
Puget Sound Gateway Project

SR 509, I-5 and SR 167 Funding and Phasing Study: Strategic Corridor Design Review



Appendix M: Financial Analysis

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1. OVERVIEW

The financial projections described in this appendix are based on the Phase 1 scope of projects identified for the Puget Sound Gateway Project study, with one exception for the I-5 Express Toll Lane (ETL) configuration between the SR 167 and SR 509 extensions. As envisioned, the Gateway Project would be implemented in two or more phases, the first of which would construct a single ETL on I-5 in each direction from SR 16 in Tacoma to I-90 in Seattle. Traffic and revenue analysis for this study assumed tolls on SR 167 and SR 509 will vary by time of day based on a fixed schedule, with tolls higher during peak commute periods and lower in off-peak periods. Express toll lanes on I-5 will use dynamic pricing where tolls adjust based on real-time traffic conditions. Single occupant and two person carpools will pay the toll, with carpools of three or more occupants exempted from the toll.

Toll projects are able to contribute funding to their upfront development costs as well as their ongoing lifecycle operations and maintenance costs. The potential financial capacity of a project measures the amount of upfront construction funding that could be generated from borrowing against the toll project's forecasted net revenues (cash flow and operating expenses). A high-level assessment of the Puget Sound Gateway (Gateway) project's financial capacity was performed using a Net Present Value (NPV) analysis based on a preliminary gross and net revenue analysis (Appendix L) and the traffic demand model (Appendix J). The NPV analysis is commonly used to quantify the upfront value of net revenues using market-based assumptions of a toll financing's average debt interest rate and coverage ratio. This type of analysis is not as in-depth as a debt structuring model, but provides a reasonable proxy of those results that is suitable for making comparisons at the current level of planning on the Gateway Project.

The preliminary NPV analysis will be performed assuming two separate financing structures:

- Non-recourse (stand-alone) toll revenue bonds
- State-backed bonds

The two financing structures have very different characteristics and bond ratings, and the NPV analysis herein will utilize different assumptions for the two structures. The non-recourse bonds are a true project financing where the only revenue pledge for debt repayment comes from the project's toll revenues. In this instance, the bond investors retain all traffic and revenue risk. Due to the construction and revenue risk of start-up toll projects, these projects are typically rated in the BBB category at the lower end of investment grade rating spectrum and feature higher debt service coverage ratios (the ratio of net revenues over debt service) and interest rates. Several projects have successfully issued BBB category toll revenue debt in the last year, including the Central Texas Regional Mobility Authority, Virginia DOT's Route 460 in Virginia, Texas DOT's Central Texas Turnpike System, City of Chesapeake in Virginia and Virginia DOT's I-95 Express in Virginia. For each of these projects, the agencies issued bonds with final maturities up to 40 years and none of the bonds have yields above 5 percent.

Conversely, the State could choose to bolster the credit pledge by pledging additional revenues in order to achieve higher credit ratings and a lower cost of borrowing. An additional pledge of motor vehicle fuel tax revenues and/or the full faith and credit of the State would enable the

project to support a considerably higher amount of debt since bond investors would require a lower debt service coverage ratio and lower bond yields. While the financing would be structured so toll revenues would be sufficient to pay all debt service, the State would assume the responsibility of repayment if actual revenues would be insufficient to meet the annual payment obligations. The State can structure the debt service coverage ratio to a level at which it feels comfortable and that fits within the State’s overall needs for State-backed debt.

2. METHODOLOGY

The financial capacity analysis will calculate the NPV of the net cash flows (based on the traffic and revenue as described in Appendix L) for each project. For evaluating the project’s upfront funding capacity, the NPV results in this section utilize a range of net revenues with the high end of the range represented by the base net revenue projection and the low end of the range represented by a 20 percent reduction to the base projection. As noted in Appendix L, providing a downward adjustment to the range of net revenues helps account for potential uncertainty associated with the preliminary nature of the T&R analysis.

Based on the financing structure (non-recourse toll bonds and State-backed bonds) and facility type (I-5 managed lanes or more traditional SR 167 & 509 toll road) the methodology will apply unique assumptions for each case. Since the actual construction term and timing of public funding contributions are not yet established, the analysis assumes that initial financing proceeds will be delivered at a single point in time near the beginning of construction, with three full years of construction remaining (2018 through 2020) before revenues from toll collection begin in year four (2021). The NPV analysis will uniformly apply an average debt interest rate to discount net project cash flows after the coverage ratio is applied to estimate the financing potential of each project.

The main assumptions for the analysis are contained in Table M- 1.

Table M- 1 Financial Analysis Assumptions

Item	State-Backed	Non-Recourse Toll	Comment
Debt Term (years)	30	35	<ul style="list-style-type: none"> Recent toll transactions have had 35-40 year final maturities
Average Interest Rate	4.50%	6.25%	<ul style="list-style-type: none"> Includes cushion for future market movement Toll bonds also have cushion for Capital Appreciation Bonds (CABs)
Coverage on SR 167 & SR 509 (traditional toll road)	1.50x	2.00x	<ul style="list-style-type: none"> State-backed coverage would be based on State comfort level with T&R and risk Traditional start-up toll roads typically have 2.0x coverage as a benchmark
Coverage on I-5 Express (managed express lanes)	1.50x	2.25x	<ul style="list-style-type: none"> Managed lane uncertainty requires higher coverage and is dictated by the market
Final Year of Revenue Growth	FY 2041	FY 2041	<ul style="list-style-type: none"> NPV analysis conservatively assumes no growth in net revenues after FY 2041

Note: Assumptions are illustrative in nature and do not represent terms of an actual financing.

Traditional toll road is intended to represent a road in which all vehicles pay a toll versus the dynamically priced managed lane with carpool considerations and an adjacent free facility.

3. SUMMARY OF RESULTS

The following tables illustrate the financing potential of the Gateway project based on a NPV analysis of net toll revenues. As the project is further developed with refined cost, traffic and revenue data, a more sophisticated financing capacity analysis should be undertaken. This analysis is intended only to illustrate a simplified approximation of financing potential for the Gateway project and is not a detailed analysis of a capital markets bond transaction. State-backed financing capacity is based on the ability of toll revenues to repay the debt and does not contemplate existing State priorities and availability constraints of State-backed debt.

Table M- 2 Potential Range of Toll Funding Contribution using NPV Analysis (\$ millions)

Potential Toll Funding — Millions of Dollars in FY 2018			
	State-Backed Bonds <i>I-5 ETL with two lanes between SR 167 and SR 509, one lane per direction elsewhere</i>	Non-Recourse Toll Bonds <i>I-5 ETL with two lanes between SR 167 and SR 509, single lane per direction elsewhere</i>	Non-Recourse Toll Bonds <i>I-5 ETL with one lane per direction between SR 16 and I-90</i>
I-5 ETLs	465 - 580	260 – 325	150*
SR 509	110 - 140	70 – 85	85
SR 167	125 - 155	75 - 95	95
Total Potential Upfront Financing Capacity	700 - 875	405 - 505	330

The I-5 Express Toll Lanes estimate assumes a dual lane system in each direction from SR 167 to SR 509, with single lanes between SR 16 and SR 167 and between SR 509 and I-90. Reduced financial capacity has been estimated for an all single lane system at approximately \$150 million using interpolation techniques as detailed modeling of all single lane operations has not yet been conducted. The non-recourse funding range of \$265-325 M for I-5 ETL as a partial dual lane system appears to support a \$150 M construction contribution as a single lane only system. See revenue discussion in Appendix L.

Since ETL facilities have higher traffic and revenue uncertainty, the credit rating agencies and investors would require a more conservative financing structure for the I-5 express toll lanes than traditional toll facilities, such as SR 509 and SR 167 where all vehicles pay the toll. While the revenues generated by the express toll lanes can benefit from having established traffic volumes on the existing facility, there is a relative lack of comparable financings nationally, which creates uncertainty and requires a more conservative approach to evaluating the potential financing structure and terms. At a minimum, this would include higher, more conservative debt service coverage ratios and reserve funds or pledging additional non-toll revenues to back the tolls. The acceptance and performance of other express toll lanes facilities across the United States in the next few years will influence the ability of this express toll lane project to obtain the financing structure and proceeds presented in this report. For these reasons, stand-alone toll revenue bonds

may not produce the financing proceeds identified in this report and an additional revenue pledge or general obligation bonds with the full faith and credit of the state may be required to develop a financing package for express toll lanes.

Since the NPV analysis utilizes a debt service coverage ratio to restrict the amount of debt, significant excess project revenues are produced annually after payment of O&M and debt service. The excess revenues of the project typically cannot be financed to produce upfront construction funding but represent the potential additional value of the project over time that could be used after collection for pay-as-you-go purposes. These revenues would be available to support contributions to various reserve accounts, periodic repair and replacement expenses and other pay-as-you-go uses that may be determined by policymakers at that time.