SEATTLE DEPARTMENT OF TRANSPORTATION

# Additional Review of the Impacts of Deep Bored Tunnel Tolling Diversion on City Streets; Identification of Mitigation

DRAFT EXECUTIVE SUMMARY

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Photo Source: Seattle Department of Transportation

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# EXECUTIVE SUMMARY

This report is intended to provide supplemental analysis of the Alaskan Way Viaduct Replacement Project (AWVRP) from the perspective of the City of Seattle, the jurisdiction that will realize a majority of the project's benefits or impacts. It comes in response to the Alaskan Way Viaduct Replacement Project 2010 Supplemental Draft Environmental Impact Statement (AWVRP 2010 SDEIS) findings. The SDEIS finds that between 50% and 55% of traffic projected to use a deep bored tunnel would divert back to city surface streets and I-5 when tolls are assessed at levels needed to cover $400 million in revenue bonds.[1]

As more information about required toll levels to meet project financing gaps and the impacts of tolling at that level has been developed, questions have arisen as to whether a tolled tunnel meets key city goals. A quick look back at recent project history shows how city interests have been incorporated.

In the spring of 2007, the Seattle City Council requested that the Seattle Department of Transportation (SDOT) develop an Urban Mobility Plan (UMP) as a solution for replacing the Alaskan Way Viaduct. The UMP utilizes a systems approach, including enhanced transit service, surface street highway improvements, and other transportation programs and policies to address traffic needs after the removal of the Viaduct. The UMP proposed an approach that relied on travel demand management, more efficient use of existing streets and freeways, and improved transit rather than replacing Viaduct capacity through construction of a new highway. It also focused on the key principle of improving movement of people and goods to and through Downtown, moving away from the previous project focus of maintaining the vehicle capacity of the existing SR 99 corridor.

The goals of the UMP set forth in the initial City Council resolution were to:

- Improve mobility for all users
- Create a pedestrian-friendly waterfront
- Maintain the economic health of the city
- Improve the environment

Ultimately, the UMP was incorporated into the 2008 Alaskan Way Viaduct and Seawall Central Waterfront Replacement Partnership Process (referred to in this report as the

[1] The Alaskan Way Viaduct Replacement Project 2010 Supplemental Draft Environmental Impact Statement, Chapter 9, p. 214, is the source for the "project" alternative, the lower estimate of diversion. EMME modeling plots for the 2015 Deep Bored Tunnel Toll Scenario C "Program," provided by Parsons Brinkerhoff and WSDOT in January 2011, are the source for the higher estimate of diversion. The "Program" alternative includes the Elliott/Western connector to Alaskan Way.

Partnership Process), thereby providing surface and transit alternatives that were developed and analyzed jointly with highway replacement alternatives. As part of this process, eight options to replace the Viaduct were studied intensely. The Partnership Process was a joint undertaking of the Seattle Department of Transportation (SDOT), the Washington Department of Transportation (WSDOT), and King County Metro.

By combining these processes into a single alternatives investigation, the intent of the UMP was fulfilled through the development of several demand management and system efficiency alternatives. The Surface, Transit, and I-5 Hybrid (ST5 Hybrid) scenario was supported by the Stakeholder Advisory Committee (SAC) as one of two most viable options for replacing the Viaduct. The ST5 Hybrid was the outcome of three surface and transit options that were modeled and shown to be viable, and in many respects, desirable alternatives for maintaining mobility after the removal of the Viaduct.

**Note:** ST5 is the abbreviation used in this report for surface, transit, and I-5 solutions to replace the Alaskan Way Viaduct. A number of variations of a surface, transit and I-5 design have been evaluated. This report considers two of those: (1) the **ST5 Hybrid** as developed in the Partnership Process and evaluated in the early SDEIS alternatives screening; the ST5 Hybrid included an Alaskan Way/Western Avenue traffic couplet designed to increase traffic capacity on the waterfront, and (2) **ST5 Scenario B** from the Partnership Process included a 4-lane Alaskan Way on the Central Waterfront north of Colman Dock.



The 2008 Partnership Process evaluated a number of alternatives and conducted an extensive stakeholder process before recommending the bored tunnel alternative as the primary recommendation. The stakeholder group supported both the deep bored tunnel and ST5 as viable alternatives. Some SAC members supported the bored tunnel as a back-up to the ST5 alternative, to be implemented only if traffic conditions following implementation of ST5 were problematic. (A small minority supported an elevated option.) Subsequently, in early 2009, the State, City, and County selected the bored tunnel as the preferred option consistent with project guiding principles and concerns of the majority of stakeholders.

The selection of the bored tunnel option is formally documented in the report, *"AWVSRP Central Waterfront Tri-Agency Partnership Executives' Recommendation Report"* (August 2009), signed by State of Washington, City of Seattle, and King County Executives.

At the time the Executives from the three agencies signed the report, only a preliminary analysis of tolling, looking at whether tolls could raise $400 million, had been completed. In fact, the report is silent on any option to use toll revenue to support project financing, the inclusion of tolls as a project element, and on the impacts of tolling a deep bored tunnel.

A set of Guiding Principles was developed and used to guide project selection in the Partnership Process [2] are well aligned with City transportation policy goals. These Guiding Principles include:

- Keep goods and people moving today and into the future
- Stay within the State's $2.8 billion funding cap for AWV replacement and bring other funding partners into the mix
- Take advantage of Seattle's unprecedented opportunity to reinvent its waterfront
- Keep the city's waterfront businesses and other economic interests as strong and as viable as possible both during and after construction
- Support investment in transit, bicycle, and pedestrian improvements and other efforts that help diminish the reliance on single-occupancy vehicles
- Improve the environment

With recent findings in the SDEIS regarding the transportation system response to a tolled tunnel, there is reason for the City of Seattle to consider whether these Guiding Principles are being served. As the Alaskan Way Viaduct Replacement Project approaches finalization of the NEPA process and nears construction, there are a number of unresolved issues that require additional analysis. This report is intended to examine such issues, including:

- If facility tolling is needed to fund the bored tunnel, what types and levels of mitigation will be needed for Seattle streets and neighborhoods? Who will pay for mitigation and what impacts will mitigation measures have on project costs?
- Are key City policy goals (e.g., greenhouse gas reduction, carbon neutrality, a multi-modal transportation system) fulfilled through the current project direction?
- How consistent is project travel demand modeling with recent trends in personal mobility and how do those factors ultimately affect alternative selection? How might rising energy prices, which increase the cost of driving a private automobile, impact travel demand in the project area? How do changing real estate location preferences change the future demand for travel in Seattle?
- Is there a need to resurrect elements of a surface and transit solution if 50% to 55% of traffic projected to use the tunnel diverts to other streets, facilities or modes due to tolling? Might Seattle be better off with a systems solution that reduces overall auto travel demand and improves the surface street environment?

Some key findings of this report are highlighted in the remaining sections of the Executive Summary. More extensive discussion of these issues follows in the report chapters.

[2] AWVSRP Central Waterfront Tri-Agency Partnership Executives' Recommendation Report, August 2009, p. 15, http://preview.tinyurl.com/AWVSRP-ExecRecommendationAug09

## There is a Need for Surface Street Traffic, Pedestrian, and Transit Investments to Mitigate Impacts of a Tolled Tunnel

The AWVRP 2010 SDEIS projects high traffic diversion caused by tolling. The amount (40,000 to 48,000 daily vehicle trips) and likely routing of diverted traffic will require capital projects to mitigate impacts on city surface streets and provides a strong argument for implementation of programs, services, and projects that reduce overall trip demand in and through the Center City. Transit and transportation demand management (TDM) measures identified as part of the AWRRP have been mostly eliminated from the current project or are threatened due to funding limitations. Further, increased pressure placed on I-5 raises the question of whether highway investment might be more effectively spent implementing I-5 capacity enhancements recommended in the ST5 Hybrid alternative, which would also provide an opportunity to perform needed maintenance on the I-5 mainline through Seattle. Recommended mitigations are summarized in Chapter 2.

## Analysis of the Elliott/Western Connector, Not Included in the SDEIS Tolling Analysis, Shows More Diversion to City Streets

One footnote to the SDEIS tolling analysis is extremely important. The definition of the "project" used in the SDEIS, including the tolling analysis traffic forecast, excludes an important street connection between Alaskan Way and Elliott/Western. However, this critical surface street link will be constructed if a deep- bore tunnel alternative is selected and would have a substantial impact on the distribution of auto traffic through the city. The SDEIS confirms "these improvements [Alaskan Way-Elliott/Western connector] would provide an attractive alternative to the bored tunnel for some drivers, which could lead to increased diversion from SR 99 if it [the tunnel] were tolled."[3] Therefore, impacts on city streets, including Alaskan Way, could be greater than estimated in the SDEIS analysis as the connector provides another viable option for auto travelers to avoid paying the toll. The majority of the additional diversion modeled when the connector is included is traffic that would use Alaskan Way to bypass downtown. Tolling diversion on this route is projected to be high during the midday period when surface street congestion is low. This corresponds with peak visitor and tourist use of the Central Waterfront, requiring design and traffic management on Alaskan Way to ensure a safe and comfortable pedestrian environment.

The State did model a 2015 "program" alternative (including the connector) with Toll Scenario C, but the results are not reflected in the SDEIS.[4] In this model, 38,000 daily trips were forecasted to use the tunnel, compared to 86,000 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 55% of daily traffic. [5]

[3] AWVRP 2010 SDEIS, p. 208, page side note.

[4] This analysis was provided to the authors by WSDOT in preparation for reviewing the SDEIS.

[5] AWVRP EMME Plots showing volumes for Deep Bored Tunnel Toll Scenario C (2015) provided by WSDOT (analysis conducted by Parsons Brinkerhoff).

## Traffic is Declining and City and State Policies Encourage that Trend

While it is easy to speculate about the nature of personal mobility in 2030; it is harder to predict exactly what choices travelers will face and how they will respond. Traffic planners have little data to predict the price of fuel over the long term and the impact of fuel price on mode choice, although 2008 price spikes showed a clear tipping point around $4 per gallon. Sticking to what we know, Seattle Center City is projected to become much denser in the next 20 years. Density of housing and jobs is the best indicator of travel mode choice; regardless of income, ability, housing tenure, and other demographic factors, there is a direct and measurable decline in per capita driving as density increases. It is telling that following a boom of high- and moderate-density development in the early 2000s, both per capita and overall traffic in Seattle have declined. Since 2003 total vehicle trips made in Seattle are down by 8%. Traffic in downtown Seattle hasn't grown in over 10 years.

Seattle plans to accommodate 20-year growth of about 126,000 jobs and 44,000 residents[6] in the Center City and adjacent neighborhoods with no significant new surface street rights-of-way planned. This will require transportation solutions that allow travelers to conveniently use higher occupancy modes and to travel safely on foot and by bicycle. This is a matter of geometric constraint, not of political philosophy. A deep bored tunnel will encourage status quo behavior and make needed future mode shift more challenging. A majority of trips on SR-99 today are directly related to travel into and out of the Center City and immediately adjacent neighborhoods, or are short trips to bypass downtown. Maintaining or enhancing a travel shed that allows people to cover greater distance in the same amount of time is likely to encourage more driving, more downtown congestion, and more auto-centric development.

Traffic research has shown continually, and without contradiction, that new urban road capacity provided in a congested area will quickly fill up (assuming it is not priced). This phenomenon is called "induced demand." Since urban congestion is a given, regardless of investments in new roads, cities such as Vancouver, New York, Chicago, and San Francisco have accepted high levels of urban congestion and are focusing transportation investments on improving conditions for pedestrians, cyclists, and transit users. These cities have among the most vital urban centers in North America.

Seattle is making progress toward meeting VMT (Vehicle Miles Traveled) and greenhouse gas reduction goals. The "reverse induced demand" effect of an approach focused on managing transportation demand through the provision of high quality alternatives and incentives would continue progress toward City and State goals. A deep bored tunnel, or any new highway facility, has the potential to slow this progress.

## Aggressive Demand Management Measures Should Be Adopted

The SR 99 bored tunnel alternative presented in the SDEIS does not include a funded TDM or transit element. While one could argue those financial responsibilities were assumed by King County Metro and the City of Seattle in the Executive agreement for the Bored Tunnel, there is a clear lack of focus on these elements in the current project analysis. To a large degree, the project is responding to current funding conditions. However, in light of mitigation needs created by tolling diversion,

[6] Based on PSRC projections.

decreased cost effectiveness of a tunnel that carries fewer people, and clear policy directives to reduce per capita driving (e.g., GhG reduction, human health, etc), financing challenges alone cannot justify one of the region's largest transportation projects failing to invest in transit or demand reduction.

The 2008 Partnership Process approached alternatives refinement by developing a number of system components for each of eight AWV replacement options, including ST5 and highway replacement options. Planners working on this effort recognized that demand management programs to shift travelers to transit and non-motorized modes was an important component of each and every alternative, particularly those that attempted to make more efficient use of existing transportation infrastructure and services (e.g., existing transit seat capacity). Since the travel demand model used to project traffic volumes and mode choice has limited ability to evaluate the impacts of TDM measures, the project team developed a three-tiered approach to assessing TDM benefits. The effectiveness of various TDM packages was measured using: (1) the U.S. Environmental Protection Agency Commuter Model, (2) an experiential approach that evaluated actual results of various TDM investments, and (3) an approach that recalibrated cost parameters in the travel demand model.

Arguably, this was the most robust modeling conducted in the overall AWV replacement analysis process given the three-level approach. For example, the Urban Mobility Plan Briefing Book[7] provided peer traffic and travel conditions from cities experiencing similar land use changes and facing similar transportation challenges; this included information that showed downtown traffic in decline and highway replacements that had transformative impacts without causing gridlock. However, peer experience was largely discounted as a method for assessing future automobile travel demands or patterns.

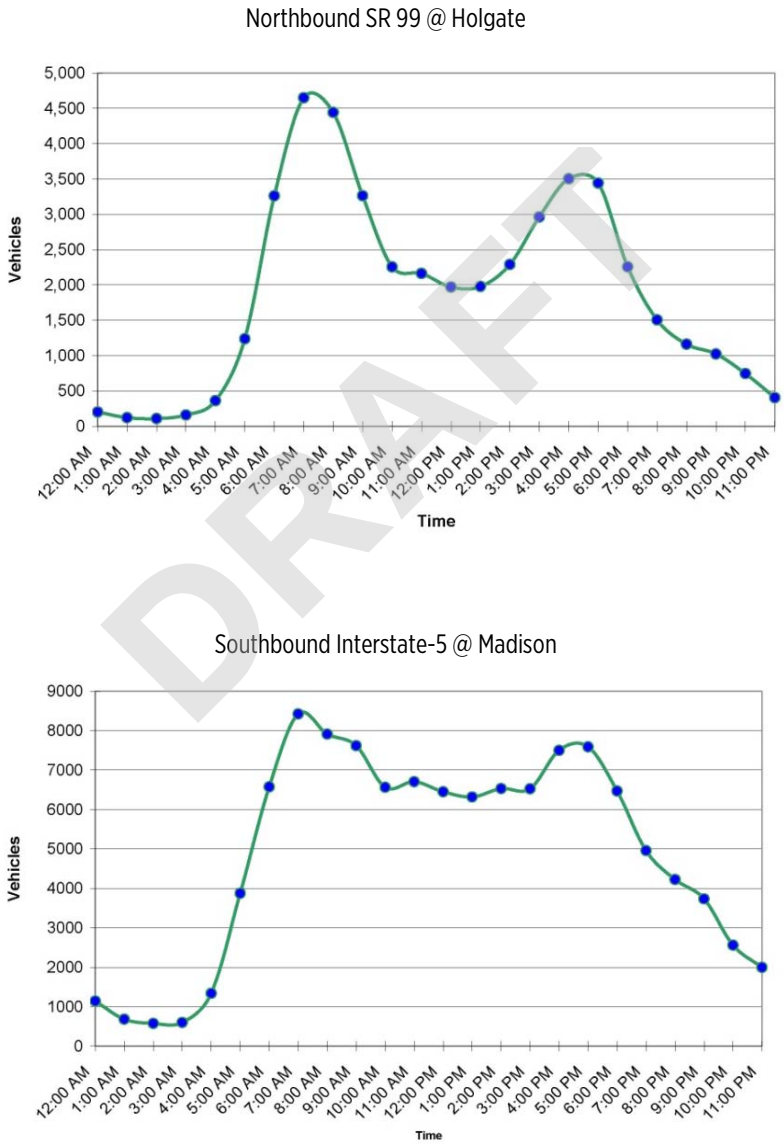
Midday hourly traffic volumes on the Viaduct are comparable to volumes carried by several four-lane arterial streets in Seattle. The highest volumes occur during peak periods. City policies suggest that shifting commuter trips to transit and alternative modes should be a high priority; commuters are a captive market and vehicle capacity and storage used in the urban core for commute trips is arguably not among the highest and best use of limited rights-of-way or real estate. Seattle transportation policies and programs attempt to reduce commuter travel in favor of high-value trips, such as retail shopping and goods movement. The highly peaked travel demand on the AWV suggests that a well designed TDM program focusing on commuter travel needs could be highly effective. In fact, the Partnership Process team working on Transportation Demand Management, which was led by King County, developed a TDM program at the conclusion of the Partnership Process. This TDM program had an estimated effect of shifting as many as 15,000 daily Center City automobile trips to transit and non-motorized modes. The estimated cost was $385 per trip reduced each year over a ten year span. In other words, an expenditure of $57 million over ten years would permanently remove 15,000 daily auto trips that occur in Center City. This projection was in addition to TDM actions and programs already in place, which have produced well-documented mode shift benefits.[8]

[7] http://www.seattle.gov/transportation/briefingbook.htm

[8] AWV Central Waterfront TDM Program, King County Metro, November 2008.

Figure ES-1 illustrates hourly levels of traffic on the Alaskan Way Viaduct (upper panel) around the commute peaks, compared to Interstate-5 (lower panel), which carries a much more diverse set of Center City access, mid-range local, and regional through trips throughout the day. Midday volumes on the Viaduct are at levels that can be handled by a four-lane surface street.

## Figure ES-1 Hourly Vehicle Traffic Volumes on (a) SR-99 and (b) I-5 by Time of Day




Source: WSDOT, 2007. From Seattle Urban Mobility Plan Briefing Book, Transportation in the Center City Today, Figure 21 (p. 3A-25) and Figure 23 (p. 3A-26)

Funding any new TDM or transit measures would require funding sources not identified today, a particularly significant challenge given King County Metro's current financial challenges. This alone is not a reason to abandon demand management and transit improvement strategies, the right combination of which could provide the most cost-effective long-term mitigation for potential traffic diversion and better align with key City policy goals. Other funding challenges related to the project have yet to be resolved, but do not appear to be holding back progress on highway construction elements of the project. For example, the State Legislature has not approved tolling for SR 99, but toll revenues are assumed in the funding package. Given tolling impacts, even a deep bored tunnel alternative with tolls will require aggressive TDM to measures to maintain quality access to downtown for all modes and travelers.

Perhaps most importantly, all the best industry thinking on ways to improve social equity in transportation, travel affordability, and human and environmental health point to programs that promote a robust and affordable set of travel options.

## Transit Needs Protection from Delay Caused by Tolling Diversion

Despite King County Metro's current funding "crisis" there are projects being implemented that will increase transit use in SR 99 corridor travel markets. RapidRide, Metro's on-street bus rapid transit program, is set for implementation in three of the major SR 99 travel shed corridors, including North Aurora, Ballard, and West Seattle. The ridership response to King County Metro's first RapidRide deployment—the International Boulevard "A Line"—suggests that these enhanced services combined with a solid package of TDM programs are effective in shifting travelers to transit. Ridership on Metro's "A Line" increased by 25% after just six months of operation.

A 25% increase in ridership on the three Seattle RapidRide lines would be equivalent to more than 5% of current AWV daily travelers.[9] The success of these new services, which will require significant investment in service and capital, will be dependent on ensuring transit vehicles are able to efficiently bypass congestion. Travelers making trips in the SR 99 corridors bound for the opposite side of the Center City or traveling through the Center City are likely to find transit less attractive than an uncongested freeway. Travelers able to afford toll rates will find driving much more convenient, while those using transit due to income restrictions or personal choice, may be faced with slower and less reliable travel due to traffic diversion from the freeway to city streets, which also carry bus services. This important social equity issue is recognized in the SDEIS, but no mitigation is suggested.

The clear mitigation path is to fund robust infrastructure investments that ensure transit speed and reliability, particularly for downtown approaches and on downtown avenues. Transit priority treatments between the north portal and the Third Avenue Transit Spine are well designed. The south end provides more significant challenges and may require another more comprehensive look the variety of options for transit pathways between West Seattle and downtown.

[9] Nelson\Nygaard analysis based on Fall 2009 King County Metro ridership in future RapidRide corridors in SR 99 travel shed.

## Regional Tolling is Needed and Could be a Game Changer

State policy makers and transportation professionals are faced with a hard reality—roadway maintenance and replacements costs are increasing rapidly and traditional transportation funding sources (e.g., gas tax) are in steady, if not rapid, decline. Among the most important and viable long-term solutions is a regional congestion pricing program. A regional approach to highway tolling, particularly one that assesses tolls based on level of use and time of travel, would provide more revenue for highway maintenance and capital improvement projects and would provide a more equitable method for collecting revenue. Any major infrastructure investment, including the AWV replacement, should be evaluated with consideration to how a regional congestion pricing program might alter future demand.

In the Seattle region, a 2005 PSRC study tracked 275 volunteer drivers to assess their responses to road pricing charges. It found that travelers decreased trip making by 0.4% for each 10% change in price, and that study participants with access to the best transit service decreased travel by 1.6% per 10% change in price. When PSRC incorporated these results into the regional travel demand model, it found that the total number of regional trips projected decreased about 5%, with greater decreases in the AM and PM peak periods. Additionally, the total number of vehicle miles driven declined by 8%.[10] To provide some perspective, removing 10% of the total vehicles from a gridlocked freeway is typically enough to eliminate congestion and create a free-flow condition.

Regional tolling has, at once, two substantial benefits. First, a well-designed tolling program will generate revenue necessary to maintain transportation infrastructure. Second, regional tolling can be used as a tool to ensure we get the most efficient use out of our highway systems. With legislative changes, tolling revenues could also be used to support transit, TDM and alternative mobility programs that benefit vulnerable populations most impacted by increased travel costs from tolling.

Regional tolling could decrease overall demand on the regional highway system, including an SR 99 deep- bore tunnel, and provide a critical revenue stream to support major capital projects and system maintenance. A well-designed regional tolling program would not create the type of artificial imbalance in the system created by a facility-only toll. There are substantial political and implementation challenges to such a program. While it is highly unlikely to be implemented by the projected date for closing of the AWV portion of SR 99, it is not unreasonable for the City, State and regional partners to be looking toward such a future.

## Highway Ramps are a Primary Cause of Surface Street Traffic Congestion in Seattle

Most surface street congestion in Seattle Center City occurs as the result of highway ramps (the other major cause is skewed intersections resulting from colliding street grids). Signalized intersections act as meters for highway on-ramps when freeways are congested and heavy turn volumes at intersections leading to highway on-ramps often conflict with pedestrian crossings, allowing only a few turning cars through each signal cycle. This suggests that a deep bored tunnel replacement of the AWV will shift intersection bottlenecks to streets in the two portal areas that feed freeway ramps.

[10] PSRC, Traffic Choices Study Summary Report, April 2008, http://www.psrc.org/assets/37/summaryreport.pdf

The relocation of SR 99 downtown access points to the stadium area removes congestion points at Seneca and Columbia; it relies on Alaskan Way to provide access to downtown, as well as through downtown for some trips. However, new ramps located at the two portals are likely to create a new set of intersection bottlenecks. This is a concern given the valuable historical resources in the Pioneer Square area and the highly constrained street network and already high traffic volumes in the vicinity of the north portal. For example, Mercer and Denny are two of the most congested arterials in the Center City due to the disruption in the street grid created by Seattle Center and the fact that both streets provide connections to I-5. Projected growth of residents and employees in the Uptown/South Lake Union area will also increase pedestrian crossing volumes in intersections leading to freeway ramps. Substantial employment gains in this area have led to noticeable increases in pedestrian activity in just the last 12 months.

Nelson\Nygaard reviewed travel demand modeling and traffic operational modeling for the SDEIS. Due to the complexity of downtown transportation conditions model estimates are often unreasonable compared to actual conditions; human judgment is then used to assign traffic volumes estimates to certain streets for evaluation with the operational model (the model that predicts intersection delay and traffic operations on city surface streets). These adjustments are significant in several cases, particularly in the portal areas where new ramps dramatically change demand patterns. While this is normal modeling procedure used to best estimate real life conditions, it is also a reminder that modeling tools have a wide margin of error. Traffic data that is presented as a singular number in SDEIS documents may have already been adjusted by a substantial margin and represents a point of estimate among a range of possible outcomes.

## Environmental Analysis Does Not Consider Changes in Real Estate Location Choice Due to Transportation Investments

Touted as a leader in environmental policy, Seattle has adopted an aggressive Climate Action Plan and the City Council has identified an aggressive goal of achieving carbon neutrality as a top priority. The State of Washington has also made reduction of greenhouse gas (GhG) emissions a policy priority. As part of these emissions reduction goals, House Bill 2815[11] requires a 50% reduction in per capita VMT by 2050 from a statewide baseline level, setting as interim benchmarks an 18% reduction by 2020 and 30% reduction by 2035. These aggressive benchmarks present an opportunity, if not a mandate, to consider strategies that reduce overall per capita automobile travel demand in Seattle (e.g., parking management, TDM and transit improvements). SDEIS analysis has shown that a tolled tunnel is the worst of all evaluated scenarios for greenhouse gases. [12] Analysis of GhG impacts for roadway projects often skirts the important reality that long-term changes in land use are needed to curb mobile source emissions. An alternative that relied on demand management and better temporal and spatial use of existing streets (e.g. ST5) would encourage residents and employers to make a different set of location decisions than a deep bored tunnel. Modeling tools that consider these dynamic relationships are being developed in the Puget Sound Region, but are not currently in use. This issue related to project modeling is discussed in more detail in Chapter 3.

[11] http://apps.leg.wa.gov/documents/billdocs/2007-08/Pdf/Bills/Session%20Law%202008/2815-S2.SL.pdf

[12] See discussion of "Energy and Greenhouse Gases" in AWVRP 2010 SDEIS, Chapter 9, p. 222

## The AWV Portion of SR 99 is Important for Local Goods Movement and Deliveries

In the course of the Partnership Process great attention was focused on the function of SR 99 and its relationship to freight traffic. It was found that only freight using SR 99 directly is impacted by the choice of an alternative to replacing the Alaskan Way Viaduct. Freight movement between the Port of Seattle and regional highways is enhanced by the "Moving Forward" projects currently under construction and is essentially unaffected by the choice of a Central Waterfront replacement alternative. Perhaps the most significant project impacts on regional and interstate freight movement are related to the amount of traffic diverted from the corridor to I-5. A tolled tunnel project diverts approximately 15,000 daily vehicles to I-5 compared to a non-tolled tunnel and includes no significant I-5 improvements.[13] While the ST5 Hybrid increases I-5 volumes by 34,000 daily vehicles, it also invests in new I-5 lane capacity and flow improvements estimated to increase daily throughput by approximately 30,000 vehicles.[14]

The freight pathways most impacted by the choice of an SR 99 replacement alternative are those that connect the SODO/Duwamish Manufacturing and Industrial area with the Ballard/Interbay Manufacturing and Industrial area. Interestingly, of the major infrastructure alternatives considered in the Partnership Process, a deep bored tunnel produced travel time results closest to the Surface and Transit Alternatives for this particular freight route. This is primarily due to the fact that the Elliott/Western corridor can only be reached by surface Alaskan Way in the Deep Bored Tunnel Alternative as well as the ST5 alternative considered.

Finally, it must be recognized that SR 99, as a freight route, is very different than I-5. I-5 has a higher percentage of trucks, including many full-sized semis. SR 99 has a much lower percentage of truck traffic with very few semis. Most freight traffic on SR 99 is local in nature and is accommodated on lightweight trucks, including many vans and pickup trucks. Given the overwhelmingly higher volumes of trucks traveling I-5 each day compared to SR 99, it seems I-5 improvements included in ST5 could have greater short- and long-term benefits for regional and long-haul freight travel.

## The SDEIS Purpose and Need of the Project is Narrowly Focused on Maintaining Highway Capacity Compared to Partnership Process Guiding Principles

In the current NEPA process, the AWVRP is being treated as a highway corridor project (as opposed to the transportation system project envisioned by the City's Urban Mobility Plan) and is subject to NEPA and FHWA requirements. Several important planning principles developed and used throughout the UMP and Partnership Process were not carried through when the City, State and FHWA updated the purpose and need of the project for the Second SDEIS (an SDEIS was developed in 2006 prior to the 2007 vote and the Partnership Process). While there is no requirement that these principles be considered in the NEPA process, it does represent a loss of work developed by a highly engaged group of stakeholders and

[13] AWVRP 2010 SDEIS, Chapter 9, p. 214.

[14] SR 99 Alaskan Way Viaduct Replacement Updated Cost and Tolling Summary Report, January 15, 2010, p. 37.

partner agencies. Unlike the larger study area considered during the Partnership Process, the SDEIS analysis considers a relatively narrow corridor on either side of SR 99. This approach is counter to the consideration of alternatives that promote a systems approach to managing travel demands or that promote optimization of existing transportation infrastructure.

It is important to note that the ST5 alternative was eliminated from consideration in the SDEIS because it did not maximize replacement capacity in the narrowly defined SR 99 corridor. In the context of the Partnership Process Guiding Principles it was identified as feasible and desirable compared with a number of other alternatives. Ultimately, a major factor that led to support of the deep bored tunnel was the ability to build the project with very limited traffic disruption.

The SDEIS purpose and need statements render meaningless well-researched arguments that Seattle's transportation system and the travelers that use it have the capacity to adapt to a different set of travel choices that don't include a freeway. This is challenging in light of SDEIS analysis of a tolled tunnel, which suggests many travelers will treat a tolled tunnel as if it did not exist.

## Moving Forward

The question at hand is whether tolling changes the calculus of decision making completed to date. Does the amount of needed mitigation for a tolled tunnel limit the project's intended contribution to mobility as well as broader social, economic, and environmental goals?

The purpose of this report is to identify important issues and concerns relevant to the City of Seattle as the AWVRP NEPA process moves into final stages and decisions are made regarding the project, tolls, and mitigation. The report summarizes proposed mitigations to manage tolling diversion impacts to pedestrians, transit users, and neighborhood residents and businesses faced with higher levels of traffic congestion. A separate report (currently in draft form) provides a more detailed set of mitigation recommendations.