

Possible Recommendations for Consideration by Members of the Advisory Committee on Tolling and Traffic Management

Presented to the committee on Jan. 14, 2014

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#1: Strategy for tolling the SR 99 tunnel and minimizing traffic diversion

After studying eight potential toll scenarios, the Advisory Committee on Tolling and Traffic Management (ACTT Committee) supports a tolling strategy similar to Scenario 7, which meets the \$200 million funding target for the program while minimizing diversion. Toll rates studied in Scenario 7 (\$1 tolls 24-hours per day with a \$1.25 toll during the 6 to 9 a.m. and 3 to 6 p.m. peak periods) generate more than \$1 billion in gross revenue over 30 years. In addition to paying for the required capital contribution, this revenue will pay for additional expenses such as toll collection costs, operations and maintenance of the tunnel and transportation system improvements needed to address diversion. Charging a toll 24 hours a day helps keep toll rates at a level that minimizes diversion while generating sufficient revenue. Approximately half of the gross revenue is earned during the morning and afternoon/evening peak periods, while the remainder is earned on weekends, during the midday and overnight. Diversion rates are approximately 20 percent during peak hours and 38 percent during daytime off-peak hours based on transportation model forecasts for year 2017. The ACTT Committee is concerned about the higher level of diversion during the daytime off-peak hours and more analysis is needed to identify ways to further minimize diversion during off-peak hours; some recommendations are included below.

Based on the analysis completed to date, we believe that increasing toll rates significantly higher than Scenario 7 would result in levels of diversion that would negatively impact the economic vitality of downtown Seattle due to the congestion created. The ACTT Committee understands the significant investment that the SR 99 tunnel represents and recognizes the volatile transportation system that exists around it. Minimizing diversion from the tunnel to city streets and I-5 helps to maximize the benefit of the tunnel and the overall efficiency of the region's transportation system. Diversion rates up to 20 percent during the peak hours (up to 30 percent during daytime off-peak hours) can be mitigated through transportation system improvements. Diversion above these levels may result in significant adverse impacts that cannot be reasonably addressed. To this end, the ACTT Committee has the goal of encouraging at least 80 percent utilization of the SR 99 tunnel during peak periods and 70 percent during daytime off-peak periods, compared to utilization of a non-tolled tunnel. Given the correlation between toll rates and diversion, this threshold should serve as a guideline in the Commission's rate-setting process and would inform how the Office of State Treasurer and Washington State Department of Transportation (WSDOT) finance the \$200 million capital need.

As stated above, Scenario 7 showed that toll rates in the vicinity of \$1.00 could generate more than \$1 billion in gross revenue over 30 years. This level of revenue was generated based on the assumption that toll rates would escalate at a rate of 1.3 percent per year in order to keep step with inflation. The ACTT Committee appreciates that for financial planning purposes the Office of the State Treasurer does not want to assume such escalation for purposes of debt financing. However, as a practical matter it seems unlikely that the toll rates would remain unchanged for 30 years and rate increases over time could generate revenue for investments other than the initial capital need. Including escalating rates could

generate an additional \$125 million over 30 years above a scenario with the same toll rates that do not adjust with inflation.

The ACTT Committee considered other scenarios with higher toll rates, but those scenarios resulted in unacceptable levels of diversion during both peak and off-peak travel times. Those levels of diversion cause significant adverse impacts such as longer travel times for drivers, freight and buses on city streets or travel delay on I-5. Scenarios with lower toll rates were also considered, but they did not generate as much revenue. More information on each scenario evaluated by the committee is outlined in the supporting materials.

With regard to freight mobility, the ACTT Committee studied both a flat rate and a per-axle toll multiplier for freight. The ACTT Committee recommends applying the per-axle toll multiplier as it is consistent with the state's current tolling system and might result in slightly higher revenue. However, given the limited number of routes available for freight through downtown Seattle during the day, freight diversion from the SR 99 tunnel may have a disproportionate effect on Alaskan Way. As such, the ACTT Committee recommends that toll rates for multi-axle vehicles be evaluated closely based on meeting the goal of at least 80 percent utilization of the tunnel by trucks during peak periods and 70 percent during the daytime off-peak hours.

ACTT Committee's recommendation:

- A toll rate structure like Scenario 7 (\$1 tolls 24-hours per day with a \$1.25 toll during the 6 to 9 a.m. and 3 to 6 p.m. peak periods) generates sufficient revenue to support the \$200 million goal for capital project funding and pay for additional expenses such as toll collection costs, operations and maintenance of the tunnel and system improvements needed to address diversion.
- The ACTT Committee's goal is to achieve at least 80 percent utilization of the SR 99 tunnel during peak periods and 70 percent during daytime off-peak periods for both general purpose traffic and freight. Given the correlation between toll rates and diversion, this threshold should serve as a guideline in the Commission's rate-setting process and for the Office of State Treasurer in financing the project.
- While Scenario 7 is the most promising option for balancing revenue generation with diversion minimization, more work on the exact toll rate structure is needed to meet the goal of 70 percent tunnel utilization during daytime off-peak hours. With toll rates set at \$1.00 during this period, diversion to city streets and I-5 is about 38 percent. The ACTT Committee recommends that the Transportation Commission further investigate ways to minimize diversion during midday while maintaining revenue, which could include lowering the midday toll rate to \$0.75 and extending the afternoon/evening peak period from 6 to 7 p.m.
- The ACTT Committee's analysis has included an escalation rate of 1.3 percent per year to keep pace with inflation which we believe is realistic, given anticipated growth and our diversion threshold recommendations. The Committee understands that the Office of the State Treasurer may choose not to inflate toll rates when creating assumptions for purposes of financing the capital contribution to the project.

- As a starting point for setting freight toll rates, apply the per-axle toll multiplier. Freight rates should continue to be evaluated based on the goal of 80 percent utilization of the tunnel for trucks during peak periods and 70 percent during the daytime off-peak hours.

Supporting Documentation:

(for committee reference during discussion of recommendations)

- Overview of Scenario 7 modeling from [July 24, 2013 presentation](#), pages 5-18.
- Full set of model results available in committee binders and at the Jan. 14 ACTT meeting.

#2: Strategy for mitigating traffic diversion on city streets and I-5

A toll strategy similar to Scenario 7 presents a viable option for maximizing use of the tunnel and minimizing diversion while fulfilling the revenue need. However, there is still concern about the level of diversion and the subsequent effect this could have on transit service along the SR 99 corridor, freight movements through downtown Seattle and accessing Terminal 46 near the SR 99 tunnel south portal and preserving the character of the waterfront. Through its work, the ACTT Committee has learned about the volatility of the regional transportation system, which makes it challenging to forecast how the SR 99 corridor will respond to future travel patterns, population growth and other factors.

The ACTT Committee reviewed a list of potential transportation system improvements to mitigate the effects of diversion. This comprehensive systems approach identified a set of multi-modal improvements that could help the transportation system operate efficiently with a tolled tunnel. These improvements focus on transit, freight and traffic efficiencies as well as bicycle and pedestrian safety. A representative list of strategies is included as **Appendix X**. **[Note to the committee: see representative list of improvements shared at Sept. 25 ACTT meeting from link below.]**

The ACTT Committee felt the following criteria were most important in evaluating system improvements to mitigate the effects of diversion from the SR 99 tunnel:

- Flexible and adaptable to a volatile transportation system where future travel patterns may be difficult to forecast
- Able to reduce traffic volumes in and around downtown Seattle
- Easy to implement without requiring costly capitalization of revenue

Having studied many alternatives, the ACTT Committee believes the most important mitigation strategy that meets the above goals is an investment in improvements to transit services serving the SR 99 corridor. Investments in transit services could be tailored to changing needs, deployed quickly and funded in a manner that is “pay as you go,” without requiring costly capitalization of revenue streams. Enhancing existing transit service could increase reliability and provide more alternatives for drivers. Lower volumes of vehicles on city streets would improve the performance of the SR 99 corridor to efficiently move people and goods.

Transit investments were envisioned to be a key component of the Alaskan Way Viaduct Replacement Program suite of projects to help keep people moving efficiently and to help accommodate future growth in the region. In 2009, a significant investment in transit service was included in the multi-agency

agreement to replace the Alaskan Way Viaduct: \$190 million in transit capital investments and a \$15 million annual investment in transit service. It was envisioned this would be funded by a one percent motor vehicle excise tax authority for King County which has not yet been secured.

WSDOT did fund \$32 million in transit service to reduce congestion in the SR 99 corridor and mitigate the impacts of construction-related delays on transit service. This funding paid for added transit trips during construction of the south end of the corridor. This investment has led to a 42 percent increase in transit ridership on these routes. Transit ridership between West Seattle and downtown has also grown significantly, increasing by more than 40 percent since 2009. The funding that supports these transit service investments expires in June 2014.

In addition to the success of transit investments in the SR 99 corridor, transit service has been a key component in the SR 520 corridor. Before tolling began in 2010, King County Metro and Sound Transit increased service by 20 percent in this corridor. Since then, transit ridership has increased by 40 percent, growing from 15,000 to 21,000 riders. This is another example of transit service as a proven strategy in meeting travel needs in a tolled corridor.

The ACTT Committee also understands the economic benefit of the SR 99 corridor, which serves Seattle's Duwamish and Interbay industrial areas. This corridor is crucial to the region's freight mobility and supports movement of \$30 billion in cargo value through the marine terminals each year. The port and maritime industrial sector's economic growth rely on infrastructure investments to increase trade and improve the region's competitiveness in global markets.

Low cost, yet significantly beneficial improvements such as adaptive signal systems at key intersections could also provide crucial mitigation for the effects of diversion, particularly for freight. The agencies agree that these signal improvements are a high priority. Given the limited toll revenue and other priorities identified in the next section, the agencies will work together to seek funding for these projects.

The ACTT Committee believes that toll revenue has the potential to provide a meaningful investment for transit along the SR 99 corridor and recommends the State Legislature direct the Washington Transportation Commission to further analyze this strategy. Policy direction has been established in RCW 47.56.820, which allows for the expenditures of toll revenues "(2)(d) to provide for the opportunities of conveyances of people and goods." As outlined in the next section, the ACTT Committee has identified our recommended priority uses of toll revenues.

ACTT Committee's recommendation:

- Guaranteed annual funding for transit service investments should be highest priority to mitigate diversion.
- Agencies should identify and aggressively pursue alternate funding sources for other transportation system improvements, such as adaptive signal systems.

Supporting Documentation:

(for committee reference during discussion of recommendations)

- Potential system improvements (including transit) discussed at [Sept. 25, 2013](#) meeting, pages 20-29.

- Transit discussion from [Nov. 14, 2012 meeting](#), pages 14-23.
- [RCW 47.56.820](#).
- [MOA No. GCA 6366](#) between City of Seattle and State of Washington.
- Alaskan Way Viaduct and Seawall Replacement Program Central Waterfront Tri-Agency Partnership [Executives' Recommendation Report](#), p. 18.

#3: Prioritizing use of toll revenue

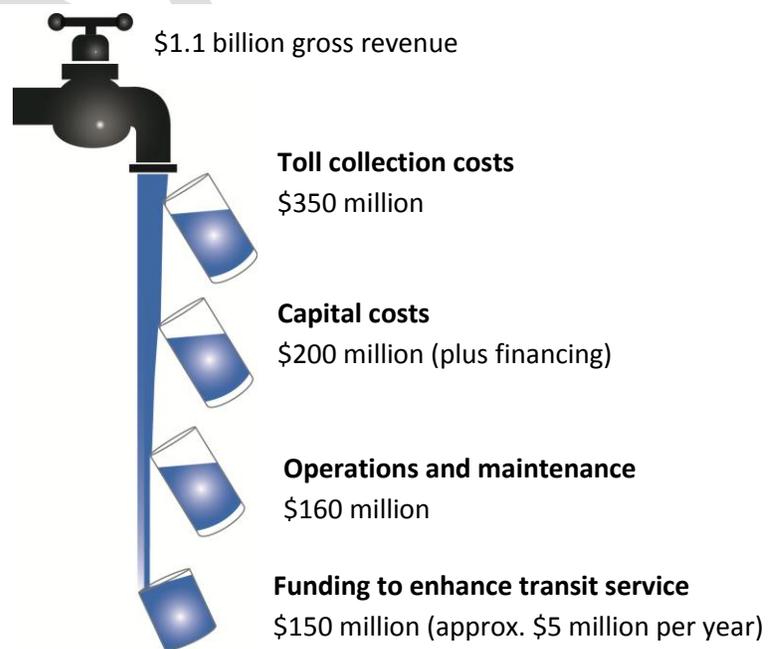
The ACTT Committee recognizes that the use of the toll revenue would need to be prioritized by policymakers. After paying for the \$200 million capital costs (plus financing) and for the toll collection costs (operations and maintenance of the toll collection system), the remaining revenue cannot cover all the identified items needing funding. These items include tunnel operations and maintenance, long-term tunnel systems repair and rehabilitation, and tunnel insurance as well as transit investments and other system improvements needed to mitigate for traffic that diverts from the tunnel.

In Scenario 7, there is sufficient revenue to fund the \$200 million capital, toll collection costs, and tunnel operation and maintenance items with potentially some funding available for other investments in the corridor needed to address diversion. The ACTT Committee recommends the following order for use of toll revenue. Based on our work to date, this appears to be compatible with the state's priorities.

1. Toll collection costs (operations and maintenance of the toll collection system)
2. \$200 million capital costs (plus financing) for the SR 99 tunnel
3. Operations and maintenance of the SR 99 tunnel
4. Annual funding to enhance transit service on the SR 99 corridor

As stated earlier, the ACTT Committee believes that additional transit service offers the most flexibility to address diversion, in the context of a volatile regional transportation system. That unpredictability makes it a challenge to forecast exactly how much and where diversion will occur in the SR 99 corridor as it responds to future travel patterns, population growth and other factors.

After paying for toll collection costs, the ACTT Committee estimated that revenue in Scenario 7 would be approximately \$735 million over 30 years. Estimated costs that tunnel tolls could also pay for are shown to



the right. More explanation of what these costs include is outlined in the supporting materials of this document. These costs may change but based on preliminary estimates, the ACTT Committee determined that approximately \$150 million could be available for transit (approximately \$5 million per year). This assumes an annual escalation in toll rates. The ACTT Committee understands that revenue for transit investments would not be immediately available at the start of tolling and that the agencies will review alternatives for an initial funding source.

The ACTT Committee understands that there are additional long-term costs associated with tunnel system repair and rehabilitation as well as tunnel insurance. The costs for repair and rehabilitation are not immediate and funding may be available from toll revenue as the toll financing mechanisms begin to sunset. There is also a need for additional transportation system improvements beyond transit investments to mitigate for the effects of diversion. Given the limited toll revenue, the ACTT Committee recommends that the agencies work together to seek funding beyond toll revenue for these long-term tunnel costs and additional mitigation measures.

ACTT Committee's recommendation:

- The ACTT Committee recommends the following order for use of toll revenue:
 1. Toll collection costs (operations and maintenance of toll collection system)
 2. \$200 million capital costs (plus financing costs) for the SR 99 tunnel
 3. Operations and maintenance of the SR 99 tunnel
 4. Annual funding for transit service on the SR 99 corridor
- Given limited toll revenue and the priorities identified above, SR 99 tunnel repair and rehabilitation, tunnel insurance and additional transportation system improvements to mitigate the effects of diversion should come from sources other than toll revenue.

Supporting Documentation:

(for committee reference during discussion of recommendations)

- Background information on uses of toll revenue from [Sept. 19, 2012 meeting](#), pages 17-20.
- Information on uses of toll revenue and scenario 7 costs from [Sept. 25, 2013 meeting](#), pages 17-18.

#4: Local community and jurisdictional involvement in toll rate setting process

The ACTT Committee understands that there are additional planning efforts for SR 99 tolling in the next few years prior to the tunnel opening to traffic. The ACTT Committee encourages agencies and policymakers to use our recommendations and analysis to inform the future independent traffic and revenue analysis, finance planning, the Transportation Commission's rate-setting process and further discussions about the use of toll revenue. The ACTT Committee recommends the Transportation Commission proactively engage members of the Committee as well as the City of Seattle, King County and Port of Seattle during this process.

The ACTT Committee was originally charged with continuing its work through one year of toll implementation, anticipated to begin in 2016. However, there is concern about diversion and congestion along the waterfront during construction of new Alaskan Way, which is expected to continue into 2018. The ACTT Committee feels that reviewing toll rates and the strategies to minimize diversion based on

real-time conditions is particularly important during this time. As such, the ACTT Committee recommends reconvening on a periodic basis during the first two to three years after tolling begins and during construction of new Alaskan Way. The ACTT Committee also encourages ongoing agency coordination and review of construction sequencing to ensure that traffic impacts are minimized during waterfront construction and these first years of tolling.

Given the unpredictability of the future transportation system, the ACTT Committee recommends that a smaller review panel be convened by the State and City of Seattle to provide ongoing oversight of toll rates to maintain the balance between revenue generation and minimizing diversion. This panel would convene after the ACTT Committee's work is complete in 2018.

ACTT Committee's recommendation:

- Engage members of ACTT Committee as well as the City of Seattle, King County and Port of Seattle during the rate-setting process and regarding the use of toll revenue.
- The ACTT Committee should continue for two to three years after tolling begins to review effects of tolling during construction on the waterfront.
- State and City of Seattle should convene a small panel for ongoing oversight of toll rates to ensure a balance between revenue generation and diversion.

Supporting Documentation:

(for committee reference during discussion of recommendations)

- Committee charge defined in [MOA No. GCA 6483](#) Exhibit E (Scope of Work Item 2a) as referenced in Alaskan Way Viaduct Replacement Program [Record of Decision](#), page 24.
- Committee charge in [Seattle City Council Resolution 31323](#).
- Waterfront Seattle [construction schedule](#).
- Example of other tolling advisory committee, [Tacoma Narrows Bridge – Citizen Advisory Committee](#).

#5: Further study of tolling highways within the Puget Sound area

Minimizing diversion from the SR 99 tunnel will be challenging because of the many alternate routes available for drivers traveling into and through downtown Seattle. As the region and state are moving forward with studying and tolling additional highways, diversion may continue to be a concern. To manage congestion and minimize diversion, the ACTT Committee sees value in analyzing a systems approach to tolling and recommends regional tolling be studied further.

Supporting Documentation:

(for committee reference during discussion of recommendations only)

- Committee charge defined in [MOA No. GCA 6486 Exhibit E](#) (Scope of Work Item 2a) as referenced in Alaskan Way Viaduct Replacement Program [Record of Decision](#), p. 24.

#6: Toll collection cost allocation policy

The ACTT Committee found the toll collection costs for the SR 99 tunnel high. About one third of the \$1 billion of gross revenue generated by Scenario 7 would be allocated to cover toll collection costs under the current policies.

Under the state's current system, toll collection costs are charged on a per-transaction basis. To limit diversion and raise revenue, the ACTT Committee has recommended low toll rates charged 24 hours a day for the SR 99 tunnel. This results in many transactions and a higher percentage of toll revenue going to cover collection costs, which generates less revenue for the facility. The ACTT Committee suggests that the WSDOT Toll Division and the Office of Financial Management further analyze a policy to allocate costs based on revenue.

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