UNIVERSITY OF WASHINGTON

OFFICE OF THE PRESIDENT

Mark A. Emmert, President

October 30, 2006

Mr. Paul Krueger
WSDOT Environmental Manager
414 Olive Way, Suite 400
Seattle, WA 98101

Dear Mr. Krueger:

Please find attached the University of Washington's response to the *SR 520 Bridge Replacement and HOV Project: Draft Environmental Impact Statement: August 18, 2006.* We request that the Washington State Department of Transportation respond to the comments and concerns raised in this letter and the attached reports.

The University of Washington was founded in 1861 with a mission to provide education, research, and service to the citizens of Washington. Since then, the University has developed into a world-class institution, becoming an essential asset to our community and our state. Granting over 12,000 degrees annually, we have numerous highly rated academic programs, including bioengineering, drama, microbiology, computer science and engineering, medicine, and much more. We win more research funding than any other public university in the nation, roughly $1 billion annually. Our partnerships with business and industry have spawned more than 200 startups out of the intellectual property that has flowed from our laboratories and our research. Additionally, the University is home to one of the top ten hospitals in the nation, serving all patients regardless of where they come from or their socioeconomic background.

The University is also a national leader in environmental stewardship. Through our aggressive Transportation Management Plan, we have reduced Single Occupancy Vehicle (SOV) trips to campus by approximately 5,100 trips each day compared to the number of trips in 1989. Furthermore, we have committed to reducing greenhouse gasses by signing the Seattle Climate Partnership Agreement. We are a strong partner in managing the internationally renowned Washington Park Arboretum, which has plantings constituting one of the premier woody plant collections in the United States.

S-003-001

Although the University is not taking a position on the options currently under consideration, we must note that the Pacific Interchange option appears to be the one that would have the greatest negative impacts on our mission. This option takes away land dedicated exclusively for educational purposes, constraining future growth of the University. Without careful design and aggressive mitigation, it will split significant areas of land away

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S-003-001

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-001

from the central campus. Moreover, it appears that this option would have the most serious environmental impacts to the Arboretum, wetlands, shorelands, and fish. To the extent that it would make SOV trips easier, we believe this option would be at odds with our goal of reducing these trips. Finally, its construction poses very serious challenges to students, faculty, staff, visitors, fans, and patients who need to come to the University. Easy access to our campus and hospital is vital for us to meet our mission and maintain our financial health.

S-003-002

While it is conceivable these concerns can be mitigated, it remains to be seen how this will be accomplished and at what cost. Indeed, the DEIS does not adequately address mitigations or costs. Any final plan must commit to fully funding mitigation of University concerns. Otherwise, a project meant to solve transportation problems in the region may permanently damage one of the state's greatest assets.

Our DEIS comments are organized into two parts: 1) general comments grouped by topic and 2) comments directed to specific sections of the DEIS. In addition, we are including two reports related to transportation and environmental issues: 1) Mirai Comments on SR 520 Bridge Replacement and HOV Project DEIS and 2) Otak SR 520 Bridge Replacement and HOV Project EIS Review.

Thank you for the opportunity to comment. We look forward to your response.

Sincerely yours,

Mark A. Emmert
President

S-003-002

Comment Summary:

Project Costs

Response:

See Section 3.1 of the 2006 Draft EIS Comment Response Report.

University of Washington
Comments on the *SR 520 Bridge Replacement and HOV Project*
Draft Environmental Impact Statement
October 30, 2006

I. GENERAL COMMENTS

S-003-003

Use of University Lands

Pursuant to legislative direction, the State of Washington conveyed "unto the State of Washington for the use and benefit of the University of Washington" Lots 1 through 6 of Section 16 upon which the Seattle Campus of the University of Washington was built. The language "for the use and benefit of the University" was a condition of the deeds from the city founders and their heirs that allowed the movement of the University from the downtown campus to its present location. Those earliest supporters of the State and the University were prescient of the pressures of urban development on the property set aside for the University. The intent of the donors and their heirs was that the current University location be used "exclusively for educational purposes."

Certain shorelands within Section 16 were separately conveyed to the University of Washington. The University owns portions of the State Arboretum Park and co-manages it with the City of Seattle.

Under state law, the Board of Regents has "full control" of University property "except as otherwise provided by law." RCW 28B.20.130(1). University regulations reserve University property, including all grounds, parking lots, water fronts, and airspace owned or operated by the University, primarily for educational use. WAC 478-136-012(1). "Educational use" includes instruction, research, public assembly, student activities, and recreational activities related to educational use. WAC 478-136-010.

The Board of Regents of the University of Washington has been given complete discretion over the use of the property of the University and they may make such use of the property as in their discretion will promote the best interest of the University. 1959-1960 Op. Attorney Gen. Wash. No 75.

Consistent with its agreement with and the intent of the founding families of Seattle, the Legislature has dictated that the University campus is to be used for university purposes. Just as the Regents have broad discretion to determine that an activity is for university purposes, they also have great discretion to determine that a use is not compatible with university purposes. WSDOT will need to work with the Regents to determine whether options under consideration for replacement of SR 520 are an appropriate use of campus lands.

S-003-003

Comment Summary:

Property Acquisitions

Response:

See Section 6.1 of the 2006 Draft EIS Comment Response Report.

S-003-004

SEPA/NEPA Issues

The DEIS does not detail mitigation for any of the identified impacts. Mitigation is the avoidance, minimization, rectification, compensation, reduction, or elimination of adverse impacts to the built and natural environment. Mitigation may also involve monitoring and a contingency plan for correcting problems if they occur or the mitigation is not adequate. Mitigation is defined as avoiding (by not acting), minimizing (by limiting the action), using appropriate technology, rectifying (repairing the damage), reducing (over time), eliminating, compensating (by replacing, enhancing or providing substitute resources or environments), or monitoring (and taking corrective actions) environmental impacts. The EIS should identify possible mitigation measures that will or may be applied or implemented as part of the project. The discussion should include information on the intended environmental benefit of the proposed mitigation as it related to the identified impact. If the technical feasibility or economic practicality is uncertain, the mitigation measure may be discussed, but discussion of the uncertainties must be included. The EIS should also clearly identify the mitigation measures as either mandatory or as potential so reviewers may better assess the impacts of the proposal.

SEPA rules state that the beneficial aspects of a proposal shall not be used to balance adverse impacts in determining significance.

An EIS provides decision-makers and the public with a complete and impartial discussion of the proposed project, existing conditions, probable significant adverse environmental impacts, and reasonable alternatives and mitigation measures that would avoid or minimize adverse impacts. This provides information needed for informed decisions. A critical defect in the DEIS is its relationship and inclusion of information from the Technical Appendix. The Technical Appendix contains information which is critical for decision makers yet is either not mentioned in the DEIS or is misconstrued. Certainly we all understand that most decision makers do not have the time to read both the DEIS and the Technical Appendix. Therefore the DEIS must include an adequate summary of adverse environmental impacts for each element of the environment discussed in the document. This discussion must include the disclosed impact, potential mitigation if there is any, and its feasibility. Each element of the environment must include a discussion of impacts which may or cannot be mitigated.

The primary purpose of an EIS is to provide an impartial discussion of significant environmental impacts, and reasonable alternatives and mitigation measures that avoid or minimize adverse environmental impacts. The discussion of impacts should include direct, indirect and cumulative impacts. The SEPA Handbook gives examples of these types of impacts. For example a road may be constructed which impacts a wetland (a direct impact). The new road will encourage increased development and traffic in the area because of the improved access (an indirect impact). Increase runoff and contaminants from the development would be added to the volumes and levels of contamination from similar developments surrounding the wetland (cumulative impacts). The document does not clearly distinguish project impacts as direct, indirect or cumulative. A detailed chart should be developed which identifies each impact, whether the impact is direct, indirect or cumulative, and mitigation which is practical, feasible and within control of WSDOT.

S-003-004

Comment Summary:

Format and Content

Response:

See Section 23.1 of the 2006 Draft EIS Comment Response Report.

S-003-004 Mitigation must be reasonable and capable of being accomplished. WSDOT does not clearly state what mitigation is within the department's control and what mitigation would be the responsibility of other agencies or beyond the scope of this project or WSDOT.

WAC 197-11-440 (8) discusses optional elements of the environment to be analyzed in an EIS. One example is a cost/benefit analysis. This type of analysis is critical to help evaluate the proposal. This same type of analysis should be done for mitigation to ensure that decision-makers can determine the practicality and feasibility of the mitigation.

S-003-005 The document does not discuss any of the impacts from the Graving Dock. Specifically what are the impacts, both temporary and long term, of moving the pontoons into Lake Washington? Will there be an economic impact to the Locks i.e. will businesses which rely on this facility be adversely impacted? What will be the impact on the boating community? How will this impact fish?

S-003-006 During construction WSDOT will implement a travel demand management program. This program will help reduce impacts during construction. Why will this program be discontinued once the proposal is completed? Isn't in the best interest of the region to continue to implement travel demand management? If the travel demand management is effective during construction, will it have a similar advantage of reducing trips and therefore reducing the need for the six lane option? Why wouldn't the travel demand management program reduce the size of the project?

S-003-007 The impact of the Pacific Street Interchange on the health and vitality of the academic, business and residential community at the University of Washington and in surrounding neighborhoods has not been adequately addressed. Some analysis should be conducted on moving the interchange away from Foster and Marsh Islands, an environmentally sensitive area.

The entire proposal promotes the use of SOV due to an increase in road capacity on the new bridge, the expanded intersections at Montlake and Pacific, and two new lanes along Montlake. This impact, both in the short and long term, is not adequately addresses.

S-003-008 WSDOT has not provided an archeological study of Foster Island. This survey should be completed now, prior to further planning for the project. This is especially important to avoid similar negative financial impacts to the citizens of the State associated with the Port Angeles Graving Dock Project.

S-003-009 WSDOT has stated in the past that placing the bridge over Foster Island will result in fewer impacts to fish because less time will be spent in the water during construction. However, this statement is not based on documentation in the DEIS. More analysis is required to determine the validity of the statement.

S-003-010 Construction impacts from the temporary detour bridge have not been adequately analyzed in the DEIS as required by SEPA/NEPA guidelines.

3

S-003-005

Comment Summary:

Pontoon Construction, Transportation, and Moorage

Response:

See Section 4.3 of the 2006 Draft EIS Comment Response Report.

S-003-006

Comment Summary:

Traffic Management (Construction)

Response:

See Section 4.2 of the 2006 Draft EIS Comment Response Report.

S-003-007

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-008

Comment Summary:

Section 106 Process

Response:

See Section 11.1 of the 2006 Draft EIS Comment Response Report.

S-003-009

Comment Summary:

Fish Effects

S-003-011

Without a detailed analysis of mitigation, its feasibility and practicality, decision-makers will have a difficult time making informed decisions on this project. The University has identified mitigation which should be included in the Final EIS. Measures include:

1) Additional parking for both ICA and UWMC.
2) Police to manage traffic for football and other events during construction.
3) Costs will increase during game day as people choose to ride Metro rather than drive.
4) Parking revenue to the University will be significantly reduced during game days and potentially overall depending on parking mitigation.
5) Many units impacted by the Pacific Street Interchange are self sustaining. These include the Waterfront Activities Center, Intercollegiate Athletics, UW Medical Center, UW Physicians and others. Mitigation for business losses by these units must be included in the FEIS.
6) Patients coming to the UW Medical Center and UW Physicians should have access to improved valet parking. This mitigation should be included in the FEIS.
7) The UW's Transportation Management Plan may be adversely impacted due to the increased access to campus by SOVs via the Pacific Interchange. This will result in significant costs increases and potentially jeopardize continued growth on campus. How will this be mitigated?

S-003-012

Campus Master Plan and Design

The proposed Portage Bay Bridge alternative will have a significant impact on the University's south east campus and the stadium, limiting access to the site, disrupting parking and for the most part eliminating the opportunity for any future development in this area of campus. While the University's Campus Master Plan does not identify this as a development site, studies of future development potential were undertaken and show that this area has significant development potential. The loss of future developable space will need to be addressed by mitigation.

The visual impact as well as noise and light impacts will significantly impact the historic Canoe House and the Waterfront Activities Center. The Waterfront Activities Center is used by University students and a significant number of community members. This is a unique, one of a kind, resource for the community. The scale and height of the proposed structure will be an intrusion and destroy the serene, tranquil, open and magnificent natural beauty of the area.

The Waterfront Activities Center (WAC) provides water-related recreation to faculty, staff, students and the general public. It is open 337 days a year including holidays and weekends. More than 220,000 people visit this facility each year; 35% of those are the general public. The WAC rents 15,000-20,000 boats each year. The WAC lounge is used 300-340 times per year, with more than 250 requests for use denied due to lack of availability. When the WAC was constructed, the City required it to provide public canoe access to the Arboretum. If public access to this facility is limited by construction or long-term design, how will this access be

Response:

See Section 16.2 of the 2006 Draft EIS Comment Response Report.

S-003-010

Comment Summary:

Schedule

Response:

See Section 4.1 of the 2006 Draft EIS Comment Response Report.

S-003-011

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-012

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-012 provided? Access to the WAC must be maintained throughout construction of 520 and impacts to the facility, including business loss, must be mitigated.

The widening of Montlake will have a significant negative impact in the vicinity of the stadium, the future Sound Transit Station, Edmondson Pavilion, and the Intramural facility with respect to access by pedestrians (especially for events), vehicles and bicyclists. Additionally, above grade crossings will be required from the central campus to these facilities as mitigation. The proximity of the expanded roadway to these activities and buildings and the loss of open space in this area will be significant. Adequate mitigation should be included in the FEIS to determine its feasibility and practicality.

The proposed lowering of Montlake and Pacific Street intersection and inclusion of above grade pedestrian and bicycle crossings must be studied in depth before an analysis of environmental impacts can be provided. Safe and convenient pedestrian access must be provided not only for the University but for all the users of the Sound Transit Station. The lid MUST NOT intrude on the view north and south and the view provided by Rainier Vista. The Vista is a unique and valued element of campus.

Open plazas, such as the one over the Montlake/Pacific Intersection, do not always solve pedestrian and bicycle access issues. Without proper analysis and design they can be desolate areas which detract from the environment and therefore are not used or enjoyed by the public. The DEIS talks about a lid but provides no information on its parameters, constraints or opportunities. Most importantly it is not adequately analyzed as a mitigating measure and therefore it is impossible to determine if the impact of the major intersection is actually mitigated. How feasible is this mitigation in terms of engineering and cost? Without adequate analysis it is not known if the mitigation is practical or feasible and therefore the impact is unmitigated.

S-003-013 The DEIS does not discuss the Design Advisory Group and the Aesthetic Handbook that was developed. This information should be included in the EIS under aesthetics.

S-003-014 What is the grade of the Union Bay Bridge? Is this grade too steep for bikes, and if so, how will bicycles get to and from campus?

S-003-015 What steps will be taken to maintain the noise walls and eliminate graffiti? Is there a sufficient WSDOT operating budget to manage the maintenance of these walls?

S-003-016 **University of Washington Botanic Gardens/Arboretum**

The University of Washington has grave concerns about the SR 520 project alternatives with regard to their effects on adjacent roads and lands on the western shores of Lake Washington in Seattle. These alternatives will have significant impacts on the UW Botanic Gardens in the Washington Park Arboretum and its world-renowned plant and tree collection.

S-003-013

Comment Summary:

Context Sensitive Solutions

Response:

See Section 10.2 of the 2006 Draft EIS Comment Response Report.

S-003-014

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-015

Comment Summary:

Noise Walls (Aesthetics)

Response:

See Section 12.3 of the 2006 Draft EIS Comment Response Report.

S-003-016

Comment Summary:

Arboretum (Concerns)

Response:

See Section 9.3 of the 2006 Draft EIS Comment Response Report.

S-003-016

The form of the Arboretum was designed by the Olmsted firm at the beginning of the last century as a crucial component of their vision for the boulevard and park network for Seattle. The arboretum now forms the southern limb of UW Botanic Gardens which also includes sensitive shoreline wetlands and a nature reserve (Union Bay Natural Area), besides the Union Bay Gardens surrounding Merrill Hall (Center for Urban Horticulture) to the north of SR 520. The Arboretum alone is the largest open green space in the central metropolitan area of Seattle and provides an invaluable park experience for local people as well as visitors to the city. It has some 350,000 visitations a year.

The Arboretum is the only collection in Washington to be officially designated a State Arboretum. The tree collections are in the very top tier of North American botanic gardens and arboreta and, indeed, are of international significance, with world-class holdings of oaks, maples, hollies, and many other plant groups. Already the first two are deemed leading collections in the North American Plant Collections Consortium, a major new conservation and stewardship initiative of the American Public Gardens Association. Any development that impinges on this national treasure must be assessed with the greatest care and consideration for future generations.

In the 1960s, the northern part of the Arboretum and the Montlake neighborhood was sliced through east-west by SR 520: only after an extensive public process were plans for a further highway running north-south through the Arboretum abandoned. Proposals on the table today present an equally dismaying series of options, which, if implemented, will impact very adversely on the most ecologically sensitive parts of the Botanic Gardens, notably the wetlands lying at the heart of the Arboretum. At present, SR 520 is largely at a low level near the Arboretum: proposals include raising it to 50-70 feet above the waterline [DEIS p. 5-7], making it visible over much more of the Botanic Gardens than it is at presently.

One alternative now proposed [DEIS p. 5-27] has a 'footprint' some 400 feet wide over the western approaches to the Arboretum. One option [DEIS p. 5-32] calls for a large intersection over the wetlands and, from that, a bridge over 110 feet high leading northwards to the main campus of the University. The southern arm of what effectively would be a cross at the heart of the Botanic Gardens would funnel increased [DEIS 5-32] traffic onto the present-day northern part of the Arboretum and on to Lake Washington Boulevard, one of the Olmsteds' most important thoroughfares in Seattle, impacting on the Arboretum and its users as a whole.

Construction will take several years [DESIS p. 8-10] and involve the building of a temporary bridge on Arboretum property [p. 8-8]. No meaningful traffic plan through the Arboretum for the construction period has been presented.

Additional alternatives should be commissioned to assess the effects of such a system which would remove the concerns about the out-of-proportion scale of the proposed developments and their visual impact, the shading of the Arboretum, traffic noise, and the effects on salmon passing through waters surrounded by the Botanic Gardens. If such a scheme were acceptable after such a study, its implementation would also allow not only the Arboretum to be returned to the original Olmsted vision, but also restore tranquility to the Botanic Gardens as a whole - as well as to the adjoining neighborhoods.

S-003-016 Any mitigation for impacts to this area must occur within the area of the Botanic Gardens and Washington Park Arboretum.

S-003-017

UW Medical Center and UW Physicians

The University of Washington Medical Center (UWMC) is one of the top-ten hospitals in the nation, providing irreplaceable services to the region and state. UWMC is also a self-sustaining business unit of the University with revenues in excess of $600M annually. It is critical that its operations be protected during construction of SR 520 and after. More than 1,400 patients are seen in UWMC clinics each day. Maintaining access for patients, staff and visitors is crucial for the success of this facility and health care of patients.

UW Physicians (UWP) is another self-sustaining unit of the University whose members are medical staff of UWMC and faculty of the University of Washington Medical School. The patients who this group cares for must have access to facilities on campus during construction and after.

WSDOT has discussed using Transit Demand Management to reduce traffic congestion in the area during construction. WSDOT should study providing permanent incentives to residents in the area to permanently reduce traffic volumes rather than just during the time period of this construction.

It was understood that WSDOT wanted UWMC's preference as to which option was more desirable when construction work required closure of NE Pacific Street east of the Emergency Department entrance to the intersection with Montlake Boulevard (for lowering of the NE Pacific Street/Montlake Boulevard intersection). If the Pacific Interchange option is selected as the preferred alternative, UWMC prefers to always leave a lane open eastbound and westbound on NE Pacific Street **AND** for construction to occur 24 hours per day, 7 days a per week. **UWMC must keep access to its Emergency Department open at all times**.

UWMC is extremely concerned about the time period when, in order to lower the NE Pacific Street/Montlake Boulevard intersection, Montlake Boulevard (north of the Montlake Bridge) will be relocated to within 16 feet of the east wall of UWMC's Surgery Pavilion:

- What will the vibration from construction equipment and vehicles do to UWMC's ability to perform surgeries and other invasive procedures in that building?
- Can the construction work be done at night?
- Will the current landscaping, which the local community requested remain in place, be destroyed? What will be the final landscaping after the project is complete?

UWMC would like to see how travel times to its facility (as the destination) would be impacted by the Pacific Interchange option. All travel time modeling results presented thus far show only vehicles traveling through the Montlake/Pacific intersection, not to UWMC.

S-003-017

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-017

Construction dust is a great concern to UWMC as it is a source of infection for immuno-compromised patients. UWMC is responsible for protecting these patients against dust. We must be given the opportunity to review and approve the mitigation plans for dust control. There must be protection and filtering on UWMC's air intakes and watering/cleaning of the general area to control dust.

WSDOT's work on the Pacific Interchange must be coordinated with the construction schedule for UWMC's expansion. Currently, UWMC expects to start construction during the third quarter of 2008, with a 2-year construction period.

UWMC is concerned that the construction will cause a loss in patient volume due to difficulty of access, noise and dust. WSDOT must assure UWMC's financial stability during construction period and during the period when UWMC is working to regain its lost volume. We expect WSDOT to guarantee UWMC and UWP's required operating margin during this time period.

S-003-018

UW School of Medicine

Two "build" alternatives and seven options were studied for replacement of SR 520. While all of these options may have impacts on the University of Washington School of Medicine, we believe the Pacific Interchange will have the greatest impacts.

Construction of the Pacific Interchange will cause vibration, dust and noise that will adversely affect the research and teaching missions of the School of Medicine. Although any construction project may create impacts, this project is of such a magnitude that adverse effects will be more pervasive, over a longer period of time and thus more harmful. Potential impacts could result in lost productivity of researchers or even loss of faculty due to the difficulty in conducting research. This research is recognized as a major economic benefit to the region. Mitigation must be provided for vibration, dust and noise impacts on this research.

Vibration: The DEIS does not address the impact of vibration, its existing condition or its anticipated effect in the area of concern. Much of the research that is done within the Magnusson Health Sciences Building is vibration sensitive. As pilings are pounded or trucks continuously move to and from the project site, it can be expected that the vibration will be transmitted to the building foundations. Sensitive research instruments will pick up this vibration and render the science unusable. Without analysis of this issue in a matter similar to that of noise, the report should be considered incomplete.

Dust: Dust generated by the construction project does not seem to be addressed in the document. It is anticipated that the HSB will require a greater amount of preventative maintenance to keep the heating, ventilating and air conditioning equipment operating effectively.

S-003-018

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-019

Noise: Noise impacts on the University are addressed in the verbiage of the document but are not graphically presented in the summary. This information should be graphically presented similarly to that of south of the Cut. Further, the University requests that noise analysis evaluate impacts from trucks and cars struggling to get up the new Union Bay Bridge and braking on the way down. This bridge may have a considerable grade and this may change the noise profile of traffic using it.

S-003-020

UW Intercollegiate Athletics

The document contains very little mention of the financial impacts upon Husky Stadium and the Intercollegiate Athletics Department (ICA). Construction related to SR 520 will have a significant impact upon the operating costs for ICA and possibly on its revenues.

ICA is a self-sustaining $50M business at the UW. There is little ability to reduce the scope of the athletics department and, thus, its expenses. For example, NCAA has minimum requirements regarding sports sponsorships and scholarships that we must meet in order to remain a Division 1A institution. Construction on SR 520 may significantly add to ICA costs and reduce revenue. If football game attendance goes down, ICA may put the greater University at great risk financially. To the extent that fans believe it is too difficult to get through construction to the stadium, then the University could be left to deal with an annual deficit in athletics.

Also, there is no mention of the economic impact over a multiple year time-frame caused by construction so close to Husky Stadium and Hec Ed Pavilion. Intercollegiate Athletics annually generates $25M-$30M in revenue from events in Husky Stadium alone. This provides considerable support to the economy of the region, supporting hotels, restaurants, and other services. For example, ICA generates almost $2M annually in sales and admissions tax for local government. A significant decline in attendance (spending) will have a huge multiplying impact upon the economy of this area.

Economic impacts to ICA need to be thoroughly analyzed in the Final Environmental Impact Statement.

S-003-021

The SR 520 corridor has been a consistent environmental fixture in Seattle for more than 40 years. The community has adapted to its existence and generations of community members, including the University of Washington population, have known no other aesthetic environment. The sensibilities of the State have matured over this time and it now advocates sustainability. To create a second freeway across one of the most iconic, scenic waterways and shoreline environments in America does not support the environmental policies advocated by State leadership. The University believes the peninsula of land on which Husky Stadium, the Waterfront Activities Center, canoe house, campus parking and community green space are located, should remain dedicated to supporting educational purposes.

S-003-019

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-020

Comment Summary:

Economic Effects

Response:

See Section 6.2 of the 2006 Draft EIS Comment Response Report.

S-003-021

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-021

A University campus—especially one as internationally renowned for its environmental beauty as the University of Washington--should be protected from new roadway intrusions. The essence of the experience related to visiting the campus in this area will be adversely changed if the Pacific Interchange option is chosen. The University is concerned about visitors to Husky Stadium and how the quality of their experience will be diminished.

S-003-022

The DEIS appears to have no analysis of impacts to the University's sports programs, especially the Rowing Program. The rowing program is internationally renowned and uses the waters in Union Bay and Lake Washington for practice. Further, this area hosts the annual Windermere Cup, an event which upholds a tradition of inviting qualified international athletes to the area, including Olympians, who may not ordinarily have a chance to compete in the U.S. Indeed, for many international athletes, the Windermere Cup marks their first visit to the U.S. Invited international rowing teams have come from Australia, China, Croatia, Czech Republic, Egypt, Germany, Great Britain, Italy, Lithuania, Poland, New Zealand, and South Africa. Stanford, Northeastern, Yale, U.C.L.A., Dartmouth and Notre Dame Universities and the US Navy are just a sampling of the collegiate teams to have competed in the regatta. The FEIS needs to include analysis of how the different 520 replacement options impact the University's rowing program and associated events. In particular, how will new bridge columns impact the use of this area by shells, create aesthetic impacts and force changes to the rowing program?

S-003-022

Comment Summary:

Recreational Boating

Response:

See Section 9.2 of the 2006 Draft EIS Comment Response Report.

II. COMMENTS DIRECTED TO SPECIFIC SECTIONS OF THE DEIS:

1. Introduction to the Project

S-003-023

1-2 Under "Logical Termini," it states that the project must be useable and reasonable even if no other transportation improvements are made in the area. However, the Pacific Interchange option requires significant improvements beyond the immediate area of the project to make it function properly. Does the Pacific Interchange option require a project scope beyond the logical boundary of the bridge replacement?

S-003-024

1-3 Please include University of Washington under the list of communities included in the project area. The University comprises a community of some 60,000+ people who live, visit, work and learn on campus.

S-003-025

1-12 *6-Lane Alternative* – WSDOT is committing to build five 500-foot-long landscaped lids across SR-520 to help connect communities. WSDOT should commit in writing to a landscaped lid that connects the UW campus across the intersection of Pacific and Montlake. WSDOT consultants represented the commitment to provide a lid at this location during workshops. Lowering and lidding Pacific Place, Montlake Boulevard and Pacific Street should also be investigated.

S-003-026

1-13 *Montlake Interchange and Surrounding Areas* – There is no visual representation of a second Montlake Bridge solution. This is not a balanced representation, since a preferred option has not been selected.

S-003-027

1-13 Photos showing the Montlake Interchange are cropped in such a way as to not show the impacts on the University & Arboretum of selecting the Pacific Interchange alterative. This shows the benefits of selecting the Pacific Interchange option without showing the concurrent impacts. Please expand these pictures to show more of the Union Bay Bridge, Arboretum Interchange, and Pacific/Montlake Interchange.

S-003-028

1-13 Do cost estimates on this page include mitigation for impacts on the University of Washington and Arboretum? These impacts will be considerable and costs to sufficiently mitigate will be large.

S-003-029

1-17 *What have we learned from these outreach efforts?* – The second paragraph from the bottom of the page references neighborhoods desiring to have corridor noise mitigated, which wasn't provided in the 1960s. The University would desire this consideration with the Pacific Interchange.

S-003-030

1-18 The DEIS states that "Seattle residents in some locales" have concerns about the Pacific Interchange option. In fact, many Seattle neighborhoods surrounding the SR-520 project have taken a position against this option. This statement does not necessarily reflect the sentiments of neighborhoods in the area. The University participated in multiple workshops in which grave concerns regarding the Pacific Interchange were voiced. Theses concerns are not shown here.

S-003-023

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-024

Comment Summary:

Neighborhood Issues

Response:

See Section 7.1 of the 2006 Draft EIS Comment Response Report.

S-003-025

Comment Summary:

Bicycle/Pedestrian Path

Response:

See Section 2.3 of the 2006 Draft EIS Comment Response Report.

S-003-026

Comment Summary:

Visual Quality Effects

Response:

See Section 10.1 of the 2006 Draft EIS Comment Response Report.

S-003-027

Comment Summary:

Pacific Street Interchange Option

S-003-031 1-18 Not all groups want sound walls. There may be trade-off's that make sound walls unacceptable due to their height and visual impacts.

2. The Project Area: Then and Now

S-003-032 2-10 Discussion of development in the Seattle area does not include any information about the University of Washington Campus. This is a historic campus, established in 1896 and pre-dates many of the buildings & neighborhoods listed in the DEIS. A more thorough discussion of its history, and the project's impact on the historical context of the campus, is required.

S-003-033 2-22 The views of the current bridge in the Arboretum are from nearby areas only. The bridge as it is now cannot be seen from outside the immediate area but with the proposed height being increased the impact will be greater and from more areas in the Arboretum.

S-003-034 2-24, sidebar: It is misleading to compare the 80,000 trips generated by the University on the 20+ roads entering and leaving the campus area with the 115,000 trips traveling on one road - SR 520. The implication is that the University generates 80,000/115,000 or 70% of the traffic on SR 520, which it does not. No analysis is shown of University related SR 520 traffic. In fact, less than 10% of the University employee and student population – less than 6,200 people live on the east side and more than half of them commute by HOV. The University's current campus population is closer to 60,000 people, not the 55,000 noted in the DEIS.

The University's Transportation Management Plan does NOT rely on SOV's. Its basic premise and success is based on the fact that the University discourages SOV's from coming to campus. The University's UPass Program is one of the most successful programs in the country. How will the proposal impact the University TMP?

S-003-035 2-25 *Exhibit 2-8 Neighborhoods and Community Facilities in the Seattle Project Area* – There is no representation on the map of Husky Stadium or Bank of America Arena at Hec Edmundson Pavilion, which are major community facilities with far-reaching impacts.

S-003-036 2-32 A summary of noise studies for the area around University of Washington should be included in this section.

S-003-037 2-33: Exhibit 2-12. Noise Levels in the Project Area -- If the Pacific Interchange option were to be selected, further noise study should be undertaken to evaluate the impact on various areas and types of activities on campus and its shoreline.

S-003-038 2-36 *What are the state, regional and local plans and policies relevant to this project?* -- The current University of Washington Master Plan for the Seattle campus identifies development in the vicinity of the Waterfront Activities Center (Expansion Site 63E). The plan requires development to be sensitive to the existing shoreline and the historic canoe house. The Pacific Interchange encroaches on a site that was not designated for development and would not meet

Response:
See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-028
Comment Summary:
Project Costs

Response:
See Section 3.1 of the 2006 Draft EIS Comment Response Report.

S-003-029
Comment Summary:
Pacific Street Interchange Option

Response:
See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-030
Comment Summary:
Pacific Street Interchange Option

Response:
See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-031
Comment Summary:
Noise Walls

Response:
See Section 12.2 of the 2006 Draft EIS Comment Response Report.

S-003-038 the criteria of being sensitive to the shoreline. It should be noted that the Campus Master Plan was adopted by the Board of Regents and the City of Seattle.

S-003-039 2-36 The Washington Park Arboretum Master Plan is not described correctly and descriptions are not accurate. This section needs to be made more succinct and accurate. Impacts and mitigation need to be described.

S-003-040 2-44, Exhibit 2-16: Basins and Streams: The University Drainage Slough is NOT Ravenna Creek as identified in the graphic. The stream shown cutting through NE 41st Street does not appear to exist.

3. Developing the Alternatives

S-003-041 3-25, Exhibit3-5a, page 9-4 and 9-7: The alignment of the Pacific Street Interchange as shown destroys real development potential on the University of Washington campus. Loss of this development potential will need to be addressed. If this option is pursued, the route should be shifted as far to the south as possible. The State should consider negotiations with the Corps of Engineers to utilize their property on the north side of the Montlake Cut. In addition, location of the viaduct interchange should not impact the historic Canoe House on the University's Campus.

S-003-042 3-27[-]3-29; 5-6[-]5-7; 5-37[-]5-40: The document does not provide enough detail to adequately analyze the impacts of a second Montlake Bridge to both the existing bridge and the residences. The drainage plans to do not contain enough detail to understand or identify impacts.

S-003-043 3-28 There were many concerns about the Pacific Interchange that were captured at the WSDOT/UW Workshops. The 110-foot bridge height creates a higher profile of the Pacific Interchange Bridge. The University's preference would be to see the entire Pacific Interchange covered by a lid where it reaches land to the Montlake and Pacific intersections. It may be appropriate for this lid to extend down further along Montlake Blvd, Pacific St. and Pacific Place. Among the issues we are requesting further investigation by WSDOT: how to deal with weather-related (snow) traffic jams on the steep incline of the new bridge; noise impacts on the University and surrounding areas; the risk and impact of debris from the overpass; whether this will result in degradation of the natural beauty of the site; how this will impact the pedestrian experience around the Stadium and other areas of campus; impacts from loss of University parking; impacts from loss of tailgating at UW events; how less access to the athletic campus will affect the University; whether the University will lose the opportunity to host traditional rowing (a UW strength) races due to bridge impacts; whether the Pacific Interchange will conflict with the Sound Transit station; whether this is a possibility for crime under and around the new freeway; financial impact to campus programming; sports recruiting impacts; increased filling and shading of the wetland and shoreline habitats; negative impact to wildlife species, including endangered species; impact on boaters attending football games and Boating Opening Day; whether staging buses in the depressed Montlake intersection is dangerous and disorienting to transit riders; and whether the bridge diminishes the view from Husky Stadium and from the related campus roads, paths, parking lots and shoreline zones.

S-003-032

Comment Summary:

Olmstead Resources

Response:

See Section 11.2 of the 2006 Draft EIS Comment Response Report.

S-003-033

Comment Summary:

Visual Quality Effects

Response:

See Section 10.1 of the 2006 Draft EIS Comment Response Report.

S-003-034

Comment Summary:

Methodology (Freeway)

Response:

See Section 5.1 of the 2006 Draft EIS Comment Response Report.

S-003-035

Comment Summary:

Neighborhood Issues

Response:

See Section 7.1 of the 2006 Draft EIS Comment Response Report.

S-003-036

Comment Summary:

Noise (Methodology)

S-003-044 Page 3-28, Paragraph 2: The description of the option is incomplete as it omits the planned widening NE Pacific Street and NE Pacific Place. The description also omits integral design features, such as raising the landscape surrounding the Pacific Street and Montlake Blvd intersection and providing a lid or facsimile above this intersection. This level of completeness is required so that this design alternative can be properly compared to the base 6 lane alternative, the description of which includes mention of lids, sound walls, reconstruction of intersections, etc.

S-003-045 Page 3-28, Paragraph 4: This section asserts that the Pacific Street Interchange option would "provide a more reliable transit connection to the Sound Transit University Link light rail station at Husky Stadium…" This assertion is misleading because the Pacific Interchange Option is irrelevant for light rail: the transfer between SR 520 transit and light rail would require an extraordinary 1,500 foot walk between modes that alone would preclude most transfers. Even without this distance, the trip between the east side and downtown, the dominant SR 520 trip pattern, would be less attractive and slower than the current one seat direct bus service. More analysis is required to determine if this area will become a "kiss-n-ride" area. WSDOT should detail how transportation planning is being coordinated between KC Metro, UW, Seattle and Sound Transit.

S-003-046 3-29 It is only in WSDOT's opinion that the Pacific Interchange is best for the Arboretum. It actually creates a net loss of an island as the bridge will go right over it. The wording sounds as if this is okay and glosses over the fact that the loss of any Arboretum land is a loss for the community at large.

S-003-047 3-38 The proposed new trail in the Arboretum described on this page is a multi-use trail that is not compatible with a bike only trail. What is the impact to the Arboretum, UW and others if there is no bike access to Madison Park? What are the impacts of not providing this access?

S-003-048 3-39 Are the storm water treatment facilities to be fenced? If not, these would make excellent interpretive and education opportunities. Opening these facilities to the public should be considered as part of the design.

4. Comparison of the Alternatives

S-003-049 4-7 There is no discussion about the traffic that would impact the Arboretum via Lake Washington Blvd. Any increase in traffic whatsoever is a negative impact on the Arboretum. It is already hazardous for guests and employees to try to cross the road. Additional traffic may also create problems for bicyclists on this road. One of the main reasons for people to visit the Arboretum is for a quiet respite from the congested City. What is the impact of closing Lake Washington Blvd. to all traffic?

S-003-050 4-10, Sidebar: The condensation of Level of Service (LOS) A – D into the term "low to moderate" is not a standard use of LOS terminology. This use obscures the changes that the standard use, i.e., LOS A, LOS B, LOS C and LOS D reveals and therefore hides the changes from the DEIS reader.

Response:

See Section 12.1 of the 2006 Draft EIS Comment Response Report.

S-003-037

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-038

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-039

Comment Summary:

Arboretum (Concerns)

Response:

See Section 9.3 of the 2006 Draft EIS Comment Response Report.

S-003-040

Comment Summary:

Format and Content

Response:

See Section 23.1 of the 2006 Draft EIS Comment Response Report.

S-003-051 4-10, paragraph 2: The DEIS inappropriately limits the analysis of the effect of increased local street traffic volumes associated with the Pacific Interchange. Of particular concern are: NE 45th Street and Union Bay Place NE, NE 55th Street and 25th Ave NE, NE 45th Street and 15th Ave NE, NE Northlake Way and 6th Ave NE, NE 40th Street and 7th Ave NE, NE 40th St and 6th Ave NE and NE 40th St and Latona Ave NE.

S-003-052 4-10, paragraph 3: The analysis asserts that it "...currently takes about 25 minutes for traffic to make the short journey southbound between 25th Ave NE and the Montlake Interchange". This misleadingly implies that 25 minutes is the normal condition, something that was not concluded from the analysis. It may be that a set of Montlake bridge openings and SR 520 ramp metering conditions occasionally leads to extreme travel times as long as 25 minutes, but frequency is not demonstrated. Therefore the travel time benefit shown by the pacific interchange can only be attributed to occasional and perhaps worst case conditions.

S-003-053 4-12, paragraph 4: The bus stop in the U District is at the Pacific Place and Pacific Street intersection, not at the Montlake Blvd and Pacific Street intersection.

S-003-054 4-12, last paragraph: The assertion that "The Pacific Street Interchange option would make transit to and from SR 520 more reliable in the vicinity of the University link light rail station at Husky Stadium" is misleading and contradicts the analysis shown in the Addendum to the Transportation Technical Report dated 2/13/06. The assertion is misleading because the Pacific Interchange Option is irrelevant for light rail: the transfer between SR 520 transit and light rail would require an extraordinary 1,500 foot walk between modes that alone would preclude most transfers. Even without this distance, the trip between the east side and downtown, the dominant SR 520 trip pattern, would be an otherwise less attractive slower one than the current one-seat direct bus service. The assertion is contradicted by the Addendum to the Transportation Technical Report, pages 5-13 and 5-14, which shows that in both the AM peak hour and PM peak hour, at both the westbound and eastbound ramps, "traffic would queue back through the HOV direct access ramp intersection".

S-003-055 The queuing issues described in Addendum to the Transportation Technical Report, pages 5-13 and 5-14 indicate that the "tight diamond interchange" shown on page 3-25, Exhibit 3-5a. is too closely spaced to prevent blockage of the HOV ramps. This condition leads designers to increase the space the intersections, thus increasing the visual, light and other impacts of the proposed interchange. This increase in interchange footprint is not analyzed in the DEIS.

S-003-056 4-16 If the existing off-ramps are removed as part of the construction, where does all of the traffic go during the time before the new off ramps are built?

S-003-057 4-22 There is no discussion of the impacts on recreation or education in the Arboretum under possible affects.

S-003-058 4-25 Under the Key Points-How is visibility improved by adding sound walls?

S-003-059 4-26 While WSDOT describes the increased bridge height as a positive aspect, this could actually be a negative impact on the Arboretum. First, most plants that survive in these more

S-003-041

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-042

Comment Summary:

Format and Content

Response:

See Section 23.1 of the 2006 Draft EIS Comment Response Report.

S-003-043

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-044

Comment Summary:

Format and Content

Response:

See Section 23.1 of the 2006 Draft EIS Comment Response Report.

S-003-045

Comment Summary:

Pacific Street Interchange Option

S-003-059 shady, droughty areas are invasive in nature. Second, this creates additional work for Arboretum staff who are already overburdened. If adequate maintenance of these areas cannot be provided due to limited resources, the mitigation is not practical or feasible.

S-003-060 4-29, section of "Community Cohesion:" The DEIS fails to show an analysis of the affect of the Pacific Street Interchange on Community Cohesion, and specifically on the cohesion between the sectors of the University caused by additional traffic and street width on Montlake Blvd and Pacific Streets. Extensive lidding of these areas -- Montlake Blvd, Pacific St. and Pacific Place- may be required to knit the campus back together.

S-003-061 4-30 This may increase views at the water level but a large structure will be overshadowing the whole area.

S-003-062 4-31 Property acquisition- does fair market value apply to the Arboretum and University?

S-003-063 4-32 Is construction staging talked about elsewhere in the document? If not, where will that be discussed?

S-003-064 4-38 Lake Washington Blvd. will be impacted. This is a historic Olmstead Boulevard. Impacts should be discussed and analyzed.

5. Detailed Comparison of Alternatives – Seattle

S-003-065 5-3 Viewer sensitivity- The UW Botanic Garden has approximately 320,000 (250,000 in the Arboretum) visitors a year who would be impacted visually by this huge proposed bridge.

S-003-066 5-4 The Pacific Interchange is detrimental to the historic Canoe House. The National Register of Historic Places Inventory nomination form states that the structure was constructed by the U.S. Navy as a seaplane hanger in 1918, and the structure is significant to the state as a rare, if not unique, example of an architectural type developed in the early years of aviation. The airplane hanger was a response to new technology. Its efficient form was essentially without historical precedent. No other examples of the hanger type dating from the period of the First World War are known in Washington. No other early hangers are known to have survived in the vicinity of Seattle, which has figured prominently in aviation history since the founding of the Boeing Company in 1916.

Part of what makes this structure so significant is its location. The nomination form goes on to state that in 1917 and 1918 portions of the campus were taken over for war preparations. Army Training Corps activities were located on the upper campus. The U.S. Naval Training Camp extended along lower ground fronting Lakes Union and Washington and the Ship Canal connecting the two bodies of water. The location of the Canoe House is significant to the University of Washington, the City of Seattle, State and Nation because it is the home of rowing which started as early as 1902 and 1904. During the early years the Pocock Brothers were brought to campus to fabricate racing shells according to a revolutionary, light-weight design which contributed to the varsity crew's success and subsequent recognition nationwide. All crew activities, including Mr. Pocock's shell-building shop were housed in the former Naval Military

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-046

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-047

Comment Summary:

Madison Park Bicycle/Pedestrian Connection

Response:

See Section 24.1 of the 2006 Draft EIS Comment Response Report.

S-003-048

Comment Summary:

Stormwater Treatment

Response:

See Section 15.3 of the 2006 Draft EIS Comment Response Report.

S-003-049

Comment Summary:

Arboretum Area (Local Streets)

Response:

See Section 5.3 of the 2006 Draft EIS Comment Response Report.

S-003-066 Hanger from 1922 to 1949, when activities were shifted to a new facility called the Conibear Shell House. During the years the crew team was housed in the Canoe House the varsity crews compiled a distinguished record, of which a high point was competing in the World Olympic Games of 1936. During this time in the Canoe House, George Pocock was permitted to fill orders for his superior racing shells from Harvard, Columbia, Cornell, Princeton, Syracuse and other universities around the country. The University has worked hard to maintain this critical element of history. Both the structure's use and its current location reflect on its significance. Both the structure's use and location are significant and any impact should be analyzed, disclosed and mitigated.

S-003-067 5-6 Visual Quality- The Pacific Interchange may reduce the width of the freeway but would add another bridge that would have profound visual impact for visitors to the UW Botanic Gardens and the Arboretum.

S-003-068 5-7 The visual impact of the bridge being at its highest point in the Arboretum is a definitively negative effect on the recreational and educational users of this area. This bridge will be 60 feet high at the base with an additionally higher total including sound walls. This cannot be mitigated by plants/trees. It would take 60 years to have any effect that would adequately address the issue of such a huge piece of concrete.

S-003-069 5-10 There is no discussion under Local Streets of the impact on Lake Washington Blvd., a one-lane road that is currently overcapacity. Any additional traffic would create negative impacts on the user experience, damage the plant collection and diminish educational use.

The Pacific Street Interchange would alleviate the traffic on Montlake Blvd. south of the cut but would increase the traffic south of the 520 onto Lake Washington Blvd.

Again, there is no detailed discussion on the impacts of traffic through the Arboretum on Lake Washington Blvd. Any increase at all is a negative for the Arboretum.

S-003-070 5-12, paragraph 1: The DEIS has omitted that volumes would also increase on 24thAve E, south of Roanoke and Lake Washington Blvd in the Arboretum. What is the street capacity and impacts from increased traffic on the Montlake neighborhood?

S-003-071 5-12 to 5-14: The DEIS inappropriately limits the analysis of the effect of increased local street traffic volumes associated with the Pacific Interchange. Of particular concern are: NE 45th Street and Union Bay Place NE, NE 55th Street and 25th Ave NE, NE 45th Street and 15th Ave NE, NE Northlake Way and 6th Ave NE, NE 40th Street and 7th Ave NE, NE 40th St and 6th Ave NE and NE 40th St and Latona Ave NE. Analysis must be provided in the FEIS.

S-003-072 5-13, sidebar: The condensation of LOS A – D into the term "low to moderate" is not a standard use of LOS terminology. This use obscures the changes that the standard use, i.e., LOS A, LOS B, LOS C and LOS D reveals and therefore hides the changes from the DEIS reader. This should be corrected in the FEIS.

S-003-050

Comment Summary:

Format and Content

Response:

See Section 23.1 of the 2006 Draft EIS Comment Response Report.

S-003-051

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-052

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-053

Comment Summary:

North of Montlake Cut

Response:

See Section 2.1 of the 2006 Draft EIS Comment Response Report.

S-003-054

Comment Summary:

Pacific Street Interchange Option

S-003-073 5-14, paragraph 3: The analysis asserts that it "...currently takes about 25 minutes for traffic to make the short journey southbound between 25th Ave NE and the Montlake Interchange". This misleadingly implies that 25 minutes is the normal condition, something that was not concluded from the analysis. It may be that a set of Montlake bridge openings and SR 520 ramp metering conditions occasionally leads to extreme travel times as long as 25 minutes, but frequency is not demonstrated. Therefore the travel time benefit shown by the Pacific Interchange can only be attributed to occasional and perhaps worst case conditions. For decision makers to make informed decisions, a worst case scenario must be tempered with a frequency analysis.

S-003-074 5-16, paragraph 1: The analysis asserts that it "...bus travel times to and from eastbound SR-520 would improve by approximately 15 minutes..." This misleadingly implies that 15 minutes is the normal condition, something that was not concluded from the analysis. It may be that a set of Montlake bridge openings and SR 520 ramp metering conditions occasionally leads to extreme travel times as long as 15 minutes, but frequency of this congestion is not demonstrated in this analysis. Therefore the travel time benefit shown by the pacific interchange can only be attributed to occasional and perhaps worst case conditions. Further, the Addendum to the Transportation Technical Report dated 2/13/06, pages 5-13 and 5-14, shows that in both the AM peak hour and PM peak hour, at both the westbound and eastbound ramps associated with the Pacific Interchange, "traffic would queue back through the HOV direct access ramp intersection". The affect of this queuing on travel time is not shown.

S-003-075 5-17, paragraph 4 says that "The Pacific Interchange option would remove an additional 250 parking spaces in the University of Washington E-11 and E-12 parking lots…" whereas page 5-17, exhibit 5-8 sets that number at 180. What is the exact number of spaces removed from these parking lots and what is the mitigation for this?

S-003-076 5-18 Where is the parking replacement for access to the Arboretum via MOHAI to be? This is a loss of 150 parking spaces that visitors to the Arboretum use.

S-003-077 5-22 Noise analysis and the impact to the UW are not adequately addressed.

S-003-078 5-23 There needs to be discussion about the noise impacts on the Arboretum and University during the 7-10 year construction period. The loss of recreation and education opportunities during this period must be analyzed and mitigated.

S-003-079 5-24, section of "Community Cohesion:" The DEIS fails to show an analysis of the affect of the Pacific Street Interchange on Community Cohesion , and specifically on the cohesion between the sectors of the University caused by additional traffic on Montlake Blvd and Pacific Streets. The University of Washington campus community is approximately 65,000 people and warrants analysis as well.

S-003-080 5-26 through 5-30: No analysis is offered on the effect of the Pacific Interchange option on the University's Waterfront Activity Center, canoe house, the climbing rock nor the passive use of open space south of the E11 and E12 parking areas.

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-055

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-056

Comment Summary:

Traffic Management (Construction)

Response:

See Section 4.2 of the 2006 Draft EIS Comment Response Report.

S-003-057

Comment Summary:

Park Effects

Response:

See Section 9.1 of the 2006 Draft EIS Comment Response Report.

S-003-058

Comment Summary:

Noise Walls (Aesthetics)

Response:

See Section 12.3 of the 2006 Draft EIS Comment Response Report.

S-003-081 5-36 There is no discussion about the impacts on the historical aspects of Lake Washington Blvd.

6. Detailed Comparison of Alternatives – Lake Washington

S-003-082 6-1: Views – This is an incomplete study: views from the back side of Husky Stadium are dramatically altered by the Pacific Interchange. The repeating theme of the iconic view from the UW peninsula being devastatingly negative should be shown and analyzed in the FEIS.

S-003-083 Page 6-4 and 6-5: How would the second Montlake Bridge (before, during and after construction) meet navigational standards? Several ships that enter Lake Washington require an air draft of at least 105 feet.

8. Construction Effects

S-003-084 8-5 Not only is the new proposed bridge wide, up to 420 ft. in some places, but there is a temporary bridge (7-10 years) to be built during construction. This will have a significant long term effect on the Arboretum, which should be analyzed in the FEIS.

S-003-085 8-12 Where will the traffic go during the removal phase of the Lake Washington Blvd ramps?

S-003-086 8-16 The replanting of the area taken for the temporary bridge will have a tremendous effect on the Arboretum. This is a place where people seek the trees and it will take a half a century at least to recover. These impacts should be disclosed, analyzed and mitigation identified.

S-003-087 8-16 Construction Impacts: The dual projects of Sound Transit and the SR 520 Interchange could create operational difficulties for Intercollegiate Athletics (ICA) to the point that it could no longer operate. The financial burden of supporting ICA programs could fall to the University and the State of Washington. Thus far, ICA is a self-sustaining higher education program. The construction could be in conflict of ICA's construction at Husky Stadium, depending on timing. Construction impacts on the access to and operations of UWMC, UW Physicians and UW Medical School could also be significant. These impacts should be disclosed, analyzed and mitigation identified.

9. Other Considerations

S-003-088 9-4 The implementation of the Washington Park Arboretum Master Plan should be included. How will this project impact the ongoing implementation of this master plan?

S-003-089 9-6-11: There are roughly four paragraphs dealing with the impacts of the SR 520 Pacific Interchange. Although the paragraphs are largely accurate, the University of Washington should be viewed as an equivalent neighbor to Montlake and perhaps its issues should be represented more in depth and with more clarity. Mitigation for these impacts should be identified.

S-003-059

Comment Summary:

Wildlife Effects

Response:

See Section 16.2 of the 2006 Draft EIS Comment Response Report.

S-003-060

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-061

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-062

Comment Summary:

Property Acquisitions

Response:

See Section 6.1 of the 2006 Draft EIS Comment Response Report.

S-003-063

Comment Summary:

Schedule

S-003-090

Appendix J: Indirect and Cumulative Effects Discipline Report

Page 37 This section mentions indirect effects but it does not define the specific indirect impacts. The reader is left with the assumption that the phrase "indirect effect" is enough to clarify the impact analysis. This is not the case. Is the indirect effect growth? Is the indirect effect more traffic? Is the indirect effect more congestion or economic development? How can the 4-Lane Alternative encourage more growth in less developed outlying areas northeast and east of Lake Washington than the 6-Lane Alternative? The 6-Lane Alternative goes exactly in the same place as the 4-Lane Alternative. While it directs growth to the highly urbanized areas of Seattle it also opens the east up to more population growth as well. This section does not consider the reverse commute (from west to east) and its impact on the growth of the region. It also states that the indirect effects on the economy which are not described are minimal and only a matter of timing. Why then does the State consider any other alternative than the 4-Lane Alternative which has fewer impacts to the Arboretum, wetlands, fish and wildlife?

S-003-091

Appendix R: Addendum to the Transportation Discipline Report

Page 1-3, paragraph 2, states "The intent of the Pacific Street Interchange option is to reduce the traffic effects of the Montlake interchange on the surrounding neighborhood". Instead, the Pacific Interchange shifts the effects from the northern part of the Montlake neighborhood to the Arboretum, to the University of Washington and to the residential and commercial areas north of the Ship Canal.

Page 1-5, paragraph 3, asserts that the Pacific Street Interchange option would provide "a more direct connection between buses and the proposed Sound Transit North Link Station at Husky Stadium." This statement is misleading because the Pacific Interchange Option is irrelevant for light rail: the transfer between SR 520 transit and light rail would require an extraordinary 1,500 foot walk between modes that alone would preclude most transfers. Even without this distance, the trip between the east side and downtown, the dominate SR 520 trip pattern, would be an otherwise less attractive and slower trip than the current one-seat direct bus service.

Page 2-11, last paragraph, states that "at times, northbound and southbound traffic would queue back through the adjacent intersections." The affect of this queuing on bus reliability and travel time should be revealed in the main body of the DEIS, particularly in sections discussing the affect on transit, for example DEIS page 4-12 last paragraph and page 5-16, first paragraph.

Page 7-1, last paragraph, states that with the Pacific Street Interchange option: "Bus travel times would likely be better than under the No Build Alternative because of the HOV direct access ramps and buses would not be delayed by draw bridge openings. This would improve the reliability between bus and light rail connections at the University of Washington Station at Husky Stadium that is planned as a part of the North Link light rail system." The assertion is contradicted by the analysis shown on pages 5-13 and 5-14, which shows that in both the AM peak hour and PM peak hour, at both the westbound and eastbound ramps, "traffic would queue back through the HOV direct access ramp intersection." The statement about improved reliability between bus and light rail connections at the University of Washington Station at Husky Stadium is misleading because the Pacific Interchange Option is irrelevant for light rail:

Response:

See Section 4.1 of the 2006 Draft EIS Comment Response Report.

S-003-064

Comment Summary:

Olmstead Resources

Response:

See Section 11.2 of the 2006 Draft EIS Comment Response Report.

S-003-065

Comment Summary:

Visual Quality Effects

Response:

See Section 10.1 of the 2006 Draft EIS Comment Response Report.

S-003-066

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-067

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-091 the transfer between SR 520 transit and light rail would require an extraordinary 1,500 foot walk between modes that alone would preclude most transfers. Even without this distance, the trip between the east side and downtown, the dominant SR 520 trip pattern, would be an otherwise less attractive and slower trip than the current one-seat direct bus service.

Page 7-2, first paragraph, states: "The Pacific Street Interchange option would increase capacity in the University of Washington/Montlake area. These capacity improvements would likely improve bus travel times in the area" without showing analysis to support the assertion. Most local bus service travels on NE Pacific Street to 15th Ave NE; in the PM peak period, this project will add 37% to the traffic volume on NE Pacific Street, 33% to the volume on 15th Ave NE (exhibit 3-27), will degrade the intersection of these two streets, to LOS E (Exhibit 5-4) and according to exhibit 3-20 will remove the HOV lane on EB NE Pacific Street. It is hard to imagine this additional traffic added to an already congested local street system will improve bus travel times.

S-003-068

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-069

Comment Summary:

Arboretum Area (Local Streets)

Response:

See Section 5.3 of the 2006 Draft EIS Comment Response Report.

S-003-070

Comment Summary:

Arboretum Area (Local Streets)

Response:

See Section 5.3 of the 2006 Draft EIS Comment Response Report.

S-003-071

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-072

Comment Summary:

Format and Content

Response:
See Section 23.1 of the 2006 Draft EIS Comment Response Report.

S-003-073
Comment Summary:
Local Street Network

Response:
See Section 5.3 of the 2006 Draft EIS Comment Response Report.

S-003-074
Comment Summary:
Pacific Street Interchange Option

Response:
See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-075
Comment Summary:
Pacific Street Interchange Option

Response:
See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-076
Comment Summary:
Park Effects

Response:
See Section 9.1 of the 2006 Draft EIS Comment Response Report.

Mirai
Transportation Planning & Engineering

Memorandum

To: Peter Dewey, Assistant Director of Transportation Services, University of Washington
Aaron Hoard, Deputy Director, Office of Regional Affairs, University of Washington
Theresa Doherty, Assistant Vice President for Regional Affairs, University of Washington
From: Tom Noguchi, Mirai Transportation Planning and Engineering
Subject: Comments on SR 520 Bridge Replacement and HOV Project DEIS
Date: October 13, 2006

The purpose of this memo is to transmit comments on the SR 520 Bridge Replacement and HOV Project Draft Environmental Impact Statement (DEIS), which was issued by Washington State Department of Transportation (WSDOT), Federal Highway Administration and Sound Transit, dated August 18, 2006.

1. Goals of 6-Lane Alternative Options

The DEIS explains the 6-Lane Alternative options and how they came about on **pages 3-20 and 21**. It states that WSDOT working with the adjacent communities, identified the following goals:

- Narrow the width of the 6-lane alternative
- Improve transit connections
- Improve HOV access
- Design the project to enhance local communities
- Design a facility that is structurally feasible and cost-effective
- Preserve options for future connection to the proposed Sound Transit University Link light rail station at Husky Stadium

S-003-092

The Pacific Street Interchange option described in **pages 3-24 through 3- 28** was identified as one that would support these goals. Most of these goals are positive goals to be achieved with the SR 520 Project. However, WSDOT and Sound Transit need to explain what the goals of "improving transit connections" and "preserving options for future connection to the Husky Stadium station" mean; why those goals are important; and how the Pacific Street Interchange option specifically addresses these goals.

S-003-077

Comment Summary:

Noise (Methodology)

Response:

See Section 12.1 of the 2006 Draft EIS Comment Response Report.

S-003-078

Comment Summary:

Arboretum (Concerns)

Response:

See Section 9.3 of the 2006 Draft EIS Comment Response Report.

S-003-079

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-080

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-081

Comment Summary:

Olmstead Resources

S-003-092

The Pacific Street Interchange option would do little to improve transit connections; would need several costly design changes to the currently proposed design to improve HOV access; would not enhance the University of Washington as a community; and would not be a cost-effective design solution.

S-003-093

2. Transit Connections to Sound Transit Husky Stadium Station

The DEIS on **page 3-28** states the Pacific Street Interchange option "would provide a more reliable transit connection to the Sound Transit University Link light rail station at Husky Stadium than the 6-Lane Alternative because buses coming from SR 520 to the Pacific Street bus stops would not be affected by congestion on Montlake Boulevard."

The Pacific Street Interchange option would not improve the transit connection between the North Link Husky Stadium station and SR 520 because:

- No bus-to-rail transfer facility (bus stop or transit center) for bus riders traveling on SR 520 is proposed at the North Link Husky Stadium station entrance. Constructing such a facility associated with the new Pacific Street connection to the new interchange would be difficult. Such a facility would need about an additional 30 to 50 feet of right-of-way on the east leg of the Montlake Boulevard and Pacific Street intersection. With the proposed design, bus riders transferring to rail transit would have to use the current bus stop on Pacific Street, and walk about 1,500 feet to the station platform, which is not convenient.

- When East Link light rail is completed between Eastside communities and downtown Seattle, the transit riders who would have access to the East Link would travel to and from downtown Seattle on East Link light rail. Those who ride regional buses to and from downtown Seattle to Eastside should ride direct express busses via SR 520 without making transfers at the Husky Stadium station. The DEIS should explain why the transit connection to and from the Eastside at the North Link Husky Stadium station is needed.

S-003-094

3. Traffic Impacts of Tolls

The DEIS indicates that single occupant drivers who want to cross Lake Washington on SR 520 under both the 4-Lane and 6-Lane Alternatives would have to pay tolls (**pages 3-46 and 47**). It assumed that the toll amount for single occupant drivers during peak periods would be **$3.35** one way in 2006 dollars. Commuters would have to pay **$6.70** per day to cross Lake Washington twice, which would act as a strong

Response:

See Section 11.2 of the 2006 Draft EIS Comment Response Report.

S-003-082

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-083

Comment Summary:

Navigation (During Operation)

Response:

See Section 19.1 of the 2006 Draft EIS Comment Response Report.

S-003-084

Comment Summary:

Schedule

Response:

See Section 4.1 of the 2006 Draft EIS Comment Response Report.

S-003-085

Comment Summary:

Traffic Management (Construction)

Response:

See Section 4.2 of the 2006 Draft EIS Comment Response Report.

S-003-094

disincentive to drive alone. Due to the tolls, some drivers would either not use SR 520 or not take any trips at all.

In order to understand the traffic impacts due to the tolls, WSDOT should analyze the forecast traffic volumes and publish the results under each alternative with and without the tolls. In addition, the DEIS should include information about the amount of traffic shifts to I-90 and SR 522 from SR 520 due to the tolls.

S-003-095

4. Daily Traffic Volumes

The DEIS compares 2030 forecast traffic volumes for the alternatives (**page 4-4**). The traffic volume comparisons are shown based on the average of peak periods. The EIS should also show daily traffic volumes among the alternatives.

S-003-096

5. Intersection Levels of Service Analysis

Pages 4-8 and 9 show intersection levels of service on key arterials in the University District and surrounding communities. WSDOT calculated intersection levels of service based on the method in the Highway Capacity Manual 2000. It shows many intersections would operate at LOS D or better on Montlake Boulevard and Pacific Street. Those LOS results, particularly in the afternoon peak hour are contrary to experience of many drivers. It is not clear how the levels of service in congested areas were calculated.

The **Highway Capacity Manual** provides cautions and states the following:

> *Limitation to the Intersection Level of Service Methodology: "the methodology does not take into account the potential impact of downstream congestion on intersection operation. Nor does the methodology detect and adjust for the impacts of turn-pocket overflows on through traffic and intersection operation." (page 16-1, HCM 2000)*

The DEIS should indicate which intersections would be affected by vehicle queues extending from the downstream congestion and what adjustments were made to calculate the delay at the intersections in the contested areas. If adjustments were not adequately made to reflect the impacts of vehicle queues from the downstream intersections or traffic merge points, 2030 arterial intersection levels of service shown in the DEIS are seriously understated.

S-003-086

Comment Summary:

Park Effects

Response:

See Section 9.1 of the 2006 Draft EIS Comment Response Report.

S-003-087

Comment Summary:

Indirect and Cumulative Effects (Construction)

Response:

See Section 20.2 of the 2006 Draft EIS Comment Response Report.

S-003-088

Comment Summary:

Arboretum (Concerns)

Response:

See Section 9.3 of the 2006 Draft EIS Comment Response Report.

S-003-089

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-090

Comment Summary:

Indirect and Cumulative Effects Methods of Analysis

S-003-097

6. Travel Time Analysis

The DEIS includes changes to travel time during the peak hours on Montlake Boulevard from 25th Avenue NE to the Montlake interchange on **page 4-10**. However, it fails to show the travel time benefit for the user of SR 520. The DEIS should show how the travel time would be affected by choosing travel times between several locations in the University area and the ramp merge points on SR 520, with or without the Pacific Street interchange option.

S-003-098

7. Traffic Impact and HOV Lanes on Pacific Street

The DEIS shows that the Pacific Street interchange option would significantly increase traffic volumes on Pacific Street west of Montlake Boulevard. The increase in volumes from the No Build would be over **1,000 vehicles** during the PM peak hour, which is an increase of **36 percent** (**page 5-11**). To accommodate this demand, the DEIS assumed that the existing eastbound HOV lane would be converted to general purpose traffic use (Addendum, 2-13-2006, **Exhibit 3-20**).

The conversion of the HOV lane to a general purpose lane on Pacific Street should not be supported. To provide HOVs and transit a travel time advantage, an eastbound HOV lane should be retained on Pacific Street.

The DEIS fails to show intersection levels of service at several intersections on Pacific Street. The increased traffic volumes on Pacific Street might require improvements to bring the levels of service to an acceptable level.

S-003-099

8. Traffic Impact on Montlake Boulevard

Exhibit 5-5 on page 5-11 of the DEIS also shows a significant traffic volume increase with the Pacific Street Interchange option compared with the No Build Alternative on Montlake Boulevard north of Pacific Street. The increased volume on this street during the afternoon peak hour would be **1,090 vehicles** per hour, which is an increase of **22 percent**. The increased vehicle volumes would impact intersection levels of service on Montlake Boulevard and NE 45th Street. The DEIS failed to show the impacts of the increased traffic on Montlake Boulevard.

S-003-100

9. Traffic Impact on Lake Washington Boulevard through Arboretum

The same Exhibit shows that the traffic volume with the Pacific Street Interchange option would not increase traffic on Lake Washington Boulevard south of SR 520. Contrary to the DEIS, it is highly likely that the traffic volumes on Lake Washington Boulevard south of SR 520 through Arboretum would increase. The DEIS does not

Response:

See Section 20.1 of the 2006 Draft EIS Comment Response Report.

S-003-091

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-092

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-093

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-094

Comment Summary:

Tolling Scenarios, Pricing, and Revenue

Response:

See Section 3.3 of the 2006 Draft EIS Comment Response Report.

S-003-100

adequately explain why WSDOT forecast no traffic volume increase on Lake Washington Boulevard through Arboretum with the Pacific Street Interchange option.

The reasons for the substantially increased traffic volumes on Lake Washington Boulevard are as follows:

- The SR 520 access from the areas south of SR 520 would be provided only at Lake Washington Boulevard.
- The Pacific Street extension with the connection to Lake Washington Boulevard would provide an attractive driving route for the movements between Capital Hill/ Madison Park/Madrona Park areas and Laurelhurst/Sand Point/View Ridge areas.

S-003-101

10. Ramp Meters and Vehicle Queues on SR 520 On-Ramps Impacting Transit and Carpool Vehicle Travel

The operation of ramp metering would affect the vehicle queues on the on-ramps during the AM and PM peak periods. Particularly, it is important to evaluate the adequacy of vehicle storage capacity on the on-ramps in the new Pacific Street interchange. The DEIS should discuss WSDOT's ramp meter policies and explain the assumptions used to analyze traffic conditions for the Pacific Street Interchange option.

The DEIS forecasts that the new eastbound on-ramp with the Pacific Street interchange option would carry **1,820 vehicles per hour** in the AM peak hour and **1,540 vehicle per hour** in the PM peak hour. These volumes would exceed the capacity provided with the ramp metering. Therefore, there would be long vehicle queues on the eastbound on-ramp. While the length of the queues would be affected by the operational ramp meter policy of WSDOT, it is highly likely that the eastbound vehicle queues from the point of the ramp meter would exceed the length of the on-ramp and extend through the overpass and to the new Pacific Street extension. While the new Pacific Street extension would provide single occupant vehicle storage capacity, it would not provide high levels of access for eastbound HOVs and transit to the HOV ramps. The eastbound HOV lane proposed on the overpass between the HOV ramp and the intersection with the westbound ramps would not be adequate.

S-003-095

Comment Summary:

Freeway Operations (I-5 Area)

Response:

See Section 5.2 of the 2006 Draft EIS Comment Response Report.

S-003-096

Comment Summary:

Local Street Network

Response:

See Section 5.3 of the 2006 Draft EIS Comment Response Report.

S-003-097

Comment Summary:

Local Street Network

Response:

See Section 5.3 of the 2006 Draft EIS Comment Response Report.

S-003-098

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-099

Comment Summary:

Pacific Street Interchange Option

S-003-102

11. Lack of Transit and Carpool Facilities in the Pacific Street Interchange Concept

The Addendum to Transportation Discipline Report dated February 13, 2006 provides traffic analysis of the Pacific Street Interchange. The proposed interchange concept is shown in **Exhibit 3-19** of the Addendum. The interchange can be characterized as a tight diamond interchange with the HOV ramps between the eastbound and westbound ramps. The separations of the HOV ramps and the SOV ramps are approximately **150 feet**. Only **100 feet** of vehicle queuing spaces are provided between the ramps. Because of the lack of the vehicle storage spaces between these ramps, it is highly likely that this interchange would not function adequately with the traffic volumes shown in **Exhibits 3-24 and 3-27** and excessive delays would occur during the AM and PM peak periods. Since carpools, vanpools and transit would operate in a mixed condition on the arterials until they get to the HOV ramps, they would encounter excessive delays unless additional faculties to separate them from general purpose traffic were provided. Because of the interchange design and the lack of HOV facilities, the proposed Pacific Street Interchange design concept would **not** support three of the following goals listed on **page 3-21** of the DEIS:

- Improve transit connections
- Improve HOV access
- Provide more reliable transit connection to the proposed Sound Transit University Link light rail station at Husky Stadium

S-003-103

12. Pacific Street Interchange Design Option

Pacific Street Interchange Option – Screening and Location Analysis, dated July 24, 2006 (Appendix X) explains that WSDOT identified and screened three interchange configuration options: full diamond interchange, 3-level interchange and half-diamond interchange. No concept drawings, except for full diamond interchange location in **Exhibit 1**, are included. It appears that a **Single Point Urban Interchange** concept was not evaluated. WSDOT should evaluate a design concept of a Single Point Urban Interchange with **flyover HOV ramps** concept as one of the viable design options and evaluate impacts, feasibility and cost-effectiveness.

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-100

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-101

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-102

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-103

Comment Summary:

Pacific Street Interchange Option

Response:

See Section 1.2 of the 2006 Draft EIS Comment Response Report.

Technical Memorandum

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To:	Theresa Doherty, University of Washington
From:	Water and Natural Resources Staff Dyanne Sheldon, Wetlands Scientist Doug Gresham, Wetlands Scientist Jenna Scholz, Hydrologist Kevin O'Brien, Wildlife Biologist Nicholas Allmendinger, Geologist
Copies:	Dyanne Sheldon
Date:	October 17, 2006
Subject:	SR 520 Bridge Replacement and HOV Project EIS Review
Project No.:	30907

This technical memorandum represents a series of comments on, and concerns about, the Draft Environmental Impact Statement (DEIS) for the proposed SR 520 Bridge Replacement and HOV Project. The DEIS was jointly prepared and submitted by the Federal Highway Administration (FHWA), the Washington State Department of Transportation (WSDOT), and Sound Transit.

Otak, Inc. was retained by the University of Washington to review, interpret, and comment on portions of the DEIS—specifically, those sections addressing wetland, water resources, wildlife, and geological issues in the Seattle and Lake Washington portions of the project. Comments and concerns for each of these resources are grouped together below under separate subheadings.

S-003-104

The stated purpose of an EIS is to respond to the requirements of the National Environmental Policy Act (NEPA) as well as the State Environmental Policy Act (SEPA). The EIS describes a project that has potential for significant adverse environmental effects, identifies alternatives to the project, and identifies and analyzes the potential adverse environmental effects, including ways and means to avoid, minimize, and mitigate for adverse environmental effects. An EIS is designed to represent a full disclosure document—one which identifies and analyzes environmental effects as thoroughly and objectively as possible.

The DEIS for the proposed SR 520 Bridge Replacement and HOV Project falls short of a thorough and objective identification and analysis of potential environmental effects of the project. As presented in the DEIS, several important analyses of environmental effects are either not performed, performed using questionable assumptions or inappropriate analyses, or some of the conclusions within the DEIS are based on analyses or data that are not provided within the DEIS or

S-003-104

Comment Summary:

Format and Content

Response:

See Section 23.1 of the 2006 Draft EIS Comment Response Report.

S-003-104

its Technical Appendices. Numerous negative environmental effects which are likely to occur are minimized or dismissed. Furthermore, key conclusions regarding significant adverse environmental effects of the project provided in the various Technical Appendices are omitted from the main text of the DEIS. In many places within the DEIS, the language reads more as advocating the project rather than as a neutral description and assessment of the project and its potential effects.

Following are four sections presenting our specific comments addressing each of the resources we were asked to assess: Wetland; Water Resources; Wildlife Habitat; and Geology. General comments within each section are followed by specific comments and associated examples in tabular form.

S-003-105

Wetlands

The DEIS wetland analysis relies on old regulation and policy standards from the City of Seattle and Department of Ecology (Ecology), resulting in a four-fold difference in required buffers and discrepancies in wetland ratings. Although Technical Appendices reports may have been completed prior to the formal adoption of current standards (standards in place at the time of the publication of the DEIS), all of the draft versions of current codes and policies were available at the time of the original report preparation. Thus the wetland ratings and buffers are significantly under-represented in the DEIS.

S-003-106

Several discrepancies and inconsistencies occur in the DEIS text analyzing potential wetland impacts from the proposed project. Technical Appendix E (Ecosystems) has discrepancies between text and exhibits that describe wetland impacts. The text consistently underestimates impacts that are shown in exhibits (tables and figures), and may mislead the reader as to the extent of wetland impacts. There is minimal quantification of wetland impacts, only qualitative statements that impacts between alternatives are similar.

S-003-107

Statements on wetland impacts from shading and temporary construction techniques made in Appendix E are not substantiated with scientific literature citations or other available evidence. In general, the wetland section lacks peer-reviewed literature sources to justify statements on potential wetland impacts. Furthermore, the acreages of wetlands that will be impacted from shading is inconsistent among analyses: Appendix E and the DEIS text claim that wetland shading impact will occur immediately beneath all bridge structures, whereas the Appendix E Addendum claims that only twenty percent of the area beneath the proposed bridge structures will count as impact, based on a single reference not provided.

S-003-108

No substantive discussion of compensatory mitigation occurs in the DEIS. It is not clear what opportunities are under consideration or what opportunities exist in the project area or the watershed, although Appendix E mentions some potential mitigation sites.

S-003-105

Comment Summary:

Wetland Regulations and Ratings

Response:

See Section 16.1 of the 2006 Draft EIS Comment Response Report.

S-003-106

Comment Summary:

Wetland Regulations and Ratings

Response:

See Section 16.1 of the 2006 Draft EIS Comment Response Report.

S-003-107

Comment Summary:

Wetland Shading Effects

Response:

See Section 16.1 of the 2006 Draft EIS Comment Response Report.

S-003-108

Comment Summary:

Wetland Mitigation

Response:

See Section 16.1 of the 2006 Draft EIS Comment Response Report.

Table 1 provides a series of wetland-specific comments and the appropriate locations in the DEIS documents.

Table 1
Wetland Comments

	Section	Page or Exhibit Number	Comment
S-003-109	Draft EIS	Exhibit 4-17	Buffer impacts for the Pacific St. interchange option listed in Exhibit 4-17 (6.6 acre) are higher than shown on Exhibit 7 in Appendix E (4.8 acre).
S-003-110	Draft EIS	Page 5-47	Union Bay wetlands are described as Category II wetlands, which contradicts Exhibit 26 in Appendix E, which identifies them as Category I. The statement that all direct wetland impacts from filling are due to bridge pilings does not account for filling by stormwater pond outfall near Museum of History and Industry. Wetland impacts from shading by new bridges are considered less than existing structures but there are no scientific literature citations to substantiate this conclusion. Although some of the new bridges will be higher than current structures, they will also be wider, resulting in a different shade impact zone. The potential effects are not quantified rationally nor are there any citations as to what parameters were used to determine impact/no impacts from shading.
S-003-111	Draft EIS	Page 5-49	A replacement ratio of 3:1 is described for mitigation of impacts to Category I wetlands, which contradicts Exhibit 28 in Appendix E which uses 4:1 ratio.
S-003-112	Appendix E—Ecosystems Discipline Report	Page 19 and Exhibit 11	Wetlands were rated using the 1993 Ecology system instead of the significantly revised 2004 system. They state that the revised ratings would be applied during the permitting stage, however it should be used now so users of the DEIS are informed of current standards. The wetland rating system strongly influences the proposed buffer widths based on Ecology's *Wetlands in Washington State, Volume II* recommendations.

S-003-109
Comment Summary:
Pacific Street Interchange Option

Response:
See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-110
Comment Summary:
Wetland Regulations and Ratings

Response:
See Section 16.1 of the 2006 Draft EIS Comment Response Report.

S-003-111
Comment Summary:
Wetland Mitigation

Response:
See Section 16.1 of the 2006 Draft EIS Comment Response Report.

S-003-112
Comment Summary:
Wetland Regulations and Ratings

Response:
See Section 16.1 of the 2006 Draft EIS Comment Response Report.

Table 1 (cont.)
Wetland Comments

	Section	Page or Exhibit Number	Comment
S-003-113	Appendix E—Ecosystems Discipline Report	Exhibit 12	The most recent version of the City of Seattle Municipal Code (25.09.160) should be used to identify the City's standards for wetland classification and buffer width requirements. This would require 200-foot buffers for these high functioning Category I wetlands instead of the 50-foot buffers listed in Exhibit 12. All calculations of buffer impacts from both construction and operations of the roadway should be revised to reflect this four-fold increase in buffer width.
S-003-114	Appendix E—Ecosystems Discipline Report	Page 51	The fifteen proposed stormwater treatment cells (20' x 40') attached to bridge columns are not considered direct wetland or lake impacts, only shading impacts. However, 12 out of 15 cells will displace existing wetlands (POW, PEM, and PSS) to create stormwater treatment facilities. We estimate that only 3 out of 15 cells occur in open water and may not be considered wetland impacts. In addition, there is no documentation that this experimental design has been proven to effectively treat stormwater. It should not be considered wetland enhancement.
S-003-115	Appendix E—Ecosystems Discipline Report	Exhibit 21	Direct impacts in Wetland LWS-4 have different values in graphic (0.12 acre) versus summary table (0.14 acre). Although the acreage differences are minor, the inconsistencies are troubling.
S-003-116	Appendix E—Ecosystems Discipline Report	Exhibits 21 and 23	Pedestrian/bicycle path between SR 520 and Lake Washington Blvd. ramp crosses Wetland LWS-4 and its buffer, but there is no listing of impacts. Any path in this area should be tallied as part of the impacts.
S-003-117	Appendix E—Ecosystems Discipline Report	Pages 72-73	Temporary construction impacts from shading by work and detour bridges are estimated to be 4+ years under 4-lane and 5+ years under 6-lane alternative. Although this area will eventually be revegetated, these timeframes represent generations of wildlife displaced from habitats, and involve significant periods of time following construction for the wetland and upland habitats to re-establish to current conditions. Furthermore, disruption of the established wetland communities due to construction can allow highly invasive non-native species (e.g. Himalayan blackberry, reed canarygrass, etc.) that favor disturbed conditions to establish. These "temporary" impacts should be accounted for in the mitigation approach.

S-003-113
Comment Summary:
Wetland Regulations and Ratings

Response:
See Section 16.1 of the 2006 Draft EIS Comment Response Report.

S-003-114
Comment Summary:
Stormwater Treatment

Response:
See Section 15.3 of the 2006 Draft EIS Comment Response Report.

S-003-115
Comment Summary:
Wetland Regulations and Ratings

Response:
See Section 16.1 of the 2006 Draft EIS Comment Response Report.

S-003-116
Comment Summary:
Madison Park Bicycle/Pedestrian Connection

Response:
See Section 24.1 of the 2006 Draft EIS Comment Response Report.

S-003-117
Comment Summary:
Wetland Effects During Construction

Table 1 (cont.)
Wetland Comments

	Section	Page or Exhibit Number	Comment
S-003-118	Appendix E—Ecosystems Discipline Report	Pages 73-74	Installation and eventual removal of 1,600 pilings under 4-lane and 1,800 pilings under 6-lane alternative for work and detour bridges will disturb wetlands, but this impact is downplayed. The report indicates that the 4-lane alternative will have more construction impacts than the 6-lane alternative.
S-003-119	Appendix E—Ecosystems Discipline Report	Page 80	The area of potential wetland creation from removing old bridges is not quantified. The DEIS (Page 5-49) states that 0.6 acres of onsite wetland creation could occur by removing ramps on the WSDOT-owned peninsula near the Arboretum. However, there are other opportunities for wetland creation/restoration from removing existing ramps that aren't quantified.
S-003-120	Appendix E—Addendum to Ecosystems Discipline Report	Exhibit 4 and 7	Inconsistent labeling of wetland in University Slough area that is impacted by Pacific St. interchange option. Exhibit 4 identifies this as Wetland UB-2 but Exhibit 7 identifies as Wetland UB-1. Assume that UB-2 is correct.
S-003-121	Appendix E—Addendum to Ecosystems Discipline Report	Exhibit 6	Exhibit 6 underestimates wetland impacts when compared to Exhibits 7 and 11, and Exhibit 23 in Ecosystems Discipline Report. There is discrepancy between wetland impacts shown in Exhibit 6 compared to other exhibits for the original 6-lane alternative (6 acre vs. 6.94 acre), Pacific St. interchange option (5.3 acre vs. 8.05 acre), and second Montlake bridge option (6 acre vs. 7.05 acre).
S-003-122	Appendix E—Addendum to Ecosystems Discipline Report	Exhibit 10	Wetland impacts from bridge columns shown in Exhibit 10 for Portage Bay are not calculated correctly. If each column covers 78.5 square feet, then both the Pacific St. interchange option and second Montlake bridge option impact 2,826 square feet.
S-003-123	Appendix E—Addendum to Ecosystems Discipline Report	Exhibit 13	Exhibit 13 lists replacement ratios for Category II – IV wetlands although the Seattle segment only contains Category I wetlands. Exhibit 13 underestimates wetland impacts from shading compared to Exhibits 7 and 11 for the original 6-lane alternative (1.3 acre vs. 6 acre), Pacific St. interchange option (1.6 acre vs. 4.78 acre), and second Montlake bridge option (1.3acre vs. 6.26 acre), claiming that only twenty percent of shaded wetlands count as impacts for the project.
S-003-124	Appendix E—Addendum to Ecosystems Discipline Report	Page 29	A replacement ratio of 1:1 will be used to compensate for shading impacts to wetlands. However, it is unclear whether this has been approved by federal, state, and city agencies. Because shading impacts is the main reason for mitigation there needs to be agency approval and confirmation of this approach.

Response:
See Section 16.1 of the 2006 Draft EIS Comment Response Report.

S-003-118
Comment Summary:
Wetland Effects During Construction

Response:
See Section 16.1 of the 2006 Draft EIS Comment Response Report.

S-003-119
Comment Summary:
Wetland Mitigation

Response:
See Section 16.1 of the 2006 Draft EIS Comment Response Report.

S-003-120
Comment Summary:
Pacific Street Interchange Option

Response:
See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-121
Comment Summary:
Wetland Regulations and Ratings

Response:
See Section 16.1 of the 2006 Draft EIS Comment Response Report.

Table 1 (cont.)
Wetland Comments

	Section	Page or Exhibit Number	Comment
S-003-125	Appendix J—Indirect and Cumulative Effects Discipline Report	Page 8	One of the sources of data for population growth is too restrictive. The use of permit applications for proposed development within 0.25 miles of project corridor underestimates the potential affects of the build alternatives.
S-003-126	Appendix J—Indirect and Cumulative Effects Discipline Report	Page 58	Cumulative negative effects to wetlands due to additional transportation projects in the area are identified and deemed possible. This information is not divulged in the DEIS main text.
S-003-127	Appendix J—Indirect and Cumulative Effects Discipline Report	Pages 43-44	The assessment of indirect effects on water resources and wetlands from population growth was only measured by increased impervious surface in watersheds. We disagree with the assumption that indirect impacts to wetlands can be quantified by impervious surface percentages.

Water Resources

S-003-128

Two reports are incorporated by reference into Technical Appendix T—Water Resources which should be considered for review but are not provided in the DEIS:

- CH2M HILL, Parametrix, Inc., Parsons Brinckerhoff, and EnviroIssues. 2002. Trans-Lake Washington Project. AKART and Water Quality Studies for an SR 520 Replacement Floating Bridge. Prepared for the Washington State Department of Transportation Office of Urban Mobility and Sound Transit. December 23, 2002.
- The SR 520 Bridge Replacement and HOV Project Preliminary Stormwater Management Report (CH2M HILL and Parametrix 2004)

Chapter 8-24, 25, 26—talks about unavoidable impacts but these are not specified in the DEIS.

Table 2 contains a series of specific comments concerning water resources in the DEIS and Appendix T—Water Resources.

S-003-122

Comment Summary:

Wetland Regulations and Ratings

Response:

See Section 16.1 of the 2006 Draft EIS Comment Response Report.

S-003-123

Comment Summary:

Wetland Shading Effects

Response:

See Section 16.1 of the 2006 Draft EIS Comment Response Report.

S-003-124

Comment Summary:

Wetland Shading Effects

Response:

See Section 16.1 of the 2006 Draft EIS Comment Response Report.

S-003-125

Comment Summary:

Indirect and Cumulative Effects Methods of Analysis

Response:

See Section 20.1 of the 2006 Draft EIS Comment Response Report.

S-003-126

Comment Summary:

Indirect and Cumulative Effects Methods of Analysis

Table 2
Water Resources Comments

	Section	Page or Exhibit Number	Comment
S-003-129	Appendix T—Water Resources	Page 82	The technical appendix provides a limited evaluation of temporary construction effects on surface water bodies by determining construction actions that may disturb soil and in-water sediments, and by evaluating the potential for accidental spills of hazardous materials. However, areas where erosion and sediment disturbance would be a problem are not identified, nor are Best Management Practices to reduce the risks specified. Instead, this is all left to the TECS plan that is not yet prepared. This lack of information makes it difficult for the reader to fully understand the problems associated with these direct impacts to water quality.
S-003-130	Appendix T—Water Resources	Page 86	*"It is unlikely that turbidity would increase in the photic zone (the area of the lake or water body where there is enough light for photosynthesis to take place), and therefore turbidity from project construction would not adversely affect plant photosynthesis or lake productivity. Similarly, water column concentrations in these same upper layers of the lake would be unlikely to reach concentrations that would adversely affect fish (1,000 mg/L for 24 hour [Parametrix 1997]) in this same zone."* The report cited here is not available for review so there is no way to verify these scientific findings.
S-003-131	Appendix T—Water Resources	Page 83	*"Construction of the new bridges would involve work in and near the waters of Portage Bay and Lake Washington. Construction of work bridges, installation of new columns for the Portage Bay Bridge and the approaches to the Evergreen Point Bridge, and anchoring of the floating bridge pontoons would all take place in the open water, as would construction of the Union Bay Bridge under the Pacific Street Interchange option."* There is no discussion of how this is going to be done or the specific impacts that will result. The DEIS does provide general water quality impacts from general construction activities, but does not address the effects from this work, some of which reflect new technologies that may have impacts which have not yet been determined. Rather, the DEIS states that WSDOT will *"mitigate the project's potential effects on water quality"* because they will *"implement plans to control erosion, sedimentation, and spills during construction consistent with the requirements of federal, state, and local permits related to in-water work."* More detail is needed in order to determine if this alternative is viable first.
S-003-132	Draft EIS	Page 8-24, 8-25	The DEIS indicates that there will be increased turbidity, but fails to mention to what degree or the potential impacts.

Response:
See Section 20.1 of the 2006 Draft EIS Comment Response Report.

S-003-127
Comment Summary:
Indirect and Cumulative Effects Methods of Analysis

Response:
See Section 20.1 of the 2006 Draft EIS Comment Response Report.

S-003-128
Comment Summary:
Format and Content

Response:
See Section 23.1 of the 2006 Draft EIS Comment Response Report.

S-003-129
Comment Summary:
Water Resources Effects During Construction

Response:
See Section 15.5 of the 2006 Draft EIS Comment Response Report.

S-003-130
Comment Summary:
Water Resource Effects During Operation

Response:
See Section 15.2 of the 2006 Draft EIS Comment Response Report.

Table 2 (cont.)
Water Resources Comments

	Section	Page or Exhibit Number	Comment
S-003-133	Draft EIS	Page 8-25	Construction impacts are discussed as temporary, but this project could potentially take a decade to complete. There is not an adequate discussion of the treatment of water quality from storms during the construction phase. Specifically, the impacts to water quality, not just related to construction-generated parameters, but from the runoff from the "temporary" roads and associated structures.
S-003-134	Draft EIS	Page 5-45 and 6-6	*"The quality of water discharging to Lake Union and Portage Bay during storms would generally be better than the quality of water today because stormwater facilities would treat runoff from the road surface, which is currently untreated."* *"Although the new bridge would have substantially more impervious surface than the current bridge, new stormwater treatment facilities would meet or exceed current federal and state water quality standards."* Although these statements are true, they are misleading. The assumptions are based on the fact that there is currently no water quality treatment and therefore treatment of future runoff will be beneficial over current conditions. However, this assumption is not supported in the Technical Appendix T. Instead, the amount of pollution-generating surface under the alternatives is substantially higher than that of today. And, in fact, the treatments proposed for water quality provide relatively limited improvements over current conditions for some parameters. Rather, they are needed to simply maintain the same quality in the case of some metals (copper and zinc). In some areas (such as Portage Bay) some pollutant levels under the proposed alternatives will actually be higher than the levels monitored in today's runoff (see Exhibit 29 in Appendix T).
S-003-135	Appendix T—Water Resources	Page 64	*"From these calculations (Exhibit 32), the water resources discipline team determined that the proposed BMPs for the 4-Lane Alternative would not increase the amount of pollutants discharged to Lake Washington compared to existing 2002 conditions. This would represent an improvement over 2030 discharges under the Continued Operation Scenario (CH2M HILL et al. 2002). The same improvement would occur for the 6-Lane Alternative, except that oil/grease pollutant loading rate would increase by 57 percent compared to 2002 conditions and zinc would increase by 18 percent."* It is unclear how the discipline team determined water quality pollution in this scenario. Furthermore, a pollutant loading rate increase of 57 percent for oil/grease and 18 percent for zinc is significant and needs further discussion to define these impacts on the aquatic environment.

S-003-131

Comment Summary:

Water Resources Effects During Construction

Response:

See Section 15.5 of the 2006 Draft EIS Comment Response Report.

S-003-132

Comment Summary:

Water Resources Effects During Construction

Response:

See Section 15.5 of the 2006 Draft EIS Comment Response Report.

S-003-133

Comment Summary:

Water Resources Effects During Construction

Response:

See Section 15.5 of the 2006 Draft EIS Comment Response Report.

S-003-134

Comment Summary:

Water Resource Effects During Operation

Response:

See Section 15.2 of the 2006 Draft EIS Comment Response Report.

S-003-135

Comment Summary:

Water Resource Effects During Operation

Table 2 (cont.)
Water Resources Comments

	Section	Page or Exhibit Number	Comment
S-003-136	Appendix T—Water Resources	Page 59	Modeling of pollutant loading for the water quality parameters is presented using amounts that are not comparable to standards and therefore it is difficult to determine their ecological significance (see Exhibit 29). Specifically, WSDOT presents loadings in pounds per year (mass per unit time) vs. qualities presented more typically in mass per unit volume (typically mg/L) for ecological comparisons to Ecology, NOAA Fisheries, EPA, or U.S.F.W. criteria.
S-003-137	Draft EIS	Page 12	The resource agencies disagree with the method that WSDOT uses to calculate pollutant levels in stormwater runoff. WSDOT's method uses the roadway surface area as a basis for calculating the quantities of pollutants that will be discharged in stormwater runoff. NOAA Fisheries and the U.S. Fish and Wildlife Service prefer a method that uses the average daily traffic volumes on the roadway to estimate pollutant quantities. We agree with the agencies.
S-003-138	Appendix T—Water Resources	Page 66	Although metals are included in the analysis, they are presented for total metals only, which limits the understanding of the impact of these parameters on aquatic species. Total metals account for the total runoff metal content, some of which is dissolved and some of which is particulate bound. Total metals do not have ecological significance except with regard to their attachment to sediments. Conversely, the dissolved portion is bioavailable and therefore has a greater ecological relevance. The dissolved phase fraction should therefore be shown in order to make biologically based conclusions about water quality impacts.
S-003-139	Draft EIS	General Observation	Some water quality parameters which are important to understanding the ecological impact of the project have not been presented in the DEIS. These include the dissolved forms of metals such as copper and zinc, hardness, pH, and Polyaromatic Hydrocarbons (PAHs). The toxicity of metals may also change relative to other parameters such as pH, alkalinity, hardness and the like. As stated above, these data are not provided in the DEIS.
	Draft EIS	General Observation	It is not possible to anticipate the toxicological impacts from stormwater runoff containing metals without knowing the concentrations of specific metals in their dissolved and particulate phases. Therefore, WSDOT should estimate on a per-storm basis the likely range of metals and PAH concentrations, as well as the range of concentrations in ug/L.

Response:
See Section 15.2 of the 2006 Draft EIS Comment Response Report.

S-003-136
Comment Summary:
Water Resource Effects During Operation

Response:
See Section 15.2 of the 2006 Draft EIS Comment Response Report.

S-003-137
Comment Summary:
Water Resource Effects During Operation

Response:
See Section 15.2 of the 2006 Draft EIS Comment Response Report.

S-003-138
Comment Summary:
Water Resource Effects During Operation

Response:
See Section 15.2 of the 2006 Draft EIS Comment Response Report.

S-003-139
Comment Summary:
Water Resource Effects During Operation

Response:
See Section 15.2 of the 2006 Draft EIS Comment Response Report.

Table 2 (cont.)
Water Resources Comments

Section	Page or Exhibit Number	Comment
Draft EIS and Appendix T—Water Resources	General Observation	Regional studies have shown that even low concentrations of metals can have sub-lethal impacts on salmonids. A discussion of these sub-lethal effects should be included in the DEIS. Specifically, they need to address the impacts of more zinc and copper in the runoff at Portage Bay West under the 4-lane alternative, and the increase in zinc to Portage Bay East under the 6-lane alternative.
Draft EIS	General Observation	Finally, estimates of loading of PAHs and metals and other toxicants coming from cars into receiving waters, not just from a total fraction but from a dissolved phase fraction, is not provided. More information is needed to understand how these contaminants are going to partition into sediments or as dissolved particulates. As such, the way contaminants are received by the water body will dictate their relative toxicity. This is particularly relevant to the proposed BMPs that remove sediments and their associated fraction of contaminants. Although sediments will be removed through the treatment process, the DEIS does not account for the dissolved fraction of contaminants not bound in the sediments.

S-003-141

Wildlife Habitat

S-003-143

Project effects to wildlife and wildlife habitat are generally minimized in the DEIS. Construction effects of noise and activity are briefly acknowledged, but the lengthy period of construction (four to eight years) is not addressed. Pile-driving activities are identified as potentially causing fish injuries and fish kills in Appendix E. This is minimized in the DEIS text. Habitat loss and impact are noted as occurring due to the project, and Appendix E notes that wildlife will experience negative impacts as a result. The DEIS fails to mention this analysis in some sections, and minimizes it in others.

Table 3 provides a series of specific comments related to wildlife habitat, and the appropriate locations in the DEIS and Appendix E—Ecosystems.

S-003-140

Comment Summary:

Water Resource Effects During Operation

Response:

See Section 15.2 of the 2006 Draft EIS Comment Response Report.

S-003-141

Comment Summary:

Fish Effects

Response:

See Section 16.2 of the 2006 Draft EIS Comment Response Report.

S-003-142

Comment Summary:

Water Resource Effects During Operation

Response:

See Section 15.2 of the 2006 Draft EIS Comment Response Report.

S-003-143

Comment Summary:

Fish Effects

Response:

See Section 16.2 of the 2006 Draft EIS Comment Response Report.

Table 3
Wildlife Habitat Comments

	Section	Page or Exhibit Number	Comment
S-003-144	Appendix E—Ecosystems	Page 153	Wildlife use of the project area is minimized in Appendix E. Species of concern, including great blue herons, red-tailed hawks, etc. use the habitat in and around the project area more frequently than the analysis claims.
S-003-145	Draft EIS and Appendix E—Ecosystems	Page 5-45 and 5-49 in the EIS, Page 192 (Appendix E)	According to the DEIS language, many of the mitigation measures will occur "if feasible", "if practical", or "could" occur; with some other phrasing that indicates a degree of uncertainty associated with the mitigation procedures. Very few specifics on wildlife and/or fish mitigation are given in the DEIS and Appendix E, although more mitigation specifics for fish are given in Appendix E.
S-003-146	Draft EIS and Appendix E—Ecosystems	Chapter 8: Construction Effects	Neither the DEIS nor Appendix E explores the effects of shading and artificial light (nighttime during and post-construction) on salmonid behavior (feeding behavior, prey capture, schooling, migration, etc.). Yet there is a fairly robust literature that examines behavioral changes in response to different lighting regimes, indicating that migratory behavior is generally disrupted. For example, migrating juvenile salmon may move away from their shallow water migratory routes into deeper water, in order to avoid over- or in-water structures. Numerous large bridge columns are proposed to be inserted into the shallow waters of Lake Washington, yet no mention of avoidance behavior by salmonids is included. Additionally, the DEIS claims that only a negligible effect from an increase in pontoon surface area of 21.5 or 27.3 acres from a current 10.4 acres would occur. Such a conclusion is questionable. Certainly, shading and "shoreline effects" (the increase in non-native piscivorous predators, e.g.) will potentially be greater. Appendix E specifically mentions that fish often behave as if solid structures in the water are similar to shoreline areas—thus, non-native piscivores may show an increase in use of the pontoon habitat, which the DEIS fails to address.

S-003-144

Comment Summary:

Wildlife Effects

Response:

See Section 16.2 of the 2006 Draft EIS Comment Response Report.

S-003-145

Comment Summary:

Fish and Wildlife (Mitigation)

Response:

See Section 16.2 of the 2006 Draft EIS Comment Response Report.

S-003-146

Comment Summary:

Fish Effects

Response:

See Section 16.2 of the 2006 Draft EIS Comment Response Report.

Table 3 (cont.)
Wildlife Habitat Comments

Section	Page or Exhibit Number	Comment
Appendix E—Ecosystems	Page 132	Indirect/cumulative environmental effects of constructing the pontoons off-site and floating them to the bridge site are not addressed in the DEIS. The DEIS claims that the environmental effects are addressed in a different document. This is true, but disingenuous. The pontoons will be constructed as part of the Hood Canal project. From Appendix E: *"These would be constructed at a graving dock to be built as part of the Hood Canal Floating Bridge Project.* *A graving dock is a large, gated channel excavated next to the shoreline of a body of water. When a group of pontoons and anchors have been constructed, the graving dock is flooded to float the pontoons and anchors. For this project, flooding of the graving dock would follow a protocol developed by WSDOT, in cooperation with WDFW, NOAA Fisheries, and USFWS, for construction of the Hood Canal Bridge pontoons. Work dates at the graving dock would be limited by fish restrictions, as detailed in the Hydraulics Project Approval (HPA) for the Hood Canal Floating Bridge Project to be issued by WDFW. All applicable screening requirements would be followed during pumping operations. The graving dock gate would then be opened, and a tug would tow the pontoons and anchors out of the graving dock into the adjacent body of water. The pontoons and anchors would be towed to the Evergreen Point Bridge site in Lake Washington.* *The Hood Canal Floating Bridge Project will satisfy the ESA's requirements for construction and operation of a graving dock by obtaining Biological Opinions from USFWS and NOAA Fisheries. Continued operation of the graving dock to manufacture the pontoons and anchors for the Evergreen Point Bridge will be covered in a Biological Assessment to be submitted to NOAA Fisheries and USFWS for the SR 520 Bridge Replacement and HOV Project."* The construction and operation of the graving dock is expected to result in fish take under the ESA, requiring the issuance of Biological Opinions, and is a project directly associated with the SR 520 bridge replacement. This is not even mentioned in the DEIS. No analysis or mention occurs as to whether the use of the graving dock for constructing SR 520 bridge pontoons will result in an increase in graving dock operational activities or in an increase in negative impacts to fish. No analysis or mention of impacts occurs as to whether aquatic resources are negatively impacted as a result of towing the pontoons from the graving dock to Lake Washington.

S-003-147

S-003-147

Comment Summary:

Indirect and Cumulative Effects Methods of Analysis

Response:

See Section 20.1 of the 2006 Draft EIS Comment Response Report.

Table 3 (cont.)
Wildlife Habitat Comments

	Section	Page or Exhibit Number	Comment
S-003-148	Draft EIS	Page 4-40	Analyses and effects determinations for wildlife and wildlife habitat are not adequately performed for the project-related vegetation removal and staging activities within parks and sensitive areas—between 32.13 and 47.7 acres of upland habitat are expected to be permanently removed. The DEIS notes that much of that upland habitat is relatively rare in the urban environment, but then indicates that the "effects of project development in these areas would vary according to existing habitat quality." No negative effects to wildlife utilizing such habitat are noted.
S-003-149	Draft EIS and Appendix J—Indirect and Cumulative Effects	9-6 and 9-7 (Draft EIS), Page 58 and 60 (Appendix J)	Appendix E identifies negative cumulative effects to wildlife habitat as occurring due to the project. A reduction in habitat value to wildlife due to wetland loss is noted, as well as a decline in wildlife abundance due to vegetation loss and general degradation of habitat. Appendix J states that "*direct habitat loss and disturbance is expected to result in reduced population abundance of sensitive wildlife species in the vicinity.*" This information is not included in the DEIS text.
S-003-150	Draft EIS and Appendix X—Pacific Street Interchange Options Analysis		No mention is made of additional negative impacts to wildlife under the Pacific St. Interchange Option in either the DEIS or Appendix X. However, currently contiguous habitat in the Arboretum and on Marsh Island will be fragmented by building new on- and off-ramps to the north and south. The ramps may form physical barriers to wildlife movement, and will definitely create a greater level of disturbance to wildlife than currently exists, both during construction and subsequent operation of the bridge. Additionally, higher volumes of traffic will be conducted through the Arboretum than under current conditions, as all traffic exiting or entering onto SR 520 from south of the Montlake Cut will utilize the Arboretum on- and off-ramps. The DEIS provides no analysis of how an increase in traffic activity could impact wildlife in the Arboretum, or how a localized increase in vehicle exhaust, shading by the ramps, disturbance during construction, etc. might impact sensitive plants in the Arboretum.

Geology

S-003-151

The DEIS does not appear to adequately address two major issues with respect to geological hazards. The potential impacts of the project including construction on surficial processes such as hill slope stability, soil loss, excessive stream bank erosion, and stream incision is not discussed. In

S-003-148
Comment Summary:
Wildlife Effects

Response:
See Section 16.2 of the 2006 Draft EIS Comment Response Report.

S-003-149
Comment Summary:
Indirect and Cumulative Effects Methods of Analysis

Response:
See Section 20.1 of the 2006 Draft EIS Comment Response Report.

S-003-150
Comment Summary:
Pacific Street Interchange Option

Response:
See Section 1.2 of the 2006 Draft EIS Comment Response Report.

S-003-151
Comment Summary:
Seismic Hazards

Response:
See Section 17.1 of the 2006 Draft EIS Comment Response Report.

S-003-151

addition, there is no thorough analysis of potential risks associated with geologic hazards, such as earthquakes, and how they would influence the proposed roadway in its various potential forms.

S-003-152

Landslide Hazards

The Geology and Soils Documentation section lists slope stability studies conducted by Shannon & Wilson, Inc., however the results of their work are not presented in the Technical Appendix. This information should be compiled in a map or series of maps that display factors of safety along the road embankments. Information should also be provided about the frequency and magnitude of potential landslide triggering events including not only seismic events, but the impact of frequent use by large vehicles. For example, the exposure of the Lawton clay member and sandy layers of the Vashon till adds to the instability of the steep slopes in the vicinity of the Portage Bay Bridge. This fact is mentioned in the Appendix, but there are no detailed maps of the exposures relative to the proposed alignments and alternatives.

S-003-153

Seismic Hazards

Assessing potential seismic hazards requires detailed probabilistic mapping of the anticipated effects of ground shaking and liquefaction. The data appears to have been collected by Shannon & Wilson, Inc., but it is not presented in the Technical Appendix. Data for constructing maps of ground-shaking intensity should include measurements of intensity, ground acceleration, and ground velocity. These data should be combined with information about the type and thickness of sediments to determine the likelihood of hazards associated with liquefaction. Such information should be presented as maps along the proposed alignments within the Technical Appendices.

S-003-152

Comment Summary:

Seismic Hazards

Response:

See Section 17.1 of the 2006 Draft EIS Comment Response Report.

S-003-153

Comment Summary:

Seismic Hazards

Response:

See Section 17.1 of the 2006 Draft EIS Comment Response Report.