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.

I-010-001

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 map 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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I-010-001

The lead agencies appreciate your perspective on the design of the I-5, Surface, and Transit Hybrid scenario. Modest design modifications (sidewalk width and speed limit), as suggested, would not adequately address the capacity deficencies of this scenario. The transporation analysis for the I-5, Surface, and Transit Hybrid is discussed in the Final EIS Chapter 2, Question 7, and Final EIS Appendix W, *2011 Surface and Transit Scenario Year Analysis Results*.

I-010-001 characteristics that I believe could be modified to create a higher-throughput design. There are others.

I-010-002 **If the traffic engineers at WSDOT and FHWA would certify in the SR 99 Bored Tunnel Record of Decision that the best possible surface design for Viaduct replacement is fully documented in the environmental record as the design shown in FEIS Appendix W, that would be an important addition for the Record of Decision, especially if at some point the bored tunnel construction goes badly.**

Here's why: We residents of Northwest Seattle – who are having our established travel patterns with the Viaduct transformed to worse by the future SR 99 design – need to know now and in the future that WSDOT did all it could do to create an optimal surface alternative to the Viaduct that maintained the Viaduct's functions for Western/Elliott access, and that "Scenario L: I-5, Surface and Transit Hybrid" in Appendix W, page 459 was the result. Too bad it didn't work out. So be it.

My overall assessment of the bored tunnel project based on study of the Final EIS is twofold: (1) the risks to downtown Seattle and the regional economy resulting from a construction-related incident with the proposed SR 99 Tunnel are considerable, and (2) the forecast traffic performance upon opening of the new tunnel is not outstanding as a payoff benefit for the tunnel commensurate with the risks in building it.

On the question of risks, they are described in summary fashion in the Final EIS, and were undoubtedly explained to you in late 2008 and early 2009 as you were making your decision that WSDOT should build a tunnel under downtown Seattle. My summary view is that underground Seattle is not a suitable place to attempt driving the world's largest tunnel boring machine.

The soil and water table conditions are quite different than with the big M30 tunnel in Madrid that you toured on June 17: the Madrid tunnel is above the water table and SR 99 tunnel is below it, for example. The area of the cutting face of the Seattle TBM is going to be 33 percent bigger than the one used in Spain. The bigger the machine is, the higher the probability of sink holes and other subsidence on the surface.

As you ponder the SR 99 tunnel risk issue prior to the issuance of the Record of Decision by FHWA, I ask that you consider **four documents that I am asking here to be specifically referenced in the Record of Decision: two articles from a recent tunnel conference about how the SR 99 tunnel builders will deal with subsidence, the Thom Neff report commissioned by the Mayor of Seattle, and a summary of the psychological research describing the willingness of groups of men to accept more risk than they would accept individually.** These references are all cited here as Internet locations:

Settlement Considerations for Designing the Alaskan Way Tunnel:
http://books.google.com/books?id=Lpbe_nnYPqwC&lpg=PA762&ots=Y55HOT54Fp&dq=%22Deformation%20Mitigation%20Submittal%22&pg=PA751#v=onepage&q=%22Deformation%20Mitigation%20Submittal%22&f=true

I-010-002

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).

I-010-002

Geotechnical Baseline for the SR 99 Bored Design-Build Alaskan Way Tunnel, Seattle Washington:
http://books.google.com/books?id=Lpbe_nnYPqwC&lpg=PA478&dq=deep%20bore%20tunnel%20Seattle&pg=PA472#v=onepage&q=deep%20bore%20tunnel%20Seattle&f=false

Tunnel expert Thom Neff report: http://images.bimedia.net/documents/Risks.pdf

Groupthink, Abilene and Risky Shift:
http://mikeclayton.wordpress.com/2010/08/19/groupthink-abilene-and-risky-shift/

I-010-003

As reinforcement for my comment about the best surface alternative not having been studied in the FEIS, the Alaskan Way surface treatment that is already designed to be in place for the bored tunnel option could be improved to handle more traffic if the bored tunnel didn't exist. Note the photo simulations from the FEIS inserted on this page of my letter. They show extraordinarily wide sidewalks with space that could accommodate another vehicle lane and more vehicle volume. Also, I-5 through downtown Seattle could be improved to handle more traffic with electronically narrowed, smart highway lanes and a variable speed that goes slower to safely maximize volume throughput in peak periods. The electronic signs on I-5 both north and south of the I-405 turnouts for bypassing Seattle on the east side of Lake Washington could direct through traffic to the optimal route through the urban region, whether Seattle CBD or Bellevue CBD.

I-010-004

Bottom line: If the deep tunnel option goes bad at any future point, including during construction, you have the option of ordering the WSDOT to work collaboratively with Seattle DOT to take a second look at improving the traffic performance of the Alaskan Way Boulevard in the absence of the Viaduct but still maintaining an improved Battery

I-010-003

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.

I-010-004

Thank you for your comments.

I-010-004

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.

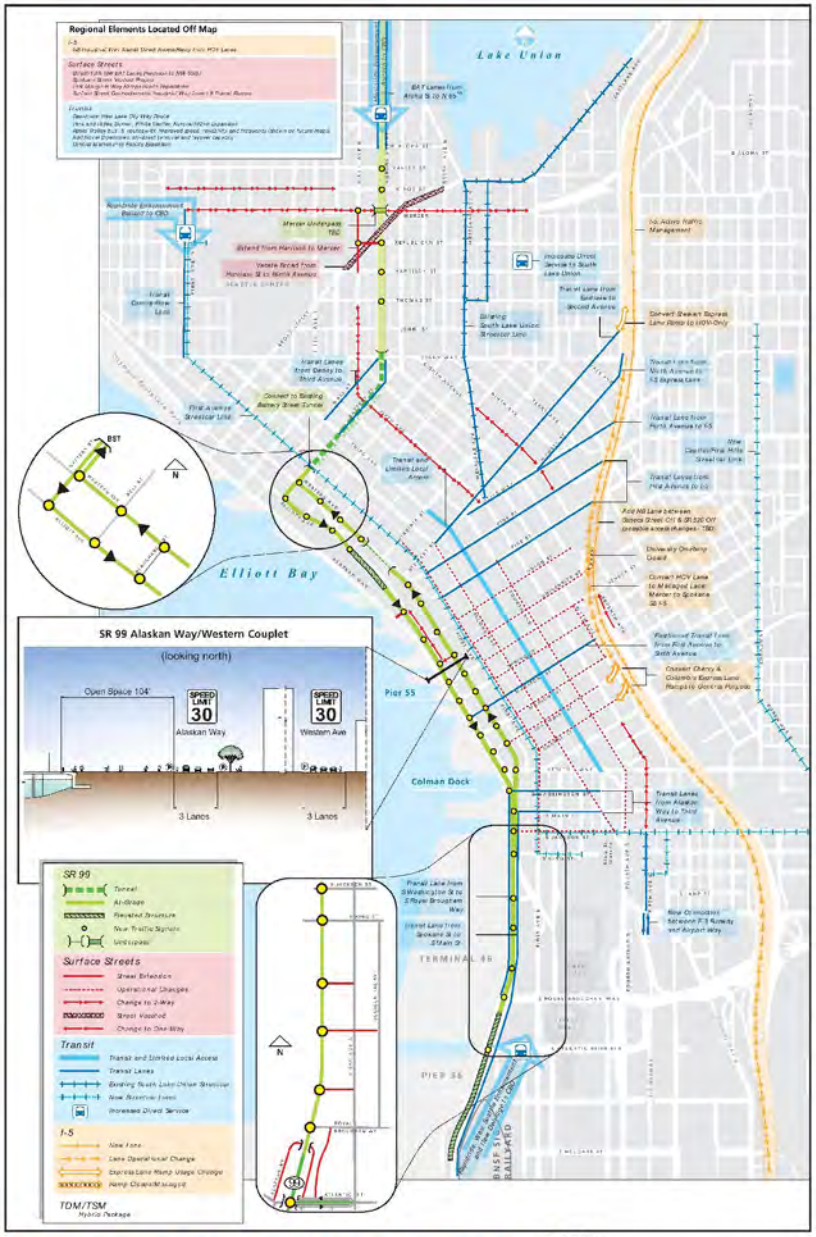
With respect and best wishes,

John Niles

John Niles

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

Attachment:
Map of SR 99 surface transit option from Appendix W of FEIS



From page 459 of Appendix W of the Final EIS for the Deep Bore Tunnel, Seattle

Exhibit 1
Scenario L: I-5, Surface and Transit Hybrid