The project will not have significant impacts to transit, and the Final EIS discusses mitigation as required by CEQ and FHWA regulations. The project includes several features that will benefit transit operations in the downtown Seattle area. These are described in Chapter 3, Question 4 of the Final EIS and in Appendix C, Transportation Discipline Report and in the Project Commitments section of this Record of Decision. In brief, both the south and north portals include transit bypass lanes that will allow buses to pass general traffic in entering the downtown street grid. Overall transit access through downtown Seattle will be improved by the project as it will support service through more of the street grid than is presently possible; however, transit travel times will vary because access points will change. This is described in the Final EIS in Chapter 5, Question 14.

The foreseeable transportation effects of the Bored Tunnel and associated mitigation measures are described in Chapters 5 and 8 of the Final EIS and in Appendix C, Transportation Discipline Report. There are no further foreseeable effects or mitigation measures to include in this Record of Decision. FHWA, with WSDOT and SDOT, will continue to work closely with transit service providers to ensure the entire transportation system functions smoothly and benefits its users. We look forward to FTA’s assistance in this process.
The Final EIS includes an analysis of the operational effects of build alternatives on transit travel times, which are described in Chapter 5, Question 14. The Final EIS includes a commitment to mitigate for operational effects of tolling through the establishment of a Tolling Advisory Committee (see Final EIS Chapter 8, Question 1). FHWA understands transit measures will be considered by the Tolling Advisory Committee. King County will be directly involved in the work of the Tolling Advisory Committee.

FHWA appreciates your comments and looks forward to working with FTA in implementing this important project.
Thank you for confirming that we have addressed your comment on Purpose and Need. FHWA appreciates your input on this project.

As your comment notes in its closing sentence, the alternatives are evaluated on their overall ability to meet the project's purpose and need. All elements of the purpose and need were considered, and each of the three alternatives meet them differently. The construction effects of the Cut-and-Cover Tunnel and the Elevated Structure on north-south capacity are severe, but they are not permanent effects as would result from the Surface, Transit and I-5 Scenario.
Thank you for confirming that your comment about the air quality analysis has been addressed to your satisfaction.

Thank you for confirming that your comment about water resource impacts has been addressed to your satisfaction.

Thank you for confirming that your comment about transit travel times and additional information on mitigation measures for tolling impacts have been addressed to your satisfaction.

Thank you for confirming that your environmental justice concerns have been addressed to your satisfaction.
proposed for (i) “Neighborhoods and Community Services” and “Environmental Justice” on page 158 of the 2010 SDEIS, and (ii) “Social and Employment Services” and “Environmental Justice” in section 6.2 of 2010 SDEIS Appendix H. The mitigation measures presented as answers to questions 5, 20 and 21 in Chapter 8 of the FEIS are responsive to our recommendation.

Thank you for this opportunity to comment and if you have any questions or concerns please contact Erik Peterson of my staff at (206) 553-6382 or by electronic mail at peterson.erik@epa.gov. You may contact me at (206) 553-1601.

Sincerely,

Christine B. Reichgott
Manager
Environmental Review and Sediment Management Unit
L-001-001

FHWA appreciates the Port of Seattle’s input and partnership on this project. We look forward to continuing to work closely with you as design and construction progress.

August 15, 2011

Ms. Paula Hammond
Secretary of Transportation
State of Washington Transportation Building
PO Box 47316
Olympia, WA 98504-7316

The Honorable Richard Conlin
Council President
City of Seattle
Seattle City Hall
600 Fourth Avenue, 2nd Floor
Seattle, WA 98104

Re: Port of Seattle - Alaskan Way Viaduct Replacement Project FEIS

Dear Secretary Hammond and Councilmember Conlin:

Thank you for the opportunity to review and comment on the Alaskan Way Viaduct Replacement Project Final Environmental Impact Statement (FEIS) and Section 4(f) Evaluation.

The Port of Seattle (Port) congratulates the project team on completing this very complicated environmental analysis. We appreciate the team’s effort, which included the opportunity for the Port to participate meaningfully in the process. We look forward to continuing work with the project team as we move closer to project implementation.

From the beginning of the Viaduct Replacement Project, the Port’s major concern has been to protect and improve the regional transportation system in order to maintain and grow the region’s economy. Our view is broad and does not end at our terminal gates. The Port supports more than 194,000 jobs in our region. We must assure that businesses throughout the state have a reliable transportation network to move their goods to the world’s markets. We must also demonstrate to international shippers that we can accommodate their goods and move them quickly when arriving in Seattle.

On April 12, 2010, the Port Commission signed a Memorandum of Agreement (MOA) with Washington State signifying the Port’s commitment to a viaduct replacement alternative which affords essential transportation capacity and significant environmental benefits while minimizing construction related disruptions on the waterfront. The MOA recognized the economic importance of an efficient SR 99 roadway network with complementary system improvements for the effective movement of freight and goods locally, nationally and internationally.

The Port strongly supports the Bored Tunnel (Tunnel) as the Preferred Alternative for the replacement of the Alaskan Way Viaduct. The Port feels that the Tunnel is the best alternative to:

- Retain and create jobs
- Provide sustainable economic development
- Bring quality environmental benefits, including expansion of opportunities for transit, bicycles and pedestrians
- Enhance the waterfront for the movement of people and goods
- Ensure long-term capacity for regional growth
- Minimize construction impacts.

The Tunnel, with the complementary system upgrades including the Alaskan Way surface street, the Mercer Corridor, the Alaskan Way Seawall and South Holgate to King, provides the needed capacity to move traffic while allowing uncongested access to cargo terminals. The Tunnel and the Alaskan Way surface street maintains a critical connectivity between north and south industrial areas and keeps freight traffic moving efficiently within the harbor area while providing a good connection to the regional roadway network.

The Port has a strong interest in the continuing health of the working waterfront and the economic benefits it brings to the city and the region. As a major US gateway, the Port of Seattle, combined with the Port of Tacoma, represents the second largest container load center on the US west coast. The preferred alternative, including the Tunnel and complementary improvements, will provide needed access to cargo at Terminals 5, 15, 25, 30 and 46 while providing access to cruise services at Piers 66 and Piers 90-91. The Port will continue working with the project team to identify, resolve and mitigate construction impacts, especially at Port facilities, as design and construction progress.

Thank you again for the opportunity to partner on this project and to review and comment on this FEIS. The construction of the Tunnel is a major undertaking, which will create short-term hardships for neighboring properties and businesses and for the traveling public in general. However, we anticipate these impacts can be mitigated more easily than with the other replacement alternatives. We encourage the team to continue to work closely with the Port in identifying and mitigating construction impacts that adversely affect Port properties and Port tenants. We look forward to continuing our collaboration throughout the completion of this project. Please do not hesitate to contact us personally if you have any questions.

Sincerely,

Bill Bryant
President, Port of Seattle Commission

Ray Yoshitani
CEO, Port of Seattle
L-002-001

FHWA appreciates the input from King County throughout this process. These comments have been addressed in developing the build alternatives, analyzing impacts, and determining mitigation measures. For example, as requested by King County, the TOLLED BORED TUNNEL ALTERNATIVE includes transit bypass lanes at the tunnel portals. These bypass lanes provide for priority transit treatment. Additionally, WSDOT is providing more than $30 million to Metro to enhance transit service through early 2014, and for strategies to encourage the use of transit, teleworking and ridesharing. These funds are intended to mitigate for construction impacts associated with the Alaskan Way Viaduct and Seawall Replacement Program. WSDOT also funded City of Seattle projects to add and upgrade traffic signals in the Elliott Avenue/15th Avenue NW, West Seattle, and south of downtown corridors, and provided funding so Metro could expand its bus monitoring system.

FHWA acknowledges that there continues to be funding challenges for transit and other transportation modes. The King County Council’s recent adoption of the licence tab fee (on August 15, 2011) may help to alleviate immediate funding concerns for transit (http://www.kingcounty.gov/exec/news/release/2011/August/15CRC.aspx).

Continued efforts will be needed at the local level to provide the funding to maintain and improve transit service.

The Final EIS includes an analysis of the operational effects of build alternatives on transit travel times, which are described in Chapter 5, Question 14. The Final EIS includes a commitment to mitigate for operational effects of tolling through the establishment of a Tolling Advisory Committee (see Final EIS Chapter 8, Question 1). FHWA understands transit measures will be considered by the Tolling Advisory Committee. King County will be directly involved in the work of the Tolling Advisory Committee.
The tolling analysis in the FEIS reveals the extent to which traffic diverted by tolling would congest transit routes, resulting in substantially increased travel times for numerous bus routes, impacts to thousands of daily passengers, and more demand for transit service. Despite such impacts, the mitigation provided by the FEIS is limited to “improvements on state facilities or requiring state funding,” with no mention of transit or other local facilities. The Record of Decision must commit a variety of mitigation measures proportionate to the project’s impacts that are inclusive, but not limited to, state facilities and state funding. The state and King County were able to reach agreement on a formula for and amount yielded by said formula for transit mitigation during construction for the S. Holgate Street to S. King Street Viaduct Replacement. Likewise, we look forward to working with the state to use the same formula to fund from the AWV replacement project budget transit mitigation during construction of the SR 99 bored tunnel as well as the central waterfront. To date, that has not occurred.

King County looks forward to reviewing the Record of Decision and participating on the Tolling Advisory Committee.

Sincerely,

[Signature]

Harold S. Taniguchi, Director
King County Department of Transportation

Enclosures

cc: Chris Arkills, Transportation Policy Advisor, King County Executive Office
    Laurie Brown, Deputy Director, King County Department of Transportation (KCDOT)
    Ron Poshusta, Assistant Director, KCDOT
    Kevin Desmond, General Manager, Metro Transit Division, KCDOT
VIA EMAIL AND U.S. MAIL

July 14, 2011

Victor M. Mendez
Administrator
Federal Highway Administration
1200 New Jersey Ave., SE
Washington, DC 20590
victor.mendez@dot.gov

Gloria M. Shepherd
Associate Administrator
Office of Planning, Environment & Realty
Federal Highway Administration
1200 New Jersey Ave., SE
Washington, DC 20590
gloria.shepherd@dot.gov

Dear Mr. Mendez and Ms. Shepherd:

Attached is our Petition for Extraordinary Relief to the Federal Highway Administration (FHWA). There exist serious problems with the environmental review and funding plan for the Alaskan Way Viaduct Replacement Project in Seattle, Washington. Given the concerns raised in this petition, we believe that the FHWA’s legal obligations and its stewardship of federal transportation resources compel your investigation, an administrative hearing, and the additional relief we request. Most immediately, because the final environmental impact statement (FEIS) will be complicated and a local referendum concerning the project will be held on August 16, 2011, we ask for a 90-day comment-and-review period for the FEIS from the date of its publication in the Federal Register. Due to the short time period remaining, we expect a response within 14 days.

The gravity and breadth of the concerns we raise warrant your attention separate from the review process for the FEIS, which is scheduled for publication on July 15, 2011. We intend to submit comments on the FEIS, but more is at stake in this petition than the consideration of environmental impacts. Although environmental review of this project has been underway for several years, WSDOT’s bias and the inadequacy of the project’s funding plan have only recently become so flagrant that we came to believe that this petition for relief was necessary.

The FHWA’s decision whether to grant federal funding for this project is subject to the National Environmental Policy Act (NEPA), the Administrative
Mr. Victor M. Mendez and Ms. Gloria M. Shepherd
July 14, 2011
Page 2 of 3

Procedures Act, and other applicable law. The FHWA delegated its responsibilities for preparing an environmental impact statement to the Washington State Department of Transportation (WSDOT). Unfortunately, WSDOT and other state officials have repeatedly engaged in behavior that raises concerns as to whether the hard work required by NEPA has been carried out objectively and in good faith. Despite NEPA's command to the contrary, WSDOT has made a de-facto decision to select a deep-bored-tunnel alternative, with WSDOT and state officials publicly admitting that a final decision has been made. Recently, WSDOT used to quash a citizen referendum aimed at challenging the preferred alternative. And WSDOT took punitive action to isolate a cooperating agency, the Seattle Department of Transportation (SDOT), in violation of NEPA, preventing SDOT from giving input into and reviewing the FEIS. In sum, WSDOT has breached the integrity of the NEPA process, and the inevitable result will be a tainted FEIS.

The FHWA should also have significant concerns about the project's funding and the low expected usage of the proposed tunnel due to tolls and lack of mid-downtown access. Even if the FHWA contributes the nearly $500 million assumed in WSDOT's funding plan, the project will suffer from a $700 million shortfall. The Port of Seattle has not firmly committed the agreed-upon $300 million. The hoped for $400 million in bonds financed with tolls could prove elusive, as changes in state law undermine that plan. And to reach that amount, tolls would have to be priced so high that the proposed tunnel would carry fewer than 40,000 vehicles per day, one-third as many as the existing facility. Traffic diversion would be so severe that the effects would be slightly worse than not replacing the viaduct with a freeway. To top it off, the State of Washington will not financially guarantee the project, the legislature has capped its contribution, and the City of Seattle refuses to pay cost overruns as the State insists. Unless the FHWA secures a viable funding plan from WSDOT, the proposed tunnel is neither desirable nor justifiable. The FHWA should refrain from releasing the Record of Decision (ROD) until WSDOT satisfactorily resolves this funding uncertainty.

The Seattle City Council passed ordinance 123542 on February 22, 2011 putting three Memorandum of Agreement (MOA) into place between itself and WSDOT. These MOAs govern various aspects of the proposed tunnel, including authorization to give notice to proceed to bring them into effect if a ROD is issued. The citizens of the city of Seattle have put this ordinance to referendum and, if it is rejected, the city council will lack the authority to grant notice to proceed on these agreements. This vote is a quintessential part of the public process surrounding this project. The FHWA must extend the FEIS review period to avoid interfering in the referendum and its political consequences.

We thank you for your attention to this matter and look forward to your prompt reply.

Sincerely,
Mr. Victor M. Mendez and Ms. Gloria M. Shepherd
July 14, 2011
Page 3 of 3

GARY W. MANCA
Attorney for Protect Seattle Now

MICHAEL R. DRUMMOND
Board Member, Protect Seattle Now

TIM GOULD
Chair of Transportation and Land Use Committee
Sierra Club Washington

Cc: Ellen Adams, Council on Environmental Quality (via email)
    Horst G. Geurts, Council on Environmental Quality (via email)
TO THE FEDERAL HIGHWAY ADMINISTRATION
Washington, DC

IN THE MATTER OF
THE ALASKA WAY VIADUCT REPLACEMENT PROJECT—
SEATTLE, WASHINGTON

PETITION FOR EXTRAORDINARY RELIEF

July 14, 2011

Submitted on behalf of

PROTECT SEATTLE NOW
PO Box 17385
Seattle, WA 98127
(206) 683-2910

SIERRA CLUB WASHINGTON
CHAPTER
180 Nickerson St, Suite 292
Seattle, WA 98109
(206) 378-0114
This petition for extraordinary relief arises from the misconduct of the Washington State Department of Transportation (WSDOT) and the inadequate funding plan for the Alaskan Way Viaduct replacement project in Seattle, Washington. Prompt remedial measures by the Federal Highway Administration (FHWA) are urgently needed and justified. The final environmental impact statement (FEIS) is scheduled for publication in the Federal Register on July 15, 2011. The City of Seattle, a cooperating agency and a co-lead agency under Washington’s State Environmental Policy Act (SEPA), is holding a citywide referendum relating to the project on August 16, 2011. As a federal-aid funded project constituting a major federal action, this project is subject to the FHWA’s final approval, and the requirements of the National Environmental Policy Act (NEPA) and other applicable federal laws must be met. Due to the project’s prejudicial environmental-review process and unresolved funding plan, the FHWA should grant the relief requested.

I. REQUESTS FOR RELIEF

The petitioners ask that the FHWA:

1. Extend the comment and review period for the FEIS to 90 days.

2. Carefully scrutinize the FEIS in light of WSDOT’s prejudice.

3. Take the lead in preparing, free of WSDOT’s biased involvement, and in consultation with the Seattle Department of Transportation, any additional environmental documents that prove to be necessary and include these in the ROD.

4. Investigate WSDOT’s violation of the regulations governing its responsibilities to a cooperating agency, and report on what occurred, with proposed remedies from the FHWA.

5. Require that WSDOT produce a viable and cost-effective funding plan to complete the proposed tunnel project and actually implement the proposed mitigation measures.

6. In the absence of such a funding plan, withhold support for the proposed tolled deep-bored tunnel.

7. Hold an informal hearing for the FHWA to take more evidence on WSDOT’s prejudice and the lack of adequate funding.
II. SUMMARY

The petitioners’ requests for relief are based on three categories of facts. First, a lengthy and complex FEIS for this critically important project was recently released, only weeks before local voters will have a chance to show their level of support for the underlying project. Second, WSDOT has shown, since 2009, that it is prejudiced towards its preferred alternative, resulting in a defective environmental review process. Third, this is an expensive, cost-ineffective project with no financial guarantee; neither the State of Washington nor the City of Seattle is willing to fully commit to paying for it. Each of those circumstances is extraordinary.

A. A 90-Day Comment Period

This is not a typical project documented with a typical FEIS. And so a typical comment-and-review period is not appropriate. The Alaskan Way Viaduct is a north–south highway slicing through the heart of the largest city in the Pacific Northwest. The project is so complicated that the FEIS weighs in at over 7,000 pages. The preferred alternative in the FEIS is significantly different than the preferred alternative named in the 2010 draft EIS; many new impacts will inevitably be revealed for the first time in this document. And WSDOT’s preferred replacement for the Viaduct, a tolled deep-bored tunnel, would have total program costs of $4.2 billion. The City of Seattle would be an essential partner on this project, offering funding, technical assistance, and construction cooperation. Yet city voters might soon show their disapproval of the preferred alternative by rejecting an upcoming referendum on August 16, 2011. More than 30 days will therefore be necessary to assess the impact of the referendum, to give the public and decision-makers the opportunity for meaningful review of, and comment on, the FEIS, and to allow FHWA to fully and adequately respond to this petition.

B. Procedural NEPA Violations

WSDOT has exhibited impermissible prejudice towards a bored-tunnel alternative for this project. WSDOT’s judgment has been so clouded by political pressure that it made a premature final decision on alternatives, stifled public participation, intervened in a local election, structured the purpose-and-need statement to favor its preferred alternative, and unlawfully cut a cooperating agency out of the final environmental review. The FHWA must intervene now, carefully scrutinize WSDOT’s actions to date, and take a stronger role in oversight of implementing the NEPA process.

C. Inadequate Funding Plan

It has only now become clear to the Seattle public that the proposed project's funding plan and cost performance are inadequate. The project lacks a financial guarantee. The Washington state legislature has capped its financial contribution at $2.8 billion ($400 million pre-teen from tolls), well short of the proposed tunnel project's budgetary needs, while at the same time creating a state law that assigns liability for cost overruns to Seattle property owners. At the same time, the City of Seattle's official policy is to oppose any plan that makes its taxpayers liable for such costs. Even more immediate than the lack of a guarantor for likely cost overruns, the basic budget is still not whole. WSDOT's hope to raise $400 million from potential tolls looks more doubtful every day, and so does their hope to persuade the Port of Seattle to give them a $300 million gift for basic budget. Those funding shortfalls and financial risks become more striking in light of the low return on the federal investment in this infrastructure. For roughly $3 billion, the proposed tunnel would carry fewer than 40,000 vehicles per day. Unless the FHWA successfully obtains a better funding plan from WSDOT, the proposed tunnel is neither desirable nor justifiable.

III. BACKGROUND

The Alaskan Way Viaduct is the elevated portion of State Route 99 that runs north-south through downtown Seattle. WSDOT and the City of Seattle have collaborated on a plan to replace the Viaduct because of damage caused by an earthquake in 2001 and the approaching end of its useful life.

Two leading replacement alternatives, a new elevated highway and a cut-concrete tunnel, were studied in a 2008 Supplemental DIF. Both of these alternatives were rejected in a 2007 advisory vote in Seattle and abandoned as unworkable. WSDOT and the City then convened a 26-member stakeholder committee to provide feedback on new alternatives. Members of that committee, including representatives of business, labor, and environmental groups, suggested the state "move forward with an Alaskan Way Viaduct Replacement Plan that includes improvements to I-5, transit, surface streets and potential for construction of a deep bore tunnel" and "a state-funded Supplemental Environmental Impact Statement should include review of an I-5/surface/transit hybrid." Just a month after this result from a year-long process, in January 2009, Governor Gregoire recommended that a deep-bored tunnel be the replacement for the Viaduct. Although this tunnel had not been studied in the extensive 2008 analysis, nor reviewed under...
O-001-006

The referendum does not materially bear on selection of the Bored Tunnel or the NEPA process.

O-001-007

As stated in a letter to this commenter dated August 8, 2011, FHWA has denied the commenter's request for a 90-day comment period on the Final EIS. The NEPA regulations do not require a comment period on a Final EIS; they require only that there be a 30-day waiting period following publication of the Final EIS. While a comment period is not required, FHWA and WSDOT invited comments on the Final EIS to provide an additional opportunity for public input. FHWA has determined the 30-day period to be sufficient and appropriate. There have been extensive comment opportunities that have occurred throughout this process; the entire Final EIS, including appendices, was made available in electronic form; and much of the information in the Final EIS had previously been made available. Also, it should be noted that the 30-day comment period is measured from the publication of a notice in the Federal Register announcing the availability of the Final EIS. The Final EIS itself was made available on-line on July 7, 2011; the comment deadline ran through August 15, 2011. Therefore, the Final EIS was actually available for review and comment for a total of 39 days.

IV. DISCUSSION

A. A 90-Day Comment Period Is Necessary

Three aspects of this project warrant an extended time period of 90 days for the public to review and comment on the FEIS. First, the FEIS is over seven thousand page long. The preferred alternative has been changed only recently, and there are new impacts to consider. Adequate and robust public participation is essential to the NEPA process. It allows an agency to obtain the information it needs to document and consider a project’s environmental impacts. The period between FEIS release and EOD release allows FHWA to conduct internal review and for the public and other agencies to consider and

5 id.


7 Appl’s. Doc. 3.

8 See, e.g., Or. Envtl. Council v. Kuehn, 887 F.3d 481, 492 (9th Cir. 1995)
The City of Seattle (specifically, the Seattle Department of Transportation) is a co-lead agency with FHWA and WSDOT, not a cooperating agency. The outcome of the August 16, 2011 referendum is not expected to materially affect implementation of this project.

While the outcome of the referendum may provide some indication of public opinion, it does not affect funding for the project, selection of the Bored Tunnel, or the NEPA process.

FHWA has been closely involved throughout the NEPA process and does not require any additional time before completing this Record of Decision.

Throughout the course of this project, extensive analysis has been completed on multiple alternatives with ample and appropriate public disclosure and discourse. FHWA is satisfied a thorough and complete "hard look" has been completed and documented as required and that all appropriate procedures have been followed. The NEPA process is described in Chapter 2 of the Final EIS.
Many public officials have made statements supporting and opposing alternatives and other aspects of this project. This is normal for a project of this magnitude and local and regional importance. These comments are outside of and have not influenced the NEPA review process. FHWA is satisfied all appropriate NEPA procedures have been followed.
• In December 2010, Ron Judd, WSDOT’s outreach director for the project, said, “The debate about whether or not we’re going to do a tunnel is over.”

• Responding to the citizen’s referendum, Gov. Gregoire on March 31, 2011, “The fact of the matter is the decision for the deep-bored tunnel was made in 2009.”

• WSDOT’s project manager, Ron Paananen, March 2011 said, state officials “are not interested in revisiting the decision.”

• In May 2011, WSDOT Secretary Paula Hammond was asked “If construction begins at the end of August, is that the point at which there is no turning back in your view?” Hammond replied, “Actually, we’ve made the decision, the governor, the executive of King County, and the then Mayor of Seattle, in 2008, made the decision to construct the deep-bored tunnel.”

These top state officials have exploited the weight of their offices to make a de-facto final decision, when in fact NEPA says that there could not yet be a final decision. Their comments also created an aura of inevitability, chilling public participation. Their actions undermine NEPA’s goals of informed decision-making and public participation.

WSDOT shut off public and agency consideration of alternatives long before all the environmental effects were ever known. NEPA does not allow such behavior. Even when the EIS process has been completed and a decision made, NEPA dictates that agencies remain open to unforeseen environmental effects, as the U.S. Supreme Court has explained:

The broad dissemination of information mandated by NEPA permits the public and other government agencies to react to the effects of a proposed action at a meaningful time. It would be incongruous with this approach to environmental protection, and with the Act’s manifest concern with preventing unanticipated adverse actions, for the blinders to adverse environmental effects, once unequivocally removed, to be restored prior

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8 of 20
The referendum concerned the process by which the City Council would give its own notice to carry out the agreements entered into between WSDOT and the City once the environmental review process was complete. The referendum was passed on August 16, 2011. The approval of the referendum confirmed use of the process originally set out in the agreements by which the City would direct its agencies to go forward with their work under the agreements.

The litigation challenging Referendum 1 was filed by the City Attorney on behalf of the City of Seattle. WSDOT intervened in that litigation because, as the state agency responsible for the state highway system and specifically for the SR 99 project, it had a significant interest in the litigation. Under FHWA’s oversight, WSDOT has been committed to fulfilling NEPA’s public participation requirements over the last 10 years. However, NEPA’s public participation process does not extend to local initiatives and referenda, and WSDOT’s participation in the referendum litigation was unrelated to its NEPA obligations.
3. WSDOT violated NEPA rules regarding cooperative agencies

Before the lawsuit, WSDOT actively ignored Seattle Department of Transportation (SDOT) and even punished it. SDOT is a cooperating agency in the EIS because the proposed project will be built exclusively within the City of Seattle's geographic boundaries. SDOT's role as cooperating agency is important as it requires WSDOT to use SDOT's environmental analysis and proposals and to meet with SDOT at their request. In December 2010, SDOT submitted a DEIS comment letter to WSDOT detailing its concerns with and comments on the October, 2010 DEIS. These comments requested additional study of reasonable alternatives be performed prior to the release of the FEIS. In response to SDOT's comments, WSDOT cut SDOT out of the FEIS review in clear contravention to NEPA's requirements.

In a letter dated April 26, 2011, WSDOT AWW Administrator Ron Parmanen stated that "while WSDOT and FHWA would typically provide SDOT with the internal review draft of the Final EIS for your review, policy comments from the City of Seattle's Mayor's office have led us to change the typical practice." Later in the letter, Mr. Parmanen explained, "The Mayor's Office, via SDOT, submitted comments that suggest the TSB Surface/Transit option be studied as a reasonable alternative." By blocking a cooperating agency from participation in the EIS, WSDOT violated NEPA. This action is further evidence of an agency that has lost objectivity, is refusing to take a hard look at viable alternatives, and is pursuing a predetermined outcome.

WSDOT later retracted from this hardline position, allowing some of SDOT's comments and data to be incorporated into the FEIS, and SDOT has since signed the FEIS. However, not all of SDOT's comments were addressed, as evidenced by a statement submitted by SDOT Director Peter Hahn at the time of signing.

Overall, I believe the EIS document has been crafted primarily to support and defend the selection of the Deep Bored Tunnel as the preferred alternative, rather than to provide an

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[4] See 50 C.F.R. §1508.6. ("Cooperating Agency means any Federal agency other than a lead agency which has jurisdiction by law ... A State or local agency of similar qualifications ... may by agreement with the lead agency become a cooperating agency.")

[5] See 50 C.F.R. §1508.6(a) ("The lead agency shall: (1) Request the participation of each cooperating agency in the NEPA process at the earliest possible time. (2) Use the environmental analysis and proposals of cooperating agencies with jurisdiction by law or special expertise, to the maximum extent possible consistent with its responsibility as lead agency. (3) Meet with a cooperating agency at the latter's request.")


[8] See 49 C.F.R. §1508.6 ("The lead agency shall work with the cooperating agencies and shall obtain comments as required in Part 1508 of this chapter.")

This comment portrays changes to the purpose and need statement as being done entirely by WSDOT. This is not the case. All three lead agencies (FHWA, WSDOT, and SDOT) jointly evaluated public comments and information developed during the Partnership Process and concluded the project's purpose and need statement should be revised. The changes to the statement were made with full participation by FHWA, WSDOT, and SDOT and were completed in July 2009. The changes are grounded on careful analysis and public comment. The change highlighted by this comment is simply clarifying how the "people and goods" referred to in the 2006 purpose and need statement move. This clarification does not constitute a new purpose as the comment contends.

The statement that WSDOT recommended a surface and transit alternative is factually incorrect. The document referenced in this comment is a fact sheet describing the scenarios developed during the Partnership Process and is not a statement of preference or recommendation by WSDOT or any other agency.

Contrary to the assertion in this comment, the changes to the purpose and need statement were described in the 2010 Supplemental Draft EIS (Chapter 3, Question 6) and in the Final EIS (Chapter 2, Question 6).
Notably, the project goal was a broad, sweeping statement favoring the movement of people and goods; capacity for vehicles was not an end in itself, although obviously it could be one means of achieving that goal.

In 2006, WSDOT convened a Stakeholder Advisory Committee and worked together with the city and county transportation departments (the "Partnership Process") to develop alternatives for replacing the Viaduct after Seattle voters, in an advisory vote, rejected both prior alternatives, a four-lane tunnel and an elevated highway. These three agencies established Guiding Principles for the Partnership Process and the Committee's work, and the second such principle echoed the 2006 statement of purpose and needs:

Provide efficient movement of people and goods now and in the future. Any solution to the Alaskan Way Viaduct must optimize the ability to move people and goods today and in the future in and through Seattle in an efficient manner, including access to businesses, port and rail facilities during and after construction.28

After the governor made her decision in early 2009, however, the 2010 SDEIS subtly changed these prior two statements of the project's goals, as follows:

The purpose of the proposed action is to provide a replacement transportation facility that will:

* Reduce the risk of catastrophic failure in an earthquake by providing a facility that meets current seismic safety standards.
* Improve traffic safety.
* Provide capacity for automobiles, freight, and transit to efficiently move people and goods to and through downtown Seattle.
* Provide linkages to the regional transportation system and to and from downtown Seattle and the local street system.30

Perhaps a transportation department is justified in stating that a highway-replacement project needs to supply capacity for vehicles. But WSDOT, and by extension the FHWA, did not start there initially. It was now for WSDOT to say the project needs to create "capacity" for "automobiles" and "freight."

The reasons for this change have not been explained by WSDOT. The federal Administrative Procedure Act requires the FHWA to articulate a reason for this change in policy course.46 As the U.S. Supreme Court has stated, a federal agency may not "depart from a prior policy sub silentio."47 Rather, "the agency must show that..."
The Washington State Legislature passed into law RCW 47.01.402, which commits the state to providing funding up to $2.8 billion to replace the SR 99 Alaskan Way Viaduct, with tolling to provide up to $400 million of that commitment.

The state funds programmed by the State Legislature include gas tax revenue from the Motor Vehicle Fund through the Nickel and Transportation Partnership Act (TPA) taxing authorities, and federal funding. The funds are used across Washington State for highway-related projects and are bonded with General Obligations bonds backed by the good faith and credit of the state (RCW 47.10.864). Bonds issued under the authority of RCW 47.10.861-866 are a general obligation of the State of Washington and pledge the full faith and credit of the state to the payment of principal, interest and contain an unconditional promise to pay such principal and interest when the bonds become due. Bond proceeds for toll revenue may include General Obligation bonds, Toll Revenue bonds, or a combination of both, as determined by the Washington State Treasurer and the State Finance Committee. In addition, on February 9, 2010, the Port of Seattle Commission, by a 5 to 0 vote, moved to affirm the Port’s support and financial commitment to the Bored Tunnel Alternative.

Finally, WSDOT has submitted a federally required finance plan to FHWA, entitled Initial 2011 Financial Plan SR 99 Alaskan Way Viaduct Replacement Project, which is currently under review. FHWA expects to complete its review and approve the finance plan following FHWA’s authorization of this Record of Decision.
The Port of Seattle affirmed its participation in the project by approving Memorandum of Agreement (MOA) No. GCA 6444 on February 9, 2011. This MOA agrees to provide $300 million in funding for the project. Contrary to the assertions made in this comment, the Port of Seattle has consistently affirmed its commitment to provide the $300 million in funding for the project. In their discussion supporting the agreement, the Port of Seattle Commissioners cited their support for the Bored Tunnel Alternative, its advantages over other alternatives, the importance of SR 99 to the regional economy, and the importance of funding projects that support freight movement.
The funds used across Washington State for highway related projects are bonded with General Obligations bonds backed by the good faith and credit of the state (RCW 47.10.864). Bonds issued under the authority of RCW 47.10.861-866 are a general obligation of the state of Washington and pledge the full faith and credit of the state to the payment of principal, interest and contain an unconditional promise to pay such principal and interest when the bonds become due. Revenues from tolls are important but not the only source available to the state.

Bond proceeds for toll revenue may include General Obligation bonds, Toll Revenue bonds or a combination of both as determined by the Washington State Treasurer and the State Finance Committee. Finally, WSDOT has submitted a federally required finance plan to FHWA, entitled Initial 2011 Financial Plan SR 99 Alaskan Way Viaduct Replacement Project, which is currently under review. FHWA expects to complete its review and approve the finance plan following FHWA's authorization of this Record of Decision.

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Footnotes:

2. See Wash. Rev. Code § 33.120.040.
3. See App's, Dec. 25, at M-1.3.
5. See App's, Dec. 29.
7. Outlined at Wash. Rev. Code § 42.130.630 and in other statutory sections.
8. See App's, Dec. 27.
An analysis of the Nelson-Nygaard document is provided in Appendix V of the Final EIS. Contrary to statements in the Nelson-Nygaard document, the analysis of the Bored Tunnel program with tolls does include the Elliott-Western Connector. This is provided in the Final EIS Chapter 7 and Chapter 8 of Appendix C, Transportation Discipline Report.

3. The tolling levels necessary to collect funding make the tolled-tunnel alternative unreasonable

Economic infeasibility is not the only problem with tolling. Indeed, FHWA must carefully review the PEIS, before issuing the ROD, to determine whether WSDOT’s analysis of tolling impacts includes necessary changes from the 2010 SDEIS. As the Nelson-Nygaard Report indicates, the 2010 SDEIS defined the project to exclude a critical new connection within the city street grid (the “Elliott-Western Connector”) that will be built if tolling is selected. This omission results in an underestimate of the number of vehicles using the tunnel, and an underestimate of the tolling diversion.

The State did model a 2015 “program” alternative (including the connector) with Toll Scenario C, but the results are not reflected in the SDEIS. In this study, 38,000 daily trips were forecasted to use the tunnel, compared to 38,000 without a toll. The State’s analysis suggests that with the planned Elliott-Western connector tolling diversion from the tunnel could be as high as 53% of daily traffic. The diversionary effects of a toll make it impossible for the tolled-tunnel alternative to be cost effective or to meet the project’s purpose and need. To raise $400 million in tolls, each one-way peak hour trip

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*See App’s, Dec. 26.
*See App’s, Dec. 26, id. at 25, 26.
*See App’s, Dec. 26.
would cost up to $5.00 for the 2-mile stretch of tunnel. Because there are ample free parallel routes, diversion is so high that only 38,000 vehicles are expected to use the tunnel each day. This is only 3% of the current volume traffic; other users would divert to city streets. This calls into question the very utility of the project. Why spend this much for a facility that is expected to be unaffordable and undesirable for so many potential users?

Before issuing the ROD, the FHWA must ensure that it is reasonable to spend federal-aid highway dollars on a project that delivers so little utility, and only to drivers who are financially able to pay the high cost of tolls.

4. **Without adequate funding, the mitigation measures are illusory**

    The FHWA must consider mitigation of a project’s environmental impacts and must identify and include in the action all relevant and reasonable mitigation measures that could improve the action. The importance of mitigation is highlighted in CEQ’s new guidance on mitigation under NEPA. This CEQ guidance urges agencies to adopt procedures that make “relevant funding, permitting, or other agency approvals . . . conditional on performance of mitigation commitments.”

    Necessary mitigation has not yet been identified for the preferred alternative, and costs are still not known. Very little funding has been set aside in the project budget for mitigation; it may be grossly inadequate. Because WSDOT’s funding plan rests on a shaky foundation, the first project components likely to be cut are mitigations of the tunnel’s environmental impacts. The FHWA should require WSDOT to demonstrate, and make binding commitments, that it will adequately fund the measures identified in the FEIS as necessary to mitigate the tolled-tunnel alternative’s environmental impacts.

5. **Both the State and the City refuse to guarantee the project’s funding**

    The State and the City of Seattle have both expressly disavowed any responsibility for costs in excess of budget. The State legia-

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O-001-020
Cost estimates for the Bored Tunnel include mitigation commitments and contingency planning based on current best practices. FHWA is satisfied that all mitigation commitments can be met.

O-001-021
WSDOT has submitted a federally required finance plan to FHWA, entitled *Initial 2011 Financial Plan SR 99 Alaskan Way Viaduct Replacement Project*, which is currently under review. FHWA expects to complete its review and approve the finance plan following FHWA’s authorization of this Record of Decision.
lature enacted a law stating that it would appropriate not a dime more than $2.4 billion, and assigning liability for cost overruns to "property owners in the Seattle area who benefit from replacement of the existing viaduct with the deep bore tunnel." The City, however, insisted in its recent agreements with WSDOT that "the City and/or its citizens and property owners cannot be held responsible for any or all cost overruns related to the portions of the project for which the State is responsible." The project therefore lacks a financial guarantor. This is a major problem given the small margin for error. If any portion of the project were to go wrong, such as with tunnel boring, construction of the north tunnel portal, removal of the Viaduct, or reconnection of the surface streets, the project will be stalled pending further negotiations between the State and the City on additional funding. The FHWA should take the only reasonable step: withhold its approval of the project until the State and the City reach an accord regarding cost overruns, with at least some government entity financially guaranteeing the project.

V. CONCLUSION

WSDOT created a fatally flawed NEPA process by predetermining the outcome, failing to analyze all reasonable alternatives, and falling short of the objectivity and good-faith required by NEPA. Before finalizing the EIS, WSDOT and state officials made a de-facto final decision when they declared the bore tunnel alternative is a "done deal." WSDOT assumed an adversarial stance toward anyone who questioned their de-facto final decision, suing a citizen group to stop a valid referendum and punishing a cooperating agency for submitting comments regarding further study of an alternative. These actions are not those of an agency performing an objective and good-faith review of the project; they are the actions of an agency sacrificing an objective process in favor of ensuring their predetermined outcome is realized.

The FHWA should grant an extension of the FEIS review period in order to address the many significant technical and financial problems will surely be day-lighted by the release of the FEIS. The change to the preferred alternative will shed new light on the costs and benefits of this project. This is the last opportunity for decision-makers and the public to weigh the merits of a tolled tunnel and to negotiate solutions to unresolved problems with the project. Is usage by only 1% of present viaduct users enough to justify the project? How will the $700 million funding gap be covered, and what will be cut if it is not? However, WSDOT has misled the public into believing it is too late to ask questions, too late to solve problems, and there are
no other alternatives. The FHWA must take action now to avoid nullifying WSDOT’s missions by issuing a ROD with these problems unaddressed.

The FHWA should exercise its discretion and extend the comment and review period for the FEIS to 90 days. This will allow for the necessary scrutiny of the FEIS in light of WSDOT’s prejudice. If FHWA determines additional environmental study is required to cure the flawed FEIS this must be performed free of the bias already exhibited by WSDOT and be included in the ROD. The FHWA should conduct an investigation into WSDOT’s violation of the regulations governing cooperating agency involvement and propose remedies. The ROD should be withheld until WSDOT produces a viable and cost-effective funding plan to complete the proposed tunnel project and actually implement adequate mitigation measures. Finally, FHWA should hold an informal hearing to take more evidence on WSDOT’s prejudice and the lack of adequate funding for this project.

We hope the petition has informed you of the situation as it has developed in recent months and has made clear the serious concerns which our organizations share. We encourage the FHWA to correct the deficiencies created by WSDOT under your delegated authority, and ensure compliance with NEPA and its standards for informed decision-making and high-integrity participation with local jurisdictions. Please contact us if you have any questions regarding the matters raised.

Respectfully submitted,

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JULY 14, 2011
FHWA understands that WSDOT coordinated with you both by phone and at a meeting on August 11, 2011. Historic resources, including buildings and districts, were carefully studied for potential effects from construction of the Bored Tunnel. This property is well outside of the area where settlement or other construction effects could occur. These effects are described in Chapter 6, Questions 13 and 19, of the Final EIS and in Appendix I, Historic, Cultural, and Archaeological Resources Discipline Report. Potentially affected historic buildings would be monitored for settlement effects as listed in the Memorandum of Agreement, which is included as Attachment C to Appendix I.
Thank you for your acknowledgement of the collaboration and dialogue that we have had with the Pike Place Market PDA. FHWA has considered and documented expected impacts from the proposed action and we believe that the mitigation proposed in the Final EIS and Record of Decision is sufficient. Specific responses to the comments provided by the Pike Place Market PDA’s requests are provided in the responses below.

In December 2010, the Pike Place Market PDA submitted comments on the Supplement Draft AWVRP EIS. Since then, we have conducted several follow-up meetings with Project staff and directors and WSDOT representatives to address concerns and mitigate impacts to the Market. These meetings have been extremely productive and informative.

In addition, we received your detailed response to our initial letter and want to convey our great appreciation for your consideration of the potential impacts that we feel may threaten current Market operations and character of this protected historic resource. Unfortunately, we do not think that the EIS analysis and mitigation is yet adequate to protect this treasured historic resource of Seattle.

After we reviewed and considered the correspondence mentioned above, a pronounced concern still remains for potential impacts on the Market. Given the historic nature and complexities inherent to the Market, we strongly urge that extensive consideration for mitigation should be granted. These complexities, as detailed within our Chatter, consist of a large number of sensitive populations that include our Senior Center, Child Care and Preschool, Food Bank and low-income/HUD residential housing. In addition to potential construction impacts on our social services and vulnerable resident populations, the Market also supports a large number of small, marginal businesses that require constant vigilance and even the slightest disruption could potentially wreak havoc on their operations if impacted for even a short amount of time. Moreover, as a treasured National Register Historic District, we are disappointed that the potential impacts to the Market were overlooked in the EIS.

The Pike Place Market PDA respectfully urges the reconsideration of the impacts to the Market and mitigation to the following areas:
The Project would not result in a permanent loss of parking in these surface lots (Blanchard/Lenora). After the viaduct demolition work over these lots is completed, these surface lots could be re-opened. The completion of all demolition activities in the Market area would occur in 2016 within a period of approximately 6 to 8 weeks.

Long-term accessibility impacts to the Pike Place Market parking garage are not expected. Access to this garage will not be affected during construction because of its location away from Bored Tunnel construction activities.

Traffic volumes in the project's built condition are not anticipated to impede pedestrian or vehicular access to the Market from the west; nor would access to the Market's parking garage or elevator be impeded.

Construction effects are discussed in Chapter 6 and cumulative effects are discussed in Chapter 7 of the Final EIS. Cumulative effects specific to historic resources are discussed in Chapter 7, Question 12 of the Final EIS. Further discussion of cumulative effects specific to historic resources as a result of the Bored Tunnel Alternative can be found in Chapter 7 of Appendix I of the 2010 Supplemental Draft EIS.

WSDOT has met with the Pike Place Market PDA concerning this project on seven occasions. FHWA has received comments from the Pike Place Market PDA concerning the 2010 Supplemental Draft EIS, which described the Bored Tunnel as the preferred alternative. The Pike Place Market PDA never requested to become a Section 106 consulting party. During the Section 106 consultation process, FHWA and WSDOT approved every request received in writing to become a Section 106 consulting party. The City of Seattle, who chartered the Pike Place Market PDA and administers the Pike Place Market Historical
Commission, is a Section 106 consulting party and the City Historic Preservation Officer is a concurring party to the Section 106 Memorandum of Agreement for the project.

**O-003-004**

For the Bored Tunnel Alternative, demolition of the viaduct would take approximately 9 months. The viaduct would be demolished in two-block segments, with each segment taking no more than 4 weeks. Construction of the bored tunnel in the vicinity of Pike Place Market would include tunnel boring, which would include underground activities. Access will be maintained to social resources during viaduct demolition. Please see Chapter 6, Questions 23 and 24 of the Final EIS for a discussion of effects on social resources and low-income and minority populations during project construction.

**O-003-005**

The Elliott/Western Connector is not part of the proposed project evaluated in the Final EIS. The Elliott/Western Connector is a separate, independent project as described in Chapter 2, Question 9 of the Final EIS that will be examined through a separate environmental process. The Final EIS evaluated the cumulative effects of other reasonably foreseeable projects, such as the Elliott/Western Connector in Chapter 7 of the Final EIS. Additionally, Appendix C, Transportation Discipline Report, Chapter 8 evaluates potential cumulative transportation effects of the proposed project in conjunction with other reasonably foreseeable projects, including the Elliott/Western Connector. More specifically, Section 8.2.4 of Appendix C discusses traffic operations at key intersections for the proposed project in conjunction with the Elliott/Western Connector and other reasonably foreseeable projects.

**O-003-006**

Thank you for your continued support and cooperation. We appreciate...
your continued efforts and our responses to your concerns have been included in the Record of Decision.
FHWA has been fully involved and carefully reviewed the Final Section 4(f) Evaluation for this project, which is included with the Final EIS. This evaluation considers potential constructive use of the Section 4(f) resources, including the Pike Place Market Historic District, and concludes there are none (see Final EIS Section 4(f) Chapter, Question 9).

The 2009 drawings that show the Elliott/Western Connector are not drawings of the Bored Tunnel Alternative. Both the Cut-and-Cover Tunnel and Elevated Structure Alternatives include connections to Elliott and Western Avenues. However, the Elliott/Western Connector is not a part of the Bored Tunnel Alternative (see Appendix B, Alternatives Description and Construction Methods). Since the Elliott/Western Connector is not part of the Bored Tunnel, it is not included in the Section 4(f) evaluation of that alternative.

The text in the Final EIS is a summary of the information contained in the discipline reports. The project acknowledges the presence of social resources in the Pike Place Market area, and they are discussed in the Final EIS Appendix H, Social Discipline Report, Chapter 4.

These resources will not be called out specifically in the Record of Decision; however, the mitigation measures described in the Project Commitments section of this Record of Decision to address effects on social resources and minority and low-income populations do apply to them.
The Record of Decision Project Commitments section includes mitigation measures to address effects on low-income and minority populations in the project area.

FHWA understands your concern about MSATs affecting sensitive populations adjacent to Western Avenue. The Final EIS Appendix M, Air Discipline Report, discusses the results of the MSAT analysis during project operation in Chapter 5. For the Bored Tunnel Alternative, the conclusion states that future MSAT concentrations in the project area are projected to be lower than existing concentrations, even with increased VMT (due to EPA’s national control programs). MSATs in the study area are predicted to substantially decrease in the future compared to existing conditions (Section 5.2.3 of Appendix M).

Section 3.4.3 of the Final EIS Appendix M, Air Discipline Report, describes the process that lead to the selection of these seven intersections for analysis. First, major intersections in the project area that may be affected by the project were identified. Then these intersections were evaluated for traffic volumes and level of service under all the build alternatives for the design year 2030 and ranked according to the results. The highest ranked intersections for each condition were selected for analysis.

The air quality analysis for the project concludes that regional MSAT emissions are not expected to increase and no exceedances of the NAAQS are expected; therefore, no significant adverse effects on air quality are expected to result from the project.
The BNSF/Lenora Street Construction Zone discussed on page 73 of the Final EIS (and also page 49 of Appendix B) is a strip of right-of-way along the viaduct between about Pine Street and Bell Street. This area would be used during the last year of construction for viaduct demolition and resurfacing Alaskan Way. In Chapter 8 of the Final EIS, Question 11 discusses mitigation measures proposed for noise, and Question 24 discusses air quality effects. An MOA between WSDOT and the Puget Sound Clean Air Agency is in place to identify appropriate mitigation measures to help eliminate, confine, or reduce construction-related emissions, such as dust. WSDOT will create a plan for controlling fugitive dust during construction. This fugitive dust control plan will control fugitive dust generated during construction activities in order to minimize dust effects to neighbors and other projects.

Mitigation is discussed in the Project Commitments section of the Record of Decision.

Exhibit 3-1 in Appendix B of the Final EIS shows a construction staging area (labeled with the number 15) that is a strip of right-of-way along Alaskan Way parallel to the existing viaduct. This area would be used for demolition and removal of the viaduct structure. Mitigation measures for effects during construction are discussed in the Final EIS, Chapter 8, Questions 9 through 29 and in the Project Commitments section of the Record of Decision.

Haul routes will use City of Seattle designated truck routes and will be more specifically identified during final design. However, the project will not be using Western Avenue between Union and Virginia Streets as a haul route.
Measures to protect businesses and property owners during construction are described in Chapter 8 of the Final EIS and included in this Record of Decision in the Project Commitments section. Planning and evaluation of the Bored Tunnel Alternative shows that Pike Place Market tenants will not be damaged and therefore will not need compensation or remedy from the project. The communications program for the project will include tenants, property owners, and organizations at and around the Pike Place Market. This outreach will begin before construction effects occur. Fortunately for the Pike Place Market area, the majority of these effects will not happen until 2016 when the existing viaduct is scheduled for demolition. Budgets for the outreach effort have not been established separately from the overall project costs.

Potential ground disturbance between Yesler Way and Seneca Street would be the result of utility relocation and viaduct demolition rather than tunnel boring. As illustrated in Exhibit 2-3 of Appendix I of the Final EIS, potential ground disturbance as a result of utility relocation and viaduct demolition would also occur along surface Alaskan Way and within the footprint of the Alaskan Way Viaduct from Yesler Way to Battery Street. None of this ground disturbance is a result of tunnel boring.

Ground disturbance as a result of tunnel-induced settlement is discussed in Chapter 6, Question 13 of the Final EIS and Section 6.1.2 of Appendix I of the Final EIS. Ground disturbance as a result of tunnel-induced settlement would be negligible in the vicinity of the Pike Place Market Historic District. Only two historic properties would be adversely affected by tunnel-induced settlement, the Western and Polson buildings, both located in the Pioneer Square-Skid Road Historic District. No historic properties within or in the vicinity of the Pike Place Market Historic District would be adversely affected by tunnel-induced settlement.
The Pike Place Market Historic District and Victor Steinbrueck Park were both identified as Section 4(f) resources that were evaluated for potential use in the Final EIS as shown in Exhibit 4(f)-5 on pages 259 through 261. Victor Steinbrueck Park is discussed in Chapter 6, Question 21 of the Final EIS as one of the resources that would experience indirect effects from increased traffic congestion during construction. Transportation mitigation measures are described in Chapter 8, Question 9 of the Final EIS and in the Project Commitments section of the Record of Decision. Parking affected during construction is described in the Final EIS Chapter 6, Question 18 (and shown in Exhibit 6-22) as well as in Appendix C, Transportation Discipline Report, Section 6.9. The Bored Tunnel Alternative is not expected to directly affect the Public Market Garage.

The Pike Place Market Historic District and Victor Steinbrueck Park were both identified as Section 4(f) resources that were evaluated for potential use in the Final EIS as shown in Exhibit 4(f)-5 on pages 259 through 261. Public parking affected during construction is described in the Final EIS Chapter 6, Question 18 (and shown in Exhibit 6-22) as well as in Appendix C, Transportation Discipline Report, Section 6.9. There are no affected public parking lots or garages directly adjacent to Pike Place Market.

All accessible areaways within the zone of influence (settlement trough) within the Pike Place Market Historic District were evaluated as part of a building assessment. The areaway condition was observed during site visits and observations were noted on each of the building assessment forms.
The claims and repair process by which owners of buildings, including historic buildings, can file claims for damages to their properties that may result from construction of this project are discussed in Chapter 8, Questions 17 and 28 of the Final EIS, and Appendix I, Section 6.1.2 and Attachment C. WSDOT, in consultation with the State Historic Preservation Officer and the Department of Archaeology and Historic Preservation, will develop a claims and repair process, which will include: the damage claim submittal process; the process by which damage claims will be inspected and evaluated; the process for and personnel involved in preparing damage evaluations, repair cost estimates, findings and recommendations; the process for making and documenting repairs based on the reported cost estimates and recommendations; and, the process for making appeals. WSDOT will ensure that an architect meeting the Secretary of the Interior’s Standards for historic architecture will participate in the claims and repair process for any historic buildings and that all work on such buildings will follow the Secretary of the Interior’s Standards for the Treatment of Historic Properties and will be done in compliance with the City of Seattle’s Municipal Code, including review and approval by the Pike Place Market Historic Commission, as required. This claims and repair process was a commitment made by FHWA and WSDOT within the Section 106 Memorandum of Agreement for this project, which is included with this Record of Decision.

Information related to level of service and intersection delay expected at several intersections along Western Avenue with the proposed action is provided in the Final EIS Exhibits 5-12 and 5-13, and Appendix C, Transportation Discipline Report, specifically Sections 5.3 and 7.4 and Exhibits 5-28 and 7-57. These data indicate that intersection delay at intersections along Western Avenue are expected to be similar between the Tolled and Non-Tolled Bored Tunnel. Furthermore, as shown in
Exhibits 5-12 and 5-13 of the Final EIS intersections near the Pike Place Market are not expected to be congested or highly congested during peak travel hours for any of the alternatives examined, with or without tolls. As discussed in the Final EIS and Appendix C, traffic that diverts to other routes due to tolling are expected to divert to Alaskan Way; First, Second, and Fourth Avenues; and I-5. While vehicle volumes are expected to increase on Alaskan Way with the Tolled Bored Tunnel as compared to the Non-Tolled Bored Tunnel, that these increases in vehicle volumes are not expected to substantially increase intersection congestion or delay during peak travel hours as indicated in Chapter 5, Question 10 of the Final EIS.

O-004-016

Information related to level of service and intersection delay at several intersections along Western Avenue is provided in the Final EIS Exhibits 5-12 and 5-13, and Appendix C, Transportation Discipline Report, specifically Sections 5.3 and 7.4 and Exhibits 5-28 and 7-57. These data indicate that intersection delay at intersections along Western Avenue are expected to be similar among the Tolled and Non-Tolled Bored Tunnel. Tolling the Bored Tunnel is not expected to increase the number of congested intersections near the Pike Place Market Historic District as shown in Exhibits 5-12 and 5-13 of the Final EIS and Exhibits 5-28 and 7-57 of Appendix C, Transportation Discipline Report.

O-004-017

The Section 4(f) discussion does not discuss effects of the Elliott/Western Connector because it is not part of the proposed project evaluated in the Final EIS. The Elliott/Western Connector is a separate, independent project as described in Chapter 2, Question 9 that will be examined through a separate environmental process. The Final EIS evaluated the cumulative effects of other reasonably foreseeable projects, such as the Elliott/Western Connector in Chapter 7 of the Final EIS.
The Section 4(f) analysis in the Final EIS does not consider the Elliott/Western Connector because it is not part of the proposed action. The Elliott/Western Connector is an independent project that will be evaluated through its own environmental review process. Information related to level of service and intersection delay expected at several intersections along Western Avenue with the proposed action is provided in the Final EIS Exhibits 5-12 and 5-13, and Appendix C, Transportation Discipline Report, specifically Sections 5.3 and 7.4 and Exhibits 5-28 and 7-57. These data indicate that intersection delay at intersections along Western Avenue are expected to be similar between the Tolled and Non-Tolled Bored Tunnel.

The Final EIS evaluated the cumulative effects of other reasonably foreseeable projects, such as the Elliott/Western Connector in Chapter 7 of the Final EIS. Specific details, such as the height of the Elliott/Western Connector are unknown at this time. The effects of the Elliott/Western Connector project will be evaluated through a separate environmental process.
The Bored Tunnel Alternative as defined in the Final EIS does not include the Elliott/Western Connector. The Elliott/Western Connector is an independent project that will be evaluated through its own environmental review process. The Final EIS does describe the Elliott/Western Connector in Chapter 2, Question 9 and cumulative effects of the Elliott/Western Connector and other projects are provided in Chapter 7 of the Final EIS. The detailed transportation cumulative effects analysis is provided in Chapter 8 of Appendix C, Transportation Discipline Report. The purpose of providing both the transportation analysis of the proposed action (the Bored Tunnel Alternative) and the proposed action with other projects identified as part of the broader Alaskan Way Viaduct and Seawall Replacement Program was to meet FHWA’s requirements under NEPA for cumulative effects analysis.

Each of the build alternatives evaluated in the Final EIS has independent utility and would meet the purpose and need (see Final EIS Chapter 5, Question 37).
The transportation modeling completed for this project uses current models developed by the Puget Sound Regional Council and the City of Seattle Department of Transportation. The modeling techniques employed are consistent with current professional practice and have been reviewed and approved by FHWA staff at the division and headquarters levels. WSDOT has conducted additional review of the attachments to this comment letter and its analysis is included in the project file. This analysis confirms that the traffic forecasts in the Final EIS are sufficient for purposes of NEPA analysis.

Traffic Model and Presentation of Traffic Data

The FEIS's traffic modeling and presentation of the resulting data is so badly limited, for three reasons, that the FEIS is inadequate. First, the model that underlies the FEIS, as discussed in chapter 2 of the Transportation Discipline Report, does not utilize the latest innovations espoused by researchers from the University of Washington's Center for Statistics and the Social Sciences. In a 2009 study they prepared, entitled "Assessing Uncertainty About the Benefits of Transportation Infrastructure Projects Using Bayesian Melding: Application Seattle's Alaskan Way Viaduct," the UW researchers prepared their own models of Alaskan Way Viaduct replacement alternatives. (A copy of the report is attached to this letter as Exhibit A.)
You will see that they criticize the Puget Sound Regional Council model that underlies WSDOT’s environmental review of the Alaskan Way Viaduct Replacement Project. As documented in this study, the traffic model used to support the FEIS fails to adequately account for the interrelationship between changes in land use and transportation system. Thus the FEIS fails to give an adequate view of the environmental impacts of each alternative, and it fails to adequately consider alternatives that do not rely as much on vehicular capacity.

The second flaw in the FEIS’s traffic model is that it uses unrealistic and outdated assumptions of the level of vehicle miles traveled in the model years studied. As discussed in the series of articles by Sighting in Exhibits B through F, and the state Office of Finance and Management’s traffic projections discussed in Exhibit G, annual growth in vehicle miles traveled has tapered off and even dropped. The data show that this trend began before the recent economic recession. The FEIS, however, appears to indicate that its traffic model relied on very outdated forecast data for its assumptions of future travel demand. These flawed assumptions have created an inadequate FEIS, and they also helped result in WSDOT’s mistaken conclusion that alternatives that relied on transit and systematic street improvements would be insufficient to meet the project needs. A supplemental FEIS is necessary to give policy makers and the public a realistic view of the environmental impacts, and to reassess the I-5/surface/transit alternatives using accurate data about future travel demand.

The third flaw in the FEIS traffic analysis stems from its presentation of the data produced by its traffic model. The results of traffic models in the FEIS are presented without any indication of the statistical uncertainty that underlies the data. When UW researchers looked at a previous WSDOT study that presented data from traffic models in the same way as the FEIS, the researchers concluded, “These point estimates ignore any uncertainty involved in the models used to generate them, and thus could mislead the public into having an unwarranted degree of confidence in the benefits of making these investments.” (Ex. A, “Assessing Uncertainty,” p. 1B.) As the UW researchers explain, policy choices about infrastructure “depend on information that is uncertain, and the public has a direct interest in better understanding how likely it is that spending several billion dollars will actually solve a problem they care about.” (Id., p. 2.) By properly accounting for the statistical uncertainty inherent in traffic models, “the expectations of benefits from maintaining the current level of traffic capacity in the viaduct corridor may be higher than can be scientifically supported by the available models and evidence.” (Id., p. 18.) As this UW report shows, WSDOT’s failure to present the statistic uncertainty creates a misleading and unreasonable picture of the environmental impacts and reasonableness of each alternative.

The UW researchers’ model, which more effectively accounted for land uses and statistical uncertainty, led the researchers to conclude as follows:

What our results suggest, in short, is that even using a worst-case scenario and comparing it to a capacity neutral replacement of the Alaskan Way Viaduct, the travel time benefits of the higher capacity alternative are modest, and fairly localized to the viaduct corridor.
The tolling scenario selected for evaluation in the Final EIS, scenario C, is conservative in that it would result in greater impacts than the other scenarios. Since the other potential tolling scenarios would have fewer impacts, a supplemental EIS would not be required.

All three lead agencies (FHWA, WSDOT, and SDOT) jointly evaluated public comments and information developed during the Partnership Process and concluded the project's purpose and need statement should be revised. The changes to the statement were made with full participation by FHWA, WSDOT, and SDOT and were completed in July 2009. The changes are grounded on careful analysis and public comment.
In 2008, WSDOT convened a Stakeholder Advisory Committee and worked together with the city and county transportation departments ("Partnership Process") to develop alternatives for replacing the Viaduct after Seattle voters, in an advisory vote, rejected both prior alternatives, a four-lane tunnel and an elevated highway. These three agencies established Guiding Principles for the Partnership Process and the Committee’s work, and the second such principle echoed the 2006 statement of purpose and needs:

- Provide efficient movement of people and goods now and in the future. Any solution to the Alaskan Way Viaduct must optimize the ability to move people and goods today and in the future in and through Seattle in an efficient manner, including access to businesses, port and rail facilities during and after construction.

After the governor made her decision in early 2009, however, the 2010 SDEIS subtly changed these prior two statements of the project’s goals, as follows:

The purpose of the proposed action is to provide a replacement transportation facility that will:
- Reduce the risk of catastrophic failure in an earth-quake by providing a facility that meets current seismic safety standards.
- Improve traffic safety.
- Provide capacity for automobiles, freight, and transit to efficiently move people and goods to and through downtown Seattle.
- Provide linkages to the regional transportation system and to and from downtown Seattle and the local street system.

The reasons for this change have not been explained by the lead agencies. The federal Administrative Procedure Act requires the lead agencies to articulate a good reason for this change in policy course. As the U.S. Supreme Court has stated, a federal agency may not “elope from a prior policy sub silentio.”1 Rather, “the agency must show that there are good reasons for the new policy.”2 We doubt that such good reasons appear in the agency record, nor can we perceive any fact or community need that changed between 2006 and 2010 to justify the change. The change appears arbitrary and capricious, especially in light of WSDOT adopting guiding principles for the project in 2008 that did not include bare “capacity” for vehicles. Perhaps a transportation department is justified in stating that a highway-replacement project needs to supply capacity for vehicles. But WSDOT, and by extension the other lead agencies for this project, did not start there initially. It was new for the lead agencies to say the project needs to create “capacity” for “automobiles” and “freight.” Thus, a good reason for the change was necessary. The FIS, in appendix T, C-013-001, did offer an explanation of the differences from the old and the revised statement of purpose and need. But it did not explain the good reason for making the change.

The lead agencies’ action also appears contrived to exclude consideration of the alternatives that rely more significantly on transit and had been recommended by

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3Id. (emphasis added).
WSDOT has provided the following response:

“The law setting the VMT benchmarks directs WSDOT to “adopt broad statewide goals to reduce annual per capita vehicle miles traveled by 2050 consistent with the stated goals of Executive Order 07-02.” The state law does not require individual projects to set VMT reductions. WSDOT is working on this task and related tasks in Executive Order 09-05 in conjunction with a working group established for this purpose. The cumulative greenhouse gas impacts of transportation projects are best addressed at a system-wide level where multiple projects can be analyzed in aggregate, such as in regional transportation plans. The Alaskan Way Viaduct Replacement Project is included in PSRC’s Regional Transportation Plan, Transportation 2040, which considered greenhouse gas emissions along with other transportation objectives.”

In the Final EIS Chapter 2 describes the development of alternatives. Additional information can be found in Appendix W, Screening Reports.

The Final Section 4(f) Evaluation, included with the Final EIS, appropriately considers the potential effects (“uses”) to historic and other resources subject to Section 4(f) regulations. For this project, all reasonable alternatives involve the use of at least one Section 4(f) resource. This means there is no avoidance alternative. FHWA has carefully reviewed the alternatives and concludes that the Bored Tunnel Alternative is the alternative with the least overall harm. The evaluation, just briefly summarized here, is included in the Final EIS with supporting materials provided in Appendix J. See also responses to O-005-008 through O-005-014.
the Section 4(f) evaluation were discussed in a letter to the FHWA dated June 14, 2011, from Protect Seattle Now and Bill Speidel Enterprises, and that letter (attached as Exhibit H) is fully incorporated here by reference.

Thank you for this opportunity to comment.

Sincerely,

Gary Manes, President

CC: Daniel Mathis, Federal Highway Administration
    Peter Hahn, Seattle Department of Transportation
Ex. A
Assessing Uncertainty About the Benefits of Transportation Infrastructure Projects Using Bayesian Melding: Application to Seattle’s Alaskan Way Viaduct

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Abstract
Uncertainty is inherent in major infrastructure projects, yet standard practice ignores it. We investigate the uncertainty about the future effects of tearing down the Alaskan Way Viaduct in downtown Seattle, using an integrated housing, jobs, land use and transportation model, on outcomes including average commute times. Our methodology combines the urban simulation model UrbanSim with the travel model Emme2. We assess uncertainty using Bayesian melding, yielding a full predictive distribution of average commute times on 22 different routes in 2030. Of these routes, 14 do not include the viaduct, and eight do. For the 14 base routes that do not include the viaduct, the predictive distributions overlap substantially, and so there is no indication that removing the viaduct would increase commute times for these routes. For each of the eight routes that do include the viaduct, the 95% predictive interval for the difference in average travel times between the two scenarios includes zero, so there is no strong statistical support for the conclusion that removing the viaduct would lead to any increase in travel times. However, the median predicted increase is positive for each of these routes, with an average of 6 minutes, suggesting that there may be some measurable increase in travel time for drivers that use the viaduct as a core component of their commute.

1 Introduction

Major infrastructure investments routinely cost billions of dollars to construct, and are rife with political conflict over the costs, the benefits, and their distribution over often competing stakeholders. Transportation projects such as highways, bridges, and light rail systems are lightning rods for political controversy. One would imagine that with the advanced state of the art in modeling travel behavior and traffic flow dynamics, these questions would be relatively straightforward to address using metrics to measure the benefits of the project in terms of its effects on travel times, for example, as compared to the costs of the project. The state of the practice is substantially less informed than this, unfortunately.

We use a motivating case study that will be a central part of this paper to illustrate. The Alaskan Way Viaduct, an elevated highway constructed in the 1950’s along the downtown Seattle waterfront, is often compared to a similarly designed elevated Embarcadero Freeway along the waterfront of downtown San Francisco that was eventually demolished in 1991 after being damaged by the Loma Prieta earthquake in 1989. The Alaskan Way Viaduct was damaged by the 2001 Nisqually earthquake and has been for the past several years a point of controversy among government officials ranging from the Mayor of Seattle to the Governor of Washington, about how to eliminate the risk of catastrophe.
from a collapse of the elevated highway in the next earthquake, and how to replace the facility in a way that appenses competing interests. It will be a costly project, with estimates ranging from $2.5 billion to well over $1 billion for various options. In January 2009, the Mayor, King County Executive and Governor jointly announced an agreement to replace the viaduct with a tunnel option that would cost approximately $1.25 billion.

But whether we need as much, or more, transportation capacity as is now carried by the viaduct, has been a point of contention with environmentalists and transit advocates, and may be at odds with other objectives adopted in state policy, such as achieving a dramatic reduction in greenhouse gas emissions over the next several decades. Other advocates claim that if we replace the viaduct with any alternative that has less capacity to move high volumes of traffic past the downtown area, as an alternative to the I-5 corridor, the highway system will be slowed to a crawl, with massive costs in delays to commuters and to businesses that depend on this access.

No one questions whether the viaduct should be removed and replaced with some kind of facility. The debate is over what the replacement should be, and how much capacity it should carry. At the heart of this debate, there are quantities that are uncertain: the benefits in terms of travel time, and the costs of alternative projects. While there is a reasonable basis for assessing uncertainty about costs, there is relatively little guidance on how to assess the uncertainty about benefits. In fact, the models used to predict travel patterns based on alternative transportation networks, are designed to run to a deterministic equilibrium, and traffic models rely heavily on the certainty that repeated runs of the model produce consistent results — in other words, that they contain no uncertainty (Boyce 1984).

In fact, these decisions depend on information that is uncertain, and the public has a direct interest in better understanding how likely it is that spending several billion dollars will actually solve a problem they care about. Our paper contributes to this debate and provides a foundation for further work to incorporate uncertainty more systematically into the planning process, and into public deliberation about large, expensive projects with long-term impacts. There is limited prior work that examines the issue of uncertainty in the context of integrated transportation and land use models (Keckerman 2002; 2003; Clay and Johnston 2006; Svedlová et al. 2007), and in network capacity and design (Samuel et al. 2009). Our paper extends the literature in this area by using a principled statistical method to calibrate uncertainty in an integrated land use and transportation model system, and hence to assess the uncertainty of specific metrics that reflect the potential benefits of a major transportation facility. To our knowledge, this is the first research to use Bayesian melding to assess the uncertainty about the travel time impacts of alternative investments in major transportation facilities.

The debate centers on the question of whether it is possible to reduce capacity by removing a waterfront highway such as the Alaskan Way Viaduct, without greatly increasing travel times for commuters and commercial vehicles. On its face this seems unlikely to be possible, but some of the literature that addresses induced demand from capacity expansion, such as Downs (2004), suggests an argument that it may be. Downs coined the term 'triple-convergence' to describe the propensity for commuters to take advantage of increases in roadway capacity and temporarily faster speeds by changing routes, times of travel and modes of travel, in order to take advantage of the relative increase in speed of travel on the improved highway at peak hour by single-occupancy vehicles. The question of induced demand has rarely been raised in the context of a capacity reduction, but there is nothing
inherent in the reasoning that would prevent it from applying to such a case. In the event of a capacity reduction, such as the loss of a highway, travelers would presumably make short-term choices that would shift away from the relatively higher cost route, time and mode to those that become relatively less expensive. Consider this a case of 'reduced demand'.

In the longer-term, of course, persons, households and businesses can adapt to changes in accessibility by changing their locations. These longer-term induced demand or reduced demand effects may be at least as big as the short term effects described by triple-convergence (Dowas 2004). In this paper, we set out to explore these questions using a land use model, UrbanSim (Waddell 2002, Waddell et al., 2003, 2007), coupled with a four-step transportation model implemented by the Puget Sound Regional Council (PSRC). The approach we develop is Bayesian melding, a methodology initially developed to calibrate uncertainty in deterministic model systems by Raftery et al. (1992; 1995) and Poole and Raftery (2000), and recently adapted to stochastic models by Štefánik and Štefániková et al. (2007).

Our contribution is to harness the Bayesian melding approach to calibrate uncertainty in a combined land use and transportation model system, and to use the calibrated system to make inferences about the effects on travel times of two different alternatives of the Alaskan Way Viaduct. As the objective of this paper is not to make a definitive assessment of the specifics of the viaduct project design, we approximate the alternatives by modeling one as having the same capacity as the existing viaduct, and the other as a worst-case scenario in which the viaduct is simply removed, and no mitigation is done in terms of local street configuration and operations or of transit service in this corridor. The intent is to demonstrate on a real-world, and still timely case, the use of uncertainty analysis to inform the policy debate such as this. It should be broadly applicable as a methodology to a much wider set of problems.

The paper proceeds with a brief description of the models, since their internal construction is not the focus of this paper, and details of the models used in the analysis are available in the provided citations. We then present the Bayesian melding approach developed for application to this case study, and close with a discussion of the results and implications for further research.

2 UrbanSim with Integrated Travel Model

2.1 Land Use Models

UrbanSim is an urban simulation model operational in several urban areas in the United States (Waddell 2002, Waddell et al. 2003, 2007). The system is implemented as a set of interacting models that represent the major actors and choices in the urban system, including households choosing residential locations, business choices of employment location, worker choices of jobs and developer choices of locations and types of real estate development. The model system microsimulates the annual evolution in locations of individual households and jobs, including the connection between them, and the evolution of the real estate within each individual geography as the result of actions by real estate developers.

Our application of UrbanSim operates on parcel level. It is configured to run the following models:

1. Real estate price model: predicts prices of parcels, using a hedonic regression model.
2. **Expected sale price model**: predicts prices of possible real estate proposals, using a hedonic regression model.

3. **Development proposal choice model**: chooses real estate proposals to be built (including redevelopment), using weighted random sampling based on a predicted return on investment (ROI).

4. **Building construction model**: demolishes buildings (for redevelopment) and builds new buildings according to the chosen proposals.

5. **Household transition model**: creates and removes households and updates the set of persons accordingly. It is based on random sampling and is driven by macroeconomic predictions.

6. **Employment transition model**: creates and removes jobs, using random sampling, and is driven by macroeconomic predictions.

7. **Household relocation choice model**: determines households for moving, using a logit model.

8. **Household location choice model**: locates moving households into buildings, using a multinomial logit model.

9. **Employment relocation model**: determines jobs for moving using weighted random sampling.

10. **Employment location choice model**: locates moving jobs into buildings, using a multinomial logit model.

11. **Work at home choice model**: simulates workers' decision to work at home or out of home. It is based on a logit model.

12. **Workplace relocation choice model**: simulates workers' decision to change job. It is based on a logit model.

13. **Workplace choice model**: assigns jobs to workers, using a multinomial logit model with sampling alternatives.

Several of the models require coefficients which are obtain by estimating using observed data and Maximum Likelihood Estimation (MLE) of multinomial logit model based on a Random Utility Maximization framework (McFadden 1974; 1978; 1981). Most of the models are stochastic, and involve Monte Carlo sampling of choice outcomes conditional on a probability generated from a Multinomial Logit Model (MNL). A simulation starts to operate on observed data (so called base year data) about households, persons, jobs, buildings, parcels, zones etc. Each iteration of the model system modifies the data and is considered as a prediction for the particular year.
2.2 Travel Model

The travel model used by the PSRC is a state of the practice four-step travel model, in the early stages of transition to a full activity-based travel model system. So far, only the trip generation step has been replaced by an activity generation model, and the rest of the model system operates as a traditional aggregate travel model with destination choice implemented as a gravity model, mode choice as a multinomial logit model, and assignment using Emme/3, with feedback of congested travel times to mode choice. Full documentation of the base model system is available from the PSRC website (www.psrc.org).

The travel model runs on a zonal system that contains approximately 1,000 zones to cover the Central Puget Sound, consisting of King, Kitsap, Pierce and Snohomish Counties. It is implemented in the Emme/3 software platform, and requires approximately 16 hours to complete one simulation year, including iteration for convergence on assignments, on a high-end desktop computer.

2.3 Integrated Land Use and Travel Model

The integration of UrbanSim and the Travel Model can be explained using Figure 1. UrbanSim is run on an annual basis, i.e. one iteration of the full set of models simulates a land use evolution in one year. Due to the very high run times of the travel model, we run Emme/3 only once in five years of UrbanSim runs. The travel model uses the output from UrbanSim about households, jobs and people's workplaces. In addition, it has its own input parameters and it operates on a network provided by the PSRC. In turn, several UrbanSim models use accessibilities measures computed by the travel model, such as travel times or log sums. They are used mainly as predictive variables in the Employment location choice model.
3 Policy Question: Seattle’s Alaskan Way Viaduct Replacement

The Alaskan Way Viaduct, built in 1933, is an elevated section of State Route 99 that runs along the Elliott Bay waterfront in Seattle’s Industrial District and downtown Seattle (see Figure 2). In Figure 4, the viaduct is shown as a black solid line. The viaduct was damaged in the 2001 Nisqually earthquake and since then continuing settlement damage has been discovered (WSDOT 2005). In 2002, the Washington State Department of Transportation (WSDOT) together with the City of Seattle, the Federal Highway Administration and King County have launched a program that would lead to a replacement of the viaduct (WSDOT 2004). Since then, many replacement concepts and designs have been evaluated, and these were narrowed down in 2008 into three hybrid solutions:

- Surface and transit option: the viaduct is removed; significant improvements in surface and transit conditions.
- Elevated structure: the viaduct is rebuilt, but with current design standards which would require a larger structure.
• Tunnel option: a four-lane 2 mile underground tunnel with improvements to the seawall and other streets.

One of the main objections raised by critics of the surface transit option has been a fear that it would produce traffic jams and drastically increased travel times on routes along the viaduct, as well as on I-5, which runs parallel to the viaduct on the east side of downtown. Though proponents of the surface transit option have pointed out that the demolition of the Embarcadero Freeway in San Francisco did not cause significant traffic problems, the viaduct carries considerably more traffic. The viaduct carries approximately 110,000 cars per day, whereas the Embarcadero Freeway carried around 70,000 cars per day before its demolition. Further, the geography of Seattle, constrained by water on its east and west sides, means that the I-5 corridor is the only major north-south freeway through Seattle. It is thus legitimate to ask whether reducing capacity on the viaduct would make the already bad I-5 traffic much worse.

WSDOT released a study that compared various transportation measures for eight different scenarios, see WSDOT (2008) and WSDOT (2007) (meetings from November 13 and November 24 2008). These measures included traffic volume, pattern and modes of travel as well as the quality of those trips as measured by forecast travel times during various periods of the day. The baseline was set to the year 2015 and the study area was limited to the city center of Seattle. The land use data used as inputs for the travel model incorporated a growth in the downtown area. Their key findings in terms of travel time were that a trip through the city from the north to the south side at an AM peak would be approximately 10 minutes longer if there is the surface option implemented as opposed to an elevated structure. Their model did not take into account changes in land use over time, including changes in real estate prices. Moreover, it provides point predictions without any sense about the uncertainty of the results.

In January 2009, the Washington State Governor together with the Mayor of Seattle announced an agreement to pursue the tunnel option. Though a decision on the alternative appears to have been concluded (there have been several changes in the decision process along the way so this may or may not be the final outcome), we think this case is still relevant for our study, as it highlights the issue of uncertain benefits from large-scale infrastructure projects.

We are interested in comparing changes in travel times over time resulting from different viaduct replacement options. Since our motivation is the development of a better method to inform such decisions, we are less interested in the fine points of the design of the alternatives. Rather, we develop two alternatives that should provide a suitable bracket for the alternatives that have been considered. For simplicity, we use as a base alternative a network that matches the current capacity of the existing viaduct. Whether it comes in the form of a tunnel or a replacement elevated structure is not material to this analysis.

For the other alternative, we take a worst-case scenario that should be dramatically worse in terms of effects on travel times than the surface transit option that has been under consideration: for this worst-case scenario, we simply remove the viaduct in 2010, and provide no mitigation in terms of improved transit service, or improvements to local streets in downtown. It is truly an unrealistically worst case. The rationale for this is that we want to examine whether there is a large enough difference in travel times between these two cases to offset the uncertainty in the analysis of the travel time.
benefits. One would like to think that the results generate confidence that the investment of more than $4 billion would improve travel times, over the alternative that was used in the Embarcadero case: simply removing the elevated highway and connecting downtown to the waterfront.

Thus, to summarize, we compare two scenarios:

1. **Capacity-Neutral Replacement** which is our baseline. We use the travel model networks provided by PSRC for years 2005, 2010, 2015 and 2020. In terms of travel times, this scenario approximates a situation in which either the viaduct is rebuilt or a tunnel is built.

2. **Worst-Case Demolish Viaduct** in 2010. Here we remove links from the 2010, 2015 and 2020 networks that represent the viaduct.

## 4 Bayesian Melding Method and its Application

### 4.1 Bayesian Melding Method

Bayesian melding was proposed by Raftery et al. (1992; 1995) and Poole and Raftery (2000) as a way of putting the analysis of deterministic simulation models on a solid statistical basis. The method was modified and applied to stochastic models by Ševčíková et al. (2007), specifically to urban simulation models.

A simple version of the original method for deterministic models is summarized in Figure 3. There is a prior distribution of model inputs $\mathbf{g}(\mathbf{\Theta})$ from which we draw input values $\mathbf{\Theta}_i$, for $i = 1, \ldots, I$. The model runs $I$ times from the starting point to the present and for each input $\mathbf{\Theta}_i$ it produces an output the quantity of interest, $\Phi_i$. The model can be viewed as a mapping, $M$, from the space of inputs to the space of outputs, which we denote by $\Phi = M_\mathbf{\Theta}(\mathbf{g})$. The “present” time is defined as a time point for which we have observed data available. We use the observed data, denoted by $g$, to compute a weight $w_i$ for each input $\mathbf{\Theta}_i$: $w_i = L(\Phi_i)$. Here, $L(\Phi_i)$ is the likelihood of the model outputs given the observed data, $L(\Phi_i) = \text{Prob}(g|\Phi_i)$. For each of the $I$ runs, the model is run forward until a future time for which we make a prediction. The results of the $i$th model run are denoted by $\Psi_i$. The posterior distribution of $\Psi$ is approximated by a discrete distribution with values $\Psi_i$, having probabilities proportional to $w_i$.

The method was extended to stochastic mechanistic models such as UrbanSim by Ševčíková et al. (2007). The main change was that the conditional distribution of the model outputs $\Phi$ given the model inputs $\mathbf{\Theta}_i$, which is a point mass at $M_\mathbf{\Theta}(\mathbf{g})$ for deterministic models, became a probability distribution. This distribution had two components, one reflecting the stochastic nature of the model outputs, and the second reflecting model error. Details can be found in Ševčíková et al. (2007).

### 4.2 Results from Prior Research

In Ševčíková et al. (2007) we applied the method to an UrbanSim application for the Eugene, Oregon region. We were able to determine the posterior predictive distribution of the numbers of households...
in each of the 235 traffic analysis zones and in any aggregation of those. Our starting point was the year 1980, the "present" time was 1994 and the "future" time was 2000. Using observed data in 2000 we were able to validate the results. Our main conclusions were:

- The Bayesian melding approach provided well calibrated results, while simple multiple runs (reflecting the stochastic variation in model output, but not model error) underestimated uncertainty.
- A square root transformation of the quantity of interest (number of households) yielded an approximately constant variance of the model error.
- Variation of the model inputs and random seed did not account for much of the uncertainty.

4.3 Data

Our simulation region is the Puget Sound area, and our starting point, or base year, is 2000. We have detailed information about the Puget Sound area 2000, which includes 1,282,946 households,
Figure 4: Seven commuter routes none of which includes the Alaskan Way Viaduct. The viaduct is shown in black.

1,668,426 workers, 1,819,447 jobs, 1,098,869 buildings, 1,177,400 parcels, and 938 traffic analysis zones (TAZ).

We also have less detailed data observed in 2005, taken as the “present” time. This includes the numbers of households in each TAZ and the numbers of jobs in each TAZ divided into 8 groups: mining; construction; manufacturing; wholesale trade, transportation, and utilities (watu); retail trade; financial, professional, health and other services (fires); education; and government. These will be our calibration data $y$ for the land use model.

In order to calibrate the travel model output, we obtained observed travel times for selected routes in 2005 from the Washington State Department of Transportation (http://depts.washington.edu/hov). These are annual averages over weekdays in five-minute periods, which we averaged over the AM peak (6:00am – 9:00am) in order to do a direct comparison with the travel model outputs. We chose 7 non-overlapping popular commuter routes, i.e. 14 trips, for which average travel times were available; see Figure 4.

4.4 Prior, Likelihood and Posterior distribution of the Land Use Model

We first extend the statistical model of Ševčíková et al. (2007) on which the likelihood function $L(\phi) = \text{Prob}(y|\phi)$ is based, for use with multiple quantities of interest, as follows:

10
\begin{equation}
(\mu_{ikl} | \Theta, \eta_i) = \mu_{ikl} + \epsilon_{ikl}, \text{ where } \epsilon_{ikl} \sim N(0, \sigma^2_{\epsilon}),
\end{equation}
for \(i = 1, \ldots, I, k = 1, \ldots, K\) and \(l = 1, \ldots, L\). Here \(i\) indexes the simulation run, \(k\) indexes the zone, and the index \(l\) refers to the \(l\)-th quantity of interest. The quantity \(\mu_{ikl}\) is the expected value of \(y_{ikl}\) under the model given \(\Theta\), \(\epsilon_{ikl}\) denotes the model error, and \(\eta_i\) is the overall bias in the model predictions of the \(i\)-th output. The variance \(\sigma^2_{\epsilon}\) and bias \(\eta_i\) are estimated by their sample equivalents: \(\sigma^2_{\epsilon} = \frac{1}{K} \sum_k (y_{ikl} - \bar{y}_l - \mu_{ikl})^2\), and \(\eta_i = \frac{1}{L} \sum_l (y_{ikl} - \mu_{ikl})\), where \(\mu_{ikl}\) is the predicted value of \(y_{ikl}\) from the \(i\)-th simulation run.

This yields a conditional predictive distribution of our quantity of interest:

\begin{equation}
y_{ikl} | \Theta_i \sim N(\bar{y}_l + \mu_{ikl}, \sigma^2_{\epsilon}).
\end{equation}

We then have

\begin{equation}
w_i \propto p(y_i | \Theta) = \frac{1}{\prod_{l=1}^{L} \prod_{k=1}^{K} \sqrt{2\pi \sigma^2_{\epsilon}}} \exp \left[ -\frac{1}{2} \sum_{k=1}^{K} (y_{ikl} - \bar{y}_l - \mu_{ikl})^2 \right].
\end{equation}

The quantities \(\sigma^2_{\epsilon}\) and \(\bar{y}_l\) are estimated at the "present" time \(t_1 = 2005\). The marginal distribution of the \(l\)-th quantity of interest, \(\Psi_{ikl}\), in the year \(t_2 = 2025\), is given by a mixture of normal distributions, as follows:

\begin{equation}
\pi(\Psi_{ikl}) = \frac{1}{I} \sum_{i=1}^{I} w_i N(\theta_0 + \Psi_{ikl}, \sigma^2_{\epsilon} b_k), \quad k = 1, \ldots, K, \ l = 1, \ldots, L.
\end{equation}

Here, \(\theta_0\) and \(b_k\) denote propagation factors of the bias and the variance over the time period \([t_1, t_2]\).

In this application, the long runtime of the travel model made it infeasible to do a large number of runs of the travel model. Also, we found that the results of UrbanSim for numbers of households and jobs were relatively insensitive to the values of \(\Theta\) drawn from the prior (results not shown). Thus the contribution of uncertainty about the UrbanSim inputs \(\Theta\) to overall uncertainty about average travel times was small. In particular, the variation in \(\sigma^2_{\epsilon}\) between runs was small, and so we used a single estimate, \(\sigma^2\), using the run based on the prior mean of \(\Theta\), estimated from external data. Results (computed on the square root scale) are shown in Table 1.

In addition, we were interested in comparisons between scenarios, and assuming that the propagation factors were the same for both scenarios allowed us to ignore them and set them both equal to 1. Together, these considerations allowed us to approximate (4) by the simpler equation

\begin{equation}
\pi(\Psi_{ikl}) = \frac{1}{I} \sum_{i=1}^{I} N(\breve{\theta}_l + \Psi_{ikl}, \sigma^2), \quad h = 1, \ldots, K, \ l = 1, \ldots, L.
\end{equation}

For priors, we used the same approach as Ščevecová et al. (2007). For input parameters that were estimated by multinomial logistic regression or by bivariate regression from external data, we used the
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Table 1: Estimates for bias and variance, respectively, obtained from the run based on the prior mean of $\hat{\theta}$.

The multivariate normal distribution MVN($\hat{\theta}$, $\text{SE}(\hat{\theta})^2$), with mean $\hat{\theta}$, the estimator of $\theta$, and with an variance matrix the diagonal matrix with diagonal entries equal to the squares of the standard errors of the parameters. For mobility rates used in the Employment release model, we used the normal distribution N($r$, $\left(\frac{\text{SE}(\hat{\theta})}{\sqrt{n}}\right)^2$), truncated at $0$, where $\hat{\theta}$ is an estimate of the rate $\theta$ and $n$ is the number of observations from which $\hat{\theta}$ was obtained.

The land use model uses regional control totals for number of households and jobs obtained from external sources. We kept the control totals constant, and so the results are conditioned on these totals.

4.5 Calibration of the Travel model

Due to the complexity of the input parameters and the long run-times of the travel model, we assessed uncertainty about the travel model by a simple calibration procedure. In Figure 5, we plotted the simulated average travel times for the different commutes in $t_1 = 2005$ against the observed average travel times (obtained as described in Section 4.3). As can be seen, the travel model overestimates the travel times.

We found that, given the simulated average travel time $T_{sim}$, the conditional distribution of the observed average travel time, $T$, was well represented by a normal distribution on the logarithmic scale with an additive bias:

$$\log(T) \sim N(\log(T_{sim}) - 0.70, 0.14^2).$$

5 Results from Integrated Land Use and Travel Model

The posterior distribution of the resulting travel time $T$ is given by
Figure 5a: Calibration of the travel times. The solid line is the $y = x$ diagonal, the dashed line is $y = e^{-0.5x}$, corresponding to the calibration in equation (6). The points are numbered according to the routes in Figure 5.

\[ \pi(I) = \int p(T|\Psi, \Theta) p(\Psi|\Theta) p(\Theta) \, d\Theta \, d\Psi, \]  

where $p(T|\Psi, \Theta)$ is given by (6) and $p(\Psi|\Theta)$ is simulated from by running UrbanSim with inputs $\Theta$ and applying equation (5). Because we are interested in comparisons between scenarios, we ignore the propagation factors in (4), which we assume will be the same for both scenarios.

For both the baseline (viaduct) scenario and the no-viaduct scenario, we evaluated the integral in (7) by simulation, using the nested simulation scheme depicted in Figure 6. Given the long time needed to run the travel model, we approximated the integral over $\Theta$ by simulating a small number, $I$, of values of $\Theta$ from its prior distribution, and approximating the integral by an equally-weighted discrete distribution over $(I + 1)$ values of $\Theta$, namely the $I$ simulated values and the point estimate from external data, as in equation (5). As discussed above, this may overestimate the source of uncertainty, since it does not allow for the additional information about $\Theta$ from the 2005 data, but the estimated uncertainty from this source was small in any event, and so we found this approximation adequate.

To simulate a value of the output $\Psi$ given a value of $\Theta$, we run UrbanSim for the first five years.
Figure 6: Example simulation results for estimating the posterior distribution of average travel time in the year 2005.

- **Baseline**: Represents the travel time distribution under current conditions.
- **Future Scenarios**: Simulations for various future scenarios, each labeled with specific years (e.g., 2010, 2015).

The graph shows the distribution of travel times for different time periods, highlighting the variability and potential outcomes for future planning.

4. **Range of Travel Times**: The bars indicate the range of expected travel times for each scenario, providing a visual summary of the uncertainty involved.

These simulations are crucial for understanding the impacts of different planning scenarios and for making informed decisions about infrastructure modifications.
would have any effect on average travel times for commuter routes that do not include the viaduct. For the routes that do include the viaduct, Figure 9 shows that the posterior distributions still overlap, but not completely.

To investigate further whether our results indicate an effect of removing the viaduct on average travel times, we calculated the posterior predictive distribution of the difference between average travel times under the two scenarios in 2030. These are shown for all routes considered in Figure 10. The seven base commutes that do not include the viaduct are in the upper part of the figure, and it is again clear that our analysis does not indicate any effect of removing the viaduct for these routes, since zero is close to the center of all the distributions.

For the routes that do include the viaduct the situation is less clear. The 95% predictive intervals for all of these routes includes zero, so our simulation results do not clearly indicate an effect of removing the viaduct. On the other hand, the median change for all eight routes that contain the viaduct is positive, ranging from 1.5 to 9.2 minutes, and averaging 6.1 minutes. The median predicted
Figure 8: Posterior predictive distributions of average travel times in 2020 for each of the seven routes from Figure 4 in both directions. The posterior distributions are represented by boxplots, with the box containing the interquartile range with the median marked in the middle, and the whiskers covering the 95% posterior confidence interval. The baseline scenario is shown in grey and the no-viaduct scenario in red.
Figure 9: Posterior predictive distributions of average travel times in 2020 for additional routes that directly involve the viaduct. The posterior distributions are represented by boxplots, with the box containing the interquartile range with the median marked, and the whiskers covering the 95% posterior confidence interval. The baseline scenario is shown in grey and the no-viaduct scenario in red.
change for traveling the viaduct alone from north to south (route 11a) is 5.7 minutes, but the predictive interval contains zero.\footnote{Note that the routes that contain the viaduct all overlap, in some cases substantially, and so the posterior predictive distributions for different routes are not independent. As a result, it is not possible to view these eight posterior predictive distributions as independent samples from a distribution and carry out a standard statistical test on the average value.}

6 Discussion

In the Seattle Times of November 14, 2008 an article of Gilmore (2008) reported on the WSDOT (2008) study. It indicated that if the viaduct were replaced by another elevated highway in 2015, drivers going from Greenwood in North Seattle to SeaTac International Airport (our route 14) would arrive 10 minutes sooner than if the replacement were a surface boulevard. Furthermore, from Ballard to south of Downtown (our route 13) would be 13 minutes faster and drivers on our route 12 would save 10 minutes on an elevated highway. These point estimates ignore any uncertainty involved in the models used to generate them, and thus could mislead the public into having an unwarranted degree of confidence in the benefits of making these investments. The point estimates for routes 12 and 14 fall into our prediction interval (Figure 10), whereas the 13 minutes for route 13 falls outside our 95\% confidence interval.

We should make clear that our analysis is not directly comparable with the WSDOT study. Not only are the prediction years different, but more importantly, the WSDOT study does not consider the long-term changes that occur when transportation projects change patterns of accessibility: households can relocate to be closer to their jobs, workers can change jobs to reduce their commute, businesses can relocate to take advantage of better access at different locations, and real estate developers can respond to new opportunities to develop housing and non-residential space. Our analysis integrates these forms of long-term adaptation, in addition to the short-term adaptations that travelers have when accessibility patterns change: they can change destinations, times of travel, modes of travel, and routes. The collection of these kinds of adaptive behaviors provides a reservoir of flexibility that has not previously been thoroughly examined. In instances such as a temporary or even long-term closure of a major transportation facility, the reality in terms of traffic conditions is often far better than transportation officials expect. These kinds of adaptive behaviors provide a plausible explanation, though many other factors could also contribute.

What our results suggest, in short, is that even using a worst-case scenario and comparing it to a capacity-neutral replacement of the Alaskan Way Viaduct, the travel time benefits of the higher capacity alternative are modest, and fairly localized to the viaduct corridor. There does not appear to be much effect on longer commutes or on I-5 in the vicinity of downtown, as evidenced by the overlapping distributions of the predicted travel times. Further, our combined analysis of land use and transportation reveals considerably more adaptive capacity than the analysis done by the WSDOT, which considers only travel changes and excludes by assumption any adaptation in location choices of households, firms and real estate development. Accounting for uncertainty, in short, the expectations of benefits from maintaining the current level of traffic capacity in the viaduct corridor may be higher than can be scientifically supported by the available models and evidence.
In future research, we hope to further develop the methodology described in this paper, and to incorporate refinements in the current generation of models used in supporting the decision-making process on large-scale infrastructure projects such as the Alaskan Way Viaduct.

7 Acknowledgments

This work has been funded by NSF grants EIA-0121326 and IIS-0705898, and EPA grant 8821837. The authors would like to thank Larry Hallin for helpful discussions and for helping to configure the travel model, and the Puget Sound Regional Council for providing access to the travel model and data.
Figure 10: Posterior predictive distributions of differences between average travel times for the two scenarios for all routes. The difference are equal to average travel time for the no-viaduct scenario minus that for the baseline (viaduct) scenario. The posterior distributions are represented by boxplots, with the box containing the interquartile range with the median marked, and the whiskers covering the 95% posterior confidence interval. The routes above the horizontal line are those shown in Figure 4 that do not include the viaduct, while the routes below the line are those that do contain the viaduct.
References


Ex. B
Washington’s 20 Billion Mile Diet
State traffic forecasts have changed radically in just three years.
Clark Williams-Dreyer on August 7, 2011 at 11:32 am

This post is 13 in the series: Bule, Where Are My Cars?

According to the most recent forecasts from the Washington State Office of Financial Management, drivers in Washington State will rack up about 65 billion miles on the highways in 2011.

I have no idea if that number is anywhere close to accurate. Nobody does, but what I do know is that that number is 21 billion miles lower than the forecast that OMF made 3 years ago, and more than 16 billion miles lower than their forecast from last year. The chart has the details.

Washington has trimmed its long term VMT forecasts by more than 20 billion miles in just 3 years.

It’s awfully tempting to suggest this chart shows that OMF is gradually moving towards more realistic traffic projections.

But does it, really? I honestly don’t know if the blue line is more “realistic” than the orange line. Sure, the blue line is more consistent with the actual traffic trends over the last decade—a period when actual VMT growth slowed to a crawl. But I don’t have a crystal ball to
know which lane is actually a “realistic” depiction of the future.

Instead, I think the real lesson of the chart is elsewhere.

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The first lesson is this: nobody has any special insight into the future. Future VMT trends aren’t a feature of objective reality that smart people can sit in a room and figure out. They’re just guesses. Sometimes new information comes in, and the guesses change. Sometimes they change radically, enough to make the best guesses from a year earlier look ludicrous. So it’s important to remember that even if particular forecast matches up with your world view, it’s still just a guess.

Which leads to a second lesson: nobody should take official VMT forecasts too seriously. Three years ago, the “official” guess was that there would be lots of new demand for road space, and lots of new gas tax revenue to pay for it. Today, the “official” guess is that “demand for gas consumption will continue to increase” 2020 or 2030. This ignores the fact that gas tax revenues are going to decline unless the state ramps up the tax rate; and that the demand for new road space is going to slow to a crawl. Those are two completely contradictory views from the same agency in the same political administration. So all the hot air that was spewed about the dire need for new transportation megaproductions to avoid the near-certainity of a transport crisis showed nothing more than habit, overconfidence, and a dismal understanding of how forecasting actually works.

And there’s a third lesson here: forecasts can be dangerous. People have a tendency to take official forecasts awfully seriously. But the lesson we made three years ago that we “had” to put lots of new megaproductions in the pipeline was based on forecasts of massive growth in 20 years, could very easily turn out to be disastrously costly mistakes. When we place too much confidence in any one forecast, we can wind up making terrible decisions.

To me, the rapid change in traffic forecasts argues for a new way to think about transportation investment: that we make them smaller, more versatile, more flexible, more creative, and less likely to lock us into huge long-term expenses for projects that we might not actually need. In short, it argues for an approach that’s the exact opposite of the multi-billion dollar bridges, tunnels, and highway expansions that are on the docket in the Northwest.

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Comments

Southlander says:
August 2, 2011 at 11:31 am
Great post as usual.

As a side note to actual state VMT, the most conservative estimate of the unrecovered costs of driving is $3.15/mile (source: FHWA). By any other name, but anyway... If we were to assess just the direct costs, Washington state and its communities would receive $9.75 million annually, that money would go a long way toward dealing with pavement conditions, structurally deficient bridges, and even Sen. Murray’s beloved forests... and would reduce a bit of VMT to boot.

Jim says:
August 7, 2011 at 8:14 pm

I've seen this graph before and it's used to justify why we don't need the next road infrastructure that the state is planning. I agree with the point that the WSDOT estimates are based on models and are just projections, but the obvious point hasn't been made. I don't know whether it's justifiable, but it will make the point anyway.

Doesn't the "rapid change in traffic forecasts" seem to correspond nicely to the drop in our economy and the shedding of jobs? Would it then suggest that these traffic improvements are not unnecessary when the economy is in a recession, jobs are scarce and people begin commuting to work again.

Rick

Clark Williams-Denby says:
August 8, 2011 at 1:16 am

Re:

The economy is definitely a major force in the trends from 2008. It's possible that forecasts are feeling gloomy, and their long-term GDP growth forecasts have been affected by the short-term economic woes.

But reeling the numbers, VMT growth slowed WAY before the economy crashed. As I read things, it looks like the forecasts are moving towards a belief that "things in the future will look like they did from 2001-2007, rather than from 1992 through 2000." In some ways, what's happening is that an old vantage of super-optimistic forecasts that seemed reasonable in the 1990s is going away, and a new vantage of super-conservative forecasts that match the early 2000s is coming into force.

Here's what I think has changed in the models:
1) Forecasts now think that oil prices are going to remain high. As recently as 2008, all of the major oil forecasts showed oil prices at $50/barrel and roughly flat/declining as far as the eye can see. The rungs that started in 2005 was seen as a temporary blip. But even though the economy is still struggling, oil prices are high now: as high as ever, oil prices are now built into the models. Incidentally, from what I've seen the models are based on assumptions that gas will be $3 per gallon.
2) Forecasts now better understand how consumers react to high gas prices. For a couple of decades, gas price spikes had an appreciable effect on demand. When gas prices went from $1 to $1.20, everybody hesitated buying. So the "professional" option was that gas price elasticity was incredibly low: people would continue to drive no matter how high prices got. But it seems that gas at $4 a gallon has really made a dent in people's appetite for travel. Elasticity is higher than...
people thought. Couple that with higher than expected gas prices, and you get a significant downturn effect on driving.

3) The understanding of demographics — seniors driving less, fewer teens and young people working — may have changed, altering long-term estimates of trip generation.

There are probably other factors. The important thing, though, is that the long-term projections now show that the future will be like 2000-2001, not like the nearing 1990s. That may still be too optimistic! But it's not just that the new economy in 2011 is changing expectations for economic growth in 2012; it's also that the models are catching up to the reality of what was happening in the early 2000s.

Stew Emerson says:
August 3, 2011 at 10:21 am

These sorts of greatly inflated forecasts have disastrous consequences for long term planning and economics. Right now there are two different sewer projects being planned on Whidbey Island that are based on straight line projections of 50 year old GMA "high-end" population forecasts that are demonstrably way higher than has actually occurred. This is the result of a combination of the lag in updating the County's GMA population forecasts, attributable to the lack of planning dollars available right now, and the boomers practically in power constantly choosing from the high end of GMA population forecasts, despite hindsight consistently showing that reality was different. So now Oak Harbor (current population: about 22,000) is planning a $170 million new sewage plant and the non-municipal urban growth area of Freeland (current population: about 4,000) is planning a $40 million sewer.

Looking at census data since 1970 reveals that since 1980 the rate of population increase has dropped by about 50% for each succeeding decade. If this long term trend continues the 2000-2009 population increase rate will be close to 0%. In fact, Island County has actually lost population in 5 of the last 7 years. So, Whidbey and Camano Island may be about to achieve a steady state population or decline. This is something boomers just can't comprehend.

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WSDOT vs. Reality
Puget Sound traffic forecasts don’t even pass the laugh test.
Clark Williams-Denby on July 13, 2011 at 4:35 am

This post is 12 in the series: Dude, Where Are My Cars?

I wish I were making this up. The Washington State Department of Transportation continues to insist that traffic volumes on the SR-520 bridge across Lake Washington are going up—up—up—even though actual traffic volumes have been flat or declining for more than a decade!

Here’s a chart that makes the point.

Should we trust WSDOT Traffic Projections?
Actual weekday traffic on SR-520 vs. WSDOT forecasts.

In a charitable mood, you could forgive the 1996 projections. Back then, rapid traffic growth on SR-520 was a recent memory: up through about 1995, traffic growth was both steady and rapid.

By 2011, however, it should have been perfectly obvious that the old predictions were proving inaccurate. Yet WSDOT just kept doubling down on their mistakes—insisting that their vision of the future remained clear, even as their track record was looking worse and worse. So now they’ve wound up with an official traffic forecast, in the Draft Environmental Impact Statement, no less, that doesn’t even pass the laugh test.

It would be funny—if the state weren’t planning billions in new highway investments in greater...
Seattle, based largely on the perceived "need" to accommodate all the new traffic that the models are predicting will show up, any day now.

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In case you don't believe me about the numbers, feel free to check out the sources directly. I'd be happy to be corrected.

The data on recent traffic volumes—the dark green dots—come from three sources. I start with WSDOT's annual "Traffic and Roadway Report." Then, I add in the missing years I factor in data from the Annual Traffic Report series and Seattle's Traffic Flow Data. The blue trend line is the best linear regression of the blue dots, as calculated by Excel.

The light orange line is based on a projection that dates back to 1996, which was mentioned in WSDOT's 1999 Transit-Oriented Study. Since that report is only available on CD-ROM, but not online, I'll quote the report directly:

Under the No Action solution, Texas Street (on SR 520, SR 522, and I-90) is expected to increase by about 468,000 daily person-trips in the year 2020. Because capacity is limited on SR 520, only about 26,000 additional vehicle-trips are expected there.

If current trends hold, the projections of 26,000 additional vehicle trips will off by about 28,000 additional vehicle trips.

The green line is from the 2002 Trans-Lake Washington Project report, also available on CD-ROM, which projected that traffic under the "No Action Alternative" would grow by 20 percent through 2030.

The dark orange line—117,400 cars by 2030—is from the recently released Final Environmental Impact Statement for the SR 520 bridge replacement project. It's based on the projections described in part 3 of the "Transportation demand report" (see Exhibits 3-1 and 92 of the pdf, and the projections for SR 520 at midtown under the 2010 No Build Alternative at 127,400 vehicles by 2030).

I could have included another projection from the 2006 Draft Environmental Impact Statement—117,460 vehicles per day by 2030, as claimed in Exhibit 10-6 in Appendix 8, part A. But it was getting hard to fit all the wrongness on a single chart.

Now, I know that total traffic volumes aren't the only traffic trends worth paying attention to. The traffic models make projections about peak hour delays as well, which are probably what commuters care most about. But given that the models have proven so cloyingly and preposterously wrong about traffic volume trends, it's hard to believe that they have much of value to say about future traffic delays.

[Thanks to Jake Rosenm and Pam Hackler for help with the numbers!]

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http://dailysightline.org/2011/07/13/wsdot-vs-reality/
Comments

Cheryl de Remerskis says:
July 13, 2011 at 1:33 am

This is WSDOT’s reality: a 12-lane highway cutting through the Arboretum’s wetlands, from Montlake to Foster Island.

It breaks down like this: 3 lanes of traffic + 2 lanes of ramps + 1 lane of shoulder = 2 + 12.

I’m not sure how to reconcile the traffic data above with what I know about this project, so Clark, I could use your help.

During peak hours, my understanding is that I-5 cannot handle the increased traffic of a 6-lane bridge, so WSDOT is planning 8 lanes of ramps in the Arboretum’s wetlands to slow cars as they try to merge onto I-5. This will prevent back-ups into the Montlake neighborhood and at the I-5 interchange itself.

Word on the street is that the “ramps will be removed from the Arboretum,” but this just isn’t true. It is true that the existing ramps that peel off and connect to Lake Washington Boulevard (LWB) will be eliminated, yet the negative impacts to the Arboretum increase. Here’s how: WSDOT is planning for the new ramps placed in the wetlands to connect back into LWB, just at a point that is technically outside of the Arboretum. WSDOT expects highway traffic to increase through the heart of the Arboretum along LWB.

Under current federal regulations, we should not be able to build a historic park with highway traffic at all, but WSDOT now has that site’s “pre-existing condition.”

Watch this video and please pay especially close attention to 3:40 - 3:50 and 4:14 - 4:30.
http://www.youtube.com/watch?v=CYC8M9x0w44

And next time you are on I-5, count the lanes and imagine that same pavement cutting through the Arboretum. Imagine kayaking in the Arboretum with 8 lanes of highway overhead.

12 lanes of highway to slow driving cars in Seattle’s most pristine wetlands... this is WSDOT’s reality? This is insane.

Randy says:
July 13, 2011 at 1:31 pm

Bottom line, Seattle and WSDOT have no clue what they’re doing. If you think effective traffic management is creating 405 lanes in on ramps and going from 6 lanes to 2 lanes downtown is effective, you’re high. Even the express lanes aren’t express anymore. When it takes 45 minutes to get across either the 50 or 520 bridge, it is obvious there is no planning. There was no plan for traffic management in Seattle and I’ve lived in much larger cities where traffic wasn’t half as aggravating. Add to the poor planning drivers who have no clue how to drive and it all becomes a pile of mess.

I challenge anyone to figure out how to get the appropriate amount of traffic across any highway in this town all the while focusing on the environment. It can’t be both ways. We can’t expect the traffic issues and keep all environmentalists happy. It seems to me all the funding I do on the highway is wasted for the environment.
Ex. D
Ex. E
Washington’s 20 Billion Mile Diet

State traffic forecasts have changed radically in just three years.

Clark Williams-Derry on August 7, 2011 at 11:13 am

This post is 13 in the series: Busted, Where Are My Cars?

According to the most recent forecasts from the Washington State Office of Financial Management, drivers in Washington State will rack up about 55 billion miles on the highways in 2011.

I have no idea if that number is anywhere close to accurate. Nobody does. But what I do know is that number is 21 billion miles lower than the forecast that OMF made 3 years ago, and more than 50 billion miles lower than their forecast ten years ago. The chart has the details.

Washington has trimmed its long term VMT forecasts by more than 20 billion miles in just 3 years.

It’s awfully tempting to suggest this chart shows that OMF is gradually grasping towards more realistic traffic projections.

But does it, really? I honestly don’t know if the blue line is more “realistic” than the orange line. Sure, the blue line is more consistent with the actual traffic trends over the last decade—a period when annual VMT growth slowed to a crawl. But I don’t have a crystal ball to
know which line is actually a "realistic" depiction of the future.

Indeed, I think the real lessons of the chart lie elsewhere.

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The first lesson is that nobody has any special insight into the future. Future VMT trends aren't a feature of objective reality that smart people can sit in a room and figure out. They're just guesses. Sometimes new information comes in, and the guesses change. Sometimes they change radically, enough to make the best guesses from a year earlier look ludicrous. So it's important to remember that even if particular forecasts match up with your world view, it's still just a guess.

Which leads to a second lesson: nobody should take official VMT forecasts too seriously. Three years ago, the "official" guess was that there would be lots of new demands for road space, and lots of new gas tax revenue to pay for it. Today, the "official" guess is that energy consumption peaked in 2002 or 2003, never to rise again; that gas tax revenues are going to decline unless the state ramps up the tax rate; and that the demand for new road space is going to slow down. Those are two completely contradictory views from the same agency in the same political administration. So all the hot air that was spewed about the dire need for new transportation megaprojects to avert the near-certainty of a traffic apocalypse showed nothing more than hubris, overconfidence, and a dismal understanding of how forecasting actually works.

And there's a third lesson here: forecasts can be dangerous. People have a tendency to take official forecasts seriously. But the decisions we made three years ago that we "had" to put lots of new megaprojects into the pipeline, based on forecasts of massive growth in 20 years, could very easily turn out to be doubly costly mistakes. When we place too much confidence in any one forecast, we can wind up making terrible decisions.

To me, the rapid change in traffic forecasts argues for a new way to think about transportation investments: that we make them smaller, more versatile, more flexible, more creative, and less likely to lock us into huge long-term expenses for projects that we might not actually need. In short, it argues for an approach that's the exact opposite of all the multi-billion dollar bridges, tunnels, and highway expansions that are on the docket in the Northwest.

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- VMTOT vs. Reality

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- Washington's 750 Million Gallon Diet...

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Comments

Southlander says:
August 2, 2011 at 11:31 am
Ex. F
I saw a chart of VMT per capita in King County, Washington, based on data provided by the state department of transportation. Here's the VMT data, and the population counts:

As you can see, total vehicle travel in the county was basically flat from 1999 to 2007, but the county's population grew over the same period, meaning that vehicle travel per capita fell by 9 percent.

I'll say it again: transportation models say this sort of thing simply doesn't happen. Yes, we've been through a couple of recessions over the last decade. Yet population and the region's economic output grew, and traffic volumes still remained flat. And the per capita decline started before gas prices soared, and well before the economy cratered. So to me, it's hard to avoid the notion that transportation planners have to abandon their assumptions of endless traffic growth. About a decade ago, something, or more likely some combination of things - demographics, psychographics, fuel prices, frustration with congestion, development patterns, and basic economics - started changing our relationship with our cars.

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Volume IV: Alternative Forecast Tables

Economic and Revenue Forecasts
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June 2011
Forecast Council
Transportation Revenue
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JUNE 2011 FORECAST
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<td>$564,309,000</td>
<td>$576,413,000</td>
<td>$589,621,000</td>
<td>$603,688,000</td>
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<td>$2007</td>
<td>3.4%</td>
<td>3.4%</td>
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<td>3.4%</td>
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</tbody>
</table>

### June 2011 Forecast
- **Total Revenue Forecast**: $537,484,000
- **Average Revenue Forecast**: $539,895,000
- **Alternative Forecast**: $551,903,000

### Fiscal Years 2011-2017
- Washington State Ferries
- 2.5% Annual Rate Increase Fy 2012-27
### Table: 2011 Revenue Projections - Alternative 2 Forecast

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue Forecast</th>
<th>Change vs. Base Case</th>
<th>Change vs. Alternative 1</th>
<th>Change vs. Base Case %</th>
<th>Change vs. Alternative 1 %</th>
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<tbody>
<tr>
<td>2011</td>
<td>$1,413,949,545</td>
<td>1.7%</td>
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<td>2012</td>
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<tr>
<td>2013</td>
<td>$1,505,231,500</td>
<td>1.7%</td>
<td>2.0%</td>
<td>1.7%</td>
<td>2.0%</td>
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<tr>
<td>2014</td>
<td>$1,519,556,750</td>
<td>1.7%</td>
<td>2.0%</td>
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</tr>
<tr>
<td>2015</td>
<td>$1,531,049,900</td>
<td>1.7%</td>
<td>2.0%</td>
<td>1.7%</td>
<td>2.0%</td>
</tr>
</tbody>
</table>

**Notes:**
- The projections are based on current economic conditions and are subject to change.
- Alternative 1 is a different scenario from the base case.
- The change is calculated as (Alternative - Base Case) / Base Case.

### Additional Information

- **June 2011 Forecast**
- **Free Flow Congestion Reduction Act**
- **Relevant Sections:**
  - Section 108 of the Surface Transportation Program Act of 2012
- **Key Factors:**
  - Traffic Volume
  - Fuel Efficiency
  - Economic Growth
### Table 1 - Amended June 16, 2011

<table>
<thead>
<tr>
<th>Year</th>
<th>Alternative</th>
<th>corridor</th>
<th>base</th>
<th>Alternative</th>
<th>corridor</th>
<th>base</th>
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</tbody>
</table>

**Note:** The table above shows the projected costs for each year from 2011 to 2017. The base cost is shown in the 'base' column, and the corridor cost is shown in the 'corridor' column for each year. The 'Alternative' column indicates the specific alternative being considered for each year.

**Source:** SR 99: Alaskan Way Viaduct Replacement Project - Record of Decision - Attachment 2 - August 2011
<table>
<thead>
<tr>
<th>Year</th>
<th>Ridership Forecast</th>
<th>Actual Ridership</th>
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<tr>
<td>2011</td>
<td>2,257,720</td>
<td>2,234,270</td>
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<tr>
<td>2021</td>
<td>2,257,720</td>
<td>2,234,270</td>
</tr>
</tbody>
</table>

June 2011 Ridership Forecast versus Actual Ridership.
The following variables are used in the forecast:

- Employment
- Housing Affordability
- Income
- House Price
- Sales Tax Revenue
- Sales Tax Collections
- Transportation Mode Split
- Economy
- Personal Income
- Property Value

The forecast model considers the impact of changes in these variables on transportation emissions, which are used to project future emissions.

**WSDOT Traveler Attitudes Forecast Model**

- Forecast for June 2011
- Forecast for June 2012
- Forecast for June 2013
- Forecast for June 2014
- Forecast for June 2015
- Forecast for June 2016
- Forecast for June 2017
- Forecast for June 2018
- Forecast for June 2019
- Forecast for June 2020

These forecasts are based on historical data and projections for future transportation and economic conditions.
Ex. H
June 14, 2011

VIA EMAIL AND U.S. MAIL

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Rory D. Westberg,
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rory.westberg@nps.gov

Dear Ms. Naber, Dr. Toothman, and Mr. Westberg,

On behalf of Bill Spiridell Enterprises, Inc. and the citizens’ group Protect Seattle Now, we would like to share with you our grave concern for the Pioneer Square Historic District in Seattle. We believe this district, listed on the National Register of Historic Places and designated as a City of Seattle historic district, is under threat from the Washington State Department of Transportation’s (WSDOT) proposal to locate a massive highway interchange and the world’s largest bored tunnel next to the district.
FHWA responded to this letter on July 15, 2011. The following responses incorporate information from that response and provide additional information contained in the Final EIS and supporting technical reports. The Section 4(f) Evaluation in the Final EIS considered the potential for a use of the Pioneer Square Historic District. The Section 4(f) Evaluation concluded that the TOLLED BURLED TUNNEL alternative would result in a “use” of the District, but the use would be confined to the area of the Western Building, which is a contributing resource to the District. While the Tolled Bored Tunnel would increase traffic volumes in the District, it was determined through Section 106 consultation under the National Historic Preservation Act that the increased traffic would not result in an “adverse effect” on the District (Appendix I, Historic, Cultural, and Archaeological Resources Discipline Report, Section 7.1). Based on that finding, FHWA concluded that the “use” of the District is confined to the area of the Western Building.

O-005-009

The Section 4(f) Evaluation in the Final EIS analyzed alternatives for avoiding or minimizing harm to the Pioneer Square Historic District, and concluded that there are no prudent and feasible avoidance alternatives. The Section 4(f) Evaluation specifically considered the Surface/Transit/I-5 Hybrid alternative and concluded that it is not a feasible and prudent alternative for avoiding the use of historic resources because it would not meet the purpose and need of the project.
The historic features of the Pioneer Square Historic District were thoroughly evaluated and documented in accordance with Section 106 of the National Historic Preservation Act. The Section 106 process includes identification and evaluation of historic properties that are listed in or eligible for the National Register of Historic Places. As part of that process, FHWA considered the historic features of the Pioneer Square Historic District as documented in the National Register nomination form for this district. The nomination form describes the historically significant features of the Pioneer Square Historic District as follows:

"The district is being nominated based on the following National Register Criteria: "A. Property is associated with events that have made a significant contribution to the broad patterns of history"; and criterion C: "Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction." The district is clearly associated with the "broad patterns" of United States History, beginning with 1889, after the Great Fire and ending with the Second Avenue Extension, which had a far-reaching effect on both the buildings and the streetscape of the district until 1931. In terms of Criterion C, the district presents many examples of buildings that are architecturally distinctive and are the work of a large number of well known, although local architects. In addition, the district has several public squares and a small collection of artifacts of significance. The areas of significance for the district, based on National Register categories, are: architecture, commerce, community planning and development, engineering, industry, landscape architecture, politics/government, social history and transportation."
The description of this resource in the National Register nomination form is used as the basis for FHWA’s evaluation of effects under Section 106 and evaluation of "use" under Section 4(f). See FHWA Section 4(f) Policy Paper Question 3C (http://www.environment.fhwa.dot.gov/projdev/4fpolicy.pdf).

O-005-011
The Section 4(f) Evaluation in the Final EIS recognizes that the Pioneer Square Historic District is listed in the National Register of Historic Places and therefore is a Section 4(f) resources. The District’s status under local ordinances does not confer protection under Section 4(f), nor does it change the way the District is treated for purposes of compliance with Section 4(f).

II. ANALYSIS

As you know, Section 4(f) of the Department of Transportation Act of 1966 creates substantive protections for our nation’s most cherished parks, natural resources, and historic sites. It announces a policy that the United States government should undertake “special effort” in order to “preserve” the country’s “historic sites.” 49 U.S.C. § 303(a). Section 4(f) is triggered when a “transportation project or project” will “use” any “land of an historic site of national, state, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, area, refuge, or site).” 49 U.S.C. § 303(c). FHWA may not approve any such transportation project unless the applicant agency establishes, and the FHWA finds, that the two strict standards of Section 4(f) are met: First, “there is no prudent and feasible alternative to using that land.” 49 U.S.C. § 303(c)(1) (emphasis added). Second, “the program or project includes all possible planning to minimize harm to the . . . historic site resulting from the use.” 49 U.S.C. § 303(c)(2) (emphasis added).

The cultural resources that enjoy protection under Section 4(f) include national and local treasures such as the Pioneer Square Historic District in Seattle. WSDOT, however, has fallen short of meeting both elements of Section 4(f). According to WSDOT’s own technical studies, there is no alternative that would effectively move people and goods into and through the central city, while minimizing the use of the Pioneer Square Historic District by distributing vehicle trips away from that area. Yet WSDOT has refused to analyze this alternative in detail in its EIS. WSDOT has also failed to adequately plan for the harm that a tunnel alternative will cause to Pioneer Square.

A. The Pioneer Square Historic District, as Defined by City Law, Is Protected Under Section 4(f)

The Pioneer Square Historic District is on the National Register of Historic Places. City law recognizes that the area is “an area of great historical and cultural significance,” and therefore the City has designated it as a “special review district” subject to rigorous use and development.
The Section 4(f) Evaluation in the Final EIS considered the potential for a use of the Pioneer Square Historic District. The Section 4(f) Evaluation concluded that the Tolled Bored Tunnel alternative would result in a "use" of the District, but the use would be confined to the area of the Western Building, which is a contributing resource to the District. While the Tolled Bored Tunnel would increase traffic volumes in the District, it was determined through Section 106 consultation under the National Historic Preservation Act that the increased traffic would not result in an "adverse effect" on the District (see Appendix I, Historic, Cultural, and Archaeological Resources Discipline Report, Section 7.1). Based on that finding, FHWA concluded that the "use" of the District is confined to the area of the Western Building.

In determining that the Tolled Bored Tunnel alternative would not have an "adverse effect" on the District, and therefore would not "use" the District, FHWA considered the comprehensive analysis conducted as part of Section 106 consultation, including the following facts (summarized from the Final EIS Appendix I, Historic, Cultural, and Archaeological Resources Discipline Report):

- The District is located in an urban area, directly adjacent to a large elevated highway (the Alaskan Way Viaduct) and an industrial waterfront district.
- The portal for the Tolled Bored Tunnel is located outside of the Pioneer Square Historic District boundaries. (See Final EIS Exhibits 4-10 and 4(f)-1).
- Under current conditions, traffic on city streets through the district is heavy at certain times of day, and during special events. The increased traffic volumes - which will occur on some streets in the historic district, at some times during the day - may be noticeable, but are not out of character with a historic district in an urban area.
- Traffic in Pioneer Square is controlled by traffic signals; with
increased volumes, traffic speeds will be reduced. Therefore, while tolling may cause an increase in traffic volumes within the District, the increased traffic volume is not expected to affect the pedestrian character of the area or make it more difficult to walk to shops or restaurants.

- While the project will cause some impacts on the historic district, the project also will benefit the historic district by removing the overhead Alaskan Way Viaduct structure, which today results in both noise and visual impacts to the district. The existing structure separates the historic district from the waterfront, which was an important connection during the period of significance. By removing the Viaduct, the project actually helps to restore an important aspect of the historic character of the district.

FHWA is satisfied that the record supports a determination that the Tolled Bored Tunnel alternative does not result in an “adverse effect” on, and does not “use”, the Pioneer Square Historic District.

O-005-013
The Section 4(f) Evaluation in the Final EIS considers measures to minimize harm to Section 4(f) resources that would be used by the project, including Pioneer Square Historic District. Because the area of use of the District under the Tolled Bored Tunnel alternative would be confined to the area of the Western Building, the measures to minimize harm are focused on the Western Building. However, although not required as measures to minimize harm under Section 4(f), mitigation is discussed in the Final EIS for general effects including effects related to tolling. As you will see in Chapter 8 of the Final EIS, entitled “Mitigation,” WSDOT has committed to establishing a Tolling Advisory Committee, which would work to develop mitigation strategies to minimize the effects of diversion due to tolling on affected areas, including the Pioneer Square Historic District.
The Section 4(f) Evaluation in the Final EIS analyzed alternatives for avoiding or minimizing harm to the Pioneer Square Historic District, and concluded that there are no prudent and feasible avoidance alternatives. The Section 4(f) Evaluation specifically considered the Surface/Transit/I-5 Hybrid alternative and concluded that it is not a feasible and prudent alternative for avoiding the use of historic resources because it would not meet the purpose and need of the project.
This alternative costs about $700 million less than the bored tunnel alternative, requires no unproved technology,\(^2\) equals or surpasses the tunnel option in terms of moving people and goods into and through Seattle, and results in fewer carbon emissions than the tunnel option. It avoids concentrating highway traffic into a mega-interchange next to the Pioneer Square Historic District. Instead, it distributes trips away from the Historic District, putting far less pressure on these historic streets. Specifically:

- Because there is no mega-interchange, there would be no excessive concentration of highway traffic generated at the edge of the historic district.
- Because there is no mega-interchange, there would be no need to alter historic district streets to make room for 50,000 – 70,000 additional cars, trucks, and buses.
- Because traffic will not be concentrated in this area, but rather distributed around it to I-5, transit, and other streets beyond the Historic District borders, there would not be ongoing pressure for traffic to overwhelm these fragile historic streets.

For more information about this I-5 Surface/Transit alternative, see the documents on the CD-ROM included with the hard copy of this letter. The most relevant documents are the Nelson-Nygard Report and the documents explaining Scenario B presented by WSDOT during the 2008 planning process.

Even though the State, County and City transportation agencies agreed that this alternative was in the top two for further study in 2008, WSDOT has refused to analyze this alternative in its EIS. How could it avoid analyzing this alternative in detail? WSDOT could not argue that it was not a reasonable alternative because WSDOT had been involved in identifying it as one of the top two. Instead, WSDOT changed the ground rules. Without any public input, WSDOT subtly but dramatically re-defined the purpose and need for the project. Out went the purpose of moving people and goods in and through the city. In came the purpose of moving cars. With that sleight of hand, the alternative that relied heavily on increased transit became a non-starter.\(^3\)

The public has constantly complained about this gamesmanship, but to no avail. Despite numerous letters to WSDOT protesting the new, contrived purpose and need statement in the 2010 SDEIS, WSDOT has indicated it will not return to the original formulation and will continue to exclude from the FEIS the more transit-oriented option it previously agreed was a feasible and prudent solution. WSDOT’s manipulation of the NEPA process will not survive judicial scrutiny. It should not survive your scrutiny, either.

---

\(^2\) The proposed tunnel would be the largest single-bore tunnel ever constructed. The technology for the bore was untried only in the last couple of years and is, as yet, unproven.

\(^3\) The 2006 SDEIS defined the project’s purpose and need as, in relevant part, to “maintain or improve mobility, accessibility, and traffic safety for people and goods along the existing Alaskan Way Viaduct Corridor.” 2006 SDEIS at 122. The 2010 SDEIS changed this statement, without explanation, to “[p]rovide capacity for automobiles, freight, and transit to efficiently move people and goods to and through downtown Seattle.” 2010 SDEIS at 6. As recently as the 2008 planning process, WSDOT had agreed to a set of guiding principles for the project which included the goal of “[p]roviding efficient movement of people and goods now and into the future.” 2008 SDEIS at 50. Thus, the statement of purpose and need subtly shifted, for no stated reason, to emphasize capacity for automobiles.
The Section 4(f) documentation has been thoroughly reviewed by FHWA staff at the Division and headquarters levels, and FHWA has confirmed that it meets all applicable requirements.

III. REQUEST FOR FULL PROTECTION UNDER SECTION 4(f)

The requirements of Section 4(f) are “stringent,” allowing a transportation project to use a protected area “only in the most exceptional cases.” Stop H-2 Ass’n v. Dole, 740 F.2d 1442, 1447, 1452 (9th Cir. 1984). Yet WSDOT is proceeding full speed ahead, pursuing its preferred alternative without addressing the significant harms to the Pioneer Square Historic District streets. WSDOT has brought the proposed tunnel to the brink of a Record of Decision based on a fundamentally flawed review process.

WSDOT’s preferred tunnel alternative would “use” the streets of the Pioneer Square Historic District as highway access routes. But WSDOT has not studied alternatives that would reduce or eliminate this impact, nor has it sufficiently proven it can use Pioneer Streets without seriously compromising the integrity of the Historic District. We request that you give Pioneer Square Historic District full protection under Section 4(f). We implore you to direct WSDOT, under Section 4(f), to both fully explore the I-5/Surface Transit alternative that does not include a mega-interchange next to the Pioneer Square Historic District, and include in its tunnel alternative fully funded solutions to minimize harms to the Pioneer Square Historic District.

Thank you for your attention and for defending this beloved historic resource.

Sincerely,

BRICKLIN & NEWMAN, LLP

DAVID A. BRICKLIN
Attorney for Bill Speidel Enterprises, Inc.
Bricklin & Newman, LLP
1001 Fourth Avenue, Suite 3303
Seattle, WA 98134
bricklin@nwelaw.com

Enclosure: CD-ROM with supporting documents
Ms. MaryAnn Naber, et al.
June 14, 2011
Page 10

cc: Allyson Brooks, Ph.D, State Historic Preservation Officer
    Anthea Hartig, Ph.D, Director, Western Office, National Trust for Historic Preservation
    Chris Moore, Field Director, Washington Trust for Historic Preservation
    Eugenia Woo, Director of Preservation Services, Historic Seattle
    Karen Gordon, City Historic Preservation Officer
    John Fowler, Executive Director, Advisory Council for Historic Preservation
    Lorne McComachie, Chair, Pioneer Square Preservation Board
    Leslie Smith, Director, Alliance for Pioneer Square
    Don Mathis, Division Administrator, Federal Highway Administration
    Peter Hahn, Director, Seattle Department of Transportation
    Members, Seattle City Council
FHWA disagrees with your comment that the project's purpose and need statement is too narrow and has eliminated potentially viable and cost effective solutions that rely on transit, demand management, or adapting available capacity on other facilities. Changes made to the project's purpose and need statement and the reasons for these changes are discussed in Chapter 2, Question 6 of the Final EIS. Changes made to the project's purpose and need statement did not serve to narrow the scope of concepts that could be considered. Instead, the changes that were made allowed for a broader scope of solutions to be considered. The purpose and need statement presented in the 2006 Supplemental Draft EIS stated "the project will maintain or improve mobility, accessibility, and traffic safety for people and goods along the existing Alaskan Way Viaduct Corridor..." This purpose indicated that mobility must be maintained or improved. The project's current purpose and need statement is less restrictive by stating that it will provide a facility that "provides capacity for automobiles, freight, and transit to efficiently move people and goods to and through downtown Seattle." An important difference between the two purposes is that the earlier purpose statement required mobility to be maintained or improved, the updated purpose statement is focused on providing capacity to efficiently move people and goods to and through downtown Seattle, but it doesn't specify that existing capacity must be maintained.

Various surface and transit concepts have been considered throughout the life of this project, beginning with the Surface Alternative that was fully evaluated in the 2004 Draft EIS. The Surface Alternative was eliminated from evaluation in the 2006 Supplemental Draft EIS because it didn't meet the project's purpose and need statement. In the 2010 Supplemental Draft EIS, a new Surface and Transit Hybrid concept was considered and dropped as discussed in the Final EIS in Chapter 2, Question 6. Additional traffic analysis was completed after the 2010 Supplemental Draft EIS was published in response to comments.
FHWA to commit a NEPA violation. The change in the statement of purpose and need has not been explained properly, as required by FHWA. An agency may not make such a change from a prior policy "sub silentu." Rather the agency must show there are good reasons for the new policy. In this case, the change does not seem to be justified at all.

As a result, FEIS readers have been denied a full analysis of an I-5/Surface/Transit option. This is unfortunate because WSDOT, Seattle DOT, and King County DOT officials have, as recently as December 2008, declared this the leading lowest cost and greenest alternative. In this day of scarce resources, the lowest cost solution should be the frontrunner. Given the triple threat of high and volatile fossil fuel costs, climate change, and an on-going recession, a solution that provides alternatives to driving should be at the top of the ranking. Without any reasonable explanation for the change in statement of purpose and need, it appears to have been reworded for primarily political reasons.

The key consequence is that there is no affordable alternative if the bored tunnel alternative proves unaffordable or is abandoned due to escalating cost or technical problems. The lead agencies should take all reasonable steps to change back the statement of purpose and need, and revisit analyses of lower cost, lower-risk, transit-rich alternatives.

The Washington State Legislature passed into law RCW 47.01.402, which commits the state to providing funding up to $2.8 billion to replace the SR 99 Alaskan Way Viaduct, with tolling to provide up to $400 million of that commitment.

The state funds programmed by the State Legislature include gas tax revenue from the Motor Vehicle Fund through the Nickel and Transportation Partnership Act (TPA) taxing authorities, and federal funding. The funds are used across Washington State for highway-related projects and are bonded with General Obligations bonds backed by the good faith and credit of the state (RCW 47.10.864). Bonds issued under the authority of RCW 47.10.861-866 are a general obligation of the State of Washington and pledge the full faith and credit of the state to the payment of principal, interest and contain an unconditional promise to pay such principal and interest when the bonds become due. Bond proceeds for toll revenue may include General Obligation bonds, Toll Revenue bonds, or a combination of both, as determined by the Washington State Treasurer and the State Finance Committee. In addition, on February 9, 2010, the Port of Seattle Commission, by a 5 to 0 vote, moved to affirm the Port’s support and financial commitment to the Bored Tunnel Alternative.

Finally, WSDOT has submitted a federally required finance plan to FHWA, entitled Initial 2011 Financial Plan SR 99 Alaskan Way Viaduct Replacement Project, which is currently under review. FHWA expects to complete its review and approve the finance plan following FHWA’s authorization of this Record of Decision.
The data provided in this comment regarding travel times and SR 99 traffic volumes with a Tolled Bored Tunnel are not accurate and do not reflect the analysis presented in the Final EIS and Appendix C, the Transportation Discipline Report. Please see these documents for information about travel times, access, and traffic volumes. The Bored Tunnel Alternative does provide access to downtown Seattle and Ballard, Magnolia, and Interbay; however, as documented in the Final EIS, the Bored Tunnel changes the location and/or routes by which these areas will be accessed. Please see Exhibits 5-9 and 5-10 in the Final EIS, which show expected travel volumes. Note that traffic volume differences between the Tolled and Non-Tolled build alternatives are caused by tolling SR 99. Please see Question 15 in Chapter 5 of the Final EIS for a description of effects to freight.

The traffic analysis completed for the project reflects an evaluation of the Bored Tunnel Alternative, which does not include the Elliott/Western Connector. The results of this analysis are presented in the Final EIS in Chapter 5 and in Appendix C, Transportation Discipline Report in Chapters 5 and 7. As described in Chapter 2, Question 9, the Elliott/Western Connector is an independent project that will examined through a separate environmental process. However, as required by NEPA, cumulative effects of reasonably foreseeable projects, including the Elliott/Western Connector, were considered as part of the cumulative effects analysis presented in Chapter 7 of the Final EIS. Detailed traffic analysis comparing the proposed action (Bored Tunnel) and the cumulative transportation effects of independent projects that comprise the Alaskan Way Viaduct and Seawall Replacement Program (which includes the Elliott/Western Connector) are provided in Chapter 8 of Appendix C, Transportation Discipline Report.
Proposed mitigation for transportation effects are discussed in Chapter 8 of the Final EIS and in the Project Commitments section of this Record of Decision.

O-006-004
The Bored Tunnel Alternative as defined in the Final EIS does not include the Elliott/Western Connector. The Elliott/Western Connector is an independent project that will be evaluated through its own environmental review process. The Final EIS does describe the Elliott/Western Connector in Chapter 2, Question 9 and cumulative effects of the Elliott/Western Connector and other projects are provided in Chapter 7 of the Final EIS. The detailed transportation cumulative effects analysis is provided in Chapter 8 of Appendix C, Transportation Discipline Report. The purpose of providing both the transportation analysis of the proposed action (the Bored Tunnel Alternative) and the proposed action with other projects identified as part of the broader Alaskan Way Viaduct and Seawall Replacement Program was to meet FHWA’s requirements under NEPA for cumulative effects analysis.

Each of the build alternatives evaluated in the Final EIS has independant utility and would meet the purpose and need (see Final EIS Chapter 5, Question 37).
The transportation modeling completed for this project uses current models developed by the Puget Sound Regional Council and the City of Seattle Department of Transportation. The modeling techniques employed are consistent with current professional practice and have been reviewed and approved by FHWA staff at the division and headquarters levels. WSDOT has conducted additional review of the attachments to this comment letter and its analysis is included in the project file. This analysis confirms that the traffic forecasts in the Final EIS are sufficient for purposes of NEPA analysis.
FHWA, WSDOT, and SHPO have executed a Memorandum of Agreement (MOA) to resolve the adverse effects of the project on historic properties pursuant to Section 106 of the National Historic Preservation Act and its implementing regulations. The MOA is included as Attachment C to Appendix I of the Final EIS. Requirements for specific historic properties in Pioneer Square are included in Stipulations I and II, and requirements for the Pioneer Square Historic District are included in Stipulation III. The Final Section 4(f) Evaluation for the project was published in the Final EIS, with discussion of the Pioneer Square Historic District appearing in Sections 4 and 5 of the evaluation. Appendix J of the Final EIS includes supplemental materials for the Final Section 4(f) Evaluation.
The project will not have significant impacts to transit, and the Final EIS discusses mitigation as required by CEQ and FHWA regulations. The project includes several features that will benefit transit operations in the downtown Seattle area. These are described in Chapter 3, Question 4 of the Final EIS and in Appendix C, Transportation Discipline Report and in the Project Commitments section of this Record of Decision. In brief, both the south and north portals include transit bypass lanes that will allow buses to pass general traffic in entering the downtown street grid. Overall transit access through downtown Seattle will be improved by the project as it will support service through more of the street grid than is presently possible; however, transit travel times will vary because access points will change. This is described in the Final EIS in Chapter 5, Question 14.

7. The tunnel alternative degrades and threatens transit.

In an inter-agency review of the tunnel project, the Federal Transit Authority (FTA) sent WSDOT a letter critical of the project. "In the broadest sense FTA remains disappointed..."
Impacts and mitigation measures for all of these subjects (and more) are provided in the Final EIS and attached discipline reports (see Final EIS Chapter 6, Question 29 and Appendix P, Earth Discipline Report). Project commitments are described in this Record of Decision.

The Final EIS provides a complete evaluation of air quality and greenhouse gases in Chapter 5, Questions 28 and 29, and Chapter 7, Question 4, and in Appendices M, Air Quality Discipline Report, and R, Energy Discipline Report. Appropriate mitigation measures are described in Chapter 8 and in the Project Commitments section of this Record of Decision.

8. The tunnel project should fully identify and mitigate impacts from soil settlement, water management, and from any ground stabilization measures.

Soil settlement along the bored tunnel route could cause damage to private buildings and publicly owned utilities, streets, and other infrastructure. The uncontrollable risk of digging below the water table can pose additional challenges to the protection of public and private property. The FEIS should identify possible impacts, including secondary impacts, and commit to full mitigation within the project budget.

Soil improvements and stabilizing measures may be needed along the bored tunnel alignment to protect existing structures and public utilities from settlement. WSDOT should include full evaluation of possible impacts from soil settlement. WSDOT should also analyze the impacts of possible ground water mounding that may result from soil improvements, and the permanent changes to ground water flow so that solutions (monitoring, pumping, deepening foundations, etc) can be identified. WSDOT must commit to fund the necessary protection strategies and mitigation to protect Seattle utilities and properties, both public and private.

9. The project ignores a key opportunity, and our city’s and state’s mandates, to reduce greenhouse gases.
The FEIS’s Air Report makes the point that the study area is located within a maintenance area for carbon monoxide (CO) and an attainment area for all of the other criteria pollutants.

"Because the Bored Tunnel Alternative would not cause or exacerbate an exceedance of the NAAQS or increase regional emissions, it would meet the project-level conformity requirements (40 CFR 93.123)."

"Because regional MSAT emissions are not expected to increase and no exceedances of the NAAQS are expected, no significant adverse effects on air quality are expected to result from the three build alternatives. Therefore, no mitigation measures for operational effects would be required."

As discussed above, the State and the City of Seattle both have policies and commitments to work to reduce greenhouse gases to attempt to curb or reverse global warming.

The tunnel will contain an elaborate exhaust system to collect vehicle emissions in the Tunnel and release them into the air from two point source stacks. There is no plan to do anything to manage or treat these toxic gases at the stacks.

The State must commit, as a mitigation measure, to use reasonably available control technology at the stacks to reduce greenhouse gases to help achieve our shared commitment to curb greenhouse gases.

Further, the viaduct replacement project presents a significant opportunity to help the City and State achieve policy objectives for reducing emissions, reducing VMT, and achieving carbon-neutrality. This project positions itself in opposition to these policies in several significant ways: insisting on vehicle capacity replacement as a narrow definition of purpose; refusing to study alternatives that rely on transit, efficiencies, demand management, or other modes; asserting that a dubious prediction for expected demand for car travel disqualifies any other approach but a highway; and failing to do a real comparison of how overall VMT affects greenhouse gas generation.

In addition, the FEIS fails to adequately address the full range of possible impacts of climate change, and identify how the project may need to adapt to changing conditions. Sea level rise, increases in storm surges and storm energy, and stormwater flow changes are expected. Any long term infrastructure must adequately consider future conditions along Seattle’s western edge quite different from the present. The UW Climate Impacts Group and City of Seattle’s data on possible impacts to Seattle should be used to model potential impacts. The FEIS must identify adaptation measures, and consider these as potential contributors to the total cost.
FHWA is satisfied all procedures required by NEPA have been followed, including disclosing relevant information for the public and decision makers and completing a detailed Section 4(f) Evaluation. The public has been afforded ample opportunity to comment on the project and review the substantial amounts of information that have been made available.

Sincerely,

Cary Moon
Director, People’s Waterfront Coalition
The alternatives development and screening process is described in Chapter 2, Questions 2 through 7, of the Final EIS. Specifically, the additional traffic analysis completed for the surface and transit hybrid concept is discussed in Question 7 of Chapter 2. Supporting information on alternatives screening is contained in Appendix W of the Final EIS.
2011 August 9
6018 Sycamore NW
Seattle 98107

Mr. Daniel M. Mathis, P.E., Division Administrator
U.S. Department of Transportation
Federal Highway Administration Suite 501, Evergreen Plaza
711 South Capitol Way
Olympia WA 98501-1284

Re: SR 99, Alaska Way Viaduct
Deep Bore Tunnel Alternative
Record of Decision
Comments for Review and Inclusion

Dear Sir,

The following pages contain comments that I believe indicate that the Deep Bore Tunnel Alternative to replace the elevated Alaskan Way Viaduct should not be approved.

If it would make it easier to review the included URL's, I can submit this as an email message. I can be reached at pnaopensource@gmail.com

Sincerely,

Harvey Friedman

RECEIVED
AUG 10 2011
WASHINGTON DIVISION
Chapter 3 of the Final EIS describes how the alternatives for replacing the Alaskan Way Viaduct were developed. Your preference for the Elevated Structure Alternative is noted.
Many statements and opinions have been expressed supporting and opposing alternatives and other aspects of this project. This is normal for a project of this magnitude and local and regional importance.

Many public officials have made statements supporting and opposing alternatives and other aspects of this project. This is normal for a project of this magnitude and local and regional importance. Chapter 2, Questions 1 through 7 of the Final EIS discuss the project history and what happened during the alternatives development process.
The S. Holgate Street to S. King Street Viaduct Replacement Project is an independent project which is now under construction, following NEPA review which concluded in February 2009. In the Alaskan Way Viaduct Replacement Project Final EIS, permanent impacts to views are discussed in Chapter 5, Question 17.
Throughout the project, there has been ample and appropriate public discourse and disclosure. Chapter 2, Questions 11 through 15 and Appendix A, Public Involvement, of the Final EIS describe tribal and agency coordination and public involvement that the project team conducted throughout the NEPA process. The Finding of No Significant Impact (FONSI) referred to in this comment is for the S. Holgate to S. King Street Viaduct Removal Project, which is independent of the project addressed in this Record of Decision.
valuable views would be stolen from northbound users of the H2K section of the AWV. It is as if the WSDOT responders only considered the worms in the wetland and not the waterfront that appear periodically. People are not waterfowl and can adapt when necessary but it seems to me that the users of the AWV, not just the landowners near it, should have a vote on whether to rebuild a safer, quieter AWV. Let me give another example of why I think that there is a significant environmental impact. Suppose someone decided that the Space Needle must come down for an extension of the EMP and they argued that there was no significant environmental impact because people could still get around that area. I would claim that the views of those who wanted to get up to the restaurant or the observation deck would be stolen because they couldn't do that anymore. Would the WSDOT responders still claim no significant environmental impact?

Concerning H2K, those adapters affected are the everyday commuters into downtown Seattle, the everyday commuters through downtown Seattle (who might not have a problem unless claustrophobic) if they are traveling southbound, the everyday commuters out of downtown Seattle, the tradespeople (plumbers, electricians, roofers, HVAC folk, communications setup and repair workers, etc.) who use the AWV several times a day to go in, out, through Seattle, those living in the Eastside Sound region who bring visiting guests from Sea-Tac airport north on the AWV so that those visitors can appreciate the diversity of Seattle. All should have a vote on whether to have to permanently adapt or not.

The vote should be based on complete information, not just upon what the powers-that-be think will convince the voting public to vote for or against what the p.t.b want as, for example the March 2007 vote limited to Seattle residents only in which only 2 of the 6 outcomes had meaning. None of the WSDOT engineers had the courage to correct the information released to the media about the rebuild. There were 2 ways to do the rebuild, quickly with a total shutdown for 3 years, or, with ongoing construction, demolition, and limited usage that could take 10 years. What the media reported was that the rebuild would involve total closure for 10 years - a cross canard.

Democracy only works when the electorate is informed. Slaming information to deceive the voters is unethical.

But, it is obvious why it was done. If folks knew that they could have a safer, quieter, elevated AWV for even the same amount of money that a deep-bored tunnel would cost, the vote would probably be 3-1 in favor of rebuild. Downtown developers using Ian Drage, Taylor Washburn, and Tim Cais as front voices, wanted to get rid of the elevated SR99 AWV so that they could make more profits. Their attitude was that if the smooth talking front people couldn't convince the public, then too bad for the public. This scheme was not new but had been going on for years. Even before the Nisqually earthquake of 2001, the parameters for the waterfront design charrette were that AWV wouldn't be there. Despite that, two entrants did include AWV; they definitely didn't receive honorable mention. As early as 2004, I suggested using quieter pavement as what one hears when going from King to Snohomish county on I-5, and even acoustic tiles on the bottom of the upper deck. Because this might reduce noise so that only those with very sensitive hearing would complain, it wasn't even tried especially because the intent was to knock down the AWV anyway.

To come back to the FOUSI, I think that replacing elevated SR99 AWV with a surface side-by-side highway has a significant environmental impact and that it would take an informed (all options, costs, timelines, honestly presented) vote of the entire region to allow you to claim no significant environmental impact. Even if this vote shows that the majority don't care, it would still be a
Throughout the course of this project, extensive analysis has been completed on multiple alternatives. The alternatives development process is described in Chapter 2, Questions 1 through 7, of the Final EIS and in the Project History Report provided as Appendix S of the 2010 Supplemental Draft EIS (available on the project website and also included on CD with the Final EIS).
why was not also considered the P.I.'s Saturday Spin question where results are at

"http://seattlepi.nwsource.com/saturdaysspin/181511_beweb10.html"

This was open to anyone who read about it in the P.I. over several days, not
restricted to a select few. Over 120 were passionate enough to vote, by a 3 to 1
margin, we saw either "fix it" (meaning retrofit) or "don't tear down the viaduct
without rebuilding a better one". This is an exact opposite deal breaker than for
the downtown interests but for twice as many people.

Point 4) If this was truly an unbiased study, they would have mentioned what most
wanted before the mayor's vote -- a state-wide vote ranking all five choices.
After all, we are discussing SR99, a solution to regional transportation in and
through Seattle.

Despite this clear bias, the "Stakeholder Advisory Committee" was then picked as a
proportionally-voting subset of those interviewed for the MIG report.

3) That the EXISTING AWV would be unsafe in a big earthquake does not mean that no
elevated AWV could be built that would be safe. (see 5.)

4) That the AWV must be totally demolished before it can be rebuilt is false.
WSDOT engineers have studied at least two different ways of having ongoing
construction and demolition while the AWV is still being used.

http://www.wsdot.wa.gov/RD/onlyres/86A9CCB4-34BF-4B7C-8E42-
EB32E997525A/8/SDEISAppendixBAlternativesandConstructionMethods.pdf

http://www.wsdot.wa.gov/Projects/Viaduct/library-environmental.htm

5) The WSDOT directed TV and youtube video showing the existing AWV collapsing
appears not to be tied to a computer simulation with adjustable parameters but
rather was just a SCARY cartoon propaganda movie illustrating how unsafe the
combined AWV/seawall is.

It appears to be based on a vulnerability analysis (The 2007 Seismic Vulnerability
Analysis Report is available on the WSDOT website at
www.wsdot.gov/Projects/Viaduct/library.htm
and appears to imply that the AWV would not necessarily fail without the decrepit
seawall failing first.) that apparently didn’t use data from the 6.8 magnitude
2001 Nisqually earthquake directly.

What wasn’t reported was that the design for a rebuilt SR99 elevated AWV would
survive the magnitude 7.0 earthquake presumed in that video and even more intense
shocks.

It appears fair to conclude that this video was political especially in light of
6262807-Clark-Rigsbyattach1SpecForVideo.pdf

a copy of which is on http://www.scatnow.com/Documents/

Rather the simulation video served to scare the governor, her advisors, and other
key policy makers into feeling that any AWV elevated solution for SR99 would be too
dangerous to consider.

Comments for Inclusion in ROD

DBTVAWV Page 7 of 12
Many statements and opinions have been expressed supporting and opposing alternatives and other aspects of this project. This is normal for a project of this magnitude and local and regional importance.

Chapter 5, Questions 2 through 15 of the Final EIS present the permanent transportation effects of the project. Additional details about the transportation analysis can be found in Appendix C, the Transportation Discipline Report.
Very ideal conditions the maximum flow rate of any freeway lane is 2,000 vph. The
above number exceeds that ideal rate, as you can see.

Consequently, that translates into congestion (technically called forced flow), an
LOS of F, and that leads to a lot of rear end accidents and all the stuff you see
on I-5 in the peak hour on the SB ship canal bridge - namely, crawling traffic.

Next, looking at what the viaduct has in store per the SDEIS - 117,000 ADT - versus
the DBT at 86,000 ADT, the difference is 39,000 ADT.

That 39,400 is going to be dumped onto city streets that will have no more capacity
added to the network than exists today. How do you sing Trouble in River City? Will
anyone say, “Houston, we have a problem?” O’Brian is the only one who has seen this
coming and had the courage to say anything about it.

ECHO - a $4.2 billion project to make waterfront and through traffic worse.

And the yahoos at WSDOT along with Nickels and the remaining idiots on the council
think this is a good project? Pulehheeeze.

To parse Churchill, never in Seattle’s history have so many been charged so much
for the sole benefit of so few.

And, I haven’t even talked about operations costs, accident costs or even bond
costs.

Recall, yesterday the Washington State Health Authority on behalf of the Swedish
Medical Center put out 6.25%, 30-year, AAA bonds maturing in 2041. (Probably a good
buy if you have some spare cash.)

For the Port of Seattle with its $300 million “donation” that comes to a tad under
2 billion for its 30-year likely bond issue.

List, I can appreciate your wanting to revamp the waterfront. But, I must ask, why?
Revamp into what? You cannot see the Olympics through all those waterfront
buildings until you get to an opening and those are few and far between. The
revamping they are talking about is for and on behalf of only a very few local
property owners such as Ivar’s, Miner’s Wharf, Argosy Cruises, Clipper Navigation,
et al. Why don’t they opt for an IJ of it so important to them? After all, they
are the sole beneficiaries of this so called water front promenade. It is not you
for me.

Member, the rest of us peasants footing the bill can always see the Olympics at
Hartle Edwards Park, Carkeek Park, Shilshole, Alki, Lincoln Park, Steinbruck Park,
etc. And, except for the latter, they don’t have parking at $4.00 per hour! Riddle
me this. Why should the average citizen pay for a view on the waterfront at
$4.00/hour when it is free everywhere else and fairly close by? I hope this makes
some sense to you and why I consider this project to be ill conceived and ill
advised. It has nothing to offer but woe, death, debt and lots of that as you can
see.

Griss

Comments for Inclusion in ROD DBT/AVW
Travel lanes inside the bored tunnel would be approximately 11 feet wide, with a 2-foot-wide shoulder on one side and an 8-foot-wide shoulder on the other side. Information on the design of the Bored Tunnel can be found in Chapter 3 of the Final EIS and Appendix B, Alternatives Description and Construction Methods Discipline Report.

The design will meet NFPA 502 standards for road tunnels, and as such is a reasonable policy that is consistently applied to meet the nondiscrimination requirements of the Americans with Disabilities Act (ADA). Also, Dan Mathis, the FHWA Division Administrator for Washington State, addressed Mr. Brown's concern in a letter to Mr. Brown dated February 23, 2011. In this letter, Mr. Mathis explained that a review of standards and guidelines on accessibility and the design approach taken for this project found relevant requirements have been met.
Many statements and opinions have been expressed supporting and opposing alternatives and other aspects of this project. This is normal for a project of this magnitude and local and regional importance.
I-003-001

FHWA is confident all appropriate processes and procedures have been followed in evaluating alternatives to replace the existing Alaskan Way Viaduct and in selecting the Bored Tunnel Alternative.

The rights of We The People are being violated in accordance with our Washington State Constitution, Article I Declaration Of Rights Sections 1, 2, 4, 5, and 19. Article II Section 1 Legislature Powers Where Vested.

Article I Section 1 Political Power states all political power is inherent in the people, and governments derive their just powers from the consent of the governed, and are established to protect and maintain individual rights. ARTICLE II,Section 1 explains those rights in detail.

Initiative I-101 does not prevent the state from building highways, however it protects the peoples right to vote by petition as stated in Article I Section 4. The deep bore tunnel is considered as a multibillion dollar bypass road to nowhere and is not in the best interest of our city and will cause GRID LOCK that this city will take years to recover from. There is a feasible and prudent alternative already in place which better serves the mobility and future transportation needs. Stop this rhetoric and adhere to the Washington State Constitution and let the voters exercise their God given rights.

Guy Gallipeau
Seattle City Activist (47 years)
5617-45th Ave. S.W.
Seattle, WA 98136
Traffic effects of the Bored Tunnel and other alternatives during operation are fully described in Chapter 5, Questions 2 through 15, of the Final EIS and in Appendix C, Transportation Discipline Report, Chapters 5 and 7. The City of Seattle is already working on improvements to Mercer Street separate from the Alaskan Way Viaduct Replacement Project. The City is currently constructing the Mercer Corridor Project’s East Phase I and construction of the West Phase II is expected to begin in the fall of 2012. These projects will convert Mercer Street into a 2-way street and improve connections.

WSDOT, King County, and the City have developed and are implementing transportation improvements to minimize traffic effects during construction to keep people and goods moving. These mitigation measures are discussed in the Project Commitments section of the ROD.
Costs for the Bored Tunnel and funding for the project are described in the Summary, Question 12, and Chapter 2, Questions 5 and 7 of the Final EIS.

The Bored Tunnel will provide substantially improved traffic conditions compared to the Viaduct Closed (No Build Alternative). Traffic effects of the project are described in Chapter 5, Questions 2 through 15, of the Final EIS and in Appendix C, Transportation Discipline Report, Chapters 5 and 7.

There are two aspects of the proposed Alaska Way tunnel which profoundly trouble me. The first is its exorbitant cost. And it does not matter whether the funds are City, State or Federal. It is taxpayer money and I pay to all three entities.

The second is its seeming purposelessness. It will carry non-freeway traffic north and south of the downtown core, but without any access to, or egress from, the downtown itself. I frankly cannot comprehend why we would build something with such minimal function.

Please do whatever you and your agency can to abort this wasteful and useless project.

Very truly yours,

J. Roger Nowell

cc: Ms. Angela Angove
Washington State Department of Transportation
Reuse of the Battery Street Tunnel was briefly considered during alternative development, but the facility needs substantial reconstruction to make it safe for public use, and the costs involved are prohibitive.

I-006-001

I have briefly reviewed the EIS. My comment concerns the proposed decommissioning of the existing Battery Street Tunnel and demolition of its attendant fly-over from Western Avenue to Alaska Way. While I have previously expressed the opinion that this combined facility should be kept in tact as a two lane structure (currently six lanes on the fly-over and four lanes in the tunnel itself), I understand from the EIS that demolition of the fly-over is pretty much a “done deal” under the plan. So I will constrain my remarks to the tunnel itself.

I believe that this should be kept “on ice” for further use as funds become available. For instance such a tunnel could be valuable as a bike/bus (or other transit mode) link between SR99 and Western Avenue in some ways reminiscent of the Snoqualmie Pass bike (formerly railroad) tunnel. In the past this region has unfortunately lost various rights of way, such as that associated with the Interurban, that cannot now be recovered. However, more recently, and fortunately, we have acquired Burlington Northern Railway ROW which is being put to good recreational use. And while the Battery Street Tunnel (and its fly-over) may not look like much now, the example of the Highline in Manhattan shows that, with creativity, a formerly drab, obsolete, industrial facility can be metamorphosed into a delightful community asset.

Sincerely,

[Signature]

Ce: Steven Holl Architects
We disagree with your comment that the project's purpose and need statement is too narrow and has eliminated potentially viable and cost-effective solutions that rely on transit, demand management, or adapting available capacity on other facilities. Changes made to the project's purpose and need statement and the reasons for these changes are discussed in Chapter 2, Question 6 of the Final EIS. Changes made to the project's purpose and need statement did not serve to narrow the scope of concepts that could be considered. Instead, the changes that were made allowed for a broader scope of solutions to be considered. The purpose and need statement presented in the 2006 Supplemental Draft EIS stated, "the project will maintain or improve mobility, accessibility, and traffic safety for people and goods along the existing Alaskan Way Viaduct Corridor..." This purpose indicated that mobility must be maintained or improved. The project's current purpose and need statement is less restrictive by stating that it will provide a facility that "provides capacity for automobiles, freight, and transit to efficiently move people and goods to and through downtown Seattle." An important difference between the two purposes is that the earlier purpose statement required mobility to be maintained or improved, the updated purpose statement is focused on providing capacity to efficiently move people and goods to and through downtown Seattle, but it doesn't specify that existing capacity must be maintained.

Various surface and transit concepts have been considered throughout the life of this project, beginning with the Surface Alternative that was fully evaluated in the 2004 Draft EIS. The Surface Alternative was eliminated from evaluation in the 2006 Supplemental Draft EIS because it didn't meet the project's purpose and need statement. In the 2010 Supplemental Draft EIS, a new Surface and Transit Hybrid concept was considered and dropped as discussed in the Final EIS in Chapter 2, Question 6. Additional traffic analysis was completed after the 2010 Supplemental Draft EIS was published in response to comments.
a result, FEIS users have been denied a full analysis of a surface/transit option. This unfortunate because, in the real world, the current debate is between advocates of the DBT and those who believe that the Viaduct can be removed and freight and personal mobility maintained with a suite of incremental road and transit improvements. The FEIS is not as helpful in this debate as it could have been.

2. Why Not a Planned Viaduct Closure?

In evaluating the "Viaduct Closed" Alternative, only "Unplanned" closures are studied. Evidently a planned closure is unthinkable. Why? I understand that transportation officials have developed plans to respond to an emergency Viaduct closure. Why not think through transportation life without the Viaduct and develop incremental strategies to phase the facility out while allowing time for incremental improvements to be implemented and the public to adjust?

3. The Project’s Financial Plan is Still Not Firm and the Contingency Mostly Spent

The State Legislature has capped State funding for the Project at $2.4 billion. The rest of the funding package - $700M - is no firmer now than it was when the SDEIS was released months ago. The Port of Seattle’s $300 million has still not been legally committed, and according to a recent press report, the Port Commission won’t even look at a “Financing Plan” before the end of 2011. Moreover, the $400M required to be raised by future tolls is on thin ice. WSDOT has still not even asked the Legislature to authorize tolling the facility.

Meanwhile, the practicality of tolling the Tunnel is beginning to be questioned in light of the large unmitigated impact of diverted traffic to the City’s street and transit systems. The FEIS coyly states that, with the DBT, Seattle’s CBD access would be “less direct”, travel time between Ballard and Spokane St. would be 1-6 minutes longer than with the existing Viaduct, and freight travel times would be increased. But this is claimed to have a “negligible effect” on the overall economy. And now we learn from the State’s recently released Financial Plan that transit into and through downtown Seattle will be slowed as well. Quite a pay-off for a $2B investment, don’t you think?

received on the 2010 Supplemental Draft EIS. A discussion of this analysis and the rationale for not evaluating a surface and transit hybrid in the Final EIS is provided in the Final EIS in Chapter 2, Question 7.

I-007-002

The long-term effects of closing the viaduct and not replacing it, which would effectively be a planned closure, are described in Chapter 5, Question 1 of the Final EIS.

I-007-003

The Washington State Legislature passed into law RCW 47.01.402, which commits the state to providing funding up to $2.8 billion to replace the SR 99 Alaskan Way Viaduct, with tolling to provide up to $400 million of that commitment.

WSDOT has informed FHWA that:

"The state funds programmed by the State Legislature include gas tax revenue from the Motor Vehicle Fund through the Nickel and Transportation Partnership Act (TPA) taxing authorities, and federal funding. The funds are used across Washington State for highway related projects and are bonded with General Obligations bonds backed by the good faith and credit of the state (RCW 47.10.864). Bonds issued under the authority of RCW 47.10.861-866 are a general obligation of the State of Washington and pledge the full faith and credit of the state to the payment of principal, interest and contain an unconditional promise to pay such principal and interest when the bonds become due. Bond proceeds for toll revenue may include General Obligation bonds, Toll Revenue bonds or a combination of both as determined by the Washington State Treasurer and the State Finance Committee. In addition, on February 9, 2010, the Port of Seattle Commission, by a 5 to 0 vote, moved to affirm the Port’s support and financial commitment to the Bored Tunnel Alternative."
Finally, WSDOT has submitted a federally required finance plan to FHWA, entitled *Initial 2011 Financial Plan SR 99 Alaskan Way Viaduct Replacement Project*, which is currently under review. FHWA expects to complete its review and approve the finance plan following FHWA's authorization of this Record of Decision.

**I-007-004**

Chapter 5, Question 20 and Chapter 6, Question 18 as well as Appendix L, Economics Discipline Report, describe the permanent and construction effects of the Bored Tunnel. The analysis provided follows FHWA and WSDOT guidance and provides appropriate information for the public and decision makers.

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Then there is the matter of cost overruns. Neither the State nor the City of Seattle has been willing to accept responsibility for paying these potential costs and each claim to think that this responsibility is on the other. But experts hired by the City saw a 40% probability that cost overruns will occur. And that was before the State acted to commit more that 75% of its $415M contingency before the Tunnel portion of the Project has even begun. When Protect Seattle Now tried to get a court to rule on the legality of the cost overruns portion of the Tunnel enabling statute, the State trotted out technical defenses to block any judicial resolution. It would seem that “what they don’t know won’t hurt them” is the official State doctrine on this matter.

And then there is Mr. Elman’s latest initiative which would scupper the State’s preferred differential tolling scheme and force the Legislative to vote to imposed specific tolls rather than punt to the Transportation Commission.

In addition, the State has said publicly that it intends to deal with any emerging cost problems by “managing scope.”

The FEIS should have evaluated a backup plan that discloses in detail how the State plans to respond to the uncertainty described above including exactly which elements of the Project scope will be sacrificed if necessary to avoid cost overruns and how the Port and tolling revenues would be replaced if necessary.

### 4. The Project’s Economic Benefits Should be Better Justified

Project boosters have made much of the alleged economic benefits of the Project and specifically its Deep Bored Tunnel preferred alternative. Hence, the Economics Discipline Report (“EDR”) that is part of the FEIS takes on special importance to the public and decision makers.

**Direct Job Creation:** The EDR states that the average number of temporary jobs created by the Deep Bored Tunnel portion of the project would total 480. But how many of these jobs will actually be “local” as opposed to filled by technical specialists in the tunneling industry who move about as tunneling work presents...
itself? The EDR doesn’t say. When I raised this question in comment on the Draft, the response was that WSDOT could not control who ends up getting hired. But I didn’t ask for control but rather a good faith analysis. The FDIS should have provided this analysis.

**Direct Job Elimination:** Deep Bored Tunnel construction will actually eliminate or displace some existing local jobs due to property acquisition at the two Tunnel portals. According to the FEIS, the total job loss would be 152. At least some of this job loss will probably be temporary but that is also true of the jobs created. So it would seem fair to net out the loss and set the temporary direct job creation number at 328. And of course, all of the lost jobs, unlike the new ones, would affect local workers. The FEIS should have acknowledge this

**Indirect Economic Impact:** The Bored Tunnel portion of the Project is estimated to cost $1,960M. But, according to the EDR, DBT expenditures include $130M in federal “new money”. Only this money would provide secondary economic “stimulus” as the State and local funds would be spent in the state even without the DBT project. But how much of total Project expenditures will actually occur locally? The successful bidder is national and international in make-up so it is probable that a substantial amount of Project direct and secondary spending will actually take place outside of Washington and outside of the United States. For example, the Tunnel Boring Machine, rumored to cost $80M, will be fabricated in Japan. What about the portion of Project expenditures that necessarily goes to contractor overhead and profit? Won’t a lot of this money be spent where the successful firms are based? The FEIS does not deal with this. It is possible that the “money out” could be greater than the (new) money in. If so, the stimulus value of the project could be zero or negative. Moreover, DBT construction will disrupt area businesses. Shouldn’t these losses be netted out when calculating the temporary stimulus value of the project? The FEIS should have provided additional information to clarify these matters.

**Loss of City Revenue and Higher O&M Costs:** The EDR points out that the DBT project will eliminate a number of parking spaces, mostly in the areas of the north and south portals as well as under the existing Viaduct. This permanent parking revenue loss has been estimated to cost the City about between $500M and $2.1M in annual revenue. During the construction period, 630-850 on street parking spaces will be lost. Annual revenue loss to City: $1.5 - $1.8M.
Greenhouse gas effects and climate are evaluated in Appendix R, Energy Discipline Report, and not in Appendix M, Air Discipline Report. Both report fully evaluate relevant effects of the Bored Tunnel Alternative. Mitigation measures related to energy usage and air quality are described in Chapter 8 of the Final EIS and included in this Record of Decision.

5. A Chance to Reduce Greenhouse Gases?

The FEIS’s Air Report makes the point that the study area is located within a maintenance area for carbon monoxide (CO) and an attainment area for all of the other criteria pollutants.

"Because the Bored Tunnel Alternative would not cause or exacerbate an exceedance of the NAAQS or increase regional emissions, it would meet the project-level conformity requirements (40 CFR 93.123)."

"Because regional MSAT emissions are not expected to increase and no exceedances of the NAAQS are expected, no significant adverse effects on air quality are expected to result from the three build alternatives. Therefore, no mitigation measures for operational effects would be required."

This sounds good, but don’t both the State and the City of Seattle have policies and commitments to work to reduce greenhouse gases to attempt to curb or reverse global warming? How serious are these commitments really?

The DBT will contain an elaborate exhaust system to collect vehicle emissions in the Tunnel and release them into the air from two point source stacks. To the best of my knowledge there is no plan to do anything to manage or treat these toxic gases at the stacks.
Shouldn’t the State commit, as a mitigation measure, to use reasonably available control technology at the stacks to reduce greenhouse gases? And if the State chooses not to do this, shouldn’t the City of Seattle use its substantive authority under existing environmental law to require this? Or is the alleged commitment to curb greenhouse gases just more hot air?

Sincerely,

Bryan Glyn
1415 Second Avenue, #2205
Seattle, WA 98101-2072
206.683.2933
Bglynn1018@aol.com

CC Mayor Mike McGinn
Members, Seattle City Council
In the Final EIS, Chapter 5, Question 1 describes what would happen if the viaduct isn't replaced. Extensive analysis has been completed throughout the course of this project as described in Chapter 2, Alternatives Development, of the Final EIS.

After the FEIS was published showing that a deep bore tunnel will make little improvement to what traffic would be like if the viaduct simply fell down and was not replaced, it is clear that an expensive, risky, highway project in both financially irresponsible but also a bad investment. I encourage WSDOT to instead support a smarter plan for transportation and land use in Seattle by improving the downtown grid via traffic planning, investing in transit, and adding a lane to I-5 where possible and appropriate. Seattle is a progressive city full of citizens that fully embraces transit, walking and biking as their form of transportation. Others would embrace those modes if they were safer, more frequent and available in more routes (such as Ballard to West Seattle).

Rather than building a tunnel that bypasses the city, meeting the needs of a few, please make a plan for the future that meets the needs of many and continues to move Seattle towards a bike, bus and walking friendly city that also has smart traffic planning for those who need to drive. Though highways have their time and place, downtown Seattle is not it. Please reconsider the plan for replacing the Alaska Way Viaduct with a deep bore tunnel - the FEIS makes clear it is not worth the money, and will not be an effective response to the traffic and transportation needs of the city.

Best,

Elspeth Hilton
1120 NW 59th Street
Seattle, WA 98107
NEPA requires the identification of a Preferred Alternative as part of the EIS process (see 23 CFR 711.125). This may occur as early as the Draft EIS; however, to provide full opportunity for public input, WSDOT typically does not identify a Preferred Alternative until the Final EIS. For this project, a preferred alternative was identified in the 2010 Supplemental Draft EIS. Throughout the project’s environmental process, FHWA and WSDOT have evaluated a reasonable range of alternatives. See Chapter 2 of the Final EIS for more information on alternatives development. FHWA requires the designation of a preferred alternative in the Final EIS to provide full disclosure of the choice most likely to be implemented. However, the final decision on which alternative will be implemented as a federal action that is taken by FHWA is documented in this Record of Decision. FHWA is not obligated to select the preferred alternative or any build alternative, regardless of the expressed opinions of state officials. Notwithstanding what Washington State leadership may favor or announce, the NEPA process requires a reasonable range of alternatives. FHWA has independently evaluated the NEPA documents for this project and has concluded that a reasonable range of alternatives have been identified.

WSDOT’s decision to initiate design-build contracting for the project before the Record of Decision is consistent with FHWA regulations. Under 23 CFR § 636.109(3), the contracting agency (in this case WSDOT) may issue a request for proposals (RFP) prior to the conclusion of the NEPA process, as long as the RFP informs proposers of the general status of the NEPA process and that no commitment will be made as to any alternative under evaluation in the NEPA process, including the No Build Alternative. WSDOT’s RFP met those requirements. See Chapter 2 of the Final EIS for more information.
way informed the final decision to proceed with the deep bored tunnel, but just the opposite occurred, the deep bored tunnel project has been underway since on or before January 1, 2009.

In addition, I am questioning the legality of the tunnel project proceeding and the ultimate destruction of the Viaduct based on the matter of the Alaskan Way Viaduct's status as a State protected essential public facility. The Alaskan Way Viaduct, its location, capacity, and all of its structural and transportation elements, the six points of ingress/egress, and its appearances north and south of it, the mainline of the SR99/city of Seattle corridor, all these things which establish the Viaduct's identity/use/legality, has state-protected status as an essential public facility, as a highway of statewide significance, and as a historical transportation structure eligible for national, State, and local recognition as such; none of which has been extinguished in any forum, legal or otherwise, nor through any legislative, executive, or administrative act. Therefore I think that with this FEIS or any of the prior or ongoing actions the State and City are taking that the Viaduct can be so easily eliminated is false. In order for there to be any reinstatement all of these statuses must be extinguished; and none of this was addressed by the FEIS or any other proceeding related to the AWVSRP and its documentary record.

Furthermore, the FEIS did not address the ongoing conflicts between the inserted Notices of Intent that have and have not governed this project, the conflict between just what laws the FEIS was created under. At certain junctures WSDOT claims that it is proceeding under SAFETEA-LU, while not complying with the requirements of that federal act.

Finally, I think that the deep bored tunnel is not proceeding is belied by the fact that WSDOT under its PIN 809995E has expended funds for construction, not just for preliminary engineering, or right-of-way acquisitions. The FEIS does not address those expenditures or several decisions where Moving Forward Projects were terminated upon the January, 2009 decision to proceed with the tunnel.

In the end, I object to this project proceeding due to the false pretenses that both the FEIS was created under and which the deep bored tunnel project is proceeding.

Elizabeth A. Campbell
3213 W. Wheeler St. No. 271
Seattle, WA 98199

Cc:
Raymond H. "Ray" LaHood, Secretary of Transportation
Brodi Fontenot, Acting Deputy Aasl. Secretary for Administration
Department of Transportation
Federal Highway Administration
1200 New Jersey Ave. SE
Washington, DC 20590

I-009-002
SR 99, not the Viaduct as a separate structure, is part of the state highway system and as such is a highway of statewide significance and an essential public facility. The fact that SR 99 is a highway of statewide significance and an essential public facility does not preclude WSDOT from making safety improvements or replacing the structures that make up that highway route.

The Viaduct was considered as a structure eligible for inclusion on the National Historic Register. Eligibility for the National Register does not prevent the replacement of an aging transportation structure. The impacts of removing the Viaduct structure and mitigation for the removal are addressed in a memorandum of agreement signed by the state historic preservation officer. Neither Section 106 of the National Historic Preservation Act nor NEPA require that the structure’s historic status be extinguished, only that it be considered in accordance with those two statutes.

I-009-003
WSDOT prepared a project history report that described the changes that have been made to the project over the years, much of which have resulted from the input of citizens, businesses, and other public agencies. The Project History Report was included as Appendix S in the 2010 Supplemental Draft EIS, which is also provided on CD with the Final EIS. The scope of the environmental review has changed in order to address these changes. WSDOT prepared a project history report that documents the development of the project and its environmental review over the last 10 years. Because environmental review began on this project in 2001 prior to the enactment of SAFETEA-LU, WSDOT and FHWA were not required to repeat work that had been previously done and was allowed to continue the ongoing environmental review rather than starting the process over again under Section 6002 of SAFETEA-LU (23 U.S.C. 139). However, other provisions of SAFETEA-LU may still
WSDOT has undertaken other projects in the Alaskan Way Viaduct Replacement Program after all required environmental review was complete. WSDOT has entered into a design-build contract for the Central Waterfront section of the project as allowed by federal rule, 23 CFR section 636.109. WSDOT's contract and the work allowed under that contract prior to the Record of Decision meet the requirements of this rule and of the NEPA rules, 40 CFR part 1500.

1 On the part of the City of Seattle the effort to eliminate any Viaduct replacement alternative but a tunnel (first it was a cut-and-cover tunnel, now it is the deep bored tunnel) started long before the December 31, 2008 joint decision with the State and King County. The City of Seattle took numerous legislative and City sponsored actions to ensure that another elevated structure to replace the Alaskan Way Viaduct could never be built, including but not limited to the following:

   a. 2000 Ordinance 120045 Relating to the Department of Parks and Recreation; authorizing the Superintendent to proceed with consideration of planning options for the development of a new aquarium facility and waterfront park in the area covered by the Central Waterfront Master Plan
   b. 2003 “Central Waterfront Plan Background Report Precedent Study”
   c. 2003 “Blue Ring, Seattle’s Open Space Strategy for the Center City” that will “serve as the critical guide to the numerous plans currently underway downtown, and the many more sure to come in the next 100 years. Among others, the Alaskan Way Viaduct replacement”.
   d. 2004 Waterfront Charter
   f. 2004 Resolution 30713 Relating to the Central Waterfront Master Plan; amending the Central Waterfront Master Plan - Portal to the Pacific to reconfigure the site plan
   g. 2005 “Administrating Financing & Implementing Seattle’s Waterfront Vision” report written concurrently with the Draft Central Waterfront Concept Plan; report relating to a strategic effort for decision makers as they begin codifying the process and administrative structure for managing and implementing Seattle’s Central Waterfront plan; including how to ensure that “with removal” of the Alaskan Way Viaduct, properties along the city’s western edge will become highly desirable.
   h. 2005 Resolution 30724 Adopting Guiding Principles for decisions related to the Alaskan Way Viaduct and Seawall Project.
   e. 2006 Ordinance 122247 Relating to the central waterfront, declaring that an aerial highway along the central waterfront is incongruent with adopted City of Seattle (“City”) policies, stating that construction of an aerial highway structure is inconsistent with current use and height regulations, and stating the City’s intent to amend existing regulations and policies to further clarify that an aerial highway structure in the central waterfront area is inconsistent with the City’s Comprehensive Plan.
   f. 2006 Final Environmental Impact Statement for the Central Waterfront Master Parks Plan
g.  2006 US Army Corps of Engineers (USACE) Environmental Assessment pursuant to expired NOI
e.  2006 USACE Sceoting Report. Elliott Bay Seawall, WA General Investigation (Alaskan Way
Seawall Feasibility Study Environmental Impact Statement) pursuant to expired NOI
f.  2007 Ordinance 122406 Relating to the development of a Mobility Plan to replace the central
waterfront portion of the Alaskan Way Viaduct
g.  2009 Seattle Pedestrian Plan
h.  2009 Ordinance 123142 Establishing Central Waterfront Partnerships Committee – redevelopment
and mariner use planning related to AWVSRP
i.  2009 Ordinance 123212 Amending Ordinance 123142 to alter the composition of the Central
Waterfront Partnerships Committee.
j.  2009 $225 Million appropriated for seawall replacement and SDOT issues Request for
Qualifications for design of seawall; no SEPA, NEPA, or other environmental review precedes.
August 15, 2011

Honorable Christine Gregoire
State of Washington
Capitol Building
Olympia, WA

Dear Governor:

In re: Deep bore tunnel project in Seattle

I am a 30 year resident of Seattle who has studied the SR 99 tunnel project closely. My lifetime profession is public policy and program analysis, which I now practice independently and as a Research Associate at Mineta Transportation Institute. You and I have met just once in your office in 2005 for a meeting facilitated by Booth Gardner on the risks of Sound Transit’s light rail project that includes tunneling, now underway with years left to go.

First, thank you for your service in a difficult fiscal period for our State.

This present letter serves two purposes.

First, it is a comment on the Final EIS for the SR 99 Tunnel that I request be entered into the SR 99 Tunnel Record of Decision with a response from authorities. This letter is cc Transportation Secretary Hammond and her FEIS team, so that will happen without further action on your part.

Second, as I used to do in an earlier job working for the Mayor of Washington, DC, I want to suggest an option if things go wrong with the SR 99 project.

The two purposes are closely related.

The SR 99 surface-transit alternative developed in the Partnership Process of 2007 and described in Appendix W in the SR 99 Tunnel FEIS, shown on the map on page 459, and inserted at the end of this letter, is likely not the best possible design to maximize north-south capacity and minimize travel time through downtown Seattle. These two measurements are why this alternative was screened out from further consideration in the Final EIS. The design reflects that it was, after all, a horse built by a committee.

I base my negative judgment of the surface alternative dismissed in the FEIS on my inspection of the maps attached to the bottom of this letter which shows, for example, a waterfront sidewalk width of 104 feet and a speed limit of 30 mph, just to name two

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John S. Niles | phone: 206.761.4470 | jniles@alum.mit.edu | 4003 20th Ave West, #111, Seattle, WA 98199.
Your request to include risk analysis in the Record of Decision is acknowledged. However, the Record of Decision is a decision document. Its purpose is to state the project decision, describe the alternatives considered in the environmental review process and to commit to mitigation measures, as required. The environmental analysis, including consideration of project risks, is presented in the Draft EIS, two Supplemental Draft EISs and Final EIS produced for this project and their corresponding supporting documents (discipline reports).
Many possible surface street concepts have been examined throughout the life of this project. One concept, called the Surface Alternative, was fully evaluated in the 2004 Draft EIS as described in the Final EIS in Chapter 2, Question 2. This alternative was dropped for reasons identified in the Final EIS in Chapter 2, Question 3. Other surface street concepts were developed and considered through an extensive public process in 2008 called the Partnership Process. The surface and transit hybrid concept developed through this process represented the collective and collaborative ideas of area citizens and leaders. Traffic analysis was then completed for this concept as described in Chapter 2, Questions 6 and 7 of the Final EIS.

Thank you for your comments.
Street Tunnel and compatibility with an open, pedestrian-friendly waterfront design. At the same time, the future use of I-5 and I-405 for through traffic could be optimized if and when SR 99 no longer includes a stretch that moves like our historic Viaduct from the 1950s.

With respect and best wishes,

John Niles

Cc:
Paula Hammond, P.E., State Secretary of Transportation
Dan Mathis, FHWA Region X Administrator
Angela Angove, Alaskan Way Viaduct Project Office

Attachment:
Map of SR 99 surface transit option from Appendix W of FEIS
Your concern about air quality at the tunnel portals is acknowledged. As noted in the Final EIS Appendix R, Energy Discipline Report, the exhaust from the ventilation stacks and tunnel portals were modeled in the Final EIS, and, based on this modeling, no exceedance of the National Ambient Air Quality Standards (NAAQS) would occur. Mobile Source Air Toxic (MSAT) emissions were also analyzed in the Final EIS, using FHWA guidelines. FHWA has developed this approach because currently available technical tools do not allow a prediction of the project-specific health effects (such as health risks) that would result from the potential MSAT emission changes associated with a project.
Page 4 of the Energy Discipline Report, Final EIS Appendix R, summarizes the results of Exhibit 1-2 on page 5. Exhibit 1-2 reports that the total regional operational energy and greenhouse gas emissions are higher for the 2030 Viaduct Closed (No Build Alternative).

With the Viaduct Closed in 2030, traffic volumes (measured in vehicle miles traveled) in the city center would decrease, but traffic volumes in the region would increase; see Exhibit 5-1 in the Energy Discipline Report. Exhibits 5-2, 5-3 and 7-3 in the Energy Discipline Report and the calculations in Appendix A of the Energy Discipline Report show that the operational energy and greenhouse gas emissions are lower in the city center and higher in the region under the 2030 Viaduct Closed (No Build Alternative). Please note, the city center is included in the regional analysis, therefore, overall, the highest calculated operational energy and greenhouse gas emissions were for the 2030 Viaduct Closed (No Build Alternative). As described in section 2.3 of the Energy Discipline Report, the city center area is bordered by Aloha Street on the north, 15th Avenue on the east, S. Holgate Street on the south, and Elliott Bay on the west, as shown on Exhibit 2-3. The region includes all the traffic movements in King, Pierce, Snohomish, and Kitsap Counties; the regional study area is shown on Exhibit 2-4 of the Energy Discipline Report.

The information referred to in this comment consists of voluminous numeric output from analytical models and was provided upon request in time for examination during the Final EIS comment period.