

January 8, 2009

Hon. Christine Gregoire, Governor
PO Box 40002
Olympia, WA 98504

Hon. Ron Sims, King County Executive
701 Fifth Avenue, Suite 3210
Seattle, WA 98104

Hon. Greg Nickels, City of Seattle Mayor
600 Fourth Avenue, Seventh Floor
Seattle, WA 98124

Regarding: Alaskan Way Viaduct Replacement

Dear Alaskan Way Viaduct Decision-makers:

We are writing to express our continuing interest in supporting you and your respective departments of transportation in advancing solutions for the Alaskan Way Viaduct. This is an issue that needs to be resolved to address the safety, mobility and economic needs of our region.

We are especially thankful for your willingness to take a careful look at a deep bore solution. As we have mentioned in our prior communications to the AWV Project Team, it is our belief that a bored tunnel option provides necessary transportation capacity while reducing construction and longer term community impacts. Many stakeholder groups have weighed in on the political, social and urban development benefits of a deep bore solution. While we commend those inputs, we have limited our comments to our areas of technical expertise.

In the spirit of collaboration, we offer that the following assumptions can be revisited to explore costs, value created and benefits of a deep bore tunnel:

1. **Construction costs:** The cost assumptions in the original analysis have assumed a longer construction period than evidence indicates is necessary given advances in tunnel technology, and have made a higher allowance for risk and contingency than we would have expected given the industry's level of experience of similar projects. We believe that a review of these assumptions could significantly reduce the estimated cost.
2. **Comparative costs:** As a result of their longer life span, the deep bored tunnel option compares very favorably with the other options when one considers their full life cycle costs. While mitigation costs have not been fully addressed in the analysis, the deep bored tunnel will require less mitigation as the only construction impacts are at the portals, which are outside the downtown area, and at any ventilation shafts that may be required. We would also recommend that any comparison of alternatives includes an analysis of the value of the benefits created rather than simply an estimate of bare construction costs. This should also include an assessment of the impacts to the business and residential community during construction.
3. **Safety and resilience:** As evidenced by the continued operation of the Bay tunnels during the Loma Prieta earthquake in San Francisco, amongst others, a deep bored tunnel is among the safest of the options in a seismic event, and would provide a valuable north-south corridor through the city in the event of such an event. Modern tunnel ventilation and safety strategies now ensure that tunnels are as safe as other highways in an emergency event.
4. **Environmental review process:** A deep bore tunnel option may not require as extensive an environmental analysis, as it has far fewer impacts than options studied in the original EIS. A

supplemental EIS which could occur concurrently with preliminary design could deliver a solution much sooner than originally anticipated.

5. **Transportation benefits:** The deep bore option provides bypass capacity through the City of Seattle, supporting north-south mobility throughout the region. Additional adjustments to the proposed alignment could address concerns related to north-south freight mobility, access to Ballard and the Western couplet.
6. **Funding and Procurement:** The deep bored tunnel option presents a number of options for increasing funding. One such approach is to accommodate tolling as part of a region wide approach. Cost certainty and alternative funding mechanisms are also available through Design Build and alliance contracting.

The above conclusions are based on our global and local experience with tunnels and highway projects. We have offered to lend our experience to your team to assist in the development of cost estimates or in thinking through other aspects of the project. We stand ready to help in anyway we can to assure the wisest and enduring use of public resources.

Respectfully,



Richard Prust, Associate Principal, Arup



Vladimir Khazak, Vice President, HNTB



Dick Robbins, Founder, Robbins Company



Kern Jacobson, Independent Transportation Engineering Consultant



Gerhard Sauer, President, Sauer Corporation