Alaskan Way Viaduct



Seattle City Council March 10, 2014



WSDOT

King County







Advisory Committee on Tolling and Traffic Management

- Committee formed in 2011.
- The committee's scope was established via:
 - Federal Highway Administration-issued Record of Decision.
 - Seattle Department of Transportation and WSDOT Memorandum of Agreement.
 - City of Seattle's resolution 31323.
- The committee has made advisory recommendations on strategies for:
 - Tolling the SR 99 tunnel.
 - Minimizing traffic diversion from the tunnel due to tolling.
 - Mitigating traffic diversion effects on city streets and I-5.



Four-Step Planning Process

1) Determine Toll Scenarios • Toll rate structure

2) Traffic Modeling• Understand travel behavior and

diversion

Iterative Process

4) Financial Modeling

Toll funding contribution to projectMatches timing of sources and uses

3) Revenue Modeling

• Annual gross toll revenue stream

- O&M costs paid by tolls
- Cost to implement tolls



Toll Scenarios Analyzed

Scenario	Toll rate	Toll variables			
1	\$1.00 - \$3.25	Daytime and weekends; no escalation.			
2	\$0.75 - \$2.25	Daytime; no escalation.			
3	\$0.75 - \$2.50	Daytime; one-time increase of 20% in July 2030.			
4	\$1.25 - \$2.75	Daytime and weekends; no escalation.			
5a	\$0.50 - \$0.75	Daytime; escalation of 1.3% per year.			
5b	\$1.75 peak only	Weekday peak periods; escalation of 1.3% per year.			
6	\$0.45 - \$3	Daytime and weekends; no escalation			
7	\$1.00 - \$1.25	Daytime, weekends and overnight; escalation of 1.3% per year.			

All scenarios include toll rates that vary by time of day. No toll and high toll (\$1 - \$4) were studied as benchmarks.



Revenue Results for all Scenarios

	High Toll	Scenario							
	Benchmark	1	2	3	4	5a	5b	6	7
Revenue collected from tolls*	\$1,340	\$1,220	\$770	\$980	\$1,270	\$600	\$610	\$ 1 ,260	\$1,085
Toll collection costs**	(\$280)	(\$300)	(\$260)	(\$260)	(\$320)	(\$280)	(\$160)	(\$360)	(\$350)
Revenues after collection costs	\$1,060	\$920	\$510	\$720	\$950	\$320	\$450	\$900	\$735
	•								

Numbers represent estimates for approximately 30 years. Costs in millions of dollars.

*After adjustments for fees, credits and uncollectible accounts. Scenarios 5a, 5b, and 7 assume 1.3 percent toll rate escalation.

**Includes credit card fees and customer service center, state operations and roadway toll system costs. Could be lower with additional operational toll facilities. 5



Tunnel Volumes – PM Peak Period 3 – 6 p.m.





Tunnel Volumes – Midday Period 9 a.m. – 3 p.m.

	No Tolls		26,000					
	Scenario 5b - \$0		26,000 (0% diversion)					
	Scenario 5a - \$0.50	20,700 (20%	diversion)					
	Scenario 2 - \$0.75	18,170 (30% diversion)						
	Scenario 3 - \$1.00	17,330 (33% diversion)						
	Scenario 6 - \$0.45-1.25	17.300 (33% diversion)						
<	Scenario 7 - \$1.00	16,000 (38% diversion)	>					
	Scenario 4 - \$1.50 14	,000 (46% diversion)						
	Scenario 1 - \$1.50 13,700 (47% diversion)							
	High toll benchmark - \$2.00 10,900 (58	% diversion)						
(5,000 10,000 15,0	00 20,000 25,00	0 30,000 7					



Tunnel Volumes for Scenario 7





Traffic Volumes by Location – Scenario 7 PM Peak Period 3 – 6 p.m.



*Alaskan Way volumes not included in arterials west of I-5. All volumes taken at Seneca Street.



Recommendation #1: Strategy for Tolling the SR 99 Tunnel and Minimizing Traffic Diversion

- Toll rate structure like Scenario 7:
 - Strikes balance between minimizing traffic diversion and raising revenue.
 - Includes 1.3 percent annual toll rate escalation.
 - Uses per-axle toll multiplier for freight.
 - Consider lowering midday rate to \$.75 and extending afternoon/evening peak period to 7 p.m. to lower midday diversion and rebalance revenue.





Recommendation #1: Strategy for Tolling the SR 99 Tunnel and Minimizing Traffic Diversion

- 20 percent peak period diversion in Scenario 7 = approx. 3,500 cars on north-south arterials.
 - Equivalent volume of cars traveling on three-lane street over three-hour period of time.
 - Higher levels of diversion cause impacts that may not be feasible to mitigate.
- Establish tunnel utilization goal:
 - At least 80 percent during peak periods.
 - At least 70 percent during daytime off-peak periods.
 - Use as guideline for Washington State Transportation Commission toll rate setting process.



Recommendation #2: Strategy for Mitigating Diversion

- The ACTT Committee used the following criteria to evaluate system improvements that could mitigate the effects of diversion.
 - Be flexible and adaptable to a variable transportation system where future travel patterns may be difficult to forecast.
 - Limit the impacts of diversion (increased delays or increased traffic volumes) in and around downtown Seattle.
 - Be easy to implement without requiring interest payments and other costs needed to finance large capital investments.
 - Address safety concerns for pedestrians and bicyclists.



Recommendation #2: Strategy for Mitigating Diversion

- Annual funding for transit service investments should be highest priority to mitigate diversion.
 - Improves reliability of service and encourages use of transit as alternative to driving.
 - Transit investments are pay-as-you-go, can be deployed quickly and have no financing costs.
 - Transit investments were originally envisioned as key component of Alaskan Way Viaduct Replacement Program.
 - Transit ridership increased when Metro added trips to mitigate for south end viaduct replacement work and on SR 520 after tolls implemented.



Recommendation #2: Strategy for Mitigating Diversion

- Other mitigation strategies evaluated are also necessary.
 - Adaptive signal systems could help mitigate for effects of diversion, particularly for freight and pedestrian safety.
 - Mitigation improvements are needed to ensure safe and accessible pedestrian and bicycle routes in neighborhoods near tunnel portals.
- Given limited toll revenue, agencies should identify and aggressively pursue alternate funding sources for other transportation system improvements.



Recommendation #3: Prioritizing Use of Toll Revenue

- Toll revenue should be allocated in the following order:
 - 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 SR 99 tunnel.
 - 4. Annual funding for transit service on SR 99 corridor.
- Given limited toll revenue, SR 99 tunnel repair and rehabilitation, tunnel insurance and additional transportation system improvements to mitigate the effects of diversion should come from other sources.



Recommendation #4: Local Community and Jurisdictional Involvement in Toll Rate Setting Process

- Committee recommends that Washington State Transportation Commission and other policymakers engage ACTT Committee, City of Seattle, King County and Port of Seattle in rate setting process.
- ACTT Committee should continue for two to three years after tolling begins to review effects of tolling during construction on waterfront.
- State and City of Seattle should convene small panel for ongoing oversight of toll rates and diversion beyond 2018.



Recommendation #5: Further Study of Tolling in Puget Sound

- As number of tolled facilities increases, there are opportunities to incorporate efficiencies of scale.
 - Investigate ways to lower toll collection costs and ensure fair and equitable distribution of toll collection costs across the system.
- As more regional facilities are tolled, a systems approach to tolling can help manage congestion, minimize diversion and lower costs.
- Committee recommends regional tolling be studied further.



Next Steps in Toll Rate Setting Process

- Independent investment-grade traffic and revenue analysis led by WSDOT Toll Division.
- WSDOT will seek bond authorization during 2015 legislative session.
- Washington State Transportation Commission will set toll rates before tunnel opens.
 - Will hold public meetings and a final hearing in Seattle before setting toll rates.



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