyt appreciated the synthesis of information.
- ABGC members generally thought the presentation to be useful.

## Requests and action items

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- Schedule field visits with the ABGC to the Union Bay Natural Area and Arboretum Creek. (WSDOT)
- Develop a graphic that shows specific improvements proposed at the Union Bay Natural Area. (WSDOT)

- Revise the table of potential mitigation and enhancements in the Arboretum to include traffic management and clarify that wayfinding would be associated with other improvements. (WSDOT) *Update: This table was revised and sent to Barbara Wright and Sandy Brooks on Sept. 28, 2010 for distribution to the ABGC.*
- Continue evaluating peak vs. off-peak turning restrictions from 24th Avenue on to Lake Washington Boulevard. (SDOT)
- Provide the ABGC with the full wetland mitigation plan once it is available (likely in spring 2011). (WSDOT)
- Evaluated the potential for operation and maintenance funding rather than funding specific projects. (WSDOT)
- Implement wayfinding improvements as part of the Arboretum mitigation plan where ever other mitigation or enhancement projects are proposed. (WSDOT)
- Support SDOT in development of traffic management plan. (WSDOT)
- Provide advanced notice of construction activities (such as tree removal) in the Arboretum. (WSDOT)

## **Materials**

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- Construction sequencing schedule (dated Aug. 30, 2010).
- Presentation slides, including construction sequencing graphics and mitigation information.
- Table of potential mitigation projects within the Arboretum under consideration by WSDOT.
- Potential Arboretum mitigation graphic.



## Arboretum and Botanical Garden Committee Meeting Summary

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Wednesday, Oct. 13, 9 a.m. to noon

Graham Visitors Center, Arboretum Drive, Seattle, WA

### Attendees

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#### SR 520 Program:

- Rob Berman, SR 520 Program Planning Manager
- Katie DeLeuw, SR 520 Program Environmental Communications
- Kerry Ruth, I-5 to Medina Project Engineering Manager
- Jenifer Young, I-5 to Medina Project Environmental Manager

#### ABGC:

- Nancy Belcher
- Sandy Brooks, ABGC coordinator
- Jack Collins, Mayoral Appointee
- Theresa Doherty, University of Washington, Assistant Vice President for Regional Affairs
- Donald Harris, Seattle Parks, Property Manager
- Sandra Lier, Vice-Chair and UW Botanic Gardens Director
- Paige Miller, Arboretum Foundation Executive Director
- Iain Robertson, UW Associate Professor, Department of Landscape Architecture
- Michael Shiosaki, Seattle Parks, Planning & Development Deputy Director
- Dave Towne, Washington State Governor's Appointee
- Barbara Wright, Arboretum Foundation and ABGC Chair

#### SDOT:

- Andrew Barash
- Stephanie Brown

### Meeting overview

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- Traffic management
- Mitigation
- Updates and next steps

## Discussion of meeting topics

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### Traffic management

Stephanie Brown and Andrew Barash reviewed a revised matrix of traffic management measures that includes SDOT's initial comparison of investment, and whether SDOT recommends implementing the measures evaluated. The measures evaluated in the matrix are lettered A through M. Stephanie clarified that SDOT is responsible for funding and implementing the traffic management measures, though SDOT, WSDOT and the ABGC can continue to coordinate on this topic.

Questions and comments included:

- Paige Miller, Nancy Belcher: It would be helpful to understand the definitions of high, medium and low levels of investment. It would also help to distinguish between initial, short-term investments and long-term or maintenance investments.
- Paige Miller: Although implementation and management may be challenging, tolling is the preferred traffic management measure evaluated in the matrix. Tolling is preferred over restricting the southbound left turn from 24th Avenue on to Lake Washington Boulevard because of potentially fewer impacts to park users.
  - Rob Berman: The matrix could be revised with a note stating the preference for tolling and include secondary traffic management measures to potentially be implemented if tolling is deemed infeasible.
- Jack Collins: How would time-of-day turning restrictions between Boyer Avenue or Interlaken Avenue (measure F) and Lake Washington Boulevard affect traffic on other streets?
  - Andrew Barash, Stephanie Brown: Some of the measures evaluated would need to be implemented in tandem. If turning restrictions from southbound 24th Avenue (measure D) were implemented, then it would be important to consider restricting turns from other local streets to prevent drivers from accessing Lake Washington Boulevard via other routes.
  - Stephanie Brown: It is also important to consider the impacts that all of these traffic management options could have on Arboretum users.
- Jack Collins: What would implementation of morning westbound traffic restrictions (measure H) look like?
  - Andrew Barash: This could be similar to the new freeway signs (e.g. Smarter Highway signs) but at a smaller scale. The signs could be turned on or off depending on the time of day.

Stephanie Brown described the status of SDOT's assessment of tolling in the Arboretum. Though compelling as a traffic management strategy, tolling is complex and would require significant coordination. SDOT plans to compile all the considerations, e.g. viability, potential revenue, initial and long-term costs, that would need to be evaluated before determining the next steps.

- Dave Towne: It sounds like the high-occupancy toll (HOT) lanes on SR 167 in the Renton area are not providing the anticipated revenue.

- Kerry Ruth, Stephanie Brown: The revenue gained may be irrelevant because the tolls are intended to benefit traffic management. It is difficult to predict how traffic would respond in the planning stages.
- Paige Miller: Can SDOT provide information about the cost to implement and maintain a tolling system in the Arboretum? Perhaps the state could collect the revenue and remit the proceeds beyond operating costs to the city. Revenue could be considered part of mitigation for the use of the Arboretum to access SR 520.
  - Stephanie Brown: This is difficult to estimate, but it seems unlikely that the revenue would be significant. If tolling were to be implemented, it would be pursued as a traffic management measure and not to gain revenue. The city of Seattle law department can help outline the process for approval and implementation.
  - Kerry Ruth: Evaluating the potential to implement tolls in the Arboretum will take some time, as a great deal of analysis is needed. This includes analysis of potential effects to SR 520 tolling revenue. While WSDOT will not be the decision maker in this case, both WSDOT and SDOT will need to look into this. However, this will take time.
  - Paige Miller: It will be the ABGC's responsibility to bring this issue to the attention of city and state policy makers, though the ABGC will need to rely on technical information from city and state staff.
- Paige Miller: Referring back to the traffic management matrix, measure L is preferred over measure M.

If the ABGC has additional input on the traffic management measures, especially if there are some that should no longer be considered by SDOT, they should let SDOT staff know. In terms of next steps, SDOT plans to develop the traffic management plan by the end of 2010, to be complete at the same time as the ESSB 6392 mitigation report. In 2011, they hope to implement and study some of the identified traffic calming measures. Additional traffic calming measures and some traffic management measures could be implemented as early as 2012. Theresa Doherty stated that the ABGC agrees to remove measures not recommended by SDOT on the traffic management matrix from consideration.

## **Mitigation**

Rob Berman walked through the I-5 to Medina project impact and mitigation materials distributed to the ABGC. He also described the process for memorializing mitigation commitments both in the ESSB 6392 mitigation plan and through the NEPA process. Rob clarified that lids are part of the preferred alternative design.

Questions and comments included:

- Barbara Wright: How will funding be secured?
  - Kerry Ruth: Right now, the SR 520 program is only funded for certain elements of construction, such as the floating bridge, landings and pontoons. WSDOT will be working with the Legislature to identify additional funding sources, including funding for mitigation. This could mean that the project is implemented in phases as funding becomes available. WSDOT has identified key milestones where funding is needed.

- Jenifer Young: Lids are part of the project regardless of funding availability. There is no option to eliminate lids.
- Paige Miller, Nancy Belcher: It sounds like the I-5 to Medina project could exist in its interim configuration for a long time.
- Barbara Wright: The ABGC needs WSDOT's help to memorialize commitments and identify funding.
  - Rob Berman: The SR 520 program can provide information about avoidance and minimization measures, as well as implementation steps for recommended mitigation projects for the ABGC to use as a tool with the Legislature.

Jenifer Young reviewed the overall project effects and candidate mitigation projects for project-wide impacts to provide the ABGC with context for the mitigation under consideration within the Arboretum. The SR 520 team evaluated sites near the SR 520 corridor initially, and then broadened their search to identify sites that benefit fish and aquatic resources. Theresa Doherty provided an overview of the Bryant Building site, which the SR 520 team is evaluating as Section 6(f) mitigation. The SR 520 team plans to release the Section 6(f) environmental evaluation for public review on Nov. 1.

The group discussed the following questions and comments:

- Nancy Belcher: How are cultural impacts to Foster Island defined?
  - Jenifer Young: The SR 520 team has consulted with the tribes to identify Foster Island as a traditional cultural property. The area currently shown on the environmental resource maps is conservative and may be larger than the area historically used.

Jenifer Young walked the group through a matrix of potential Arboretum mitigation and enhancement project scopes and estimated costs. The ABGC discussed the scopes of some of the projects as defined by the Master Plan. Questions and comments about the first three projects on the matrix (contribution to Foster Island improvements, aesthetic enhancements on Foster Island, and WSDOT peninsula restoration) included:

- Donald Harris: Were the cost estimates provided by the ABGC?
  - Sandra Lier: Yes, the ABGC provided WSDOT with 2003 cost estimates.
  - Rob Berman: These have been escalated to account for current costs as estimated for the mid-year of project construction.
- Sandra Lier: Regarding the design and implementation responsibility, what will happen if the amount WSDOT contributes to a project does not fully cover the costs?
  - Rob Berman: It is likely that WSDOT will contribute a dollar amount in some cases, regardless of the scope or actual projects costs, so that the ABGC can prioritize scope activities and use the money where needed. In other cases, such as wetland mitigation, WSDOT will implement the project as defined by the scope. Further discussion is needed on implementation steps.
- Paige Miller: It might be best to implement some projects each way, on a case-by-case basis, depending on which organization prefers to maintain control of the design.

- Rob Berman: Yes, this is what the SR 520 team anticipates. In some cases, WSDOT must maintain control of the project to ensure regulatory requirements are met. In other cases, WSDOT and the ABGC may prefer the ABGC to manage the project.
- Paige Miller: Additional project scoping and cost estimates are needed. Is this something WSDOT could pay for in the near term? In the ESSB 6392 mitigation plan, one commitment could be to fund scoping and cost estimates.
  - Rob Berman: This seems feasible and the SR 520 team will evaluate it.
- Jack Collins: The view of the city on SR 520 westbound could be degraded by the four-foot traffic barriers that are proposed.
- Dave Towne: How many tribes is WSDOT consulting with on this project?
  - Rob Berman: Six different tribes, although the Muckleshoot Indian Tribe is the most active. WSDOT is making progress on working with all six interested tribes.
- Barbara Wright, Nancy Belcher: Is ramp removal included in the restoration costs for the WSDOT peninsula? The cost to remove the structures should not take away from mitigation funding. Also, would the WSDOT peninsula continue to be owned by the state or would the Arboretum become the owner?
  - Rob Berman: The \$2 million identified for restoration of the WSDOT peninsula will not be used for ramp removal. Removal of the ramps is part of the overall I-5 to Medina project. WSDOT is evaluating options for turning the WSDOT peninsula over to Arboretum ownership. WSDOT would need to be able to justify this from a mitigation standpoint.
- Paige Miller: Will the Arboretum Creek restoration be compatible with potential future Arboretum Creek mouth relocation?
  - Rob Berman: Yes, the intent to ensure compatibility with future projects.
- Iain Robertson: Could portions of the existing SR 520 ramps be left in place and used as viewing platforms?
  - Barbara Wright: This suggestion was discussed at the previous ABGC meeting and determined to not fit well into the Arboretum context.
  - Paige Miller: Susan Black has some conceptual drawings that the ABGC should review.
  - Rob Berman, Kerry Ruth: If the ABGC is serious about this suggestion, the SR 520 team will need to know as soon as possible to ensure this design change is incorporated into the environmental documents. The Arboretum would be responsible for maintaining the structure if left in place.
- Michael Shiosaki: Would removal of the ramps include removal of the existing berm?
  - Rob Berman: Yes, removal of the berm has been included in the I-5 to Medina project.

Michael Shiosaki will organize a field visit with the ABGC to the location of the existing ramps to evaluate their potential use as viewing platforms. Michael suggested thinking about the ramps in terms of the human scale rather than the highway scale.

The fourth project on the project scope and estimated costs matrix is a contribution to the North Entry. The Arboretum Master Plan includes a description of what the ABGC anticipates for this area. Rob

Berman explained that WSDOT would prefer to contribute funding to this project but that ABGC would be able to prioritize specific activities to be implemented. Questions and comments included:

- Iain Robertson: Could the North Entry project be thought of as a “gateway to Seattle,” similar to the I-90 portal to Seattle at Mt. Baker?
  - Kerry Ruth: This suggestion should be part of a larger design and aesthetics conversation for the I-5 to Medina corridor. The SR 520 team will continue to work with the ABGC to define corridor concepts that fit within both the SR 520 corridor urban design and the context of the Arboretum.
- Paige Miller: The North Entry was originally scoped without consideration of ramp removal and restoration of the WSDOT peninsula. The ABGC may want to consider a new building in the future to compensate for the loss of MOHAI; this would require a great deal of scoping and planning.
  - Rob Berman, Kerry Ruth: From the SR 520 program’s perspective, WSDOT would contribute to the North Entry project but would not design or manage the project. The ESSB 6392 mitigation plan could specify that scoping be pursued and the projects would be further defined at a later time.

Wetland improvements to Arboretum Creek and the Azalea Way pond would be implemented by WSDOT to ensure compliance with wetland mitigation requirements. The scope WSDOT proposes may be different from the scopes described in the Arboretum Master Plan but would fulfill wetland mitigation needs and respond to legislative direction. If the ABGC is opposed to the proposed activities, the SR 520 team needs to know as soon as possible. Questions and comments included:

- Paige Miller: Would it be possible for WSDOT to provide a connection to the Seattle Public Utilities (SPU) overflow tank and bioswale? Has the SR 520 team considered compatibility with this project?
  - Rob Berman, Jenifer Young: This will require further consultation with SPU representatives and Fred Hoyt. The designs for the mitigation projects can ensure WSDOT does not preclude future SPU projects.
  - Nancy Belcher, Paige Miller, Rob Berman, and Shane Cherry can discuss this topic further separately.
- Jack Collins: The mitigation graphic should show Arboretum Creek entering and leaving the various projects WSDOT has identified, so the connections and overall improvement to the creek is clear.

The group discussed the remaining projects described on the matrix, including WSDOT’s proposed contribution to the multi-use trail, implementation of the Interpretive and Wayfinding plan, noise reduction, and traffic calming. WSDOT anticipates that the proposed contribution to SDOT’s traffic calming measures would cover all the measures described in the matrix SDOT previously presented to the ABGC.

Implementation of the Interpretive and Wayfinding plan could be incorporated into the scope of other projects WSDOT implements or funds in the Arboretum. WSDOT and the ABGC will need to work

together to ensure overall compatibility with both the I-5 to Medina project urban design and the Arboretum character as defined in the Interpretive and Wayfinding plan.

Questions and comments included:

- Paige Miller: WSDOT's proposed contribution to the multi-use trail may be too low.
  - Rob Berman: WSDOT does not plan to be involved in the design, permitting, or management of this project. It would be best for WSDOT to contribute to the multi-use trail and allow the ABGC to implement it.
- Michael Shiosaki: Perhaps the ABGC could implement portions of the initial project described with WSDOT's contribution. WSDOT has offered an amount for the ABGC to consider, potentially negotiate and determine how to use.
- Jack Collins: Will quieter pavement be included in the project design?
  - Kerry Ruth: Yes, quieter concrete is part of the preferred alternative. However, this does not meet federal regulations for noise mitigation so it is not considered a noise mitigation measure.

The potential for WSDOT to contribute to overall operations and maintenance in the Arboretum is pending further discussion with FHWA. The ABGC agreed that the SR 520 team should move forward with the projects discussed, though all the projects are subject to changes due to additional scoping, the project timelines, etc. WSDOT would most likely implement mitigation projects in the corresponding construction year when the impact occurs.

## Updates and next steps

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- The SR 520 team will return on Oct. 25 if the Muckleshoot Indian Tribe is available to meet. *10/19/2010 – the Muckleshoot Indian Tribe is not available on Oct. 25; the SR 520 team is working to find another date.*
- The SR 520 team will send their draft mitigation plan to the ABGC by Nov. 3 for discussion at the Nov. 10 ABGC meeting.
- The group discussed the potential for a second meeting in November to focus on addressing the ABGC's comments on the mitigation plan. Sandy Brooks suggested the week after Thanksgiving if a second meeting is needed.

## ABGC roundtable

- ABGC members provided positive feedback about the meeting discussions and process moving forward.

## Requests and action items

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- Provide definitions for high, medium and low levels of investment as used in the traffic management matrix. Distinguish between initial and long term investments. (SDOT)

- Coordinate with the city of Seattle law department to outline the steps needed for approval and implementation of tolling in the Arboretum. (SDOT)
- Michael Shiosaki will organize a field visit with the ABGC to the location of the existing ramps to evaluate their potential use as viewing platforms.
- Revise the Arboretum mitigation graphic to include the alignment of Arboretum Creek. (WSDOT) *10/21/2010 - This graphic has been updated with Arboretum Creek.*
- Nancy Belcher, Paige Miller, Rob Berman, and Shane Cherry can further discuss the compatibility of mitigation projects with SPU's overflow tank and bioswale separately.

## **Materials**

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- Project corridor environmental resource graphics – temporary and permanent effects to aquatic resources, wetlands, Section 4(f) and Section 6(f) resources.
- Map of proposed mitigation for I-5 to Medina project impacts.
- Matrix of potential Arboretum mitigation and enhancement project scopes and estimated costs.
- Map of potential mitigation projects in the Arboretum.



# Arboretum and Botanical Garden Committee (ABGC)

## *Members*

*Barbara Wright, Chair*  
*Jack Collins*  
*Theresa Doherty*  
*Donald Harris*  
*Sandra Lier*  
*Kjristine Lund*  
*Paige Miller*  
*Iain Robertson*  
*David Towne*

November 30, 2010

Julie Meredith, PE  
SR 520 Program Director  
SR 520 Bridge Replacement and HOV Program  
Washington State Department of Transportation  
600 Stewart Street, Suite 520  
Seattle, Washington 98101

Dear Ms. Meredith,

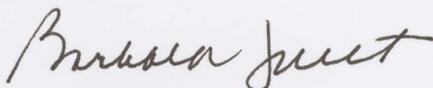
The Arboretum and Botanical Garden Committee (ABGC) is pleased to write this letter in support of the Washington Park Arboretum Mitigation Plan that we developed in consultation with the WSDOT team in response to ESSB 6392. The mitigation projects contained in this Plan were guided by the 2001 Arboretum Master Plan. Once this plan is approved and funded, these projects will finally become reality.

The ABGC is the advisory committee for the Arboretum and is comprised of the owners and managers of the Arboretum: the City of Seattle; University of Washington; its major support organization, the Arboretum Foundation; and a representative from the Washington State Governor's office. From May to December of this year we met regularly with WSDOT staff to develop a suite of mitigation measures we feel will protect and enhance the Arboretum for generations to come.

Throughout our discussions, we were guided by the 2001 Arboretum Master Plan and stressed the importance of protecting the Arboretum as we believe it is one of the most respected and loved educational and cultural resources in the Pacific Northwest. When the original SR 520 was built, environmental regulations protecting park land and wetlands were not in place and the Arboretum suffered damage and property loss. This mitigation process gave us the opportunity to design a new SR 520 that will protect the Arboretum from excessive traffic volumes along Lake Washington Boulevard, address traffic safety concerns, and reduce noise and aesthetic effects in the States' Arboretum.

We appreciate the time and energy your capable staff put into working with us and writing this report. The time was very well spent and we look forward to our continuing collaboration with you and your staff as we implement these projects in the years to come.

Sincerely,



Barbara Wright, Chair  
Arboretum Botanical Garden Committee

**Arboretum Mitigation Plan | Appendix D: Seattle City Council letters  
(April and September 2010)**



# Seattle City Council

April 15, 2010

Governor Christine Gregoire  
Office of the Governor  
PO Box 40002  
Olympia, WA 98504-0002

Paula Hammond, Secretary  
Washington State Department of Transportation  
Transportation Building  
501 Maple Park Avenue SE  
PO Box 47300  
Olympia, WA 98504-7300

Jenifer Young  
SDEIS Environmental Manager  
600 Stewart St., Suite 520  
Seattle, WA 98101

Dear Governor Gregoire, Secretary Hammond, and Ms. Young:

Thank you for the opportunity for to provide comments and recommendations on the SR 520, I-5 to Medina: Bridge Replacement and HOV Project. We appreciate the support you have given to our involvement, and the structure of the work groups that were created in ESSB 6392. This letter communicates our perspective as we move into the next stage of cooperative efforts involving the State, the region, and the City of Seattle.

Our comments on the Supplemental Draft Environmental Impact Statement (SDEIS) for the SR 520, I-5 to Medina: Bridge Replacement and HOV Project fall into four categories:

- 1) An overview of our policy approach to the project in this cover letter.
- 2) A set of formal recommendations for the SDEIS (Attachment 1) to improve the project, particularly in the Westside interchange area.
- 3) Additional recommendations for the SDEIS that include phasing the decisions relating to the construction of two specific project components (Attachment 2). The two components are the second Montlake Bridge and the 24<sup>th</sup> Avenue (Lake Washington Boulevard) ramps.
- 4) An additional recommendation for a future project to be analyzed (Attachment 3).

We are committed to moving this project forward towards a 2014 opening for the new bridge and to keeping the project within the projected \$4.65 billion budget. We support the vision of the project as a six lane corridor between Medina and I-5 that includes two dedicated high occupancy vehicle (HOV)/transit lanes. Dedicated HOV/transit lanes will immediately improve transit in the corridor and are consistent with the state legislative requirement "to accommodate light rail in the future".

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The project should be designed and constructed to be ready for conversion from HOV/transit to Bus Rapid Transit (BRT), with a clear and legislatively mandated performance standard for increasing the minimum number of passengers per vehicle in HOV lanes and ultimately the conversion of the HOV/transit lanes to dedicated BRT, as envisioned in the SR 520 High Capacity Transit Plan. Such a performance standard has already been articulated in ESSB 6392, but it is an imperative that the Legislature and Governor take this standard to a level of certainty by adopting additional legislation requiring that action will be taken when appropriate thresholds are reached. It is also critical that the state identify committed revenue to fund transit for the SR 520 corridor.

As we noted in our January 28 letter, "neither Alternative A+ nor M adequately meets the needs and priorities of the City of Seattle and our residents." We oppose designating Alternative A+ as the Preferred Alternative for this project, and recommend that the state identify a new alternative that includes our design alternatives.

The relatively short comment period for the SDEIS precludes the possibility of a full exploration of all possible design options and refinements for the SR 520, I-5 to Medina: Bridge Replacement and HOV Project. If accepted by WSDOT, some of the recommendations included in this letter will also require additional design work in order to determine the scale of their potential impacts and costs. Although WSDOT intends to identify a preferred design alternative for the SR 520 Bridge by April 30, 2010, it is our sincere hope that, in the weeks and months ahead, WSDOT will continue to work with the City of Seattle, Metro, ST, and UW as they refine and finalize their plans and prepare to issue a final EIS in late 2010.

Thank you for considering our comments. As the SR 520, I-5 to Medina: Bridge Replacement and HOV Project continues to move forward, we look forward to working in partnership with you to ensure the final design for the corridor is sensitive to the needs of the Seattle communities that surround it.

Sincerely,



Council President Richard Conlin



Councilmember Sally Bagshaw



Councilmember Tim Burgess



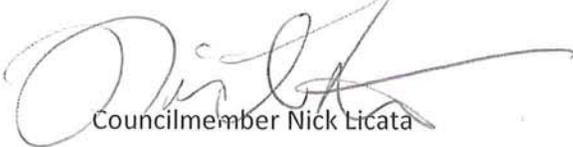
Councilmember Sally J. Clark



Councilmember Jean Godden



Councilmember Bruce Harrell



Councilmember Nick Licata



Councilmember Mike O' Brien



Councilmember Tom Rasmussen

## ATTACHMENT 1: COMMENT LETTER FOR THE SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT STATEMENT (SDEIS)

Following the Washington State Department of Transportation's (WSDOT) release of the SDEIS in January 2010, the Seattle City Council initiated a two month review and assessment process that was intended to inform the content of this letter. As part of that effort, we hired transportation consultants from Nelson\Nygaard and also worked closely with the Seattle Department of Transportation (SDOT), WSDOT, Sound Transit (ST), King County Metro (Metro), and the University of Washington (UW). Our key goals for the review and assessment process were to develop specific design recommendations for the new SR 520 Bridge that would help improve transit service and connectivity, the pedestrian and bicycle environment, neighborhoods, traffic operations, and open space in the vicinity of the corridor. We also identified the following four assumptions to help guide the development of any new design elements and/or system-level alternatives that might emerge from our SDEIS review process:

- 1) Between Medina and I-5, SR 520 will have a total of six travel lanes, including four general purpose lanes (two in each direction) and two high occupancy vehicle (HOV) or transit lanes (one in each direction);
- 2) The total budget for SR 520 corridor improvements, including mitigation, will not exceed \$4.65 billion;
- 3) No additional environmental impact assessments, including the publication of an additional SDEIS, will be necessary; and
- 4) The design alternatives evaluated as part of this process will generally be within the scope of either the DEIS or SDEIS that WSDOT has already completed for the SR 520, I-5 to Medina: Bridge Replacement and HOV Project.

We believe that most of the recommendations included in this letter are substantially within the framework and intent of these baseline assumptions. Each of our recommendations is designed to significantly improve the portion of the SR 520 corridor that extends through the City of Seattle. Consistent with the ongoing design refinement process described in ESSB 6392, we would welcome an opportunity to continue working with the State to analyze the potential outcomes of the policy and design options we are supporting in this letter.

Our recommendations are as follows:

### Design Recommendations

- ***Construct the replacement corridor in a six-lane configuration.***  
We reaffirm our position that the replacement corridor should be designed to accommodate no more than six lanes of traffic, including two lanes for transit and HOV and four lanes for general purpose traffic.
- ***Locate Westside interchange at Montlake, with conditions.***  
More than 50 percent of the current daily traffic on SR 520 uses the existing Montlake interchange. The interchange, which is located just south of the Montlake Cut, offers convenient access to several institutions and amenities that draw visitors and employees from across the region, including UW and the Washington Park Arboretum. However, the interchange is also sited in the heart of Seattle's historic Montlake neighborhood, where it abuts the community's commercial district on 24<sup>th</sup> Avenue East. If a new, replacement interchange is to be sited in Montlake, the following elements should be incorporated into its design:
  - 1) The interchange must be redesigned to reduce the overall footprint, to be more compatible with the Montlake community, scaled to its location within a neighborhood, and organized to promote the most effective pedestrian, bicycle, and transit connections. We request that continued collaboration occur between WSDOT, SDOT, and if appropriate, consultants to redesign the interchange to operate as an urban intersection, not a

highway interchange. Options for a redesigned interchange should include a tightened intersection, a diverging diamond configuration, and loop ramps under the east end of the Portage Bay Bridge.

Ramp intersections should also be tightened and slip ramps eliminated. These design refinements will help to improve bicycle and pedestrian safety along Montlake Boulevard and support creating an interchange that is more suitable for a neighborhood setting like Montlake.

- 2) New HOV/transit-only ramps should be located at 24<sup>th</sup> Avenue East rather than at Montlake Boulevard. Placing the HOV/transit-only ramps at 24<sup>th</sup> Avenue East would require buses and carpools traveling between SR 520 and the UW and Montlake areas to drive about two blocks farther in order to utilize a direct access ramp. However, locating the HOV/transit-only ramps at 24<sup>th</sup> Avenue East would create an opportunity to construct a large lid over SR 520, between Montlake Boulevard and 24<sup>th</sup> Avenue East that would not be bisected by any vehicle lanes.
- 3) A new lid over SR 520, between Montlake Boulevard and 24<sup>th</sup> Avenue East, would create a buffer between the Montlake neighborhood and SR 520. It would also enhance the bicycle and pedestrian environment on Montlake Boulevard. Bus stops should be included on this lid.
- 4) Priority signals for transit should be provided at key intersections in the vicinity of the Montlake interchange. These include the intersection of Northeast Pacific Street and Montlake Boulevard, and intersection at the north end of the Montlake interchange. This form of signalization, also referred to as a “queue jump,” would allow buses to clear busy intersections before other traffic is allowed to move.
- 5) Dedicated HOV/transit lanes should be provided on Montlake Boulevard. At a minimum, these lanes should extend from the intersection of Northeast Pacific Street and Montlake Boulevard to the intersection of 23<sup>rd</sup> Avenue and Lake Washington Boulevard.
- 6) WSDOT should also commit to working with SDOT to consider extending the dedicated HOV/transit lanes on Montlake Boulevard to the north, and on 23<sup>rd</sup> Avenue to the south. The southern corridor should be reviewed as far as the intersection of Madison and 23<sup>rd</sup> Avenues.
- 7) The High Capacity Transit Plan for SR 520 lacks specificity with regard to service availability, particularly mid-day, over the phase-in of new transit service on SR 520. WSDOT should work with Metro and ST to ensure that there will be an adequate base level of mid-day service between the UW/Montlake area and the Eastside when the current flyer stop is closed. A specific transit service plan for the ramp up to and duration of construction of the corridor should also be developed. A reduction in frequent and reliable service is unacceptable. WSDOT is heavily dependent upon the implementation of new transit service in order to meet the corridor’s purpose of improving mobility for people across Lake Washington. As a result, we believe more specific commitments to transit service investments need to be sought from Metro and ST.
- 8) WSDOT should set a goal of identifying design alternatives that would reduce the number of general purpose lanes exiting westbound SR 520 at Montlake Boulevard from two to one.

- ***Direct project mitigation funds to the Montlake Triangle area.***

The Montlake Triangle, at the intersection of Montlake Boulevard and Northeast Pacific Street, is a heavily traveled area that will be significantly impacted by the replacement and expansion of the SR 520 corridor. As such, the Montlake Triangle, which is a major pedestrian and transit hub and will soon be home to the U-Link light rail station, should be a strong candidate for project mitigation funds. Consistent with ESSB 6392, we also look forward to convening a work group to study and make recommendations about transit connections in this area. One of the Council’s primary goals for this work is to identify ways to reduce the walking distances between all the transit modes that will serve the Montlake Triangle into the future and to improve the pedestrian environment in this area.

- ***Minimize the height of the cross-lake bridge deck.***

The SDEIS considers a 32-foot high bridge deck on the cross-lake, floating portion of the SR 520 Bridge. At more than 20 feet higher than the existing bridge deck, 32 feet is unacceptable. A bridge height of 32 feet would have significant, negative visual impacts and degrade important scenic and historic viewsheds from the Washington Park Arboretum, UW, and along Lake Washington Boulevard. We recommend that the height of the replacement bridge deck be lowered to as close to 20 feet as possible without compromising the safety of the corridor.

- ***Split the bridge corridor and narrow shoulders through the Arboretum.***

To minimize impacts on the Arboretum and provide for the daylighting of the area underneath the bridge, the eastbound and westbound lanes on SR 520 should be split through Foster Island and as much of the Arboretum as possible. This design modification is important to ensure that the corridor can accommodate light rail in the future. The gap should be as wide as feasible without interfering with traditional cultural property. The amount of pavement should be reduced by narrowing the shoulder width by two feet on each side of both eastbound and west bound lanes, for a total pavement reduction of 8 feet through the Arboretum.

- ***Reduce the width of the Portage Bay Bridge.***

In the SDEIS, Option A+ calls for a seven lane configuration across Portage Bay from Montlake to I-5. This configuration includes four general purpose lanes, two HOV/transit lanes, and one westbound auxiliary lane. We support eliminating the auxiliary lane and replacing it with a managed shoulder that could be used as a traffic lane during peak travel times. Adoption of this concept could reduce the footprint of the Portage Bay Bridge.

- ***Ensure that the new bridge is designed and constructed to accommodate high capacity transit.***

In 2008, average weekday transit ridership on the SR 520 Bridge was about 15,000. By 2020, that figure is expected to increase to 25,000 daily riders. As the demand for transit service along the SR 520 corridor continues to climb, the new bridge should be designed and constructed in a manner that will accommodate appropriate new modes of high capacity transit, including dedicated BRT and/or light rail.

With regard to accommodating light rail along the SR 520 corridor, we support maintaining flexibility for the region to make this decision at a later date. We also encourage WSDOT, ST, and the Federal Highway Administration (FHWA) to evaluate the potential for a future cross-section for the floating bridge that could accommodate four lanes of vehicular traffic (two in each direction), two lanes of light rail (one in each direction), and a bicycle and pedestrian pathway within a 115-foot wide right of way.

A report by Nelson/Nygaard that was commissioned by the Seattle Mayor's Office identified three possible issues that could compromise the ability of SR 520 to accommodate future light rail:

- 1) A gap between the eastbound and westbound lanes on SR 520 would need to extend through the Arboretum in order to allow light rail. The Council has already recommended this gap and we endorse this element, which could be included under the current SDEIS and without delaying the project.
- 2) The roadway on the bridge deck would have to be expanded to 125 feet in order to allow for light rail. The Council and the neighborhoods adjacent to SR 520 have worked for years to narrow the bridge design to minimize its footprint and impacts and to minimize the possibility of restriping the bridge for additional vehicle lanes. We note that light rail is being added to the I-90 corridor through design modifications with the approval of FHWA, WSDOT and ST that allow for narrower shoulders than the cross section of SR 520 in the Mayor's report. Given this precedent, as well as information from WSDOT that adding additional width would be feasible if desired, the Council does not support widening the bridge deck to 125 feet at this time. It appears that the current floating bridge design with the addition of the split corridor design modification would be compatible with light rail. The Council is committed to minimizing the footprint and avoiding significant delay of the project.

- 3) Additional pontoons would be required to support the weight of light rail on the bridge. WSDOT has indicated that the design would support the additional pontoons and that there are no technical reasons that require adding them at the current time. Adding pontoons now would require additional environmental work and delay the project. Given that the region has not decided to construct light rail on the corridor, it would not be an appropriate use of limited public funds to include the pontoons in the current project or delay the project to complete the required environmental analysis.

There is no current plan for light rail on this corridor. That option was deferred by the ST Board through the ST planning process. The ballot measure that passed in November 2008 includes significant increases in funding for bus operations on the SR 520 corridor. Additionally, the Lake Washington Urban Partnership is funding the capital costs for 45 new buses dedicated to this corridor and Metro is dedicating funding for expansion of bus service. Buses may provide a more flexible and effective form of high capacity transit for this project area.

If the region were to proceed with light rail on the SR 520 corridor, there would have to be additional environmental assessment, routes determined for light rail to traverse after leaving the corridor, a funding plan approved by voters, and design and engineering work.

We therefore recommend that the design for the SR 520 corridor accomplish the following in order to meet the legislative requirement to accommodate light rail:

- 1) Ensure that no substantial element of the corridor, such as overpasses or highway portions, would have to be demolished and rebuilt in order to construct light rail.
  - 2) Include the recommended gap between the eastbound and westbound lanes in the Arboretum area.
  - 3) Have a design plan that includes light rail on the current 115-foot wide bridge corridor and/or that permits adding additional width without demolishing or rebuilding the bridge deck.
  - 4) Ensure that the pontoons are designed so that the additional stabilization pontoons can be added without major disruption of the corridor or significant modification of the existing pontoons.
- ***Enhance the streetscape along Montlake Boulevard and in the vicinity of the Montlake interchange.***  
Montlake Boulevard is a heavily traveled arterial that is also an important corridor for pedestrians and bicyclists. Improving lighting, signage, landscaping, and bicycle and pedestrian facilities along Montlake Boulevard and in the vicinity of the Montlake interchange would help to make this area more “human scale” and enhance its safety for those who are traveling by foot or by bike. This area should be designed in accordance with the Olmsted plan for Montlake Boulevard and Montlake Boulevard should have a fully landscaped median.
  - ***Design bicycle and pedestrian facilities along the SR 520 corridor to City of Seattle standards at all locations.***  
The planned bicycle and pedestrian route along the SR 520 corridor, from Seattle to Medina, is an important component of the design for the new bridge. This new facility will expand recreational and commuting opportunities for residents on both sides of Lake Washington and complete a critical link in our region’s expanding network of bicycle and pedestrian paths. New connections on Montlake Boulevard, connections west of Montlake Boulevard to the Montlake Playfield and bicycle corridors to Capitol Hill, and connections north of the Montlake Boulevard/Pacific Street intersection to the Burke Gilman Trail and the University of Washington should include minimum widths of 16 feet for major pedestrian routes and 12 feet for major bicycle routes. Design modifications should be identified, if needed, for these routes.
  - ***Develop a noise mitigation plan for SR 520 in partnership with nearby residents.***  
We fully support WSDOT’s plans to develop a noise mitigation plan for SR 520. Residents of the neighborhoods adjacent to the corridor should have an opportunity to participate in this planning process. In addition to federally recognized noise mitigation measures, the plan should include new and innovative practices that have the potential to effectively reduce noise impacts. We also encourage WSDOT to fully

implement the recommendations from the Health Impact Assessment that was completed for SR 520 in 2008 by Seattle-King County Public Health and the Puget Sound Clean Air Agency.

- ***Review and improve plans for managing the impacts of construction in the new SR 520 corridor in partnership with nearby residents, institutions, and businesses.***

The impacts of construction, including truck traffic, will be significant in neighborhoods around the 520 corridor. WSDOT should carefully review the construction management plan for SR 520 and coordinate with the agencies that are managing other nearby projects (such as University Link) to minimize impacts.

### **Policy Recommendations**

- ***Develop and implement a corridor management plan that includes minimum performance standards for transit/HOV and general purposes lanes with triggers for mandatory actions to maintain those standards.***

Consistent with ESSB 6392, we concur that WSDOT should develop performance standards for the HOV/transit lanes on SR 520. We recommend that WSDOT develop a corridor management plan, to be adopted by the Legislature and approved by the Governor that states a minimum performance standard that ensures speeds in the HOV/transit lanes do not fall below 45 miles per hour more than 5 percent of the time during peak hours as measured and reported quarterly. If the performance standard is not met, mandatory triggers should be in place to increase the minimum number of passengers per vehicle in the HOV lanes or conversion of the HOV lanes to transit only lanes should occur. We also recommend that as part of the corridor management plan, performance standards be developed for the general purpose lanes on SR 520. We support the potential use of dynamic variable tolling along the entire corridor that would allow for increasing toll rates in order to achieve specific performance standards for general purpose as well as HOV/transit lanes. To ensure that these standards are enforced, legislation needs to be adopted mandating the triggers for actions to meet these performance goals.

## ATTACHMENT 2: COMMENT LETTER FOR THE SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT STATEMENT WITH PHASING RECOMMENDATIONS

- ***Phase the decision on construction of the proposed second bascule bridge at Montlake Boulevard and test measures that may eliminate the need for construction. Require that the bridge be designed to provide priority for transit, pedestrian, and bicycle traffic if it is constructed.***

We continue to have reservations about the potential construction of a second bascule bridge across the Montlake Cut at Montlake Boulevard. Building a parallel bascule bridge at Montlake will likely necessitate the removal of two residential properties and further divide the Shelby-Hamlin neighborhood, which is already bisected by a 4-lane Montlake Boulevard that is traveled by more than 50,000 vehicles each day. If a second bascule bridge is to be constructed at Montlake, we recommend it be built to meet the following conditions:

- 1) The second bridge should be built to accommodate no more than two lanes of traffic and include dedicated bicycle and pedestrian facilities. In order to reduce additional negative impacts on the Shelby-Hamlin neighborhood, the footprint of the new bridge should be as narrow as possible without compromising the safety of Montlake Boulevard, transit operations, or Seattle standards for bicycle and pedestrian facilities.
- 2) The existing Montlake Bridge should remain a 4-lane roadway.
- 3) If the second bridge is completed, the two crossings should operate in a 4+2 configuration, with four general purpose lanes and two dedicated HOV/transit lanes. If possible, the dedicated HOV/transit lanes should be located on the original bridge, with the northbound lane operating as a counterflow. This will allow center line operation, permit the use of existing electric wires, and avoid the installation of new electric wires on the new bridge.

*We will only consider supporting the construction of a second bridge across the Montlake Cut if the additional bridge is used to provide the capacity for dedicated facilities for HOV, transit, bicyclists, and pedestrians. We do not support the creation of additional roadway capacity along Montlake Boulevard for single occupant vehicles and other general purpose traffic.*

In order to determine whether the second bridge is needed, WSDOT, SDOT, Metro, and ST must work together to design and test systems that will facilitate the movement of transit through the Montlake corridor, such as signalization, signal timing, signal queue jumping for HOV/transit, dedicated HOV/transit lanes, and other techniques. WSDOT, SDOT, and Metro should identify and analyze traffic management options/plans for the entire neighborhood, including specifically the corridor between University Village and 23<sup>rd</sup> and Madison, and assess their impacts on arterials and neighborhood streets. The goal of the testing program should be to determine whether a combination of strategies can ensure the reliable movement of both transit using the SR 520 corridor and north-south transit through the City of Seattle.

- ***Reconfigure the ramps between SR 520 and Lake Washington Boulevard and develop a traffic management plan for the Washington Park Arboretum. Phase the decision on the construction of these ramps, test the effectiveness of a traffic management plan and other measures to protect the Arboretum, and ensure reliable movement of transit and other vehicular traffic through the 23<sup>rd</sup> Avenue/Montlake corridor.***

The 230-acre Washington Park Arboretum is one of the most cherished parks in the Puget Sound region and protecting its character and fragile environment is one of the City Council's top priorities for the SR 520, I-5 to Medina: Bridge Replacement and HOV Project. In addition to serving as a "living museum" of diverse plant species that draws visitors from around the world, the Arboretum also provides needed open space and recreational opportunities for thousands of nearby residents. After carefully considering the trade-offs associated with including ramps between SR 520 and Lake Washington Boulevard near the western edge of

the Arboretum, we have concluded that if ramps are built in this area, they must meet the following conditions:

- 1) The ramps must be reconfigured to connect to Lake Washington Boulevard at 24<sup>th</sup> Avenue East, thereby supporting the goal of constructing a larger, uninterrupted lid over SR 520 between 24<sup>th</sup> Avenue East and Montlake Boulevard, and avoiding the presence of ramps in the Arboretum.
- 2) A partial lid that extends east over the eastbound lanes of SR 520, from 24<sup>th</sup> Avenue to the Arboretum, should be constructed to help improve pedestrian connections to the Arboretum trail system.
- 3) WSDOT must agree to work with the City of Seattle to develop and implement a traffic management plan for the Arboretum. Such a traffic management plan would apply to the area that is bounded by SR 520 to the north, Lake Washington Boulevard to the east, Madison Street to the south, and 23<sup>rd</sup> Avenue to the west. The traffic management plan may include, but need not be limited to, traffic calming, tolling, reduced speed limits, and ramp use restrictions.
- 4) As part of the traffic management plan, the existing on- and off-ramps in the Arboretum should be closed early in the SR 520 project's construction phase. The need for replacement ramps would then be reassessed once construction is nearing completion.

The Council wishes to implement this traffic management plan as quickly as possible and analyze the outcomes. Measurable goals should be set in consultation with the Arboretum Foundation, WSDOT, Metro, and SDOT, and sets of measures should be tested until the goals are effectively met. Implementation should proceed in conjunction with the work on 23<sup>rd</sup> and Montlake Avenues, and goals should include effective management of that corridor as well.

### ATTACHMENT 3: RECOMMENDATION FOR A FUTURE PROJECT TO BE ANALYZED

***Evaluate a HOV/transit fixed span bridge at a location east of Montlake Boulevard. This option is not included in the current SDEIS but offers potential future benefit and should be evaluated as a separate project.***

There are still major concerns about whether the configurations included in the SDEIS will actually be able to successfully facilitate the movement of traffic through the Montlake area, especially transit. We recommend that the state begin a process to review a possible high bridge to the east of Montlake Boulevard, between the MOHAI building and Marsh Island. Such a bridge would be an important option to provide a future light rail or bus rapid transit connection to Pacific Street and the University Link light rail station. Completing an environmental assessment of this potential bridge crossing could be very useful in developing future transportation plans for this area, especially if this project ultimately does not proceed with some of the elements that have been identified for possible phasing and further study. We recommend that the environmental analysis for a high HOV/transit bridge east of Montlake Boulevard be undertaken before the construction plans for SR 520's west approach are finalized.



# Seattle City Council

September 27, 2010

Julie Meredith  
SR 520 Program Director  
Washington State Department of Transportation  
600 Stewart Street, Suite 520  
Seattle, WA 98101

Dear Ms. Meredith:

Thank you for the opportunity to provide comments on the ESSB 6392 Design Refinements and Transit Connections Workgroup's (ESSB 6392 Workgroup) Draft Recommendations Report. The multiagency process has been positive and productive, and has helped to improve working relationships among many of the key stakeholders in the SR 520, I-5 to Medina: Bridge Replacement and HOV Project (SR 520 Project).

The City Council's key goals for the SR 520 Project remain as follows:

- **Improve Transit.** Maximize transit usage and connectivity, and prioritize transit along the SR 520 corridor and in adjacent Seattle neighborhoods by improving the speed, reliability, and expandability of local and regional transit service.
- **Improve the Pedestrian Environment.** Increase pedestrian access, mobility, comfort and security, and provide efficient and logical connections to transit and neighborhood destinations.
- **Improve the Bicycling Environment.** Increase bicycle access, mobility, comfort and security, and provide efficient and logical connections through adjacent Seattle neighborhoods.
- **Improve the Neighborhood Environment.** Improve the physical environment of adjacent neighborhoods for the health and benefit of residents. Minimize any new impacts that the SR 520 Project may have on these same communities.
- **Improve Montlake Traffic Operations.** Facilitate acceptable peak and off-peak local traffic operations for all users.
- **Improve the Arboretum.** Minimize impacts to the Arboretum in terms of vehicle volumes and speeds, improve access for visitors, and enhance the overall environment of the park.

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We remain committed to working collaboratively with WSDOT, Governor Gregoire and the State Legislature to ensure that these collective goals for the SR 520 Project are met. With these objectives in mind, we have carefully reviewed the ESSB 6392 Workgroup's recommendations and, through this letter, offer some specific comments regarding the various project elements that were evaluated.

We understand that the charge of the ESSB 6392 Workgroup was to refine the design and improve the transit connections for the Seattle portion of the SR 520 Bridge, using the April 2010 Preferred Alternative as a baseline. We also understand that once the Workgroup's final recommendations report is issued later this year, WSDOT staff will work to incorporate those recommendations into a Final Environmental Impact Statement (FEIS) for the SR 520 Project. However, what is not obvious to us and remains unaddressed is how the process for making final design decisions for the SR 520 Project will continue to move forward after the FEIS is published in the spring of 2011 and how the City will be involved. In addition, we want to ensure that the cooperative relationship between the City and State is maintained as this project moves forward. We would appreciate a response from you that articulates how and when this body of work will be completed.

It is clear that the efforts of the ESSB 6392 Workgroup have enhanced the Preferred Alternative and the Seattle City Council agrees with the majority of recommendations that are detailed in the Workgroup's draft report. However, some areas of concern remain:

1. ***Second Bascule Bridge Across the Montlake Cut.*** We appreciate the workgroup's willingness to consider the City's request to examine transportation demand management (TDM) options for delaying or even potentially eliminating the need to construct a second bascule bridge across the Cut. We understand that a second crossing is included in the Preferred Alternative and recognize the need for the environmental process to fully evaluate the impacts of a potentially new bridge. We also appreciate that the additional bridge could well be a component of the SR 520 Project that is necessary to meet our collective goals for the corridor. However, we remain committed to working with WSDOT on developing an agreement on the process for deciding whether the second bridge is needed and if so, when. As part of this process we support exploring TDM alternatives and concur with the Workgroup's recommendation to establish specific triggers for future evaluation of the needs for the second crossing.

Identifying the three trigger factors to be measured (SR 520 mainline operations, transit travel times, and bike and pedestrian accommodation) represents an appropriate first step. Next, we believe that developing a clear process for monitoring and evaluating the timing and need for a second bascule bridge will be critical to ensure that a framework for decision-making is in place for future policymakers. We propose the following draft framework that could be used to formalize an agreed upon approach to addressing the question of the second bascule bridge:

- Commitment to a corridor management agreement between the City of Seattle and WSDOT that would include an outline of the analytical and decision-making process for the second bascule bridge.
- Development of a baseline report that uses the latest traffic modeling from the FEIS and current “ground” values. This report would be updated annually, based on refinements to traffic models, progress on TDM strategies and construction, and modeled and ground values centered on the triggers that have been identified.
- A three year work plan and schedule to be developed by SDOT and WSDOT to implement TDM measures.
- A technical work group to be identified in the corridor management agreement that includes representatives from the WSDOT, SDOT, KC Metro, Sound Transit and the City Council and would meet at least twice per year.
- The technical work group would review the annual report on triggers, receive updates on TDM measures and make ongoing recommendations to WSDOT and the City as necessary.
- The technical work group would be responsible for making a final recommendation on proceeding to construction of the second bascule bridge to WSDOT and the City. WSDOT would agree to not proceed to construction for the second bascule bridge without Council approval.

We look forward to discussing and developing this process and agreement in greater detail with WSDOT and the Governor’s office.

Beyond the triggers and decision process for the second crossing, we feel strongly that more work is needed by SDOT and WSDOT to develop a specific traffic management plan for the interim period between completion of the Montlake Interchange and possible construction of a second bascule bridge. We believe this interim traffic management plan must be aggressively and creatively geared toward forestalling construction of a second bascule bridge by accommodating, to the extent possible, transit, bicycle and pedestrian traffic across the Cut. In addition, we urge that the FEIS include an analysis of alternatives that seek to improve pedestrian and bicycle level of service across the Cut if transit queuing and traffic operations on SR 520 are managed through other means. This may include analyzing a narrower pedestrian and bicycle only second crossing.

2. **Arboretum.** We are satisfied with the progress made to-date on the Arboretum Mitigation Planning process. However, that effort is scheduled to run until the end of the year and additional analysis related to traffic management options is still needed. Funding responsibility for the improvements ultimately implemented also needs to be assigned.

Given the ongoing nature of this work, the Council wishes to reserve comment until after the Arboretum Mitigation Planning process concludes in December. Ultimately, we are seeking a balanced approach to traffic management in the Montlake area and the Arboretum. Prior to submitting its comments, the Council would also like to receive a briefing from WSDOT and SDOT on the Arboretum Mitigation Planning effort with specific attention to the following:

- The proposed left turn from 24<sup>th</sup> Avenue to East Lake Washington Boulevard and its specific impacts on the I-5 interchange, the Montlake Interchange and adjacent neighborhoods.
- WSDOT's commitment to mitigation funding early in the project for Arboretum traffic calming and management in 2011 and beyond.
- SDOT's near-term plans for traffic calming that could be implemented as early as 2011.
- SDOT's plans for ongoing traffic monitoring and management in the vicinity of the Arboretum, and process for determining how and when additional traffic calming or management tools should be implemented.

3. **Corridor Transportation Demand Management Plan.** The State Legislature's mandate related to corridor management in ESSB 6392 represents a good baseline from which to manage traffic operations on SR 520. We applaud the legislature for being explicit about the minimum occupancy level of three-plus for the HOV lanes and to require notification when the average speeds in the HOV lanes fall below 45 MPH at least ten percent of the time during peak hours. The Council urges WSDOT and the legislature to consider going even further by integrating the use of dynamic tolling with other traffic management tools to more efficiently and effectively manage traffic operations on SR 520. We believe that a single, integrated corridor transportation demand management plan overseen by WSDOT is the way to ensure the best possible results. We urge the legislature to adopt legislation that establishes clear triggers for conversion to full dynamic tolling on SR 520 and for changes to the minimum HOV occupancy levels to facilitate traffic flow, particularly for transit, on the corridor.
4. **Neighborhood Traffic Management Plans.** Traffic management in adjacent neighborhoods, especially those impacted by possible traffic reduction strategies proposed for the Arboretum, remains a key concern of the Council. Although we recognize that some of the potential neighborhood traffic impacts are still unknown, we strongly encourage WSDOT to create a mitigation funding source that will allow WSDOT and SDOT to address the specific issues as they arise.

Traffic management in the vicinity of Roanoke Park is one issue of particular concern to the Council. As the design specifics for the portion of the SR 520 Project that extends through this neighborhood continue to evolve, we would like WSDOT and SDOT to continue working together to resolve emerging neighborhood issues related to vehicle, bicycle and pedestrian circulation in the vicinity of the lid at 10<sup>th</sup> Avenue and Delmar Drive.

5. **Corridor Management Agreement.** With regard to the Arboretum, the second bascule bridge, and neighborhood traffic management, we feel strongly that SDOT and WSDOT would benefit from a formal corridor management agreement between the City and the State. Commitments and a clear delineation of responsibilities would be useful as SDOT and WSDOT continue to proceed with planning and implementation of a variety of elements related to these key corridor management areas. The Council requests that a commitment to developing such an agreement be incorporated within the FEIS as a means to jointly manage the ongoing impacts of the project.
6. **Bicycle and Pedestrian Accommodation.** We are very pleased with the Workgroup's efforts to identify important non-motorized connections, conflict points and safety issues in the vicinity of SR 520, and to employ appropriate solutions. It is imperative that this work continue throughout the design and construction of the SR 520 Project in order to ensure that bicyclists and pedestrians are protected from conflicts with vehicles and that connections flow smoothly. The Council supports the continued involvement of SDOT and the Bicycle and Pedestrian Advisory Committee in design review, and construction management and mitigation efforts as the SR 520 Project moves forward.
7. **Portage Bay Bridge.** The Council remains skeptical that the Portage Bay Bridge design included in the Preferred Alternative is as narrow as it could be. Even though WSDOT has stated its intent to operate the facility at 45 MPH, the Preferred Alternative proposes a new Portage Bay Bridge that is more than 40 feet wider than the current bridge. Further narrowing the shoulder and lane widths proposed for this facility will cause the bridge to appear more like a boulevard and help to induce lower vehicle operating speeds. The Council is supportive of creating a boulevard design with elements such as a planted median that enhance the character and assist with traffic speed control. Ensuring that the cross-section of the new bridge provides transit priority opportunities, such as HOV or transit-only lanes, also remains a priority for the Council. In addition, we also encourage WSDOT to keep working with the Seattle Design Commission and SDOT as the design for the Portage Bay Bridge continues to be refined.
8. **West Approach/Foster Island.** We want to applaud the work of WSDOT and the SR 6392 Workgroup for continuing to identify options and alternatives to narrow the SR 520 corridor. As you know, the Council has consistently supported efforts to minimize the

footprint of the SR 520 Project. We want to encourage WSDOT to continue to explore options to narrow structures on the corridor and have a specific suggestion to offer for consideration: WSDOT should examine the impacts of moving the transition of vehicular speeds on the mainline to the west high-rise and manage the corridor from that point west at 45 MPH, with roadway design consistent with the lower speed. This design speed could possibly be designated for only the non-HOV lanes. Doing so could allow for further narrowing of the structure and also aid in the transition to the Montlake Interchange and reduce noise in the Arboretum and Madison Park. We urge WSDOT to evaluate this approach as part of the FEIS.

9. ***Parks and Public Lands.*** Although this issue was not specifically addressed in ESSB 6392, we would like to use this opportunity to express two specific concerns:

- Existing public land in McCurdy Park that is removed from public use should be replaced with comparable lands within the immediate vicinity of McCurdy Park and be easily accessible to nearby residents, without requiring pedestrians to cross major off-ramps or streets. Safe and attractive bicycle and pedestrian connections between the Arboretum and the new SR 520 lid in Montlake should also be provided.
- Disruptions to other public lands in the vicinity of the SR 520 corridor should be minimized. The Roanoke neighborhood, in particular, is home to several pockets of public land that have been enhanced by local residents. While not officially “parks” that are managed by the City of Seattle, these open spaces are considered parks by the residents that live near and use them. At a minimum, the Council would like WSDOT to create an inventory of all such public lands and assess whether any of these properties will be affected by the construction of the SR 520 Project. We also encourage WSDOT to work with neighborhoods and consider mitigating any potential disturbance of these properties by relocating any such open spaces that are determined to be in the final footprint of the construction area for the new SR 520 Bridge.

10. ***Transit Service and Funding.*** The ESSB Transit Planning and Finance Workgroup will begin meeting this fall and is scheduled to release its final recommendations report by the end of this year. As transit functionality will be key to both construction period traffic management and the long-term operation of the SR 520 corridor, the Council will be closely tracking and reviewing the outcomes of this workgroup process. The Council requests a full report on the findings and recommendations of the ESSB Transit Planning and Finance Workgroup as the group’s deliberations are coming to a close. We would also like to take this opportunity to reiterate our support for the use of project mitigation funds and toll revenues to finance transit operations along the corridor and mitigate mobility issues resulting from construction.

11. **Bus Stop Locations / Re-locations and the Montlake Triangle.** The Council applauds the collaborative work carried out by the UW, WSDOT, King County Metro and Sound Transit to find a solution to moving forward with redevelopment of the Montlake Triangle and enhancements for transit, pedestrian and bicycle mobility. We also recognize that the ESSB 6392 Workgroup has recommended several potential changes to bus stop locations along Pacific Place and Montlake Boulevard. In particular, we would like to acknowledge that the proposal to create a northbound Montlake bus stop on the newly created lid appears a promising means of enhancing transit connectivity. We support the Workgroup's recommendations and look forward to seeing transit riders and neighborhood residents engaged in this effort before any decisions are finalized.
  
12. **Commitment to High Capacity Transit and Light Rail Accommodation.** We are very pleased with the progress WSDOT and the Workgroup have made in this area and recognize that substantial effort has been made to determine the specific design refinements required to accommodate light rail on the SR 520 Bridge in the future. For the purposes of the FEIS the Council believes sufficient progress has been made. However, we support continued efforts to ensure every possible consideration is accounted for without substantially increasing the cost or environmental scope of the current project.
  
13. **Commitment to Mitigation.** The Council is seeking formalized commitments from WSDOT regarding funding for project mitigation. The Council believes these commitments should be firmly established and specific funding amounts assigned to each element of the City's mitigation plan.

Other issues that are outside the scope of the ESSB 6392 Workgroup's Draft Recommendations Report will also remain important to the Council as the SR 520 Project continues to move forward. Those issues include the following:

1. **Project Process.** It is unclear how the SR 520 Project will proceed once the FEIS is published. At what time or under what threshold will the City receive assurance that the critical Seattle portions of the project will be fully funded along with the rest of the project? We request that WSDOT and the City develop clear expectations, agreements, and commitments on the final project design and construction process. We request that any understanding between the City and State on this topic take the form of a formal corridor management agreement. The Council will work in partnership with the State to develop these agreements.
  
2. **Funding.** The funding gap for the SR 520 Project is currently estimated at close to \$2 billion. To help close this gap, the Council favors full dynamic tolling for the general purpose lanes on I-90 (as opposed to HOT lanes only). This approach would also help to ensure balanced traffic flow on the two floating bridges that cross Lake Washington.

It is a priority for the Council that the entire SR 520 replacement project, from SR 202 to I-5, be fully funded, and we would be pleased to join WSDOT in seeking funding for the project from the legislature. We want to be clear that the Council's endorsement of the Workgroup's project design refinements to the preferred alternative and the project as a whole is dependent upon full funding for **all** project elements on the Westside and the accompanying mitigation.

Thank you again for considering our comments. We appreciate the efforts of all the members of the ESSB Design Refinements and Technical Connections Workgroup and believe this process has produced important and needed results. We look forward to working in continued partnership with you as the SR 520 Project moves forward.

Sincerely,

  
Council President Richard Conlin

  
Councilmember Sally Bagshaw

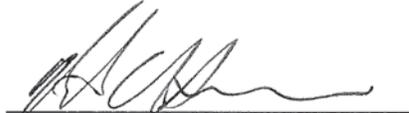
  
Councilmember Tim Burgess

  
Councilmember Sally J. Clark

  
Councilmember Jean Godden

  
Councilmember Bruce Harrell

  
Councilmember Nick Licata

  
Councilmember Mike O'Brien

  
Councilmember Tom Rasmussen

CC: Governor Christine Gregoire  
Paula Hammond, WSDOT Secretary  
Senator Mary Margaret Haugen  
Representative Judy Clibborn  
Mayor Michael McGinn  
Peter Hahn, SDOT Director

Arboretum Mitigation Plan | **Appendix E: SDOT’s Recommended Pedestrian Improvements and Traffic Calming Plan**



## **2011 Traffic Calming Implementation Plan**

*Lake Washington Boulevard — E Madison Street to Foster Island Road*

December 20, 2010

The Seattle Department of Transportation has worked with the Seattle Parks Department and the Arboretum and Botanical Garden Committee (ABGC) to review pedestrian conditions and develop recommendations for pedestrian and traffic calming improvements on Lake Washington Boulevard between E Madison Street and Foster Island Road.

This review has included analyzing available data regarding traffic speeds through the arboretum, field observations (including a walking tour with ABGC representatives), and feedback received from the ABGC regarding current and future pedestrian conditions on the corridor.

After identifying a suite of recommended improvements, SDOT has developed an implementation plan for 2011, supported by funding from the SR 520 Project.

### ***Phase 1 Implementation – April 2011***

- Marked crosswalk (with accompanying signage and pedestrian landings) at Arboretum Drive
- Speed cushions (one per lane) in two locations
- Crosswalk maintenance at Boyer Avenue East

### ***Phase 2 Implementation – Summer 2011***

- Raised crosswalk (with accompanying signage) north of Interlaken Drive
- Landscaped curb bulb and striping improvements at Foster Island Road
- Radar speed signs, if desired

SDOT will continue to work with Seattle Parks Department and ABGC to advance plans for construction of these improvements, including potential Parks contributions of crushed rock pathways in conjunction with the marked crosswalk.



## Recommended Pedestrian Improvements and Traffic Calming Plan

Item	Location	Purpose	Potential Disadvantages
<b>Pedestrian Improvements</b>			
Marked Crosswalk	North of Interlaken Drive	Provide visibility at high usage pedestrian area	
Marked Crosswalk	At Arboretum Drive	Provide visibility at high usage pedestrian area	
<b>Traffic Calming Improvements</b>			
Radar Speed Sign	Southbound, south of Foster Island Road	Educate drivers; reduce southbound speeds through arboretum	Aesthetics; power supply may be difficult
Radar Speed Sign	Northbound, north of E Madison Street	Educate drivers; reduce northbound speeds through arboretum, particularly approaching high pedestrian activity area	Aesthetics; power supply may be difficult
Raised Crosswalk	North of Interlaken Drive at new marked crosswalk	Provide traffic calming; improve pedestrian visibility at new crosswalk to be marked by SDOT	Noise impacts
Speed Cushion	TBD	Reduce vehicular speeds on corridor	Noise impacts; aesthetics
Speed Cushion	TBD	Reduce vehicular speeds on corridor	Noise impacts; aesthetics
Landscaped Curb Bulb	Southeast corner, Lake Wash Blvd at Foster Island Rd	Reduce northbound vehicle speed, particularly for turning traffic approaching intersection, to increase pedestrian safety; provide southbound "gateway" into arboretum	
<b>Other</b>			
Sign Improvements	Minor improvements to existing traffic signs	Improve clarity and message of existing traffic warnings on the corridor	Aesthetics
<b>Additional ABGC Requests</b>			
Pedestrian-Activated Signal	At Arboretum Drive	Enhance crossing conditions	Delay for all modes; aesthetics
Marked Crosswalk	On Interlaken Drive	Provide visibility at high usage pedestrian area	
Improve Intersection	Foster Island Road & Lake Washington Blvd	Improve clarity of intersection	
Crosswalk Maintenance	At Boyer Avenue E	Enhance visibility at high usage pedestrian area	

Arboretum Mitigation Plan | **Appendix F: SDOT's Arboretum Traffic Management Matrix**

Arboretum Traffic Management Measures for Evaluation - December 20, 2010

NOTE: Measures identified as "Recommended" are to be further assessed and refined as part of a comprehensive traffic management plan for the Arboretum.

ID	Type	Description	Benefits to Arboretum	Challenges	Comment	Application	Investment	Action	Timeline
A	Signing Improvements	Install signing that directs SR 520-related traffic to the Montlake interchange on routes other than Lake Washington Blvd. Locations could include the intersections of Madison & 23rd Ave, LWB & Madison and 24th Ave & LWB.	Low cost. Easy to implement	Little effectiveness. People will typically find "easiest" route regardless of signing.	WSDOT data indicates that in the AM Peak period, only 5% of SR 520-bound traffic originates to the west of the Arboretum. With Preferred Alternative, and removal of Arboretum ramps, access to SR 520 via 23rd Avenue is the shortest route for vehicles originating from the west.	Full Time	Low	<b>Recommended:</b> Will be included as part of overall Arboretum Traffic Management Plan.	<b>2011 Evaluation:</b> • Evaluate potential for signage improvements
B	Traffic Signal Modifications	Set intersection signal timing to discourage traffic from routing through the Arboretum. Options include reducing time for EB Left turns at the intersection of Madison & LWB, Increasing time for EB left turn at intersection of Madison & 23rd Ave. Optimize the signal timing of the 24th & LWB intersection to minimize SB left-turns into the Arboretum.	Drivers may find it easier to access SR 520 via 23rd instead of Lake Washington Blvd.	Minimal effectiveness - vehicles from west would use 23rd with Preferred Alternative.	WSDOT data indicates that only a small portion (5-10%) of SR 520-bound traffic originates from west of the Arboretum. With Preferred Alternative, and removal of Arboretum ramps, access to SR 520 via 23rd Avenue is the shortest route for vehicles originating from the west.	Peak Hour	Low	<b>Recommended:</b> Will be included as part of overall Arboretum Traffic Management Plan.	<b>April 2011 Traffic Signal Evaluation:</b> • Evaluate / modify signal timing at Madison and Lake Washington Blvd
C	Traffic calming treatments	Installation of traffic calming measures along Lake Washington Blvd. through the Arboretum, including raised, marked cross-walks, speed cushions and potential radar-speed signs	Effective for slowing traffic, and creating a safer environment for pedestrians and bicyclists within the Arboretum.	Would have minimal effect on reduction of traffic volumes in the Arboretum. Potential visual impacts.	SDOT has developed a draft plan for calming traffic in the Arboretum, and will continue to work with the ABGC to refine the plan.	Full Time	Low	<b>Recommended:</b> Already identified through separate Traffic Calming improvements.	<b>April 2011 Traffic Calming Implementation:</b> • Two speed cushions (locations TBD) • Marked crosswalk on Lake Washington Blvd at Arboretum drive with connection to Japanese Garden parking lot • Crosswalk maintenance at Boyer Ave E <b>2011-2012 Traffic Calming Implementation:</b> • Raised crosswalk on Lake Washington Blvd north of Interlaken Dr • Curb extension / modification at intersection of Lake Washington Blvd and Foster Island Rd • Radar speed signs (if desired)
D	Turn Restrictions	Prevent SB left turn from 24th onto LWB during off-peak hours	Would direct SR-520 off-ramp traffic away from Arboretum during off-peak times (weekends, mid-day, and evenings)	Capacity improvements (adding turn pockets) at the intersections of Montlake Blvd/LWB, 23rd and Boyer, Interlaken and John Streets may be needed.	Without additional turn restrictions and/or capacity improvements being applied to the intersections of 23rd and Boyer/Interlaken, these roads would be impacted by traffic trying to get back to Lake Washington Blvd. from 23rd during off-peak times.	Part Time	Low - Moderate	<b>Recommended:</b> Additional data and evaluation needed to define time/days of restriction.	<b>Long-Term Evaluation:</b> • Begin evaluation in 2012-2013
F	Turn Restrictions	Prevent SB left turns from 23rd onto Boyer and/or Interlaken	Would direct SR-520 off-ramp traffic away from Arboretum	For peak-hour operations, would potentially require additional capacity improvements (adding turn pockets) at the intersections of 23rd and Boyer Interlaken and John Streets. Would force SB local neighborhood traffic to take circuitous routes	If turn restriction is only applied during off-peak times, additional capacity improvements would not be as extensive.	Full time, or Part time	Moderate - High	<b>Recommended:</b> Additional data and evaluation needed to define time/days of restriction.	<b>Long-Term Evaluation:</b> • Begin evaluation in 2012-2013
H	Traffic Restrictions	Prevent WB Through traffic from LWB from accessing the EB 520 on-ramp at Montlake.	Would discourage SR 520 on-ramp traffic from using LWB.	For peak-hour operations, would require additional capacity improvements along Madison and 23rd/24th Avenues, at the intersections of 23rd and Boyer, Interlaken and John Streets.	Without additional restriction being applied to Boyer and Interlaken, these roads would be impacted by traffic trying to go from Lake Washington Blvd. to from 23rd. If turn restriction is only applied during off-peak times, additional capacity improvements would not be as extensive.	Full time, or Part time	Moderate	<b>Recommended:</b> Additional data and evaluation needed to define time/days of restriction.	<b>Long-Term Evaluation:</b> • Begin evaluation in 2012-2013
J	Traffic Restrictions	Restrict Interlaken and Boyer access to Lake Washington Boulevard	Would discourage traffic from SR 520 from using the Arboretum. Would reduce traffic on Interlaken and Boyer during the PM Peak.	Would affect all traffic (not just SR 520 vehicles). Local access for residents would be circuitous.	Could be used in combination with other turn restrictions that divert traffic to 23rd.	Full time, or Part time	Moderate	<b>Recommended:</b> Additional data and evaluation needed to define time/days of restriction.	<b>Long-Term Evaluation:</b> • Begin evaluation in 2012-2013

Arboretum Traffic Management Measures for Evaluation - December 20, 2010

NOTE: Measures identified as "Recommended" are to be further assessed and refined as part of a comprehensive traffic management plan for the Arboretum.

ID	Type	Description	Benefits to Arboretum	Challenges	Comment	Application	Investment	Action	Timeline
L	Tolling	Toll trips that access SR 520 by passing through the Arboretum. Scanners would be installed to read a vehicles toll transponder or license plate. Vehicles that drive between the Arboretum and SR 520 would be charged a fee.	Depending on the toll amount, tolling has the potential to significantly discourage traffic from accessing SR 520 via the Arboretum.	Visual impact - scanners and associated signing would be inconsistent with the aesthetics of the Arboretum. Diverted traffic may impact adjacent neighborhoods.	Policy implications of tolling Lake Washington Boulevard through the Arboretum would require additional review and assessment by City and State agencies, and is beyond the purview of this technical assessment.	Variable	T.B.D.	<b>Recommended:</b> Further study and analysis needed to validate feasibility of tolling.	<p><b>Fall 2011 Evaluation:</b></p> <ul style="list-style-type: none"> <li>Complete feasibility study</li> </ul> <p><b>Late 2011 to Mid 2012 Evaluation:</b></p> <ul style="list-style-type: none"> <li>Conduct additional traffic study/counts on LWB</li> </ul> <p><b>Late 2012 Evaluation:</b></p> <ul style="list-style-type: none"> <li>Revisit feasibility study and determine next steps</li> </ul>
M	Tolling	Cordon toll around the Arboretum. Scanners would be installed to read a vehicles toll transponder or license plate. All vehicles that passed through the Arboretum would be charged a fee. Those that stopped to visit the park would not be charged if they returned the same way they entered.	Depending on the toll amount, tolling has the potential to significantly reduce traffic in the Arboretum.	Would impact local neighborhood travel. Visual impact - scanners and associated signing would be inconsistent with the aesthetics of the Arboretum. Diverted traffic may impact adjacent neighborhoods.	Policy implications of tolling Lake Washington Boulevard through the Arboretum would require additional review and assessment by City and State agencies, and is beyond the purview of this technical assessment.	Variable	T.B.D.	<b>Recommended:</b> Further study and analysis needed to validate feasibility of tolling.	<b>See above (L)</b>
<b>Options not recommended for further evaluation at this time:</b>									
E	Turn Restrictions	Full-time restriction of SB left turn from 24th onto LWB	Would direct all SR-520 off-ramp traffic away from Arboretum	Would require adding of lane (approximately 12 feet of width) on 23rd south of LWB. In addition, capacity improvements (adding turn pockets) at the intersections of Montlake Blvd/LWB, 23rd and Boyer, Interlaken and John Streets would be needed.	Without additional turn restrictions being applied to Boyer and Interlaken, these roads would be impacted by traffic trying to get back to Lake Washington Blvd. from 23rd.	Full time	High	<b>Not Recommended:</b> Would require capacity improvements along 23rd Avenue	Existing city policy—per the Comprehensive Plan—discourages capacity improvements on city streets. If ABGC is interested in pursuing these traffic management options in the future, discussions with the Mayor and City Council will be necessary.
G	Traffic Restrictions	Cul-de-sac LWB east of 24th or north of Boyer	Would direct SR-520 traffic away from Arboretum	For peak-hour operations, would require adding an additional lane (approximately 12 feet of width) on 23rd south of LWB. In addition, capacity improvements (adding turn pockets) at the intersections of 23rd and Boyer, Interlaken and John Streets. All "local" (non-SR 520 related) traffic would be affected. Could adversely impact Boyer and Interlaken as drivers could use these roads to access 23rd Avenue from LWB. Would require "turn around" area.	Without additional restriction being applied to Boyer and Interlaken, these roads would be impacted by traffic going between Lake Washington Blvd. and 23rd. If turn restriction is only applied during off-peak times, additional capacity improvements would not be as extensive.	Full time, or Part time	High	<b>Not Recommended:</b> Would require capacity improvements along 23rd Avenue	Existing city policy—per the Comprehensive Plan—discourages capacity improvements on city streets. If ABGC is interested in pursuing these traffic management options in the future, discussions with the Mayor and City Council will be necessary.
I	Traffic Restrictions	Prevent traffic from accessing LWB from the SR 520 EB off-ramp.	Would discourage SR 520 on-ramp traffic from using LWB.	Would only affect a small volume of traffic. For peak-hour operations, may require additional capacity improvements along 23rd, at the intersections of 23rd and Boyer, Interlaken and John Streets.	Without additional restriction being applied to Boyer and Interlaken, these roads may be impacted by traffic trying to get back to Lake Washington Blvd. from 23rd. If turn restriction is only applied during off-peak times, additional capacity improvements would not be as extensive, or needed.	Full time, or Part time	Low - Moderate	<b>Not Recommended:</b> Would require capacity improvements along 23rd Avenue and Boyer	Existing city policy—per the Comprehensive Plan—discourages capacity improvements on city streets. If ABGC is interested in pursuing these traffic management options in the future, discussions with the Mayor and City Council will be necessary.
K	Traffic Restrictions	Create single reversible lane through Arboretum and two-way bike path within existing roadway prism. The reversible lane would accommodate peak-hour traffic.	Would reduce traffic volumes through the Arboretum by removing the "reverse" peak traffic flow, and improve LWB for bikes. Would limit adverse affects to adjacent roads since directional peak-hour capacity is maintained.	Would affect all traffic flowing "against" peak-hour traffic. Would be challenging to implement dynamic lane designation signage on either end of the reversible facility. Intersections of LWB and Interlaken and Boyer would need dynamic control as well. Aesthetic challenges to implement signage.	Would need to be further explored from a feasibility standpoint.	Variable	High	<b>Not Recommended:</b> Would negatively impact local circulation and connectivity.	

Arboretum Mitigation Plan | **Appendix G: Washington Park Arboretum  
Master Plan Priorities**

August 20, 2010

## **Washington Park Arboretum Master Plan**

### **Implementation Plan Project Priorities**

**2010**

#### **Background**

Project Information Sheets were provided in the initial 2003 WPA Master Plan Implementation Plan. The projects were listed as high, medium and future priority. On August 18, 2010 the Arboretum and Botanical Garden Committee approved the 2010 update to the Master Plan project list recommended by the Master Plan Implementation Group. The estimated costs of the projects have not been updated, nor have the projects' stated scope been revisited.

SR 520 mitigation will be addressed by ABGC and WSDOT representatives as well as the agencies of record – the City of Seattle and the University of Washington.

#### **Original Criteria for Prioritizing Projects for Implementation**

- High Visibility
- Creates Momentum
- Reflects the Mission of the Arboretum
  - Education
  - Conservation
  - Recreation
- Matches Funding Possibilities for Capital Costs and maintenance and Operations Costs
- Increases Maintenance and Operations Capabilities

#### **High Priority Projects – (2003 Description of Project Follows):**

- **South Entry – Madrona Terrace (Pacific Connections Gardens)**
- **Multi-use Trail**
- **Ridge Top Trail**
- **North Entry**
- **Azalea Way Pond**
- **Azalea Way Renovation**
- **Wayfinding and Interpretation**
- **Foster Is. Improvements**
- **Woodland meadow**
- **Graham visitor Center Remodel**
- **Foster Island Pedestrian Overpass-rescope project**

- Arboretum Creek
  - South Parking and Access
  - Off-site Admin. Function MOHAI
- 

#### **Medium Priority Projects**

- Arboretum Drive Relocation, Parking and Greenhouse
  - Graham Visitor Center Gardens
  - New Education Building
  - Curatorial Building
  - Additional Greenhouse- On hold due to lack of maintenance & operations funds
  - Maintenance and Operations Building and Yard-On hold due to lack of maintenance & operations funds.
  - Hillside Trail
  - Canopy Walk
  - Children's Arboretum
  - Alpine Slope Garden
  - South Pedestrian Overpass
- 

#### **Future Projects**

- South End Educational and Visitor Services Building
- 

#### **Completed Projects**

- Pinetum
- Irrigation Mainlines
- Japanese Garden Entry Structure/Pavilion on hold due to site constraints
- Westside Trail

*Washington Park Arboretum  
Implementation Plan  
Project Descriptions*

#### **HIGH PRIORITY PROJECTS**

- ***South Entry - Madrona Terrace (Pacific Connections Gardens)***
  - a. *Renovate existing rockery  
Renovation of the existing historic rockery above Lake Washington  
Boulevard (LWB) will announce the south entry and expose the sunny*

*slopes of the terrace. The redesigned rockery will include clearing of overgrown vegetation and new plantings, showcasing plants for warm sunny locations. The restoration will be the first step in creating a strong sense of entry to the Washington Park Arboretum (WPA).*

*b. Eco-geographic*

*The eco-geographic exhibits, will offer both educational and recreational experiences for visitors and students to immerse themselves in accurate, naturalistic recreations of forest communities of the world. The collections provide opportunities for active conservation of endangered species from those selected forest communities.*

*i. Southern Oregon/Northern California*

*Forests related to our Pacific Northwest plant communities, but with additional trees and shrubs that are northern elements of Californian flora, incorporating existing Madrone and other native trees.*

*ii. Cool Mediterranean*

*Forests of a winter-rain region inland from the coast of the Mediterranean Sea.*

*iii. Chile*

*Plant communities emphasizing the forests of the Lakes District in south central Chile*

*iv. S. African/Australian/ Tasmanian*

*A small exhibit of plants from regions that are typically considerably warmer than Puget Sound country.*

*v. New Zealand*

*Plant display representing a high altitude forest community with winter-cold temperatures similar to the Seattle region.*

*vi. China*

*An eco-geographic collection representing the forests of Mount Omei, located across LWB and northeast of the Japanese Garden.*

*c. Education shelter*

*Shelter and displays to interpret plant communities of cool winter-rain region of the world, with climates similar to the Pacific Northwest west of the Cascades.*

*d. Parking lot*

*A 3D-car parking lot at the Madrona Terrace near the south end of Arboretum Drive, to support the new education shelter.*

*e. Demonstration/Exhibits*

*Exhibits which will compare plants in our native environment to similar forest communities of the world.*

*f. Irrigation*

*g. Interpretation/signage*

• **Multi-Use Trail**

*The southern length of the trail will begin at the intersection of East Madison Street and LWB and will connect bicyclists in the Harrison Valley to the Montlake and University neighborhoods to the north. The path will traverse the side slope*

*just north of Madison Street, reaching Arboretum Drive by passing above and behind the Stone Cottage. From there it will follow existing road cuts to Arboretum Drive. Construction of the multi-use trail will include the following projects:*

- a. Retaining walls at cottage*
- b. Four bridges over Arboretum Creek*
- c. Grading and paving*
- d. Four roadway crossings: Madison Street, Arboretum Drive, Foster Island Drive and SR 520*
- e. Lighting at roadway crossings*
- f. Native forest restoration*
- g. Way-finding signage*
- h. Miscellaneous site restoration*

- **Ridge Top Trail**

*This primary trail will originate above the Woodland Garden and follow the ridge top. The trail will pass through the conifer collection surrounding Sequoia Summit. At the trail's southernmost length, visitors will traverse the upper reaches of Rhododendron Glen and be introduced to the Ericaceae/heath family collections. Construction of the Ridge Trail will require the following projects:*

- a. Two small pedestrian bridges over creeks*
- b. Grading and surfacing*
- c. Renovation of the Ericaceous/Rhododendron and heather*
- d. Renovation of the Ilex/hollies*
- e. Renovation of the Magnolia/magnolia*
- f. Renovation of the Acer/maples*
- g. Renovation of the Woodland Garden*
- h. Native forest restoration*
- i. Signing and interpretation*
- j. Irrigation*

- **North Entry**

*The north entrance to the WPA will be clearly announced through the relocation of LWB and the re-establishment of the park space obliterated by the construction of SR 520 and the attempted construction of the R.H. Thompson freeway in the 1960s. Leaving behind the traffic of the adjacent highway, the boulevard will swing eastward, separating itself from nearby residences.*

*Construction of the north entry will include the following projects:*

- a. Construct segment of new boulevard*
- b. Demolish segment of existing boulevard*
- c. Boulevard plantings*
- d. Establish a sense of entry much like the southern tree-shaded entry.*
- e. Synoptic Garden /I*

*This combination native/ethno-botanical garden will present the stories of WPA's landforms and vegetation within local, regional and global contexts. This exhibit will include several small, designed gardens on ridge, valley and marsh micro sites that present natives, which also make good garden plants. This garden will introduce basic plant conservation*

*issues to visitors, using examples from the lowland Puget Sound flora.*

- **Azalea Way Pond**

*Continue the renovation process around the existing pond at the southern end of Azalea Way. Make it a focal point at the southern end of Azalea Way. Improve stabilization of the shoreline and drainage, including the creek. Renovate and improve the collections in the surrounding "bowl". Restore historic rocks*

- **Azalea Way Renovation**

*Renovation of the historic Azalea Way promenade will include improved drainage and the replanting of improved, disease-resistant plant selections according to traditional Azalea Way themes of cherries, rhododendrons, and dogwoods.*

*Restoration will include the following projects:*

- a. One stream crossing - pedestrian bridge*
- b. Drainage system*
- c. LaWn/crushed surfacing*
- d. Planting*
- e. Signing and interpretation*
- f. Irrigation*
- g. Native forest restoration*

- **Arboretum-Wide Interpretive and Wayfinding Plan**

*The interpretive plan will communicate to the visitor the mission and vision of the Arboretum. It is an overlay on the Master Plan identifying the major themes and educational messages as they relate to the site and plant collections. It will identify methods of interpretive media appropriate for the weather conditions of the Northwest, and a materials palette along with a wayfinding sign system suitable for an Olmsted park. The plan will serve as a guide to the implementation of all projects.*

- **Foster Island Improvements**

*Restoration of Foster Island and the surrounding environs will include the following projects:*

- a. Foster Island Loop Trail*

*The Foster Island Loop Trail will immerse the visitor within WPA's largest native plant collection. It will incorporate the existing Foster Island and Marsh Island trails and tied to renovation of SR 520 will complete the missing link between MOHAI and Duck Bay. The trail will follow the shoreline and provide several opportunities for access to the water.*

- b. Shoreline Restoration*

*By relocating parking, the unsightly and debilitating erosion along Duck Bay will be allowed to recover as a riparian edge. Green living plants and a view of the shores will be celebrated as part of the entry drive up to the GVC.*

- c. Viewing Platform*

*Small viewing deck over the water and shore of Duck Bay*

- d. Horticulture Exhibits*

- i. Landscape for Wildlife*

*Displaying plants and landscape design techniques to encourage native wildlife, in a naturalistic setting.*

*ii. Reclamation Point*

*A horticultural/ecological exhibit of trees, shrubs, and wildflowers restoring the ecological and wildlife function of a former garbage dump in the area surrounding the SR Route 520 ramps, consistent with environmental regulations*

*e. Renovation of Salix/willow collection*

*f. Eco-geographic*

*i. Enhance existing PNW Marsh community*

*ii. Develop PNW Lowland Forest Community*

*g. Foster's Island Environmental Education Shelter*

*A key feature of the interpretive and education programs associated with Foster Island will occur at Foster's Camp Environmental Education Shelter, located at the island's south end atop high ground. It will orient toward the marshland to the southeast. As the WPA reasserts its historical use of land and embayments surrounding Foster Island for collections, the role of this facility will become more integral to interpreting the value of native marshes in the greater Seattle ecosystem.*

• **Woodland Meadow**

*The walk up and through the display gardens will end above the Woodland Meadow, a 200-foot wide-open space for special events and community celebrations. Its western orientation will strongly link it to the Woodland Garden and collections. The relocated Arboretum Drive will lie behind a screen of evergreen vegetation, adjacent to the eastern property line. Water runoff that is currently collected in storm drains will now flow out of Broadmoor and off the park's eastern slopes into a re-established stream along the south edge of the meadow. It will continue through the Woodland Garden, connecting to Arboretum Creek at the valley bottom. The following projects will be included in the development of the woodland meadow:*

*a. Parking*

*A small 18-car parking lot, with access directly off Arboretum Drive, will provide space for special event deliveries and pick-ups.*

*b. Grading/subdrainage*

*c. Creek restoration*

*d. Acer / maple collection expansion*

*e. Planting - (tall evergreen hedges)*

*f. Irrigation*

*g. Signage and interpretation*

• **Graham Visitors Center Remodel**

*Renovate the Graham Visitors Center keeping its current size (5,690 sq. ft. footprint, 6,700 sq. ft. floor area), for visitor services. The renovated GVC will continue as the primary destination for visitors as an interpretive center. Its lobby will be entirely devoted to greeting visitors. At one corner will be an expanded gift shop. Opposite, an existing meeting room will become exhibit space that introduces the key messages of the education and interpretive programs. This*

space will also include a small food service area served by the existing commercial kitchen.

- **Foster Island Pedestrian Overpass-project needs to be rescoped.**

A wheelchair accessible overpass over Foster Island Drive, including adding earthen fill on the north side to provide a ramping path down to existing grade.

Construction of the overpass will require the following projects:

- a. Bridge & fill
- b. Trail
- c. Quercus/oak renovation
- d. Native forest restoration
- e. Irrigation
- f. Signage/interpretation

- **Arboretum Creek**

Increase water flow at the source of Arboretum Creek, by allowing more water into the channel but keeping it in underground culverts via the playfield, emerging above ground west of Lake Washington Boulevard near the Interlaken Blvd. intersection; and enhance the creek bed's natural appearance and ecological function including a possible salmon run.

Restoration of Arboretum Creek will require:

- a. Tunnel under Madison Street fill
- b. Modify SPU storm water system south of Madison St.
- c. Two new ponds at south; new pond in north
- d. Rebuild creek bed and plant
- e. Daylight side creek below woodland garden
- f. Remove parking north of the Lynn Street pedestrian bridge
- g. Structure (bridge or box culvert) at Lake Washington Blvd.
- h. Establish PNW mixed forest collection
- i. Establish PNW riparian forest collection
- j. Renovation of Betula / birch collection
- k. Establish Populus / poplar, Alnus / alder and Fraxinus / ash collections
- l. Native forest restoration
- m. Irrigation
- n. Signage and interpretation

- **South Parking and Access**

Improve the parking lot between the Japanese Garden and playfield to accommodate more cars (present 84 increased to 128), 4 buses and to improve landscaping. The construction of the project will require:

- a. Intersection realignment

The downhill sweep beneath the cathedral-like oak and sycamore street tree alley of Lake Washington Boulevard will be maintained as the southern entry into WPA. The boulevard's intersection with Arboretum Drive will be reconfigured to create a T-intersection out of the existing oblique one and to align the entry into a reconfigured parking lot for the Madison Playfield and the Japanese Garden. The direct sight lines up and down the boulevard will allow WPA visitors access to and from the

- parking lot.*
- b. Parking expansion*
- c. Parking lot - shrub and groundcover trials*
- d. Wayfinding signage*
- e. Pedestrian activated signal*

- **Off-Site Administration at MOHAI**

*The amount of General Services and Administration Facilities needed to eventually accommodate the full scope of program activity will require additional administration office space of approximately 4,000 square feet. This could be accommodated in the MOHAI building once the Museum moves to its new location. This building is located just north of SR 520 on the west end of Foster Island.*

### **MEDIUM PRIORITY PROJECTS**

- **Arboretum Drive Relocation, Parking and Greenhouse**

*Relocate the northern third of Arboretum Drive eastward, from the Graham Visitors Center (GVC) to just north of the Magnolia display. Leave Drive open to through traffic; add measures to eliminate trucks and other inappropriate vehicles; utilize Drive for tram tours and other special-purpose access. The road relocation will allow uninterrupted pedestrian access from the GVC to the core collections and grounds. Relocation of Drive will require the following projects:*

- a. Demo existing greenhouse*
- b. Replacement greenhouse*
- c. New parking @ GVC*

*Remove most of the small parking lots at the north end of the park (6 lots, 108 cars) and expand the present GVC lot southward from the present 49 cars to 109 cars and 4 buses. Approximately, ten parking spaces would be retained on Foster Island Road and would include some spaces dedicated for barrier-free parking.*

- d. New road (Drive, Intersection to Foster Island Drive)*

*Foster Island Drive*  
*The 14-foot travel lanes will accommodate bicycles going to and from the GVC and onto Arboretum Drive. Access to Broadmoor Golf Clubhouse will become a T-intersection and secondary route.*

*Parking along Foster Island Drive, is reduced from approximately 50 to approximately 10 spaces, on the side down slope from WPA maintenance yard. The proposed Arboretum Shoreline and Trail Improvements Plan completed in July, 2000 recommended 4 additional stalls (2 of them ADA) near the trailhead at the northern end of Foster Island Drive. Foster Island Drive's planted center median will create a line of green leading to the renovated Graham Visitors Center (GVC).*

- e. Demo old road and restore landscape at Foster Island parking,*
- f. Foster Island Drive, Boulevard and Parkway trees*
- g. Signage*
- h. Irrigation*

- **Graham Visitors Center Gardens**

- a. *Synoptic Garden*

- Transform the spaces around the GVC into an overview, or synoptic garden of WPA's best. Allocate a large area around the GVC to the full expression of this idea: a year-round display of WPA's most beautiful and functional flowering trees, shrubs, vines and groundcovers. Prominent displays could include WPA's most famous plant introductions.*

- b. *Demonstration*

- c. *Display*

- d. *Trailhead-lawn*

- e. *Irrigation*

- f. *Renovate native forest*

- g. *Wayfinding and interpretive signage*

- **New Education Building**

- New facilities northwest of the GVC to support education, to include a building for education programs for all ages, plus storage for education equipment, to supplement the outdoor education experience.*

- **Curatorial Building**

- Design and construction of a curatorial building to provide staffing and facilities for curation and collections management: record-keeping, mapping, and labeling, and interpretation, housed in facilities at the north end near the Graham Visitors Center.*

- **Additional Greenhouse- On hold due to lack of Maintenance & Operations funds**

- A replacement greenhouse and other growing structures will be located south of the GVC and used for propagation of Arboretum plants. It will also include facilities for teaching purposes and propagation classes, "and new places for plant sales, such as Pat Calvert and Donations.*

- **Maintenance and Operations Buildings and Yard**

- Expand the Maintenance and Operations headquarters and maintenance buildings, including expanding open structures for equipment storage contained within the present location of the existing Maintenance Yard:*

- a. *Renovate existing building (2800 s.f.)*

- b. *New maintenance facility (7,200 s.f.)*

- **Hillside Trail**

- Reorient the hillside trail midway between Azalea Way and Arboretum Drive for improved viewing of displays and public access. Construction of the Trail will require the following projects:*

- a. *Two small pedestrian bridges over creeks*

- b. *Grading and surfacing*

- c. *Native forest restoration*

- d. Signing and interpretation*
- e. Renovate Acer / maple collection*
- f. Renovate arboretum rackery and lookout*
- g. Renovate Loderi Valley*
- h. Irrigation*

- **Canopy Walk**

*An elevated "canopy walk" will be constructed between the summits of Yew and Honeysuckle Hills for access to treetops and extended views within the WPA.*

*This project will include interpretive and explanatory signage, and will require the following construction:*

- a. Shelter*
- b. Bridge/canopy walk*
- c. Plant Ancestry and Diversity exhibit*

*An exhibit at Yew and Honeysuckle Hills, reflecting the original Dawson plan by which primitive and advanced plants were displayed to demonstrate major aspects of the course of flowering plant evolution.*

- **Children's Arboretum**

*A child-oriented arboretum in miniature-incorporating some of the interactive learning techniques found in children's gardens throughout the country-is proposed for a portion of the conifer meadow area north of the existing miniplayground at Lynn Street. Programs at this hands-on exhibit can involve classes for school groups. Additional projects included in this design and installation are:*

- a. Lynn Street entry*
- b. New playground*
- c. Demo old playground*

- **Alpine Slope Garden**

*Located among the switchbacks of the A.D.A. accessible Hillside trail, the Alpine Gardens of the World will display recreations of selected alpine plant communities including a collection of open alpine meadow shrubs and groundcovers. Some additional projects include:*

- a. Switchback trails*
- b. Alpine Garden*
- c. Irrigation*
- d. Interpretive shelter*

*Near the summit of the trail, an interpretive shelter will be sited on the edge of a forest meadow.*

- e. Native forest restoration*
- f. Signage and interpretation*

- **South Pedestrian Overpass**

*An overhead pedestrian crossing will create a gateway over Lake Washington Boulevard, and link the interpretive trails of the southeastern portion of the Arboretum to the Japanese Garden entry. Construction of the overpass will include:*

- a. Bridge*

*b. Restoration of native vegetation and planting*

## **FUTURE PRIORITY PROJECTS**

- **South End Educational and Visitor Services Building**

*Visitors entering the southern portion of the Arboretum will arrive at a satellite education center located just south of the Japanese Garden. The education and visitor services building (approximately 2,500 sq. ft. floor area) will provide for education and visitor services, including class/meeting room and rest rooms.*

- **Japanese Garden Pavilion and Entry Structure – Entry Structure Completed; Pavilion-Not Completed**

*b. Pavilion-Not Completed; needs further study due to site constraints  
The 1959 Japanese Garden Plan will be completed through construction of the pavilion. It will be sited along the western boundary of the Garden above the northern pool. Its windows and elevated perimeter deck will look east over the pools and to the adjacent hillside. Within the pavilion a Japanese tea service area, exhibit space, library, offices and restrooms are proposed. Service access to the pavilion will be along a combined West Side Trail and a 12-foot wide service drive that will begin at the southwest corner of the existing fenced garden. A turnaround for emergency and service vehicles will be sited on the backside of the pavilion.*

*c. Asian Hillside*

*d. Native forest restoration*

*e. Irrigation*

## **Completed Projects**

- **Pinetum**

*Renovate the existing Pinetum collection, which includes collection of all conifers. Arrange in a teaching and park-like setting. Improve access with an ADA trail and other paths. Remove weedy vegetation. Also establish boundary and new boundary plantings with neighbors.*

- **Irrigation Mainlines**

*Three north / south oriented 8" diameter mainlines along the east, west and hill top paths, and associated valves, will serve individual gardens and gathering areas within the Arboretum. Includes connection to existing water main in the vicinity of 31st Ave. E. and Washington Place, or to an existing east / west line through the center of the Arboretum.*

- **Japanese Garden Pavilion and Entry Structure**

*The constituents of the Japanese Garden have prepared a master plan for the Garden that calls for more extensive improvements than are described below. The following projects are proposed for implementation as part of the Arboretum Master Plan:*

- a. *Entry structure*
- b. *Ticketing and restroom.*

- **West Side Trail**

*The West Side Trail along the forested valley side slope, west of Lake Washington Boulevard, will be the primary link to the adjacent Montlake and Stevens neighborhoods. Numerous pedestrian links will occur along this western boundary to WPA. From this greenbelt, pedestrians will have an opportunity to go over or across Lake Washington Boulevard into WPA at the existing Wilcox Footbridge, the proposed overhead crossings at the south end of the Japanese Garden, and on grade at Boyer Street. The West Side Trail construction will require the following projects:*

- a. *Potential tunnel under Madison Street fill*
- b. *Three road crossings: Interlaken Blvd, Boyer and LWB*
- c. *1 pedestrian-activated signal @ Boyer/LWB*
- d. *Grading and surfacing*
- e. *Native forest restoration*
- f. *Signing and interpretation*
- g. *Irrigation*