UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
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OFFICE OF
ECOSYSTEMS, TRIBAL AND
PUBLIC AFFAIRS

April 15, 2010

Mr. Randolph L. Everett, Seattle Major Projects Oversight Manager
Federal Highway Administration
711 S. Capitol Way, Suite 501
Olympia, Washington 98501

Ms. Jennifer Young, Environmental Manager
SR 520 Project Office
600 Stewart Street, Suite 520
Seattle, Washington 98101

Re: SR 520, I-5 to Medina Bridge Replacement and HOV Project Supplemental Draft Environmental Impact Statement Region 10 Project Number: 00-013-FHW

Dear Mr. Everett and Ms. Young:

The U.S. Environmental Protection Agency (EPA) has reviewed the SR 520, I-5 to Medina Bridge Replacement and HOV Project Supplemental Draft Environmental Impact Statement (SDEIS). We are submitting comments in accordance with our responsibilities under the National Environmental Policy act (NEPA) and Section 309 of the Clean Air Act.

As a result of the mediation process, the proposed project alternative has changed since the Draft EIS was issued and the previously analyzed alternatives are no longer being considered. We appreciate this because the design changes respond to our previous concerns at the Draft EIS stage regarding the Pacific Street Interchange Option. The project termini have also changed. As currently defined in the SDEIS the project spans 5.2 miles from Evergreen Point Road in Medina to I-5 in Seattle. The proposed action is to replace the existing 4 lane SR 520 Bridge, which includes the Evergreen Point Floating Bridge, its east and west bridge approaches, the Portage Bay Bridge, the Montlake interchange, and Lake Washington Boulevard access ramps, with a new 6 lane bridge (4 general purpose and 2 HOV lanes).

The one action alternative, a 6 lane bridge, has 3 design options: A, K, and L. The design options present 3 different configurations for the Montlake interchange and bridge spanning the Montlake Cut. Option A most resembles the current configuration with a second parallel bascule bridge over the Montlake Cut. Option K would have a lowered profile with a single-point urban interchange (SPUI) that tunnels under the Montlake Cut near the west shore of Union Bay. Option L would be aligned similar to Option K but the SPUI would be an elevated structure rising above the SR 520 mainline and crossing the Montlake Cut on a new bascule bridge. The 6-lane Alternative also includes: landscaped lids over the highway, a bike and pedestrian path,

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stormwater treatment and automated tolling. We anticipate it will also include some form of noise reduction, but the nature, extent, and location of these measures will likely remain unclear until final design.

Based on our review of the DSEIS, we have assigned a rating of EC-2 (Environmental Concerns, Insufficient Information), based on the following concerns: the need for additional analysis, disclosure, and mitigation of air quality impacts from project operation and construction; impacts associated with a potential phased construction scenario; the need to provide updated information regarding mitigation for disproportionately high and adverse project impacts on the Muckleshoot Indian Tribe and on low income bridge users; the need to reduce shading impacts and to develop suitable compensatory mitigation for unavoidable impacts to aquatic resources; and the absence of and need for mitigation for upland wildlife habitat impacts. An explanation of this rating is enclosed. Several requests for additional information are also included. Our detailed comments are provided in the enclosure that follows.

Thank you for the opportunity to review and comment on this important project. If you have questions or would like to discuss these comments, please contact Elaine Somers at (206) 553-2966 or me at (206) 553-1601.

Sincerely,

Elaine Somers for

Christine B. Reichgott, Manager
Environmental Review and Sediment Management Unit

Enclosures

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U.S. Environmental Protection Agency
Detailed Comments on the
SR 520, I-5 to Medina Bridge Replacement and HOV Project
Supplemental Draft EIS

Air Quality, Mobile Source Air Toxics

Operational impacts: Because FHWA guidance uses an average daily traffic volume (AADT) of 140,000 or more as a threshold for quantitative evaluation of mobile source air toxics (MSATs), and because the SR 520 project AADT is estimated to reach 133,750, the SDEIS evaluates air quality with respect to MSATs only qualitatively (p. 5-114). Whether or not the threshold is exceeded, we think a project of this magnitude warrants quantitative analysis of emissions, near roadway effects, disclosure of associated health impacts, and identification of sensitive receptors. Examples of sensitive receptor locations in the project area would include the University of Washington Medical Center, the various project area parks and outdoor recreation areas, daycare facilities, senior centers, and several schools.

This issue is of concern because air toxics emissions, particularly diesel exhaust, are known or suspected to cause cancer or other serious health effects, such as respiratory, neurological, reproductive, and developmental effects. Pursuant to Washington State Senate Bill 6099 (May 2007), a Health Impact Assessment (HIA) was done for the SR 520 project (*SR 520 Health Impact Assessment -- A bridge to a healthier community*, September 2008) with the goals of calculating the project's impact on air quality, carbon emissions, and other public health issues, and making recommendations to enhance the positive impacts and to remove or minimize any negative impacts on health. We commend the project proponents for incorporating positive design features to enhance health, such as vegetated lids and bike/pedestrian trails, which were recommended in the HIA. We also think that the SEIS should incorporate the information on air quality, existing and potential health effects, and sensitive receptors from the HIA.

Recommendations:

- In the Final Supplemental EIS, provide quantitative analysis of MSATs. Include information regarding near roadway effects, health related impacts, and identify sensitive receptors. Much of this information can be obtained from the SR 520 Health Impact Assessment.
- Include the complete SR 520 HIA as an Appendix to the SEIS.

Construction impacts: We are concerned about the potential underestimation of construction air quality impacts that were designated "temporary" in the SDEIS. The duration of the construction period is approximately 7 ½ years (p. 6-128). This is significant as it represents nearly one-fifth of the age of the current bridge, and it could be substantially longer under a phased construction scenario. The significance of 7 ½ years is underscored when one considers the threshold used in the conformity rule. Under the transportation conformity rule, "Temporary increases are defined as those that occur only during the construction phase and last five years or less at any individual site" 40 CFR 93.123(c)(5). The conformity rule does not consider construction periods more than five years as temporary.

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The Portland Air Toxics Assessment identified construction activities as a significant source of air toxics in the urban area. In the case of the SR 520 project, construction of new roadways, lids, retaining walls, sound walls, bridge foundations, temporary work and detour bridges, bridge pontoons, bridge removal, and operations in staging areas all individually or cumulatively can be significant sources of regulated pollutants and air toxics. The magnitude of these construction emissions needs to be disclosed and the air quality impacts to sensitive receptors in the area, such as, the University of Washington Medical Center, need to be evaluated.

To determine the magnitude of emissions, the NEPA document should indicate how the construction emissions in tons/day of CO, VOC, and NOx compare to the operations emissions estimated in the SDEIS Exhibit 12, page 20, Air Quality Discipline Report. Construction emissions can be estimated as they are frequently done for General Conformity analyses. Some examples of measures of construction activity that can be converted into emissions are: cubic yards of concrete, hours per year of non-road equipment, miles per year for construction employee commuting, and miles per year for delivery and concrete trucks. The construction of the I-90 floating bridge and approaches provide a source of construction activity data that could be used for this estimate. Construction impacts may be of sufficient magnitude that diesel retrofits and other air quality construction mitigation measures should be required in construction contracts. U.S. DOT CMAQ money can be used to help fund diesel retrofits and there are many examples of construction retrofit contract language across the Country.

Recommendations:

- Quantitatively estimate construction-related emissions of regulated air pollutants and air toxics.
- Require retrofitting of construction equipment in construction contracts.
- See the Clean Construction USA website at http://www.epa.gov/otaq/diesel/construction/ for many examples of construction mitigation measures, case studies, and examples of institutional arrangements for implementing this mitigation.
- Commit to a full suite of air quality construction mitigation measures, including those identified in the SR 520 HIA, to avoid and minimize construction-related emissions to the extent possible.

Phased Implementation Scenario

We commend the project proponents for including in the DSEIS an analysis of impacts for the Phased Implementation Scenario. We appreciate the information that it provides, yet we are concerned that perhaps the analysis does not go quite far enough. The Phased Scenario should acknowledge that, at some point, "temporary" impacts should be considered long term or permanent impacts depending on the nature and duration of effects. As stated above, conformity rules under the Clean Air Act identify impacts as temporary only if they last 5 years or less. The question of whether or not this finding should also apply to impacts regarding noise, water quality, habitat, species, and so on should be examined.

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Long term social, economic, and environmental impacts should be acknowledged and appropriately mitigated. For example, local businesses served by Delmar Drive East, 24th Avenue East, and the Lake Washington Boulevard ramps (p. 6-130) would be affected by reduced access and road closures for an indefinite period of time under the Phased Scenario. At some point, these businesses may no longer be viable due to these impacts, yet there is no mitigation proposed for them. At some point, it may be appropriate to consider them as displacements or closures due to the effects of prolonged project construction. This may also become a factor with respect to Tribal fish resources and fishing access, and other affected natural and community resources.

While the precise timing and amounts of funding for a "mega-project" such as SR 520 may be uncertain, we are concerned that the duration of the phased scenario is indefinite. According to the SDEIS, Phases 1 and 2, the bridge/highway structures, would be built first. If the phased construction period lasts too long, it is possible that, based on the life expectancy of the new bridge, escalating project costs together with a changing cost/benefit ratio could lead to a point of diminishing returns for completing construction of the "Phase 3" components of the project – namely the landscaped lids, bike/pedestrian trail connections, and other community livability features. This potential threshold or point of diminishing returns should be analyzed and disclosed in order to identify at what point it might no longer be cost effective to complete the Phase 3 project components because it would soon be time to replace the bridge again. Inability to complete the project would also have the outcome of emitting higher levels of greenhouse gases (GHGs) because the GHG emissions of the phased scenario exceed those of the No Build alternative due to striping to only 4 lanes for the Portage Bay and west approach bridges (p. 5-153).

Recommendations:

- Acknowledge and propose mitigation for potential long term/permanent social, economic, and/or environmental effects due to phased implementation.
- In the Final SEIS, expand the analysis and disclosure of impacts for a Phased Implementation Scenario to include a potential temporal point of diminishing returns or changing cost/benefit ratios over time for completing full project build out.

Environmental Justice

The SDEIS is clear that the Muckleshoot Indian Tribe would suffer disproportionately high and adverse impacts to natural resources (fish resources, fish habitat, and fishing access) and potentially to cultural resources (Foster Island Traditional Cultural Property) due to the proposed project. The SDEIS also states that there will be continued efforts to work with the Tribe to mitigate these impacts. The Final SEIS should disclose whether or not these issues are satisfactorily resolved according to the Tribe.

Recommendation: Work cooperatively and in consultation with the Muckleshoot Tribe to adequately mitigate impacts to tribal resources and report on the progress in the Final SEIS.

We support the proposed mitigation to offset the burden of tolls for low income bridge users. In particular, the ability to use Electronic Benefit Transfer (EBT) cards appears helpful.

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Even this, however, would require a percentage of the available resources of low income residents that is needed for food and other essentials, for use as tolls. Additional mitigation should be considered, such as, issuance of free transponders and reduced fare transit passes.

Recommendation: Consider additional mitigation for low income bridge users that would offset or decrease the added expense of tolls, such as, free transponders and/or reduced fare transit passes.

Aquatic Resources

Wetlands: The SDEIS does a good job of quantitatively (in acres) evaluating the shading impacts to wetlands and wetland buffers from both project construction and operation phases and the various project design options. It is important to minimize these impacts to the extent practicable. Incorporating the "constant-slope" bridge profile (such as is feasible in design Options A or L), as opposed to a lower bridge profile, would help in this respect as well as to facilitate stormwater flow to treatment facilities without the need for and costs of pumping. We support design options that would serve both needs and maintain context sensitivity to the extent practicable, yet it is important to convey that visual preference should not be considered as justification for increasing wetland impacts.

Recommendation: Design bridge height to be at a level that reduces shading to the extent practicable.

Mitigation: We appreciate that a technical work group has been convened to discuss suitable compensatory mitigation for unavoidable impacts to aquatic resources. We plan to participate in this work group.

Recommendation: Include and involve EPA, the Corps, USFWS, NOAA Fisheries, WDFW, Ecology, the Muckleshoot Tribe and all other interested and affected resource agencies and organizations to develop mitigation plans to protect and restore ecological functions in this important watershed.

Pile driving and fish impacts: The SDEIS (p. 6-85) indicates that bubble curtains appear to be effective mitigation to reduce the severe noise impacts to fish and other aquatic biota from pile driving. On page 6-71 the SDEIS lists other methods considered as potential but less effective mitigation.

Recommendation: The search for effective noise mitigation for pile driving is ongoing. We urge that bubble curtains be used together with any and all other means of mitigation deemed effective, in consultation with the Services and in accord with their recommendations, to lessen the noise impacts from the installation of the thousands of bridge piles needed for work bridges and project bridge supports.

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Wildlife Habitat Impacts

The SDEIS (p. 6-124, Table 6.16-1) indicates there will be no mitigation for impacts to wildlife habitat/upland vegetation losses. The SDEIS does not indicate what will happen to sites such as these that are disturbed by project construction but not used as project paved area. Wildlife habitat quality is less than optimal in the project area, but is much needed and used by resident species due to its scarcity. Some form of mitigation and restoration, such as, planting of native plant species, should be included in project commitments.

Recommendation: Provide suitable mitigation for impacts to upland wildlife habitat.

Tolls

For analysis purposes in the SDEIS, the No Build Alternative was not modeled with tolls (p. 5-117). This is unfortunate because tolling will soon be implemented on SR 520 in its current state as a 4 lane facility. State law now directs that tolls will be placed on all SR 520 through-lanes between I-5 and I-405 to generate revenue for investment in the SR 520 corridor (RCW 47.56.820). As a result, the comparison of alternatives in the SDEIS with respect to traffic analyses, air pollutant emissions, travel time, and overall system performance do not accurately reflect how the No Build Alternative would perform.

Recommendation: For the Final SEIS, analyze the No Build Alternative with tolls.

While the subject of tolls is covered in more detail in a separate Environmental Assessment (*SR 520 Variable Tolling Project*, April 2009), the SDEIS should clarify:

- Whether or not bicycle and pedestrian bridge users would be exempt from paying tolls similar to transit and 3-person HOV users (p. 2-5), and
- How vehicles with 1 or 2 vs. 3 occupants would be accurately determined using transponders for charging tolls.

Recommendation: Include the above information in the Final SEIS and highlight it as new information.

Design Option Features

Based on the analysis of impacts in the SDEIS, Design Option A appears the least damaging to the environment overall. However, it would help to clarify whether the impacts of Design Option A could be further reduced by potentially eliminating the auxiliary lane from the Portage Bay Bridge and construct a narrower roadway. In regard to the function of Option A, it would also be helpful to provide a rationale for removing the Montlake transit flyer stop, which is a convenient and efficient transit point, and the potential for including it in the project design. Both features affect roadway width and have associated impacts and benefits, but the SDEIS does not evaluate these as design options.

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Recommendation: In the Final SEIS, include the above information regarding these two design features.

Construction – general

Fate of excavation material: The SDEIS indicates (p. 6-124) that Option A would require excavation of 340,000 cubic yards of material, and would use 86,000 cubic yards of fill. Excavation amounts would be even higher for Design Options L and K. There is no information in the SDEIS regarding the use or disposal location of the excess excavated material.

Recommendation: In the Final SEIS, provide an explanation about what will be done with the excavated material from project construction.

Ensuring seamless performance: The SDEIS indicates there would be monitoring to ensure the use of best management practices (BMPs), such as, for erosion control. To document means for compliance, it would be helpful to include in the Final SEIS an explanation of how a project of this magnitude ensures that the mitigation commitments, permit conditions, and all applicable BMPs are implemented as intended/stated in the NEPA documents and permits.

Recommendation: In the Final SEIS, include information regarding mechanisms during project construction and operation/maintenance that ensure seamless performance. As the project progresses, we also recommend visiting the EPA Region 3 Green Highways website at http://www.greenhighways.org/ for ideas and methods that benefit transportation, the ecosystem, urban areas, public health, and surrounding communities.

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