SR 520 Toll Traffic and Revenue Technical Report – 2008

Analysis of the
SR 520 Finance Plan Draft 2008 Update
Toll Scenarios

Prepared for:

Julie Meredith, P.E.
Director
SR 520 Program

and

Helena Kennedy Smith
Program Management and Finance Director
Urban Corridors Office

Submitted by:

SR 520 GEC Team

April 2009

Washington State
Department of Transportation

Plaza 600 Building
600 Stewart Street, Suite 520
Seattle, Washington 98101-1217
Phone 206-770-3500
Fax 206-770-3569

[This page intentionally blank]

TABLE OF CONTENTS

LIST OF EXHIBITS

DISCLAIMER

This report was prepared by Parsons Brinckerhoff (PB) in concert with HDR, Inc., in accordance with an agreement with the Washington State Department of Transportation (WSDOT). This report is subject to the terms and conditions of the consulting agreement, and is meant to be read as a whole and in conjunction with this disclaimer.

Information and statements contained in this report are based on information provided to PB and HDR by, and obtained from, the Washington State Department of Transportation (WSDOT), the Puget Sound Regional Council (PSRC), and other sources. In the preparation of this report and the opinions contained herein, PB makes certain assumptions with respect to such conditions that may exist or events that may occur in the future that are subject to change. These assumptions underlie projected future traffic volumes and potential toll revenue ranges, and are not intended to reflect any official decisions regarding toll policy, project funding decisions, or the bridge replacement options.

Furthermore, the toll revenue and financial analysis results presented herein are provided for feasibility considerations and to further toll policy and financial planning discussions, and were not prepared for the purpose of securing an investment-grade credit rating for a potential future bond issuance.

This report does not constitute a recommendation of the Washington State Department of Transportation or that of PB.

ABBREVIATIONS AND ACRONYMS

(D)EIS	(Draft) Environmental Impact Statement
EB	Eastbound
ESHB	Engrossed Substitute House Bill
ESSB	Engrossed Substitute Senate Bill
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
FY	Fiscal Year
GO	General Obligation
GP	General Purpose (Lanes)
HMA	Hot Mix Asphalt
HOT	High-Occupancy Toll (Lanes)
HOV	High-Occupancy Vehicle
I-5	Interstate Highway 5
I-90	Interstate Highway 90
I-405	Interstate Highway 405
MVFT	Motor Vehicle Fuel Tax
OST	Office of the State Treasurer
PCC	Portland Cement Concrete
PCE	Passenger Car Equivalent
PSRC	Puget Sound Regional Council
R&R	Rehabilitation and Repair
SR (520, 522)	State Route (520, 522)
ST2	Sound Transit 2 (investment plan)
TPA	Transportation Partnership Account
V/C	Volume-to-Capacity Ratio
VOT	Value of Time
VPHPL	Vehicles per Hour per Lane
WB	Westbound
WSDOT	Washington State Department of Transportation
YOE ($s)	Year of Expenditure (Dollars)

[This page intentionally blank]

[This page intentionally blank]

1. INTRODUCTION AND SUMMARY

1.1 BACKGROUND AND PURPOSE

The purpose of this report is to document the methodology and technical findings of the toll traffic and revenue projections prepared for State Route 520 and Interstate 90 during 2008.

In 2007, the Washington State Legislature passed and Governor Chris Gregoire signed into law Engrossed Substitute Senate Bill (ESSB) 6099 that directed the Washington State Department of Transportation to prepare a finance plan for the SR 520 Bridge Replacement and HOV Project. As directed in ESSB 6099, the *2007 SR 520 Finance Plan* examined revenues from tolls in addition to other identified sources. With direction that the finance plan concentrate tolling within the SR 520 corridor between I-5 on the west side of Lake Washington and I-405 on the east side, a key objective of the plan was to determine the level of project funding that tolls could support.

As a follow-up to the *2007 Finance Plan* and ESSB 6099, the Washington State Legislature and the Governor provided further direction through ESHB 3096 for additional analysis and outreach to address outstanding project design, funding and implementation issues.

This report documents the additional analysis performed for the *SR 520 Finance Plan Draft 2008 Update* related to tolling SR 520 or both SR 520 and I-90, and presents the toll traffic and revenue estimates associated with that report.

Specifically, this toll traffic and revenue report:

- Examines a broader range of variable toll strategies and in greater detail;
- Considers tolling "short segment" trips between I-5 and I-405 that do not cross Lake Washington;
- Considers tolling the existing bridge in the near term (pre-completion tolling);
- Considers tolling the parallel Interstate 90;
- Assesses the potential cross-lake traffic impacts of alternative future highway and transit network assumptions; and
- Identifies the financial impact of providing a toll exemption to 3+ HOVs.

The *SR 520 Finance Plan Draft 2008 Update* provides a summary of the toll scenarios modeled and their funding potential.

This report provides the detail that underlies the finance plan toll scenarios, including:

- Assumptions, modeling methods, and calculation processes used to develop the daily and annual toll traffic projections;
- Gross and net annual toll revenues; and
- The methodology for estimating financial capacity of the net toll revenues.

1.2 SUMMARY OF TOLL TRAFFIC AND REVENUE RESULTS

The finance plan analysis examined 13 primary toll scenarios involving a range of toll rates and extent of tolling. Revenue projections for each scenario were tested under financing assumptions provided by the Office of the State Treasurer. Of these scenarios, several included pre-completion tolling, I-90 tolling, or a combination of both. Additional tolling factors were also considered in the analysis, which are summarized in Exhibit 1.

Exhibit 1 – Tolling Factors and Relative Impact on Toll Revenue

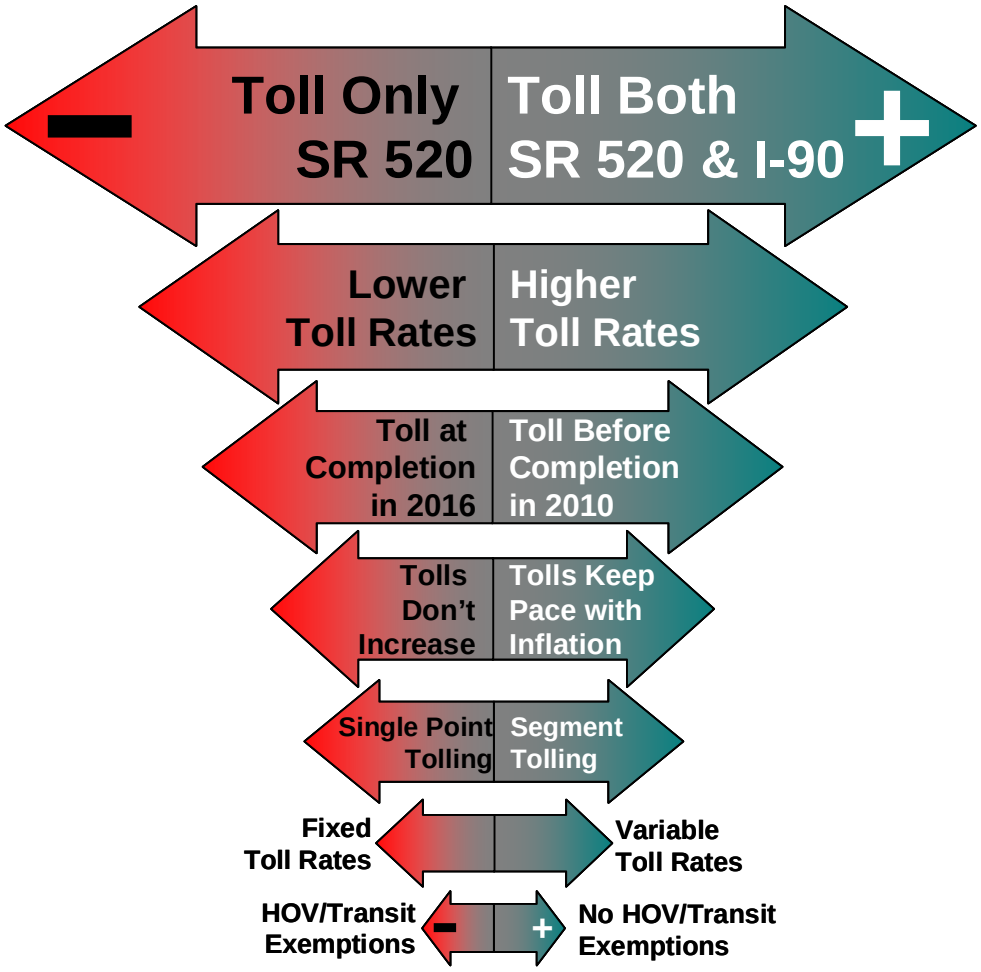


Exhibit 2 provides representative summary data generated for the technical analysis conducted in 2008. For each of the 13 toll scenarios, Exhibit 2 includes:

- The key scenario elements;
- 2030 weekday traffic volumes from the demand model;
- Toll rates; and
- 2030 net toll revenues.

Exhibit 2 – Toll Scenario Analysis Comparison Matrix

Scenario & Description	*Scenario Elements*				*2030 Traffic Model Outputs*				*Cross-Lake Toll Rate Ranges (2007 $s)*		*Weighted Average X-Lake Toll in FY 2017*		*NPV of Net Toll Revenues*
	Bridges Tolled		Toll Configuration (SR 520)	Toll Exemptions (SR 520)	Vehicles in GP Lanes		Total Vehicles		Pre-Completion FY 2011-16	Post-Completion FY 2017→	*2016 $s* 2007 $s	*2016 $s* 2007 $s	(Before R&R, FY 2011)
	Pre-Completion FY 2011-16	Post-Completion FY 2017→			SR 520	I-90	SR 520	I-90			SR 520	I-90	
Single Bridge Scenarios (Toll Only SR 520)													
Scenario 1		Toll 520	Bridge + Short Segments	Transit & HOV 3+	108,900	161,900	118,300	168,700		$0.75 to $3.80	***$2.92*** $2.34		$939 M
Scenario 2	Toll 520		Bridge Only	Transit & HOV 3+	114,400	159,300	123,200	166,000	Free to $2.95	$0.75 to $2.95	***$2.11*** $1.69		$851 M
Scenario 5 (Fixed-Rate Tolls)		Toll 520	Bridge Only	Transit & HOV 3+	111,700	161,600	120,700	168,400		Fixed at $1.70	***$2.15*** $1.70		$586 M
Scenario 6 (Highest 520 Only Funding)	Toll 520		Bridge + Short Segments	No Exemptions	96,600	163,700	100,800	173,500	Free to $3.80	$0.80 to $5.35	***$3.73*** $2.99		$1,461 M
Scenario 6.1 - Toll Exemptions Reapplied	Toll 520		Bridge + Short Segments	Transit & HOV 3+	95,100	163,500	104,200	170,300	Free to $3.80	$0.80 to $5.35	*$3.73* $2.99		$1,457 M
Scenario 7	Toll 520		Bridge Only	Transit & HOV 3+	106,500	161,700	115,700	168,500	Free to $3.25	$0.75 to $3.80	***$2.92*** $2.34		$1,174 M
Scenario 7.1 - Limited Build Test	Toll 520		Bridge Only	Transit Only	108,800	161,800	108,800	172,100	Free to $3.25	$0.75 to $3.80	*$2.92* $2.34		$1,186 M
Scenario 7.2 - HOV Policy Impact Test	Toll 520		Bridge Only	Transit & HOV 2+	96,700	155,400	129,100	177,400	Free to $3.25	$0.75 to $3.80	*$2.92* $2.34		$1,086 M
Two-Bridge Scenarios (Toll SR 520 and I-90)													
Scenario 3		Toll 520 Toll 90	Bridge + Short Segments	Transit & HOV 3+	125,700	139,200	135,500	147,600		$0.75 to $3.25	***$2.67*** $2.14	***$2.69*** $2.15	$2,254 M
Scenario 4	Toll 520 Toll 90		Bridge + Short Segments	Transit & HOV 3+	125,700	139,200	135,500	147,600	Free to $3.25	$0.75 to $3.25	***$2.67*** $2.14	***$2.69*** $2.15	$2,549 M
Scenario 8 (Differential Tolls on 520 / 90)		Toll 520 Toll 90	Bridge Only	Transit & HOV 3+	120,200	141,100	129,800	149,600		$0.75 to $4.20	***$3.10*** $2.48	***$2.34*** $1.87	$2,170 M
Scenario 9 (Pre-Comp Tolling Both Bridges)	Toll 520 Toll 90		Bridge Only	Transit & HOV 3+	124,300	137,500	133,200	145,800	Free to $2.95	$0.75 to $2.95	***$2.11*** $1.69	***$2.22*** $1.78	$2,295 M
Scenario 10 (Scenario 6 + I-90 HOT Lanes)	Toll 520	Toll 90	Bridge + Short Segments	Transit & HOV 3+	107,200	126,800	116,200	166,700	Free to $3.80	$0.80 to $5.35 (520) $0.15 to 0.95/mi (90)	***$2.11*** $1.69	***N/A*** N/A	$1,718 M
Scenario 11 (Highest 520 & I-90 Funding)	Toll 520 Toll 90		Bridge Only	Transit & HOV 3+	119,300	124,400	128,800	131,200	Free to $3.80	$0.80 to $5.35	***$3.76*** $3.01	***$3.91*** $3.13	$3,797 M
Scenario 12 (Differential Tolling)	Toll 520	Toll 90	Bridge Only	Transit & HOV 3+	120,200	141,100	129,800	149,600	Free to $3.25	$0.75 to $4.20	***$3.10*** $2.48	***$2.34*** $1.87	$2,444 M
Scenario 12.1 (+25% Toll Increase)	Toll 520	Toll 90	Bridge Only	Transit & HOV 3+	117,500	139,100	127,400	148,100	Free to $4.06	$0.94 to $5.25	***$3.77*** $3.02	***$2.83*** $2.27	$3,011 M
Scenario 13 (I-90 Tolled in FY 2013)	Toll 520	Toll 90 FY 13→	Bridge Only	Transit & HOV 3+	123,300	135,600	132,300	142,800	Free to $3.25	$0.75 to $3.25	***$2.66*** $2.13	***$2.74*** $2.19	$2,743 M

Notes:
• All toll rates expressed in 2007 dollars except where otherwise noted and displayed in ***bold green italics*** .
* Pre-completion tolls drop to zero overnight from 11 PM to 5 AM.

[This page intentionally blank]

Drawing from Exhibit 1 and Exhibit 2, the following narrative summarizes the key findings of the toll traffic and revenue analysis.

- **Impact of two-bridge tolling:** Eight of thirteen scenarios analyzed include tolling both SR 520 and I-90. In general, two-bridge tolling generated more than twice the revenue of tolling only SR 520. Additional benefits include more balanced traffic flows and speeds throughout the cross-lake system of SR 520 and I-90, particularly for scenarios with differential tolling, where higher variable-rate tolls are applied to SR 520 and lower tolls are applied to I-90. This result is largely due to greater capacity constraints on SR 520, where tolls must be raised higher than I-90 to induce similar traffic flows.

- **Impact of higher toll rates:** Within the range of toll rates WSDOT tested in 2008, higher toll rates had the effect of generating more revenue, but with lower traffic volumes. As a result of lower traffic volumes are reduced, traffic flow and speeds increase. At rates above the revenue maximizing toll in Scenarios 6 and 11, revenue would decrease along with traffic. At rates below these revenue would be less, but traffic would be higher.

- **Impact of pre-completion (early) tolling:** Pre-completion tolling of SR 520 and/or I-90 starting as early as mid-2010 generated significantly more revenue than only tolling during post-completion, or allows toll rates to be more moderate during post-completion and still raise the same amount of revenue. Additionally, revenue generated from early tolling provides direct funding for construction activities, which helps reduce the cost of financing.

- **Impact of tolling configuration (single point or segmental):** Because the SR 520 program would improve the east and west side approaches to the bridge, some consideration was given to charging a modest toll for shorter trips that do not cross Lake Washington. For scenarios modeled with segmental tolls, which were kept relatively low to prevent significant diversion, the net revenue generated after the costs of collection was not significantly greater than single point tolling (only charging a toll to cross Lake Washington). A form of segment tolling was also considered on the I-90 bridge, where half of the cross-lake toll would be applied on either side of Mercer Island. Neither option for SR 520 or I-90, however, was supported by the Tolling Implementation Committee public outreach.

- **Impact of tolling method (fixed or variable):** With the exception of Scenario 5, all scenarios assumed tolls would vary by time of day according to a fixed schedule. Compared to an equivalent average toll, fixed-rate tolling generated less revenue and did not provide any congestion management benefits. Because variable-rate tolling applies the highest tolls during the peak travel periods, travelers are encouraged to shift their trips to a less congested time period. Fixed-rate tolls, however, apply the same toll during all periods. This not only reduces revenue, but also discourages travelers from shifting their trips to non-peak travel periods.

- **Impact of toll exemptions for HOV/transit vehicles:** Most of the toll scenarios assume 3+ HOVs and transit vehicles are toll-free. Scenario 6 provided a sensitivity

test to determine the impact of not providing toll exemptions. When 3+ HOVs are toll-free, HOV volumes increase on SR 520 and/or I-90. However, when 3+ HOVs must pay a toll, two opposing factors produce mixed results. Some existing HOVs divert away from SR 520 and I-90 due to the tolls, while other drivers may form new carpools in order to share the new toll cost.

- **Impact of not increasing toll rates with inflation:** Revenue generated by tolling is significantly reduced when tolls do not keep pace with inflation. A diagnostic test performed on Scenario 6 indicates that funding is reduced by as much as 20% when tolls remain constant and do not escalate at the assumed inflation rate.

In addition to the above summary, detailed traffic and revenue findings are provided in subsequent chapters.

1.3 REPORT ORGANIZATION

The remainder of this report is organized into six main sections. Following this Introduction and Summary are numbered sections as follows:

2. TOLL SCENARIOS ANALYZED;
3. TOLL TRAFFIC PROJECTIONS;
4. OPERATIONAL TOLL RATES AND ANNUAL TOLL TRANSACTIONS;
5. GROSS REVENUE DEDUCTIONS AND NET REVENUES;
6. FINANCIAL CAPACITY OF NET TOLL REVENUES; and
7. FURTHER STUDY

Appendices follow Section 7.

2. TOLL SCENARIOS ANALYZED

This section discusses the specific toll scenarios examined and how they were used in a variety of analysis efforts for the SR 520 Corridor. In all, 13 different toll scenarios were analyzed in the *SR 520 Finance Plan Draft 2008 Update*. All other toll analysis work currently being performed in the SR 520 corridor can be tied directly back to these 13 scenarios.

Exhibit 3 lists the characteristics for the SR 520 only toll scenarios. The exhibit lists some of the basic differences that define the toll scenarios. The first major distinction between the toll scenarios is shown in the second column of the charts. "Pre-Completion" tolling would entail tolling of the existing SR 520 facility beginning in 2010 through the opening of the new corridor in late 2016. "Post-Completion" tolling refers to the tolling of the new SR 520 bridge after it is open to traffic in 2016. When reading the exhibit, any scenario that has no pre-completion tolling included would not start toll operations until the new SR 520 bridge is open to traffic in late 2016.

The type of toll strategy and level of toll rates tested are shown in the column titled "Description/Tolling Strategy". A variable toll schedule refers to a set of toll rates that differ based on the time of day. A variable toll schedule could have different toll rates in the morning peaks, middle of the day, overnight, on the weekends, etc. The boxes are color coded based on the level of the toll rates that were tested with the average and highest peak toll rate tested shown, so as an example all orange colored boxes tested the same toll rates as one another but varied some other tolling aspect.

Two variations of toll collection were tested in these scenarios and these are highlighted in the fourth column. Single point tolling refers to the use of a single toll collection point somewhere in the corridor. Whenever a vehicle passes that point, the toll would be charged, but only if a trip passed this point. Corridor tolling, also referred to as segmental tolling, would mean that any trips that use a portion of the corridor from I-5 to I-405 would pay some toll and the amount of the toll would vary based on how much of the corridor was traveled.

The final set of boxes describes the exemptions, if any, that are included in the various scenarios that were tested. The exemptions tested included High Occupancy Vehicles (HOV) with 2 or more occupants, HOVs with 3 of more occupants, transit vehicles only and no exemptions for anyone. For quick reference, all boxes have been color coded based on the exemption policy that was tested.

Exhibit 4 is configured in the same manner, but is specific to the two-bridge (SR 520 and I-90) toll scenarios.

Exhibit 3 – Single Bridge Toll Scenarios

TOLL SR 520 ONLY

Scenario	Toll Route & Phasing / Dates	Description / Tolling Strategy*	Toll Configuration	Toll Exemptions	Average Toll Rate [3] (Pre-Comp in 2010 $, Post-Comp in 2016 $)	PM Peak Toll Rate (2007 $)
Scenario 1	No Pre-Completion Tolling					
	520 only — Post-Completion 7/1/16 forward[2]	Variable Toll Schedule	520: Corridor (Bridge + Segments)	Transit & HOV 3+	$2.92	$3.80
Scenario 2	520 only — Pre-Completion 7/1/10 to 6/30/16[1]	Variable Toll Schedule	520: Single Point (Bridge Only)	Transit Only	$1.87	$2.95
	520 only — Post-Completion 7/1/16 forward[2]	Variable Toll Schedule	520: Single Point (Bridge Only)	Transit & HOV 3+	$2.11	$2.95
Scenario 5	No Pre-Completion Tolling					
	520 only — Post-Completion 7/1/16 forward[2]	Fixed-Rate Toll (equivalent to Scenario 2 average toll)	520: Single Point (Bridge Only)	Transit & HOV 3+	$2.15	$1.70
Scenario 6	520 only — Pre-Completion 7/1/10 to 6/30/16[1]	Variable Toll Schedule	520: Single Point (Bridge Only)	No Toll Exemptions	$2.61	$3.80
	520 only — Post-Completion 7/1/16 forward[2]	Variable Toll Schedule	520: Corridor (Bridge + Segments)	No Toll Exemptions	$3.73	$5.35
Scenario 6.1 "Exemptions" Test	520 only — Pre-Completion 7/1/10 to 6/30/16[1]	Variable Toll Schedule	520: Single Point (Bridge Only)	Transit Only	$2.58	$3.80
	520 only — Post-Completion 7/1/16 forward[2]	Variable Toll Schedule	520: Corridor (Bridge + Segments)	Transit & HOV 3+	$3.73	$5.35
Scenario 7	520 only — Pre-Completion 7/1/10 to 6/30/16[1]	Variable Toll Schedule	520: Single Point (Bridge Only)	Transit Only	$2.38	$3.25
	520 only — Post-Completion 7/1/16 forward[2]	Variable Toll Schedule	520: Single Point (Bridge Only)	Transit & HOV 3+	$2.92	$3.80
Scenario 7.1 "Limited Build" Test	520 only — Pre-Completion 7/1/10 to 6/30/16[1]	Variable Toll Schedule	520: Single Point (Bridge Only)	Transit Only	$2.38	$3.25
	520 only — Post-Completion 7/1/16 forward[2]	Variable Toll Schedule	520: Single Point (Bridge Only)	Transit Only	$2.92	$3.80
Scenario 7.2 "HOV Policy Impact" Test	520 only — Pre-Completion 7/1/10 to 6/30/16[1]	Variable Toll Schedule	520: Single Point (Bridge Only)	Transit Only	$2.38	$3.25
	520 only — Post-Completion 7/1/16 forward[2]	Variable Toll Schedule	520: Single Point (Bridge Only)	Transit & HOV 2+	$2.92	$3.80

[1] Model forecast analysis years of 2010 and 2020 using existing network conditions.
[2] Model forecast analysis years 2015 and 2030 using future network conditions, including high capacity transit on the I-90 center roadway.
[3] Average toll as calculated in FY 2011 in for pre-completion and FY 2017 for post-completion.

Exhibit 4 – Two-Bridge Scenarios

	Scenario	Toll Route & Phasing / Dates	Description / Tolling Strategy*	Toll Configuration	Toll Exemptions	Average Toll Rate [3] (Pre-Comp in 2010 $, Post-Comp in 2016 $)	PM Peak Toll Rate (2007 $)
TOLL SR 520 & I-90	Scenario 3	No Pre-Completion Tolling					
		520 + I-90 Post-Completion 7/1/16 forward[2]	Variable Toll Schedule (Both Bridges w/ Same Tolls)	520: Corridor (Brg + Seg) I-90: Thru Trips + Island Segments	Transit & HOV 3+	$2.67 (SR 520) $1.37 (I-90)	$3.25
	Scenario 4	520 only Pre-Completion 7/1/10 to 6/30/16[1]	Variable Toll Schedule	Single Point (520 Bridge Only)	Transit Only	$2.38 (SR 520)	$3.25
		520 + I-90 Post-Completion 7/1/16 forward[2]	Variable Toll Schedule (Both Bridges w/ Same Tolls)	520: Corridor (Brg + Seg) I-90: Thru Trips + Island Segments	Transit & HOV 3+	$2.67 (SR 520) $1.37 (I-90)	$3.25
	Scenario 8	No Pre-Completion Tolling					
		520 + I-90 Post-Completion 7/1/16 forward[2]	Variable Toll Schedule: Higher on SR 520 Lower on I-90	520: Single Point (Bridge) I-90: Single Point (Floating Bridge)	Transit & HOV 3+	$3.10 (SR 520) $2.34 (I-90)	$4.20 (SR 520) $2.80 (I-90)
	Scenario 9	520 + I-90 Pre-Completion 7/1/10 to 6/30/16[1]	Variable Toll Schedule	520: Single Point (Bridge) I-90: Single Point (Floating Bridge)	520: Transit Only I-90: Transit & HOV 2+	$1.87 (SR 520) $1.88 (I-90)	$2.95
		520 + I-90 Post-Completion 7/1/16 forward[2]	Variable Toll Schedule	520: Single Point (Bridge) I-90: Single Point (Floating Bridge)	Transit & HOV 3+	$2.11 (SR 520) $2.12 (I-90)	$2.95
	Scenario 10	520 only Pre-Completion 7/1/10 to 6/30/16[1]	Variable Toll Schedule	520: Single Point (Bridge Only)	Transit Only	$2.61 (SR 520)	$3.80
		520 + I-90 Post-Completion 7/1/16 forward[2]	520: Variable Toll Schedule I-90: Dynamic Tolls (weekday peaks / midday)	520: Corridor (Segments) I-90: Tolling of 2+2 HOT Lanes I-5 to I-405 & 1+1 I-405 to Issaquah	Transit & HOV 3+	$3.73 (SR 520) Variable (I-90)	$5.35 (SR 520) $0.95 per mile (I-90)
	Scenario 11	520 only Pre-Completion 7/1/10 to 6/30/16[1]	Variable Toll Schedule	520: Single Point (Bridge Only)	Transit Only	$2.62 (SR 520) $2.58 (I-90)	$3.80
		520 + I-90 Post-Completion 7/1/16 forward[2]	Variable Toll Schedule	520: Single Point (Bridge) I-90: Single Point (Floating Bridge)	Transit & HOV 3+	$3.76 (SR 520) $3.91 (I-90)	$5.35
	Scenario 12 (Scenario 8 w/ pre-completion)	520 only Pre-Completion 7/1/10 to 6/30/16[1]	Variable Toll Schedule	Single Point (520 Bridge Only)	Transit Only	$2.38 (SR 520)	$3.25
		520 + I-90 Post-Completion 7/1/16 forward[2]	Variable Toll Schedule: Higher on SR 520 Lower on I-90	520: Single Point (Bridge) I-90: Single Point (Floating Bridge)	Transit & HOV 3+	$3.10 (SR 520) $2.34 (I-90)	$4.20 (SR 520) $2.80 (I-90)
	Scenario 13	520 + I-90 Pre-Completion 7/1/10 to 6/30/16[1] (I-90 from 7/1/12[1])	Variable Toll Schedule (Both Bridges w/ Same Tolls)	520: Single Point (Bridge) I-90: Single Point (Floating Bridge)	520: Transit Only I-90: Transit & HOV 2+	$2.39 (SR 520) $2.34 (I-90)	$3.25
		520 + I-90 Post-Completion 7/1/16 forward[2]	Variable Toll Schedule (Both Bridges w/ Same Tolls)	520: Single Point (Bridge) I-90: Single Point (Floating Bridge)	Transit & HOV 3+	$2.66 (SR 520) $2.74 (I-90)	$3.25

[1] Model forecast analysis years of 2010 and 2020 using existing network conditions.
[2] Model forecast analysis years 2015 and 2030 using future network conditions, including high capacity transit on the I-90 center roadway.
[3] Average toll as calculated in FY 2011 in for pre-completion and FY 2017 for post-completion.

2.1 TOLL SCENARIO CONSIDERATIONS

2.1.1 Coordination with ongoing SR 520 efforts

During 2008, there were a variety of efforts underway in the corridor. These efforts range from the environmental evaluation and design being performed for the 520 Bridge Replacement and HOV Program to the analysis of early tolling on congestion levels in the corridor. Each of these efforts may have slightly different objectives, but in the end need to be internally consistent with one another.

SR 520 Bridge Replacement and HOV Program

The SR 520 Bridge Replacement and HOV Program will enhance the safety of the SR 520 corridor by replacing the aging floating bridge and keep the region moving with vital transit and roadway improvements throughout the corridor. The program is currently in its environmental documentation phase.

The goal of the Environmental Impact Statement (EIS) is to identify the maximum potential impacts to the environment that the program might have. As a result, the traffic projections used in the EIS focus on the maximum potential impacts that might occur as a result of the program. Tolls in the SR 520 corridor are assumed in this work, however the EIS does not investigate the possible revenue that may be generated through the use of tolls nor are any alternatives eliminated based on financial considerations.

SR 520 Tolling Implementation Committee

In the spring of 2008, the Washington State Legislature passed Engrossed Substitute House Bill 3096 (ESHB 3096). ESHB 3096 formed the 520 Tolling Implementation Committee (the Committee) and charged it with evaluating tolls as a means of financing a portion of the 520 Bridge Replacement and HOV Program, engaging citizens and local and regional leadership in the evaluation and understanding of tolling alternatives, reporting the results to the Governor and Legislature in 2009 and recommending potential mitigation measures for diversion resulting from tolls.

The focus of the Committee was mainly to generate public comment related to the tolling of the Cross-lake Corridor and to share these results with the Washington State Legislature. Although the bill called for tolls to fund some portion of the bridge replacement costs, there was no clear direction in the bill to fully fill the funding gap for the project. In all, ten scenarios were analyzed as part of the Tolling Implementation Committee process. These scenarios included a mix of pre- and post- completion tolling, single and dual bridge tolls, segmental tolling as well as the evaluation of a fixed rate toll.

The final report of the Committee was sent to the Legislature and Governor in January 2009

Lake Washington Urban Partnership

The Lake Washington Urban Partnership (UPA) is a cooperative agreement to employ innovative traffic management tools for improving traffic flow along State Route 520 and

Interstate 90 between Seattle and the Eastside. The agreement calls for a new variable tolling system that could improve traffic flow on the SR 520 corridor and provide up to $500 million to replace the aging SR 520 Lake Washington floating bridge.[1] The focus of the UPA is on tolling the existing corridor to help demonstrate the positive impacts on congestion that tolls can have.

The UPA itself is not focused on the financial contributions that tolls may have for a corridor, but is instead focused on the congestion benefits that tolling might provide. In order to be consistent amongst all the ongoing efforts in the SR 520 corridor, two bookend scenarios from the *SR 520 Finance Plan Draft 2008 Update* were used in the environmental documentation for the UPA. The two scenarios used were Scenario 2 (referred to as the "Low" scenario in the UPA) and Scenario 6 (referred to as the "High" scenario in the UPA).

SR 520 Finance Plan Draft 2008 Update

The *SR 520 Finance Plan Draft 2008 Update* was created as a follow-up to the *2007 Finance Plan* to document the financial results of analysis conducted throughout 2008. The analysis and findings of the 2008 plan pertain to scenarios crafted in coordination with the Tolling Implementation Committee (Scenarios 1-10) as well as sensitivity tests and scenarios crafted by WSDOT (Scenarios 11-13) to match updated cost projections released in the fall of 2008. Details regarding the financial capacity of these scenarios, along with information on the range of project costs and tolling elements are also contained in this report.

2.2 BOUNDARIES OF ANALYSIS

Consistent with the *2007 Finance Plan*, all toll scenarios analyzed considered tolls either on the SR 520 bridge alone or on both the SR 520 and I-90 bridges. All tolls were applied between I-5 to the west and I-405 to the east.

To help inform the SR 520 Tolling Implementation Committee process, overall travel in the cross-lake corridor was measured at a variety of locations around Lake Washington. In general, the area of analysis stretched from the interchange of I-5 and I-405 in Tukwila in the south to SR 522 in the north.

Travel demand throughout the region was captured through use of the most up-to-date version of the Puget Sound Regional Council's Travel Demand model, referred to by many as Version 1a. This model contains network and zonal detail for all of King, Pierce, Snohomish and Kitsap Counties. Please see Section 3.1 for more detail on the tools used to analyze the travel demand in the region.

[1] Please see http://www.wsdot.wa.gov/Congestion/UPA for more information on the Urban Partnership agreement.

Exhibit 5 – Study Area

2.3 TOLL SCENARIO DEVELOPMENT

This section provides a summary of the development of the 13 toll scenarios that were analyzed in the 2008. As previously mentioned, a large part of the development of the finance plan was the analysis required by the Tolling Implementation Committee (the Committee). In all, ten of the thirteen scenarios were created specifically for use by the Committee in their public dialogue on tolling in the corridor.

In order to provide data for this dialogue, a variety of different toll policies were reflected in these ten scenarios. These policies ranged from the concepts of fixed versus variable-rate tolling to the inclusion of segmental tolls and the influence that pre-completion tolling can have on overall project funding. The creation of the first ten scenarios analyzed in the *2008 Finance Plan* followed this basic flow:

- **Past assumptions considered and refined**.
    - *2007 SR 520 Finance Plan.*
    - *2004 Toll Feasibility Study.*
- **Iterative analysis employed to meet various objectives**.
    - Optimizing for revenue.
    - Optimizing to minimize overall system level delay.
    - Optimizing to balance traffic when both bridges tolled.
    - Managing congestion while minimizing diversion.

- **Direction from the Committee**.
    - Refinements based upon public comments.

Of the ten scenarios analyzed for the Committee, five scenarios involved the tolling of the SR 520 bridge by itself and five considered tolling both the SR 520 and I-90 bridges.

Scenarios 11 thru 13, which were added after the Committee process was completed, considered different variations of two-bridge tolls. These scenarios were developed after the fall release of the latest cost projections for the corridor and were developed to see if tolls could fill the funding gap that exists between the project's cost and the available sources of funds for its construction.

All 13 scenarios were analyzed for their traffic impacts on SR 520, I-90, SR 522 and I-405 as well as the possible contribution that toll revenue could provide toward project funding. Although ESHB 3096 called out a specific range of toll funding of $1.5 to $2.0 billion dollars, not all of the ten scenarios generated for the Tolling Implementation Committee were tied directly to the financial needs of the project.

2.4 TRAFFIC MODELING OVERVIEW

After the scenarios were developed, the first step in the financial analysis is to project the future traffic demand for each scenario. These traffic projections provide details by type of vehicle, day of week and time of day. A regional travel demand model with officially adopted population and economic forecasts is the basic tool for this analysis.

2.4.1 Background Highway and Transit Networks

Two sets of highway and transit networks were used in the analysis of toll scenarios in 2008. These networks were differentiated based upon the assumptions for the level of development of other "background" highway and transit facilities as well as either the existing or replaced SR 520 bridge. The two basic network assumptions were categorized as:

- Pre-completion Transportation Network (2010 thru 2016)
- Post-completion Transportation Network (2016 thru 2050).

The pre-completion networks are based on what currently exists today, whereas the post-completion networks assume a variety of currently funded projects throughout the region, including high capacity transit.

The pre-completion highway networks assumed the same operating conditions on I-90, SR 520, I-405 and SR 522 as today. The only change to the transit networks was to assume some level of increased transit service to match what is proposed as part of the Lake Washington Urban Partnership. This change can be characterized as service increases for all routes crossing SR 520 that result in more frequent trips for existing transit routes.

The pre-completion networks were used to test the toll diversion and traffic volumes for 2010 thru 2016. The pre-completion networks were run for forecasts years 2010 and 2020 so that an interpolation could be performed for the revenue analysis for the years 2010 thru 2016.

Post-completion highway networks included improvements to the cross-lake bridges as well as a variety of other highway and transit projects that are currently planned throughout the region. The post-completion networks were run for 2015 and 2030 forecast years and interpolated/extrapolated to generate revenue streams from 2016 thru 2046.

2.4.2 Modeled versus Operational Toll Schedules

The modeling tools used for this analysis were developed by the Puget Sound Regional Council (PSRC). This model has been redefined in the last several years to help it better estimate the impacts of tolls on travel behavior. More detail is provided on the model in Section 3 of this report.

One important part of this tool is the time of day functionality. The current PSRC model predicts travel for an average weekday. The model further disaggregates the data into five distinct time periods for analysis. These time periods are:

- AM peak – 6:00 to 9:00 AM
- Mid-Day – 9:00 AM to 3:00 PM
- PM peak - 3:00 PM to 6:00 PM
- Evening – 6:00 PM to 10:00 PM
- Night - 10:00 PM to 6:00 AM

Since the model operates with these five time periods, it requires toll schedules that match these time periods. Although this model is quite sophisticated, most operational variable toll schedules would be defined by more time periods. As an example of this, the current toll schedule analyzed for the SR 520 corridor is broken down by 12 distinct time periods over a 24 hour weekday. In order to run the models, some assumptions have to be made to convert the operational toll schedules into one that can be used by the travel demand model. Please see Section 4 of this report for a further discussion on this topic.

2.4.3 Modeling Assumptions for Weekend Toll Schedules

The PSRC model predicts conditions for an average weekday only. In order to perform the financial analysis of tolls in this corridor, some assumptions are needed to predict the traffic and revenue for weekends. Since the model does not explicitly generate weekend traffic, weekend tolls could not be tested in the travel demand model. Further discussion on how weekend toll rates and traffic were estimated can be found in Section 4 of this report.

2.5 TOLLING ELEMENTS ANALYZED

The toll scenarios analyzed tested the effects of seven policy choices and their impact on revenues and funding.

- Toll both the SR 520 and the I-90 bridges or toll only the SR 520 bridge
- Apply different variable-rate toll schedules ranging from high to low.
- Implement tolls before the new bridge is completed (as early as 2010) or wait until the new facility opens.
- Adjust the tolls annually so that they keep pace with inflation or keep the posted toll levels constant.
- Toll only vehicles that cross the bridge or also toll vehicles within the SR 520 and/or I-90 corridors that do not cross the bridge.
- Vary tolls by time of day or charge the same amount all day.
- Apply tolls to all vehicles or offer exemptions to certain vehicles such as 3+ HOVs and transit buses a toll exemption.

Exhibit 1 graphically presents the seven tolling factors ordered by decreasing magnitude of their contribution to toll funding, and showing which settings increase or decrease funding.

Most toll scenarios analyzed assumed the use of a variable toll schedule for the SR 520 bridge. Variable tolls use a fixed set of toll rates that vary by time of day according to a fixed schedule. By varying the rate by time period, the tolls can help manage demand for the corridor in the peak periods to match available capacity, and thus improve overall corridor efficiency.

Segmental tolling was another toll policy that was tested. A single point toll assumes that tolls are collected when users cross Lake Washington. For the SR 520 bridge scenarios, a single point toll would mean that users on either side of the lake who do not use the bridge, no toll would be charged. In a segmental tolling system, the toll to cross the bridge would be the same as the single point case, but users of short segments on either side of the lake would pay a smaller toll.

2.6 SINGLE BRIDGE TOLL SCENARIO DEVELOPMENT

This section provides a summary of the development of the five single bridge toll scenarios. The single bridge scenarios were used to highlight various differences in the toll revenue and traffic impacts of various toll policies. The policies that were highlighted include:

- Fixed versus variable-rate tolling.
- Toll rate levels.
- Pre- versus post-completion tolling.

- Single point versus segmental tolling.
- Periodic toll rate increases versus no toll increases.

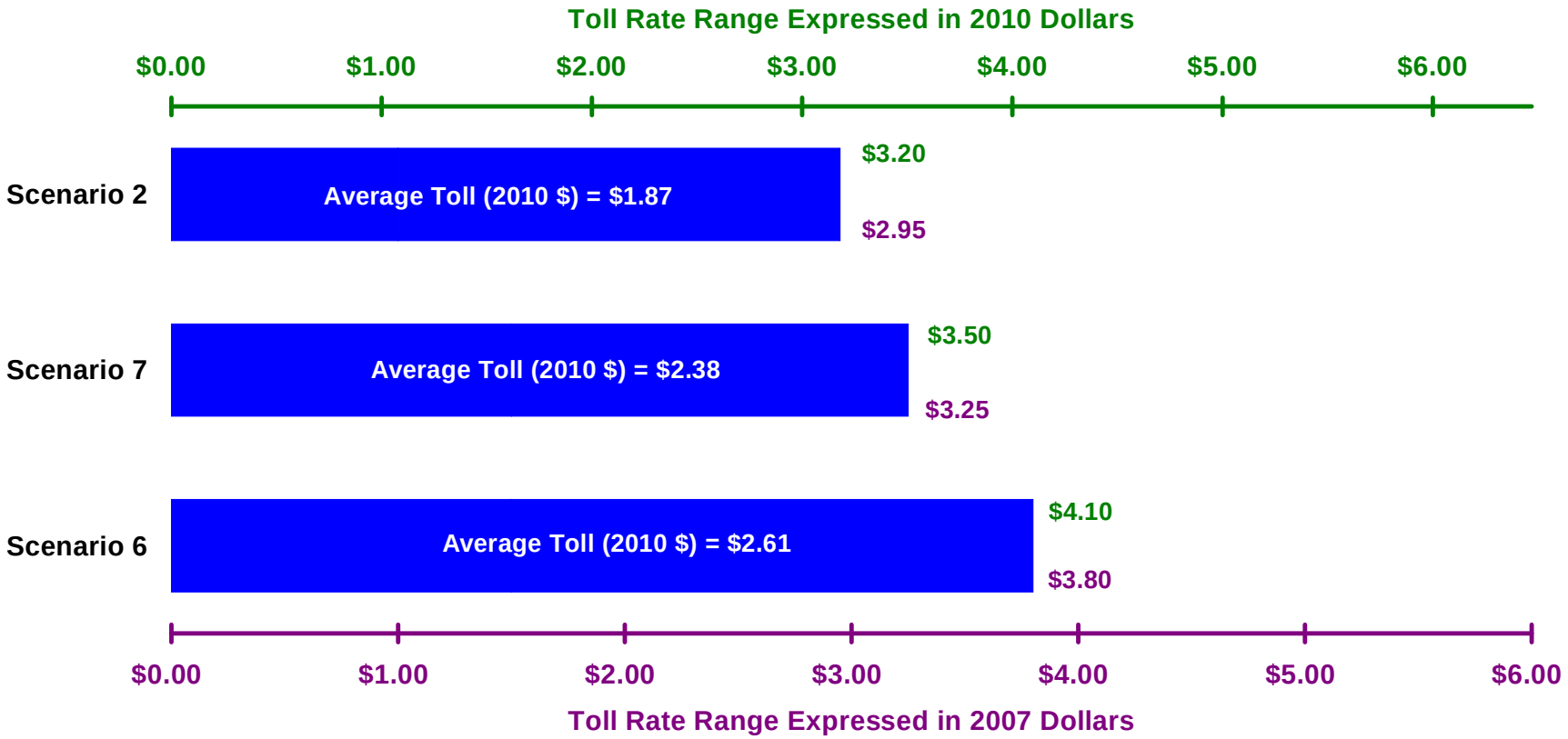
SR 520 Single Bridge Pre-Completion Tolling Scenarios

To help answer questions asked by the lake Washington Urban Partnership and the Tolling Implementation Committee of what pre-completion tolling means for revenue as well as traffic diversion, three different pre-completion scenarios were analyzed. The scenarios were structured to answer the question of how the toll rate levels in both the peak and off-peak periods affect overall traffic flow and revenue. Three varying levels of toll rates were tested for the single bridge pre-completion scenarios.

All pre-completion scenarios were tested as single point toll collection facilities with no exemptions except for transit vehicles. The main reason for leaving out high occupancy exemptions in the pre-completion scenarios was the difficulty of enforcement caused by the lack of continuous HOV lanes on the existing SR 520 bridge. All pre-completion scenarios assumed a variable toll structure with no tolls charged for the overnight hours. The variable toll structure was tested so that the results could be used directly in the UPA analysis. The lack of tolls in the overnight periods was to avoid charging tolls during the hours when construction activities for the new corridor were most likely to occur.

The variable toll rates tested in the single bridge pre-completion scenarios are shown in Exhibit 7. The bars represent the range of toll rates that were tested for each scenario. For example, in Scenario #2 the over night toll rate was $0.00 and the PM Peak toll rate, which is the highest toll rate over the entire day, was $3.20 in 2010 dollars. The remaining toll rates for the other times of day fell within the bar. The average toll paid over the course of a day is also shown.

Exhibit 6 – Single Bridge Pre-Completion Toll Rate Ranges[2]



[2] The pre-completion range of toll rates in this exhibit includes a minimum overnight toll rate of $0.00, which is assumed to be during the period from 11 PM to 5 AM.

SR 520 Single Bridge Post-Completion Tolling Scenarios

For the post-completion scenarios, a variety of toll policies were examined. These policies included:

- Level of toll rates
- Segment tolling.
- Fixed rate tolling.
- Transit and HOV Exemptions.
- Periodic toll rate increases.

The single bridge post-completion scenarios helped inform many of the policy questions that the Tolling Implementation Committee evaluated. For instance, the comparison of Scenarios 2 and Scenario 5 was used to assess the differences between variable and fixed-rate tolls both on revenue generation and traffic diversion. Both scenarios assumed the same average daily toll rate of $1.70, however scenario 2 varied the rate by time of day and weekday versus weekend. By comparing these two scenarios, we were able to see the differences in both traffic diversion and funding between a variable and fixed time of day toll.

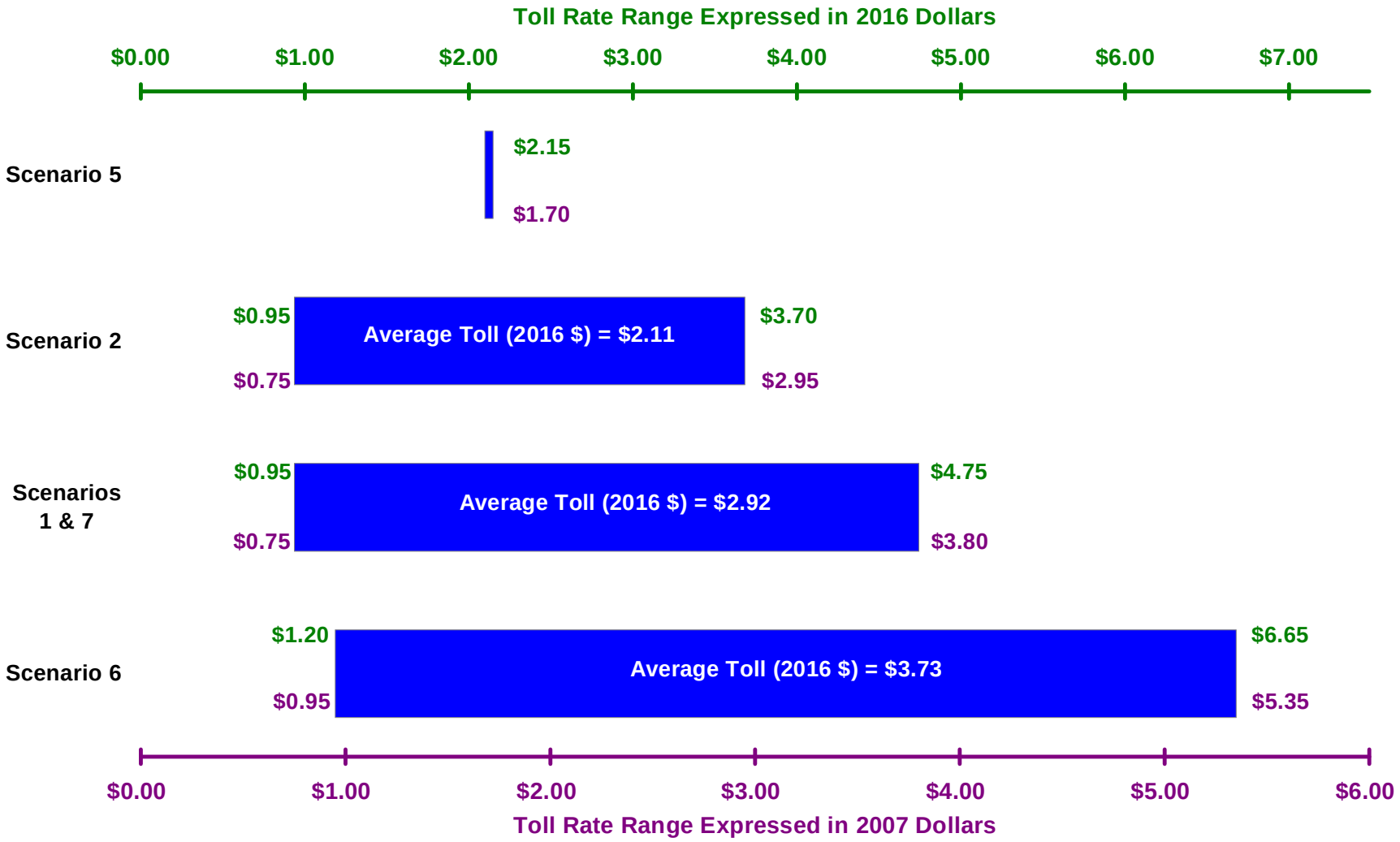
A variety of tests were performed on Scenario 6 to test the implications of toll rate exemptions for High Occupancy vehicles. By testing scenarios where transit and HOV vehicles were tolled and then not tolled, we were able to better understand the impacts of such policy decisions on toll revenue as well as traffic diversion and mode share.

The impact of annual toll rate increases was also tested in this analysis. To better understand the financial impact of regular toll rate increases on project funding, a variety of model runs were performed for Scenario 6. The test runs held the toll rates constant in the pre-completion time period and also in the post-completion time period with the only increase occurring when the new corridor was open to traffic. The results of these sensitivity tests helped us better understand the impact of a toll rate escalation policy.

The impacts of segmental tolling on the SR 520 corridor was also tested in this analysis. Scenario #1 and Scenario #7 used identical bridge tolls, but scenario #1 also included a toll for the segments on either side of Lake Washington. By comparing the results of Scenarios 1 and 7, we were able to compare the revenue potential and traffic impacts of segmental tolls. Many members of the public shared their concerns on segmental tolling through the Tolling Implementation Committee outreach efforts. By structuring the scenarios so that we could compare the traffic and revenue implications of segmental tolls, we were better able to answer the questions that were raised in the TIC outreach efforts.

The single bridge post-completion toll rates tested are shown in Exhibit 7.

Exhibit 7 – Single Bridge Post-Completion Toll Rate Ranges



2.7 TWO-BRIDGE TOLL SCENARIO DEVELOPMENT

This section provides a summary of the development of the eight two-bridge toll scenarios. As with the single bridge scenarios, several of the scenarios were developed to highlight various differences in the toll revenue and traffic impacts of various toll policies. The key policies analyzed for the two-bridge toll scenarios were:

- Toll rate levels.
- Pre- versus post-completion.
- Single point versus segmental tolling.

The progression from single bridge tolling to two-bridge tolling came about for a variety of reasons including:

- Generation of at least $1.5 billion in toll revenue while maintaining as low of toll rates as possible.
- Minimizing diversion to parallel routes.

Two-Bridge Pre-Completion Tolling Scenarios

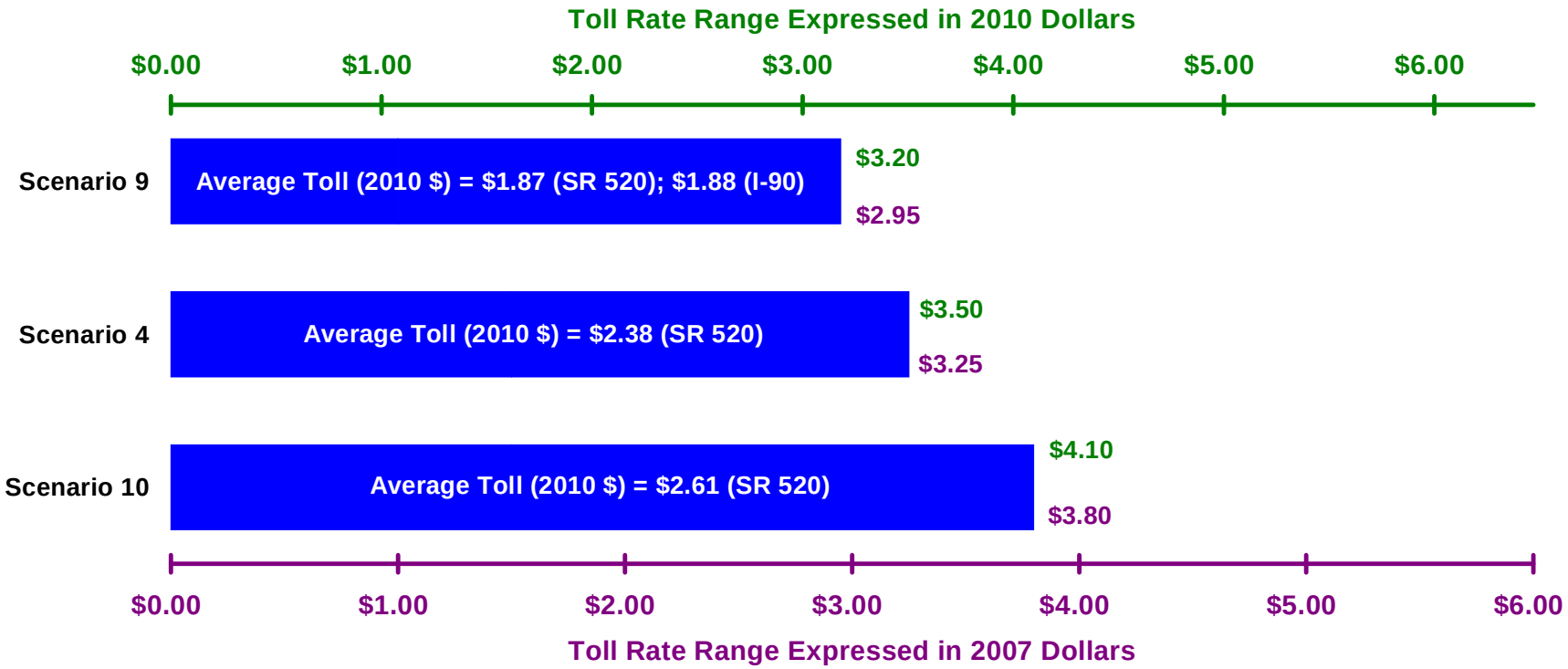
Six of the two-bridge scenarios contained some level of early tolling in the cross-lake corridor. Of these six scenarios, three tolled only SR 520 in the pre-completion case and three tolled both bridges.

A variety of toll rates were tested in the pre-completion scenarios to better understand the traffic and revenue impacts of tolling in the construction period. The traffic flow impacts of particular interest in the two-bridge scenarios were how tolling on I-90 would affect the diversion away from SR 520 and also the impacts on I-405 and SR 522. Equal toll rates on both I-90 and SR 520 were tested in all of the pre-completion scenarios.

The impact of segmental tolling of I-90 was tested in Scenario 4. In this test, half of the total cross-lake toll rate was placed on the I-90 midspan between Seattle and Mercer Island and half of the toll was placed on the East Channel bridge between Bellevue and Mercer Island. In all other two-bridge scenarios, the full toll was placed on the midspan between Seattle and Mercer Island. These scenarios helped us better understand the impacts on traffic and revenue based on the type of toll collection process used on I-90.

The pre-completion toll rates tested on both bridges can be seen in Exhibit 8. As mentioned above, the toll rates tested on both I-90 and SR 520 for the pre-completion period were equal.

Exhibit 8 – Two-Bridge Pre-Completion Toll Rate Ranges[3]



[3] The pre-completion range of toll rates in this exhibit includes a minimum overnight toll rate of $0.00, which is assumed to be during the period from 11 PM to 5 AM.

Two-Bridge Post-Completion Tolling Scenarios

The post-completion two-bridge toll scenarios analyzed tested the following toll policies:

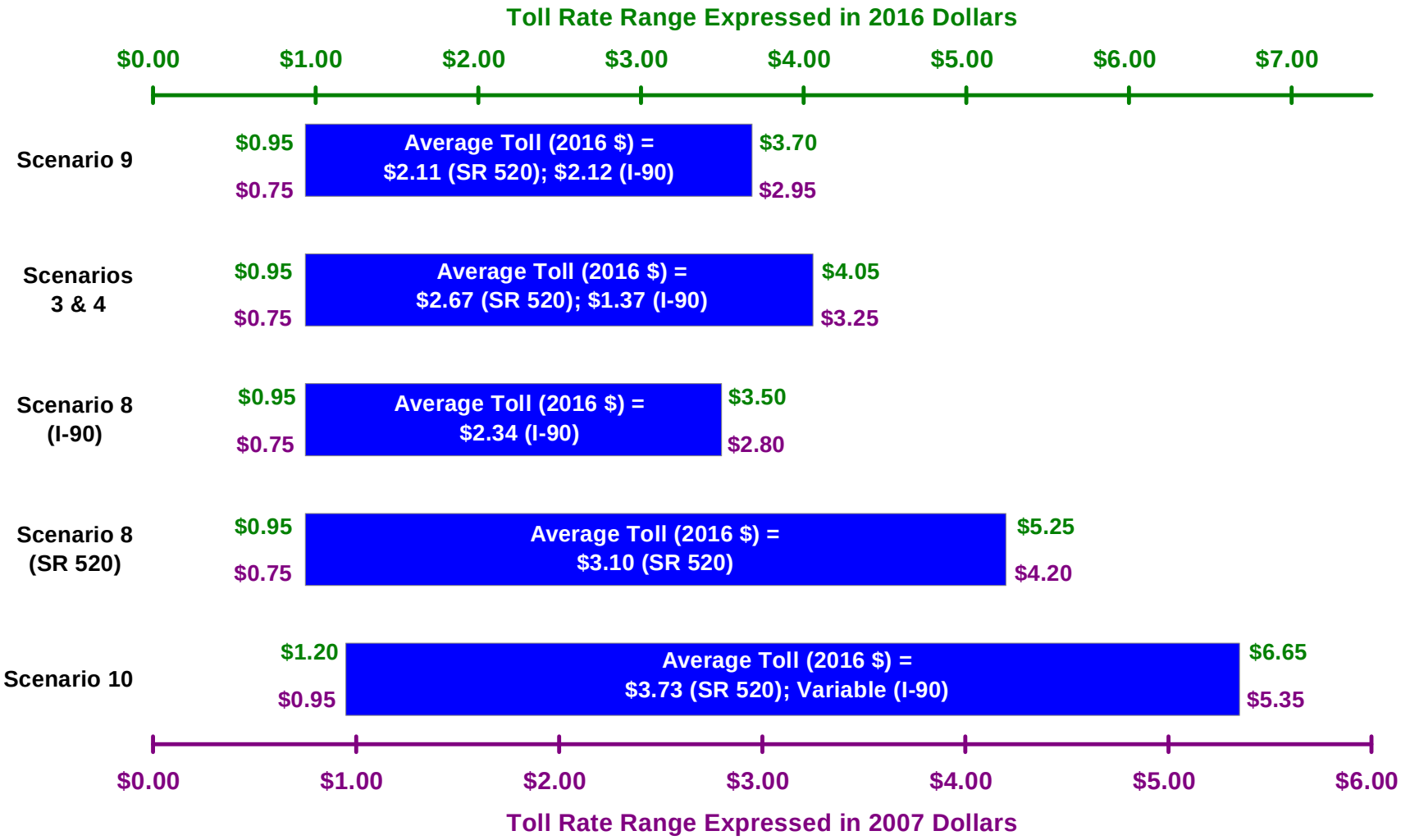
- Toll Rate Levels
- High Occupancy Toll Lanes on I-90.
- Differential Toll Rates on the two-bridges.

Similar to all the other scenarios, various levels of toll rates were tested to determine the traffic and revenue impacts of tolling the two-bridges. The range of tolls tested in these scenarios can be seen in Exhibit 9.

The Tolling Implementation Committee was also interested in understanding how a system of High Occupancy Toll Lanes (HOT) on I-90 would impact traffic diversion and revenue in the cross-lake corridor. In order to better understand this, a series of model runs were performed for Scenario 10. In this scenario, the SR 520 bridge was tolled at its highest toll levels in order to maximize diversion off of SR 520 and presumably increase the attractiveness of the I-90 HOT lane option. The I-90 bridge was converted into a system of two general purpose lanes and two HOT lanes from I-5 to I-405, with a single HOT lane running further east from I-405 to Issaquah. This scenario allows some users of the corridor to buy their way into a lane that has tolls set to maintain good flow conditions. HOV 3+ vehicles were allowed in the HOT lane for free and medium to heavy trucks were excluded from the system. The performance of the HOT lane scenario is highlighted in Section 3 of this report and its detailed outputs are shown in the appendix.

Another policy test that was analyzed in the *SR 520 Finance Plan Draft 2008 Update* related to differential toll rates on the SR 520 and I-90 bridges. The analysis was run to determine how differential toll rates could help balance the diversion of traffic amongst the two cross-lake bridges. It was also run to address "fairness" concerns that were expressed during the Tolling Implementation Committee's outreach effort. Users of the I-90 corridor asked for a scenario that had higher toll rates on SR 520 since the SR 520 corridor was seeing a majority of the corridor improvements that would be funded in part by the toll revenue. Scenario 8 was run for a variety of toll rates to better understand how the two-bridges interacted with each other. The final toll rate selected for the report tried to balance the diversion percentages of both bridges.

Exhibit 9 – Two-Bridge Post-Completion Toll Rate Ranges



3. TOLL TRAFFIC PROJECTIONS

3.1 REGIONAL TRAVEL DEMAND MODEL

3.1.1 Background & Capabilities

General Features

When a new toll is imposed in a previously toll-free highway, travel patterns change as travelers seek to modify their behavior under the new conditions in order to minimize their overall travel costs. These changes in travel patterns can result in various forms of toll diversion such as:

- Route diversion — the decision to use an alternate route to avoid paying a toll;
- Mode diversion — a change in mode to avoid a toll or share the costs (e.g., if single occupant vehicles must pay a toll but transit passengers can use a facility for a lower cost fare, some drivers may shift to transit);
- Change in time of travel — a shift in the time of travel to a lower (toll) cost time of day (e.g., if the toll is higher during peak periods, some drivers may shift their trip to an off peak time to take advantage of lower toll rate);
- Change of trip destination — a shift in travel to a new destination that avoids the toll; and
- Change in trip frequency — a reduction in the frequency that a trip is made, including trip elimination.

To capture theses changes and generate forecasted toll volumes, some sort of analytical process is needed. This is where the regional travel demand model is used in the traffic and revenue forecasting process.

The toll-free and toll simulation modeling was performed using the version of Puget Sound Regional Council's (PSRC) regional travel demand model released in summer 2008, generally referred to as Version 1a.[4] This model version includes improvements, particularly for toll analysis, over the earlier version which was used to generate traffic forecasts for the *2007 SR 520 Finance Plan*.

The PSRC model is a regional multi-modal travel demand model which is calibrated and validated to base year (2000) conditions and is being used for a variety of regional and corridor-level transportation planning projects. The PSRC model follows the traditional four-step modeling process of trip generation, trip distribution, mode choice and trip assignment. Compared to the preceding PSRC model, Version 1a has enhanced mode choice

[4] This version of model refers to the PSRC model that was released in summer 2008 and includes recommendations relevant to toll modeling analysis provided by the independent review panel.

modeling, time-of-day estimation, and toll modeling capabilities. These new features and the underlying data and assumptions are described in the September 2007 *PSRC Travel Model Documentation – Final Report*, which was prepared for WSDOT and PSRC by Cambridge Systematics, Inc.[5]

PSRC prepares housing and economic land use forecasts based on extensive input and review from its member jurisdictions. The land use forecasts are consistent with the county level statewide estimates of population and employment provided by the Washington State Office of Financial Management.

The trip generation model estimates daily trip ends by trip purpose at the zonal level for an average weekday. The trip distribution model allocates terminal points (a production end and an attraction end) to each of these trips, based on the relative magnitude of trips in each zone and relative travel times between zones. A gravity model is used to distribute non-work person trips. For home-based work trips, a unique distribution model framework is used for each of four income groups. It uses a destination model formulation that inter-relates with the mode choice model for home-based work through a "logsum" variable. This variable reflects combined accessibility of all modes, including transit, within a study corridor.

The mode choice model further classifies person trips by mode for each trip purpose. The model primarily uses a multinomial logit formulation. However, home-based work trips are classified by including a simple nest under the transit mode to represent auto access and walk-access transit. The mode choice for home-based work is stratified by four income groups and includes seven modes: (1) drive alone, (2) shared ride 2 (driver + one passenger), (3) shared ride 3+ (driver + two or more passengers), (4) transit with walk-access, (5) transit with auto-access, (6) walk, and (7) bicycle. For non-work trip purposes, only walk-access to transit is used.

After the mode choice procedure is completed, the time-of-day procedure is applied. The time-of-day model estimates the number of trips between a zone-pair in each time period. There are 32 time periods in this model, every 30 minutes between 5:00 AM and 8:00 PM with additional periods for evening (8:00 PM to 11:00 PM) and night (11:00 PM to 5:00 AM). This procedure is applied to auto trips in the 32 time periods indicated. Resulting auto trips in these 32 periods are aggregated into five periods before the highway assignment process for estimation of link volumes is conducted. These five (aggregate) time periods are:

- AM peak – 6:00 to 9:00 AM
- Mid-Day – 9:00 AM to 3:00 PM
- PM peak - 3:00 PM to 6:00 PM
- Evening – 6:00 PM to 10:00 PM
- Night - 10:00 PM to 6:00 AM

[5] This report is available at the PSRC website: *http://www.psrc.org/data/tdmodel/model_doc(final).pdf*

For transit and external trips, constant system wide time-of-day factors are used. Version 1a also incorporates a truck modeling procedure that was developed in 2000 for WSDOT as part of the FASTrucks Forecasting Model. The truck model relies on more disaggregated employment categories than the passenger model and produces three daily truck trip tables for heavy, medium, and light-weight trucks. Light trucks are defined as four or more tires, two axles, and less than 16,000 lbs. gross vehicle weight. This also includes non-personal (business) use of cars and vans. System wide time-of-day factors for each truck vehicle size are used to produce truck trip tables for the five time periods indicated above. Resulting truck trip tables are assigned to the highway network in conjunction with the auto trip tables. Total vehicle volumes by time period can then be obtained from the highway assignment step.

Model Validation Test

In preparation of the 2008 toll modeling analysis, the PSRC model's performance was examined for the cross-lake study corridor. This test was performed for base year (2006) using a set of highway and transit networks encompassing definition similar to those used for the 2006 SR520 SDEIS model.[6]

Estimated and observed vehicle volumes on cross-lake road facilities are compared in Exhibit 10, while transit volumes are compared in Exhibit 11. The PSRC model has replicated total vehicle volumes within one percentage point of actual daily traffic counts and 10 percentage points of actual peak period traffic counts on both SR 520 and I-90 Bridges. This is a reasonable model performance and also consistent with the standard practice for accuracy level of screenline vehicle volumes for a base year validation analysis. The model has replicated daily and peak transit volumes on SR 520 Bridge within five percentage points of actual transit volumes. However, the model has over-estimated considerably transit volumes on the I-90 Bridge. Therefore, transit estimates produced from the model for 2010 and 2030 were post-processed for conformity to those produced from SR 520 SDEIS and Sound Transit models.[7]

[6] This model was validated for the base year (2006) for the SR 520 Bridge Replacement and HOV Project in support of the Supplemental Draft Environmental Impact Statement (SDEIS).

[7] Note that toll-free transit volumes produced from the PSRC model for the cross-lake facilities were post-processed to align them with those produced from the SR 520 and Sound Transit models. For toll scenarios, post-processed transit volumes were further adjusted using relative shift to transit estimated from PSRC model for each toll scenario.

Exhibit 10 – Comparison of Base Year (2006) Observed and Estimated Cross-lake Vehicle Volumes

	Base Year (2006) Total Vehicle Volumes								
	Daily Observed vs. Estimated			AM Peak Observed vs. Estimated			PM Peak Observed vs. Estimated		
Cross-Lake Facilities	Obs.	Est.	Est./Obs.	Obs.	Est.	Est./Obs.	Obs.	Est.	Est./Obs.
SR 520 (L. Wash. Bridge)									
Vehicles in GP Lanes[1]	114,400	115,500	1.01	20,100	21,000	1.04	21,900	22,900	1.05
SR-520 Total Vehicle Volumes	**114,400**	**115,500**	**1.01**	**20,100**	**21,000**	**1.04**	**21,900**	**22,900**	**1.05**
I-90 (West Bridge)									
Vehicles in GP Lanes[2]	135,100	133,900	0.99	28,600	26,000	0.91	29,800	30,300	1.02
2+HOVs in HOV Lanes	13,900	12,900	0.93	2,400	1,600	0.67	3,700	4,600	1.24
I-90 Total Vehicle Volumes	**149,000**	**146,800**	**0.99**	**31,000**	**27,600**	**0.89**	**33,500**	**34,900**	**1.04**
Total Cross-Lake Vehicle Trip Volumes	**263,400**	**262,300**	**1.00**	**51,100**	**48,600**	**0.95**	**55,400**	**57,800**	**1.04**

[1]Includes total auto vehicles & trucks (all sizes).

[2]Includes single-occupant, truck (all sizes) vehicles and 2+HOVs not using HOV lanes.

Exhibit 11 – Comparison of Base Year (2006) Observed and Estimated Cross-lake Transit Volumes

	Base Year (2006) Transit Passenger Volumes[1]								
	Daily Observed vs. Estimated			AM Peak Observed vs. Estimated			PM Peak Observed vs. Estimated		
Cross-Lake Facilities	Obs.	Est.	Est./Obs.	Obs.	Est.	Est./Obs.	Obs.	Est.	Est./Obs.
SR 520 (L. Wash. Bridge)	10,800	10,500	0.97	3,900	4,200	1.08	3,900	4,200	1.08
I-90 (West Bridge)	8,400	8,500	1.01	2,800	3,200	1.14	2,800	3,200	1.14
Total Cross-Lake Transit Passenger Volumes	**19,200**	**19,000**	**0.99**	**6,700**	**7,400**	**1.10**	**6,700**	**7,400**	**1.10**

[1]Observed transit volumes were extracted from the Sound Transit model base year (2004) database.

Tolling and Value of Travel Time

The PSRC model introduces auto operating and toll costs in the generalized cost highway assignment process where costs are converted into equivalent time based on the value of time for each mode. In tolling analysis, the value of time is a critical piece of information that serves as the link between the monetary cost of a toll and the time cost of avoiding the toll. It provides the dollar value of an hour of time and is an indicator of the willingness-to-pay tolls. The values of time are used by the travel demand model to identify the point at which travelers would rather pay the toll than change their travel behavior. Because values of time tend to differ among individuals according to their trip purpose, time of travel, income levels and a host of other factors, it is necessary to develop aggregate values of time that conform to the input constraints of the regional travel demand model.

The values of time used in the PSRC model were obtained from the Traffic Choices Study conducted by PSRC. As part of this study, PSRC in 2005 began collecting Global Positional System (GPS) data for 275 households to study the travel behavior in response to simulated variable road charges in an experiment with volunteer participants. The value of time for trucks was specified from a review of national literature sources and with assistance from Washington Freight Data System Working Group. The derivation of these values of time estimates and the implementation in the PSRC travel demand forecasting model are described in the technical memorandum Value of Time for Travel Forecasting and Benefits

Analysis (March 25, 2008).[8] Exhibit 12 includes values of travel time used in the generalized cost highway assignment module of the PSRC model.

Exhibit 12 – Values of Travel Time in PSRC Model by Time Period (in 2000 $)

	Value of Time ($/hour)				
Mode	AM	Midday	PM	Evening	Night
Non-Work SOV	$15.67	$15.67	$15.67	$15.67	$15.67
HOV2	$30.15	$19.29	$22.90	$20.48	$26.55
HOV3+	$37.97	$21.28	$26.91	$21.28	$34.29
Vanpool	$101.69	NA	$58.82	NA	NA
Home Based Work (HBW) SOV by Income Quartile:					
1st Quartile	$9.57	$9.57	$9.57	$9.57	$9.57
2nd Quartile	$17.65	$17.65	$17.65	$17.65	$17.65
3rd Quartile	$25.75	$25.75	$25.75	$25.75	$25.75
4th Quartile	$33.33	$33.33	$33.33	$33.33	$33.33
Light Truck	$40.00	$40.00	$40.00	$40.00	$40.00
Medium Truck	$45.11	$45.11	$45.11	$45.11	$45.11
Heavy Truck	$50.00	$50.00	$50.00	$50.00	$50.00

Legend:
SOV – Single Occupant Vehicles
HOV2 – High Occupancy Vehicles with one driver and one passenger
HOV3+ – High Occupancy Vehicles with one driver and two or more passengers

3.1.2 Independent Review Panel Feedback

In the fall of 2008, the Washington State Department of Transportation (WSDOT) formed an Independent Peer Review Panel to review the PSRC model and provide feedback, particularly, on its toll modeling analysis capabilities.[9] The panel was comprised of members from four major metropolitan planning organizations and one state tolling authority with advanced modeling practices, technical capabilities, and experience in toll modeling.

The Panel's findings are supportive of the PSRC model 1a capabilities including the recent enhancements to support variable road pricing. They also indicated comparability of the PSRC's model capabilities to the current state of toll modeling practices in the country. The

[8] This technical memorandum is available at the PSRC website: http://www.psrc.org/data/tdmodel/ValueofTimeMemo.pdf

[9] The Panel's findings and recommendations are included in a document available at *http://build520.org/documents/Independent_Peer_Review_Paper.pdf.*

Version 1a model used for the *2008 Finance Plan* toll modeling analysis has incorporated a number of recommendations suggested by the Pane, including:

- Use of consistent values of travel time throughout the modeling process.
- Use of 20% of the applicable toll cost in the trip distribution process.
- Addition of auto-operating costs to the highway assignment and non-work trip distribution process.
- Comparison of toll model results to model runs with fixed trip tables to help better understand what portions of the toll diversion were directly affected in the trip distribution process.

3.2 PRIMARY ASSUMPTIONS

This section discusses the specific input data and assumptions used to perform toll modeling analysis. This includes underlying key network assumptions and land use forecasts.

3.2.1 Background Highway & Transit Network

The background highway and transit networks used to perform toll modeling analysis for pre-completion and post-completion scenarios are similar and consistent with those used for the SDEIS phase of the SR 520 Bridge Replacement and HOV project[10] for 2030 No-Build. Key background network assumptions are highlighted below.

Highway Network

The highway network definition for the key improvements includes:

- SR 167 – SR 410 to 15th Street SW HOV, from 15th Street SW into Pierce County.
- SR 518 – Sea-Tac Airport to I-5/I-405 Interchange: adds a third eastbound lane.
- SR 519 Intermodal Project – Phase 2.
- SR 522 – Snohomish River Bridge to US 2: widens from a two to a four-lane divided highway.
- Capacity enhancement on southern part of I-405 to four general purpose lanes and one HOV lane per direction.

Transit Network

The transit network definition for the key improvements includes:

[10] SR 520 Bridge Replacement and HOV Project – 2030 No-Build Travel Forecasts Technical Memorandum, July 11, 2008.

- The transit networks were developed to reflect transit services in Seattle, North King County, East King County, and South Snohomish County that affect the travel demand across Lake Washington.
- Light Rail between Sea-Tac Airport and Northgate.
- Seattle Streetcar between South Lake Union and the Seattle Waterfront.
- Light Rail in downtown Tacoma.

In addition to updating the transit network based on the above-mentioned transit assumptions, further analyses were performed to update the inputs to closely replicate Sound Transit's 2030 Baseline network for the cross-lake study area. This alignment included cross-checks with respect to:

- Headways, line lengths, speeds, and stops for bus routes. In particular, routes going across Lake Washington were examined closely.
- Rail and commuter rail station-to-station transit travel times as well as peak and off-peak headways.
- Feeder bus connectivity at rail and commuter rail stations.
- Park-and-ride facilities for comparability within the study area.
- The effective number of peak and off-peak buses using the SR 520 and I-90 bridges. This realignment involved adjustment to transit travel time functions.

The realignment of transit service levels to those used in the ST model resulted in comparability of transit volumes produced from the SR 520 SDEIS model for 2030 No-Build to those produced from ST model for 2030 Baseline for the cross-lake facilities.

3.2.2 SR 520 & I-90 Bridges Definitions

While the background highway and transit network, defined in the above section, identifies the network features common between all finance plan scenarios, this section defines the configuration of SR 520 and I-90 bridges specific to pre-completion and post-completion scenarios as shown in Exhibit 13. Pre-completion and post-completion networks differ from each other only in the definition of cross-lake bridges.

Pre-Completion

The network definition of SR 520 and I-90 bridges for 2010 pre-completion scenarios is same as the existing configuration. The SR 520 has four 1anes from I-5 to 108th Ave interchange and five lanes plus an auxiliary lane from 108th Ave NE to I-405. I-90 has two HOV reversible lanes serving vehicles with two or more occupants. For pre-completion scenarios, the network definition outside of the study-area is also assumed to follow the existing configuration.

Post-Completion

The network definition for SR 520 and I-90 bridges in 2030 post-completion scenario can be seen in Exhibit 13. The SR 520 is assumed to be a six lane highway with two HOV lanes and the GP lanes are assumed to have higher capacity than existing conditions. The HOV lanes serve vehicles with three or more occupants. For I-90 the current reversible HOV lanes are assumed to be converted to GP lanes, while the outer lanes are converted to HOV lanes. There won't be any new addition to the total number of lanes on I-90 bridges. The outer HOV lanes will serve vehicles with three or more occupants.

The post-completion scenario assumes rail on I-90. The East Link rail service is assumed in this scenario, running between Northgate Mall and Overlake Hospital.

Comparison to 2007 Finance Plan Network Assumptions

The highway networks used in the updated *2008 Finance Plan* are consistent with the networks used in the *2007 SR 520 Finance Plan*. A key change made to the transit networks for the cross-lake corridor was the inclusion of Link Light Rail from Downtown Seattle to Overlake Hospital.

Exhibit 13 – Cross-Lake Network Assumptions for Pre- and Post-Completion Scenarios

	Pre-Completion	Post-Completion
SR-520 Network Assumptions		
GP Lanes- Portage Bay	4 lanes	5 lanes
GP Lanes- Portage Bay to Montlake	4 lanes	5 lanes
GP Lanes- Montlake to 108th Ave NE	4 lanes	4 lanes
GP Lanes- 108th Ave NE to I-405	6 lanes	6 lanes
HOV Lanes	---	2 lanes
HOV Definition on SR 520	---	3+ persons
Pacific Interchange	✘	✓
HOV to I-5 Express Lanes Connection	✘	✓
Direct HOV to HOV Connection- SR 520 to I-405	---	✓
Unit Capacity (vphpl)		
GP Lanes - I-5 to Evergreen Point	1850 vphpl	2000 vphpl
GP Lanes - Evergreen Point to I-405	1850 vphpl	2000 vphpl
HOV Lanes - I-5 to Evergreen Point	---	1500 vphpl
HOV Lanes - Evergreen Point to I-405	1500 vphpl	1500 vphpl
Speed (mph)		
GP Lanes - I-5 to Evergreen Point	50 mph	60 mph
GP Lanes - Evergreen Point to I-405	60 mph	60 mph
HOV Lanes - I-5 to Evergreen Point	---	60 mph
HOV Lanes - Evergreen Point to I-405	---	60 mph
I-90 Network Assumptions		
GP Lanes (I-5 to Rainier)	8 lanes	8 lanes
GP Lanes (Rainier to Bellevue Way)	6 lanes	6 lanes
GP Lanes (Bellevue Way to I-405)	7 lanes	7 lanes
Reversible Lanes	2 lanes	---
Outer HOV Lanes	---	2 lanes
HOV Definition on I-90	2+ persons	3+ persons
Unit Capacity (vphpl)		
GP Lanes - I-5 to I-405	2000 vphpl	2000 vphpl
Reversible HOV Lanes - I-5 to I-405	1600 vphpl	---
Outer HOV Lanes - I-5 to I-405	---	1500 vphpl
Speed (mph)		
GP Lanes - I-5 to I-405	60 mph	60 mph
Reversible HOV Lanes - I-5 to I-405	60 mph	---
Outer HOV Lanes - I-5 to I-405	---	60 mph
Rail		
Eastside Rail Terminus	---	Overlake Hospital
Regionwide (Non-Crosslake) HOV Defintion	2+ persons	2+ persons

3.2.3 Land-Use Forecasts

Person trip ends used in the PSRC model reflected adopted 2030 land-use forecasts.[11] A summary of these land-use forecasts for the years 2006 and 2030, aggregated geographically for 18 "Large Areas" constituting the four-county Puget Sound region, is shown in Exhibit 14. Exhibit 15 shows a map for the 18 "Large Areas" defined by PSRC. Regional households and employment are projected to grow by 1.4% and 1.2% per year, respectively. Similar figures for Eastside King County are 1.3% and 1.5% per year. Households and employment in Seattle area are projected to grow at a lower rate and by about 1% per year.

Exhibit 14 – Summary of Land-Use Forecasts

	Total Households			Total Population			Total Employment		
LARGE AREAS[2]	2006	2030	% Annual Growth	2006	2030	% Annual Growth	2006	2030	% Annual Growth
1. Eastside King	186,000	256,200	1.3%	466,400	591,200	1.0%	340,600	481,200	1.5%
2. Green River	72,900	94,600	1.1%	173,400	209,700	0.8%	204,400	279,600	1.3%
3. King Other	19,000	28,300	1.7%	51,500	71,000	1.3%	9,000	13,200	1.6%
4. SE King	83,100	125,100	1.7%	234,200	325,300	1.4%	29,400	39,900	1.3%
5. Seattle Area	269,100	340,700	1.0%	577,100	672,400	0.6%	564,600	708,300	0.9%
6. Shoreline Area	26,600	29,500	0.4%	67,700	70,300	0.2%	17,900	20,100	0.5%
7. SW King	100,800	123,000	0.8%	260,300	294,900	0.5%	99,200	122,400	0.9%
8. Central Kitsap	46,200	64,200	1.4%	123,700	158,600	1.0%	62,000	78,600	1.0%
9. North Kitsap	23,400	37,500	2.0%	59,000	87,500	1.7%	15,100	21,500	1.5%
10. South Kitsap	23,900	34,800	1.6%	65,200	88,100	1.3%	11,500	15,600	1.3%
11. Peninsula	23,100	33,300	1.5%	62,500	83,400	1.2%	11,900	17,100	1.5%
12. Pierce Other	132,100	206,800	1.9%	363,400	526,400	1.6%	74,400	115,100	1.8%
13. SW Pierce	50,700	62,100	0.8%	134,300	150,600	0.5%	65,600	74,600	0.5%
14. Tacoma Area	82,300	106,900	1.1%	206,300	247,900	0.8%	122,600	160,500	1.1%
15. Everett Area	93,800	143,600	1.8%	247,700	352,800	1.5%	128,200	182,400	1.5%
16. NW Snohomish	15,100	24,400	2.0%	41,800	62,100	1.7%	8,400	14,000	2.2%
17. Snohomish Other	25,900	40,300	1.9%	75,100	107,500	1.5%	12,300	17,800	1.6%
18. SW Snohomish	121,300	183,400	1.7%	318,000	444,500	1.4%	87,600	135,900	1.8%
REGIONAL TOTAL	**1,395,200**	**1,934,600**	**1.4%**	**3,527,600**	**4,544,200**	**1.1%**	**1,864,800**	**2,497,700**	**1.2%**

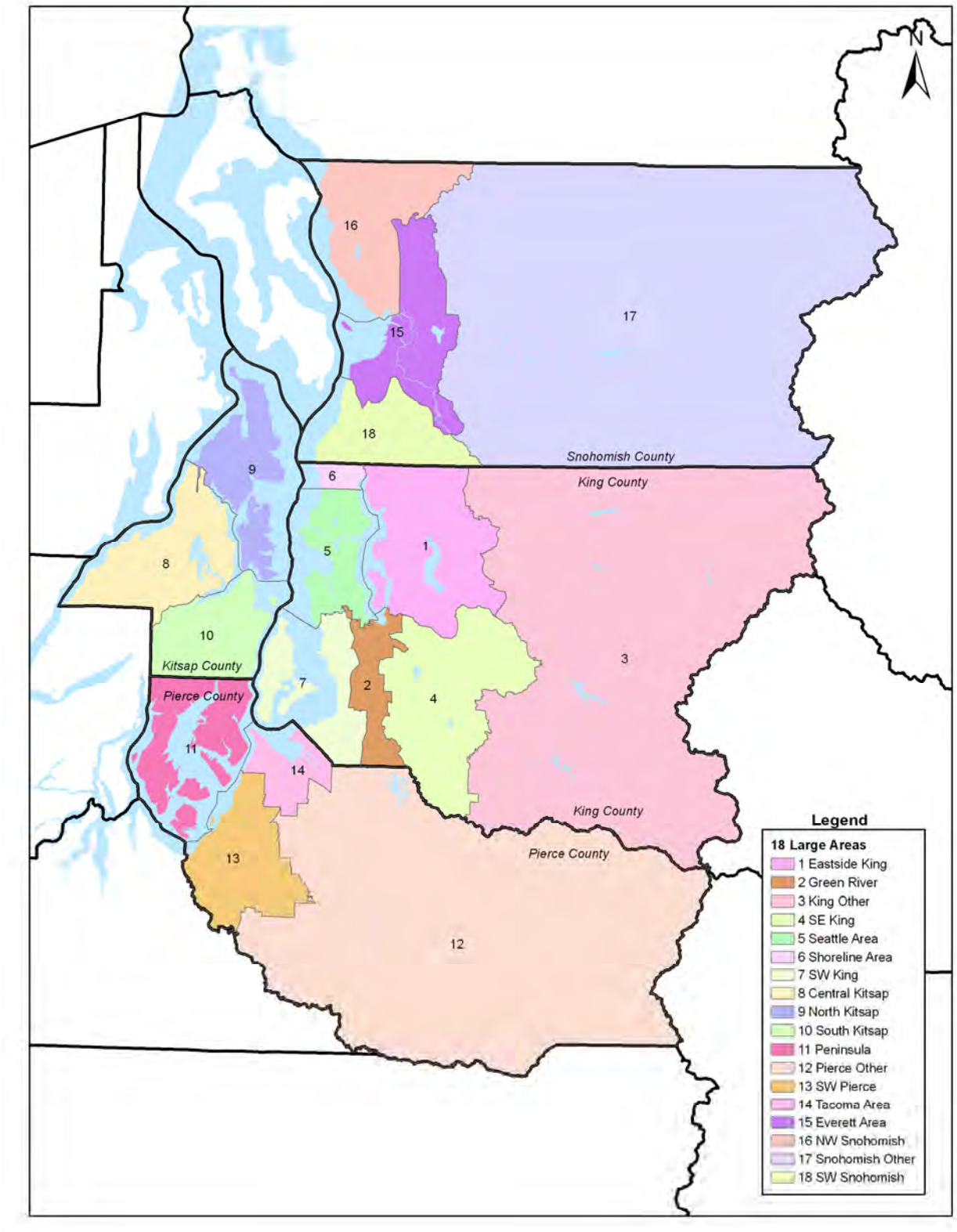
[1] Available at the PSRC website *http://www.psrc.org/data/forecasts/index.htm*

[2] Grouping of Forcasting Analysis Zones (FAZs) defined by PSRC (*http://www.psrc.org/data/geo/maps.htm*)

The 2030 land use forecasts prepared by the PSRC are consistent at the county level geography with the forecasts released by the Washington State Office of Financial Management. The future forecasts are also consistent with the land use forecasts used in the *2007 Finance Plan*.

[11] These land use forecasts are available at the PSRC website: http://www.psrc.org/data/forecasts/index.htm

Exhibit 15 – Large Areas Map



Travel Costs

Zonal parking costs for 2010 and 2030 assume a constant 1.5% real annual growth relative to the base year (2006). Auto operating costs are assumed to be 12 cents per mile in year 2000 dollars. This is equivalent to a little over 14 cents per mile in today's dollars. These assumptions are consistent with those assumed in the PSRC model. All travel costs, including toll rates, used in the toll modeling analysis are expressed in 2000 constant dollars. Any costs, including toll costs, that are reported outside of the model are inflated to current year dollars for ease of understanding.

3.3 TRAVEL DEMAND MODELING RESULTS & FINDINGS

This section provides a summary of the travel model forecasts and identifies the impacts of various factors such as magnitude of tolls, tolling short segments on SR 520, fixed versus variable rate tolling, and toll exemptions for HOVs and transit on cross-lake travel. The scenarios are divided into, tolling only SR 520 Bridge and tolling both SR 520 and I-90 bridges, and their results are discussed separately in the two sections below.

When a new toll is imposed in a previously toll-free highway, travel patterns change as travelers seek to modify their behavior under the new conditions in order to minimize their overall travel costs. These changes in travel patterns can result in various forms of toll diversion such as route or mode changes, selecting a different time to make a certain trip, going somewhere else for a particular trip or maybe not making the trip at all.

The Version 1a model used for the current toll modeling analysis does not assume any change in the total number of trips that are made, however it does capture the remaining types of diversion. When the SR 520 Bridge alone is tolled, route diversion to I-90 is a predominant effect but tolling both SR 520 and I-90 bridges shows as much mode shift as route diversion.

PM Peak and Daily toll model results and rate of diversion for 2010 pre-completion scenarios are presented in Exhibits 16 and 17 and for 2030 post-completion scenarios in Exhibits 18 and 19, respectively. More detailed toll-free and toll model results by time of day for all vehicle classes is presented in Appendix B for pre-completion scenarios (in Exhibits B-1 through B-10) and for post-completion scenarios (in Exhibits B-11 through B-27). Note that the ordering of scenarios in Exhibits 16 through 19 and in Exhibits shown in Appendix B is based on number of cross-lake bridges tolled and the magnitude of toll.

[This page intentionally blank]

Exhibit 16 – 2010 PM Peak Toll Analysis Comparison Matrix – Pre-Completion Scenarios

		Scenario	Scenario Elements			Maximum PM Peak Bridge Toll		2010 PM Peak Toll Model Outputs for SR 520 & I-90 Bridges										Toll Impacts on 2010 PM Peak Traffic (Relative to Toll-Free Build Condition)					
			Toll Configuration	Toll Strategy	Toll Exemptions	2007 $s	Opening Year 2010 $s	Vehicles in GP Lanes		Vehicles in HOV Lanes		Total Vehicles		Transit Person Trips		Total Persons (Including Transit)		Net Toll Diversion (%)		Transit Mode Shift (%)		HOV Mode Shift (%)	
								SR 520	I-90	SR 520	I-90	SR 520	I-90	SR 520	I-90	SR 520	I-90	SR 520	I-90	SR 520	I-90	SR 520	I-90
ONE BRIDGE TOLLED	Lower	Scenario 2	SR 520: Bridge Only	Variable Toll Schedule (Lowest)	Transit Only	$2.95	$3.20	19,600	32,000	NA	4,600	19,600	36,700	7,000	3,600	30,500	51,100	– 17%	+ 3%	+ 34%	+ 4%	NA	– 6%
		Scenario 4	SR 520: Bridge Only	Variable Toll Schedule (Lower)	Transit Only	$3.25	$3.50	19,300	32,000	NA	4,600	19,300	36,600	6,700	3,200	29,900	50,600	– 18%	+ 3%	+ 27%	– 8%	NA	– 6%
		Scenario 7	SR 520: Bridge Only	Variable Toll Schedule (Lower)	Transit Only	$3.25	$3.50	19,300	32,000	NA	4,600	19,300	36,600	6,700	3,200	29,900	50,600	– 18%	+ 3%	+ 27%	– 8%	NA	– 6%
		Scenario 12	SR 520: Bridge Only	Variable Toll Schedule (Lower)	Transit Only	$3.25	$3.50	19,300	32,000	NA	4,600	19,300	36,600	6,700	3,200	29,900	50,600	– 18%	+ 3%	+ 27%	– 8%	NA	– 6%
	Medium	Scenario 6	SR 520: Bridge Only	Variable Toll Schedule (Medium)	No Toll Exemptions	$3.80	$4.10	19,100	32,100	NA	4,700	19,100	36,800	6,800	3,200	29,700	50,900	– 20%	+ 3%	+ 28%	– 9%	NA	– 4%
		Scenario 10	SR 520: Bridge Only	Variable Toll Schedule (Medium)	Transit Only	$3.80	$4.10	19,100	32,100	NA	4,700	19,100	36,800	6,800	3,200	29,700	50,900	– 20%	+ 3%	+ 28%	– 9%	NA	– 4%
TWO BRIDGES TOLLED	Lower	Scenario 9	SR 520: Bridge Only I-90: Bridge Only	Variable Toll Schedule (Lowest)	SR 520: Transit Only I-90: Transit & HOV 2+	$2.95	$3.20	20,600	25,200	NA	4,400	20,600	29,600	6,100	3,500	30,800	42,300	– 12%	– 19%	+ 16%	+ 1%	NA	– 10%
		Scenario 13	SR 520: Bridge Only I-90: Bridge Only	Variable Toll Schedule (Lower)	SR 520: Transit Only I-90: Transit & HOV 2+	$3.25	$3.50	20,500	25,000	NA	4,400	20,500	29,400	6,300	3,400	30,900	42,000	– 12%	– 20%	+ 19%	0%	NA	– 10%
	Medium	Scenario 11	SR 520: Bridge Only I-90: Bridge Only (Option K on SR 520)	Variable Toll Schedule (Medium)	SR 520: Transit Only I-90: Transit & HOV 2+	$3.80	$4.10	19,900	23,000	NA	4,300	19,900	27,200	6,400	3,400	30,300	39,300	– 15%	– 26%	+ 22%	– 2%	NA	– 13%
TEST		Scenario 6.1	SR 520: Bridge Only	Variable Toll Schedule (Medium)	Transit Only	$3.80	$4.10	19,100	32,100	NA	4,700	19,100	36,800	6,800	3,200	29,700	50,900	– 20%	+ 3%	+ 28%	– 9%	NA	– 4%

[This page intentionally blank]

Exhibit 17 – 2010 Daily Toll Analysis Comparison Matrix – Pre-Completion Scenarios

		Scenario	Scenario Elements			Maximum PM Peak Bridge Toll		2010 Daily Toll Model Outputs for SR 520 & I-90 Bridges										Toll Impacts on 2010 Daily Traffic (Relative to Toll-Free Build Condition)					
			Toll Configuration	Toll Strategy	Toll Exemptions	2007 $s	Opening Year 2010 $s	Vehicles in GP Lanes		Vehicles in HOV Lanes		Total Vehicles		Transit Person Trips		Total Persons (Including Transit)		Net Toll Diversion (%)		Transit Mode Shift (%)		HOV Mode Shift (%)	
								SR 520	I-90	SR 520	I-90	SR 520	I-90	SR 520	I-90	SR 520	I-90	SR 520	I-90	SR 520	I-90	SR 520	I-90
ONE BRIDGE TOLLED	Lower	Scenario 2	SR 520: Bridge Only	Variable Toll Schedule (Lowest)	Transit Only	$2.95	$3.20	98,300	142,300	NA	13,200	98,300	155,600	21,400	10,900	139,300	207,500	– 17%	+ 4%	+ 34%	+ 4%	NA	– 9%
		Scenario 4	SR 520: Bridge Only	Variable Toll Schedule (Lower)	Transit Only	$3.25	$3.50	91,600	144,300	NA	13,900	91,600	158,200	20,300	9,700	130,200	209,900	– 23%	+ 5%	+ 27%	– 8%	NA	– 4%
		Scenario 7	SR 520: Bridge Only	Variable Toll Schedule (Lower)	Transit Only	$3.25	$3.50	91,600	144,300	NA	13,900	91,600	158,200	20,300	9,700	130,200	209,900	– 23%	+ 5%	+ 27%	– 8%	NA	– 4%
		Scenario 12	SR 520: Bridge Only	Variable Toll Schedule (Lower)	Transit Only	$3.25	$3.50	91,600	144,300	NA	13,900	91,600	158,200	20,300	9,700	130,200	209,900	– 23%	+ 5%	+ 27%	– 8%	NA	– 4%
	Medium	Scenario 6	SR 520: Bridge Only	Variable Toll Schedule (Medium)	No Toll Exemptions	$3.80	$4.10	91,300	146,400	NA	14,500	91,300	160,900	20,500	9,600	130,100	213,500	– 23%	+ 7%	+ 28%	– 9%	NA	+ 0%
		Scenario 10	SR 520: Bridge Only	Variable Toll Schedule (Medium)	Transit Only	$3.80	$4.10	91,300	146,400	NA	14,500	91,300	160,900	20,500	9,600	130,100	213,500	– 23%	+ 7%	+ 28%	– 9%	NA	+ 0%
TWO BRIDGES TOLLED	Lower	Scenario 9	SR 520: Bridge Only I-90: Bridge Only	Variable Toll Schedule (Lowest)	SR 520: Transit Only I-90: Transit & HOV 2+	$2.95	$3.20	106,200	112,700	NA	16,900	106,200	129,600	18,500	10,600	145,900	178,700	– 10%	– 18%	+ 16%	+ 1%	NA	+ 17%
		Scenario 13	SR 520: Bridge Only I-90: Bridge Only	Variable Toll Schedule (Lower)	SR 520: Transit Only I-90: Transit & HOV 2+	$3.25	$3.50	103,300	103,400	NA	18,500	103,300	121,900	19,000	10,400	142,900	170,600	– 13%	– 25%	+ 19%	0%	NA	+ 27%
	Medium	Scenario 11	SR 520: Bridge Only I-90: Bridge Only (Option K on SR 520)	Variable Toll Schedule (Medium)	SR 520: Transit Only I-90: Transit & HOV 2+	$3.80	$4.10	102,100	99,000	NA	18,900	102,100	117,900	19,500	10,300	141,900	165,900	– 14%	– 28%	+ 22%	– 2%	NA	+ 30%
TEST		Scenario 6.1	SR 520: Bridge Only	Variable Toll Schedule (Medium)	Transit Only	$3.80	$4.10	91,300	146,400	NA	14,500	91,300	160,900	20,500	9,600	130,100	213,500	– 23%	+ 7%	+ 28%	– 9%	NA	+ 0%

[This page intentionally blank]

Exhibit 18 – 2030 PM Peak Toll Analysis Comparison Matrix – Post-Completion Scenarios

		Scenario	Scenario Elements			Maximum PM Peak Bridge Toll		2030 PM Peak Toll Model Outputs for SR 520 & I-90 Bridges										Toll Impacts on 2030 PM Peak Traffic (Relative to Toll-Free Build Condition)					
			Toll Configuration	Toll Strategy	Toll Exemptions	2007 $s	Opening Year 2016 $s	Vehicles in GP Lanes		Vehicles in HOV Lanes		Total Vehicles		Transit Person Trips		Total Persons (Including Transit)		Net Toll Diversion (%)		Transit Mode Shift (%)		HOV Mode Shift (%)	
								SR 520	I-90	SR 520	I-90	SR 520	I-90	SR 520	I-90	SR 520	I-90	SR 520	I-90	SR 520	I-90	SR 520	I-90
ONE BRIDGE TOLLED	Lower	Scenario 2	SR 520: Bridge Only	Variable Toll Schedule (Lowest)	Transit & HOV 3+	$2.95	$3.70	23,100	33,800	2,800	2,600	25,900	36,400	3,800	13,000	40,500	61,700	– 10%	+ 2%	+ 23%	+ 4%	+ 7%	– 1%
		Scenario 5	SR 520: Bridge Only	Fixed-Rate Toll	Transit & HOV 3+	$1.70	$2.15	24,800	33,700	2,800	2,600	27,600	36,200	3,400	12,300	42,000	60,800	– 3%	+ 2%	+ 10%	– 1%	+ 7%	– 1%
	Medium	Scenario 1	SR 520: Bridge + Short Segments	Variable Toll Schedule (Medium)	Transit & HOV 3+	$3.80	$4.75	22,700	34,100	3,000	2,600	25,700	36,700	3,700	12,100	40,400	61,100	– 11%	+ 3%	+ 19%	– 3%	+ 13%	– 1%
		Scenario 7	SR 520: Bridge Only	Variable Toll Schedule (Medium)	Transit & HOV 3+	$3.80	$4.75	22,200	34,000	2,900	2,500	25,100	36,500	3,600	12,000	39,300	60,800	– 13%	+ 3%	+ 14%	– 3%	+ 9%	– 2%
	Higher	Scenario 6	SR 520: Bridge + Short Segments	Variable Toll Schedule (Higher)	No Toll Exemptions	$5.35	$6.65	20,400	34,400	900	3,700	21,300	38,100	3,500	11,700	30,900	64,700	– 21%	+ 4%	+ 13%	– 6%	– 64%	+ 44%
TWO BRIDGES TOLLED	Lower	Scenario 9	SR 520: Bridge Only I-90: Bridge Only	Variable Toll Schedule (Lowest)	Transit & HOV 3+	$2.95	$3.70	24,200	29,200	2,800	2,700	26,900	31,900	3,400	12,800	41,100	56,400	– 5%	– 12%	+ 8%	+ 3%	+ 4%	+ 5%
		Scenario 3	SR 520: Bridge + Short Segments I-90: Bridge + Island Segments	Variable Toll Schedule (Lower)	Transit & HOV 3+	$3.25	$4.05	24,800	30,600	3,100	2,800	27,800	33,400	3,500	13,200	42,900	58,800	– 3%	– 7%	+ 12%	+ 6%	+ 16%	+ 8%
		Scenario 4	SR 520: Bridge + Short Segments I-90: Bridge + Island Segments	Variable Toll Schedule (Lower)	Transit & HOV 3+	$3.25	$4.05	24,800	30,600	3,100	2,800	27,800	33,400	3,500	13,200	42,900	58,800	– 3%	– 7%	+ 12%	+ 6%	+ 16%	+ 8%
		Scenario 13	SR 520: Bridge Only I-90: Bridge Only	Variable Toll Schedule (Lower)	Transit & HOV 3+	$3.25	$4.05	24,900	30,800	3,000	2,900	27,900	33,700	3,300	12,700	42,700	58,800	– 3%	– 7%	+ 6%	+ 2%	+ 15%	+ 13%
	Mixed	Scenario 8	SR 520: Bridge Only I-90: Bridge Only	Variable Toll Schedule: Higher on SR 520 Lower on I-90	Transit & HOV 3+	SR 520: $4.20 I-90: $2.80	SR 520: $5.25 I-90: $3.50	23,400	30,700	3,000	2,700	26,400	33,400	3,500	13,100	41,100	58,500	– 8%	– 7%	+ 13%	+ 5%	+ 14%	+ 6%
		Scenario 12	SR 520: Bridge Only I-90: Bridge Only	Variable Toll Schedule: Higher on SR 520 Lower on I-90	Transit & HOV 3+	SR 520: $4.20 I-90: $2.80	SR 520: $5.25 I-90: $3.50	23,400	30,700	3,000	2,700	26,400	33,400	3,500	13,100	41,100	58,500	– 8%	– 7%	+ 13%	+ 5%	+ 14%	+ 6%
	Higher	Scenario 10	SR 520: Bridge + Short Segments I-90: (2+2) HOT Lanes I-5 to I-405 & (1+1) HOT I-405 to Issaquah	SR520: Variable Toll Schedule (Higher) I-90: Dynamic Tolls (Weekday Peaks/Midday)	Transit & HOV 3+	SR 520: $5.35 I-90: $0.95 per mile	SR 520: $6.65 I-90: $1.18 per mile	22,100	22,800	3,500	11,500	25,600	34,300	3,500	11,700	40,900	56,800	– 14%	– 31%	+ 13%	– 6%	+ 32%	NA
		Scenario 11	SR 520: Bridge Only I-90: Bridge Only (Option K on SR 520)	Variable Toll Schedule (Higher)	Transit & HOV 3+	$5.35	$6.65	23,700	27,400	3,200	2,600	26,900	30,100	3,300	12,800	41,800	54,100	– 7%	– 17%	+ 7%	+ 3%	+ 21%	+ 2%
DIAGNOSTIC TESTS		Scenario 6.1	SR 520: Bridge + Short Segments	Variable Toll Schedule (Higher)	Transit & HOV 3+	$5.35	$6.65	19,900	34,300	2,900	2,500	22,800	36,900	3,600	11,800	36,600	60,900	– 22%	+ 4%	+ 15%	– 6%	+ 10%	– 2%
		Scenario 7.1	SR 520: Bridge Only (Existing 4 Lane Bridge)	Variable Toll Schedule (Medium)	Transit Only	$3.80	$4.75	22,500	34,000	NA	4,000	22,500	38,100	3,100	12,200	30,100	65,800	NA	NA	NA	NA	NA	NA
		Scenario 7.2	SR 520: Bridge Only (HOV2+ on SR 520)	Variable Toll Schedule (Medium)	Transit & HOV 2+	$3.80	$4.75	20,100	32,600	8,300	6,700	28,400	39,300	3,500	12,300	53,700	72,500	NA	NA	NA	NA	NA	NA
		Scenario 12.1	SR 520: Bridge Only I-90: Bridge Only	Variable Toll Schedule: 25% Higher Tolls than Scenario 12	Transit & HOV 3+	SR 520: $5.25 I-90: $3.50	SR 520: $6.56 I-90: $4.35	22,700	30,000	3,100	2,700	25,800	32,800	3,600	13,200	40,600	57,900	– 11%	– 9%	+ 15%	+ 6%	+ 17%	+ 6%

[This page intentionally blank]

Exhibit 19 – 2030 Daily Toll Analysis Comparison Matrix – Post-Completion Scenarios

		Scenario	Scenario Elements			Maximum PM Peak Bridge Toll		2030 Daily Toll Model Outputs for SR 520 & I-90 Bridges								Toll Impacts on 2030 Daily Traffic (Relative to Toll-Free Build Condition)					
			Toll Configuration	Toll Strategy	Toll Exemptions	2007 $s	Opening Year 2016 $s	Vehicles in GP Lanes		Vehicles in HOV Lanes		Total Vehicles		Transit Person Trips		Total Persons (Including Transit)		Net Toll Diversion (%)		Transit Mode Shift (%)		HOV Mode Shift (%)	
								SR 520	I-90	SR 520	I-90	SR 520	I-90	SR 520	I-90	SR 520	I-90	SR 520	I-90	SR 520	I-90	SR 520	I-90
ONE BRIDGE TOLLED	Lower	Scenario 2	SR 520: Bridge Only	Variable Toll Schedule (Lowest)	Transit & HOV 3+	$2.95	$3.70	114,400	159,300	8,900	6,800	123,200	166,000	11,600	39,300	176,800	251,800	– 11%	+ 5%	+ 23%	+ 4%	+ 7%	– 3%
		Scenario 5	SR 520: Bridge Only	Fixed-Rate Toll	Transit & HOV 3+	$1.70	$2.15	111,700	161,600	9,000	6,800	120,700	168,400	10,400	37,400	172,800	252,800	– 13%	+ 6%	+ 10%	– 1%	+ 8%	– 2%
	Medium	Scenario 1	SR 520: Bridge + Short Segments	Variable Toll Schedule (Medium)	Transit & HOV 3+	$3.80	$4.75	108,900	161,900	9,400	6,800	118,300	168,700	11,300	36,700	171,500	252,400	– 16%	+ 7%	+ 19%	– 3%	+ 13%	– 3%
		Scenario 7	SR 520: Bridge Only	Variable Toll Schedule (Medium)	Transit & HOV 3+	$3.80	$4.75	106,500	161,700	9,200	6,800	115,700	168,500	10,800	36,500	167,500	252,100	– 17%	+ 6%	+ 14%	– 3%	+ 10%	– 2%
	Higher	Scenario 6	SR 520: Bridge + Short Segments	Variable Toll Schedule (Higher)	No Toll Exemptions	$5.35	$6.65	96,600	163,700	4,200	9,800	100,800	173,500	10,700	35,400	139,800	262,700	– 26%	+ 8%	+ 13%	– 6%	– 50%	+ 41%
TWO BRIDGES TOLLED	Lower	Scenario 9	SR 520: Bridge Only I-90: Bridge Only	Variable Toll Schedule (Lowest)	Transit & HOV 3+	$2.95	$3.70	124,300	137,500	8,800	8,300	133,200	145,800	10,200	38,900	187,100	230,100	– 4%	– 9%	+ 8%	+ 3%	+ 6%	+ 19%
		Scenario 3	SR 520: Bridge + Short Segments I-90: Bridge + Island Segments	Variable Toll Schedule (Lower)	Transit & HOV 3+	$3.25	$4.05	125,700	139,200	9,700	8,400	135,500	147,600	10,600	40,000	192,100	233,400	– 3%	– 8%	+ 12%	+ 6%	+ 17%	+ 20%
		Scenario 4	SR 520: Bridge + Short Segments I-90: Bridge + Island Segments	Variable Toll Schedule (Lower)	Transit & HOV 3+	$3.25	$4.05	125,700	139,200	9,700	8,400	135,500	147,600	10,600	40,000	192,100	233,400	– 3%	– 8%	+ 12%	+ 6%	+ 17%	+ 20%
		Scenario 13	SR 520: Bridge Only I-90: Bridge Only	Variable Toll Schedule (Lower)	Transit & HOV 3+	$3.25	$4.05	123,300	135,600	9,000	7,200	132,300	142,800	10,000	38,600	186,400	224,100	– 4%	– 11%	+ 6%	+ 2%	+ 9%	+ 3%
	Mixed	Scenario 8	SR 520: Bridge Only I-90: Bridge Only	Variable Toll Schedule: Higher on SR 520 Lower on I-90	Transit & HOV 3+	SR 520: $4.20 I-90: $2.80	SR 520: $5.25 I-90: $3.50	120,200	141,100	9,600	8,500	129,800	149,600	10,700	39,600	185,100	235,800	– 7%	– 7%	+ 13%	+ 5%	+ 15%	+ 22%
		Scenario 12	SR 520: Bridge Only I-90: Bridge Only	Variable Toll Schedule: Higher on SR 520 Lower on I-90	Transit & HOV 3+	SR 520: $4.20 I-90: $2.80	SR 520: $5.25 I-90: $3.50	120,200	141,100	9,600	8,500	129,800	149,600	10,700	39,600	185,100	235,800	– 7%	– 7%	+ 13%	+ 5%	+ 15%	+ 22%
	Higher	Scenario 10	SR 520: Bridge + Short Segments I-90: (2+2) HOT Lanes I-5 to I-405 & (1+1) HOT I-405 to Issaquah	SR520: Variable Toll Schedule (Higher) I-90: Dynamic Tolls (Weekday Peaks/Midday)	Transit & HOV 3+	SR 520: $5.35 I-90: $0.95 per mile	SR 520: $6.65 I-90: $1.18 per mile	107,200	126,800	9,000	39,900	116,200	166,700	10,700	35,400	167,200	245,400	– 17%	+ 5%	+ 13%	– 6%	+ 8%	NA
		Scenario 11	SR 520: Bridge Only I-90: Bridge Only (Option K on SR 520)	Variable Toll Schedule (Higher)	Transit & HOV 3+	$5.35	$6.65	119,300	124,400	9,500	6,800	128,800	131,200	10,100	38,800	183,100	209,500	– 8%	– 18%	+ 7%	+ 3%	+ 14%	– 3%
DIAGNOSTIC TESTS		Scenario 6.1	SR 520: Bridge + Short Segments	Variable Toll Schedule (Higher)	Transit & HOV 3+	$5.35	$6.65	95,100	163,500	9,200	6,900	104,200	170,300	10,800	35,600	153,800	253,400	– 26%	+ 8%	+ 15%	– 6%	+ 10%	– 2%
		Scenario 7.1	SR 520: Bridge Only (Existing 4 Lane Bridge)	Variable Toll Schedule (Medium)	Transit Only	$3.80	$4.75	108,800	161,800	NA	10,300	108,800	172,100	9,300	37,100	139,900	263,600	NA	NA	NA	NA	NA	NA
		Scenario 7.2	SR 520: Bridge Only (HOV2+ on SR 520)	Variable Toll Schedule (Medium)	Transit & HOV 2+	$3.80	$4.75	96,700	155,400	32,300	22,100	129,100	177,400	10,600	37,300	228,600	293,200	NA	NA	NA	NA	NA	NA
		Scenario 12.1	SR 520: Bridge Only I-90: Bridge Only	Variable Toll Schedule: 25% Higher Tolls than Scenario 12	Transit & HOV 3+	SR 520: $5.25 I-90: $3.50	SR 520: $6.56 I-90: $4.35	117,500	139,100	9,900	9,000	127,400	148,100	10,900	40,000	183,100	235,300	– 9%	– 8%	+ 15%	+ 6%	+ 19%	+ 30%

[This page intentionally blank]

3.3.1 Tolling SR 520 Bridge Only

As mentioned in Section 2, there was a variety of toll policies that were tested in this analysis. These policies ranged from the toll rate level themselves to toll exemptions. By comparing the results of the various scenarios, the impacts of the toll policies on the travel demand for the corridor become more apparent.

SR 520 Pre-Completion

A few key highlights from the toll model results (shown in Exhibits 16 and 17) for 2010 pre-completion scenarios include:

PM Peak Period route diversion to I-90 is lower than daily diversion.

- When the PM Peak toll rate increases from $2.95 in Scenario 2 to $3.25 in Scenario 4, the PM Peak travel demand on the SR 520 general purpose lanes change by less than 500 vehicles and the I-90 volumes remain the same. The small amount of diversion is likely due to congested network conditions that make it more difficult to divert to other parallel facilities.

- Increasing the PM Peak tolls by another 17% (from $3.25 to $3.80) causes a slight increase in the diversion in the PM peak period on SR 520 with more traffic diverted onto I-90. The mode shift to HOV on I-90 also increases because of the increase in general purpose lane traffic on I-90 which leads to higher travel times in those lanes.

- The toll rates have a greater impact on route diversion on the daily model volumes than they do in the PM Peak period. This means that a majority of the daily route diversion to I-90 is captured in the off peak periods, likely due to the available capacity of the transportation system outside of the peak periods.

SR 520 Post-Completion

Key highlights from toll model results (shown in Exhibits 18 and 19) for 2030 post-completion scenarios include:

Fixed toll rates have greater daily diversion than variable toll rates.

- Applying a fixed-rate toll instead of a variable-rate toll of equivalent amount, shows less diversion in the peak periods and higher daily diversion. This is because a fixed-rate toll does not provide the same congestion management benefit as variable tolls. A fixed-rate toll may be too low in peak periods, encouraging more trips and leading to congestion, yet may be too high in the off peak periods, discouraging trips and leading to inefficient use of corridor capacity.

- Applying variable-rate tolls encourages some users to shift from peak period (higher toll) to off-peak (lower toll) periods by rescheduling their trips to before/after peak periods. This effect is not observed with fixed-rate tolls as there is no incentive for rescheduling trips.

Segmental tolls lead to less cross-lake diversion away from the SR 520 corridor.

- Implementing short segment tolls seems to lead to a slightly lower diversion in PM peak and noticeably lower daily diversion. Short segment tolls free up congestion on SR 520 near I-5 and I-405, thus lowering the travel time on the corridor and causing less cross-lake trip diversion.

As the toll rates increase, the amount of diversion also increases.

- As was the case in the pre-completion scenarios, applying "lower" and "medium" sets of toll rates on SR 520 show traffic diversion rates that are similar. When you apply the "higher" set of toll rates which increase from $3.80 to $5.35 (40% higher than medium tolls), the model shows significantly higher diversion rates in both the PM peak and daily travel.

Changes in the toll exemptions lead to lower usage of the HOV facilities.

- Scenarios 6 and 6.1 are identical to one another in all aspects except for the toll exemptions. In scenario 6 all users pay the toll and in scenario 6.1, HOV 3+ and transit vehicles are toll exempt. By not implementing HOV 3+ and transit toll exemptions, there is a significant drop in the total vehicles on the HOV lanes of the new SR 520 Bridge in both the PM peak and daily periods which leads to a sub-optimal use of HOV lane capacity.

3.3.2 Tolling SR 520 and I-90 Bridges

Tolling the SR 520 Bridge alone causes some traffic diversion to I-90 which can lead to lower travel speeds on I-90. One way to avoid this difference in level of service between the bridges is to place a toll on I-90 as well. A general observation across all scenarios is that when the same level of tolls is applied on both SR 520 and I-90, there is less diversion away from SR 520 than there is away from I-90. In the post-completion scenarios, the mode shift to HOV on SR 520 seems to be more sensitive to the magnitude of tolls than mode shift to HOV on I-90 when the same toll is applied to both SR 520 and I-90.

Note that in this section, the I-90 Bridge refers to the floating bridge between Mercer Island and Seattle.

SR 520 Pre-Completion

Under the pre-completion scenarios, all auto vehicles that use the SR 520 bridge are tolled. Key highlights from toll model results (shown in Exhibits 16 and 17) for 2010 pre-completion scenarios include:

As the toll rates increase for both bridges, the amount of diversion also increases.

- When the toll rates for two-bridge scenarios are increased, the PM peak and daily diversion from the GP lanes on both bridges increase.

- At the daily level, the diversion from the GP lanes on SR 520 and I-90 is similar to the PM peak period, increasing with increases in tolls.

As the toll rates increase, the shift to other time periods increases, which leads to greater off-peak period HOV usage.

- As the PM Peak toll rates are increased, more travel is shifted into the off peak periods. This affects the number of GP and HOV vehicles in the corridor and both totals drop as the toll rate is increased. This is most likely due to the choice based nature of the time-of-day model which allows for choosing a different time period to travel in based on the network conditions, which include both toll costs as well as travel time.

- At the daily level, the GP lane volumes on both SR 520 and I-90 decrease as the tolls increase. Daily HOV volumes, however, increase as the toll rates increase, especially when the greatest toll increases are in the peak periods. Since the PM Peak HOV usage is lower at the highest toll rates and yet the daily HOV usage is higher, it appears that higher toll rates in the PM peak are in fact pushing some of the traffic into the off-peak periods and is resulting in greater HOV usage in these other time periods.

SR 520 Post-Completion

Key highlights from toll model results (shown in Exhibits 18 and 19) for 2030 post-completion scenarios include:

Segmental tolls on SR 520 improve the overall traffic flow on this facility, which leads to slightly more traffic on the bridge itself.

- Tolling short segments on SR 520 and island segments on I-90 seems to have slightly lower diversion in GP lanes of both SR 520 and I-90 bridges in both PM peak and daily periods. This is probably due to the splitting of the I-90 toll onto two-bridges (island segments of I-90) effectively reducing the toll on the Westside Bridge, volumes from which are shown in the Exhibits 18 and 19. As expected, the shift to HOV mode seems to be higher in PM peak and daily when the segments are tolled.

Differential Tolls on SR 520 and I-90, with the higher tolls on SR 520, lead to more balanced loadings on the two-bridges.

- Applying a mixed set of tolls, with higher tolls on SR 520 and lower tolls on I-90, leads to lower traffic volumes in GP lanes and greater mode shift to HOVs on SR 520 than I-90 in both PM peak and daily periods.

Increasing toll rates on both bridges leads to lower general traffic volumes on these facilities and greater HOV usage.

- As expected, implementing higher toll rates on both SR 520 and I-90 bridges reduces traffic volumes in GP lanes on both bridges and increases mode shift to HOV. This effect can be observed when the toll rates are increased from "lowest" to "higher" and "mixed" to "higher" sets of tolls in PM peak and daily periods.

I-90 HOT lane tolling leads to less diversion on the I-90 corridor with volumes similar to single bridge tolls on SR 520.

- By operating the I-90 bridge as a HOT lane, the total volumes on the bridge are very similar to the single bridge SR 520 cases, although a much larger share of trips are using the HOT lane. The shift of traffic back to I-90 reflects the lower set of tolls that the average I-90 user would pay with a HOT lane operation as compared with the other two-bridge scenarios.

3.4 IMPACTS OF TOLLING ON NEARBY ROADWAYS

This section provides a summary of the impacts that tolling the SR 520 bridge has on the other facilities that can be used to travel from the eastside to the west side of the lake.

SR 520 Bridge Tolling

When the SR 520 bridge is tolled, traffic does shift to other routes. The magnitude of the shift generally increases as the toll rate increases. Due to existing congestion levels on these parallel corridors, in general the peak period diversion to other routes is about ½ of the diversion seen in the off peak periods. A few key highlights on the parallel routes are:

- Daily volumes on I-90 increase approximately 5% in the lowest toll scenarios up to a maximum of around 8% in the highest tolled scenarios. Most of this diversion occurs in the shoulder periods since I-5 and I-405 are too congested during the peak periods to allow too many vehicles to shift to them during the peak periods.

- Daily volume increases on SR 522 on the north-end of Lake Washington range from around 1% in the lowest toll scenario to approximately 4.5% in the highest toll scenario.

- Daily volume increases on I-405 on the south-end of Lake Washington range from about 2% in the lower toll ranges up to about 3% in the highest toll ranges.

As highlighted in these bullets, the majority of the route diversion in an SR 520 Bridge toll case is to I-90. This affect can mainly be attributed to existing congestion levels on the I-5 and I-405. SR 522 is a signalized arterial with a posted speed limit that ranges from 25mph

to 45mph. Lower speed limits, a longer corridor and the presence of signalized intersections all make diversion to this corridor less attractive for most travelers, especially if they are living south of SR 522.

SR 520 and I-90 Bridge Tolling

When both bridges are tolled, there are still shifts to SR 522 and I-405 and in general they are higher than the single bridge case.

- When tolls are applied to I-90, the increases on I-405 south of Bellevue range from about 2% in the lowest toll case up to about 4% in the highest toll case. The slightly higher shift to I-405 when both bridges are tolled suggests that the drivers diverting away from I-90 tend to use I-405 on the south.

- SR 522 volumes increase from approximately 3% to 6% when both bridges are tolled. This range is also higher than the single bridge cases and suggests that a few users of SR 520 who might have diverted to I-90 when only one bridge is tolled are now choosing SR 522.

As shown in the tables and summarized above, in general as toll rates increase, the total diversion to parallel routes also increases. This is consistent with the higher amounts of diversion that are shown at higher toll rates. In general, the impacts on facilities other than I-90 range from 1% to about 6% on a daily basis, with most scenarios having impacts in the range of 3% increases on I-405 and SR 522. Also, traffic shifts are expectedly greater during the off-peak periods than peak periods.

4. OPERATIONAL TOLL RATES AND ANNUAL TOLL TRANSACTIONS

A financial revenue model was prepared to convert the pre- and post-completion weekday total daily traffic projections by toll scenario for selected forecast years, and convert them to annual gross revenues over a ten year pre-completion period and up to 40 years of post-completion operations. Several steps are involved in this process as described in the following sections.

4.1 ALLOCATION OF WEEKDAY DAILY TRAFFIC PROJECTIONS

Developing the annual revenue projections needed for the *SR 520 Finance Plan 2008 Update (Draft)* required a process to migrate the daily outputs generated by the regional traffic model to a daily distribution of traffic consistent with the model's general time periods, bridge-specific travel patterns, and a more detailed, operational variable toll schedule and its impact on shifting some traffic to peak shoulder and off peak times.

As discussed in Section 2.4.2, the PSRC model used in this study provides travel demand estimates for five different time periods — AM peak, PM peak period, mid-day off-peak, evening off-peak, and overnight off-peak. The model is designed to predict the total demand that would choose to travel in each of both three-hour peak periods as well as the three remaining off peak periods that make up the rest of the day. The PSRC model has a time of day component that allows time of day distributions on zone to zone pairs; however, they are not facility specific. While the regional model is designed to predict overall daily traffic demand, under congested future conditions, it can overstate the volume of traffic that could be served in the peak periods and/or understate the duration of these periods.

Exhibit 20 illustrates this issue by superimposing the five periodic model toll rates under Scenario 7 with the model-assigned, bi-directional hourly traffic volumes. The left axis and the area bars represent the toll rate applied in each hourly period, with toll rates ***expressed in year of opening 2016 dollars***. The right scale and solid plot line represent the ***2030 model forecast*** of average hourly bridge traffic on SR 520 under Scenario 7 tolling. The dotted plot line represents average hourly bridge traffic on SR 520 under toll-free conditions according to the 2030 model forecast.

Network congestion and capacity constraints are accounted for within the regional model by increasing the time cost of travel and affecting route choice, but not beyond the point of serving all of the demand. Although the regional model's time of day distribution simulates some aspects of peak spreading, the model time periods make it difficult to simulate the affects of the operational toll schedules which include pre and post peak period shoulder hours.

Exhibit 20 – Model Toll Rates and 2030 Traffic Forecasts — Scenario 7

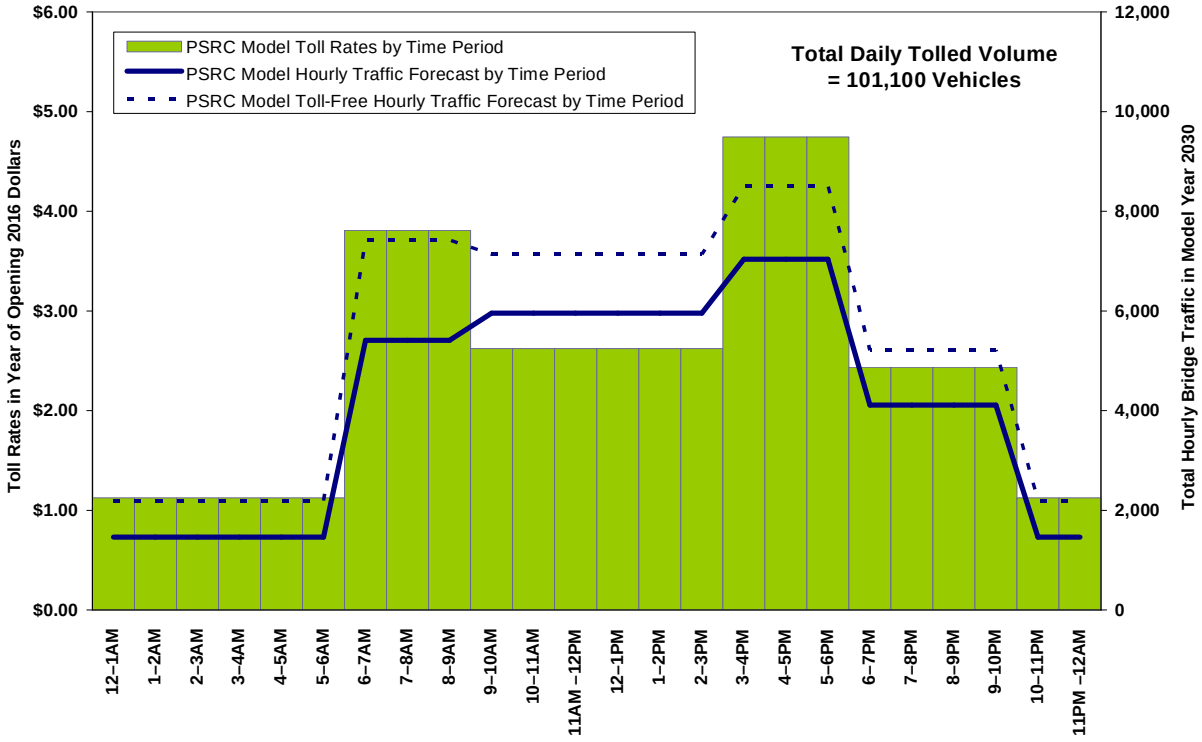


Exhibit 20 reveals some important considerations regarding the five period regional model.

- Five distinct time periods limit the toll modeling to five discrete toll rates, one per period. Scenario 7 is used as an example below:
  - The AM peak period is three hours long and has a toll rate of $3.80 (in 2016$);
  - The mid-day off-peak period is six hours long and has a toll rate of $2.60 (in 2016$);
  - The PM peak period is three hours long and has a toll rate of $4.75 (in 2016$);
  - The evening off-peak period is four hours long and has a toll rate of $2.45 (in 2016$); and
  - The night off-peak period is eight hours long and has a toll rate of $1.15 (in 2016$).
- The five period model does simulate peak spreading; however, the five time periods are large enough in size that it is difficult to test the impacts in the shoulder hours.

In reality, when volumes in the peak periods exceed capacity (such as occurs today without a toll), peak spreading will push these volumes to the peak shoulders, effectively extending the peak periods to four or five hours or more, and thus, lowering the volume per hour relative to the model forecasts.

Exhibit 21 provides a simplified illustration of how the same bi-directional daily traffic volumes from the regional model for Scenarios 7 tolls are allocated for revenue operations and financial forecasting purposes with the more detailed operational toll schedule. As above, the left axis and the area bars represent the toll rate applied in each hourly period,

with toll rates expressed in year of opening 2016 dollars. The right scale and plot line represent the 2030 forecast hourly allocation of SR 520 bridge traffic, reflecting the expected peak spreading anticipated under the more variable operational toll schedule.

Exhibit 21 – Revenue Operations Toll Schedule and 2030 Traffic Forecast — Scenario 7

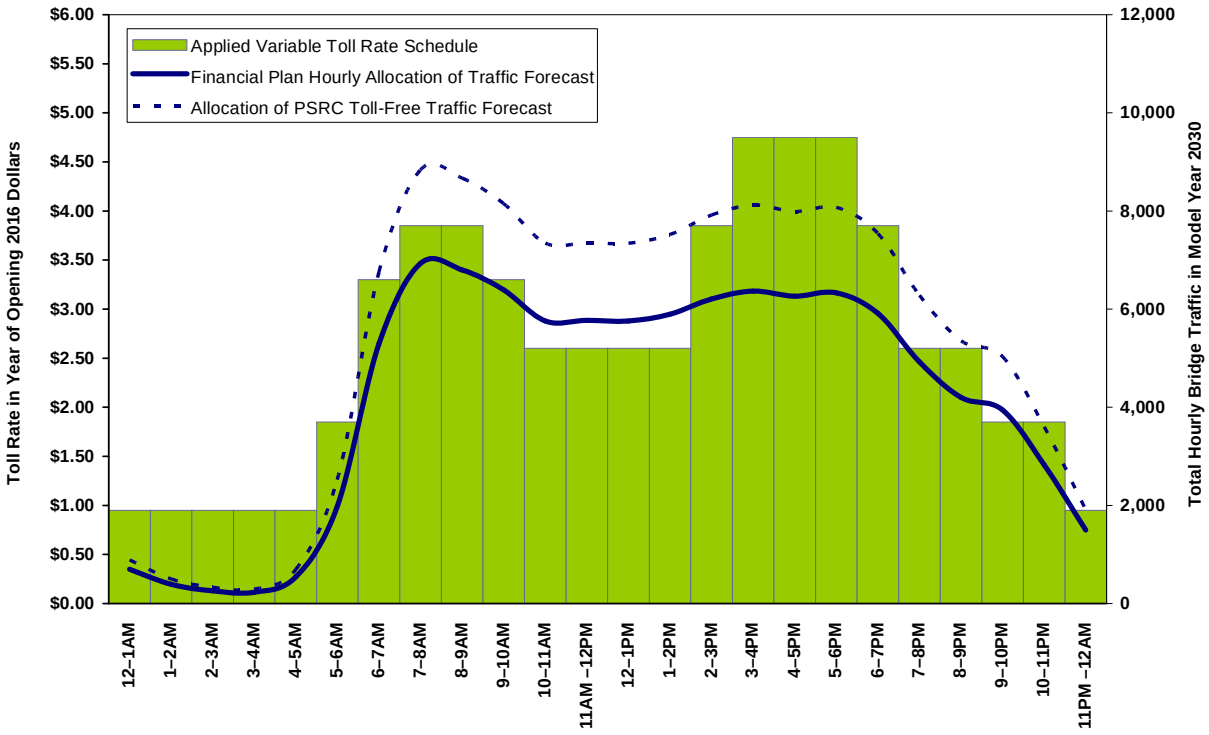


Exhibit 21 illustrates some key results of the SR 520 revenue model.

- The anticipated revenue operations and associated financial projections employ a more continuous variable toll schedule with tolls changing as frequently as each hour. Note that the three off-peak toll rates used in the demand modeling for Scenario 7 as well as the other scenarios was set to match the corresponding weighted average variable toll over 15 "off-peak" hours shown in the variable toll schedule of Exhibit 21.
- Having toll rates that are lower during midday and progressively lower during other off-peak times creates an incentive to travel during those times. This helps to spread the peak periods into shoulder times and shift some of the peak period demand to off-peak times, thereby improving utilization throughout the day when compared to the PSRC model results.
- The hourly volumes in the revenue model remain tied to the daily totals from the PSRC regional model (the area under the solid traffic volume curves in Exhibit 20 and Exhibit 21 are identical).
- Separate distributions were used to allocate autos and larger trucks, based upon observed hourly distribution patterns and the relative elasticities of demand for travel by time of day under a variable toll structure.

- Future time of day traffic patterns on the new facility under a variable toll are expected to be similar to currently observed time of day patterns resulting from the variable time costs of traffic congestion.
- Variable tolls are intended to manage and distribute demand more efficiently across the day than implied by the model. Compared with existing conditions, the time costs of peak travel that currently cause peak spreading are exchanged in the future for dollar costs that creates the same incentive for some travel to shift to shoulder or off-peak times.

4.1.1 Weekday Traffic, Variable Tolls and Demand Management

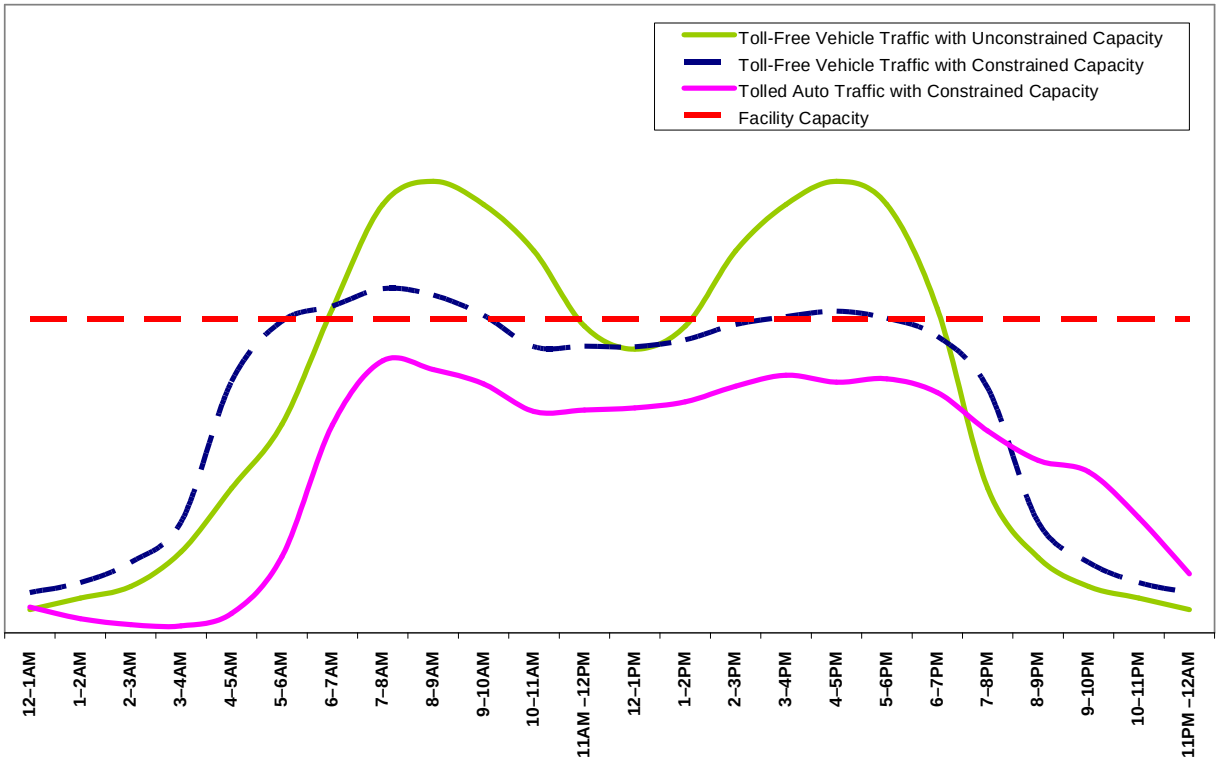
Do the toll rate schedules considered in the various toll scenarios sufficiently manage demand to prevent congestion and produce good flow conditions ("free-flow") during the peak periods? A definitive system answer would require extensive micro-simulation modeling of SR 520 in the context of adjacent facilities such as I-5, I-90 and I-405. This is because congestion at either end of the corridor on I-5 or I-405 could generate backups on SR 520 even if the toll effectively keeps the demand for travel below the facility's capacity. Even without micro-simulation, however, an answer to the question must be estimated.

All of the variable-rate toll scenarios considered for the finance plan apply higher tolls during the peak periods in order to manage demand and minimize congestion. Two approaches were taken for minimizing congestion delay. The first approach, using the lowest toll schedule, was designed to minimize the overall system delay during the morning and afternoon peak periods. The second approach, using medium toll scenarios, was designed to achieve hourly directional traffic volumes in 2030 close to the theoretical capacity for the facility of up to 2000 vehicles per lane per hour.[12] When demand exceeds this threshold capacity, traffic flow breaks down, congestion delays occur and throughput drops. All of the other toll scenarios employ higher tolls, and thus achieve lower peak traffic demand, making them even more likely to maintain efficient speeds and flow conditions, at least when conditions on connecting network roadways do not create downstream bottlenecks that could potentially back up onto SR 520, resulting in suboptimal traffic flows.

Exhibit 22 presents an illustrative view of how vehicle traffic is impacted by both capacity constraints and variable tolling. Under a hypothetical condition where no capacity limitations exist, traffic patterns would mimic those shown on the green curve, with the highest demand during AM and PM peak hours. However, as with both SR 520 and I-90, capacity is constrained to a limited number of vehicles in any given hour. As capacity is reached on those facilities – resulting in traffic congestion – some drivers will choose to shift their trips to other times during the day. The dashed blue line illustrates that when capacity is reached, traffic becomes more evenly spread throughout the day, with less pronounced peak travel periods. Similarly, when variable-rate tolls are applied to traffic, the net effect is (1) reduced demand for the facility and (2) diversion in the form of time-shifts.

[12] Transportation Research Board. 2000. *Highway Capacity Manual*. Multilane Highways Methodology, Exhibit 21-1: LOS Criteria for Multilane Highways. p. 21-3. Assuming 60 mi/h free-flow speed and a minimum operating level of service D.

Exhibit 22 – 2030 Average Hourly Westbound Traffic by Toll Period — Traffic Throughput Tolls



4.2 WEEKDAY OPERATIONAL TOLL RATE SCHEDULES

Previous version of SR 520 financial feasibility plans have assumed a toll rate structure that varies by time of day, differing for weekends and weekdays.[13] The same approach was employed for this work, with the exception of a single fixed-rate tolling scenario. Tolling parameters and objectives as described in Section 2 were used as inputs to identify morning and afternoon peak toll rates as well as the average off-peak rate. Within these parameters, variable toll rate schedules were developed to mirror the varying travel demand observed throughout the day and expected shifts in demand due to tolling. The resulting toll rate schedules have higher rates during the expected peak demand periods and lower rates during other times expected to have less demand, when alternative routes would be more attractive and/or transit alternatives less available.

[13] Washington State Department of Transportation. April, 2004. *SR 520 Toll Feasibility Study*; Washington State Department of Transportation. March, 2007. *SR-520 and I-90 Toll Feasibility Analysis: Traffic and Revenue Forecasts Technical Memorandum*; Washington State Department of Transportation. January, 2008. *2007 SR 520 Finance Plan*; and Washington State Department of Transportation. March, 2008. *SR 520 Toll Traffic and Revenue Report.*

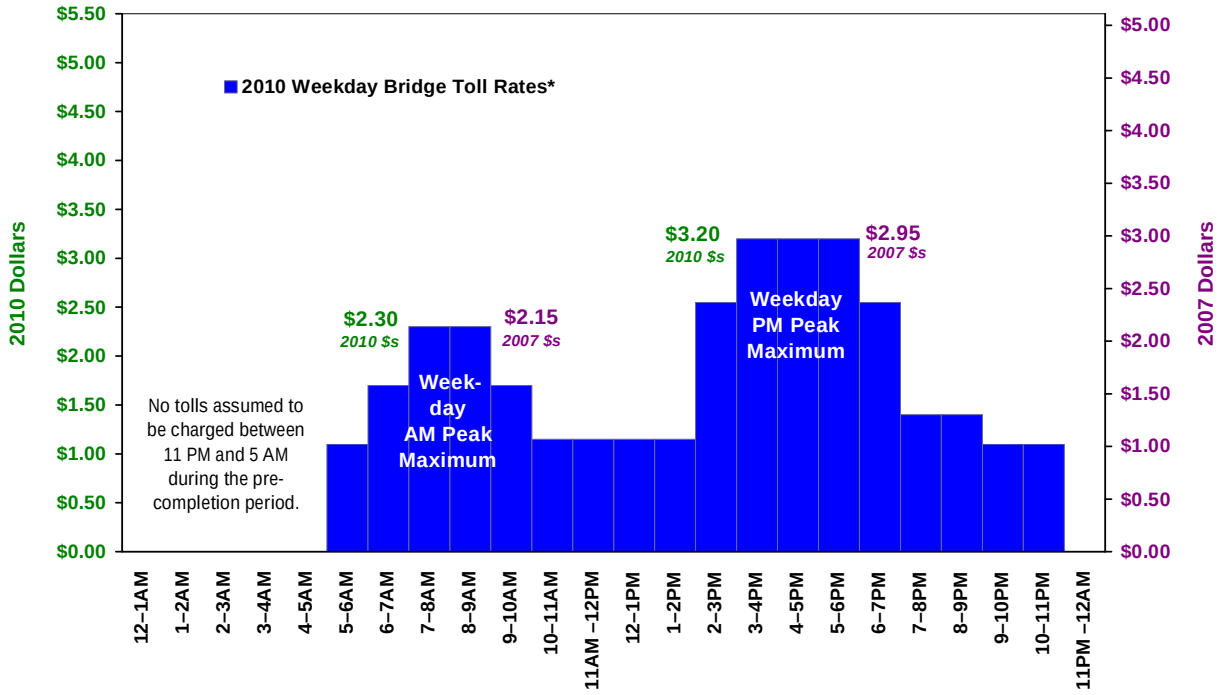
4.2.1 Pre-Completion Toll Schedules

The three weekday pre-completion toll rate schedules for the bridge — system level optimization, revenue/traffic balance, and traffic throughput — are the same as their post-completion counterparts when expressed in constant 2007 dollars, except that nights are assumed to be toll-free during pre-completion. Specifically, the pre-completion toll schedules assume that nights from 11:00 PM to 5:00 AM would be toll-free because demand is low and construction closures would be likely. Weekend toll rates also follow their pre-completion counterparts with the exception of toll-free nights.

Exhibit 23 through Exhibit 25 present the pre-completion weekday and weekend toll rates by time period for the three cases in which tolling could begin in the third quarter of 2010. Toll rates are shown for the year of implementation in 2010 dollars on the left axis and in constant 2007 dollars on the right axis.

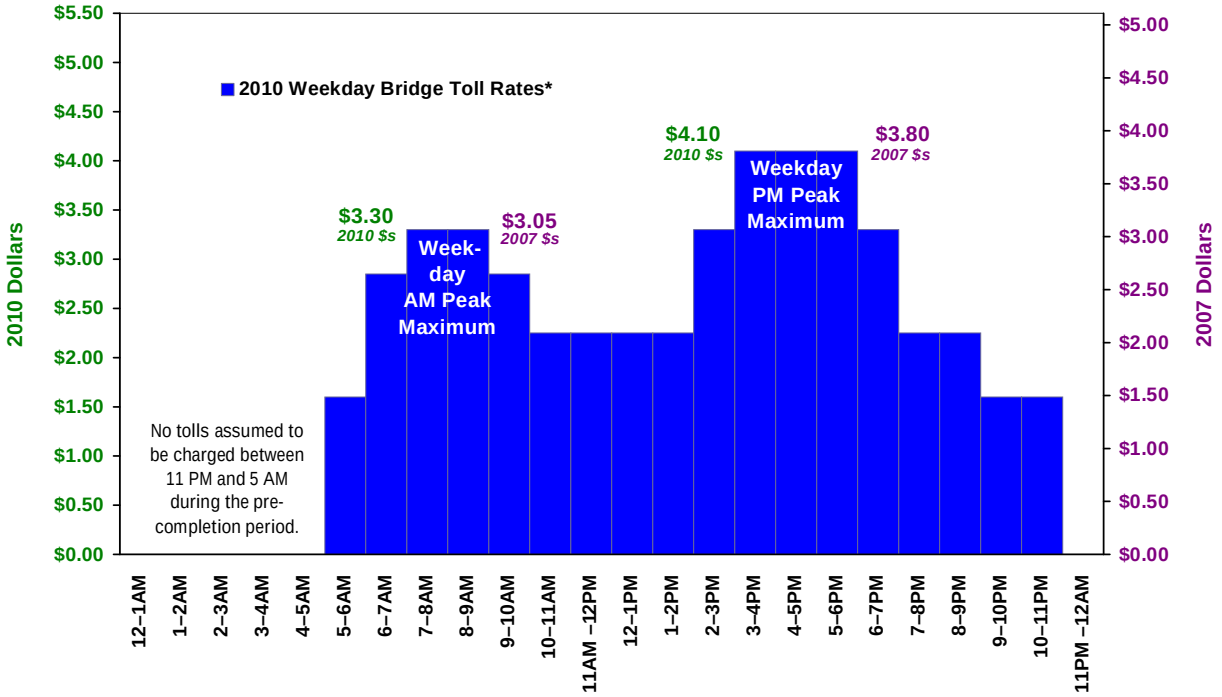
Tolls are assumed to escalate with inflation at an assumed rate of 2.5% per year during the pre-completion toll period in the same manner as after the new bridge opens in mid-2018.

Exhibit 23 – Pre-Completion "Lowest" Weekday Bridge Tolls — Scenarios 2 and 9



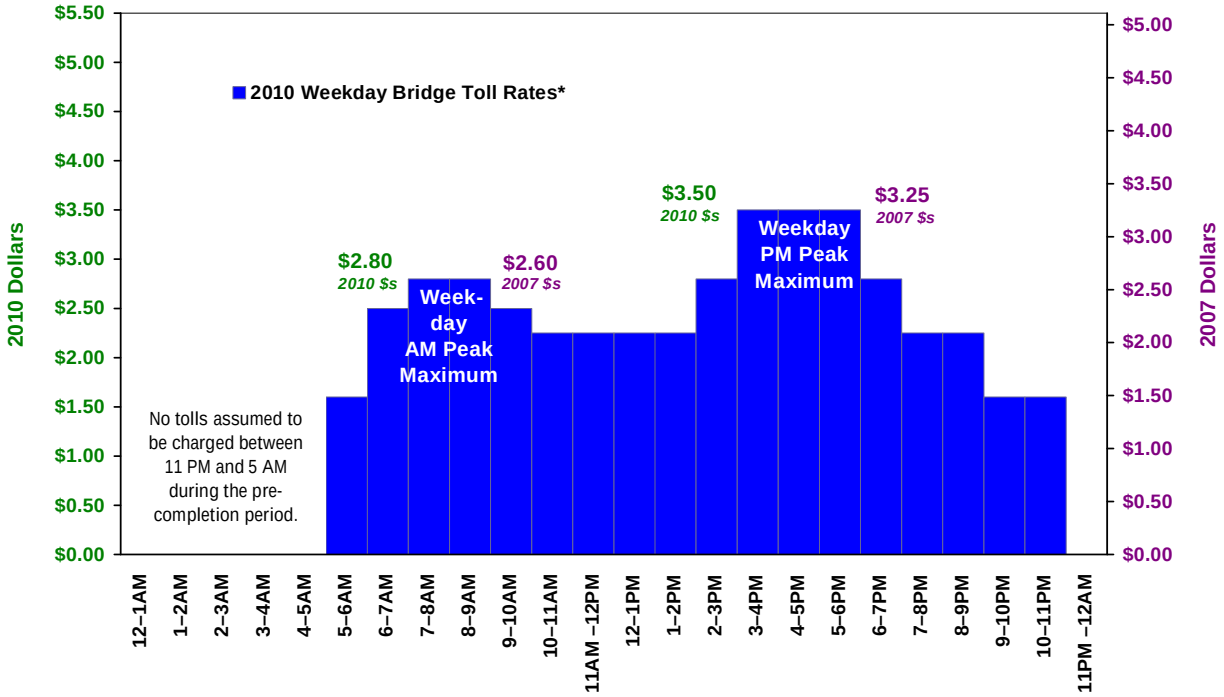
* Applies to SR 520 only in Scenario 2; applies to SR 520 and I-90 in Scenario 9.

Exhibit 24 – Pre-Completion "Higher" Weekday Bridge Tolls — Scenarios 6, 10 and 11



* Applies to SR 520 only in Scenarios 6 and 10; applies to SR 520 and I-90 in Scenario 11.

Exhibit 25 – Pre-Completion "Lower" Weekday Bridge Tolls — Scenarios 4, 7, 12 and 13



* Applies to SR 520 only in Scenarios 4, 7 and 12; applies to SR 520 and I-90 in Scenario 13.

4.2.2 Post-Completion Toll Schedules

The post-completion variable toll schedules applied in developing the gross toll revenue projections are presented in Exhibit 26 through Exhibit 38 by scenario and toll location. In all of the charts, the opening year toll rates in 2016 dollars are indicated on the left axis and the equivalent values in 2007 dollars are provided on the right axis.

In all cases, tolls are assumed to escalate with inflation at an assumed, projected at 2.5% per year.

Exhibit 26 – Post-Completion SR 520 "Medium" Weekday Bridge Tolls — Scenario 1

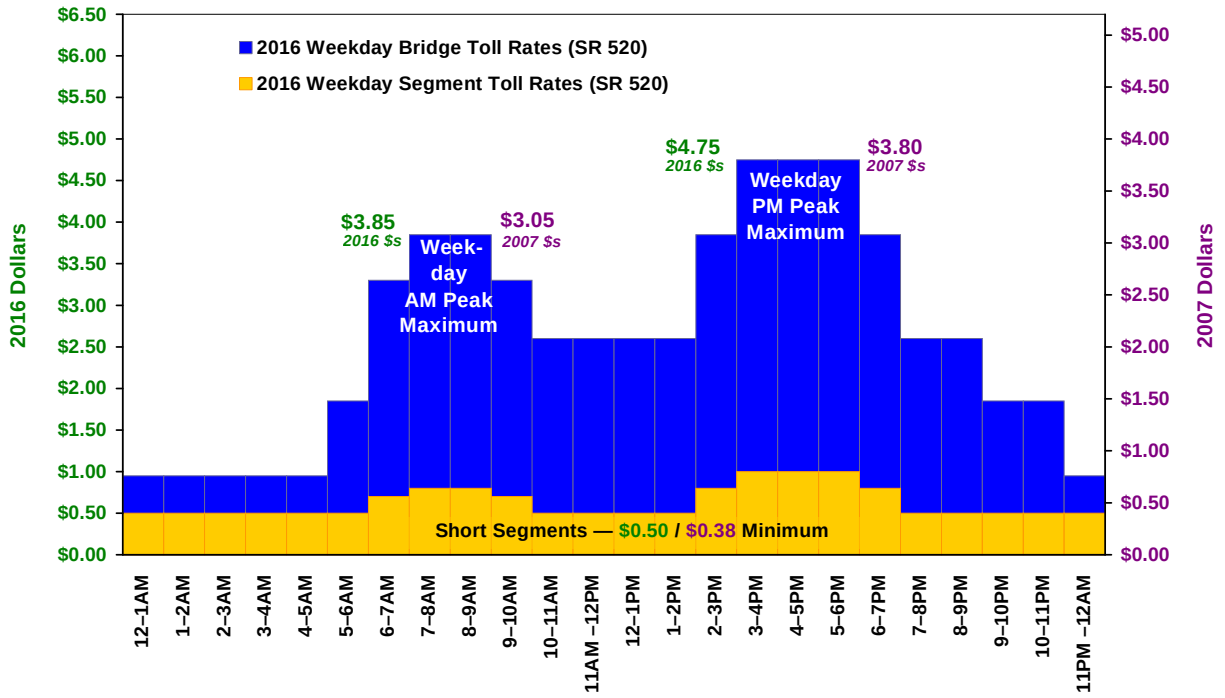


Exhibit 27 – Post-Completion "Lowest" Weekday Bridge Tolls — Scenario 2

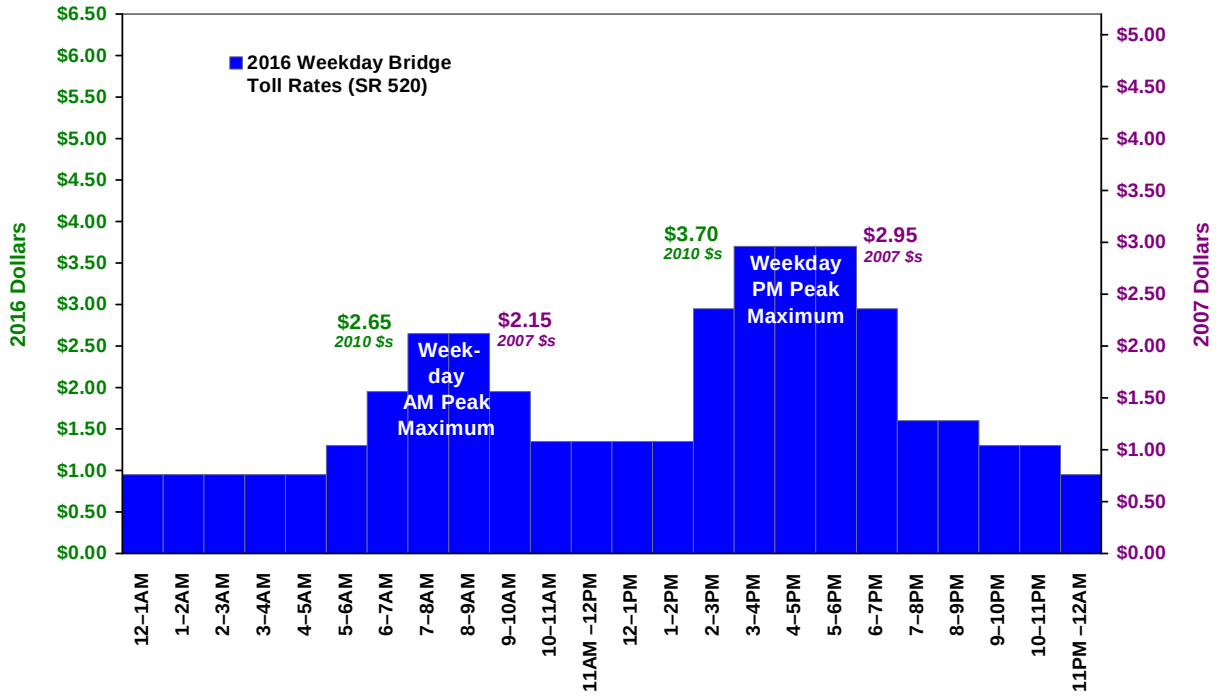


Exhibit 28 – Post-Completion "Lower" Weekday Bridge Tolls — Scenario 3

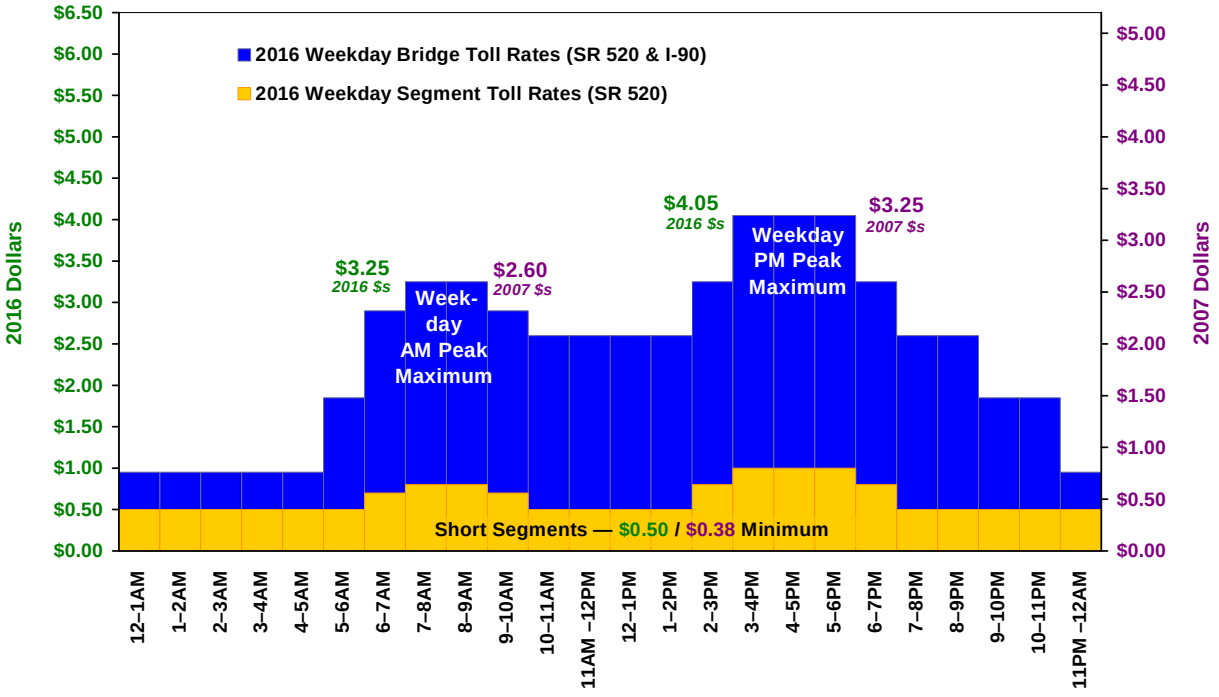


Exhibit 29 – Post-Completion "Lower" Weekday Bridge Tolls — Scenario 4

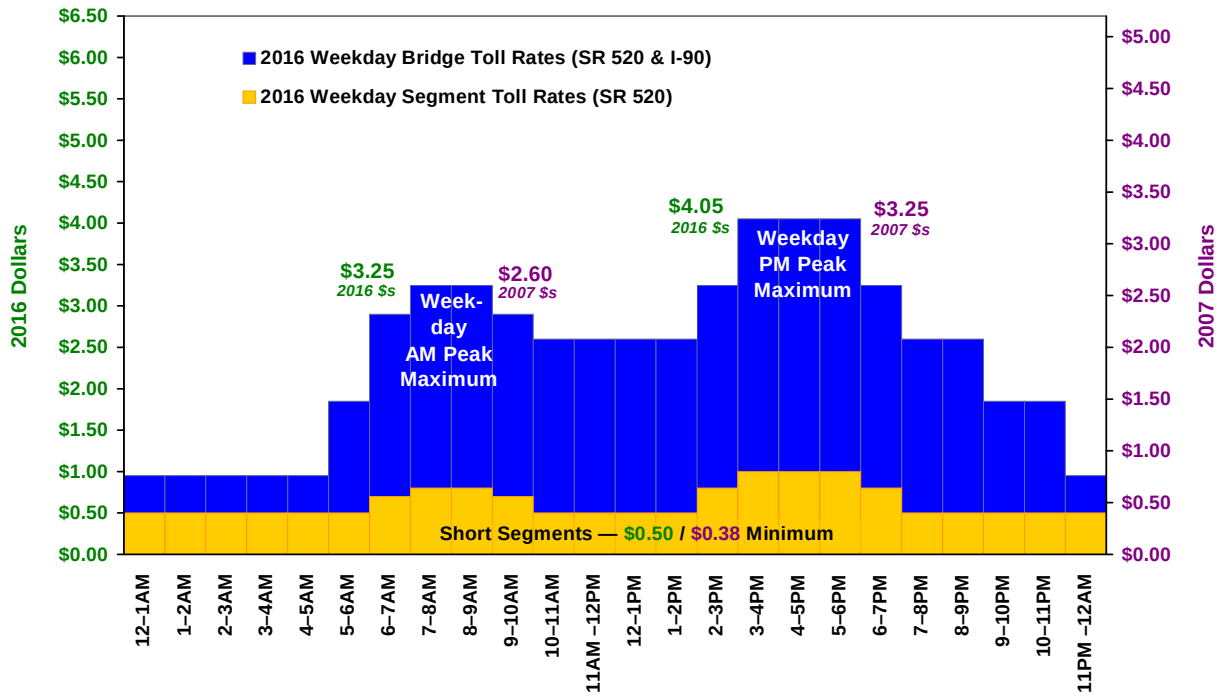


Exhibit 30 – Post-Completion Fixed-Rate Weekday Bridge Tolls — Scenario 5

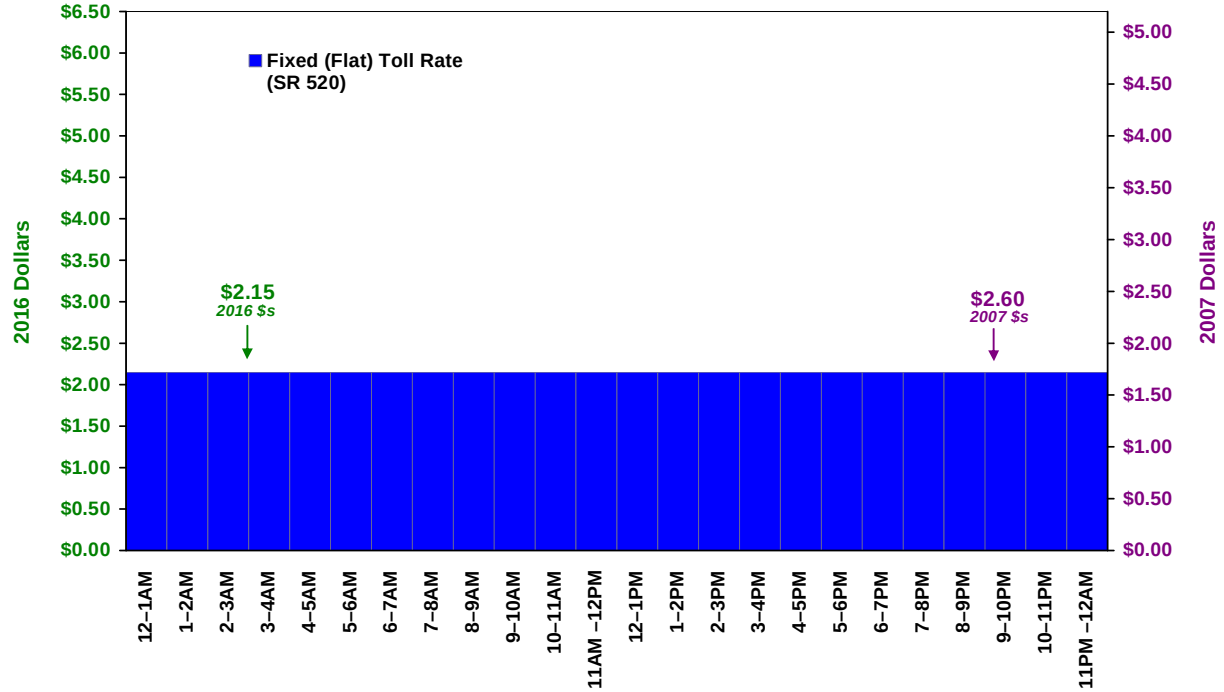


Exhibit 31 – Post-Completion "Higher" Weekday Bridge Tolls — Scenario 6

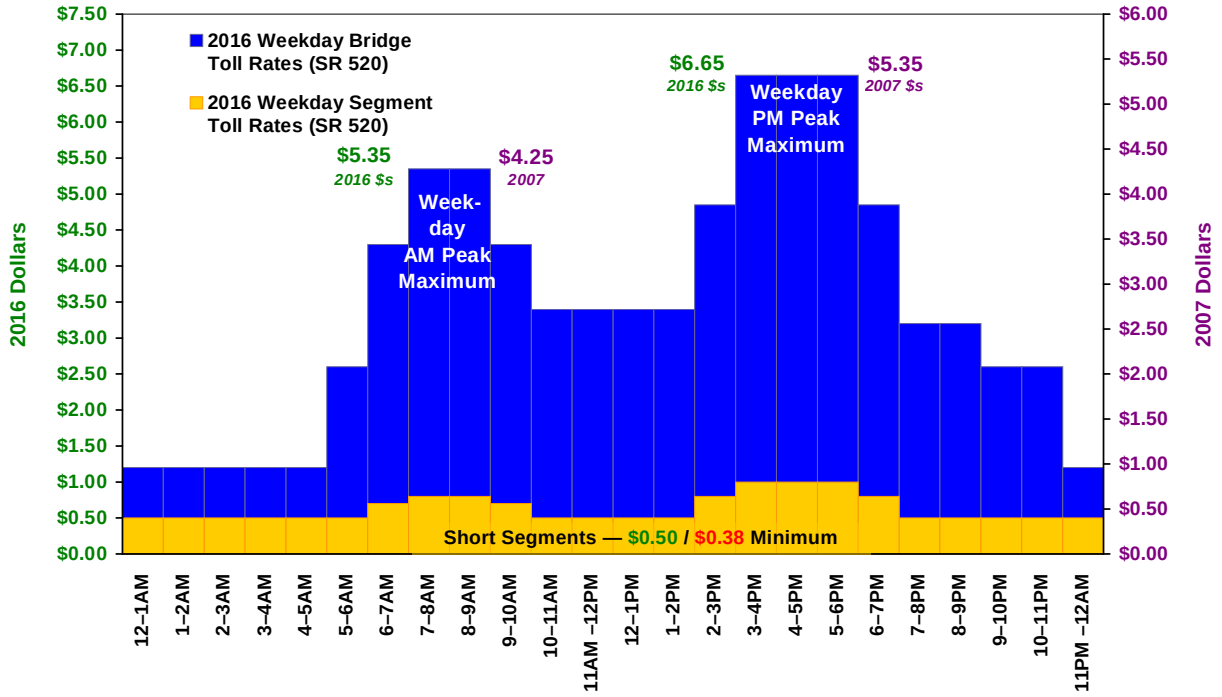


Exhibit 32 – Post-Completion "Medium" Weekday Bridge Tolls — Scenario 7

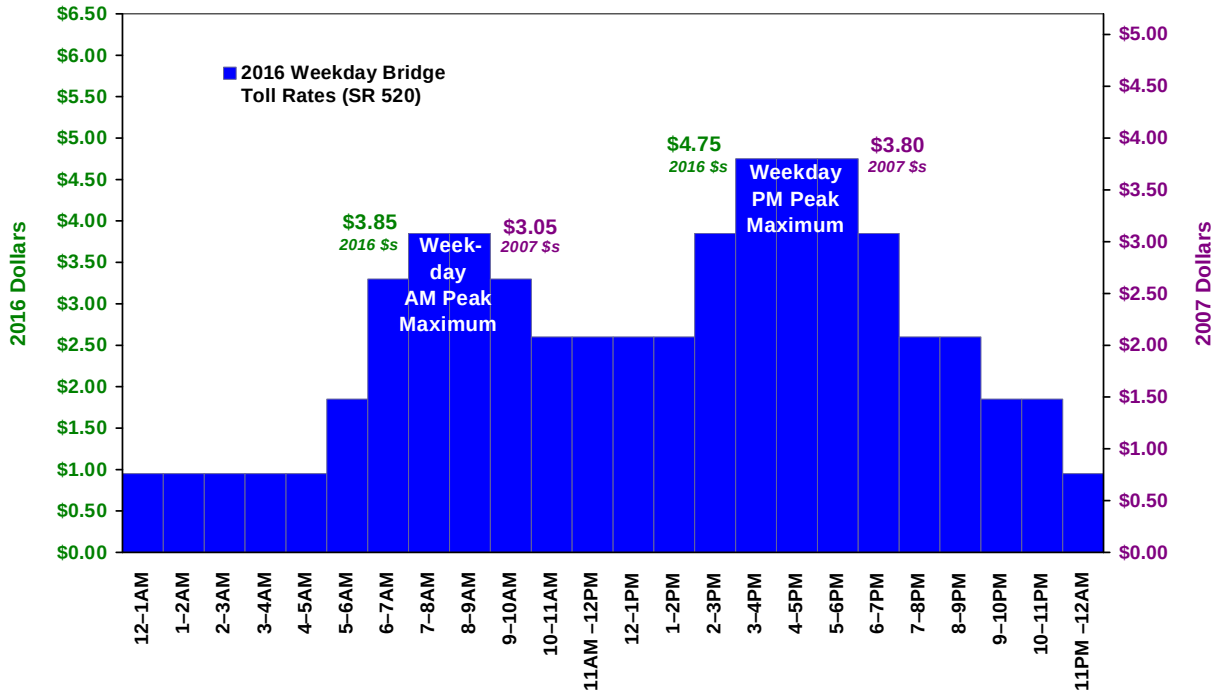


Exhibit 33 – Post-Completion Differential Weekday Bridge Tolls — Scenario 8

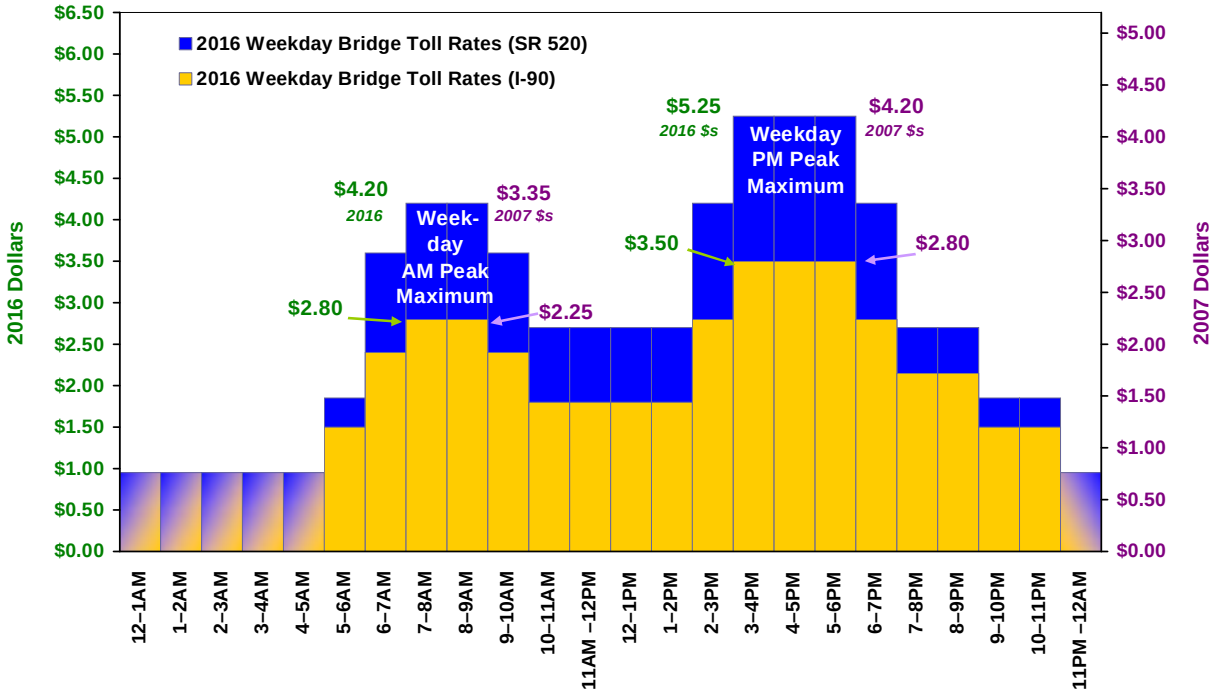


Exhibit 34 – Post-Completion "Lowest" Weekday Bridge Tolls — Scenario 9

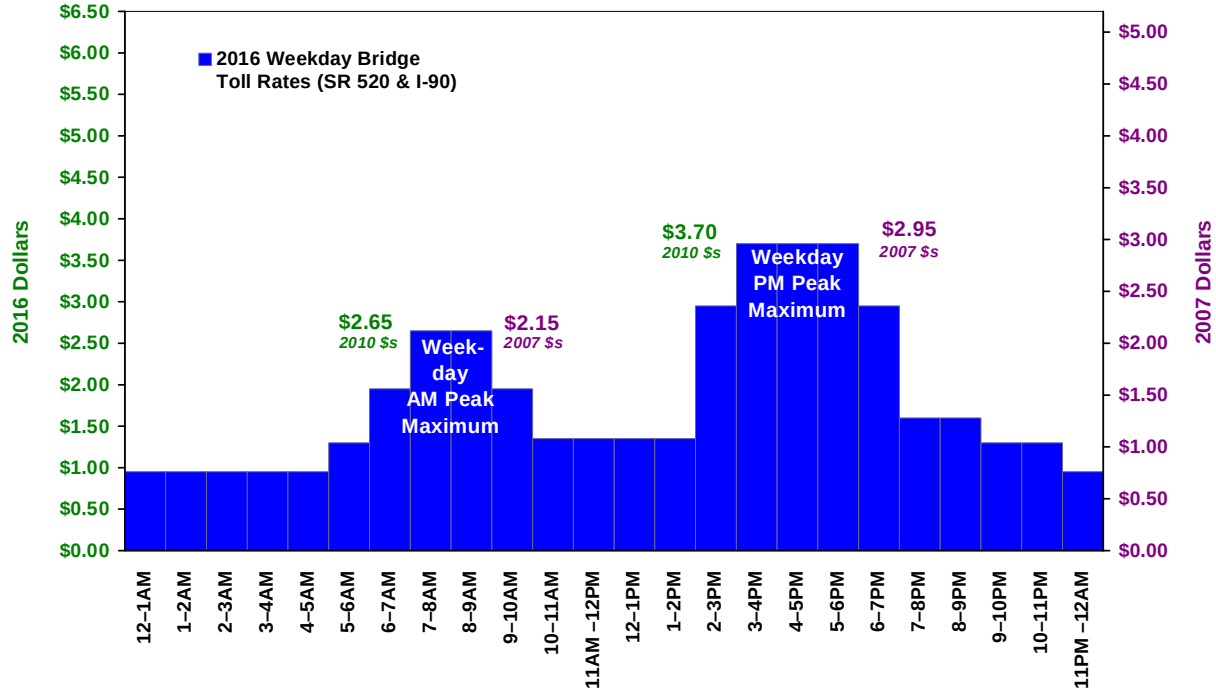


Exhibit 35 – Post-Completion "Higher" Weekday Bridge Tolls — Scenario 10

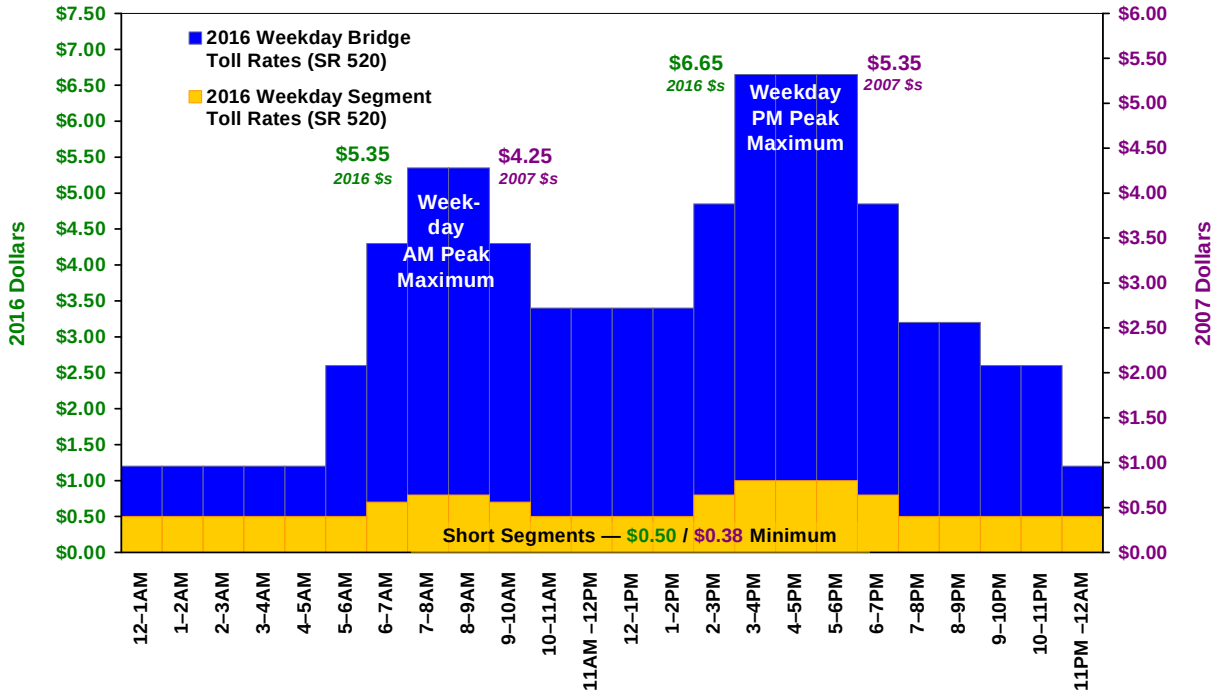


Exhibit 36 – Post-Completion "Highest" Weekday Bridge Tolls — Scenario 11

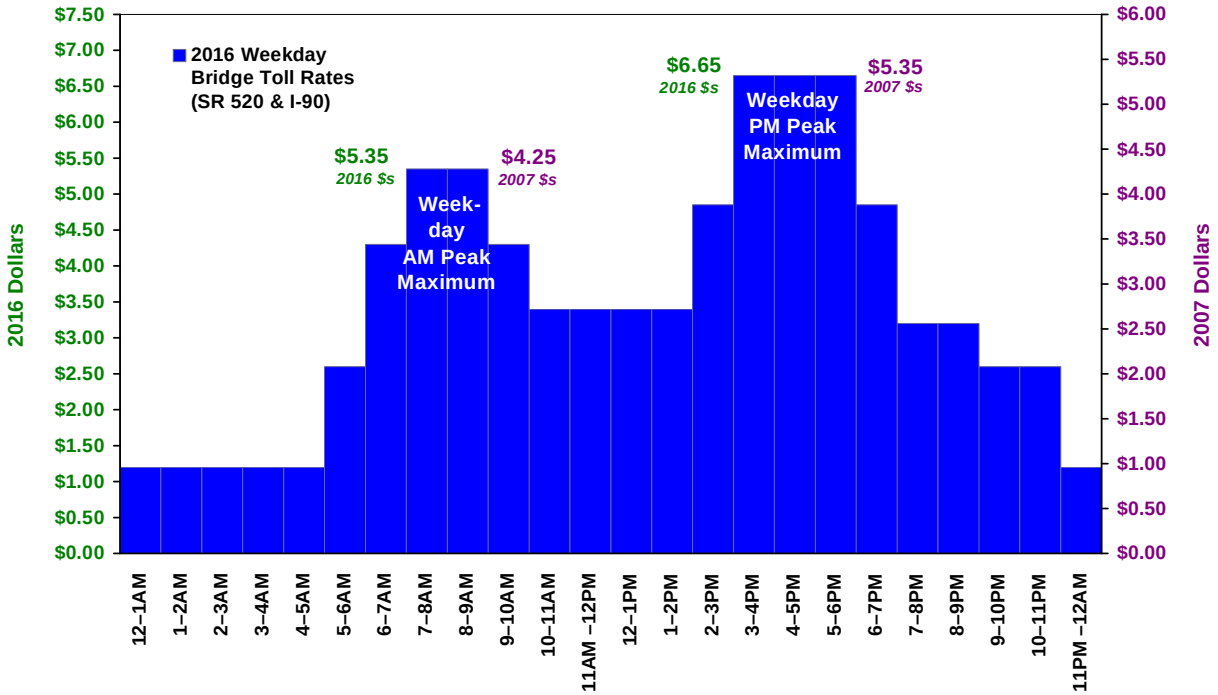


Exhibit 37 – Post-Completion Differential Weekday Bridge Tolls — Scenario 12

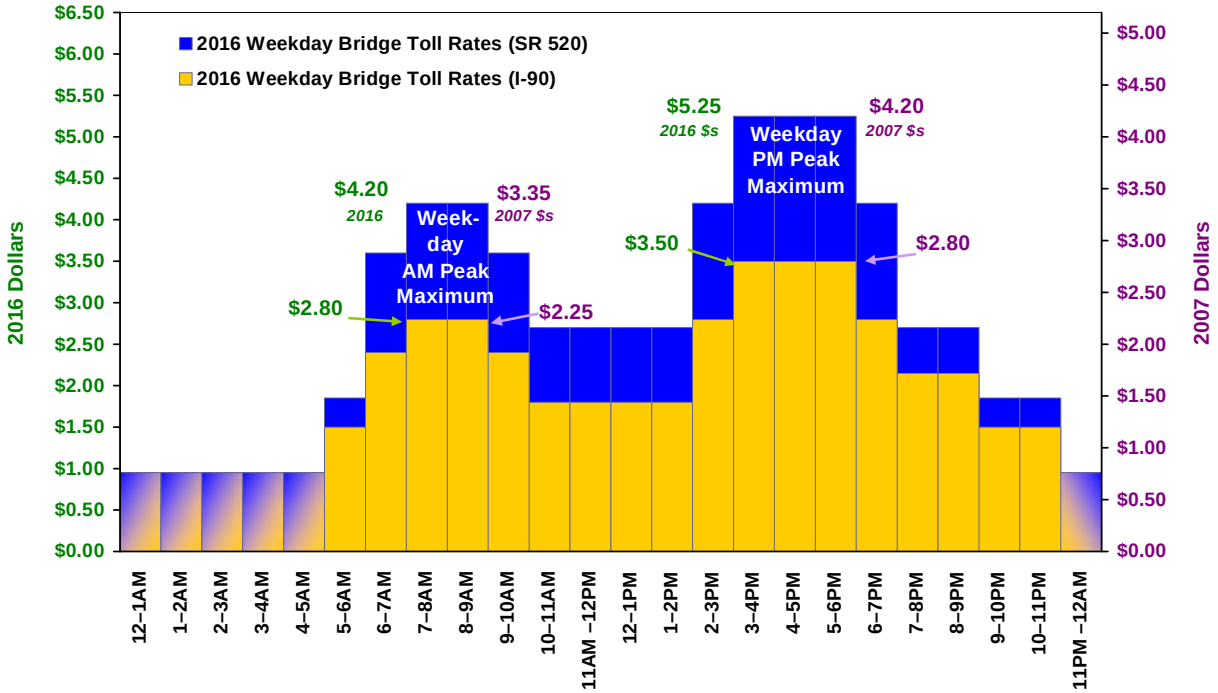
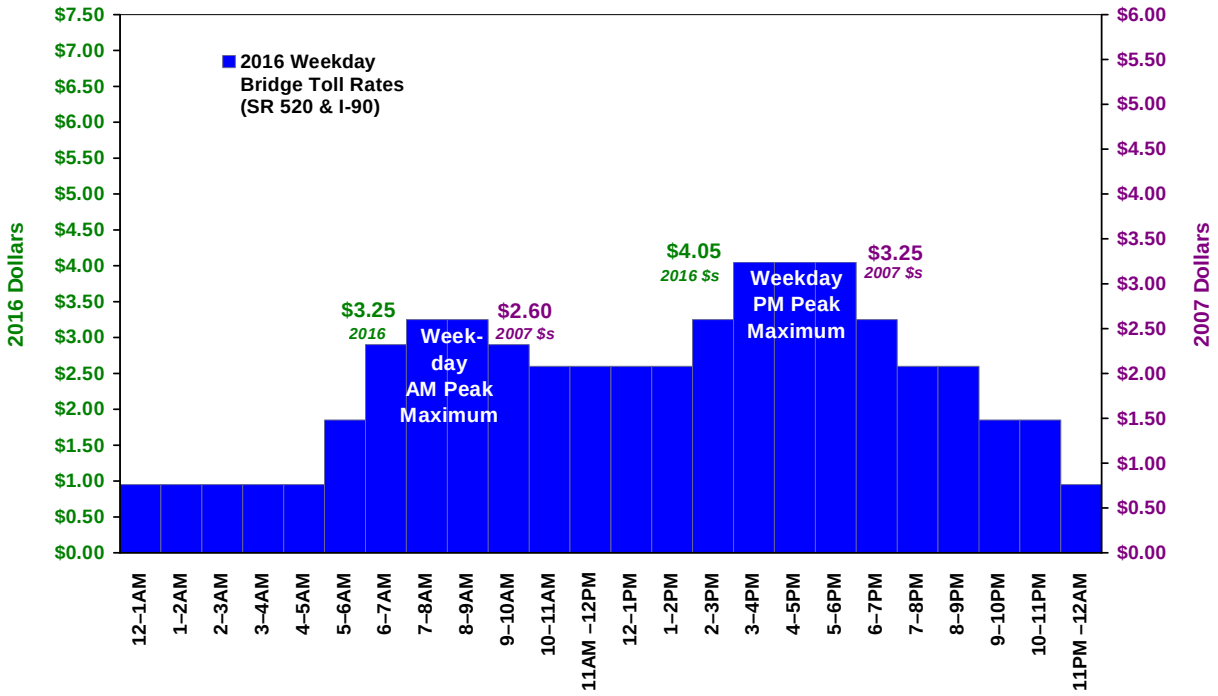


Exhibit 38 – Post-Completion "Lower" Weekday Bridge Tolls — Scenario 13



4.3 WEEKEND DAILY TRAFFIC PROJECTIONS

The regional traffic model does not provide forecasts of weekend travel. As a result, a combination of existing travel data, stated preference survey results regarding willingness to pay tolls (values of time), and the model predicted demand response to tolls by weekday SR 520 users must be used to develop weekend daily traffic projections.

Weekend traffic differs from weekday traffic in a number of ways. Because network traffic levels overall are less on weekend days, congestion will be lower on routes that can serve as alternates to SR 520, making them more attractive alternatives to a tolled SR 520. A larger portion of weekend trip purposes tend to be discretionary, which can result in a higher propensity to change travel behavior to minimize toll costs. Finally, more weekend vehicles are likely to qualify as HOVs than weekday vehicles. As a result, toll diversion on weekends would be higher than weekdays, given the same toll rates.

Under existing toll-free conditions, actual weekend daily traffic in 2007 was approximately 70% of weekday daily traffic. The weekend traffic distribution on SR 520 resembles a bell curve, with the highest traffic volumes occurring during the middle of the day between the hours of 11 AM and 6 PM.

To attempt to offset the expected higher diversion rate, tolls on weekends were assumed to be lower than on weekdays, with the mid-day peak toll set to approximately half of the maximum PM peak weekday toll, depending on scenario. Weekend toll traffic was assumed to be a smaller share of weekday toll traffic, 64%, compared with the observed toll-free 70% level. This assumption was based on an estimate that traffic would be approximately 9-10% lower on weekends than non-toll level. This also yields a somewhat higher rate of toll diversion on weekends, despite significantly lower tolls than weekdays, to provide a conservative revenue estimate in the absence of a weekend specific demand model.

Weekend truck traffic, which, on average, would pay a toll that is more than double that of the auto toll rate, may be even more likely to divert to alternative routes to the extent that the network is not congested. Additionally, commercial purpose truck traffic is lower on weekends. For the purpose of this analysis, it was assumed that the share of weekday SR 520 truck traffic on weekends would be one-half the corresponding weekend auto share of weekday traffic, or 3.2%.

4.4 WEEKEND TOLL SCHEDULES

Due to the lack of a demand model for weekend travel and limited data regarding weekend traffic behavior, only two weekend toll cases were considered. Exhibit 39 shows the weekend toll schedule that was used under all of the post-completion toll scenarios except Scenario 5. The pre-completion weekend toll schedule was assumed to be the same, but excluded tolling between the hours of 11 PM and 5 AM (similar to pre-completion weekday toll schedules).

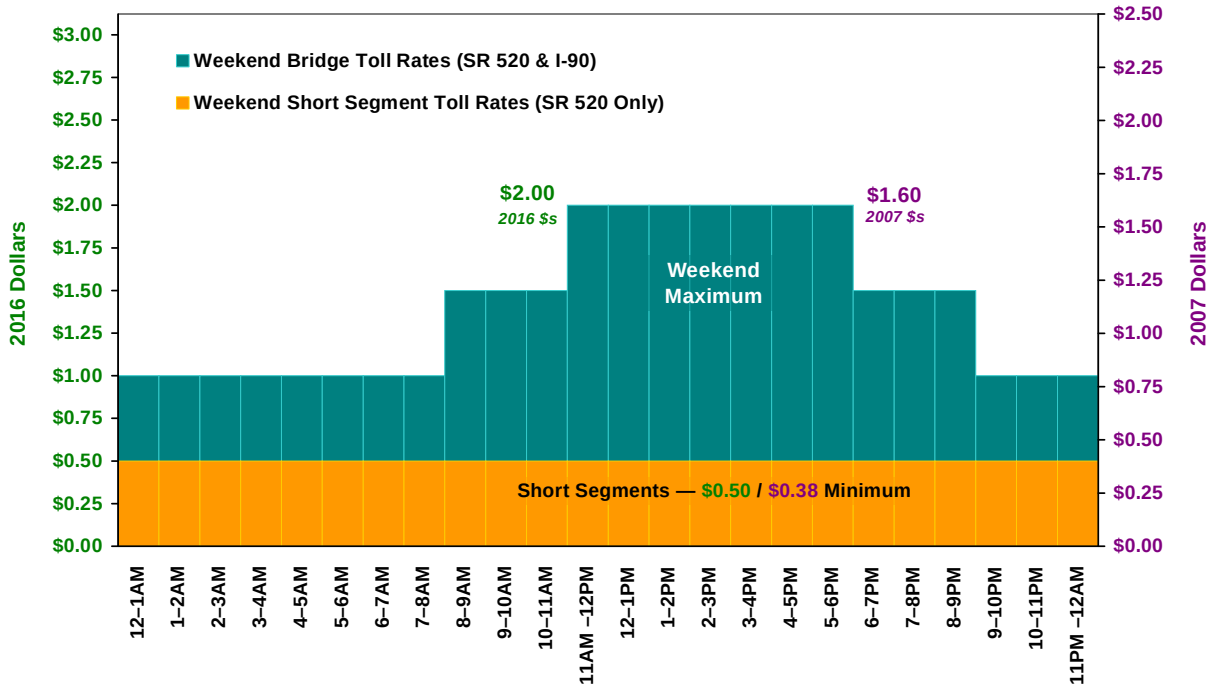
The opening year toll rates in 2016 dollars are indicated on the left axis and the equivalent values in 2007 dollars are provided on the right axis. The bridge toll varies by time of day to

approximately match the bell-curve shape of the weekend traffic. The short segment toll rate, where applicable, remains fixed at its minimum level all day.

In the case of fixed-rate tolling in Scenario 5, the 24-hour fixed weekday toll rate shown in Exhibit 30 was also applied to all hours on weekend days. Rates for this Scenario were set to equal the average toll rate of the lowest variable-rates tested in Scenarios 2 and 9.

In both cases, tolls are assumed to escalate with inflation, assumed to be 2.5% per year.

Exhibit 39 – Weekend Bridge and Short Segment Toll Rates
(All Variable-Rate Post-Completion Scenarios)



4.5 ANNUAL TOLL TRANSACTIONS

The regional model provided benchmarks to project toll transactions between 2010 and 2030. Daily traffic volumes from the model forecast years of 2010 and 2020 were interpolated to yield values for the pre-completion period fiscal years 2011 through 2016. For the post-completion period, daily traffic volumes from the model forecast years of 2015 and 2030 were interpolated to yield values for fiscal years 2017 through 2029. Beyond 2030 and through 2040, traffic was extrapolated at one-half the average annual growth rate between 2015 and 2030. Traffic beyond 2040 was conservatively held fixed with no further growth.

The predicted traffic was adjusted in the initial years of the toll operations to account for "ramp-up" effects. During the first years of tolling, traffic is expected to be lower as some potential users explore travel alternatives, become accustomed to paying tolls and/or become more comfortable with electronic toll collection. While ramp-up is primarily viewed as a traffic effect, the ramp-up adjustments made to the traffic projections for the SR 520 finance

plan analysis could also allow for toll revenue collections not initially meeting their targets regardless of traffic levels.

A more pronounced ramp-up effect was assumed for pre-completion tolling while travelers adjust to concept of tolling and electronic transactions. Similarly, the ramp-up effect of post-completion tolling, when not preceded by pre-completion tolling, was assumed to be more pronounced. However, a small ramp-up effect was still included when transitioning from tolling the existing bridge to post-completion tolling of the new facility to account for the introduction of late night and/or short segment tolling and/or the potential of a higher than inflationary toll increase.

In the case of two-bridge tolling, it was assumed that ramp-up effects would be less than single bridge cases, as travelers would have fewer diversion alternatives.

Exhibit 40 summarizes the ramp-up factors that were applied to traffic and revenue in the initial and transitional years of toll operations. The ramp-up assumptions are based on industry experience and professional judgment.

Exhibit 40 – Initial SR 520 Traffic Ramp-Up Assumptions as Percentage Shares of Predicted Demand

Year of Operation	Pre-completion		Post-completion	
	without I-90 tolling	with I-90 tolling	without pre-completion	with pre-completion
Year 1*	75%	85%	85%	95%
Year 2	85%	95%	95%	100%
Year 3	95%	100%	100%	100%
Year 4	100%	100%	100%	100%

*In the pre-completion case, Year 1 is FY 2011; in the post-completion case, Year 1 is FY 2017.

Exhibit 41 – Initial I-90 Traffic Ramp-Up Assumptions as Percentage Shares of Predicted Demand

Year of Operation	Pre-completion	Post-completion	
		without pre-completion	with pre-completion
Year 1*	85%	85%	95%
Year 2	95%	95%	100%
Year 3	100%	100%	100%
Year 4	100%	100%	100%

*In the pre-completion case, Year 1 is FY 2011; in the post-completion case, Year 1 is FY 2017.

4.5.1 Annual Transaction Forecast Ranges

This report has documented how annual traffic and gross revenue estimates were generated for the various toll scenarios. A key piece in all of the results are the forecasting tools used to generate the results. These forecasting tools rely upon many assumptions which range from a user's willingness to pay a toll for some level of travel time savings down to how many households and businesses might be located in the region in the future, and how they are geographically distributed. Variations in any of the assumptions may lead to different forecasts of toll users in the SR 520 and/or I-90 corridors, which in turn can lead to variations in toll revenues. When performing financial analysis on toll revenue, it is important to understand the impact that differences between a forecast and actual usage can have on

revenues. It is extremely important to provide a revenue forecast that has a high probability of being met.

For the purposes of conducting financial analysis, various ranges to the outputs of the gross revenue calculations were applied to account for uncertainty and variability in the forecasts. The following shows the low, mid and high points on the range applied to annual toll revenues.

1. Low Range: -15% reduction in annual revenue.

2. Mid Range: -5% reduction in annual revenue.

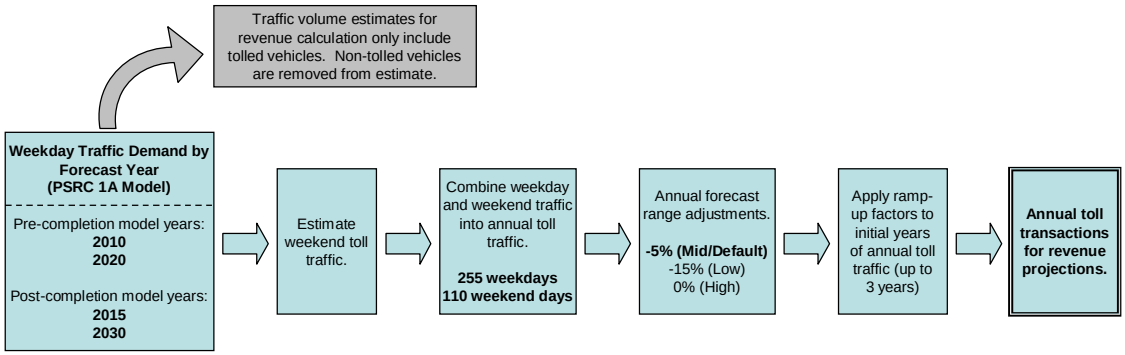
3. High Range: No reduction in annual revenue.

These ranges were generated based on sensitivity analysis of some key input assumptions and discussions among the project team. The tests included testing the impact on toll volumes through various levels of toll costs in trip distribution as well as various tests of toll rates by time of day. The ranges are intended to account for a variety of items that range from unexpected traffic changes due to economic conditions, uncertainty in a user's willingness to pay tolls, inaccurate land use forecasts, as well as other general forecasting uncertainty or error. The high range is based directly on the results from the travel demand model outputs and the mid and low range estimates reduce these annual revenue estimates by 5% and 15% respectively to account for this uncertainty. Exhibit 42 visualizes the full process in converting raw daily traffic volumes to adjusted annual volumes for the purpose of calculating toll revenue.

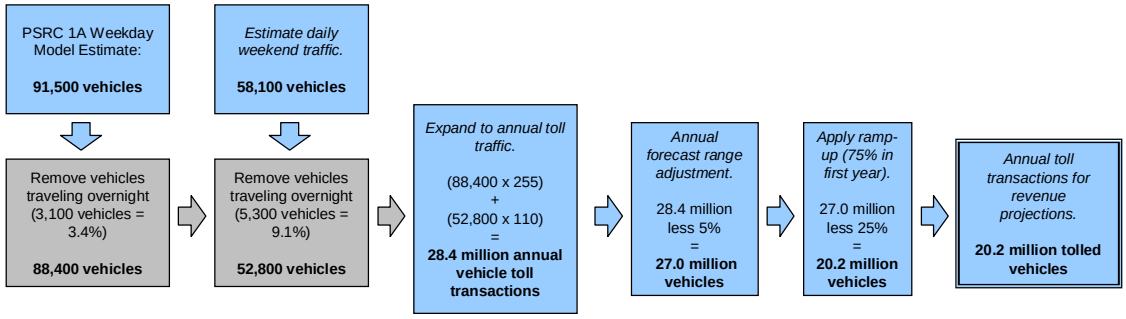
Mid-range values were generally used for the purpose of reporting results. This choice should result in fiscally prudent forecasts that can be achieved. It should be noted that when budgeting, it is equally prudent to assume a higher level of transaction since certain contractor fees are incurred based on the number of transactions. Without sufficient budget authorization, WSDOT would be unable to meet its obligations.

Exhibit 42 – Daily to Annual Traffic Volume Adjustments and Calculations

Conceptual Example



Numeric Example (Scenario 7 – FY 2011)



5. GROSS REVENUE DEDUCTIONS AND NET REVENUES

To assess the financial capacity or funding contribution of a toll revenue stream, gross revenues must be converted to the net revenues available to make payments toward retiring project debt.

The order in which toll revenues are allocated to various uses will ultimately affect the level of funding that can be borrowed through the issuance of bonds. The Office of the State Treasurer (OST) has confirmed the assumptions made herein and supported the financial analysis of the 2008 toll scenarios.

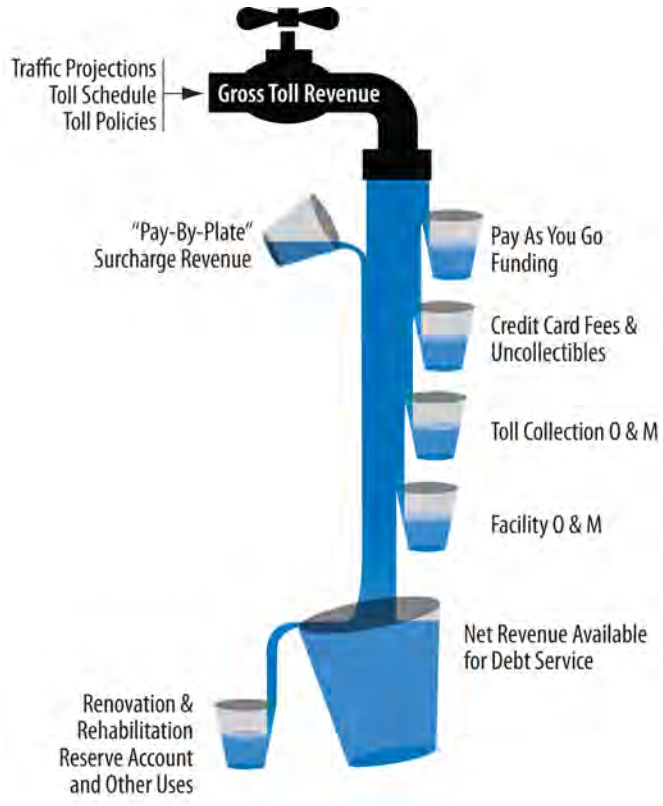
5.1 SUMMARY OF STEPS TO NET REVENUES

Transitioning from gross revenue to net revenue requires a series of steps that alternatively add or subtract value from the toll revenue stream. The steps may be slightly different for the pre-completion period in cases where pre-completion revenues will be used only to pay for current construction expenditures directly, rather than for debt service.

5.1.1 Post-Completion

Net revenue is defined as the cash flow that is available for debt service — repayment of the principal and interest on the bonds — after satisfying other "upstream" uses of gross revenues in the net revenue waterfall illustrated in Exhibit 43. A description of each use of toll revenues follows in the next section.

Exhibit 43: "Waterfall" Progression from Gross to Net Toll Revenues



Revenues from tolling SR 520 are anticipated to be used to repay the principal and interest on bonds that will be sold to help finance construction. However, net toll revenues may be also be pledged during pre-completion for pay-as-you-go funding that would be applied directly to construction expenditures, which could ultimately reduce the cost of financing those construction activities. Stated simply, when revenues are closely aligned with project needs, it may be more efficient to allocate some or all of the currently available revenue stream directly to current expenditures.

However, the amount available for pay-as-you-go funding would be limited due to customary bond covenants, which stipulate that a sufficient amount of gross revenue be available to cover the facility's operations and maintenance expenses prior to debt service payments. This helps the bonds achieve a favorable credit rating and interest rate, and provides an assurance to bondholders that the facilities and related assets will be maintained to provide continual revenue service. Providing funding for toll collection, routine bridge and roadway operations and maintenance as well as consideration for future repairs and rehabilitation helps to minimize the risk of facility closure or other events that could interrupt the toll revenue stream. As shown in Exhibit 43, the resulting net revenue can then be pledged to debt service payments. Excess toll revenues after debt service payments can be used to fund reserve accounts arranged to pay for project renovation and rehabilitation expenses, repay subordinate debt issues, or fund other non-project uses.

Even without a bond covenant requirement, it is still advisable to use gross toll revenues to pay for toll collection operations and maintenance expenses prior to directing revenue to any other uses so as to ensure that the toll collection capacity of the facility is maintained. A description of each use of toll revenues follows in the next section.

5.2 GROSS TOLL REVENUE AND ADJUSTMENTS

5.2.1 Toll Traffic Revenue

As described on page 65, traffic volumes were estimated on a daily basis for the pre-completion model years 2010 and 2020, and for post-completion model years 2015 and 2030. Those estimates were then annualized and interpolated to estimate traffic for all years between 2010 and 2030. Traffic from 2031 through 2040 was extrapolated at one-half the average annual growth rate between 2015 and 2030. Traffic beyond 2040 was conservatively held fixed with no growth.

Annual gross toll revenues, expressed in fiscal year of collection dollars, were then calculated by multiplying the projected weekday and weekend day traffic by toll period for autos and trucks by the appropriate tolls (again, tolls are assumed to escalate at an inflationary 2.5%) and expanding to the entire year for all years of the forecast period. The annual expansion used 110 weekend days (52 weeks X two weekend days, plus six non-weekend holiday days), with the remaining 255 days per year allocated as weekdays.

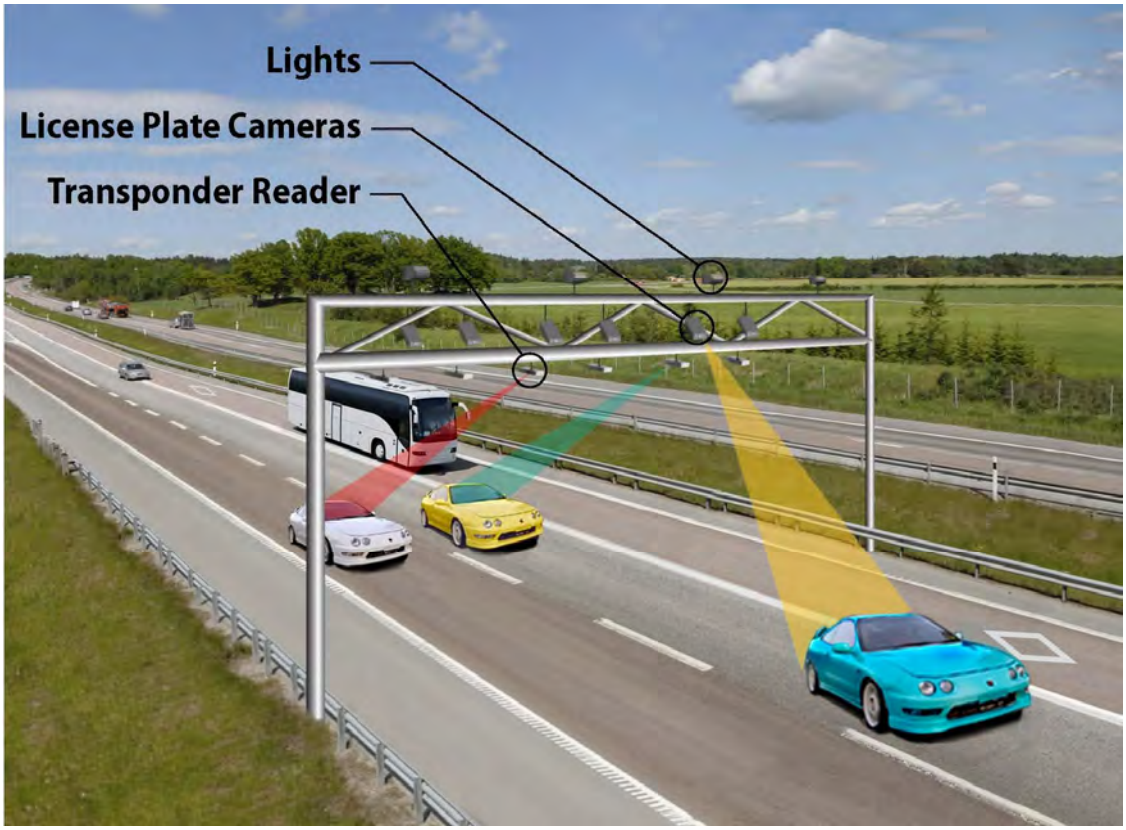
5.2.2 Electronic Toll Collections

Toll collection efforts are assumed to be 100% electronic; that is, there will be no collection plaza (toll booths) for users to pay the toll with cash. Also referred to as "open-road tolling,"

the electronic toll collection along SR 520 will use a system of toll transponders with prepaid accounts and license plate recognition to identify users and assess tolls accordingly.

As a vehicle approaches a toll collection point, an overhead reader would search for the presence of a *Good-to-Go!* transponder, as represented in Exhibit 44. Transactions are divided between vehicles that are automatically identified as having valid transponders for payment (green in the exhibit) and those that don't (red). The majority of vehicles with valid transponders would have the toll automatically deducted from their registered *Good-to-Go!* accounts. A small portion may require "additional collection efforts" for reasons such as an account linked to an expired credit card. "Additional collection efforts" refers to the introduction of operations staff into the process to assist the customer in paying the toll.

Exhibit 44: Electronic Toll Collection Transponder Detection Apparatus



If a transaction occurs without a valid transponder read, then one of the following will occur:

- A "Pay-by-Plate" transaction is initiated based on license plate recognition;
- A current *Good-to-Go!* customer is manually identified from their license plate and the toll deducted from their account; or
- No further action is taken due to an unreadable license plate image.

Pay-by-plate customers will be encouraged to self-identify and initiate payment within a set time period by internet, phone, or mail. In situations where a license plate is recognized but the customer does not initiate payment on their own, additional costs are incurred when

collection efforts are initiated to send invoices, send notices of infraction, and handle appeal processes, among other transactional expenses.

5.2.3 Pay-As-You-Go Funding

"Pay-as-you-go" funding is gross revenue that is closely aligned with project expenditures that can be used for those expenditures as they are incurred. Rather than financing construction activity by borrowing against future revenue streams, pay-as-you-go directly allocates gross revenue for project expenditures. The *SR 520 Finance Plan Draft 2008 Update* assumed that a portion of pre-completion gross toll revenues would be allocated as pay-as-you-go funding to maximize the buying power of the revenue stream, but is limited to pre-completion periods and by the amount remaining after debt service. It was also assumed that pay-as-you-go funding would only be allocated during pre-completion, as the post-completion revenue stream would be fully dedicated to debt service and does not coincide with construction expenditures.

5.2.4 Pay-by-Plate Toll Surcharge Revenue

Drivers of vehicles without a transponder can pay their tolls via license plate recognition, referred to as "pay-by-plate." The market penetration of transponders is expected to increase with time. Based on WSDOT's recent experience with the Tacoma Narrows Bridge — which unlike SR 520, allows cash payment — transponder use is expected to start at relatively high levels. During the pre-completion period, it is anticipated that 80% of toll transactions will be paid by transponder by the end of the first year. Transponder use is projected to increase by 2% each year, eventually reaching 98% of all transactions. When tolling is introduced in the post-completion period, it is anticipated that 90% of toll transactions at the end of the first year will be transponder based, and will also increase by 2% annually, again maxing out at 98%.

In addition to the cost of the toll, pay-by-plate transactions would be assessed a fee to offset additional processing costs associated with the pay-by-plate collection method, including technical expenses associated with reading the plate images, obtaining electronic payment by self-identified users and/or generating and issuing a collection invoice.[14] These fees are added to the gross toll revenues prior to any deductions or expenses. The pay-by-plate fee ($1.00 in 2009) is sized to be revenue neutral so that the cost to process the transaction is directly offset by the transaction fee, resulting in no net impact on the amount of revenue available for project purposes.

5.2.5 Credit Card Fees and Uncollectible Accounts

For this analysis, five percent (5%) of the gross revenues in each year was deducted to capture a variety of impacts that are anticipated to reduce the toll revenue potential. Two-and-a-half percent (2.5%) represents a deduction to account for credit card fees, assuming that the overwhelming majority of travelers will have transponder accounts that are linked to

[14] Washington State Department of Transportation. December 17, 2007. *Memorandum: SR 520 Operating and Maintenance Costs*.

credit cards (or debit cards used in a credit card transaction) or who would otherwise make an electronic payment using a credit card.

The remaining two-and-a-half percent (2.5%) deduction to gross revenues was made to account for uncollectible accounts, toll evasion, and/or electronic toll collection errors such as unreadable transponder tags and/or license plate images as discussed in Section 1.

5.2.6 Future Toll Operations cost estimates

If the SR 520 is tolled in pre-completion starting in 2010, better toll collection cost estimates will be available for future finance plan iterations. Some actual toll costs will be available from vendors bidding on the toll services. After startup, use of transponders and customers willingness to pay various toll amounts will also provide valuable data for future forecasts.

5.3 OPERATING AND MAINTENANCE COSTS

Estimates for operations and maintenance (O&M) and asset rehabilitation and replacement (R&R) costs for the SR 520 and I-90 facilities and toll collection function have been developed by the Washington State Department of Transportation (WSDOT) based on its experience in operating state roadways, including the tolled Tacoma Narrows Bridge, and input from other public roadway operators. Consultant support has been provided by Parsons Brinckerhoff (PB) and IBI Group. PB also created forecasts of costs by applying inflation factors to the data provided by WSDOT and applying WSDOT schedules for the timing of asset R&R. These cost forecasts were incorporated into the net toll revenue forecasts that were provided by PB to the Washington State Treasurer's Office as inputs to their project financial capacity analysis.

Operation & maintenance-related work activity costs are included in WSDOT's M and Q Programs. The M Program includes work activity costs involving:

- Traffic advisory and regulatory sign repair and maintenance
- Illumination and electrical services
- Roadway and roadside repair and maintenance
- Inventory handling
- Operation and maintenance of urban tunnel and bridge facilities

The Q Program includes ATM (advanced traffic management) related operation and maintenance costs:

- Traffic management
- Traffic operation activities
- Special advanced technology projects

Costs related to mobility and safety improvement-related (incident response) work activities are in the I Program (improvements). Toll collection facilities related costs are in B, P and M Programs. Toll oversight and planning costs are in B Program, tolling equipment costs are in

M Program and traffic management part of toll collection is in Q (traffic operations) Program. All rehabilitation and replacement work activity costs are included in the P Program.

5.3.1 Pre-Completion Operating and Maintenance Costs

The cost estimates described herein were those current in 2008 and reflect the level of transactions assumed in the revenue projections for financial analysis. It may be more conservative from an operations and maintenance perspective to assume more transactions than the level used for calculating revenue. This issue will be addressed as estimates are refined in the coming year.

Facility O&M

Costs associated with operations and maintenance of the existing SR 520 and I-90 roadways and bridges prior to FY 2017 are assumed to either be included in the regular WSDOT operating budget or capitalized as a part of the improvement projects underway during this period, and will therefore not be included in pre-completion tolling scenarios.

Toll Collection O&M

Toll collection O&M refers to the costs associated with collecting tolls. Because WSDOT assumes tolling SR 520 will generate roughly one million customer accounts, most of the work supporting these accounts is presumed to be contracted out.

Toll collection O&M refers to the costs associated with collecting tolls and maintaining tolling equipment. For the 2008 scenario analysis, variable tolling costs were estimated on a per-transaction basis, which were then combined with a fixed cost component. It was assumed that a third party vendor would have responsibility for all toll collection O&M activities. However, due to the state's procedures for financial reporting, it has recently become apparent that WSDOT would need to hire additional accounting and auditing staff to support toll collection processing and customer account maintenance in addition to those functions provided by third party vendors. These accounting and auditing services will likely be provided by WSDOT on an enterprise-wide basis, with costs allocated back to various toll facilities in operation, and have not been included in the 2008 O&M estimates documented herein. Future refinements to the toll collection O&M costs will need to incorporate this new development, which will likely result in higher overall O&M cost estimates.

Within the O&M cost estimates, unit costs for categories of work that include the involvement of operations staff are escalated annually by an inflation factor that is assumed to be 2.5% per year. This is done to account for annual increases in the contract for employees involved in answering customer phone calls, viewing license plate images, handling customer appeals, etc. Unit costs for some fully automated processes remain constant over the forecast period and, in effect, decline in real terms. The stability of these cost elements can be attributed to competitive market forces and economies of scale in data processing that allows transactions to be added to an existing system without incurring additional costs.

The largest drivers of cost in the tolling operating cost forecast are shown in Exhibit 45.

Exhibit 45 – Top Five Toll Collation Operating Cost Drivers

Cost Category	Unit Cost (2007$)	Unit Cost Driver	Unit Cost Escalated During Forecast
Vehicles with Tags	$0.08	Per vehicle possessing a readable transponder	No
Active Account Maintenance Fee	$1.00	Per active account per month	No
Additional Collection Efforts	$1.00	Per instance of customer service assistance in paying a toll	Yes
Vehicles without Tags	$0.30	Per vehicle not possessing a readable transponder	No
Send Invoice	$1.00	Per invoice sent	No

Source: WSDOT and PB analysis.

The vast majority of traffic on SR 520 is expected to be frequent users, which will lead to high transponder penetration. In scenarios that include pre-completion tolling, tag usage is assumed to begin at 80% in FY 2011 and ramp up by 2% per year until reaching a plateau at 98% in FY 2020. For I-90 scenarios that include pre-completion tolling, tag usage is assumed to begin at 70% in FY 2011 and ramp up by 2% per year until reaching a plateau at 96% in FY 2024.

In addition to contractor costs, general and administrative costs are also included in the operating cost forecast. These costs amount to roughly $1 million per year and are escalated at 2.5% per year during the forecast period. For scenarios that include both SR 520 and I-90, the costs are increased by 20% to account for incremental costs associated with oversight of a second facility and then split evenly between the two facilities.

Annual maintenance cost, which consists of field maintenance, system administration, and electronic toll collection application maintenance, is estimated at 15% of the sum of the cost of the tolling central system hardware and the field hardware at the tolling points. This cost increases every seven years when new field hardware is installed. These costs will be paid before R&R costs since routine maintenance is essential to keeping the toll collection system operational and generating revenue. Exhibit 46 summarizes the total cost of the SR 520 tolling operation for FY 2011 to FY 2016 and Exhibit 47 provides estimates for I-90 for the same time period.

Exhibit 46 – Total SR 520 Toll Collection Operating and Maintenance Cost by Scenario (Millions)

Pre-completion	Scenario 2	Scenario 4	Scenario 6	Scenario 7	Scenario 9
Operations	$51.30	$48.60	$48.60	$48.60	$58.10
Maintenance	$3.00	$3.00	$3.00	$3.00	$3.00
Total O&M	**$54.30**	**$51.60**	**$51.60**	**$51.60**	**$61.10**

Pre-completion	Scenario 10	Scenario 11	Scenario 12	Scenario 13
Operations	$48.60	$56.40	$48.60	$56.80
Maintenance	$3.00	$3.00	$3.00	$3.00
Total O&M	**$51.60**	**$59.40**	**$51.60**	**$59.80**

Source: WSDOT and PB analysis.

Exhibit 47 – Total I-90 Toll Collection Operating and Maintenance Cost by Scenario (Millions)

Pre-completion	Scenario 9	Scenario 11	Scenario 13
Operations	$66.40	$59.00	$37.50
Maintenance	$1.20	$1.20	$0.80
Total O&M	**$67.60**	**$60.20**	**$38.30**

Source: WSDOT and PB analysis.

Approximately $7.5 million (2010$) is also included in FY 2010 for SR 520 (and $1.5 million for I-90) for scenarios with pre-completion tolling to account for ramp up in operations prior to the start of revenue collection.

It is assumed that all routine maintenance costs for the toll collection facilities would be included as parts of WSDOT's B and M programs during the pre-completion phase.

5.3.2 Major Rehabilitation and Capital Upgrades

Facility

As with operating costs, the cost of rehabilitation and replacement of the SR 520 and I-90 roadways and bridges prior to FY 2017 are not included in pre-completion tolling scenarios.

Toll Collection

The total cost of toll collection rehabilitation and replacement is presented in Exhibit 48. Costs for the toll collection software and central system hardware are allocated to SR 520 so that I-90 would only pay for R&R on the field hardware on that facility. Since the replacement cycle for field hardware and toll collection software is more than six years, these costs do no appear in the pre-completion phase.

The central system software is not anticipated to increase in cost in future years. Annual escalation of 2.5% per year is used for other components of cost in the analysis. It is assumed that toll collection R&R costs would be included as part of WSDOT's program.

Exhibit 48 – Total Pre-Completion Toll Collection Rehabilitation and Replacement Cost

Description / Item	SR 520	I-90
	Total 6-Year Cost (millions YOE$)	Total 6-Year Cost (millions YOE$)
Toll Collection Software	$0.00	-
Central System Hardware	$2.50	-
Field Hardware	$0.00	$0.00
Total	**$2.50**	**$0.00**

Source: WSDOT and PB analysis.

5.3.3 Post-Completion Operating and Maintenance Costs

Facility

The SR 520 facility operations and maintenance cost estimate is based on a six-lane replacement of the current facility. It extends from I-5 to just West of I-405. The O&M cost estimate was developed based on the following assumptions for components included in the project:

- The Pacific Interchange Alternative as defined in the DEIS
- Reconstruction of all local street crossings
- Replacement of the Evergreen Point Floating Bridge
- Replacement of the West Approach structures
- Replacement of the Portage Bay Bridge
- 12-foot wide lanes, 10-foot wide shoulders
- Mainline pavement is Portland cement concrete (PCC), ramp and city street pavements are hot-mix asphalt (HMA)
- Noise walls
- A 14-foot wide pedestrian/bicycle lane
- Lids at 10th and Delmar Ave., Montlake Blvd NE, Evergreen Point Rd., 84th Ave NE and 92nd Ave NE. and the Pacific Street/Montlake Blvd Intersection
- New storm water management facilities
- The Pacific Interchange
- New SR 520 Floating Bridge O&M Building
- Associated traffic signals, illumination and ITS
- Tolling system

Due to uncertainty of project definition and the availability of updated CEVP analysis, facility operations and maintenance estimates were limited to evaluations based on the existing SR 520 bridge facility and current I-90 O&M cost estimates. The annual estimated operation and maintenance cost of the SR 520 Bridge facility shown in Exhibit 49 is

approximately $5.6 million (2007$) for Scenario 11, which includes the west side design Option K tunnel, and $5.3 million for Scenarios 6, 12, and 13 based on west side design Option A. SR 520 facility O&M estimates for Scenarios 1 through 10 are shown in Exhibit 50. Updated estimates were provided by WSDOT in December 2008, which accounts for the difference between Exhibit 49 and Exhibit 50.

Exhibit 49 – SR 520 Facility Operating and Maintenance Annual Cost Components (000s, 2007$)

Cost Category	Scenario 11	All Other Scenarios
West Approach Structure	$56	$56
Option K Tunnel	$340	-
Noise Walls Repair & O&M Facility	$120	$120
3rd Party Damages	$74	$74
Bridge Deck Repair and Electrical Maintenance	$953	$953
Roadway Surface Maintenance Including Bridge	$390	$390
Landscaping and WQ Wetland Maintenance	$176	$176
Illumination and Elevator Maintenance; ITS, Security, Signals, and Emergency	$902	$902
Active Traffic Management	$1,932	$1,932
Incident Response Team (IRT)	$691	$691
Total	**$5,634**	**$5,294**

Source: WSDOT.

Exhibit 50 – SR 520 Facility Operating and Maintenance Cost Components

Cost Category	Annual Cost (000s 2007$)
Electrical Services and Highway Lighting	$2
Electrical Equipment, Elevators	$307
3rd Party Damages	$75
Bridge Deck Repair	$1,115
Roadway Surface, Guardrails, Noise Walls	$305
Landscape & BMP	$250
West Approach Structure	$50
Active Traffic Management	$1,932
Incident Response Team (IRT)	$691
Total	**$4,727**

Source: WSDOT.

Exhibit 51 – I-90 Facility Operating and Maintenance Annual Cost Component (000s, 2006$)

Cost Category	Scenario 10	All Other I-90 Scenarios
Roadway Maintenance and Operations	-	$44
Drainage Maintenance & Slope Repair	-	$31
Landscaping	-	$1,026
Bridge Maintenance	-	$638
Tunnel Maintenance	-	$1,384
Snow and Ice Control	-	$50
Traffic Control Maintenance and Operations	-	$121
Rest Area Operations	-	$0.10
Training and Testing	-	$0.40
3rd Party Damage Repairs	-	$66
Communication	-	-
HOT Lane Cost	$1,304	-
Active Traffic Management	$1,403	$2,556
Incident Response Team (IRT)	$391	$713
Total	**$3,089**	**$6,630**

Source: WSDOT.

Annual O&M costs for I-90 shown in Exhibit 51 are approximately $3.1 million (2006$) for the HOT lane scenario and $6.6 million for all other scenarios. For forecasting purposes, these costs are assumed to escalate at 2.5% annually, in step with inflation. It is assumed that the SR 520 and I-90 facilities operating and routine maintenance costs would be included as parts of WSDOT's M, Q and I programs.

Toll Collection

Toll collection costs in post-completion scenarios are calculated in the same fashion and include the same cost components as in the pre-completion tolling scenarios; however, in the post-completion scenarios that include pre-completion tolling, transponder usage begins at 80% in FY 2017 and increases by 3% per year until achieving a maximum of 98% in FY 2023. I-90 pre-completion transponder usage starts at 70% in FY 2017 and increases by 3% per year before reaching a maximum of 96% in FY 2026.

Exhibit 52 and Exhibit 53 summarize the total cost of the tolling operation for the period of FY 2017 to FY 2056 when both pre- and post-completion tolling are in effect.

Exhibit 52 – SR 520 Toll Collection O&M Cost by Scenario – Total FY 2017 to FY 2056 ($Millions)

Post-completion	Scenario												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Operations	$354	$259	$392	$369	$261	$315	$245	$295	$285	$312	$276	$277	$283
Maintenance	$104	$24	$104	$104	$24	$104	$24	$24	$24	$104	$24	$24	$24
Total O&M	**$458**	**$283**	**$496**	**$473**	**$285**	**$419**	**$269**	**$319**	**$309**	**$416**	**$300**	**$301**	**$307**

Source: WSDOT and PB analysis.

Exhibit 53 – I-90 Toll Collection O&M Cost by Scenario – Total FY 2017 to FY 2056 ($Millions)

Post-completion	Scenario												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Operations	-	-	$316	$339	-	-	-	$342	$316	$167	$293	$321	$313
Maintenance	-	-	$28	$28	-	-	-	$14	$14	$99	$14	$14	$14
Total O&M	**-**	**-**	**$344**	**$367**	**-**	**-**	**-**	**$356**	**$330**	**$266**	**$307**	**$335**	**$327**

Source: WSDOT and PB analysis.

Operations cost is higher during the post-completion time period in scenarios without pre-completion tolling. This is due to assumptions for the percentage share of customers using transponders. In other words, ramp up in transponder use occurs before FY 2017, which leads to lower operating cost in FY 2017 and beyond because transponder transactions are cheaper to process than pay-by-plate transactions.

Approximately $7.5 million (2010$) is also included in FY 2016 for SR 520 (and $1.5 million for I-90) for scenarios with post-completion tolling only to account for ramp up in operations prior to the start of revenue collection. It is assumed that all routine tolling O&M costs would be included as parts of WSDOT's B, Q and M programs.

5.3.4 Net Revenues before Periodic Rehabilitation and Repair Costs

Net toll revenues before rehabilitation and repair (R&R) consist of gross toll revenues, plus pay-by-plate toll surcharges, less revenue adjustments for credit card fees and uncollectible accounts, and less operations and maintenance costs.[15]

5.3.5 Major Rehabilitation and Capital Upgrades

Facility

Costs for the rehabilitation and replacement of the SR 520 roadway and bridge are outlined in Exhibit 54. Costs are incurred periodically and are expected to occur at the frequencies listed below based upon WSDOT's experience with similar items over the past several years. Using the frequencies noted in the table, the total cost for the rehabilitation and replacement of the SR 520 roadway and bridge is presented below. Annual escalation of 2.5% per year is used in the analysis. It is assumed that these costs would be included as part of WSDOT's P program.

[15] In the Pre-Completion condition, only O&M expenses related to toll collection are deducted.

Exhibit 54 – SR 520 Facility Rehabilitation and Replacement Schedule and Total Cost

Description / Item	Frequency (Years)	Cost per Rehab./Replacement (Millions, 2007$)	Total 40-Year Cost (Millions, 2007$)
HMA – Pavement	10	$1.80	$15.20
PCC – Pavement	25	$0.70	$1.70
Closed Circuit TVs	10	$1.00	$6.20
Ramp Meters	5	$0.10	$1.30
Emergency Call Boxes	10	$0.60	$3.90
HAR Signal	10	$0.10	$0.40
Reverse Lane Closure System	10	$0.60	$1.20
VMS Signals	15	$3.00	$13.30
Bridge Surface Pavement (PCC)	25	$1.00	$2.40
Emergency Traffic Signal	10	$0.60	$3.50
Weather Station	25	$0.10	$0.10
Replacement of Anchor Cables	20	$6.60	$13.90
Traffic Signal System	20	$5.30	$11.00
Active Traffic Management	15	$12.30	$67.50
Total			**$141.50**

Source: WSDOT and PB analysis.

The schedule used for the rehabilitation and replacement of the I-90 roadway and bridge is outlined in Exhibit 55. With the new SR 520 facility, all R&R for each category is assumed to take place in the same year. This has not historically been the case for I-90 where, for example, some CCTVs were replaced in 2006 and the remainder were replaced in 2007. Therefore, it is assumed that I-90 R&R within each category would continue the historical trends at the frequencies listed below.

If I-90 were tolled, toll revenues would also be presumed to cover that facility's R&R. Using the frequencies noted in the table, the total cost for the rehabilitation and replacement of the I-90 roadway and bridge is presented below. For this report, we assume toll revenue would maintain I-90's floating bridge superstructure but would not be required to replace the bridge itself nor maintain roadways to the east or west of the bridge. This assumption requires further study.

Exhibit 55 – I-90 Facility Rehabilitation and Replacement Schedule and Total Cost

Description / Item	Frequency (Years)	Total 40-Year Cost (Millions, 2007$)
CCTV	10	$3.10
PLC Replacements	10	$9.50
VAX Replacement	15	$26.30
AM/FM Rebroadcast Replacement	10	$11.40
Communication Retrofit	10	$12.70
Fire Protection/Monitoring Sys. Upgrade & Repl.	10	$36.10
Automatic Transfer Switch Replacement	20	$0.60
Bridge Painting	20	$2.70
Switch Gear System Replacement	25	$0.10
Repair Modular Expansion Joints	25	$1.00
Anchor Cable Replacement	35	$2.70
Expansion Joint Repair	25	$8.90
Install Uninterruptible Power Supply	25	$0.10
Power Distribution Upgrade	15	$5.20
Bridge Deck Overlay (paving)	50	$342.80
Active Traffic Management	15	$70.60
Total		**$533.80**

Source: WSDOT and PB analysis.

Toll Collection

Periodic costs for the SR 520 toll collection system are outlined in Exhibit 56. Rather than occurring annually, costs are incurred periodically and are expected to occur based on the frequencies listed in the exhibit. The cost of field hardware is dependent on the number of tolling points within the facility. Scenarios 2, 5, 7, 8, 9, 11, 12, and 13 are expected to include 2 tolling points, or one in each direction for traffic crossing Lake Washington. Scenarios 1, 3, 4, 6, and 10 consist of 19 tolling points to capture all potential tolled moves on and off of SR 520. It is assumed that these costs would be included as part of WSDOT's P program.

Exhibit 56 – SR 520 Toll Collection Rehabilitation and Replacement Schedule

Description / Item	Units		Cost per Unit	Frequency	Cost per Rehab./Replacement (2007$)
Toll Collection Software	1	Lump Sum	$7,000,000	12 Years	$7,000,000
Central System Hardware	1	Lump Sum	$2,500,000	5 Years	$2,500,000
Field Hardware (Sc. 2, 5, 7, 8, 9, 11, 12, 13)	2	Tolling Points	$400,000	7 Years	$800,000
Field Hardware (Sc. 1, 3, 4, 6, 10)	19	Tolling Points	$400,000	7 Years	$7,600,000

Source: WSDOT and PB analysis.

For I-90, the cost estimates assume the central system hardware and toll collection hardware have already been purchased by the SR 520 toll program. Scenarios 8, 9, 11, 12, and 13 are expected to include 2 tolling points, or one in each direction for traffic crossing Lake Washington. Scenarios 3 and 4 consist of 4 tolling points to capture potential tolled moves on and off of I-90. Scenario 10 includes 20 total tolling points to account for all of the assumed HOT lane entry and exit points from I-5 to Issaquah.

Exhibit 57 – I-90 Toll Collection Rehabilitation and Replacement Schedule

Description / Item	Units	Cost per Unit	Frequency	Cost per Rehab./Replacement (2007$)
Field Hardware (Sc. , 8, 9, 11, 12, 13)	2 Tolling Points	$600,000	7 Years	$1,200,000
Field Hardware (Sc. 3, 4)	4 Tolling Points	$600,000	7 Years	$2,400,000
Field Hardware (Sc. 10)	20 Tolling Points	$400,000	7 Years	$8,000,000

Source: WSDOT and PB analysis.

The total cost of SR 520 toll collection rehabilitation and replacement for FY 2017 to FY 2056 is presented in Exhibit 58. Costs are lower in the scenarios with pre-completion tolling due to the assumed timing of certain R&R expenditures. Annual escalation of 2.5% per year is used in the analysis.

Exhibit 58– SR 520 Toll Collection Rehabilitation and Replacement Cost – Total FY 2017 to FY 2056

Description / Item	Scenarios 2, 5, 7, 8, 9, 11, 12, 13	Scenarios 1, 3, 4, 6, 10
	Total 40-Year Cost (millions YOE$)	Total 40-Year Cost (millions YOE$)
Toll Collection Software	$34	$34
Central System Hardware	$20	$20
Field Hardware	$10	$83
Total	**$64**	**$137**

Source: WSDOT and PB analysis.

The total cost of I-90 toll collection rehabilitation and replacement for FY 2017 to FY 2056 is presented in Exhibit 59.

Exhibit 59 – I-90 Toll Collection Rehabilitation and Replacement Cost – Total FY 2017 to FY 2056

Description / Item	Scenarios 8, 9, 11, 12, 13	Scenarios 3 and 4	Scenario 10
	Total 40-Year Cost (millions YOE$)	Total 40-Year Cost (millions YOE$)	Total 40-Year Cost (millions YOE$)
Field Hardware	$15	$28	$104
Total	**$15**	**$28**	**$104**

Source: WSDOT and PB analysis.

Reserve Account Discussion for Periodic Expenditures

After debt service payments are made, contributions to a rehabilitation and replacement reserve account would be made. This contribution would be made annually, and would be sized each year with consideration given to future major rehabilitation and replacement expenditures that will be required. This approach results in a smoother cash flow curve from year to year, rather than one with large, intermittent spikes caused by the incursion of these rehabilitation and replacement expenditures. The smooth cash flow curve allows for more consistent debt coverage, or the amount of income available for debt service payments.

5.3.6 Net Revenue Summary

Annual traffic and revenue tables summarizing the steps from gross to net revenues for each of the tolling scenarios at the high, base, and low traffic levels were prepared and provided to the Office of the State Treasurer as inputs to the financial capacity analysis. These tables are provided in Appendix A.

Net revenues are described in "year of collection" dollars. This is not a good indicator of how much project funding can be provided. The net present value (NPV) of the revenue stream is significantly less than the sum of net revenues in each fiscal year due to inflation. For example, assuming inflation is 2.5% per year $1 earned in 2030 is only worth $0.57 in 2007 terms, and $1 earned in 2046 is worth $0.38 in 2007 dollars.

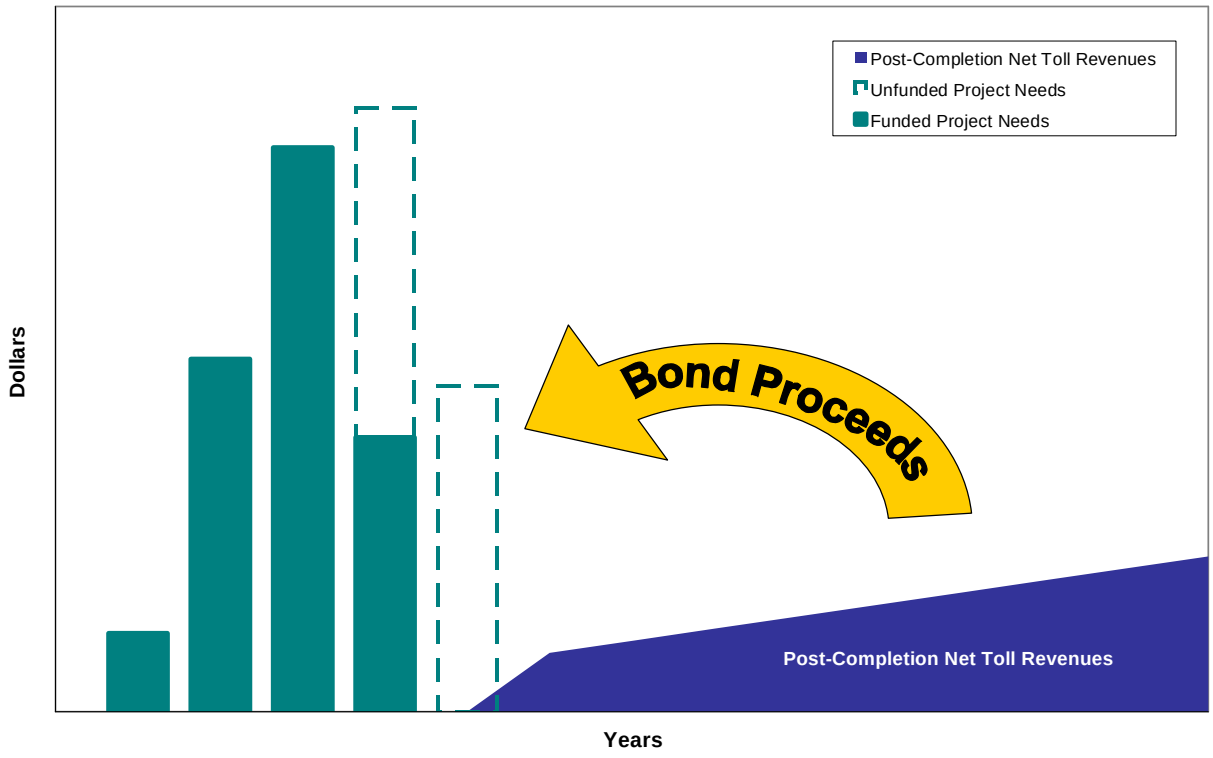
6. FINANCIAL CAPACITY OF NET TOLL REVENUES

This section describes the process by which future net toll revenues are leveraged to provide funds to help pay for construction, and documents the assumptions that were used in the financial analysis of toll scenarios during 2008. The emphasis here is on the methods rather than the toll funding contribution results. The funding results depend on the size and timing of the SR 520 Bridge Replacement and HOV Program cost and cash flows, both of which are currently subject to change. Specific toll funding contribution results, as estimated by the Office of the State Treasurer (OST) for the toll scenarios analyzed in 2008, can be found in the *SR 520 Finance Plan Draft 2008 Update* document, dated April 2009.

6.1 CONVERTING NET TOLL REVENUE TO PROJECT FUNDING

After the deductions described in Section 5 are taken from the gross toll revenue, the remaining net revenue stream may be used to support borrowing to provide additional funding for project purposes. Pre-completion and post-completion net toll revenues may contribute to funding needs in different ways. As an example, Exhibit 60 illustrates the process by which post-completion net revenues are transformed into program funding through the issuance of bonds. Pre-completion revenues may also be leveraged in the form of bonds, or they may be used as "pay-as-you-go" funding, which provides direct funding to program expenditures.

Exhibit 60 – Process of Converting Net Toll Revenues to Program Funding



6.1.1 Toll Financing Assumptions

Pre-Completion Net Revenue Assumptions and Uses

Under the Urban Partnership Grant, toll revenues are expected to be collected on the existing bridge before and during the construction phase of the project (2010-16). Revenues would start prior to the major construction expenditures and would continue throughout construction activities.

These net toll revenues may be most efficiently used as "pay-as-you-go" project funding, depending on the level of tolls and overall unfunded project needs. For the purpose of the *SR 520 Finance Plan Draft 2008 Update*, it was assumed that some of the pre-completion tolls would cover expenses as they are incurred, saving the borrowing costs associated with issuing bonds, and some would be used to repay borrowed funds. As discussed in Section 5, certain operational and maintenance expenses including credit card fees and toll collection functions would be deducted from the gross toll revenues resulting in the net toll revenues that would be available for funding debt service and project expenditures. Until the new facility it completed, however, the net revenues available for financing exclude deductions for routine bridge and roadway operation and maintenance expenses. These are assumed to be covered by the existing maintenance budget and/or capitalized as a cost of construction.

A portion of the net toll revenues may also be used for debt service — the repayment of interest and/or principal on the bonds — during construction. This would most likely be in the form of current interest debt service on bonds issued early in the construction period.

Post-Completion Net Revenue Assumptions and Uses

From the outset, WSDOT has assumed that tolls would be charged and their net revenues would be bonded in order to help fund project construction expenses. The bonds would be sold prior to the project's completion in order to assist in paying project expenses.

As previously noted, when toll revenues are used to repay bonds, the market typically requires that gross toll revenues be first pledged to cover the toll facility's operations and maintenance expenses prior to making debt service payments. This ensures that the facility and related assets are well-maintained and able to continue their revenue operations to provide an acceptable level of service to facility users.

Refer again to Exhibit 43 for the progression of gross toll revenues to the net toll revenues available to repay debt as anticipated for the SR 520 project. Gross toll revenues from SR 520 would be supplemented by pay-by-plate surcharge revenue from users without transponders, and would then be reduced by credit card fees, uncollectible accounts, toll collection operation and maintenance expenses, and facility operation and maintenance expenses. The resulting "Net Revenue Available for Debt Service" would be used to repay the principal and interest on the bonds, and its magnitude and growth rate would determine the level of borrowing that can be supported.

Effects of Timing on Project Financing

The financial capacity analysis of net toll revenues assumed that bonds would be sold to fund a portion of project needs; however, the costs associated with financing those future toll

revenues fluctuates depending on the timing of needed funding, how the debt is structured, and the financial market conditions at the time(s) that bonds are issued.

A variety of scenarios were analyzed to evaluate the implications of project timing on financing costs, including the issuance of bonds during pre- and post-completion phases. In general, moving bond proceeds forward in time will result in higher borrowing costs and reduced buying power.

To minimize those costs, the Office of the State Treasurer analyzed combinations of pay-as-you-go funding and other sources to reduce the need for borrowing during early construction years. This, however, was only possible with the availability of pre-completion funding, which offsets the funding required from toll revenue bonds.

In the absence of pre-completion tolling, construction activities would be more dependent on bond proceeds during construction years, resulting in relatively higher financing costs per dollar of toll revenue.

6.2 FINANCIAL CAPACITY ANALYSIS

The *SR 520 Finance Plan 2008 Draft Update* documents the level of funding that could be supported by the net revenue streams associated with the toll scenarios discussed in this report. For a given toll scenario, the funding contribution of that net toll revenue stream would depend on:

- The overall cost of the project and the timing of those expenditure needs;
- The timing and amount of non-toll funding sources; and
- The credit terms and structure of the bonds sold to be repaid with net toll revenues.

As noted in the *SR 520 Finance Plan 2008 Draft Update*, all three of these items changed during 2008, and continue to evolve in early 2009. Rather than duplicating those results here, some of which are already out-of-date, the financial capacity analysis process as conducted by the Office of the State Treasurer is discussed in general terms. In addition, a simple net present value calculation of the net toll revenue stream is also provided for each toll scenario. This result is intended to give an estimate of the approximate purchasing power of tolls under financing assumptions similar to those used by the State Treasurer, and is intended primarily to facilitate relative comparisons between the toll scenarios, including those which were not formally analyzed by OST.

6.2.1 Financing Scenarios

The 2008 financial planning work assumed a single financing scenario as evaluated by the Office of the State Treasurer using 30-year General Obligation / Motor Vehicle Fuel Tax (GO/MVFT) bonds. These bonds would be repaid from toll revenues but would receive additional backing by the Motor Vehicle Fuel Tax Fund and the State of Washington. This triple backing makes these bonds essentially equivalent to general obligation bonds backed by the full faith and credit of the State of Washington from a bond investor standpoint. As a

result, the cost of borrowing, issuing, and servicing these bonds would be the same as other state GO bond borrowing.

Financial market conditions changed dramatically in the latter part of 2008 with the credit collapse brought on by the failing mortgage industry. While the state believes that market conditions will improve and return to more normal operations by the time toll revenue bonds are first issued, a few of the financing assumptions applied in 2007 and early 2008 were revised later in 2008. Specifically, the assumption that a cost-effective bond insurance product would be available to enhance the state's AA credit rating was removed, and the average cost of credit for bonds issued was increased by 0.1% to account for this change.

Exhibit 61 summarizes the bond financing assumptions used by the Office of the State Treasurer to estimate the financial capacity of net toll revenues for the 2008 toll scenarios. The financial capacity analysis assumed that any unfunded gap between project needs and available funding (inclusive of toll bond proceeds) occurred in the latter years of the construction period. Essentially, toll bond proceeds and other funding sources were advanced to fully pay for as much of the project as possible up-front.

The Office of the State Treasurer (OST) attempted to maximize funding by testing a mixture of current interest bonds (CIBs), capital appreciation bonds (CABs), and pay-as-you-go funding. This work was based upon their experience — and that of their financial advisors — with large-scale municipal bond issuances.

Exhibit 61 – Bond Financing Assumptions

Item	*Assumption*
Type of Debt	General Obligation / Motor Vehicle Fuel Tax (GO/MVFT) Bonds
Term	30 year maximum maturity
Minimum Debt Service Coverage Required *	1.25x: The level of borrowing must maintain annual net toll revenues of at least 125% of annual debt service.**
Interest Rates	6.00% Current Interest 6.50% Deferred Interest
Issuance Costs	0.2% of Par Amount
Underwriter Discount Current Interest Bonds	0.50% of Par Amount
Underwriter Discount - Deferred Interest Bonds	1.00% of Par Amount
Minimum Fund Balance	None
Reserves	None

* Excess debt service coverage once released can provides funds available for other purposes, including renovation and rehabilitation expenses and/or subordinated debt.

** This assumption may not be a requirement for GO/MVFT debt that is effectively backed by the State of Washington.

Exhibit 62 gives the net present value (NPV) calculation for the net toll revenue stream of each toll scenario analyzed in 2008. This calculated result is intended to give an estimate of the approximate purchasing power of tolls under financing assumptions similar to those used by OST, and is intended for making relative comparisons between the toll scenarios. All else equal, toll scenarios with higher tolls will have a higher NPV. Similarly, adding pre-completion tolling will improve the NPV, as can be seen by comparing Scenario 3 with Scenario 4.

Exhibit 62 – Toll Revenue Net Present Values for the 2008 Toll Scenarios

Scenario & Description	*Scenario Elements*				*Cross-Lake Toll Rate Ranges (2007 $s)*		*NPV of Net Toll Revenues*
	Bridges Tolled		Toll Configuration (SR 520)	Toll Exemptions (SR 520)	Pre-Completion FY 2011-16	Post-Completion FY 2017→	(Before R&R, FY 2011)
	Pre-Completion FY 2011-16	Post-Completion FY 2017→					
Single Bridge Scenarios (Toll Only SR 520)							
Scenario 1		Toll 520	Bridge + Short Segments	Transit & HOV 3+		$0.75 to $3.80	$939 M
Scenario 2	Toll 520		Bridge Only	Transit & HOV 3+	Free to $2.95	$0.75 to $2.95	$851 M
Scenario 5 (Fixed-Rate Tolls)		Toll 520	Bridge Only	Transit & HOV 3+		Fixed at $1.70	$586 M
Scenario 6 (Highest 520 Only Funding)	Toll 520		Bridge + Short Segments	No Exemptions	Free to $3.80	$0.80 to $5.35	$1,461 M
Scenario 6.1 (Toll Exemptions Reapplied)	Toll 520		Bridge + Short Segments	Transit & HOV 3+	Free to $3.80	$0.80 to $5.35	$1,457 M
Scenario 7	Toll 520		Bridge Only	Transit & HOV 3+	Free to $3.25	$0.75 to $3.80	$1,174 M
Scenario 7.1 (Limited Build Test)	Toll 520		Bridge Only	Transit Only	Free to $3.25	$0.75 to $3.80	$1,186 M
Scenario 7.2 (HOV Policy Impact Test)	Toll 520		Bridge Only	Transit & HOV 2+	Free to $3.25	$0.75 to $3.80	$1,086 M
Two-Bridge Scenarios (Toll SR 520 and I-90)							
Scenario 3		Toll 520 Toll 90	Bridge + Short Segments	Transit & HOV 3+		$0.75 to $3.25	$2,254 M
Scenario 4	Toll 520	Toll 90	Bridge + Short Segments	Transit & HOV 3+	Free to $3.25	$0.75 to $3.25	$2,549 M
Scenario 8 (Differential Tolls on 520 / 90)		Toll 520 Toll 90	Bridge Only	Transit & HOV 3+		$0.75 to $4.20	$2,170 M
Scenario 9 (Pre-Comp Tolling Both Bridges)	Toll 520 Toll 90		Bridge Only	Transit & HOV 3+	Free to $2.95	$0.75 to $2.95	$2,295 M
Scenario 10 (Scenario 6 + I-90 HOT Lanes)	Toll 520	Toll 90	Bridge + Short Segments	Transit & HOV 3+	Free to $3.80	$0.80 to $5.35 (520) $0.15 to 0.95/mi (90)	$1,718 M
Scenario 11 (Highest 520 & I-90 Funding)	Toll 520 Toll 90		Bridge Only	Transit & HOV 3+	Free to $3.80	$0.80 to $5.35	$3,797 M
Scenario 12 (Differential Tolling)	Toll 520	Toll 90	Bridge Only	Transit & HOV 3+	Free to $3.25	$0.75 to $4.20	$2,444 M
Scenario 12.1 (+25% Toll Increase)	Toll 520	Toll 90	Bridge Only	Transit & HOV 3+	Free to $4.06	$0.94 to $5.25	$3,011 M
Scenario 13 (I-90 Tolled in FY 2013)	Toll 520 Toll 90 FY 13→		Bridge Only	Transit & HOV 3+	Free to $3.25	$0.75 to $3.25	$2,743 M

Notes:
* Pre-completion tolls drop to zero overnight from 11 PM to 5 AM.

7. FURTHER STUDY

The process and results described in this traffic and revenue report represent the latest, but not the final steps that will be required to fully develop the tolling component of the financial plan for the SR 520 project.

During the 2009 legislative session, WSDOT may receive authorization to begin tolling SR 520. In the case that the Legislature authorizes tolling on SR 520, and depending on how that legislation is designed, additional traffic and revenue analysis will need to be conducted, including analysis to finalize the pre-completion toll rates.

Specifically, the Legislature may define guidelines or other limitations on toll rates. Depending on those boundaries, further examination will be needed to determine (1) potential toll rates that satisfy the requirements of the tolling legislation, (2) the optimal toll rate of those within the legislative guideline, and (3) the impact of that toll rate on traffic revenue projections and funding potential.

Findings related to supplementary toll rate analysis will be subject to review by the Washington State Transportation Commission, which has the final legal authority to set toll rates on SR 520 within the limitations defined by tolling legislation.

In addition to further study of toll rates on SR 520, the project definition and phasing plan also requires finalization, and with it the revised cost estimate, as the current mediation process yields a preferred solution for the west approach configuration and the environmental process moves forward. Final project definition may also result in continued analysis of I-90 tolling.

Depending on how the financing will be procured, a formal "investment-grade" traffic and revenue study may be required once the finance plan is finalized at a time closer to debt issuance. The purpose of such a study is to analyze traffic and revenue including validating and/or updating previous work specifically for the purpose of securing a debt issuance credit rating. Even if such a rating is not required, additional in-depth analysis and review of assumptions would be warranted to confirm conclusions to date.

Appendix A provides additional discussion of what an investment-grade traffic and revenue analysis entails and under what conditions it is required.

[This page intentionally blank]

APPENDIX A: INVESTMENT GRADE ANALYSIS DISCUSSION AND SR 520 ANNUAL TOLL TRAFFIC & REVENUE TABLES

INVESTMENT GRADE TRAFFIC AND REVENUE ANALYSIS

Depending on how the SR 520 project will be financed, a formal "investment-grade" traffic and revenue study may be required once the finance plan is finalized at a time closer to debt issuance. The purpose of such a study is to analyze traffic and revenue including validating and/or updating previous work specifically for the purpose of securing a debt issuance credit rating. An investment-grade traffic and revenue study may take up to a year to complete depending on what analyses are needed or required for the toll revenue bonds to achieve an investment-grade credit rating.

General Obligation/Motor Vehicle Fuel Tax Bond Issues

If the state were to issue general obligation/motor fuel tax backed (GO/MVFT) bonds that rely on the state's underlying AA credit rating, an investment-grade traffic and revenue study would not be required. Instead, the investment grade evaluation for a general obligation bond issue would focus on the state's financial condition, with the bonds carrying the state's overall ratings. The state would not typically be required to provide detailed, project-specific information or analysis. (Note that the State of Washington currently carries ratings of AA/AA/Aa1 by Fitch, Standard & Poor's, and Moody's, respectively.)

However, the state may still want to update and secure an independent review of their traffic and revenue forecasts prior to issuing bonds to fully understand and account for potential toll revenue risks that may come into play as the date of the first issuance approaches.

Other Investment-Grade Analysis Elements

Demand Analysis

The demand is the most critical factor impacting the success of a toll facility. As an existing facility, the SR 520 corridor has a proven traffic stream, albeit under a toll-free environment. The introduction of tolls would likely result in changes to traffic levels, as previously discussed. As a result, a traffic study would be an integral part of a required investment grade revenue forecast. This investment grade forecast may differ from the work performed to date in a number of ways, including but not limited to:

- The rating agencies will require a detailed examination of the demand model inputs and assumptions, including an independent forecast of population growth, employment, and land use;
- Micro-simulation analysis will be performed, consisting of street-level analysis of traffic demand and capacity constraints of individual routes and intersections. Current work to date has focused on system-wide and corridor analysis; and.
- Assessment of toll rates and associated diversion results.

For project planning purposes, a time period of at least 12 months should be allocated for performing the investment grade demand analysis.

Assessment of Competition

The existence of parallel or alternative roadways (I-90, SR 522) represents large implications to the potential success of a tolled SR 520 facility as it introduces significant uncertainty to how the traveling public will respond to the introduction of tolls.

The rating agencies will also examine the capital improvement plans and programs of WSDOT and local transportation agencies, including PSRC and Sound Transit, to assess the potential for additional *future* competition in the form of new or expanded roadways and/or transit service.

Governance Issues

The Washington Legislature is in the process of evaluating several options for managing a potentially tolled SR 520 facility. A key consideration for the rating agencies will be whether toll-setting policy on SR 520 is granted to an autonomous agency, or if rate policy, including periodic escalation of tolls, may be influenced by political interests. To achieve the highest-rated and thus the lowest cost credit, toll-setting decisions would need to be granted to a semi-independent body with the ability to alter rates to meet bond covenants. Stand-alone toll revenue bonds will require coverage covenants whereby the agency will agree to modify tolls if the future forecasts do not meet the stated coverage test.

Construction Risk

Credit rating agencies will be concerned about the risks facing WSDOT during the construction period. Project total cost, delivery schedule and quality will be scrutinized. WSDOT routinely attempts to mitigate risks by a variety of mechanisms, including intensive community and stakeholder involvement efforts during project planning and environmental development; planning and design-level probability-based cost and schedule estimating procedures; and robust quality assurance and control programs during construction.

WSDOT can further allocate construction risks among other various project participants. Risk in this manner can be shared through the use of alternative project delivery methods (e.g., design-build) and by including incentives and disincentives in the terms of the construction contract. Attaining an investment-grade rating will typically require either a date-certain, fixed price construction delivery contract in place or a commitment from the agency to backstop excess costs or loss of revenues resulting from delays.

SR 520 ANNUAL TOLL TRAFFIC AND REVENUE TABLES

The tables on the following pages present the annual toll traffic and revenue tables for the "mid" projections for each scenario, while some scenarios also include tables for "low" and "high" estimates. Scenarios with I-90 tolling include an additional traffic and revenue table with those results. Each table presents:

- The weighted average bridge toll rate (the average revenue per transaction);
- The total annual number of toll transactions;

- The passenger car equivalent (PCE) annual traffic volume in which medium and large trucks are counted as the equivalent of three cars on average;
- The above three items for the short segments in the applicable scenarios;
- The annual gross toll revenue potential;
- The pay-by-plate (video tolling) surcharge annual revenue;
- The revenue deductions for uncollectible accounts and credit card fees;
- The annual toll collection O&M costs;
- The annual routine facility O&M costs;
- The annual net revenue available for debt service before periodic R&R costs;
- The periodic R&R costs; and
- The annual net revenue after periodic R&R costs.

The remainder of Appendix A includes 13 charts, one each for the "base" traffic projection of each scenario with pre-completion tolling, that plot:

- Gross revenues net of ramp-up effects;
- Adjusted gross revenues after pay-by-plate surcharges and uncollectible account/credit card fee deductions; and
- The annual net revenue available for project financing before periodic R&R costs.

[This page intentionally blank]

SR 520 Toll Traffic & Revenue Projections — SR 520 Finance Plan and Tolling Implementation Committee Scenarios

Table 1-A.M TIC Scenario 1: Mid SR 520 Projection (Only SR 520 Tolled)

	Fiscal Year	Weighted Average Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions Bridge Span (millions)[2]	Pass Car Equiv (PCE) Bridge Volumes (millions)[3]	Weighted Average Segment Toll Rate (one-way)[1]	Annual Segment Toll Transactions (millions)[2]	Pass Car Equiv (PCE) Segment Volumes (millions)[3]	Gross Toll Revenue Potential ($ millions)[4]	Plus: Pay-by-Plate Surcharge Revenue ($ millions)[5]	Less: Uncollectible Accounts/ Credit Fees ($ millions)[6]	Less: Toll Collection O&M Costs ($ millions)[7]	Less: Routine Facility O&M Costs ($ millions)[8]	Less: Sales Tax Deferral Repayment ($ millions)[9]	Net Toll Revenue Before Periodic R&R Costs ($ millions)	Less: Periodic Rehab & Repair Costs ($ millions)[7]	Net Toll Revenue After Periodic R&R Costs ($ millions)	FY 2011 NPV of Net Revenue Before R&R @ 6.5% ($ millions)
Pre-Completion*	2010																
	2011																
	2012																
	2013																
	2014																
	2015																
	2016										(8.68)			(8.68)		(8.68)	(6.33)
Post-Completion — Full Revenue Operations	2017	$2.92	25.49	26.08	$0.62	8.17	8.37	81.42	6.56	(4.40)	(15.98)	(5.90)		61.70		61.70	42.28
	2018	$3.00	28.72	29.39	$0.64	9.23	9.46	94.05	6.30	(5.02)	(16.36)	(6.05)		72.92	(1.02)	71.89	46.92
	2019	$3.07	30.47	31.18	$0.65	9.82	10.06	102.31	5.53	(5.39)	(15.85)	(6.20)		80.40		80.40	48.58
	2020	$3.15	30.72	31.44	$0.67	9.93	10.17	105.74	4.39	(5.51)	(14.60)	(6.35)		83.67		83.67	47.47
	2021	$3.23	30.97	31.69	$0.69	10.04	10.28	109.28	3.23	(5.63)	(13.33)	(6.51)		87.05	(5.02)	82.02	46.37
	2022	$3.31	31.22	31.95	$0.70	10.16	10.39	112.94	2.05	(5.75)	(12.03)	(6.68)	(25.51)	65.03	(0.49)	64.54	32.53
	2023	$3.39	31.47	32.21	$0.72	10.27	10.51	116.73	0.83	(5.88)	(10.69)	(6.84)	(25.51)	68.63	(8.11)	60.52	32.24
	2024	$3.47	31.73	32.47	$0.74	10.39	10.62	120.64	0.84	(6.07)	(11.08)	(7.01)	(25.51)	71.81	(11.28)	60.52	31.67
	2025	$3.56	31.98	32.73	$0.76	10.50	10.74	124.68	0.85	(6.28)	(11.19)	(7.19)	(25.51)	75.37		75.37	31.21
	2026	$3.65	32.24	33.00	$0.78	10.62	10.86	128.86	0.86	(6.49)	(11.31)	(7.37)	(25.51)	79.05	(2.50)	76.55	30.74
	2027	$3.74	32.50	33.26	$0.80	10.75	10.99	133.18	0.87	(6.70)	(11.43)	(7.55)	(25.51)	82.86	(7.49)	75.37	30.25
	2028	$3.83	32.76	33.53	$0.82	10.87	11.11	137.65	0.88	(6.93)	(11.55)	(7.74)	(25.51)	86.80	(4.13)	82.67	29.76
	2029	$3.93	33.03	33.81	$0.84	11.00	11.24	142.27	0.89	(7.16)	(11.68)	(7.94)	(25.51)	90.88	(4.24)	86.64	29.25
	2030	$4.03	33.30	34.08	$0.86	11.12	11.37	147.04	0.90	(7.40)	(11.80)	(8.13)	(25.51)	95.10	(4.34)	90.76	28.74
	2031	$4.13	33.43	34.22	$0.88	11.19	11.43	151.34	0.91	(7.61)	(12.22)	(8.34)	(25.51)	98.58	(29.10)	69.48	27.98
	2032	$4.23	33.57	34.36	$0.90	11.25	11.50	155.77	0.92	(7.83)	(12.31)	(8.55)		128.00	(0.62)	127.38	34.11
	2033	$4.34	33.70	34.50	$0.92	11.32	11.56	160.33	0.93	(8.06)	(12.41)	(8.76)		132.03		132.03	33.04
	2034	$4.45	33.84	34.64	$0.95	11.39	11.63	165.03	0.93	(8.30)	(12.51)	(8.98)		136.18		136.18	31.99
	2035	$4.56	33.98	34.78	$0.97	11.46	11.70	169.86	0.94	(8.54)	(12.61)	(9.20)		140.45	(10.91)	129.54	30.98
	2036	$4.67	34.11	34.92	$0.99	11.52	11.77	174.84	0.95	(8.79)	(12.71)	(9.43)		144.85	(2.50)	142.35	30.00
	2037	$4.79	34.25	35.06	$1.02	11.59	11.83	179.95	0.96	(9.05)	(12.82)	(9.67)		149.38	(30.11)	119.27	29.05
	2038	$4.91	34.39	35.20	$1.04	11.66	11.90	185.22	0.97	(9.31)	(13.30)	(9.91)		153.67	(15.94)	137.73	28.06
	2039	$5.03	34.53	35.35	$1.07	11.73	11.97	190.65	0.98	(9.58)	(13.41)	(10.16)		158.47		158.47	27.18
	2040	$5.16	34.67	35.49	$1.10	11.80	12.04	196.23	0.99	(9.86)	(13.52)	(10.41)		163.42		163.42	26.31
	2041	$5.29	34.67	35.49	$1.12	11.80	12.04	201.14	0.99	(10.11)	(13.60)	(10.67)		167.75	(12.34)	155.42	25.36
	2042	$5.42	34.67	35.49	$1.15	11.80	12.04	206.17	1.00	(10.36)	(13.67)	(10.94)		172.19	(18.26)	153.93	24.44
	2043	$5.55	34.67	35.49	$1.18	11.80	12.04	211.32	1.00	(10.62)	(13.75)	(11.21)		176.74	(5.99)	170.75	23.56
	2044	$5.69	34.67	35.49	$1.21	11.80	12.04	216.60	1.01	(10.88)	(13.83)	(11.49)		181.40	(6.14)	175.27	22.70
	2045	$5.83	34.67	35.49	$1.24	11.80	12.04	222.02	1.01	(11.15)	(14.37)	(11.78)		185.73	(33.02)	152.71	21.83
	2046	$5.98	34.67	35.49	$1.27	11.80	12.04	227.57	1.02	(11.43)	(14.45)	(12.08)		190.63	(2.50)	188.13	21.04
	2047	$6.13	34.67	35.49	$1.30	11.80	12.04	233.26	1.02	(11.71)	(14.54)	(12.38)		195.65	(20.34)	175.32	20.27
	2048	$6.28	34.67	35.49	$1.34	11.80	12.04	239.09	1.03	(12.01)	(14.62)	(12.69)		200.80		200.80	19.54
	2049	$6.44	34.67	35.49	$1.37	11.80	12.04	245.07	1.03	(12.30)	(14.72)	(13.00)		206.07		206.07	18.83
	2050	$6.60	34.67	35.49	$1.40	11.80	12.04	251.19	1.04	(12.61)	(14.81)	(13.33)		211.48		211.48	18.14
	2051	$6.77	34.67	35.49	$1.44	11.80	12.04	257.47	1.04	(12.93)	(14.90)	(13.66)		217.02	(7.79)	209.23	17.48
	2052	$6.94	34.67	35.49	$1.48	11.80	12.04	263.91	1.05	(13.25)	(15.54)	(14.00)		222.17	(23.55)	198.62	16.80
	2053	$7.11	34.67	35.49	$1.51	11.80	12.04	270.51	1.06	(13.58)	(15.64)	(14.35)		227.99		227.99	16.19
	2054	$7.29	34.67	35.49	$1.55	11.80	12.04	277.27	1.06	(13.92)	(15.74)	(14.71)		233.96		233.96	15.60
	2055	$7.47	34.67	35.49	$1.59	11.80	12.04	284.20	1.07	(14.26)	(15.85)	(15.08)		240.08	(8.05)	232.03	15.03
	2056	$7.66	34.67	35.49	$1.63	11.80	12.04	291.31	1.08	(14.62)	(15.96)	(15.46)		246.35	(10.75)	235.60	14.48
Totals FY 2010-16											(8.68)			(8.68)		(8.68)	(6.33)
Totals FY 2017-46			985.08	1008.25	$27.29	328.59	335.78	4670.85	50.47	(236.07)	(390.35)	(259.07)	(255.08)	3580.75	(216.05)	3364.70	945.65
Totals FY 2017-56			1331.76	1363.14		446.60	456.22	7284.13	60.95	(367.25)	(542.67)	(397.75)	(255.08)	5782.34	(286.54)	5495.80	1118.01

Footnotes

[1] Reflects the average revenue per passenger car equivalent based on time-of-day variable weekday & weekend toll structures.

[2] Annual volume of vehicles subject to tolls in each travel direction after ramp up adjustment; includes autos and trucks.

[3] Converts medium & large trucks to their passenger car equivalent (PCE) based on trucks paying 2x to 4x the auto toll.

[4] Excludes toll surcharge revenue assessed to customers without transponders for pay-by-plate (video tolling/license plate list).

[5] Pay-by-plate toll surcharge revenue assessed to capture the additional collection costs of video toll/license plate list payment.

[6] 5% deduction for credit card fees & for revenue loss due to the net effects of evasion, processing errors & uncollectible accounts.

[7] Both toll collection O&M costs and toll systems R&R timing differ based on when tolling begins.

[8] Pre-completion facility O&M costs are assumed to be capitalized and/or included in existing maintenance budgets.

[9] Reflects the repayment of construction sales tax deferred during construction

* Nights from 11 PM to 5 AM are toll-free for pre-completion tolling (FY 2011-2016).

General Notes

– Demand is reduced for "ramp-up" in initial years as customers get accustomed to tolls.

– Toll rate escalation and O&M inflation, where applicable, is projected at 2.5% per year.

– Weekday segment tolls & all variable rate weekend tolls do not vary by scenario.

– Weekend daily auto & truck demand varies only between the one & two bridge cases.

SR 520 Toll Traffic & Revenue Projections — SR 520 Finance Plan and Tolling Implementation Committee Scenarios

Table 2-A.M TIC Scenario 2: Mid SR 520 Projection (Only SR 520 Tolled)

	Fiscal Year	Weighted Average Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions Bridge Span (millions)[2]	Pass Car Equiv (PCE) Bridge Volumes (millions)[3]	Weighted Average Segment Toll Rate (one-way)[1]	Annual Segment Toll Transactions (millions)[2]	Pass Car Equiv (PCE) Segment Volumes (millions)[3]	Gross Toll Revenue Potential ($ millions)[4]	Plus: Pay-by-Plate Surcharge Revenue ($ millions)[5]	Less: Uncollectible Accounts/ Credit Fees ($ millions)[6]	Less: Toll Collection O&M Costs ($ millions)[7]	Less: Routine Facility O&M Costs ($ millions)[8]	Less: Sales Tax Deferral Repayment ($ millions)[9]	Net Toll Revenue Before Periodic R&R Costs ($ millions)	Less: Periodic Rehab & Repair Costs ($ millions)[7]	Net Toll Revenue After Periodic R&R Costs ($ millions)	FY 2011 NPV of Net Revenue Before R&R @ 6.5% ($ millions)
Pre-Completion*	2010										(7.48)			(7.48)		(7.48)	(7.97)
	2011	$1.87	21.40	21.98				41.13	4.10	(2.26)	(9.73)			33.24		33.24	33.24
	2012	$1.92	24.38	25.05				48.05	4.22	(2.61)	(10.35)			39.30		39.30	36.90
	2013	$1.97	27.41	28.16				55.36	4.22	(2.98)	(10.85)			45.76		45.76	40.34
	2014	$2.01	29.01	29.81				60.07	3.92	(3.20)	(10.77)			50.03		50.03	41.42
	2015	$2.07	29.18	29.99				61.93	3.39	(3.27)	(10.19)			51.86		51.86	40.31
	2016	$2.12	29.34	30.16				63.84	2.85	(3.33)	(9.61)			53.74	(2.50)	51.24	39.22
Post-Completion — Full Revenue Operations	2017	$2.11	30.30	31.13				65.73	2.36	(3.40)	(9.24)	(5.90)		49.55		49.55	33.96
	2018	$2.16	32.11	32.99				71.38	1.88	(3.66)	(8.98)	(6.05)		54.56	(1.02)	53.54	35.11
	2019	$2.22	32.32	33.20				73.63	1.27	(3.74)	(8.33)	(6.20)		56.63		56.63	34.22
	2020	$2.27	32.53	33.42				75.96	0.64	(3.83)	(7.66)	(6.35)		58.75		58.75	33.33
	2021	$2.33	32.74	33.64				78.36	0.65	(3.95)	(7.74)	(6.51)		60.80	(5.02)	55.78	32.39
	2022	$2.39	32.95	33.86				80.83	0.65	(4.07)	(7.82)	(6.68)	(25.51)	37.41	(0.49)	36.92	18.71
	2023	$2.45	33.16	34.08				83.39	0.66	(4.20)	(7.90)	(6.84)	(25.51)	39.59	(8.11)	31.48	18.59
	2024	$2.51	33.38	34.30				86.02	0.66	(4.33)	(8.01)	(7.01)	(25.51)	41.81	(1.19)	40.63	18.44
	2025	$2.57	33.60	34.52				88.74	0.67	(4.47)	(8.10)	(7.19)	(25.51)	44.14		44.14	18.28
	2026	$2.63	33.81	34.75				91.54	0.68	(4.61)	(8.19)	(7.37)	(25.51)	46.54	(2.50)	44.04	18.10
	2027	$2.70	34.03	34.97				94.43	0.68	(4.76)	(8.28)	(7.55)	(25.51)	49.03	(7.49)	41.53	17.90
	2028	$2.77	34.26	35.20				97.42	0.69	(4.91)	(8.37)	(7.74)	(25.51)	51.59	(4.13)	47.45	17.68
	2029	$2.84	34.48	35.43				100.50	0.70	(5.06)	(8.46)	(7.94)	(25.51)	54.23	(4.24)	50.00	17.46
	2030	$2.91	34.70	35.66				103.67	0.71	(5.22)	(8.55)	(8.13)	(25.51)	56.96	(4.34)	52.62	17.22
	2031	$2.98	34.82	35.78				106.60	0.71	(5.37)	(8.66)	(8.34)	(25.51)	59.44	(17.10)	42.34	16.87
	2032	$3.05	34.93	35.90				109.62	0.72	(5.52)	(8.74)	(8.55)		87.54	(0.62)	86.91	23.33
	2033	$3.13	35.04	36.02				112.72	0.72	(5.67)	(8.81)	(8.76)		90.20		90.20	22.57
	2034	$3.21	35.16	36.13				115.91	0.73	(5.83)	(8.89)	(8.98)		92.93		92.93	21.83
	2035	$3.29	35.27	36.25				119.19	0.73	(6.00)	(8.98)	(9.20)		95.75	(10.91)	84.84	21.12
	2036	$3.37	35.39	36.37				122.57	0.74	(6.17)	(9.06)	(9.43)		98.65	(2.50)	96.15	20.43
	2037	$3.45	35.50	36.49				126.03	0.74	(6.34)	(9.14)	(9.67)		101.63	(30.11)	71.52	19.77
	2038	$3.54	35.62	36.61				129.60	0.75	(6.52)	(9.27)	(9.91)		104.65	(1.68)	102.97	19.11
	2039	$3.63	35.73	36.73				133.27	0.75	(6.70)	(9.36)	(10.16)		107.80		107.80	18.49
	2040	$3.72	35.85	36.85				137.04	0.76	(6.89)	(9.45)	(10.41)		111.05		111.05	17.88
	2041	$3.81	35.85	36.85				140.47	0.76	(7.06)	(9.52)	(10.67)		113.98	(12.34)	101.64	17.23
	2042	$3.91	35.85	36.85				143.98	0.77	(7.24)	(9.59)	(10.94)		116.98	(18.26)	98.71	16.61
	2043	$4.01	35.85	36.85				147.58	0.77	(7.42)	(9.67)	(11.21)		120.05	(5.99)	114.06	16.00
	2044	$4.11	35.85	36.85				151.27	0.78	(7.60)	(9.74)	(11.49)		123.20	(6.14)	117.07	15.42
	2045	$4.21	35.85	36.85				155.05	0.78	(7.79)	(9.87)	(11.78)		126.39	(16.06)	110.33	14.85
	2046	$4.31	35.85	36.85				158.92	0.78	(7.99)	(9.95)	(12.08)		129.70	(2.50)	127.20	14.31
	2047	$4.42	35.85	36.85				162.90	0.79	(8.18)	(10.03)	(12.38)		133.09	(20.34)	112.76	13.79
	2048	$4.53	35.85	36.85				166.97	0.79	(8.39)	(10.11)	(12.69)		136.57		136.57	13.29
	2049	$4.64	35.85	36.85				171.14	0.80	(8.60)	(10.20)	(13.00)		140.14		140.14	12.80
	2050	$4.76	35.85	36.85				175.42	0.80	(8.81)	(10.29)	(13.33)		143.79		143.79	12.33
	2051	$4.88	35.85	36.85				179.81	0.81	(9.03)	(10.38)	(13.66)		147.54	(7.79)	139.75	11.88
	2052	$5.00	35.85	36.85				184.30	0.81	(9.26)	(10.53)	(14.00)		151.33	(3.39)	147.93	11.44
	2053	$5.13	35.85	36.85				188.91	0.81	(9.49)	(10.62)	(14.35)		155.26		155.26	11.03
	2054	$5.26	35.85	36.85				193.63	0.82	(9.72)	(10.72)	(14.71)		159.30		159.30	10.62
	2055	$5.39	35.85	36.85				198.47	0.83	(9.96)	(10.82)	(15.08)		163.43	(8.05)	155.38	10.23
	2056	$5.52	35.85	36.85				203.44	0.83	(10.21)	(10.92)	(15.46)		167.67	(10.75)	156.92	9.86
Totals FY 2010-16			160.72	165.15				330.38	22.70	(17.65)	(68.99)			266.44	(2.50)	263.94	223.46
Totals FY 2017-46			1032.76	1061.35				3301.41	24.89	(166.31)	(264.30)	(259.07)	(255.08)	2381.53	(162.74)	2218.79	627.22
Totals FY 2017-56			1391.25	1429.82				5126.40	32.97	(257.97)	(368.92)	(397.75)	(255.08)	3879.67	(213.07)	3666.60	744.49

Footnotes

[1] Reflects the average revenue per passenger car equivalent based on time-of-day variable weekday & weekend toll structures.

[2] Annual volume of vehicles subject to tolls in each travel direction after ramp up adjustment; includes autos and trucks.

[3] Converts medium & large trucks to their passenger car equivalent (PCE) based on trucks paying 2x to 4x the auto toll.

[4] Excludes toll surcharge revenue assessed to customers without transponders for pay-by-plate (video tolling/license plate list).

[5] Pay-by-plate toll surcharge revenue assessed to capture the additional collection costs of video toll/license plate list payment.

[6] 5% deduction for credit card fees & for revenue loss due to the net effects of evasion, processing errors & uncollectible accounts.

[7] Both toll collection O&M costs and toll systems R&R timing differ based on when tolling begins.

[8] Pre-completion facility O&M costs are assumed to be capitalized and/or included in existing maintenance budgets.

[9] Reflects the repayment of construction sales tax deferred during construction

* Nights from 11 PM to 5 AM are toll-free for pre-completion tolling (FY 2011-2016).

General Notes

– Demand is reduced for "ramp-up" in initial years as customers get accustomed to tolls.

– Toll rate escalation and O&M inflation, where applicable, is projected at 2.5% per year.

– Weekday segment tolls & all variable rate weekend tolls do not vary by scenario.

– Weekend daily auto & truck demand varies only between the one & two bridge cases.

SR 520 Toll Traffic & Revenue Projections — SR 520 Finance Plan and Tolling Implementation Committee Scenarios

Table 3-A.M TIC Scenario 3: Mid SR 520 Projection (Both SR 520 & I-90 Tolled by FY 2017)

	Fiscal Year	Weighted Average Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions Bridge Span (millions)[2]	Pass Car Equiv (PCE) Bridge Volumes (millions)[3]	Weighted Average Segment Toll Rate (one-way)[1]	Annual Segment Toll Transactions (millions)[2]	Pass Car Equiv (PCE) Segment Volumes (millions)[3]	Gross Toll Revenue Potential ($ millions)[4]	Plus: Pay-by-Plate Surcharge Revenue ($ millions)[5]	Less: Uncollectible Accounts/ Credit Fees ($ millions)[6]	Less: Toll Collection O&M Costs ($ millions)[7]	Less: Routine Facility O&M Costs ($ millions)[8]	Less: Sales Tax Deferral Repayment ($ millions)[9]	Net Toll Revenue Before Periodic R&R Costs ($ millions)	Less: Periodic Rehab & Repair Costs ($ millions)[7]	Net Toll Revenue After Periodic R&R Costs ($ millions)	FY 2011 NPV of Net Revenue Before R&R @ 6.5% ($ millions)
Pre-Completion*	2010																
	2011																
	2012																
	2013																
	2014																
	2015																
	2016										(8.68)			(8.68)		(8.68)	(6.33)
Post-Completion — Full Revenue Operations	2017	$2.67	29.79	30.75	$0.62	7.91	8.12	86.98	7.34	(4.72)	(17.00)	(5.90)		66.70		66.70	45.71
	2018	$2.73	33.53	34.61	$0.63	8.94	9.18	100.37	7.05	(5.37)	(17.41)	(6.05)		78.59	(1.02)	77.56	50.57
	2019	$2.80	35.55	36.69	$0.65	9.51	9.77	109.07	6.18	(5.76)	(16.80)	(6.20)		86.49		86.49	52.26
	2020	$2.87	35.81	36.95	$0.67	9.62	9.87	112.61	4.91	(5.88)	(15.38)	(6.35)		89.91		89.91	51.01
	2021	$2.94	36.07	37.21	$0.68	9.73	9.98	116.27	3.61	(5.99)	(13.93)	(6.51)		93.44	(5.02)	88.41	49.78
	2022	$3.02	36.33	37.47	$0.70	9.84	10.10	120.04	2.28	(6.12)	(12.45)	(6.68)	(25.51)	71.57	(0.49)	71.08	35.80
	2023	$3.09	36.60	37.73	$0.72	9.95	10.21	123.94	0.92	(6.24)	(10.94)	(6.84)	(25.51)	75.33	(8.11)	67.22	35.38
	2024	$3.17	36.86	38.00	$0.74	10.07	10.32	127.96	0.93	(6.44)	(11.31)	(7.01)	(25.51)	78.62	(11.28)	67.34	34.67
	2025	$3.25	37.13	38.27	$0.75	10.18	10.44	132.12	0.95	(6.65)	(11.42)	(7.19)	(25.51)	82.30		82.30	34.08
	2026	$3.33	37.40	38.54	$0.77	10.30	10.56	136.41	0.96	(6.87)	(11.52)	(7.37)	(25.51)	86.10	(2.50)	83.60	33.48
	2027	$3.41	37.67	38.81	$0.79	10.42	10.68	140.85	0.97	(7.09)	(11.63)	(7.55)	(25.51)	90.03	(7.49)	82.54	32.87
	2028	$3.50	37.95	39.08	$0.81	10.55	10.80	145.43	0.98	(7.32)	(11.74)	(7.74)	(25.51)	94.10	(4.13)	89.96	32.26
	2029	$3.58	38.22	39.36	$0.83	10.67	10.93	150.15	0.99	(7.56)	(11.85)	(7.94)	(25.51)	98.30	(4.24)	94.06	31.64
	2030	$3.67	38.50	39.64	$0.85	10.80	11.05	155.04	1.00	(7.80)	(11.96)	(8.13)	(25.51)	102.64	(4.34)	98.29	31.02
	2031	$3.77	38.64	39.78	$0.87	10.86	11.12	159.50	1.01	(8.03)	(12.36)	(8.34)	(25.51)	106.28	(29.10)	77.18	30.16
	2032	$3.86	38.78	39.92	$0.90	10.93	11.18	164.08	1.02	(8.26)	(12.44)	(8.55)		135.86	(0.62)	135.24	36.20
	2033	$3.96	38.92	40.06	$0.92	10.99	11.25	168.80	1.03	(8.49)	(12.52)	(8.76)		140.06		140.06	35.05
	2034	$4.05	39.06	40.20	$0.94	11.06	11.32	173.66	1.04	(8.73)	(12.60)	(8.98)		144.38		144.38	33.92
	2035	$4.16	39.20	40.34	$0.96	11.12	11.38	178.66	1.04	(8.98)	(12.68)	(9.20)		148.83	(10.91)	137.92	32.83
	2036	$4.26	39.35	40.48	$0.99	11.19	11.45	183.80	1.05	(9.24)	(12.77)	(9.43)		153.41	(2.50)	150.91	31.78
	2037	$4.37	39.49	40.63	$1.01	11.26	11.52	189.08	1.06	(9.51)	(12.85)	(9.67)		158.12	(30.11)	128.01	30.75
	2038	$4.48	39.63	40.77	$1.04	11.33	11.59	194.53	1.07	(9.78)	(13.32)	(9.91)		162.59	(15.94)	146.64	29.69
	2039	$4.59	39.78	40.92	$1.07	11.40	11.65	200.12	1.08	(10.06)	(13.41)	(10.16)		167.58		167.58	28.74
	2040	$4.70	39.92	41.06	$1.09	11.46	11.72	205.88	1.09	(10.35)	(13.50)	(10.41)		172.71		172.71	27.81
	2041	$4.82	39.92	41.06	$1.12	11.46	11.72	211.03	1.10	(10.61)	(13.55)	(10.67)		177.29	(12.34)	164.96	26.80
	2042	$4.94	39.92	41.06	$1.15	11.46	11.72	216.31	1.10	(10.87)	(13.61)	(10.94)		181.99	(18.26)	163.72	25.83
	2043	$5.06	39.92	41.06	$1.18	11.46	11.72	221.71	1.11	(11.14)	(13.67)	(11.21)		186.80	(5.99)	180.81	24.90
	2044	$5.19	39.92	41.06	$1.21	11.46	11.72	227.26	1.11	(11.42)	(13.72)	(11.49)		191.73	(6.14)	185.60	24.00
	2045	$5.32	39.92	41.06	$1.24	11.46	11.72	232.94	1.12	(11.70)	(14.23)	(11.78)		196.34	(33.02)	163.32	23.07
	2046	$5.45	39.92	41.06	$1.27	11.46	11.72	238.76	1.12	(11.99)	(14.29)	(12.08)		201.52	(2.50)	199.02	22.24
	2047	$5.59	39.92	41.06	$1.30	11.46	11.72	244.73	1.13	(12.29)	(14.36)	(12.38)		206.83	(20.34)	186.50	21.43
	2048	$5.73	39.92	41.06	$1.33	11.46	11.72	250.85	1.14	(12.60)	(14.42)	(12.69)		212.28		212.28	20.65
	2049	$5.87	39.92	41.06	$1.36	11.46	11.72	257.12	1.14	(12.91)	(14.48)	(13.00)		217.86		217.86	19.90
	2050	$6.02	39.92	41.06	$1.40	11.46	11.72	263.55	1.15	(13.23)	(14.55)	(13.33)		223.58		223.58	19.18
	2051	$6.17	39.92	41.06	$1.43	11.46	11.72	270.14	1.15	(13.56)	(14.62)	(13.66)		229.44	(7.79)	221.65	18.48
	2052	$6.32	39.92	41.06	$1.47	11.46	11.72	276.89	1.16	(13.90)	(15.23)	(14.00)		234.92	(23.55)	211.37	17.77
	2053	$6.48	39.92	41.06	$1.51	11.46	11.72	283.81	1.17	(14.25)	(15.30)	(14.35)		241.08		241.08	17.12
	2054	$6.64	39.92	41.06	$1.54	11.46	11.72	290.91	1.18	(14.60)	(15.37)	(14.71)		247.39		247.39	16.50
	2055	$6.81	39.92	41.06	$1.58	11.46	11.72	298.18	1.18	(14.97)	(15.45)	(15.08)		253.87	(8.05)	245.81	15.89
	2056	$6.98	39.92	41.06	$1.62	11.46	11.72	305.63	1.19	(15.34)	(15.53)	(15.46)		260.50	(10.75)	249.75	15.31
Totals FY 2010-16											(8.68)			(8.68)		(8.68)	(6.33)
Totals FY 2017-46			1139.73	1173.60	$27.16	318.87	326.54	4923.36	56.23	(248.98)	(396.85)	(259.07)	(255.08)	3819.60	(216.05)	3603.55	1014.32
Totals FY 2017-56			1538.96	1584.20		433.52	443.77	7665.17	67.81	(386.65)	(546.16)	(397.75)	(255.08)	6147.35	(286.54)	5860.82	1196.55

Footnotes

[1] Reflects the average revenue per passenger car equivalent based on time-of-day variable weekday & weekend toll structures.

[2] Annual volume of vehicles subject to tolls in each travel direction after ramp up adjustment; includes autos and trucks.

[3] Converts medium & large trucks to their passenger car equivalent (PCE) based on trucks paying 2x to 4x the auto toll.

[4] Excludes toll surcharge revenue assessed to customers without transponders for pay-by-plate (video tolling/license plate list).

[5] Pay-by-plate toll surcharge revenue assessed to capture the additional collection costs of video toll/license plate list payment.

[6] 5% deduction for credit card fees & revenue loss due to the net effects of evasion, processing errors & uncollectible accounts.

[7] Both toll collection O&M costs and toll systems R&R timing differ based on when tolling begins.

[8] Pre-completion facility O&M costs are assumed to be capitalized and/or included in existing maintenance budgets.

[9] Reflects the repayment of construction sales tax deferred during construction

* Nights from 11 PM to 5 AM are toll-free for pre-completion tolling (FY 2011-2016).

General Notes

– Demand is reduced for "ramp-up" in initial years as customers get accustomed to tolls.

– Toll rate escalation and O&M inflation, where applicable, is projected at 2.5% per year.

– Weekday segment tolls & all variable rate weekend tolls do not vary by scenario.

– Weekend daily auto & truck demand varies only between the one & two bridge cases.

I-90 Toll Traffic & Revenue Projections — SR 520 Finance Plan and Tolling Implementation Committee Scenarios

Table 3-B.M TIC Scenario 3: Mid I-90 Projection (Both SR 520 & I-90 Tolled by FY 2017)

	Fiscal Year	Weighted Average West Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions West Bridge (millions)[2]	Pass Car Equiv (PCE) West Bridge Volumes (millions)[3]	Weighted Average East Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions East Bridge (millions)[2]	Pass Car Equiv (PCE) East Bridge Volumes (millions)[3]	Gross Toll Revenue Potential ($ millions)[4]	Plus: Pay-by-Plate Surcharge Revenue ($ millions)[5]	Less: Uncollectible Accounts/ Credit Fees ($ millions)[6]	Less: Toll Collection O&M Costs ($ millions)[7]	Less: Routine Facility O&M Costs ($ millions)[8]	Net Toll Revenue Before Periodic R&R Costs ($ millions)	Less: Periodic Rehab & Repair Costs ($ millions)[7]	Net Toll Revenue After Periodic R&R Costs ($ millions)	FY 2011 NPV of Net Revenue Before R&R @ 6.5% ($ millions)
Pre-Completion*	2010															
	2011															
	2012															
	2013															
	2014															
	2015															
	2016										(1.74)		(1.74)		(1.74)	(1.27)
Post-Completion — Full Revenue Operations	2017	$1.37	30.45	32.39	$1.32	32.08	34.06	89.36	9.37	(4.47)	(13.35)	(9.36)	71.56	(0.03)	71.53	49.04
	2018	$1.40	34.48	36.70	$1.35	36.36	38.62	103.81	9.59	(5.19)	(13.78)	(9.59)	84.84	(0.67)	84.16	54.59
	2019	$1.44	36.78	39.16	$1.39	38.82	41.24	113.57	9.13	(5.68)	(13.33)	(9.83)	93.85	(0.49)	93.37	56.71
	2020	$1.47	37.26	39.71	$1.42	39.36	41.84	118.04	8.12	(5.90)	(12.18)	(10.08)	98.01	(7.58)	90.43	55.60
	2021	$1.51	37.76	40.25	$1.46	39.92	42.45	122.69	7.08	(6.13)	(10.99)	(10.33)	102.32	(1.76)	100.57	54.51
	2022	$1.55	38.26	40.81	$1.49	40.48	43.07	127.52	6.00	(6.38)	(9.75)	(10.59)	106.81	(0.27)	106.54	53.43
	2023	$1.59	38.77	41.38	$1.53	41.05	43.69	132.54	4.89	(6.63)	(8.47)	(10.85)	111.48	(7.84)	103.64	52.36
	2024	$1.63	39.28	41.95	$1.57	41.63	44.33	137.76	3.73	(6.89)	(8.66)	(11.12)	114.82	(2.62)	112.20	50.64
	2025	$1.67	39.80	42.53	$1.61	42.22	44.97	143.19	2.53	(7.16)	(8.80)	(11.40)	118.36		118.36	49.01
	2026	$1.71	40.33	43.12	$1.65	42.82	45.63	148.83	1.72	(7.44)	(8.94)	(11.68)	122.48		122.48	47.62
	2027	$1.75	40.86	43.72	$1.69	43.42	46.29	154.70	1.75	(7.73)	(9.08)	(11.98)	127.65	(4.97)	122.67	46.60
	2028	$1.80	41.40	44.32	$1.73	44.04	46.97	160.79	1.78	(8.04)	(9.23)	(12.28)	133.02	(5.22)	127.81	45.60
	2029	$1.84	41.95	44.94	$1.77	44.66	47.65	167.13	1.81	(8.36)	(9.38)	(12.58)	138.62	(4.43)	134.19	44.62
	2030	$1.89	42.51	45.56	$1.82	45.29	48.34	173.72	1.84	(8.69)	(9.53)	(12.90)	144.45	(9.11)	135.34	43.66
	2031	$1.93	42.79	45.88	$1.86	45.61	48.70	179.31	1.86	(8.97)	(9.70)	(13.22)	149.29	(9.73)	139.56	42.37
	2032	$1.98	43.08	46.20	$1.91	45.93	49.05	185.09	1.88	(9.25)	(9.80)	(13.55)	154.37	(0.31)	154.06	41.14
	2033	$2.03	43.36	46.52	$1.95	46.26	49.41	191.05	1.90	(9.55)	(9.90)	(13.89)	159.62	(8.69)	150.93	39.94
	2034	$2.08	43.65	46.84	$2.00	46.59	49.77	197.21	1.93	(9.86)	(10.00)	(14.24)	165.04	(1.84)	163.19	38.77
	2035	$2.13	43.94	47.17	$2.05	46.91	50.13	203.56	1.95	(10.18)	(10.10)	(14.59)	170.64	(14.81)	155.83	37.64
	2036	$2.19	44.23	47.49	$2.10	47.25	50.50	210.12	1.97	(10.51)	(10.21)	(14.96)	176.42	(0.12)	176.30	36.54
	2037	$2.24	44.52	47.82	$2.16	47.58	50.87	216.89	1.99	(10.84)	(10.32)	(15.33)	182.39	(2.81)	179.58	35.47
	2038	$2.30	44.82	48.16	$2.21	47.92	51.24	223.88	2.01	(11.19)	(10.51)	(15.71)	188.48	(5.99)	182.49	34.42
	2039	$2.36	45.12	48.49	$2.26	48.26	51.61	231.09	2.04	(11.55)	(10.62)	(16.11)	194.85	(15.76)	179.10	33.41
	2040	$2.41	45.42	48.83	$2.32	48.60	51.99	238.54	2.06	(11.93)	(10.73)	(16.51)	201.43	(165.91)	35.52	32.43
	2041	$2.47	45.48	48.90	$2.38	48.67	52.06	244.72	2.08	(12.24)	(10.80)	(16.92)	206.84	(174.39)	32.45	31.27
	2042	$2.53	45.55	48.96	$2.44	48.75	52.14	251.06	2.09	(12.55)	(10.87)	(17.35)	212.38	(6.39)	205.99	30.15
	2043	$2.60	45.61	49.03	$2.49	48.82	52.21	257.56	2.10	(12.88)	(10.93)	(17.78)	218.07	(17.39)	200.69	29.07
	2044	$2.66	45.68	49.09	$2.56	48.90	52.29	264.24	2.12	(13.21)	(11.01)	(18.22)	223.91	(6.82)	217.09	28.02
	2045	$2.72	45.75	49.16	$2.62	48.98	52.37	271.08	2.13	(13.55)	(11.17)	(18.68)	229.81	(10.57)	219.24	27.01
	2046	$2.79	45.81	49.23	$2.68	49.05	52.45	278.11	2.14	(13.91)	(11.25)	(19.15)	235.96		235.96	26.04
	2047	$2.86	45.88	49.30	$2.75	49.13	52.52	285.32	2.16	(14.27)	(11.32)	(19.63)	242.27	(1.24)	241.03	25.10
	2048	$2.93	45.95	49.36	$2.82	49.21	52.60	292.72	2.17	(14.64)	(11.40)	(20.12)	248.75	(1.46)	247.29	24.20
	2049	$3.00	46.02	49.43	$2.88	49.29	52.68	300.31	2.19	(15.02)	(11.48)	(20.62)	255.39	(2.82)	252.57	23.33
	2050	$3.07	46.09	49.50	$2.95	49.37	52.76	308.11	2.21	(15.41)	(11.56)	(21.13)	262.21	(15.90)	246.31	22.49
	2051	$3.15	46.16	49.57	$3.03	49.45	52.84	316.10	2.22	(15.81)	(11.64)	(21.66)	269.22	(3.69)	265.53	21.68
	2052	$3.23	46.23	49.64	$3.10	49.53	52.92	324.31	2.24	(16.22)	(11.84)	(22.20)	276.29	(5.31)	270.98	20.89
	2053	$3.31	46.30	49.71	$3.18	49.61	53.00	332.73	2.26	(16.64)	(11.93)	(22.76)	283.66	(16.45)	267.22	20.14
	2054	$3.39	46.37	49.78	$3.25	49.70	53.09	341.37	2.27	(17.07)	(12.01)	(23.33)	291.23		291.23	19.42
	2055	$3.47	46.44	49.85	$3.33	49.78	53.17	350.23	2.29	(17.51)	(12.10)	(23.91)	299.00	(9.08)	289.92	18.72
	2056	$3.55	46.51	49.92	$3.42	49.86	53.25	359.33	2.31	(17.97)	(12.20)	(24.51)	306.97	(8.64)	298.33	18.05
Totals FY 2010-16											(1.74)		(1.74)		(1.74)	(1.27)
Totals FY 2017-46			1254.70	1344.29	$57.79	1336.24	1425.92	5537.18	101.59	(276.86)	(313.38)	(410.76)	4637.77	(486.52)	4151.25	1247.71
Totals FY 2017-56			1716.63	1840.36		1831.18	1954.77	8747.71	123.92	(437.39)	(430.86)	(630.63)	7372.75	(551.09)	6821.66	1461.73

Footnotes

[1] Reflects the average revenue per passenger car equivalent based on time-of-day variable weekday & weekend toll structures.

[2] Annual volume of vehicles subject to tolls in each travel direction after ramp up adjustment; includes autos and trucks.

[3] Converts medium & large trucks to their passenger car equivalent (PCE) based on trucks paying 2x to 4x the auto toll.

[4] Excludes toll surcharge revenue assessed to customers without transponders for pay-by-plate (video tolling/license plate list).

[5] Pay-by-plate toll surcharge revenue assessed to capture the additional collection costs of video toll/license plate list payment.

[6] 5% deduction for credit card fees & revenue loss due to the net effects of evasion, processing errors & uncollectible accounts.

[7] Both toll collection O&M costs and toll systems R&R timing differ based on when tolling begins.

[8] Pre-completion facility O&M costs are assumed to be capitalized and/or included in existing maintenance budgets.

[9] Reflects the repayment of construction sales tax deferred during construction

* Nights from 11 PM to 5 AM are toll-free for pre-completion tolling (FY 2011-2016).

General Notes

– Demand is reduced for "ramp-up" in initial years as customers get accustomed to tolls.

– Toll rate escalation and O&M inflation, where applicable, is projected at 2.5% per year.

– Weekday segment tolls & all variable rate weekend tolls do not vary by scenario.

– Weekend daily auto & truck demand varies only between the one & two bridge cases.

SR 520 Toll Traffic & Revenue Projections — SR 520 Finance Plan and Tolling Implementation Committee Scenarios

Table 4-A.L TIC Scenario 4: Lower SR 520 Projection (Both SR 520 & I-90 Tolled by FY 2017)

	Fiscal Year	Weighted Average Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions Bridge Span (millions)[2]	Pass Car Equiv (PCE) Bridge Volumes (millions)[3]	Weighted Average Segment Toll Rate (one-way)[1]	Annual Segment Toll Transactions (millions)[2]	Pass Car Equiv (PCE) Segment Volumes (millions)[3]	Gross Toll Revenue Potential ($ millions)[4]	Plus: Pay-by-Plate Surcharge Revenue ($ millions)[5]	Less: Uncollectible Accounts/ Credit Fees ($ millions)[6]	Less: Toll Collection O&M Costs ($ millions)[7]	Less: Routine Facility O&M Costs ($ millions)[8]	Less: Sales Tax Deferral Repayment ($ millions)[9]	Net Toll Revenue Before Periodic R&R Costs ($ millions)	Less: Periodic Rehab & Repair Costs ($ millions)[7]	Net Toll Revenue After Periodic R&R Costs ($ millions)	FY 2011 NPV of Net Revenue Before R&R @ 6.5% ($ millions)
Pre-Completion*	2010										(7.48)			(7.48)		(7.48)	(7.97)
	2011	$2.38	19.15	19.62				46.61	3.67	(2.51)	(8.88)			38.88		38.88	38.88
	2012	$2.44	21.84	22.38				54.50	3.78	(2.91)	(9.45)			45.92		45.92	43.11
	2013	$2.50	24.57	25.17				62.84	3.79	(3.33)	(9.90)			53.39		53.39	47.08
	2014	$2.56	26.03	26.67				68.24	3.52	(3.59)	(9.84)			58.34		58.34	48.29
	2015	$2.62	26.19	26.84				70.40	3.04	(3.67)	(9.33)			60.45		60.45	46.99
	2016	$2.69	26.36	27.02				72.63	2.56	(3.76)	(8.82)			62.62	(2.50)	60.12	45.70
Post-Completion — Full Revenue Operations	2017	$2.67	29.79	30.75	$0.62	7.91	8.12	86.98	2.94	(4.50)	(11.80)	(5.90)		67.72		67.72	46.41
	2018	$2.73	31.58	32.60	$0.63	8.42	8.64	94.53	2.34	(4.84)	(11.48)	(6.05)		74.50	(1.02)	73.48	47.94
	2019	$2.80	31.81	32.83	$0.65	8.51	8.74	97.59	1.58	(4.96)	(10.65)	(6.20)		77.37		77.37	46.75
	2020	$2.87	32.04	33.06	$0.67	8.61	8.83	100.76	0.80	(5.08)	(9.81)	(6.35)		80.32		80.32	45.57
	2021	$2.94	32.27	33.29	$0.68	8.71	8.93	104.03	0.81	(5.24)	(9.89)	(6.51)		83.19	(5.02)	78.16	44.32
	2022	$3.02	32.51	33.52	$0.70	8.80	9.03	107.41	0.82	(5.41)	(9.98)	(6.68)	(25.51)	60.64	(0.49)	60.16	30.34
	2023	$3.09	32.74	33.76	$0.72	8.91	9.13	110.89	0.83	(5.59)	(10.08)	(6.84)	(25.51)	63.71	(8.11)	55.60	29.92
	2024	$3.17	32.98	34.00	$0.74	9.01	9.24	114.49	0.84	(5.77)	(10.44)	(7.01)	(25.51)	66.61	(11.28)	55.32	29.37
	2025	$3.25	33.22	34.24	$0.75	9.11	9.34	118.21	0.85	(5.95)	(10.53)	(7.19)	(25.51)	69.88		69.88	28.94
	2026	$3.33	33.46	34.48	$0.77	9.22	9.45	122.05	0.86	(6.15)	(10.63)	(7.37)	(25.51)	73.26	(2.50)	70.76	28.49
	2027	$3.41	33.71	34.72	$0.79	9.33	9.56	126.02	0.87	(6.34)	(10.73)	(7.55)	(25.51)	76.75	(7.49)	69.26	28.02
	2028	$3.50	33.95	34.97	$0.81	9.44	9.67	130.12	0.88	(6.55)	(10.83)	(7.74)	(25.51)	80.37	(4.13)	76.23	27.55
	2029	$3.58	34.20	35.22	$0.83	9.55	9.78	134.35	0.89	(6.76)	(10.93)	(7.94)	(25.51)	84.10	(4.24)	79.86	27.07
	2030	$3.67	34.45	35.46	$0.85	9.66	9.89	138.72	0.90	(6.98)	(11.03)	(8.13)	(25.51)	87.96	(4.34)	83.62	26.59
	2031	$3.77	34.57	35.59	$0.87	9.72	9.95	142.71	0.90	(7.18)	(11.42)	(8.34)	(25.51)	91.16	(29.10)	62.06	25.87
	2032	$3.86	34.70	35.72	$0.90	9.78	10.01	146.81	0.91	(7.39)	(11.50)	(8.55)		120.29	(0.62)	119.67	32.06
	2033	$3.96	34.82	35.84	$0.92	9.83	10.07	151.03	0.92	(7.60)	(11.57)	(8.76)		124.02		124.02	31.03
	2034	$4.05	34.95	35.97	$0.94	9.89	10.12	155.38	0.93	(7.82)	(11.65)	(8.98)		127.86		127.86	30.04
	2035	$4.16	35.08	36.10	$0.96	9.95	10.18	159.85	0.93	(8.04)	(11.73)	(9.20)		131.82	(10.91)	120.91	29.08
	2036	$4.26	35.21	36.22	$0.99	10.01	10.24	164.45	0.94	(8.27)	(11.80)	(9.43)		135.88	(2.50)	133.38	28.15
	2037	$4.37	35.33	36.35	$1.01	10.07	10.30	169.18	0.95	(8.51)	(11.89)	(9.67)		140.07	(30.11)	109.96	27.24
	2038	$4.48	35.46	36.48	$1.04	10.13	10.37	174.05	0.96	(8.75)	(12.35)	(9.91)		144.00	(15.94)	128.06	26.30
	2039	$4.59	35.59	36.61	$1.07	10.20	10.43	179.06	0.97	(9.00)	(12.43)	(10.16)		148.43		148.43	25.45
	2040	$4.70	35.72	36.74	$1.09	10.26	10.49	184.21	0.98	(9.26)	(12.52)	(10.41)		153.00		153.00	24.63
	2041	$4.82	35.72	36.74	$1.12	10.26	10.49	188.82	0.98	(9.49)	(12.57)	(10.67)		157.07	(12.34)	144.73	23.75
	2042	$4.94	35.72	36.74	$1.15	10.26	10.49	193.54	0.98	(9.73)	(12.62)	(10.94)		161.24	(18.26)	142.97	22.89
	2043	$5.06	35.72	36.74	$1.18	10.26	10.49	198.38	0.99	(9.97)	(12.67)	(11.21)		165.51	(5.99)	159.52	22.06
	2044	$5.19	35.72	36.74	$1.21	10.26	10.49	203.33	0.99	(10.22)	(12.73)	(11.49)		169.89	(6.14)	163.75	21.26
	2045	$5.32	35.72	36.74	$1.24	10.26	10.49	208.42	1.00	(10.47)	(13.24)	(11.78)		173.93	(33.02)	140.91	20.44
	2046	$5.45	35.72	36.74	$1.27	10.26	10.49	213.63	1.00	(10.73)	(13.30)	(12.08)		178.53	(2.50)	176.03	19.70
	2047	$5.59	35.72	36.74	$1.30	10.26	10.49	218.97	1.01	(11.00)	(13.36)	(12.38)		183.25	(20.34)	162.91	18.99
	2048	$5.73	35.72	36.74	$1.33	10.26	10.49	224.44	1.02	(11.27)	(13.42)	(12.69)		188.08		188.08	18.30
	2049	$5.87	35.72	36.74	$1.36	10.26	10.49	230.05	1.02	(11.55)	(13.48)	(13.00)		193.04		193.04	17.63
	2050	$6.02	35.72	36.74	$1.40	10.26	10.49	235.81	1.03	(11.84)	(13.54)	(13.33)		198.12		198.12	16.99
	2051	$6.17	35.72	36.74	$1.43	10.26	10.49	241.70	1.03	(12.14)	(13.61)	(13.66)		203.33	(7.79)	195.53	16.38
	2052	$6.32	35.72	36.74	$1.47	10.26	10.49	247.74	1.04	(12.44)	(14.21)	(14.00)		208.13	(23.55)	184.58	15.74
	2053	$6.48	35.72	36.74	$1.51	10.26	10.49	253.94	1.05	(12.75)	(14.28)	(14.35)		213.60		213.60	15.17
	2054	$6.64	35.72	36.74	$1.54	10.26	10.49	260.29	1.05	(13.07)	(14.35)	(14.71)		219.20		219.20	14.62
	2055	$6.81	35.72	36.74	$1.58	10.26	10.49	266.79	1.06	(13.39)	(14.43)	(15.08)		224.95	(8.05)	216.90	14.08
	2056	$6.98	35.72	36.74	$1.62	10.26	10.49	273.46	1.06	(13.73)	(14.50)	(15.46)		230.84	(10.75)	220.09	13.57
Totals FY 2010-16			144.15	147.70				375.23	20.36	(19.78)	(63.69)			312.12	(2.50)	309.62	262.09
Totals FY 2017-46			1024.48	1054.93	$27.16	286.56	293.45	4418.99	31.52	(222.53)	(344.76)	(259.07)	(255.08)	3369.08	(216.05)	3153.02	897.22
Totals FY 2017-56			1381.68	1422.31		389.14	398.35	6872.19	41.88	(345.70)	(483.94)	(397.75)	(255.08)	5431.60	(286.54)	5145.07	1058.69

Footnotes

[1] Reflects the average revenue per passenger car equivalent based on time-of-day variable weekday & weekend toll structures.

[2] Annual volume of vehicles subject to tolls in each travel direction after ramp up adjustment; includes autos and trucks.

[3] Converts medium & large trucks to their passenger car equivalent (PCE) based on trucks paying 2x to 4x the auto toll.

[4] Excludes toll surcharge revenue assessed to customers without transponders for pay-by-plate (video tolling/license plate list).

[5] Pay-by-plate toll surcharge revenue assessed to capture the additional collection costs of video toll/license plate list payment.

[6] 5% deduction for credit card fees & for revenue loss due to the net effects of evasion, processing errors & uncollectible accounts.

[7] Both toll collection O&M costs and toll systems R&R timing differ based on when tolling begins.

[8] Pre-completion facility O&M costs are assumed to be capitalized and/or included in existing maintenance budgets.

[9] Reflects the repayment of construction sales tax deferred during construction

* Nights from 11 PM to 5 AM are toll-free for pre-completion tolling (FY 2011-2016).

General Notes

– Demand is reduced for "ramp-up" in initial years as customers get accustomed to tolls.

– Toll rate escalation and O&M inflation, where applicable, is projected at 2.5% per year.

– Weekday segment tolls & all variable rate weekend tolls do not vary by scenario.

– Weekend daily auto & truck demand varies only between the one & two bridge cases.

I-90 Toll Traffic & Revenue Projections — SR 520 Finance Plan and Tolling Implementation Committee Scenarios

Table 4-B.L TIC Scenario 4: Lower I-90 Projection (Both SR 520 & I-90 Tolled by FY 2017)

	Fiscal Year	Weighted Average West Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions West Bridge (millions)[2]	Pass Car Equiv (PCE) West Bridge Volumes (millions)[3]	Weighted Average East Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions East Bridge (millions)[2]	Pass Car Equiv (PCE) East Bridge Volumes (millions)[3]	Gross Toll Revenue Potential ($ millions)[4]	Plus: Pay-by-Plate Surcharge Revenue ($ millions)[5]	Less: Uncollectible Accounts/ Credit Fees ($ millions)[6]	Less: Toll Collection O&M Costs ($ millions)[7]	Less: Routine Facility O&M Costs ($ millions)[8]	Net Toll Revenue Before Periodic R&R Costs ($ millions)	Less: Periodic Rehab & Repair Costs ($ millions)[7]	Net Toll Revenue After Periodic R&R Costs ($ millions)	FY 2011 NPV of Net Revenue Before R&R @ 6.5% ($ millions)
Pre-Completion*	2010															
	2011															
	2012															
	2013															
	2014															
	2015															
	2016										(1.74)		(1.74)		(1.74)	(1.27)
Post-Completion — Full Revenue Operations	2017	$1.37	27.24	28.98	$1.32	28.70	30.47	79.96	5.03	(4.00)	(8.10)	(9.36)	63.53	(0.03)	63.50	43.54
	2018	$1.40	30.85	32.84	$1.35	32.53	34.55	92.88	5.08	(4.64)	(8.32)	(9.59)	75.41	(0.67)	74.73	48.53
	2019	$1.44	32.91	35.04	$1.39	34.73	36.90	101.62	4.76	(5.08)	(8.04)	(9.83)	83.43	(0.49)	82.94	50.41
	2020	$1.47	33.34	35.53	$1.42	35.22	37.44	105.62	4.15	(5.28)	(7.35)	(10.08)	87.06	(7.58)	79.48	49.40
	2021	$1.51	33.78	36.02	$1.46	35.72	37.98	109.77	3.52	(5.49)	(7.47)	(10.33)	90.01	(1.76)	88.26	47.95
	2022	$1.55	34.23	36.51	$1.49	36.22	38.53	114.10	2.87	(5.70)	(7.58)	(10.59)	93.09	(0.27)	92.82	46.56
	2023	$1.59	34.68	37.02	$1.53	36.73	39.09	118.59	2.19	(5.93)	(7.71)	(10.85)	96.29	(7.84)	88.45	45.23
	2024	$1.63	35.14	37.53	$1.57	37.25	39.66	123.26	1.48	(6.16)	(7.89)	(11.12)	99.57	(2.62)	96.95	43.91
	2025	$1.67	35.61	38.05	$1.61	37.78	40.24	128.12	1.51	(6.41)	(8.01)	(11.40)	103.81		103.81	42.99
	2026	$1.71	36.08	38.58	$1.65	38.31	40.82	133.17	1.54	(6.66)	(8.14)	(11.68)	108.22		108.22	42.08
	2027	$1.75	36.56	39.11	$1.69	38.85	41.42	138.41	1.56	(6.92)	(8.27)	(11.98)	112.81	(4.97)	107.83	41.19
	2028	$1.80	37.05	39.66	$1.73	39.40	42.02	143.87	1.59	(7.19)	(8.40)	(12.28)	117.58	(5.22)	112.37	40.31
	2029	$1.84	37.54	40.21	$1.77	39.96	42.63	149.54	1.62	(7.48)	(8.54)	(12.58)	122.56	(4.43)	118.12	39.45
	2030	$1.89	38.03	40.76	$1.82	40.52	43.26	155.43	1.65	(7.77)	(8.68)	(12.90)	127.73	(9.11)	118.63	38.61
	2031	$1.93	38.29	41.05	$1.86	40.81	43.57	160.44	1.67	(8.02)	(8.84)	(13.22)	132.03	(9.73)	122.30	37.47
	2032	$1.98	38.54	41.33	$1.91	41.10	43.89	165.61	1.68	(8.28)	(8.93)	(13.55)	136.53	(0.31)	136.22	36.38
	2033	$2.03	38.80	41.62	$1.95	41.39	44.21	170.94	1.70	(8.55)	(9.02)	(13.89)	141.19	(8.69)	132.50	35.33
	2034	$2.08	39.05	41.91	$2.00	41.68	44.53	176.45	1.72	(8.82)	(9.12)	(14.24)	146.00	(1.84)	144.15	34.30
	2035	$2.13	39.31	42.20	$2.05	41.98	44.86	182.13	1.74	(9.11)	(9.21)	(14.59)	150.97	(14.81)	136.16	33.30
	2036	$2.19	39.57	42.49	$2.10	42.27	45.18	188.00	1.76	(9.40)	(9.31)	(14.96)	156.10	(0.12)	155.98	32.33
	2037	$2.24	39.84	42.79	$2.16	42.57	45.51	194.06	1.78	(9.70)	(9.41)	(15.33)	161.40	(2.81)	158.59	31.39
	2038	$2.30	40.10	43.09	$2.21	42.87	45.84	200.31	1.80	(10.02)	(9.59)	(15.71)	166.79	(5.99)	160.81	30.46
	2039	$2.36	40.37	43.39	$2.26	43.18	46.18	206.77	1.82	(10.34)	(9.69)	(16.11)	172.45	(15.76)	156.69	29.57
	2040	$2.41	40.64	43.69	$2.32	43.48	46.52	213.43	1.85	(10.67)	(9.80)	(16.51)	178.30	(165.91)	12.38	28.71
	2041	$2.47	40.69	43.75	$2.38	43.55	46.58	218.96	1.86	(10.95)	(9.86)	(16.92)	183.08	(174.39)	8.69	27.68
	2042	$2.53	40.75	43.81	$2.44	43.62	46.65	224.63	1.87	(11.23)	(9.93)	(17.35)	187.99	(6.39)	181.60	26.69
	2043	$2.60	40.81	43.87	$2.49	43.68	46.72	230.45	1.88	(11.52)	(9.99)	(17.78)	193.04	(17.39)	175.65	25.73
	2044	$2.66	40.87	43.93	$2.56	43.75	46.79	236.42	1.89	(11.82)	(10.06)	(18.22)	198.21	(6.82)	191.39	24.81
	2045	$2.72	40.93	43.99	$2.62	43.82	46.86	242.55	1.91	(12.13)	(10.22)	(18.68)	203.42	(10.57)	192.85	23.91
	2046	$2.79	40.99	44.05	$2.68	43.89	46.92	248.84	1.92	(12.44)	(10.29)	(19.15)	208.87		208.87	23.05
	2047	$2.86	41.05	44.11	$2.75	43.96	46.99	255.29	1.93	(12.76)	(10.37)	(19.63)	214.47	(1.24)	213.23	22.22
	2048	$2.93	41.11	44.17	$2.82	44.03	47.07	261.91	1.95	(13.10)	(10.44)	(20.12)	220.20	(1.46)	218.75	21.42
	2049	$3.00	41.17	44.23	$2.88	44.10	47.14	268.70	1.96	(13.44)	(10.51)	(20.62)	226.09	(2.82)	223.28	20.65
	2050	$3.07	41.24	44.29	$2.95	44.17	47.21	275.67	1.97	(13.78)	(10.59)	(21.13)	232.14	(15.90)	216.24	19.91
	2051	$3.15	41.30	44.35	$3.03	44.25	47.28	282.83	1.99	(14.14)	(10.67)	(21.66)	238.34	(3.69)	234.66	19.20
	2052	$3.23	41.36	44.41	$3.10	44.32	47.35	290.17	2.00	(14.51)	(10.86)	(22.20)	244.60	(5.31)	239.29	18.50
	2053	$3.31	41.42	44.48	$3.18	44.39	47.42	297.70	2.02	(14.89)	(10.94)	(22.76)	251.13	(16.45)	234.69	17.83
	2054	$3.39	41.49	44.54	$3.25	44.46	47.50	305.43	2.03	(15.27)	(11.03)	(23.33)	257.84		257.84	17.19
	2055	$3.47	41.55	44.60	$3.33	44.54	47.57	313.37	2.05	(15.67)	(11.11)	(23.91)	264.72	(9.08)	255.65	16.57
	2056	$3.55	41.61	44.67	$3.42	44.61	47.65	321.51	2.07	(16.08)	(11.20)	(24.51)	271.79	(8.64)	263.15	15.98
Totals FY 2010-16											(1.74)		(1.74)		(1.74)	(1.27)
Totals FY 2017-46			1122.63	1202.79	$57.79	1195.58	1275.83	4954.32	67.41	(247.72)	(265.77)	(410.76)	4097.48	(486.52)	3610.96	1101.26
Totals FY 2017-56			1535.94	1646.64		1638.42	1749.00	7826.90	87.39	(391.34)	(373.50)	(630.63)	6518.81	(551.09)	5967.72	1290.74

Footnotes

[1] Reflects the average revenue per passenger car equivalent based on time-of-day variable weekday & weekend toll structures.

[2] Annual volume of vehicles subject to tolls in each travel direction after ramp up adjustment; includes autos and trucks.

[3] Converts medium & large trucks to their passenger car equivalent (PCE) based on trucks paying 2x to 4x the auto toll.

[4] Excludes toll surcharge revenue assessed to customers without transponders for pay-by-plate (video tolling/license plate list).

[5] Pay-by-plate toll surcharge revenue assessed to capture the additional collection costs of video toll/license plate list payment.

[6] 5% deduction for credit card fees & revenue loss due to the net effects of evasion, processing errors & uncollectible accounts.

[7] Both toll collection O&M costs and toll systems R&R timing differ based on when tolling begins.

[8] Pre-completion facility O&M costs are assumed to be capitalized and/or included in existing maintenance budgets.

[9] Reflects the repayment of construction sales tax deferred during construction

* Nights from 11 PM to 5 AM are toll-free for pre-completion tolling (FY 2011-2016).

General Notes

– Demand is reduced for "ramp-up" in initial years as customers get accustomed to tolls.

– Toll rate escalation and O&M inflation, where applicable, is projected at 2.5% per year.

– Weekday segment tolls & all variable rate weekend tolls do not vary by scenario.

– Weekend daily auto & truck demand varies only between the one & two bridge cases.

SR 520 Toll Traffic & Revenue Projections — SR 520 Finance Plan and Tolling Implementation Committee Scenarios

Table 4-A.M TIC Scenario 4: Mid SR 520 Projection (Both SR 520 & I-90 Tolled by FY 2017)

	Fiscal Year	Weighted Average Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions Bridge Span (millions)[2]	Pass Car Equiv (PCE) Bridge Volumes (millions)[3]	Weighted Average Segment Toll Rate (one-way)[1]	Annual Segment Toll Transactions (millions)[2]	Pass Car Equiv (PCE) Segment Volumes (millions)[3]	Gross Toll Revenue Potential ($ millions)[4]	Plus: Pay-by-Plate Surcharge Revenue ($ millions)[5]	Less: Uncollectible Accounts/ Credit Fees ($ millions)[6]	Less: Toll Collection O&M Costs ($ millions)[7]	Less: Routine Facility O&M Costs ($ millions)[8]	Less: Sales Tax Deferral Repayment ($ millions)[9]	Net Toll Revenue Before Periodic R&R Costs ($ millions)	Less: Periodic Rehab & Repair Costs ($ millions)[7]	Net Toll Revenue After Periodic R&R Costs ($ millions)	FY 2011 NPV of Net Revenue Before R&R @ 6.5% ($ millions)
Pre-Completion*	2010										(7.48)			(7.48)		(7.48)	(7.97)
	2011	$2.38	20.21	20.71				49.20	3.87	(2.65)	(9.28)			41.14		41.14	41.14
	2012	$2.44	23.06	23.62				57.53	3.99	(3.08)	(9.88)			48.56		48.56	45.60
	2013	$2.50	25.93	26.57				66.33	4.00	(3.52)	(10.36)			56.45		56.45	49.77
	2014	$2.56	27.47	28.15				72.03	3.71	(3.79)	(10.29)			61.67		61.67	51.06
	2015	$2.62	27.65	28.33				74.32	3.21	(3.88)	(9.75)			63.90		63.90	49.67
	2016	$2.69	27.83	28.52				76.67	2.70	(3.97)	(9.21)			66.20	(2.50)	63.70	48.31
Post-Completion — Full Revenue Operations	2017	$2.67	33.29	34.37	$0.62	8.84	9.08	97.21	3.28	(5.02)	(12.89)	(5.90)		76.68		76.68	52.55
	2018	$2.73	35.30	36.43	$0.63	9.41	9.66	105.65	2.62	(5.41)	(12.52)	(6.05)		84.28	(1.02)	83.26	54.24
	2019	$2.80	35.55	36.69	$0.65	9.51	9.77	109.07	1.77	(5.54)	(11.59)	(6.20)		87.50		87.50	52.87
	2020	$2.87	35.81	36.95	$0.67	9.62	9.87	112.61	0.89	(5.68)	(10.65)	(6.35)		90.83		90.83	51.53
	2021	$2.94	36.07	37.21	$0.68	9.73	9.98	116.27	0.90	(5.86)	(10.74)	(6.51)		94.05	(5.02)	89.03	50.11
	2022	$3.02	36.33	37.47	$0.70	9.84	10.10	120.04	0.91	(6.05)	(10.84)	(6.68)	(25.51)	71.88	(0.49)	71.39	35.96
	2023	$3.09	36.60	37.73	$0.72	9.95	10.21	123.94	0.92	(6.24)	(10.94)	(6.84)	(25.51)	75.33	(8.11)	67.22	35.38
	2024	$3.17	36.86	38.00	$0.74	10.07	10.32	127.96	0.93	(6.44)	(11.31)	(7.01)	(25.51)	78.62	(11.28)	67.34	34.67
	2025	$3.25	37.13	38.27	$0.75	10.18	10.44	132.12	0.95	(6.65)	(11.42)	(7.19)	(25.51)	82.30		82.30	34.08
	2026	$3.33	37.40	38.54	$0.77	10.30	10.56	136.41	0.96	(6.87)	(11.52)	(7.37)	(25.51)	86.10	(2.50)	83.60	33.48
	2027	$3.41	37.67	38.81	$0.79	10.42	10.68	140.85	0.97	(7.09)	(11.63)	(7.55)	(25.51)	90.03	(7.49)	82.54	32.87
	2028	$3.50	37.95	39.08	$0.81	10.55	10.80	145.43	0.98	(7.32)	(11.74)	(7.74)	(25.51)	94.10	(4.13)	89.96	32.26
	2029	$3.58	38.22	39.36	$0.83	10.67	10.93	150.15	0.99	(7.56)	(11.85)	(7.94)	(25.51)	98.30	(4.24)	94.06	31.64
	2030	$3.67	38.50	39.64	$0.85	10.80	11.05	155.04	1.00	(7.80)	(11.96)	(8.13)	(25.51)	102.64	(4.34)	98.29	31.02
	2031	$3.77	38.64	39.78	$0.87	10.86	11.12	159.50	1.01	(8.03)	(12.36)	(8.34)	(25.51)	106.28	(29.10)	77.18	30.16
	2032	$3.86	38.78	39.92	$0.90	10.93	11.18	164.08	1.02	(8.26)	(12.44)	(8.55)		135.86	(0.62)	135.24	36.20
	2033	$3.96	38.92	40.06	$0.92	10.99	11.25	168.80	1.03	(8.49)	(12.52)	(8.76)		140.06		140.06	35.05
	2034	$4.05	39.06	40.20	$0.94	11.06	11.32	173.66	1.04	(8.73)	(12.60)	(8.98)		144.38		144.38	33.92
	2035	$4.16	39.20	40.34	$0.96	11.12	11.38	178.66	1.04	(8.98)	(12.68)	(9.20)		148.83	(10.91)	137.92	32.83
	2036	$4.26	39.35	40.48	$0.99	11.19	11.45	183.80	1.05	(9.24)	(12.77)	(9.43)		153.41	(2.50)	150.91	31.78
	2037	$4.37	39.49	40.63	$1.01	11.26	11.52	189.08	1.06	(9.51)	(12.85)	(9.67)		158.12	(30.11)	128.01	30.75
	2038	$4.48	39.63	40.77	$1.04	11.33	11.59	194.53	1.07	(9.78)	(13.32)	(9.91)		162.59	(15.94)	146.64	29.69
	2039	$4.59	39.78	40.92	$1.07	11.40	11.65	200.12	1.08	(10.06)	(13.41)	(10.16)		167.58		167.58	28.74
	2040	$4.70	39.92	41.06	$1.09	11.46	11.72	205.88	1.09	(10.35)	(13.50)	(10.41)		172.71		172.71	27.81
	2041	$4.82	39.92	41.06	$1.12	11.46	11.72	211.03	1.10	(10.61)	(13.55)	(10.67)		177.29	(12.34)	164.96	26.80
	2042	$4.94	39.92	41.06	$1.15	11.46	11.72	216.31	1.10	(10.87)	(13.61)	(10.94)		181.99	(18.26)	163.72	25.83
	2043	$5.06	39.92	41.06	$1.18	11.46	11.72	221.71	1.11	(11.14)	(13.67)	(11.21)		186.80	(5.99)	180.81	24.90
	2044	$5.19	39.92	41.06	$1.21	11.46	11.72	227.26	1.11	(11.42)	(13.72)	(11.49)		191.73	(6.14)	185.60	24.00
	2045	$5.32	39.92	41.06	$1.24	11.46	11.72	232.94	1.12	(11.70)	(14.23)	(11.78)		196.34	(33.02)	163.32	23.07
	2046	$5.45	39.92	41.06	$1.27	11.46	11.72	238.76	1.12	(11.99)	(14.29)	(12.08)		201.52	(2.50)	199.02	22.24
	2047	$5.59	39.92	41.06	$1.30	11.46	11.72	244.73	1.13	(12.29)	(14.36)	(12.38)		206.83	(20.34)	186.50	21.43
	2048	$5.73	39.92	41.06	$1.33	11.46	11.72	250.85	1.14	(12.60)	(14.42)	(12.69)		212.28		212.28	20.65
	2049	$5.87	39.92	41.06	$1.36	11.46	11.72	257.12	1.14	(12.91)	(14.48)	(13.00)		217.86		217.86	19.90
	2050	$6.02	39.92	41.06	$1.40	11.46	11.72	263.55	1.15	(13.23)	(14.55)	(13.33)		223.58		223.58	19.18
	2051	$6.17	39.92	41.06	$1.43	11.46	11.72	270.14	1.15	(13.56)	(14.62)	(13.66)		229.44	(7.79)	221.65	18.48
	2052	$6.32	39.92	41.06	$1.47	11.46	11.72	276.89	1.16	(13.90)	(15.23)	(14.00)		234.92	(23.55)	211.37	17.77
	2053	$6.48	39.92	41.06	$1.51	11.46	11.72	283.81	1.17	(14.25)	(15.30)	(14.35)		241.08		241.08	17.12
	2054	$6.64	39.92	41.06	$1.54	11.46	11.72	290.91	1.18	(14.60)	(15.37)	(14.71)		247.39		247.39	16.50
	2055	$6.81	39.92	41.06	$1.58	11.46	11.72	298.18	1.18	(14.97)	(15.45)	(15.08)		253.87	(8.05)	245.81	15.89
	2056	$6.98	39.92	41.06	$1.62	11.46	11.72	305.63	1.19	(15.34)	(15.53)	(15.46)		260.50	(10.75)	249.75	15.31
Totals FY 2010-16			152.15	155.90				396.07	21.49	(20.88)	(66.25)			330.44	(2.50)	327.94	277.58
Totals FY 2017-46			1145.00	1179.04	$27.16	320.27	327.98	4938.88	35.22	(248.70)	(373.11)	(259.07)	(255.08)	3838.14	(216.05)	3622.08	1026.44
Totals FY 2017-56			1544.23	1589.64		434.92	445.21	7680.69	46.81	(386.37)	(522.41)	(397.75)	(255.08)	6165.89	(286.54)	5879.35	1208.67

Footnotes

[1] Reflects the average revenue per passenger car equivalent based on time-of-day variable weekday & weekend toll structures.

[2] Annual volume of vehicles subject to tolls in each travel direction after ramp up adjustment; includes autos and trucks.

[3] Converts medium & large trucks to their passenger car equivalent (PCE) based on trucks paying 2x to 4x the auto toll.

[4] Excludes toll surcharge revenue assessed to customers without transponders for pay-by-plate (video tolling/license plate list).

[5] Pay-by-plate toll surcharge revenue assessed to capture the additional collection costs of video toll/license plate list payment.

[6] 5% deduction for credit card fees & for revenue loss due to the net effects of evasion, processing errors & uncollectible accounts.

[7] Both toll collection O&M costs and toll systems R&R timing differ based on when tolling begins.

[8] Pre-completion facility O&M costs are assumed to be capitalized and/or included in existing maintenance budgets.

[9] Reflects the repayment of construction sales tax deferred during construction

* Nights from 11 PM to 5 AM are toll-free for pre-completion tolling (FY 2011-2016).

General Notes

– Demand is reduced for "ramp-up" in initial years as customers get accustomed to tolls.

– Toll rate escalation and O&M inflation, where applicable, is projected at 2.5% per year.

– Weekday segment tolls & all variable rate weekend tolls do not vary by scenario.

– Weekend daily auto & truck demand varies only between the one & two bridge cases.

I-90 Toll Traffic & Revenue Projections — SR 520 Finance Plan and Tolling Implementation Committee Scenarios

Table 4-B.M TIC Scenario 4: Mid I-90 Projection (Both SR 520 & I-90 Tolled by FY 2017)

	Fiscal Year	Weighted Average West Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions West Bridge (millions)[2]	Pass Car Equiv (PCE) West Bridge Volumes (millions)[3]	Weighted Average East Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions East Bridge (millions)[2]	Pass Car Equiv (PCE) East Bridge Volumes (millions)[3]	Gross Toll Revenue Potential ($ millions)[4]	Plus: Pay-by-Plate Surcharge Revenue ($ millions)[5]	Less: Uncollectible Accounts/ Credit Fees ($ millions)[6]	Less: Toll Collection O&M Costs ($ millions)[7]	Less: Routine Facility O&M Costs ($ millions)[8]	Net Toll Revenue Before Periodic R&R Costs ($ millions)	Less: Periodic Rehab & Repair Costs ($ millions)[7]	Net Toll Revenue After Periodic R&R Costs ($ millions)	FY 2011 NPV of Net Revenue Before R&R @ 6.5% ($ millions)
Pre-Completion*	2010															
	2011															
	2012															
	2013															
	2014															
	2015															
	2016										(1.74)		(1.74)		(1.74)	(1.27)
Post-Completion — Full Revenue Operations	2017	$1.37	30.45	32.39	$1.32	32.08	34.06	89.36	5.62	(4.47)	(8.93)	(9.36)	72.23	(0.03)	72.20	49.50
	2018	$1.40	34.48	36.70	$1.35	36.36	38.62	103.81	5.68	(5.19)	(9.17)	(9.59)	85.54	(0.67)	84.86	55.04
	2019	$1.44	36.78	39.16	$1.39	38.82	41.24	113.57	5.32	(5.68)	(8.85)	(9.83)	94.54	(0.49)	94.05	57.12
	2020	$1.47	37.26	39.71	$1.42	39.36	41.84	118.04	4.64	(5.90)	(8.08)	(10.08)	98.63	(7.58)	91.05	55.96
	2021	$1.51	37.76	40.25	$1.46	39.92	42.45	122.69	3.93	(6.13)	(8.21)	(10.33)	101.95	(1.76)	100.20	54.31
	2022	$1.55	38.26	40.81	$1.49	40.48	43.07	127.52	3.20	(6.38)	(8.34)	(10.59)	105.42	(0.27)	105.15	52.73
	2023	$1.59	38.77	41.38	$1.53	41.05	43.69	132.54	2.44	(6.63)	(8.47)	(10.85)	109.04	(7.84)	101.20	51.21
	2024	$1.63	39.28	41.95	$1.57	41.63	44.33	137.76	1.66	(6.89)	(8.66)	(11.12)	112.75	(2.62)	110.13	49.72
	2025	$1.67	39.80	42.53	$1.61	42.22	44.97	143.19	1.69	(7.16)	(8.80)	(11.40)	117.52		117.52	48.66
	2026	$1.71	40.33	43.12	$1.65	42.82	45.63	148.83	1.72	(7.44)	(8.94)	(11.68)	122.48		122.48	47.62
	2027	$1.75	40.86	43.72	$1.69	43.42	46.29	154.70	1.75	(7.73)	(9.08)	(11.98)	127.65	(4.97)	122.67	46.60
	2028	$1.80	41.40	44.32	$1.73	44.04	46.97	160.79	1.78	(8.04)	(9.23)	(12.28)	133.02	(5.22)	127.81	45.60
	2029	$1.84	41.95	44.94	$1.77	44.66	47.65	167.13	1.81	(8.36)	(9.38)	(12.58)	138.62	(4.43)	134.19	44.62
	2030	$1.89	42.51	45.56	$1.82	45.29	48.34	173.72	1.84	(8.69)	(9.53)	(12.90)	144.45	(9.11)	135.34	43.66
	2031	$1.93	42.79	45.88	$1.86	45.61	48.70	179.31	1.86	(8.97)	(9.70)	(13.22)	149.29	(9.73)	139.56	42.37
	2032	$1.98	43.08	46.20	$1.91	45.93	49.05	185.09	1.88	(9.25)	(9.80)	(13.55)	154.37	(0.31)	154.06	41.14
	2033	$2.03	43.36	46.52	$1.95	46.26	49.41	191.05	1.90	(9.55)	(9.90)	(13.89)	159.62	(8.69)	150.93	39.94
	2034	$2.08	43.65	46.84	$2.00	46.59	49.77	197.21	1.93	(9.86)	(10.00)	(14.24)	165.04	(1.84)	163.19	38.77
	2035	$2.13	43.94	47.17	$2.05	46.91	50.13	203.56	1.95	(10.18)	(10.10)	(14.59)	170.64	(14.81)	155.83	37.64
	2036	$2.19	44.23	47.49	$2.10	47.25	50.50	210.12	1.97	(10.51)	(10.21)	(14.96)	176.42	(0.12)	176.30	36.54
	2037	$2.24	44.52	47.82	$2.16	47.58	50.87	216.89	1.99	(10.84)	(10.32)	(15.33)	182.39	(2.81)	179.58	35.47
	2038	$2.30	44.82	48.16	$2.21	47.92	51.24	223.88	2.01	(11.19)	(10.51)	(15.71)	188.48	(5.99)	182.49	34.42
	2039	$2.36	45.12	48.49	$2.26	48.26	51.61	231.09	2.04	(11.55)	(10.62)	(16.11)	194.85	(15.76)	179.10	33.41
	2040	$2.41	45.42	48.83	$2.32	48.60	51.99	238.54	2.06	(11.93)	(10.73)	(16.51)	201.43	(165.91)	35.52	32.43
	2041	$2.47	45.48	48.90	$2.38	48.67	52.06	244.72	2.08	(12.24)	(10.80)	(16.92)	206.84	(174.39)	32.45	31.27
	2042	$2.53	45.55	48.96	$2.44	48.75	52.14	251.06	2.09	(12.55)	(10.87)	(17.35)	212.38	(6.39)	205.99	30.15
	2043	$2.60	45.61	49.03	$2.49	48.82	52.21	257.56	2.10	(12.88)	(10.93)	(17.78)	218.07	(17.39)	200.69	29.07
	2044	$2.66	45.68	49.09	$2.56	48.90	52.29	264.24	2.12	(13.21)	(11.01)	(18.22)	223.91	(6.82)	217.09	28.02
	2045	$2.72	45.75	49.16	$2.62	48.98	52.37	271.08	2.13	(13.55)	(11.17)	(18.68)	229.81	(10.57)	219.24	27.01
	2046	$2.79	45.81	49.23	$2.68	49.05	52.45	278.11	2.14	(13.91)	(11.25)	(19.15)	235.96		235.96	26.04
	2047	$2.86	45.88	49.30	$2.75	49.13	52.52	285.32	2.16	(14.27)	(11.32)	(19.63)	242.27	(1.24)	241.03	25.10
	2048	$2.93	45.95	49.36	$2.82	49.21	52.60	292.72	2.17	(14.64)	(11.40)	(20.12)	248.75	(1.46)	247.29	24.20
	2049	$3.00	46.02	49.43	$2.88	49.29	52.68	300.31	2.19	(15.02)	(11.48)	(20.62)	255.39	(2.82)	252.57	23.33
	2050	$3.07	46.09	49.50	$2.95	49.37	52.76	308.11	2.21	(15.41)	(11.56)	(21.13)	262.21	(15.90)	246.31	22.49
	2051	$3.15	46.16	49.57	$3.03	49.45	52.84	316.10	2.22	(15.81)	(11.64)	(21.66)	269.22	(3.69)	265.53	21.68
	2052	$3.23	46.23	49.64	$3.10	49.53	52.92	324.31	2.24	(16.22)	(11.84)	(22.20)	276.29	(5.31)	270.98	20.89
	2053	$3.31	46.30	49.71	$3.18	49.61	53.00	332.73	2.26	(16.64)	(11.93)	(22.76)	283.66	(16.45)	267.22	20.14
	2054	$3.39	46.37	49.78	$3.25	49.70	53.09	341.37	2.27	(17.07)	(12.01)	(23.33)	291.23		291.23	19.42
	2055	$3.47	46.44	49.85	$3.33	49.78	53.17	350.23	2.29	(17.51)	(12.10)	(23.91)	299.00	(9.08)	289.92	18.72
	2056	$3.55	46.51	49.92	$3.42	49.86	53.25	359.33	2.31	(17.97)	(12.20)	(24.51)	306.97	(8.64)	298.33	18.05
Totals FY 2010-16											(1.74)		(1.74)		(1.74)	(1.27)
Totals FY 2017-46			1254.70	1344.29	$57.79	1336.24	1425.92	5537.18	75.35	(276.86)	(291.57)	(410.76)	4633.33	(486.52)	4146.81	1246.09
Totals FY 2017-56			1716.63	1840.36		1831.18	1954.77	8747.71	97.67	(437.39)	(409.05)	(630.63)	7368.31	(551.09)	6817.22	1460.11

Footnotes

[1] Reflects the average revenue per passenger car equivalent based on time-of-day variable weekday & weekend toll structures.

[2] Annual volume of vehicles subject to tolls in each travel direction after ramp up adjustment; includes autos and trucks.

[3] Converts medium & large trucks to their passenger car equivalent (PCE) based on trucks paying 2x to 4x the auto toll.

[4] Excludes toll surcharge revenue assessed to customers without transponders for pay-by-plate (video tolling/license plate list).

[5] Pay-by-plate toll surcharge revenue assessed to capture the additional collection costs of video toll/license plate list payment.

[6] 5% deduction for credit card fees & revenue loss due to the net effects of evasion, processing errors & uncollectible accounts.

[7] Both toll collection O&M costs and toll systems R&R timing differ based on when tolling begins.

[8] Pre-completion facility O&M costs are assumed to be capitalized and/or included in existing maintenance budgets.

[9] Reflects the repayment of construction sales tax deferred during construction

* Nights from 11 PM to 5 AM are toll-free for pre-completion tolling (FY 2011-2016).

General Notes

– Demand is reduced for "ramp-up" in initial years as customers get accustomed to tolls.

– Toll rate escalation and O&M inflation, where applicable, is projected at 2.5% per year.

– Weekday segment tolls & all variable rate weekend tolls do not vary by scenario.

– Weekend daily auto & truck demand varies only between the one & two bridge cases.

SR 520 Toll Traffic & Revenue Projections — SR 520 Finance Plan and Tolling Implementation Committee Scenarios

Table 4-A.H TIC Scenario 4: Higher SR 520 Projection (Both SR 520 & I-90 Tolled by FY 2017)

	Fiscal Year	Weighted Average Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions Bridge Span (millions)[2]	Pass Car Equiv (PCE) Bridge Volumes (millions)[3]	Weighted Average Segment Toll Rate (one-way)[1]	Annual Segment Toll Transactions (millions)[2]	Pass Car Equiv (PCE) Segment Volumes (millions)[3]	Gross Toll Revenue Potential ($ millions)[4]	Plus: Pay-by-Plate Surcharge Revenue ($ millions)[5]	Less: Uncollectible Accounts/ Credit Fees ($ millions)[6]	Less: Toll Collection O&M Costs ($ millions)[7]	Less: Routine Facility O&M Costs ($ millions)[8]	Less: Sales Tax Deferral Repayment ($ millions)[9]	Net Toll Revenue Before Periodic R&R Costs ($ millions)	Less: Periodic Rehab & Repair Costs ($ millions)[7]	Net Toll Revenue After Periodic R&R Costs ($ millions)	FY 2011 NPV of Net Revenue Before R&R @ 6.5% ($ millions)
Pre-Completion*	2010										(7.48)			(7.48)		(7.48)	(7.97)
	2011	$2.38	21.28	21.80				51.79	4.08	(2.79)	(9.69)			43.39		43.39	43.39
	2012	$2.44	24.27	24.86				60.55	4.20	(3.24)	(10.31)			51.20		51.20	48.08
	2013	$2.50	27.30	27.97				69.82	4.21	(3.70)	(10.81)			59.51		59.51	52.47
	2014	$2.56	28.92	29.63				75.82	3.91	(3.99)	(10.74)			65.01		65.01	53.82
	2015	$2.62	29.10	29.83				78.23	3.38	(4.08)	(10.17)			67.35		67.35	52.36
	2016	$2.69	29.29	30.02				80.71	2.84	(4.18)	(9.60)			69.77	(2.50)	67.27	50.93
Post-Completion — Full Revenue Operations	2017	$2.67	35.04	36.18	$0.62	9.30	9.56	102.33	3.45	(5.29)	(13.43)	(5.90)		81.17		81.17	55.63
	2018	$2.73	37.16	38.35	$0.63	9.90	10.17	111.21	2.76	(5.70)	(13.04)	(6.05)		89.18	(1.02)	88.15	57.39
	2019	$2.80	37.43	38.62	$0.65	10.01	10.28	114.82	1.86	(5.83)	(12.07)	(6.20)		92.57		92.57	55.94
	2020	$2.87	37.70	38.89	$0.67	10.13	10.39	118.54	0.94	(5.97)	(11.07)	(6.35)		96.08		96.08	54.51
	2021	$2.94	37.97	39.16	$0.68	10.24	10.51	122.39	0.95	(6.17)	(11.17)	(6.51)		99.49	(5.02)	94.46	53.00
	2022	$3.02	38.25	39.44	$0.70	10.36	10.63	126.36	0.96	(6.37)	(11.27)	(6.68)	(25.51)	77.50	(0.49)	77.01	38.77
	2023	$3.09	38.52	39.72	$0.72	10.48	10.75	130.46	0.97	(6.57)	(11.38)	(6.84)	(25.51)	81.14	(8.11)	73.03	38.11
	2024	$3.17	38.80	40.00	$0.74	10.60	10.87	134.70	0.98	(6.78)	(11.75)	(7.01)	(25.51)	84.63	(11.28)	73.34	37.32
	2025	$3.25	39.09	40.28	$0.75	10.72	10.99	139.08	0.99	(7.00)	(11.86)	(7.19)	(25.51)	88.51		88.51	36.65
	2026	$3.33	39.37	40.56	$0.77	10.85	11.11	143.59	1.01	(7.23)	(11.97)	(7.37)	(25.51)	92.53	(2.50)	90.03	35.98
	2027	$3.41	39.65	40.85	$0.79	10.97	11.24	148.26	1.02	(7.46)	(12.08)	(7.55)	(25.51)	96.67	(7.49)	89.18	35.30
	2028	$3.50	39.94	41.14	$0.81	11.10	11.37	153.08	1.03	(7.71)	(12.19)	(7.74)	(25.51)	100.96	(4.13)	96.83	34.61
	2029	$3.58	40.23	41.43	$0.83	11.23	11.50	158.06	1.04	(7.95)	(12.31)	(7.94)	(25.51)	105.39	(4.24)	101.16	33.93
	2030	$3.67	40.53	41.72	$0.85	11.37	11.64	163.20	1.06	(8.21)	(12.42)	(8.13)	(25.51)	109.97	(4.34)	105.63	33.24
	2031	$3.77	40.67	41.87	$0.87	11.43	11.70	167.89	1.06	(8.45)	(12.82)	(8.34)	(25.51)	113.84	(29.10)	84.74	32.31
	2032	$3.86	40.82	42.02	$0.90	11.50	11.77	172.72	1.07	(8.69)	(12.90)	(8.55)		143.65	(0.62)	143.03	38.28
	2033	$3.96	40.97	42.17	$0.92	11.57	11.84	177.69	1.08	(8.94)	(12.99)	(8.76)		148.08		148.08	37.05
	2034	$4.05	41.12	42.32	$0.94	11.64	11.91	182.80	1.09	(9.19)	(13.07)	(8.98)		152.64		152.64	35.86
	2035	$4.16	41.27	42.46	$0.96	11.71	11.98	188.06	1.10	(9.46)	(13.16)	(9.20)		157.34	(10.91)	146.43	34.71
	2036	$4.26	41.42	42.62	$0.99	11.78	12.05	193.47	1.11	(9.73)	(13.25)	(9.43)		162.17	(2.50)	159.67	33.59
	2037	$4.37	41.57	42.77	$1.01	11.85	12.12	199.04	1.12	(10.01)	(13.34)	(9.67)		167.14	(30.11)	137.03	32.51
	2038	$4.48	41.72	42.92	$1.04	11.92	12.20	204.76	1.13	(10.29)	(13.81)	(9.91)		171.88	(15.94)	155.94	31.39
	2039	$4.59	41.87	43.07	$1.07	11.99	12.27	210.66	1.14	(10.59)	(13.90)	(10.16)		177.15		177.15	30.38
	2040	$4.70	42.02	43.22	$1.09	12.07	12.34	216.72	1.15	(10.89)	(13.99)	(10.41)		182.57		182.57	29.40
	2041	$4.82	42.02	43.22	$1.12	12.07	12.34	222.14	1.15	(11.16)	(14.05)	(10.67)		187.40	(12.34)	175.07	28.33
	2042	$4.94	42.02	43.22	$1.15	12.07	12.34	227.69	1.16	(11.44)	(14.10)	(10.94)		192.36	(18.26)	174.10	27.31
	2043	$5.06	42.02	43.22	$1.18	12.07	12.34	233.38	1.16	(11.73)	(14.16)	(11.21)		197.45	(5.99)	191.46	26.32
	2044	$5.19	42.02	43.22	$1.21	12.07	12.34	239.22	1.17	(12.02)	(14.22)	(11.49)		202.65	(6.14)	196.52	25.36
	2045	$5.32	42.02	43.22	$1.24	12.07	12.34	245.20	1.18	(12.32)	(14.73)	(11.78)		207.54	(33.02)	174.53	24.39
	2046	$5.45	42.02	43.22	$1.27	12.07	12.34	251.33	1.18	(12.63)	(14.79)	(12.08)		213.02	(2.50)	210.52	23.51
	2047	$5.59	42.02	43.22	$1.30	12.07	12.34	257.61	1.19	(12.94)	(14.86)	(12.38)		218.63	(20.34)	198.29	22.65
	2048	$5.73	42.02	43.22	$1.33	12.07	12.34	264.05	1.19	(13.26)	(14.92)	(12.69)		224.38		224.38	21.83
	2049	$5.87	42.02	43.22	$1.36	12.07	12.34	270.65	1.20	(13.59)	(14.99)	(13.00)		230.27		230.27	21.04
	2050	$6.02	42.02	43.22	$1.40	12.07	12.34	277.42	1.21	(13.93)	(15.06)	(13.33)		236.31		236.31	20.27
	2051	$6.17	42.02	43.22	$1.43	12.07	12.34	284.35	1.22	(14.28)	(15.13)	(13.66)		242.50	(7.79)	234.71	19.53
	2052	$6.32	42.02	43.22	$1.47	12.07	12.34	291.46	1.22	(14.63)	(15.73)	(14.00)		248.31	(23.55)	224.77	18.78
	2053	$6.48	42.02	43.22	$1.51	12.07	12.34	298.75	1.23	(15.00)	(15.81)	(14.35)		254.82		254.82	18.09
	2054	$6.64	42.02	43.22	$1.54	12.07	12.34	306.22	1.24	(15.37)	(15.88)	(14.71)		261.49		261.49	17.43
	2055	$6.81	42.02	43.22	$1.58	12.07	12.34	313.87	1.24	(15.76)	(15.96)	(15.08)		268.32	(8.05)	260.27	16.80
	2056	$6.98	42.02	43.22	$1.62	12.07	12.34	321.72	1.25	(16.15)	(16.04)	(15.46)		275.33	(10.75)	264.58	16.19
Totals FY 2010-16			160.16	164.11				416.92	22.62	(21.98)	(68.80)			348.76	(2.50)	346.26	293.07
Totals FY 2017-46			1205.27	1241.10	$27.16	337.13	345.24	5198.82	37.08	(261.79)	(387.28)	(259.07)	(255.08)	4072.67	(216.05)	3856.61	1091.04
Totals FY 2017-56			1625.50	1673.31		457.81	468.65	8084.93	49.27	(406.71)	(541.65)	(397.75)	(255.08)	6533.03	(286.54)	6246.49	1283.65

Footnotes

[1] Reflects the average revenue per passenger car equivalent based on time-of-day variable weekday & weekend toll structures.

[2] Annual volume of vehicles subject to tolls in each travel direction after ramp up adjustment; includes autos and trucks.

[3] Converts medium & large trucks to their passenger car equivalent (PCE) based on trucks paying 2x to 4x the auto toll.

[4] Excludes toll surcharge revenue assessed to customers without transponders for pay-by-plate (video tolling/license plate list).

[5] Pay-by-plate toll surcharge revenue assessed to capture the additional collection costs of video toll/license plate list payment.

[6] 5% deduction for credit card fees & for revenue loss due to the net effects of evasion, processing errors & uncollectible accounts.

[7] Both toll collection O&M costs and toll systems R&R timing differ based on when tolling begins.

[8] Pre-completion facility O&M costs are assumed to be capitalized and/or included in existing maintenance budgets.

[9] Reflects the repayment of construction sales tax deferred during construction

* Nights from 11 PM to 5 AM are toll-free for pre-completion tolling (FY 2011-2016).

General Notes

– Demand is reduced for "ramp-up" in initial years as customers get accustomed to tolls.

– Toll rate escalation and O&M inflation, where applicable, is projected at 2.5% per year.

– Weekday segment tolls & all variable rate weekend tolls do not vary by scenario.

– Weekend daily auto & truck demand varies only between the one & two bridge cases.

I-90 Toll Traffic & Revenue Projections — SR 520 Finance Plan and Tolling Implementation Committee Scenarios

Table 4-B.H TIC Scenario 4: Higher I-90 Projection (Both SR 520 & I-90 Tolled by FY 2017)

	Fiscal Year	Weighted Average West Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions West Bridge (millions)[2]	Pass Car Equiv (PCE) West Bridge Volumes (millions)[3]	Weighted Average East Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions East Bridge (millions)[2]	Pass Car Equiv (PCE) East Bridge Volumes (millions)[3]	Gross Toll Revenue Potential ($ millions)[4]	Plus: Pay-by-Plate Surcharge Revenue ($ millions)[5]	Less: Uncollectible Accounts/ Credit Fees ($ millions)[6]	Less: Toll Collection O&M Costs ($ millions)[7]	Less: Routine Facility O&M Costs ($ millions)[8]	Net Toll Revenue Before Periodic R&R Costs ($ millions)	Less: Periodic Rehab & Repair Costs ($ millions)[7]	Net Toll Revenue After Periodic R&R Costs ($ millions)	FY 2011 NPV of Net Revenue Before R&R @ 6.5% ($ millions)
Pre-Completion*	2010															
	2011															
	2012															
	2013															
	2014															
	2015															
	2016										(1.74)		(1.74)		(1.74)	(1.27)
Post-Completion — Full Revenue Operations	2017	$1.37	32.05	34.10	$1.32	33.77	35.85	94.07	5.92	(4.70)	(9.34)	(9.36)	76.58	(0.03)	76.55	52.49
	2018	$1.40	36.30	38.63	$1.35	38.27	40.65	109.27	5.98	(5.46)	(9.59)	(9.59)	90.60	(0.67)	89.93	58.30
	2019	$1.44	38.71	41.23	$1.39	40.86	43.41	119.55	5.60	(5.98)	(9.26)	(9.83)	100.09	(0.49)	99.60	60.48
	2020	$1.47	39.23	41.80	$1.42	41.44	44.04	124.25	4.89	(6.21)	(8.44)	(10.08)	104.41	(7.58)	96.83	59.24
	2021	$1.51	39.75	42.37	$1.46	42.02	44.68	129.15	4.14	(6.46)	(8.58)	(10.33)	107.93	(1.76)	106.17	57.49
	2022	$1.55	40.27	42.96	$1.49	42.61	45.33	134.23	3.37	(6.71)	(8.71)	(10.59)	111.59	(0.27)	111.32	55.82
	2023	$1.59	40.81	43.55	$1.53	43.22	45.99	139.52	2.57	(6.98)	(8.85)	(10.85)	115.41	(7.84)	107.57	54.21
	2024	$1.63	41.35	44.16	$1.57	43.83	46.66	145.01	1.74	(7.25)	(9.05)	(11.12)	119.34	(2.62)	116.71	52.63
	2025	$1.67	41.89	44.77	$1.61	44.44	47.34	150.73	1.78	(7.54)	(9.20)	(11.40)	124.37		124.37	51.50
	2026	$1.71	42.45	45.39	$1.65	45.07	48.03	156.67	1.81	(7.83)	(9.34)	(11.68)	129.61		129.61	50.40
	2027	$1.75	43.01	46.02	$1.69	45.71	48.73	162.84	1.84	(8.14)	(9.49)	(11.98)	135.07	(4.97)	130.09	49.31
	2028	$1.80	43.58	46.65	$1.73	46.36	49.44	169.26	1.87	(8.46)	(9.64)	(12.28)	140.74	(5.22)	135.53	48.25
	2029	$1.84	44.16	47.30	$1.77	47.01	50.16	175.93	1.90	(8.80)	(9.80)	(12.58)	146.65	(4.43)	142.22	47.21
	2030	$1.89	44.75	47.96	$1.82	47.68	50.89	182.86	1.94	(9.14)	(9.96)	(12.90)	152.80	(9.11)	143.70	46.18
	2031	$1.93	45.04	48.29	$1.86	48.01	51.26	188.75	1.96	(9.44)	(10.13)	(13.22)	157.93	(9.73)	148.20	44.82
	2032	$1.98	45.34	48.63	$1.91	48.35	51.63	194.83	1.98	(9.74)	(10.23)	(13.55)	163.29	(0.31)	162.98	43.51
	2033	$2.03	45.64	48.97	$1.95	48.69	52.01	201.11	2.00	(10.06)	(10.33)	(13.89)	168.83	(8.69)	160.15	42.24
	2034	$2.08	45.95	49.31	$2.00	49.04	52.39	207.59	2.03	(10.38)	(10.44)	(14.24)	174.56	(1.84)	172.71	41.01
	2035	$2.13	46.25	49.65	$2.05	49.38	52.77	214.28	2.05	(10.71)	(10.55)	(14.59)	180.47	(14.81)	165.67	39.81
	2036	$2.19	46.56	49.99	$2.10	49.73	53.16	221.18	2.07	(11.06)	(10.66)	(14.96)	186.58	(0.12)	186.46	38.65
	2037	$2.24	46.87	50.34	$2.16	50.08	53.54	228.31	2.10	(11.42)	(10.77)	(15.33)	192.89	(2.81)	190.08	37.52
	2038	$2.30	47.18	50.69	$2.21	50.44	53.93	235.66	2.12	(11.78)	(10.96)	(15.71)	199.32	(5.99)	193.33	36.40
	2039	$2.36	47.49	51.05	$2.26	50.80	54.33	243.26	2.15	(12.16)	(11.08)	(16.11)	206.05	(15.76)	190.30	35.33
	2040	$2.41	47.81	51.40	$2.32	51.15	54.72	251.10	2.17	(12.55)	(11.20)	(16.51)	213.00	(165.91)	47.09	34.30
	2041	$2.47	47.88	51.47	$2.38	51.23	54.80	257.60	2.18	(12.88)	(11.27)	(16.92)	218.71	(174.39)	44.33	33.07
	2042	$2.53	47.95	51.54	$2.44	51.31	54.88	264.27	2.20	(13.21)	(11.33)	(17.35)	224.57	(6.39)	218.18	31.88
	2043	$2.60	48.01	51.61	$2.49	51.39	54.96	271.12	2.21	(13.56)	(11.41)	(17.78)	230.59	(17.39)	213.20	30.74
	2044	$2.66	48.08	51.68	$2.56	51.47	55.04	278.14	2.23	(13.91)	(11.48)	(18.22)	236.76	(6.82)	229.94	29.63
	2045	$2.72	48.15	51.75	$2.62	51.55	55.12	285.35	2.24	(14.27)	(11.65)	(18.68)	243.00	(10.57)	232.43	28.56
	2046	$2.79	48.23	51.82	$2.68	51.64	55.21	292.75	2.26	(14.64)	(11.72)	(19.15)	249.50		249.50	27.53
	2047	$2.86	48.30	51.89	$2.75	51.72	55.29	300.34	2.27	(15.02)	(11.80)	(19.63)	256.17	(1.24)	254.93	26.54
	2048	$2.93	48.37	51.96	$2.82	51.80	55.37	308.13	2.29	(15.41)	(11.88)	(20.12)	263.02	(1.46)	261.56	25.59
	2049	$3.00	48.44	52.03	$2.88	51.89	55.45	316.12	2.31	(15.81)	(11.96)	(20.62)	270.04	(2.82)	267.22	24.67
	2050	$3.07	48.51	52.11	$2.95	51.97	55.54	324.32	2.32	(16.22)	(12.04)	(21.13)	277.25	(15.90)	261.35	23.78
	2051	$3.15	48.59	52.18	$3.03	52.05	55.62	332.74	2.34	(16.64)	(12.13)	(21.66)	284.65	(3.69)	280.96	22.93
	2052	$3.23	48.66	52.25	$3.10	52.14	55.71	341.38	2.36	(17.07)	(12.33)	(22.20)	292.13	(5.31)	286.82	22.09
	2053	$3.31	48.73	52.33	$3.18	52.22	55.79	350.24	2.38	(17.51)	(12.42)	(22.76)	299.93	(16.45)	283.48	21.30
	2054	$3.39	48.81	52.40	$3.25	52.31	55.88	359.33	2.39	(17.97)	(12.51)	(23.33)	307.93		307.93	20.53
	2055	$3.47	48.88	52.48	$3.33	52.40	55.97	368.67	2.41	(18.43)	(12.60)	(23.91)	316.13	(9.08)	307.06	19.79
	2056	$3.55	48.96	52.55	$3.42	52.49	56.05	378.24	2.43	(18.91)	(12.69)	(24.51)	324.56	(8.64)	315.92	19.08
Totals FY 2010-16											(1.74)		(1.74)		(1.74)	(1.27)
Totals FY 2017-46			1320.74	1415.05	$57.79	1406.57	1500.97	5828.61	79.31	(291.43)	(304.47)	(410.76)	4901.26	(486.52)	4414.74	1318.50
Totals FY 2017-56			1806.98	1937.22		1927.56	2057.65	9208.11	102.81	(460.41)	(426.82)	(630.63)	7793.07	(551.09)	7241.98	1544.80

Footnotes

[1] Reflects the average revenue per passenger car equivalent based on time-of-day variable weekday & weekend toll structures.

[2] Annual volume of vehicles subject to tolls in each travel direction after ramp up adjustment; includes autos and trucks.

[3] Converts medium & large trucks to their passenger car equivalent (PCE) based on trucks paying 2x to 4x the auto toll.

[4] Excludes toll surcharge revenue assessed to customers without transponders for pay-by-plate (video tolling/license plate list).

[5] Pay-by-plate toll surcharge revenue assessed to capture the additional collection costs of video toll/license plate list payment.

[6] 5% deduction for credit card fees & revenue loss due to the net effects of evasion, processing errors & uncollectible accounts.

[7] Both toll collection O&M costs and toll systems R&R timing differ based on when tolling begins.

[8] Pre-completion facility O&M costs are assumed to be capitalized and/or included in existing maintenance budgets.

[9] Reflects the repayment of construction sales tax deferred during construction

* Nights from 11 PM to 5 AM are toll-free for pre-completion tolling (FY 2011-2016).

General Notes

– Demand is reduced for "ramp-up" in initial years as customers get accustomed to tolls.

– Toll rate escalation and O&M inflation, where applicable, is projected at 2.5% per year.

– Weekday segment tolls & all variable rate weekend tolls do not vary by scenario.

– Weekend daily auto & truck demand varies only between the one & two bridge cases.

SR 520 Toll Traffic & Revenue Projections — SR 520 Finance Plan and Tolling Implementation Committee Scenarios

Table 5-A.M TIC Scenario 5: Mid SR 520 Projection (Only SR 520 Tolled)

	Fiscal Year	Weighted Average Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions Bridge Span (millions)[2]	Pass Car Equiv (PCE) Bridge Volumes (millions)[3]	Weighted Average Segment Toll Rate (one-way)[1]	Annual Segment Toll Transactions (millions)[2]	Pass Car Equiv (PCE) Segment Volumes (millions)[3]	Gross Toll Revenue Potential ($ millions)[4]	Plus: Pay-by-Plate Surcharge Revenue ($ millions)[5]	Less: Uncollectible Accounts/ Credit Fees ($ millions)[6]	Less: Toll Collection O&M Costs ($ millions)[7]	Less: Routine Facility O&M Costs ($ millions)[8]	Less: Sales Tax Deferral Repayment ($ millions)[9]	Net Toll Revenue Before Periodic R&R Costs ($ millions)	Less: Periodic Rehab & Repair Costs ($ millions)[7]	Net Toll Revenue After Periodic R&R Costs ($ millions)	FY 2011 NPV of Net Revenue Before R&R @ 6.5% ($ millions)
Pre-Completion*	2010																
	2011																
	2012																
	2013																
	2014																
	2015																
	2016										(8.68)			(8.68)		(8.68)	(6.33)
Post-Completion — Full Revenue Operations	2017	$2.15	25.43	26.12				56.16	4.95	(3.06)	(11.55)	(5.90)		40.60		40.60	27.83
	2018	$2.20	28.64	29.42				64.82	4.75	(3.48)	(11.84)	(6.05)		48.21	(1.02)	47.18	31.02
	2019	$2.26	30.37	31.20				70.47	4.17	(3.73)	(11.45)	(6.20)		53.26		53.26	32.18
	2020	$2.32	30.60	31.43				72.78	3.31	(3.80)	(10.51)	(6.35)		55.42		55.42	31.44
	2021	$2.37	30.84	31.67				75.16	2.43	(3.88)	(9.55)	(6.51)		57.65	(5.02)	52.63	30.71
	2022	$2.43	31.07	31.91				77.63	1.54	(3.96)	(8.57)	(6.68)	(25.51)	34.45	(0.49)	33.96	17.23
	2023	$2.49	31.31	32.15				80.17	0.62	(4.04)	(7.57)	(6.84)	(25.51)	36.83	(8.11)	28.72	17.30
	2024	$2.56	31.54	32.40				82.80	0.63	(4.17)	(7.69)	(7.01)	(25.51)	39.04	(1.19)	37.85	17.22
	2025	$2.62	31.78	32.64				85.51	0.63	(4.31)	(7.78)	(7.19)	(25.51)	41.36		41.36	17.13
	2026	$2.69	32.03	32.89				88.31	0.64	(4.45)	(7.87)	(7.37)	(25.51)	43.76	(2.50)	41.26	17.01
	2027	$2.75	32.27	33.14				91.20	0.65	(4.59)	(7.96)	(7.55)	(25.51)	46.24	(7.49)	38.75	16.88
	2028	$2.82	32.52	33.39				94.19	0.66	(4.74)	(8.06)	(7.74)	(25.51)	48.80	(4.13)	44.67	16.73
	2029	$2.89	32.76	33.64				97.28	0.66	(4.90)	(8.15)	(7.94)	(25.51)	51.45	(4.24)	47.21	16.56
	2030	$2.96	33.01	33.90				100.46	0.67	(5.06)	(8.25)	(8.13)	(25.51)	54.19	(4.34)	49.84	16.38
	2031	$3.04	33.14	34.03				103.37	0.68	(5.20)	(8.36)	(8.34)	(25.51)	56.63	(17.10)	39.54	16.07
	2032	$3.11	33.26	34.15				106.35	0.68	(5.35)	(8.44)	(8.55)		84.70	(0.62)	84.07	22.57
	2033	$3.19	33.39	34.28				109.42	0.69	(5.51)	(8.52)	(8.76)		87.33		87.33	21.85
	2034	$3.27	33.52	34.41				112.58	0.69	(5.66)	(8.60)	(8.98)		90.03		90.03	21.15
	2035	$3.35	33.64	34.54				115.83	0.70	(5.83)	(8.68)	(9.20)		92.82	(10.91)	81.91	20.48
	2036	$3.44	33.77	34.67				119.18	0.70	(5.99)	(8.77)	(9.43)		95.69	(2.50)	93.19	19.82
	2037	$3.52	33.90	34.81				122.62	0.71	(6.17)	(8.85)	(9.67)		98.64	(30.11)	68.53	19.19
	2038	$3.61	34.03	34.94				126.16	0.72	(6.34)	(8.98)	(9.91)		101.64	(1.68)	99.96	18.56
	2039	$3.70	34.16	35.07				129.81	0.72	(6.53)	(9.07)	(10.16)		104.77		104.77	17.97
	2040	$3.79	34.29	35.20				133.56	0.73	(6.71)	(9.16)	(10.41)		107.99		107.99	17.39
	2041	$3.89	34.29	35.20				136.89	0.73	(6.88)	(9.23)	(10.67)		110.84	(12.34)	98.50	16.76
	2042	$3.99	34.29	35.20				140.32	0.73	(7.05)	(9.31)	(10.94)		113.75	(18.26)	95.49	16.15
	2043	$4.09	34.29	35.20				143.82	0.74	(7.23)	(9.38)	(11.21)		116.74	(5.99)	110.75	15.56
	2044	$4.19	34.29	35.20				147.42	0.74	(7.41)	(9.46)	(11.49)		119.80	(6.14)	113.67	14.99
	2045	$4.29	34.29	35.20				151.11	0.75	(7.59)	(9.58)	(11.78)		122.90	(16.06)	106.84	14.44
	2046	$4.40	34.29	35.20				154.88	0.75	(7.78)	(9.66)	(12.08)		126.12	(2.50)	123.62	13.92
	2047	$4.51	34.29	35.20				158.76	0.75	(7.98)	(9.74)	(12.38)		129.41	(20.34)	109.08	13.41
	2048	$4.62	34.29	35.20				162.72	0.76	(8.17)	(9.82)	(12.69)		132.80		132.80	12.92
	2049	$4.74	34.29	35.20				166.79	0.76	(8.38)	(9.91)	(13.00)		136.26		136.26	12.45
	2050	$4.86	34.29	35.20				170.96	0.77	(8.59)	(10.00)	(13.33)		139.82		139.82	11.99
	2051	$4.98	34.29	35.20				175.24	0.77	(8.80)	(10.09)	(13.66)		143.46	(7.79)	135.66	11.55
	2052	$5.10	34.29	35.20				179.62	0.77	(9.02)	(10.23)	(14.00)		147.13	(3.39)	143.74	11.13
	2053	$5.23	34.29	35.20				184.11	0.78	(9.24)	(10.33)	(14.35)		150.96		150.96	10.72
	2054	$5.36	34.29	35.20				188.71	0.78	(9.47)	(10.43)	(14.71)		154.88		154.88	10.33
	2055	$5.49	34.29	35.20				193.43	0.79	(9.71)	(10.52)	(15.08)		158.90	(8.05)	150.85	9.95
	2056	$5.63	34.29	35.20				198.26	0.79	(9.95)	(10.63)	(15.46)		163.02	(10.75)	152.27	9.58
Totals FY 2010-16											(8.68)			(8.68)		(8.68)	(6.33)
Totals FY 2017-46			977.01	1003.23				3190.27	37.77	(161.40)	(270.84)	(259.07)	(255.08)	2281.64	(162.74)	2118.90	592.49
Totals FY 2017-56			1319.90	1355.25				4968.86	45.50	(250.72)	(372.54)	(397.75)	(255.08)	3738.28	(213.07)	3525.21	706.52

Footnotes

[1] Reflects the average revenue per passenger car equivalent based on time-of-day variable weekday & weekend toll structures.

[2] Annual volume of vehicles subject to tolls in each travel direction after ramp up adjustment; includes autos and trucks.

[3] Converts medium & large trucks to their passenger car equivalent (PCE) based on trucks paying 2x to 4x the auto toll.

[4] Excludes toll surcharge revenue assessed to customers without transponders for pay-by-plate (video tolling/license plate list).

[5] Pay-by-plate toll surcharge revenue assessed to capture the additional collection costs of video toll/license plate list payment.

[6] 5% deduction for credit card fees & for revenue loss due to the net effects of evasion, processing errors & uncollectible accounts.

[7] Both toll collection O&M costs and toll systems R&R timing differ based on when tolling begins.

[8] Pre-completion facility O&M costs are assumed to be capitalized and/or included in existing maintenance budgets.

[9] Reflects the repayment of construction sales tax deferred during construction

* Nights from 11 PM to 5 AM are toll-free for pre-completion tolling (FY 2011-2016).

General Notes

– Demand is reduced for "ramp-up" in initial years as customers get accustomed to tolls.

– Toll rate escalation and O&M inflation, where applicable, is projected at 2.5% per year.

– Weekday segment tolls & all variable rate weekend tolls do not vary by scenario.

– Weekend daily autos & trucks under variable tolls differs only between the 1 & 2 bridge cases.

SR 520 Toll Traffic & Revenue Projections — SR 520 Finance Plan and Tolling Implementation Committee Scenarios

Table 6-A.M TIC Scenario 6: Mid SR 520 Projection (Only SR 520 Tolled)

	Fiscal Year	Weighted Average Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions Bridge Span (millions)[2]	Pass Car Equiv (PCE) Bridge Volumes (millions)[3]	Weighted Average Segment Toll Rate (one-way)[1]	Annual Segment Toll Transactions (millions)[2]	Pass Car Equiv (PCE) Segment Volumes (millions)[3]	Gross Toll Revenue Potential ($ millions)[4]	Plus: Pay-by-Plate Surcharge Revenue ($ millions)[5]	Less: Uncollectible Accounts/ Credit Fees ($ millions)[6]	Less: Toll Collection O&M Costs ($ millions)[7]	Less: Routine Facility O&M Costs ($ millions)[8]	Less: Sales Tax Deferral Repayment ($ millions)[9]	Net Toll Revenue Before Periodic R&R Costs ($ millions)	Less: Periodic Rehab & Repair Costs ($ millions)[7]	Net Toll Revenue After Periodic R&R Costs ($ millions)	FY 2011 NPV of Net Revenue Before R&R @ 6.5% ($ millions)
Pre-Completion*	2010										(7.48)			(7.48)		(7.48)	(7.97)
	2011	$2.61	20.18	20.80				54.25	3.87	(2.91)	(9.27)			45.94		45.94	45.94
	2012	$2.67	23.03	23.74				63.45	3.98	(3.37)	(9.87)			54.20		54.20	50.89
	2013	$2.74	25.91	26.72				73.20	3.99	(3.86)	(10.35)			62.98		62.98	55.53
	2014	$2.81	27.47	28.32				79.52	3.71	(4.16)	(10.28)			68.79		68.79	56.95
	2015	$2.88	27.65	28.51				82.08	3.21	(4.26)	(9.75)			71.27		71.27	55.40
	2016	$2.95	27.85	28.71				84.72	2.70	(4.37)	(9.21)			73.83	(2.50)	71.33	53.89
Post-Completion — Full Revenue Operations	2017	$3.74	26.36	27.10	$0.62	9.55	9.79	107.34	2.80	(5.51)	(11.88)	(5.90)		86.85		86.85	59.52
	2018	$3.83	27.96	28.74	$0.64	10.18	10.43	116.72	2.23	(5.95)	(11.59)	(6.05)		95.36	(1.02)	94.34	61.37
	2019	$3.92	28.17	28.96	$0.65	10.30	10.55	120.57	1.51	(6.10)	(10.83)	(6.20)		98.95		98.95	59.79
	2020	$4.02	28.38	29.18	$0.67	10.42	10.67	124.55	0.76	(6.27)	(10.04)	(6.35)		102.65		102.65	58.24
	2021	$4.12	28.60	29.41	$0.69	10.55	10.80	128.66	0.77	(6.47)	(10.14)	(6.51)		106.30	(5.02)	101.28	56.63
	2022	$4.23	28.82	29.63	$0.70	10.68	10.93	132.91	0.78	(6.68)	(10.25)	(6.68)	(25.51)	84.57	(0.49)	84.08	42.30
	2023	$4.33	29.04	29.86	$0.72	10.81	11.06	137.30	0.79	(6.90)	(10.36)	(6.84)	(25.51)	88.47	(8.11)	80.36	41.55
	2024	$4.44	29.26	30.08	$0.74	10.94	11.20	141.83	0.80	(7.13)	(10.74)	(7.01)	(25.51)	92.24	(11.28)	80.96	40.68
	2025	$4.55	29.48	30.31	$0.76	11.07	11.33	146.52	0.81	(7.37)	(10.85)	(7.19)	(25.51)	96.41		96.41	39.92
	2026	$4.66	29.71	30.54	$0.78	11.21	11.47	151.36	0.82	(7.61)	(10.96)	(7.37)	(25.51)	100.73	(2.50)	98.23	39.17
	2027	$4.78	29.93	30.78	$0.80	11.35	11.61	156.36	0.83	(7.86)	(11.08)	(7.55)	(25.51)	105.19	(7.49)	97.70	38.40
	2028	$4.90	30.16	31.01	$0.82	11.49	11.75	161.52	0.84	(8.12)	(11.20)	(7.74)	(25.51)	109.80	(4.13)	105.66	37.64
	2029	$5.02	30.39	31.25	$0.84	11.63	11.90	166.86	0.85	(8.39)	(11.32)	(7.94)	(25.51)	114.56	(4.24)	110.33	36.88
	2030	$5.15	30.62	31.49	$0.86	11.78	12.05	172.38	0.86	(8.66)	(11.44)	(8.13)	(25.51)	119.49	(4.34)	115.15	36.12
	2031	$5.27	30.74	31.61	$0.88	11.86	12.12	177.38	0.87	(8.91)	(11.85)	(8.34)	(25.51)	123.64	(29.10)	94.54	35.09
	2032	$5.41	30.86	31.73	$0.90	11.93	12.20	182.53	0.88	(9.17)	(11.95)	(8.55)		153.74	(0.62)	153.12	40.97
	2033	$5.54	30.98	31.85	$0.93	12.01	12.27	187.83	0.88	(9.44)	(12.04)	(8.76)		158.48		158.48	39.65
	2034	$5.68	31.09	31.97	$0.95	12.08	12.35	193.28	0.89	(9.71)	(12.14)	(8.98)		163.35		163.35	38.38
	2035	$5.82	31.21	32.09	$0.97	12.16	12.43	198.90	0.90	(9.99)	(12.24)	(9.20)		168.37	(10.91)	157.46	37.14
	2036	$5.97	31.33	32.22	$1.00	12.24	12.51	204.67	0.91	(10.28)	(12.34)	(9.43)		173.53	(2.50)	171.03	35.94
	2037	$6.11	31.45	32.34	$1.02	12.32	12.58	210.62	0.92	(10.58)	(12.44)	(9.67)		178.85	(30.11)	148.74	34.78
	2038	$6.27	31.57	32.46	$1.05	12.39	12.66	216.73	0.92	(10.88)	(12.92)	(9.91)		183.94	(15.94)	168.00	33.59
	2039	$6.42	31.69	32.59	$1.08	12.47	12.74	223.03	0.93	(11.20)	(13.03)	(10.16)		189.57		189.57	32.51
	2040	$6.58	31.81	32.71	$1.10	12.55	12.83	229.50	0.94	(11.52)	(13.14)	(10.41)		195.37		195.37	31.46
	2041	$6.75	31.81	32.71	$1.13	12.55	12.83	235.24	0.95	(11.81)	(13.21)	(10.67)		200.49	(12.34)	188.16	30.31
	2042	$6.92	31.81	32.71	$1.16	12.55	12.83	241.12	0.95	(12.10)	(13.29)	(10.94)		205.74	(18.26)	187.47	29.21
	2043	$7.09	31.81	32.71	$1.19	12.55	12.83	247.15	0.95	(12.41)	(13.37)	(11.21)		211.12	(5.99)	205.13	28.14
	2044	$7.27	31.81	32.71	$1.22	12.55	12.83	253.33	0.96	(12.71)	(13.45)	(11.49)		216.63	(6.14)	210.50	27.11
	2045	$7.45	31.81	32.71	$1.25	12.55	12.83	259.66	0.96	(13.03)	(13.98)	(11.78)		221.83	(33.02)	188.82	26.07
	2046	$7.64	31.81	32.71	$1.28	12.55	12.83	266.15	0.97	(13.36)	(14.06)	(12.08)		227.63	(2.50)	225.13	25.12
	2047	$7.83	31.81	32.71	$1.31	12.55	12.83	272.81	0.97	(13.69)	(14.15)	(12.38)		233.57	(20.34)	213.23	24.20
	2048	$8.02	31.81	32.71	$1.34	12.55	12.83	279.63	0.98	(14.03)	(14.24)	(12.69)		239.65		239.65	23.32
	2049	$8.22	31.81	32.71	$1.38	12.55	12.83	286.62	0.99	(14.38)	(14.33)	(13.00)		245.89		245.89	22.46
	2050	$8.43	31.81	32.71	$1.41	12.55	12.83	293.78	0.99	(14.74)	(14.42)	(13.33)		252.29		252.29	21.64
	2051	$8.64	31.81	32.71	$1.45	12.55	12.83	301.13	1.00	(15.11)	(14.51)	(13.66)		258.84	(7.79)	251.05	20.85
	2052	$8.85	31.81	32.71	$1.48	12.55	12.83	308.66	1.00	(15.48)	(15.15)	(14.00)		265.03	(23.55)	241.48	20.04
	2053	$9.08	31.81	32.71	$1.52	12.55	12.83	316.37	1.01	(15.87)	(15.24)	(14.35)		271.91		271.91	19.31
	2054	$9.30	31.81	32.71	$1.56	12.55	12.83	324.28	1.01	(16.26)	(15.35)	(14.71)		278.97		278.97	18.60
	2055	$9.54	31.81	32.71	$1.60	12.55	12.83	332.39	1.02	(16.67)	(15.45)	(15.08)		286.21	(8.05)	278.15	17.92
	2056	$9.77	31.81	32.71	$1.64	12.55	12.83	340.70	1.03	(17.09)	(15.56)	(15.46)		293.62	(10.75)	282.87	17.26
Totals FY 2010-16			152.08	156.79				437.21	21.47	(22.93)	(66.22)			369.53	(2.50)	367.03	310.63
Totals FY 2017-46			910.51	936.17	$27.39	349.30	357.17	5491.98	30.25	(276.11)	(358.13)	(259.07)	(255.08)	4373.85	(216.05)	4157.79	1173.68
Totals FY 2017-56			1228.63	1263.26		474.84	485.42	8548.33	40.25	(429.43)	(506.51)	(397.75)	(255.08)	6999.83	(286.54)	6713.29	1379.28

Footnotes

[1] Reflects the average revenue per passenger car equivalent based on time-of-day variable weekday & weekend toll structures.

[2] Annual volume of vehicles subject to tolls in each travel direction after ramp up adjustment; includes autos and trucks.

[3] Converts medium & large trucks to their passenger car equivalent (PCE) based on trucks paying 2x to 4x the auto toll.

[4] Excludes toll surcharge revenue assessed to customers without transponders for pay-by-plate (video tolling/license plate list).

[5] Pay-by-plate toll surcharge revenue assessed to capture the additional collection costs of video toll/license plate list payment.

[6] 5% deduction for credit card fees & for revenue loss due to the net effects of evasion, processing errors & uncollectible accounts.

[7] Both toll collection O&M costs and toll systems R&R timing differ based on when tolling begins.

[8] Pre-completion facility O&M costs are assumed to be capitalized and/or included in existing maintenance budgets.

[9] Reflects the repayment of construction sales tax deferred during construction

* Nights from 11 PM to 5 AM are toll-free for pre-completion tolling (FY 2011-2016).

General Notes

– Transit buses are charged 2x the auto toll under Scenario 6.

– Demand is reduced for "ramp-up" in initial years as customers get accustomed to tolls.

– Toll rate escalation and O&M inflation, where applicable, is projected at 2.5% per year.

– Weekday segment tolls & all variable rate weekend tolls do not vary by scenario.

– Weekend daily autos & trucks under variable tolls differs only between the 1 & 2 bridge cases.

SR 520 Toll Traffic & Revenue Projections — SR 520 Finance Plan

Table 6-A.M TIC Scenario 6: Mid SR 520 Projection (Only SR 520 Tolled) — December 2008 Update

	Fiscal Year	Weighted Average Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions Bridge Span (millions)[2]	Pass Car Equiv (PCE) Bridge Volumes (millions)[3]	Weighted Average Segment Toll Rate (one-way)[1]	Annual Segment Toll Transactions (millions)[2]	Pass Car Equiv (PCE) Segment Volumes (millions)[3]	Gross Toll Revenue Potential ($ millions)[4]	Plus: Pay-by-Plate Surcharge Revenue ($ millions)[5]	Less: Uncollectible Accounts/ Credit Fees ($ millions)[6]	Less: Toll Collection O&M Costs ($ millions)[7]	Less: Routine Facility O&M Costs ($ millions)[8]	Less: Sales Tax Deferral Repayment ($ millions)[9]	Net Toll Revenue Before Periodic R&R Costs ($ millions)	Less: Periodic Rehab & Repair Costs ($ millions)[7]	Net Toll Revenue After Periodic R&R Costs ($ millions)	FY 2011 NPV of Net Revenue Before R&R @ 6.5% ($ millions)
Pre-Completion*	2010										(7.48)			(7.48)		(7.48)	(7.97)
	2011	$2.61	20.18	20.80				54.25	3.87	(2.91)	(9.27)			45.94		45.94	45.94
	2012	$2.67	23.03	23.74				63.45	3.98	(3.37)	(9.87)			54.20		54.20	50.89
	2013	$2.74	25.91	26.72				73.20	3.99	(3.86)	(10.35)			62.98		62.98	55.53
	2014	$2.81	27.47	28.32				79.52	3.71	(4.16)	(10.28)			68.79		68.79	56.95
	2015	$2.88	27.65	28.51				82.08	3.21	(4.26)	(9.75)			71.27		71.27	55.40
	2016	$2.95	27.85	28.71				84.72	2.70	(4.37)	(9.21)			73.83	(2.50)	71.33	53.89
Post-Completion — Full Revenue Operations	2017	$3.73	26.38	27.14	$0.62	9.53	9.75	107.40	2.80	(5.51)	(11.88)	(6.61)		86.19		86.19	59.07
	2018	$3.83	27.98	28.79	$0.64	10.16	10.38	116.78	2.23	(5.95)	(11.59)	(6.78)		94.70	(1.02)	93.67	60.94
	2019	$3.92	28.19	29.01	$0.65	10.28	10.51	120.64	1.51	(6.11)	(10.83)	(6.95)		98.26		98.26	59.37
	2020	$4.02	28.40	29.23	$0.67	10.40	10.63	124.62	0.76	(6.27)	(10.04)	(7.12)		101.95		101.95	57.84
	2021	$4.12	28.62	29.45	$0.69	10.53	10.76	128.73	0.77	(6.48)	(10.14)	(7.30)		105.59	(5.02)	100.56	56.25
	2022	$4.22	28.84	29.67	$0.71	10.66	10.89	132.98	0.78	(6.69)	(10.25)	(7.48)	(29.37)	79.97	(0.12)	79.85	40.00
	2023	$4.33	29.06	29.90	$0.72	10.79	11.02	137.37	0.79	(6.91)	(10.36)	(7.67)	(29.37)	83.86	(8.11)	75.75	39.39
	2024	$4.44	29.28	30.13	$0.74	10.92	11.15	141.91	0.80	(7.14)	(10.74)	(7.86)	(29.37)	87.61	(11.28)	76.33	38.64
	2025	$4.55	29.50	30.36	$0.76	11.05	11.29	146.59	0.81	(7.37)	(10.85)	(8.05)	(29.37)	91.76		91.76	38.00
	2026	$4.66	29.73	30.59	$0.78	11.19	11.43	151.44	0.82	(7.61)	(10.96)	(8.26)	(29.37)	96.05	(2.50)	93.55	37.35
	2027	$4.78	29.95	30.82	$0.80	11.33	11.57	156.44	0.83	(7.86)	(11.08)	(8.46)	(29.37)	100.49	(7.75)	92.74	36.69
	2028	$4.89	30.18	31.06	$0.82	11.47	11.71	161.61	0.84	(8.12)	(11.20)	(8.67)	(29.37)	105.08	(4.13)	100.95	36.02
	2029	$5.02	30.41	31.29	$0.84	11.61	11.85	166.95	0.85	(8.39)	(11.32)	(8.89)	(29.37)	109.83	(4.24)	105.59	35.35
	2030	$5.14	30.64	31.53	$0.86	11.76	12.00	172.47	0.86	(8.67)	(11.44)	(9.11)	(29.37)	114.74	(4.34)	110.39	34.68
	2031	$5.27	30.76	31.65	$0.88	11.84	12.08	177.47	0.87	(8.92)	(11.85)	(9.34)	(29.37)	118.86	(29.10)	89.76	33.73
	2032	$5.40	30.88	31.77	$0.91	11.91	12.15	182.62	0.88	(9.18)	(11.95)	(9.57)		152.80	(0.16)	152.65	40.72
	2033	$5.54	31.00	31.89	$0.93	11.99	12.23	187.93	0.88	(9.44)	(12.04)	(9.81)		157.51		157.51	39.41
	2034	$5.67	31.11	32.01	$0.95	12.06	12.31	193.38	0.89	(9.71)	(12.14)	(10.06)		162.36		162.36	38.15
	2035	$5.82	31.23	32.14	$0.98	12.14	12.38	199.00	0.90	(9.99)	(12.24)	(10.31)		167.35	(10.91)	156.45	36.92
	2036	$5.96	31.35	32.26	$1.00	12.22	12.46	204.77	0.91	(10.28)	(12.34)	(10.57)		172.49	(2.50)	169.99	35.73
	2037	$6.11	31.47	32.38	$1.03	12.30	12.54	210.72	0.92	(10.58)	(12.44)	(10.83)		177.78	(30.83)	146.95	34.58
	2038	$6.26	31.59	32.50	$1.05	12.37	12.62	216.84	0.92	(10.89)	(12.92)	(11.10)		182.85	(15.94)	166.91	33.39
	2039	$6.42	31.71	32.63	$1.08	12.45	12.70	223.14	0.93	(11.20)	(13.03)	(11.38)		188.45		188.45	32.32
	2040	$6.58	31.83	32.75	$1.10	12.53	12.78	229.62	0.94	(11.53)	(13.14)	(11.67)		194.22		194.22	31.27
	2041	$6.74	31.83	32.75	$1.13	12.53	12.78	235.36	0.95	(11.82)	(13.21)	(11.96)		199.32	(12.34)	186.98	30.13
	2042	$6.91	31.83	32.75	$1.16	12.53	12.78	241.24	0.95	(12.11)	(13.29)	(12.26)		204.54	(10.24)	194.29	29.04
	2043	$7.09	31.83	32.75	$1.19	12.53	12.78	247.27	0.95	(12.41)	(13.37)	(12.56)		209.89	(5.99)	203.90	27.98
	2044	$7.26	31.83	32.75	$1.22	12.53	12.78	253.45	0.96	(12.72)	(13.45)	(12.88)		215.37	(6.14)	209.23	26.96
	2045	$7.44	31.83	32.75	$1.25	12.53	12.78	259.79	0.96	(13.04)	(13.98)	(13.20)		220.54	(33.02)	187.52	25.92
	2046	$7.63	31.83	32.75	$1.28	12.53	12.78	266.28	0.97	(13.36)	(14.06)	(13.53)		226.30	(2.50)	223.80	24.97
	2047	$7.82	31.83	32.75	$1.31	12.53	12.78	272.94	0.97	(13.70)	(14.15)	(13.87)		232.21	(20.76)	211.44	24.06
	2048	$8.02	31.83	32.75	$1.35	12.53	12.78	279.76	0.98	(14.04)	(14.24)	(14.21)		238.26		238.26	23.18
	2049	$8.22	31.83	32.75	$1.38	12.53	12.78	286.76	0.99	(14.39)	(14.33)	(14.57)		244.46		244.46	22.33
	2050	$8.42	31.83	32.75	$1.41	12.53	12.78	293.93	0.99	(14.75)	(14.42)	(14.93)		250.82		250.82	21.51
	2051	$8.63	31.83	32.75	$1.45	12.53	12.78	301.27	1.00	(15.11)	(14.51)	(15.31)		257.34	(7.79)	249.55	20.73
	2052	$8.85	31.83	32.75	$1.49	12.53	12.78	308.81	1.00	(15.49)	(15.15)	(15.69)		263.48	(22.78)	240.70	19.93
	2053	$9.07	31.83	32.75	$1.52	12.53	12.78	316.53	1.01	(15.88)	(15.24)	(16.08)		270.33		270.33	19.20
	2054	$9.30	31.83	32.75	$1.56	12.53	12.78	324.44	1.01	(16.27)	(15.35)	(16.48)		277.35		277.35	18.49
	2055	$9.53	31.83	32.75	$1.60	12.53	12.78	332.55	1.02	(16.68)	(15.45)	(16.90)		284.55	(8.05)	276.50	17.81
	2056	$9.77	31.83	32.75	$1.64	12.53	12.78	340.86	1.03	(17.09)	(15.56)	(17.32)		291.92	(10.75)	281.17	17.16
Totals FY 2010-16			152.08	156.79				437.21	21.47	(22.93)	(66.22)			369.53	(2.50)	367.03	310.63
Totals FY 2017-46			911.11	937.45		348.69	355.88	5494.79	30.25	(276.25)	(358.13)	(290.24)	(293.69)	4306.74	(208.18)	4098.56	1150.80
Totals FY 2017-56			1229.44	1264.98		474.04	483.70	8552.64	40.25	(429.64)	(506.51)	(445.59)	(293.69)	6917.46	(278.32)	6639.14	1355.20

Footnotes

[1] Reflects the average revenue per passenger car equivalent based on time-of-day variable weekday & weekend toll structures.

[2] Annual volume of vehicles subject to tolls in each travel direction after ramp up adjustment; includes autos and trucks.

[3] Converts medium & large trucks to their passenger car equivalent (PCE) based on trucks paying 2x to 4x the auto toll.

[4] Excludes toll surcharge revenue assessed to customers without transponders for pay-by-plate (video tolling/license plate list).

[5] Pay-by-plate toll surcharge revenue assessed to capture the additional collection costs of video toll/license plate list payment.

[6] 5% deduction for credit card fees & revenue loss due to the net effects of evasion, processing errors & uncollectible accounts.

[7] Both toll collection O&M costs and toll systems R&R timing differ based on when tolling begins.

[8] Pre-completion facility O&M costs are assumed to be capitalized and/or included in existing maintenance budgets.

[9] Reflects the repayment of construction sales tax deferred during construction

* Nights from 11 PM to 5 AM are toll-free for pre-completion tolling (FY 2011-2016).

General Notes

– Transit buses are charged 2x the auto toll under Scenario 6.

– Demand is reduced for "ramp-up" in initial years as customers get accustomed to tolls.

– Toll rate escalation and O&M inflation, where applicable, is projected at 2.5% per year.

– Weekday segment tolls & all variable rate weekend tolls do not vary by scenario.

– Weekend daily autos & trucks under variable tolls differs only between the 1 & 2 bridge cases.

SR 520 Toll Traffic & Revenue Projections — SR 520 Finance Plan and Tolling Implementation Committee Scenarios

Table 6a-A.M TIC Scenario 6a: Mid SR 520 Projection (Only SR 520 Tolled • No Toll Escalation)

	Fiscal Year	Weighted Average Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions Bridge Span (millions)[2]	Pass Car Equiv (PCE) Bridge Volumes (millions)[3]	Weighted Average Segment Toll Rate (one-way)[1]	Annual Segment Toll Transactions (millions)[2]	Pass Car Equiv (PCE) Segment Volumes (millions)[3]	Gross Toll Revenue Potential ($ millions)[4]	Plus: Pay-by-Plate Surcharge Revenue ($ millions)[5]	Less: Uncollectible Accounts/ Credit Fees ($ millions)[6]	Less: Toll Collection O&M Costs ($ millions)[7]	Less: Routine Facility O&M Costs ($ millions)[8]	Less: Sales Tax Deferral Repayment ($ millions)[9]	Net Toll Revenue Before Periodic R&R Costs ($ millions)	Less: Periodic Rehab & Repair Costs ($ millions)[7]	Net Toll Revenue After Periodic R&R Costs ($ millions)	FY 2011 NPV of Net Revenue Before R&R @ 6.5% ($ millions)
Pre-Completion*	2010										(7.48)			(7.48)		(7.48)	(7.97)
	2011	$2.61	20.18	20.81				54.26	3.87	(2.91)	(9.27)			45.95		45.95	45.95
	2012	$2.61	23.12	23.85				62.18	4.00	(3.31)	(9.90)			52.97		52.97	49.74
	2013	$2.61	26.13	26.95				70.28	4.03	(3.72)	(10.42)			60.17		60.17	53.05
	2014	$2.61	27.81	28.69				74.81	3.76	(3.93)	(10.39)			64.25		64.25	53.19
	2015	$2.61	28.12	29.01				75.64	3.27	(3.95)	(9.89)			65.08		65.08	50.59
	2016	$2.61	28.43	29.33				76.49	2.76	(3.96)	(9.37)			65.92	(2.50)	63.42	48.11
Post-Completion — Full Revenue Operations	2017	$3.75	25.96	26.72	$0.62	9.68	9.92	106.37	2.78	(5.46)	(11.82)	(5.90)		85.97		85.97	58.92
	2018	$3.75	27.83	28.64	$0.62	10.43	10.69	114.05	2.24	(5.81)	(11.62)	(6.05)		92.81	(1.02)	91.79	59.72
	2019	$3.75	28.34	29.17	$0.62	10.68	10.94	116.18	1.53	(5.89)	(10.94)	(6.20)		94.69		94.69	57.22
	2020	$3.75	28.86	29.70	$0.62	10.93	11.19	118.35	0.78	(5.96)	(10.21)	(6.35)		96.61		96.61	54.81
	2021	$3.75	29.39	30.25	$0.62	11.19	11.45	120.56	0.80	(6.07)	(10.40)	(6.51)		98.39	(5.02)	93.36	52.41
	2022	$3.75	29.93	30.80	$0.62	11.45	11.72	122.82	0.82	(6.18)	(10.58)	(6.68)	(25.51)	74.69	(0.49)	74.20	37.36
	2023	$3.75	30.48	31.37	$0.62	11.72	12.00	125.11	0.84	(6.30)	(10.78)	(6.84)	(25.51)	76.53	(8.11)	68.41	35.94
	2024	$3.75	31.04	31.94	$0.62	12.00	12.29	127.45	0.86	(6.42)	(11.24)	(7.01)	(25.51)	78.13	(11.28)	66.85	34.46
	2025	$3.75	31.61	32.53	$0.62	12.29	12.58	129.83	0.88	(6.54)	(11.44)	(7.19)	(25.51)	80.04		80.04	33.14
	2026	$3.75	32.19	33.13	$0.62	12.58	12.88	132.26	0.90	(6.66)	(11.65)	(7.37)	(25.51)	81.98	(2.50)	79.48	31.88
	2027	$3.75	32.78	33.73	$0.62	12.88	13.18	134.74	0.92	(6.78)	(11.86)	(7.55)	(25.51)	83.95	(7.49)	76.46	30.65
	2028	$3.75	33.38	34.35	$0.62	13.19	13.50	137.26	0.94	(6.91)	(12.07)	(7.74)	(25.51)	85.97	(4.13)	81.83	29.47
	2029	$3.75	33.99	34.98	$0.62	13.51	13.82	139.83	0.96	(7.04)	(12.30)	(7.94)	(25.51)	88.01	(4.24)	83.78	28.33
	2030	$3.75	34.61	35.63	$0.62	13.83	14.15	142.45	0.99	(7.17)	(12.52)	(8.13)	(25.51)	90.10	(4.34)	85.76	27.23
	2031	$3.75	34.93	35.95	$0.62	14.00	14.32	143.79	1.00	(7.24)	(12.99)	(8.34)	(25.51)	90.71	(29.10)	61.61	25.74
	2032	$3.75	35.25	36.28	$0.62	14.17	14.49	145.13	1.01	(7.31)	(13.14)	(8.55)		117.16	(0.62)	116.53	31.22
	2033	$3.75	35.58	36.62	$0.62	14.34	14.67	146.49	1.03	(7.38)	(13.29)	(8.76)		118.10		118.10	29.55
	2034	$3.75	35.90	36.95	$0.62	14.51	14.84	147.87	1.04	(7.45)	(13.44)	(8.98)		119.04		119.04	27.97
	2035	$3.75	36.23	37.29	$0.62	14.68	15.02	149.25	1.06	(7.52)	(13.60)	(9.20)		119.99	(10.91)	109.08	26.47
	2036	$3.75	36.57	37.63	$0.62	14.86	15.20	150.65	1.07	(7.59)	(13.76)	(9.43)		120.95	(2.50)	118.45	25.05
	2037	$3.75	36.90	37.98	$0.62	15.04	15.38	152.07	1.09	(7.66)	(13.92)	(9.67)		121.91	(30.11)	91.80	23.71
	2038	$3.75	37.24	38.33	$0.62	15.22	15.57	153.49	1.10	(7.73)	(14.47)	(9.91)		122.49	(15.94)	106.55	22.37
	2039	$3.75	37.58	38.68	$0.62	15.41	15.76	154.93	1.12	(7.80)	(14.63)	(10.16)		123.46		123.46	21.17
	2040	$3.75	37.93	39.03	$0.62	15.60	15.95	156.39	1.14	(7.88)	(14.81)	(10.41)		124.43		124.43	20.03
	2041	$3.75	37.93	39.03	$0.62	15.60	15.95	156.39	1.14	(7.88)	(14.88)	(10.67)		124.09	(12.34)	111.76	18.76
	2042	$3.75	37.93	39.03	$0.62	15.60	15.95	156.39	1.15	(7.88)	(14.96)	(10.94)		123.75	(18.26)	105.49	17.57
	2043	$3.75	37.93	39.03	$0.62	15.60	15.95	156.39	1.15	(7.88)	(15.04)	(11.21)		123.40	(5.99)	117.42	16.45
	2044	$3.75	37.93	39.03	$0.62	15.60	15.95	156.39	1.16	(7.88)	(15.13)	(11.49)		123.05	(6.14)	116.91	15.40
	2045	$3.75	37.93	39.03	$0.62	15.60	15.95	156.39	1.16	(7.88)	(15.66)	(11.78)		122.23	(33.02)	89.21	14.36
	2046	$3.75	37.93	39.03	$0.62	15.60	15.95	156.39	1.17	(7.88)	(15.75)	(12.08)		121.85	(2.50)	119.35	13.45
	2047	$3.75	37.93	39.03	$0.62	15.60	15.95	156.39	1.18	(7.88)	(15.84)	(12.38)		121.47	(20.34)	101.13	12.59
	2048	$3.75	37.93	39.03	$0.62	15.60	15.95	156.39	1.18	(7.88)	(15.93)	(12.69)		121.07		121.07	11.78
	2049	$3.75	37.93	39.03	$0.62	15.60	15.95	156.39	1.19	(7.88)	(16.03)	(13.00)		120.67		120.67	11.02
	2050	$3.75	37.93	39.03	$0.62	15.60	15.95	156.39	1.20	(7.88)	(16.12)	(13.33)		120.25		120.25	10.31
	2051	$3.75	37.93	39.03	$0.62	15.60	15.95	156.39	1.20	(7.88)	(16.22)	(13.66)		119.82	(7.79)	112.03	9.65
	2052	$3.75	37.93	39.03	$0.62	15.60	15.95	156.39	1.21	(7.88)	(16.86)	(14.00)		118.85	(23.55)	95.31	8.99
	2053	$3.75	37.93	39.03	$0.62	15.60	15.95	156.39	1.22	(7.88)	(16.96)	(14.35)		118.40		118.40	8.41
	2054	$3.75	37.93	39.03	$0.62	15.60	15.95	156.39	1.22	(7.88)	(17.07)	(14.71)		117.95		117.95	7.86
	2055	$3.75	37.93	39.03	$0.62	15.60	15.95	156.39	1.23	(7.88)	(17.18)	(15.08)		117.48	(8.05)	109.42	7.35
	2056	$3.75	37.93	39.03	$0.62	15.60	15.95	156.39	1.24	(7.88)	(17.29)	(15.46)		116.99	(10.75)	106.24	6.88
Totals FY 2010-16			153.78	158.63				413.66	21.68	(21.77)	(66.72)			346.85	(2.50)	344.35	292.65
Totals FY 2017-46			1022.04	1051.91	$18.64	407.76	417.19	4205.66	33.81	(211.97)	(388.89)	(259.07)	(255.08)	3124.45	(216.05)	2908.40	920.82
Totals FY 2017-56			1401.31	1442.25		563.72	576.68	5769.52	45.87	(290.77)	(554.40)	(397.75)	(255.08)	4317.40	(286.54)	4030.86	1015.66

Footnotes

[1] Reflects the average revenue per passenger car equivalent based on time-of-day variable weekday & weekend toll structures.

[2] Annual volume of vehicles subject to tolls in each travel direction after ramp up adjustment; includes autos and trucks.

[3] Converts medium & large trucks to their passenger car equivalent (PCE) based on trucks paying 2x to 4x the auto toll.

[4] Excludes toll surcharge revenue assessed to customers without transponders for pay-by-plate (video tolling/license plate list).

[5] Pay-by-plate toll surcharge revenue assessed to capture the additional collection costs of video toll/license plate list payment.

[6] 5% deduction for credit card fees & for revenue loss due to the net effects of evasion, processing errors & uncollectible accounts.

[7] Both toll collection O&M costs and toll systems R&R timing differ based on when tolling begins.

[8] Pre-completion facility O&M costs are assumed to be capitalized and/or included in existing maintenance budgets.

[9] Reflects the repayment of construction sales tax deferred during construction

* Nights from 11 PM to 5 AM are toll-free for pre-completion tolling (FY 2011-2016).

General Notes

– Demand is reduced for "ramp-up" in initial years as customers get accustomed to tolls.

– Toll rate escalation and O&M inflation, where applicable, is projected at 2.5% per year.

– Weekday segment tolls & all variable rate weekend tolls do not vary by scenario.

– Weekend daily autos & trucks under variable tolls differs only between the 1 & 2 bridge cases.

SR 520 Toll Traffic & Revenue Projections — SR 520 Finance Plan and Tolling Implementation Committee Scenarios

Table 7-A.M TIC Scenario 7: Mid SR 520 Projection (Only SR 520 Tolled)

	Fiscal Year	Weighted Average Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions Bridge Span (millions)[2]	Pass Car Equiv (PCE) Bridge Volumes (millions)[3]	Weighted Average Segment Toll Rate (one-way)[1]	Annual Segment Toll Transactions (millions)[2]	Pass Car Equiv (PCE) Segment Volumes (millions)[3]	Gross Toll Revenue Potential ($ millions)[4]	Plus: Pay-by-Plate Surcharge Revenue ($ millions)[5]	Less: Uncollectible Accounts/ Credit Fees ($ millions)[6]	Less: Toll Collection O&M Costs ($ millions)[7]	Less: Routine Facility O&M Costs ($ millions)[8]	Less: Sales Tax Deferral Repayment ($ millions)[9]	Net Toll Revenue Before Periodic R&R Costs ($ millions)	Less: Periodic Rehab & Repair Costs ($ millions)[7]	Net Toll Revenue After Periodic R&R Costs ($ millions)	FY 2011 NPV of Net Revenue Before R&R @ 6.5% ($ millions)
Pre-Completion*	2010										(7.48)			(7.48)		(7.48)	(7.97)
	2011	$2.38	20.22	20.71				49.22	3.87	(2.65)	(9.29)			41.16		41.16	41.16
	2012	$2.44	23.06	23.62				57.56	3.99	(3.08)	(9.88)			48.59		48.59	45.62
	2013	$2.50	25.94	26.58				66.36	4.00	(3.52)	(10.36)			56.49		56.49	49.80
	2014	$2.56	27.48	28.16				72.07	3.71	(3.79)	(10.29)			61.71		61.71	51.08
	2015	$2.62	27.65	28.34				74.35	3.21	(3.88)	(9.75)			63.93		63.93	49.70
	2016	$2.69	27.83	28.52				76.71	2.70	(3.97)	(9.21)			66.23	(2.50)	63.73	48.34
Post-Completion — Full Revenue Operations	2017	$2.92	28.38	29.04				84.77	2.21	(4.35)	(8.77)	(5.90)		67.97		67.97	46.58
	2018	$2.99	30.10	30.80				92.17	1.76	(4.70)	(8.54)	(6.05)		74.65	(1.02)	73.62	48.04
	2019	$3.07	30.33	31.04				95.19	1.19	(4.82)	(7.93)	(6.20)		77.43		77.43	46.79
	2020	$3.14	30.57	31.28				98.32	0.60	(4.95)	(7.31)	(6.35)		80.31		80.31	45.56
	2021	$3.22	30.80	31.52				101.55	0.61	(5.11)	(7.40)	(6.51)		83.14	(5.02)	78.11	44.29
	2022	$3.30	31.04	31.76				104.88	0.61	(5.27)	(7.48)	(6.68)	(25.51)	60.56	(0.49)	60.07	30.29
	2023	$3.38	31.28	32.00				108.33	0.62	(5.45)	(7.57)	(6.84)	(25.51)	63.58	(8.11)	55.47	29.86
	2024	$3.47	31.52	32.25				111.88	0.63	(5.63)	(7.68)	(7.01)	(25.51)	66.68	(1.19)	65.49	29.41
	2025	$3.56	31.76	32.50				115.56	0.63	(5.81)	(7.77)	(7.19)	(25.51)	69.91		69.91	28.95
	2026	$3.64	32.00	32.75				119.35	0.64	(6.00)	(7.86)	(7.37)	(25.51)	73.25	(2.50)	70.75	28.48
	2027	$3.74	32.25	33.00				123.27	0.65	(6.20)	(7.96)	(7.55)	(25.51)	76.71	(7.49)	69.22	28.01
	2028	$3.83	32.49	33.25				127.32	0.66	(6.40)	(8.05)	(7.74)	(25.51)	80.28	(4.13)	76.14	27.52
	2029	$3.92	32.74	33.51				131.50	0.66	(6.61)	(8.15)	(7.94)	(25.51)	83.97	(4.24)	79.73	27.03
	2030	$4.02	32.99	33.77				135.82	0.67	(6.82)	(8.25)	(8.13)	(25.51)	87.78	(4.34)	83.44	26.53
	2031	$4.12	33.12	33.90				139.75	0.68	(7.02)	(8.36)	(8.34)	(25.51)	91.20	(17.10)	74.10	25.88
	2032	$4.23	33.25	34.03				143.79	0.68	(7.22)	(8.43)	(8.55)		120.27	(0.62)	119.64	32.05
	2033	$4.33	33.38	34.16				147.95	0.69	(7.43)	(8.51)	(8.76)		123.93		123.93	31.01
	2034	$4.44	33.50	34.29				152.23	0.69	(7.65)	(8.60)	(8.98)		127.70		127.70	30.00
	2035	$4.55	33.63	34.42				156.63	0.70	(7.87)	(8.68)	(9.20)		131.58	(10.91)	120.67	29.03
	2036	$4.66	33.76	34.56				161.16	0.70	(8.09)	(8.77)	(9.43)		135.57	(2.50)	133.07	28.08
	2037	$4.78	33.89	34.69				165.82	0.71	(8.33)	(8.85)	(9.67)		139.68	(30.11)	109.57	27.17
	2038	$4.90	34.02	34.82				170.61	0.72	(8.57)	(8.98)	(9.91)		143.87	(1.68)	142.19	26.27
	2039	$5.02	34.15	34.96				175.55	0.72	(8.81)	(9.07)	(10.16)		148.23		148.23	25.42
	2040	$5.15	34.28	35.09				180.63	0.73	(9.07)	(9.16)	(10.41)		152.71		152.71	24.59
	2041	$5.28	34.28	35.09				185.14	0.73	(9.29)	(9.23)	(10.67)		156.67	(12.34)	144.34	23.69
	2042	$5.41	34.28	35.09				189.77	0.73	(9.53)	(9.30)	(10.94)		160.73	(18.26)	142.47	22.82
	2043	$5.54	34.28	35.09				194.51	0.74	(9.76)	(9.38)	(11.21)		164.90	(5.99)	158.91	21.98
	2044	$5.68	34.28	35.09				199.38	0.74	(10.01)	(9.45)	(11.49)		169.17	(6.14)	163.03	21.17
	2045	$5.82	34.28	35.09				204.36	0.75	(10.26)	(9.58)	(11.78)		173.49	(16.06)	157.43	20.39
	2046	$5.97	34.28	35.09				209.47	0.75	(10.51)	(9.66)	(12.08)		177.98	(2.50)	175.48	19.64
	2047	$6.12	34.28	35.09				214.71	0.75	(10.77)	(9.74)	(12.38)		182.57	(20.34)	162.24	18.92
	2048	$6.27	34.28	35.09				220.08	0.76	(11.04)	(9.82)	(12.69)		187.28		187.28	18.22
	2049	$6.43	34.28	35.09				225.58	0.76	(11.32)	(9.91)	(13.00)		192.11		192.11	17.55
	2050	$6.59	34.28	35.09				231.22	0.77	(11.60)	(10.00)	(13.33)		197.06		197.06	16.90
	2051	$6.75	34.28	35.09				237.00	0.77	(11.89)	(10.09)	(13.66)		202.13	(7.79)	194.34	16.28
	2052	$6.92	34.28	35.09				242.92	0.77	(12.18)	(10.23)	(14.00)		207.27	(3.39)	203.88	15.68
	2053	$7.10	34.28	35.09				249.00	0.78	(12.49)	(10.33)	(14.35)		212.60		212.60	15.10
	2054	$7.27	34.28	35.09				255.22	0.78	(12.80)	(10.42)	(14.71)		218.07		218.07	14.54
	2055	$7.46	34.28	35.09				261.60	0.79	(13.12)	(10.52)	(15.08)		223.67	(8.05)	215.61	14.00
	2056	$7.64	34.28	35.09				268.14	0.79	(13.45)	(10.63)	(15.46)		229.40	(10.75)	218.65	13.49
Totals FY 2010-16			152.17	155.93				396.28	21.49	(20.89)	(66.25)			330.62	(2.50)	328.12	277.74
Totals FY 2017-46			980.94	1003.90				4326.66	23.60	(217.51)	(254.74)	(259.07)	(255.08)	3363.86	(162.74)	3201.12	896.51
Totals FY 2017-56			1323.78	1354.81				6732.11	31.33	(338.17)	(356.42)	(397.75)	(255.08)	5416.02	(213.07)	5202.95	1057.18

Footnotes

[1] Reflects the average revenue per passenger car equivalent based on time-of-day variable weekday & weekend toll structures.

[2] Annual volume of vehicles subject to tolls in each travel direction after ramp up adjustment; includes autos and trucks.

[3] Converts medium & large trucks to their passenger car equivalent (PCE) based on trucks paying 2x to 4x the auto toll.

[4] Excludes toll surcharge revenue assessed to customers without transponders for pay-by-plate (video tolling/license plate list).

[5] Pay-by-plate toll surcharge revenue assessed to capture the additional collection costs of video toll/license plate list payment.

[6] 5% deduction for credit card fees & for revenue loss due to the net effects of evasion, processing errors & uncollectible accounts.

[7] Both toll collection O&M costs and toll systems R&R timing differ based on when tolling begins.

[8] Pre-completion facility O&M costs are assumed to be capitalized and/or included in existing maintenance budgets.

[9] Reflects the repayment of construction sales tax deferred during construction

* Nights from 11 PM to 5 AM are toll-free for pre-completion tolling (FY 2011-2016).

General Notes

– Demand is reduced for "ramp-up" in initial years as customers get accustomed to tolls.

– Toll rate escalation and O&M inflation, where applicable, is projected at 2.5% per year.

– Weekday segment tolls & all variable rate weekend tolls do not vary by scenario.

– Weekend daily autos & trucks under variable tolls differs only between the 1 & 2 bridge cases.

SR 520 Toll Traffic & Revenue Projections — SR 520 Finance Plan and Tolling Implementation Committee Scenarios

Table 8-A.L TIC Scenario 8: Lower SR 520 Projection (Both SR 520 & I-90 Tolled by FY 2017)

	Fiscal Year	Weighted Average Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions Bridge Span (millions)[2]	Pass Car Equiv (PCE) Bridge Volumes (millions)[3]	Weighted Average Segment Toll Rate (one-way)[1]	Annual Segment Toll Transactions (millions)[2]	Pass Car Equiv (PCE) Segment Volumes (millions)[3]	Gross Toll Revenue Potential ($ millions)[4]	Plus: Pay-by-Plate Surcharge Revenue ($ millions)[5]	Less: Uncollectible Accounts/ Credit Fees ($ millions)[6]	Less: Toll Collection O&M Costs ($ millions)[7]	Less: Routine Facility O&M Costs ($ millions)[8]	Less: Sales Tax Deferral Repayment ($ millions)[9]	Net Toll Revenue Before Periodic R&R Costs ($ millions)	Less: Periodic Rehab & Repair Costs ($ millions)[7]	Net Toll Revenue After Periodic R&R Costs ($ millions)	FY 2011 NPV of Net Revenue Before R&R @ 6.5% ($ millions)
Pre-Completion*	2010																
	2011																
	2012																
	2013																
	2014																
	2015																
	2016										(8.68)			(8.68)		(8.68)	(6.33)
Post-Completion — Full Revenue Operations	2017	$3.10	25.71	26.40				81.88	5.01	(4.34)	(11.14)	(5.90)		65.50		65.50	44.89
	2018	$3.18	28.96	29.73				94.53	4.81	(4.97)	(11.42)	(6.05)		76.90	(1.02)	75.87	49.48
	2019	$3.26	30.73	31.53				102.78	4.21	(5.35)	(11.01)	(6.20)		84.43		84.43	51.02
	2020	$3.34	30.97	31.78				106.17	3.35	(5.48)	(10.05)	(6.35)		87.63		87.63	49.72
	2021	$3.42	31.21	32.02				109.67	2.46	(5.61)	(9.07)	(6.51)		90.94	(5.02)	85.91	48.45
	2022	$3.51	31.45	32.27				113.28	1.55	(5.74)	(8.06)	(6.68)	(25.51)	68.84	(0.49)	68.36	34.44
	2023	$3.60	31.70	32.51				117.01	0.63	(5.88)	(7.04)	(6.84)	(25.51)	72.37	(8.11)	64.26	33.99
	2024	$3.69	31.94	32.76				120.87	0.64	(6.08)	(7.14)	(7.01)	(25.51)	75.76	(1.19)	74.58	33.41
	2025	$3.78	32.19	33.02				124.85	0.64	(6.27)	(7.22)	(7.19)	(25.51)	79.30		79.30	32.84
	2026	$3.88	32.44	33.27				128.97	0.65	(6.48)	(7.29)	(7.37)	(25.51)	82.96	(2.50)	80.46	32.26
	2027	$3.97	32.70	33.52				133.22	0.66	(6.69)	(7.37)	(7.55)	(25.51)	86.75	(7.49)	79.26	31.67
	2028	$4.07	32.95	33.78				137.61	0.67	(6.91)	(7.45)	(7.74)	(25.51)	90.66	(4.13)	86.52	31.08
	2029	$4.18	33.21	34.04				142.14	0.67	(7.14)	(7.53)	(7.94)	(25.51)	94.70	(4.24)	90.46	30.48
	2030	$4.28	33.47	34.30				146.83	0.68	(7.38)	(7.61)	(8.13)	(25.51)	98.88	(4.34)	94.53	29.88
	2031	$4.39	33.60	34.44				151.08	0.69	(7.59)	(7.71)	(8.34)	(25.51)	102.63	(17.10)	85.53	29.13
	2032	$4.50	33.73	34.57				155.46	0.69	(7.81)	(7.77)	(8.55)		132.03	(0.62)	131.41	35.18
	2033	$4.61	33.86	34.70				159.97	0.70	(8.03)	(7.83)	(8.76)		136.04		136.04	34.04
	2034	$4.73	34.00	34.84				164.60	0.70	(8.27)	(7.89)	(8.98)		140.17		140.17	32.93
	2035	$4.84	34.13	34.97				169.37	0.71	(8.50)	(7.96)	(9.20)		144.42	(10.91)	133.51	31.86
	2036	$4.96	34.26	35.10				174.28	0.71	(8.75)	(8.02)	(9.43)		148.79	(2.50)	146.29	30.82
	2037	$5.09	34.40	35.24				179.33	0.72	(9.00)	(8.09)	(9.67)		153.29	(30.11)	123.18	29.81
	2038	$5.22	34.53	35.37				184.53	0.73	(9.26)	(8.20)	(9.91)		157.88	(1.68)	156.21	28.83
	2039	$5.35	34.66	35.51				189.88	0.73	(9.53)	(8.27)	(10.16)		162.65		162.65	27.89
	2040	$5.48	34.80	35.65				195.38	0.74	(9.81)	(8.34)	(10.41)		167.56		167.56	26.98
	2041	$5.62	34.80	35.65				200.27	0.74	(10.05)	(8.39)	(10.67)		171.90	(12.34)	159.56	25.99
	2042	$5.76	34.80	35.65				205.28	0.75	(10.30)	(8.44)	(10.94)		176.34	(18.26)	158.08	25.03
	2043	$5.90	34.80	35.65				210.41	0.75	(10.56)	(8.49)	(11.21)		180.90	(5.99)	174.91	24.11
	2044	$6.05	34.80	35.65				215.67	0.75	(10.82)	(8.54)	(11.49)		185.57	(6.14)	179.43	23.23
	2045	$6.20	34.80	35.65				221.06	0.76	(11.09)	(8.64)	(11.78)		190.31	(16.06)	174.24	22.36
	2046	$6.36	34.80	35.65				226.59	0.76	(11.37)	(8.69)	(12.08)		195.21	(2.50)	192.71	21.54
	2047	$6.52	34.80	35.65				232.25	0.76	(11.65)	(8.74)	(12.38)		200.24	(20.34)	179.91	20.75
	2048	$6.68	34.80	35.65				238.06	0.77	(11.94)	(8.80)	(12.69)		205.40		205.40	19.98
	2049	$6.84	34.80	35.65				244.01	0.77	(12.24)	(8.86)	(13.00)		210.68		210.68	19.25
	2050	$7.02	34.80	35.65				250.11	0.78	(12.54)	(8.92)	(13.33)		216.09		216.09	18.54
	2051	$7.19	34.80	35.65				256.36	0.78	(12.86)	(8.98)	(13.66)		221.64	(7.79)	213.85	17.85
	2052	$7.37	34.80	35.65				262.77	0.79	(13.18)	(9.10)	(14.00)		227.28	(3.39)	223.88	17.19
	2053	$7.56	34.80	35.65				269.34	0.79	(13.51)	(9.16)	(14.35)		233.11		233.11	16.55
	2054	$7.74	34.80	35.65				276.07	0.80	(13.84)	(9.23)	(14.71)		239.09		239.09	15.94
	2055	$7.94	34.80	35.65				282.97	0.80	(14.19)	(9.29)	(15.08)		245.21	(8.05)	237.16	15.35
	2056	$8.14	34.80	35.65				290.05	0.81	(14.54)	(9.36)	(15.46)		251.49	(10.75)	240.74	14.78
Totals FY 2010-16											(8.68)			(8.68)		(8.68)	(6.33)
Totals FY 2017-46			990.39	1015.21				4662.95	38.25	(235.06)	(250.68)	(259.07)	(255.08)	3701.31	(162.74)	3538.57	983.35
Totals FY 2017-56			1338.39	1371.69				7264.94	46.10	(365.55)	(341.12)	(397.75)	(255.08)	5951.54	(213.07)	5738.47	1159.53

Footnotes

[1] Reflects the average revenue per passenger car equivalent based on time-of-day variable weekday & weekend toll structures.

[2] Annual volume of vehicles subject to tolls in each travel direction after ramp up adjustment; includes autos and trucks.

[3] Converts medium & large trucks to their passenger car equivalent (PCE) based on trucks paying 2x to 4x the auto toll.

[4] Excludes toll surcharge revenue assessed to customers without transponders for pay-by-plate (video tolling/license plate list).

[5] Pay-by-plate toll surcharge revenue assessed to capture the additional collection costs of video toll/license plate list payment.

[6] 5% deduction for credit card fees & revenue loss due to the net effects of evasion, processing errors & uncollectible accounts.

[7] Both toll collection O&M costs and toll systems R&R timing differ based on when tolling begins.

[8] Pre-completion facility O&M costs are assumed to be capitalized and/or included in existing maintenance budgets.

[9] Reflects the repayment of construction sales tax deferred during construction

* Nights from 11 PM to 5 AM are toll-free for pre-completion tolling (FY 2011-2016).

General Notes

– Demand is reduced for "ramp-up" in initial years as customers get accustomed to tolls.

– Toll rate escalation and O&M inflation, where applicable, is projected at 2.5% per year.

– Weekday segment tolls & all variable rate weekend tolls do not vary by scenario.

– Weekend daily autos & trucks under variable tolls differs only between the 1 & 2 bridge cases.

I-90 Toll Traffic & Revenue Projections — SR 520 Finance Plan and Tolling Implementation Committee Scenarios

Table 8-B.L TIC Scenario 8: Lower I-90 Projection (Both SR 520 & I-90 Tolled by FY 2017)

	Fiscal Year	Weighted Average West Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions West Bridge (millions)[2]	Pass Car Equiv (PCE) West Bridge Volumes (millions)[3]	Weighted Average East Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions East Bridge (millions)[2]	Pass Car Equiv (PCE) East Bridge Volumes (millions)[3]	Gross Toll Revenue Potential ($ millions)[4]	Plus: Pay-by-Plate Surcharge Revenue ($ millions)[5]	Less: Uncollectible Accounts/ Credit Fees ($ millions)[6]	Less: Toll Collection O&M Costs ($ millions)[7]	Less: Routine Facility O&M Costs ($ millions)[8]	Net Toll Revenue Before Periodic R&R Costs ($ millions)	Less: Periodic Rehab & Repair Costs ($ millions)[7]	Net Toll Revenue After Periodic R&R Costs ($ millions)	FY 2011 NPV of Net Revenue Before R&R @ 6.5% ($ millions)
Pre-Completion*	2010															
	2011															
	2012															
	2013															
	2014															
	2015															
	2016										(1.74)		(1.74)		(1.74)	(1.27)
Post-Completion — Full Revenue Operations	2017	$2.34	28.10	30.10				70.47	8.21	(3.93)	(11.76)	(9.36)	53.63	(0.03)	53.60	36.75
	2018	$2.40	31.78	34.06				81.72	8.38	(4.50)	(12.11)	(9.59)	63.90	(2.21)	61.68	41.12
	2019	$2.46	33.86	36.29				89.25	7.96	(4.86)	(11.70)	(9.83)	70.82	(0.49)	70.33	42.79
	2020	$2.52	34.26	36.74				92.60	7.07	(4.98)	(10.68)	(10.08)	73.94	(7.58)	66.36	41.95
	2021	$2.58	34.68	37.20				96.08	6.15	(5.11)	(9.62)	(10.33)	77.18	(1.76)	75.42	41.11
	2022	$2.65	35.09	37.66				99.70	5.21	(5.25)	(8.54)	(10.59)	80.53	(0.27)	80.26	40.28
	2023	$2.71	35.52	38.13				103.44	4.23	(5.38)	(7.42)	(10.85)	84.02	(7.84)	76.18	39.46
	2024	$2.78	35.94	38.60				107.33	3.22	(5.53)	(7.56)	(11.12)	86.34	(2.03)	84.31	38.08
	2025	$2.85	36.38	39.08				111.37	2.18	(5.68)	(7.67)	(11.40)	88.80		88.80	36.77
	2026	$2.92	36.81	39.57				115.55	1.48	(5.85)	(7.78)	(11.68)	91.71		91.71	35.66
	2027	$2.99	37.26	40.06				119.90	1.50	(6.07)	(7.90)	(11.98)	95.45	(4.97)	90.48	34.85
	2028	$3.07	37.71	40.56				124.41	1.52	(6.30)	(8.01)	(12.28)	99.35	(5.22)	94.13	34.06
	2029	$3.14	38.16	41.06				129.09	1.55	(6.53)	(8.13)	(12.58)	103.39	(4.43)	98.96	33.28
	2030	$3.22	38.62	41.57				133.94	1.57	(6.78)	(8.25)	(12.90)	107.59	(9.11)	98.49	32.52
	2031	$3.30	38.85	41.83				138.14	1.59	(6.99)	(8.38)	(13.22)	111.14	(9.03)	102.11	31.54
	2032	$3.38	39.09	42.09				142.46	1.60	(7.20)	(8.46)	(13.55)	114.85	(0.31)	114.54	30.60
	2033	$3.47	39.32	42.35				146.92	1.62	(7.43)	(8.54)	(13.89)	118.68	(8.69)	109.99	29.70
	2034	$3.56	39.56	42.62				151.52	1.63	(7.66)	(8.63)	(14.24)	122.64	(1.84)	120.79	28.81
	2035	$3.64	39.80	42.88				156.27	1.65	(7.90)	(8.71)	(14.59)	126.72	(14.81)	111.91	27.95
	2036	$3.74	40.04	43.15				161.16	1.67	(8.14)	(8.80)	(14.96)	130.93	(0.12)	130.81	27.12
	2037	$3.83	40.28	43.42				166.21	1.69	(8.39)	(8.89)	(15.33)	135.28	(2.81)	132.47	26.31
	2038	$3.92	40.52	43.69				171.41	1.70	(8.66)	(9.04)	(15.71)	139.71	(5.15)	134.56	25.51
	2039	$4.02	40.77	43.96				176.78	1.72	(8.93)	(9.13)	(16.11)	144.34	(15.76)	128.58	24.75
	2040	$4.12	41.01	44.23				182.32	1.74	(9.20)	(9.22)	(16.51)	149.12	(165.91)	(16.79)	24.01
	2041	$4.22	41.07	44.29				187.05	1.75	(9.44)	(9.28)	(16.92)	153.15	(174.39)	(21.23)	23.15
	2042	$4.33	41.12	44.35				191.90	1.76	(9.68)	(9.34)	(17.35)	157.29	(6.39)	150.90	22.33
	2043	$4.43	41.18	44.40				196.88	1.77	(9.93)	(9.41)	(17.78)	161.54	(17.39)	144.15	21.53
	2044	$4.54	41.24	44.46				202.00	1.78	(10.19)	(9.47)	(18.22)	165.90	(6.82)	159.07	20.76
	2045	$4.66	41.30	44.52				207.24	1.80	(10.45)	(9.61)	(18.68)	170.30	(9.57)	160.72	20.01
	2046	$4.77	41.35	44.58				212.62	1.81	(10.72)	(9.67)	(19.15)	174.89		174.89	19.30
	2047	$4.89	41.41	44.63				218.15	1.82	(11.00)	(9.74)	(19.63)	179.60	(1.24)	178.37	18.61
	2048	$5.01	41.47	44.69				223.82	1.83	(11.28)	(9.81)	(20.12)	184.44	(1.46)	182.98	17.94
	2049	$5.13	41.53	44.75				229.63	1.85	(11.57)	(9.88)	(20.62)	189.40	(2.82)	186.58	17.30
	2050	$5.26	41.59	44.81				235.60	1.86	(11.87)	(9.96)	(21.13)	194.50	(15.90)	178.60	16.68
	2051	$5.39	41.65	44.87				241.73	1.87	(12.18)	(10.03)	(21.66)	199.72	(3.69)	196.04	16.09
	2052	$5.52	41.71	44.93				248.01	1.89	(12.50)	(10.19)	(22.20)	205.01	(4.13)	200.88	15.50
	2053	$5.66	41.77	44.99				254.47	1.90	(12.82)	(10.27)	(22.76)	210.51	(16.45)	194.07	14.95
	2054	$5.79	41.83	45.06				261.09	1.91	(13.15)	(10.35)	(23.33)	216.17		216.17	14.41
	2055	$5.94	41.90	45.12				267.88	1.93	(13.49)	(10.44)	(23.91)	221.97	(9.08)	212.90	13.90
	2056	$6.08	41.96	45.18				274.85	1.94	(13.84)	(10.52)	(24.51)	227.93	(8.64)	219.29	13.40
Totals FY 2010-16											(1.74)		(1.74)		(1.74)	(1.27)
Totals FY 2017-46			1140.66	1227.48				4265.74	87.51	(217.66)	(271.70)	(410.76)	3453.12	(484.92)	2968.20	932.10
Totals FY 2017-56			1557.50	1676.53				6720.97	106.30	(341.36)	(372.91)	(630.63)	5482.37	(548.30)	4934.06	1090.88

Footnotes

[1] Reflects the average revenue per passenger car equivalent based on time-of-day variable weekday & weekend toll structures.

[2] Annual volume of vehicles subject to tolls in each travel direction after ramp up adjustment; includes autos and trucks.

[3] Converts medium & large trucks to their passenger car equivalent (PCE) based on trucks paying 2x to 4x the auto toll.

[4] Excludes toll surcharge revenue assessed to customers without transponders for pay-by-plate (video tolling/license plate list).

[5] Pay-by-plate toll surcharge revenue assessed to capture the additional collection costs of video toll/license plate list payment.

[6] 5% deduction for credit card fees & revenue loss due to the net effects of evasion, processing errors & uncollectible accounts.

[7] Both toll collection O&M costs and toll systems R&R timing differ based on when tolling begins.

[8] Pre-completion facility O&M costs are assumed to be capitalized and/or included in existing maintenance budgets.

[9] Reflects the repayment of construction sales tax deferred during construction

* Nights from 11 PM to 5 AM are toll-free for pre-completion tolling (FY 2011-2016).

General Notes

– Demand is reduced for "ramp-up" in initial years as customers get accustomed to tolls.

– Toll rate escalation and O&M inflation, where applicable, is projected at 2.5% per year.

– Weekday segment tolls & all variable rate weekend tolls do not vary by scenario.

– Weekend daily autos & trucks under variable tolls differs only between the 1 & 2 bridge cases.

SR 520 Toll Traffic & Revenue Projections — SR 520 Finance Plan and Tolling Implementation Committee Scenarios

Table 8-A.M TIC Scenario 8: Mid SR 520 Projection (Both SR 520 & I-90 Tolled by FY 2017)

	Fiscal Year	Weighted Average Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions Bridge Span (millions)[2]	Pass Car Equiv (PCE) Bridge Volumes (millions)[3]	Weighted Average Segment Toll Rate (one-way)[1]	Annual Segment Toll Transactions (millions)[2]	Pass Car Equiv (PCE) Segment Volumes (millions)[3]	Gross Toll Revenue Potential ($ millions)[4]	Plus: Pay-by-Plate Surcharge Revenue ($ millions)[5]	Less: Uncollectible Accounts/ Credit Fees ($ millions)[6]	Less: Toll Collection O&M Costs ($ millions)[7]	Less: Routine Facility O&M Costs ($ millions)[8]	Less: Sales Tax Deferral Repayment ($ millions)[9]	Net Toll Revenue Before Periodic R&R Costs ($ millions)	Less: Periodic Rehab & Repair Costs ($ millions)[7]	Net Toll Revenue After Periodic R&R Costs ($ millions)	FY 2011 NPV of Net Revenue Before R&R @ 6.5% ($ millions)
Pre-Completion*	2010																
	2011																
	2012																
	2013																
	2014																
	2015																
	2016										(8.68)			(8.68)		(8.68)	(6.33)
Post-Completion — Full Revenue Operations	2017	$3.10	28.74	29.50				91.51	5.60	(4.86)	(12.30)	(5.90)		74.05		74.05	50.75
	2018	$3.18	32.37	33.23				105.65	5.37	(5.55)	(12.61)	(6.05)		86.81	(1.02)	85.79	55.86
	2019	$3.26	34.34	35.24				114.87	4.71	(5.98)	(12.15)	(6.20)		95.25		95.25	57.55
	2020	$3.34	34.61	35.51				118.66	3.74	(6.12)	(11.07)	(6.35)		98.85		98.85	56.08
	2021	$3.42	34.88	35.79				122.57	2.75	(6.27)	(9.97)	(6.51)		102.57	(5.02)	97.54	54.64
	2022	$3.51	35.15	36.06				126.61	1.74	(6.42)	(8.85)	(6.68)	(25.51)	80.90	(0.49)	80.41	40.46
	2023	$3.60	35.42	36.34				130.78	0.70	(6.57)	(7.70)	(6.84)	(25.51)	84.86	(8.11)	76.75	39.86
	2024	$3.69	35.70	36.62				135.09	0.71	(6.79)	(7.81)	(7.01)	(25.51)	88.68	(1.19)	87.49	39.11
	2025	$3.78	35.98	36.90				139.54	0.72	(7.01)	(7.89)	(7.19)	(25.51)	92.66		92.66	38.37
	2026	$3.88	36.26	37.18				144.14	0.73	(7.24)	(7.97)	(7.37)	(25.51)	96.77	(2.50)	94.27	37.63
	2027	$3.97	36.54	37.47				148.89	0.74	(7.48)	(8.06)	(7.55)	(25.51)	101.02	(7.49)	93.53	36.88
	2028	$4.07	36.83	37.76				153.80	0.74	(7.73)	(8.14)	(7.74)	(25.51)	105.42	(4.13)	101.29	36.14
	2029	$4.18	37.12	38.05				158.87	0.75	(7.98)	(8.23)	(7.94)	(25.51)	109.96	(4.24)	105.73	35.40
	2030	$4.28	37.41	38.34				164.10	0.76	(8.24)	(8.32)	(8.13)	(25.51)	114.66	(4.34)	110.32	34.66
	2031	$4.39	37.55	38.49				168.86	0.77	(8.48)	(8.42)	(8.34)	(25.51)	118.88	(17.10)	101.78	33.74
	2032	$4.50	37.70	38.64				173.75	0.77	(8.73)	(8.48)	(8.55)		148.77	(0.62)	148.15	39.64
	2033	$4.61	37.85	38.78				178.79	0.78	(8.98)	(8.55)	(8.76)		153.28		153.28	38.35
	2034	$4.73	37.99	38.93				183.97	0.79	(9.24)	(8.61)	(8.98)		157.92		157.92	37.10
	2035	$4.84	38.14	39.08				189.30	0.79	(9.50)	(8.68)	(9.20)		162.70	(10.91)	151.79	35.89
	2036	$4.96	38.29	39.23				194.79	0.80	(9.78)	(8.75)	(9.43)		167.62	(2.50)	165.12	34.72
	2037	$5.09	38.44	39.38				200.43	0.80	(10.06)	(8.82)	(9.67)		172.68	(30.11)	142.57	33.59
	2038	$5.22	38.59	39.54				206.24	0.81	(10.35)	(8.94)	(9.91)		177.85	(1.68)	176.17	32.48
	2039	$5.35	38.74	39.69				212.22	0.82	(10.65)	(9.01)	(10.16)		183.22		183.22	31.42
	2040	$5.48	38.89	39.84				218.37	0.83	(10.96)	(9.09)	(10.41)		188.74		188.74	30.39
	2041	$5.62	38.89	39.84				223.83	0.83	(11.23)	(9.13)	(10.67)		193.62	(12.34)	181.28	29.27
	2042	$5.76	38.89	39.84				229.43	0.83	(11.51)	(9.18)	(10.94)		198.62	(18.26)	180.36	28.20
	2043	$5.90	38.89	39.84				235.16	0.84	(11.80)	(9.24)	(11.21)		203.75	(5.99)	197.76	27.16
	2044	$6.05	38.89	39.84				241.04	0.84	(12.09)	(9.29)	(11.49)		209.00	(6.14)	202.87	26.16
	2045	$6.20	38.89	39.84				247.07	0.85	(12.40)	(9.39)	(11.78)		214.34	(16.06)	198.28	25.19
	2046	$6.36	38.89	39.84				253.24	0.85	(12.70)	(9.45)	(12.08)		219.87	(2.50)	217.37	24.26
	2047	$6.52	38.89	39.84				259.57	0.85	(13.02)	(9.50)	(12.38)		225.53	(20.34)	205.19	23.37
	2048	$6.68	38.89	39.84				266.06	0.86	(13.35)	(9.56)	(12.69)		231.33		231.33	22.51
	2049	$6.84	38.89	39.84				272.71	0.86	(13.68)	(9.62)	(13.00)		237.28		237.28	21.68
	2050	$7.02	38.89	39.84				279.53	0.87	(14.02)	(9.68)	(13.33)		243.37		243.37	20.88
	2051	$7.19	38.89	39.84				286.52	0.87	(14.37)	(9.74)	(13.66)		249.62	(7.79)	241.82	20.10
	2052	$7.37	38.89	39.84				293.68	0.88	(14.73)	(9.86)	(14.00)		255.97	(3.39)	252.57	19.36
	2053	$7.56	38.89	39.84				301.03	0.88	(15.10)	(9.93)	(14.35)		262.53		262.53	18.64
	2054	$7.74	38.89	39.84				308.55	0.89	(15.47)	(10.00)	(14.71)		269.26		269.26	17.95
	2055	$7.94	38.89	39.84				316.27	0.90	(15.86)	(10.07)	(15.08)		276.15	(8.05)	268.10	17.29
	2056	$8.14	38.89	39.84				324.17	0.90	(16.25)	(10.14)	(15.46)		283.22	(10.75)	272.47	16.65
Totals FY 2010-16											(8.68)			(8.68)		(8.68)	(6.33)
Totals FY 2017-46			1106.91	1134.65				5211.54	42.75	(262.71)	(274.10)	(259.07)	(255.08)	4203.32	(162.74)	4040.58	1120.95
Totals FY 2017-56			1495.85	1533.06				8119.64	51.52	(408.56)	(372.20)	(397.75)	(255.08)	6737.57	(213.07)	6524.51	1319.37

Footnotes

[1] Reflects the average revenue per passenger car equivalent based on time-of-day variable weekday & weekend toll structures.

[2] Annual volume of vehicles subject to tolls in each travel direction after ramp up adjustment; includes autos and trucks.

[3] Converts medium & large trucks to their passenger car equivalent (PCE) based on trucks paying 2x to 4x the auto toll.

[4] Excludes toll surcharge revenue assessed to customers without transponders for pay-by-plate (video tolling/license plate list).

[5] Pay-by-plate toll surcharge revenue assessed to capture the additional collection costs of video toll/license plate list payment.

[6] 5% deduction for credit card fees & revenue loss due to the net effects of evasion, processing errors & uncollectible accounts.

[7] Both toll collection O&M costs and toll systems R&R timing differ based on when tolling begins.

[8] Pre-completion facility O&M costs are assumed to be capitalized and/or included in existing maintenance budgets.

[9] Reflects the repayment of construction sales tax deferred during construction

* Nights from 11 PM to 5 AM are toll-free for pre-completion tolling (FY 2011-2016).

General Notes

– Demand is reduced for "ramp-up" in initial years as customers get accustomed to tolls.

– Toll rate escalation and O&M inflation, where applicable, is projected at 2.5% per year.

– Weekday segment tolls & all variable rate weekend tolls do not vary by scenario.

– Weekend daily autos & trucks under variable tolls differs only between the 1 & 2 bridge cases.

I-90 Toll Traffic & Revenue Projections — SR 520 Finance Plan and Tolling Implementation Committee Scenarios

Table 8-B.M TIC Scenario 8: Mid I-90 Projection (Both SR 520 & I-90 Tolled by FY 2017)

	Fiscal Year	Weighted Average West Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions West Bridge (millions)[2]	Pass Car Equiv (PCE) West Bridge Volumes (millions)[3]	Weighted Average East Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions East Bridge (millions)[2]	Pass Car Equiv (PCE) East Bridge Volumes (millions)[3]	Gross Toll Revenue Potential ($ millions)[4]	Plus: Pay-by-Plate Surcharge Revenue ($ millions)[5]	Less: Uncollectible Accounts/ Credit Fees ($ millions)[6]	Less: Toll Collection O&M Costs ($ millions)[7]	Less: Routine Facility O&M Costs ($ millions)[8]	Net Toll Revenue Before Periodic R&R Costs ($ millions)	Less: Periodic Rehab & Repair Costs ($ millions)[7]	Net Toll Revenue After Periodic R&R Costs ($ millions)	FY 2011 NPV of Net Revenue Before R&R @ 6.5% ($ millions)
Pre-Completion*	2010															
	2011															
	2012															
	2013															
	2014															
	2015															
	2016										(1.74)		(1.74)		(1.74)	(1.27)
Post-Completion — Full Revenue Operations	2017	$2.34	31.40	33.62				78.72	9.17	(4.39)	(13.02)	(9.36)	61.13	(0.03)	61.10	41.89
	2018	$2.40	35.51	38.04				91.29	9.37	(5.03)	(13.41)	(9.59)	72.62	(2.21)	70.41	46.73
	2019	$2.46	37.83	40.54				99.71	8.89	(5.43)	(12.95)	(9.83)	80.39	(0.49)	79.90	48.58
	2020	$2.52	38.29	41.04				103.45	7.90	(5.57)	(11.80)	(10.08)	83.91	(7.58)	76.33	47.60
	2021	$2.58	38.75	41.55				107.34	6.87	(5.71)	(10.62)	(10.33)	87.55	(1.76)	85.80	46.64
	2022	$2.65	39.21	42.06				111.37	5.82	(5.86)	(9.41)	(10.59)	91.34	(0.27)	91.07	45.69
	2023	$2.71	39.69	42.59				115.56	4.72	(6.01)	(8.15)	(10.85)	95.27	(7.84)	87.43	44.75
	2024	$2.78	40.16	43.11				119.90	3.60	(6.18)	(8.31)	(11.12)	97.89	(2.03)	95.87	43.17
	2025	$2.85	40.65	43.65				124.41	2.44	(6.34)	(8.43)	(11.40)	100.67		100.67	41.69
	2026	$2.92	41.14	44.19				129.09	1.65	(6.54)	(8.55)	(11.68)	103.96		103.96	40.42
	2027	$2.99	41.63	44.74				133.94	1.67	(6.78)	(8.68)	(11.98)	108.18	(4.97)	103.21	39.50
	2028	$3.07	42.13	45.30				138.98	1.70	(7.03)	(8.80)	(12.28)	112.57	(5.22)	107.35	38.59
	2029	$3.14	42.64	45.86				144.21	1.73	(7.30)	(8.93)	(12.58)	117.12	(4.43)	112.69	37.70
	2030	$3.22	43.15	46.43				149.63	1.76	(7.57)	(9.06)	(12.90)	121.86	(9.11)	112.75	36.83
	2031	$3.30	43.41	46.72				154.31	1.77	(7.80)	(9.20)	(13.22)	125.87	(9.03)	116.84	35.72
	2032	$3.39	43.67	47.01				159.15	1.79	(8.05)	(9.28)	(13.55)	130.05	(0.31)	129.74	34.66
	2033	$3.47	43.94	47.30				164.13	1.81	(8.30)	(9.37)	(13.89)	134.38	(8.69)	125.69	33.62
	2034	$3.56	44.20	47.59				169.27	1.83	(8.55)	(9.46)	(14.24)	138.84	(1.84)	136.99	32.62
	2035	$3.65	44.47	47.89				174.57	1.85	(8.82)	(9.56)	(14.59)	143.44	(14.81)	128.64	31.64
	2036	$3.74	44.74	48.19				180.03	1.86	(9.09)	(9.65)	(14.96)	148.20	(0.12)	148.08	30.70
	2037	$3.83	45.01	48.49				185.67	1.88	(9.38)	(9.74)	(15.33)	153.10	(2.81)	150.29	29.78
	2038	$3.92	45.28	48.79				191.48	1.90	(9.67)	(9.90)	(15.71)	158.10	(5.15)	152.95	28.87
	2039	$4.02	45.55	49.09				197.48	1.92	(9.97)	(10.00)	(16.11)	163.33	(15.76)	147.57	28.01
	2040	$4.12	45.82	49.40				203.66	1.94	(10.28)	(10.10)	(16.51)	168.72	(165.91)	2.81	27.17
	2041	$4.22	45.89	49.46				208.95	1.96	(10.55)	(10.16)	(16.92)	173.27	(174.39)	(1.11)	26.20
	2042	$4.33	45.95	49.53				214.37	1.97	(10.82)	(10.23)	(17.35)	177.95	(6.39)	171.56	25.26
	2043	$4.44	46.01	49.59				219.93	1.98	(11.10)	(10.29)	(17.78)	182.75	(17.39)	165.36	24.36
	2044	$4.54	46.08	49.65				225.65	1.99	(11.38)	(10.36)	(18.22)	187.67	(6.82)	180.85	23.49
	2045	$4.66	46.14	49.72				231.51	2.01	(11.68)	(10.50)	(18.68)	192.66	(9.57)	183.08	22.64
	2046	$4.77	46.21	49.78				237.52	2.02	(11.98)	(10.57)	(19.15)	197.84		197.84	21.83
	2047	$4.89	46.27	49.85				243.69	2.03	(12.29)	(10.64)	(19.63)	203.17	(1.24)	201.93	21.05
	2048	$5.01	46.34	49.91				250.02	2.05	(12.60)	(10.72)	(20.12)	208.63	(1.46)	207.18	20.30
	2049	$5.13	46.41	49.98				256.52	2.06	(12.93)	(10.79)	(20.62)	214.24	(2.82)	211.42	19.57
	2050	$5.26	46.47	50.05				263.19	2.08	(13.26)	(10.87)	(21.13)	220.00	(15.90)	204.10	18.87
	2051	$5.39	46.54	50.12				270.03	2.09	(13.61)	(10.95)	(21.66)	225.91	(3.69)	222.22	18.19
	2052	$5.52	46.61	50.18				277.05	2.11	(13.96)	(11.11)	(22.20)	231.89	(4.13)	227.76	17.54
	2053	$5.66	46.68	50.25				284.26	2.12	(14.32)	(11.19)	(22.76)	238.11	(16.45)	221.66	16.91
	2054	$5.80	46.74	50.32				291.66	2.14	(14.69)	(11.28)	(23.33)	244.50		244.50	16.30
	2055	$5.94	46.81	50.39				299.25	2.15	(15.07)	(11.36)	(23.91)	251.06	(9.08)	241.98	15.72
	2056	$6.08	46.88	50.46				307.04	2.17	(15.46)	(11.45)	(24.51)	257.79	(8.64)	249.15	15.15
Totals FY 2010-16											(1.74)		(1.74)		(1.74)	(1.27)
Totals FY 2017-46			1274.54	1370.92				4765.28	97.78	(243.15)	(298.50)	(410.76)	3910.65	(484.92)	3425.73	1056.35
Totals FY 2017-56			1740.30	1872.42				7507.99	118.78	(381.34)	(408.86)	(630.63)	6205.94	(548.30)	5657.63	1235.95

Footnotes

[1] Reflects the average revenue per passenger car equivalent based on time-of-day variable weekday & weekend toll structures.

[2] Annual volume of vehicles subject to tolls in each travel direction after ramp up adjustment; includes autos and trucks.

[3] Converts medium & large trucks to their passenger car equivalent (PCE) based on trucks paying 2x to 4x the auto toll.

[4] Excludes toll surcharge revenue assessed to customers without transponders for pay-by-plate (video tolling/license plate list).

[5] Pay-by-plate toll surcharge revenue assessed to capture the additional collection costs of video toll/license plate list payment.

[6] 5% deduction for credit card fees & revenue loss due to the net effects of evasion, processing errors & uncollectible accounts.

[7] Both toll collection O&M costs and toll systems R&R timing differ based on when tolling begins.

[8] Pre-completion facility O&M costs are assumed to be capitalized and/or included in existing maintenance budgets.

[9] Reflects the repayment of construction sales tax deferred during construction

* Nights from 11 PM to 5 AM are toll-free for pre-completion tolling (FY 2011-2016).

General Notes

– Demand is reduced for "ramp-up" in initial years as customers get accustomed to tolls.

– Toll rate escalation and O&M inflation, where applicable, is projected at 2.5% per year.

– Weekday segment tolls & all variable rate weekend tolls do not vary by scenario.

– Weekend daily autos & trucks under variable tolls differs only between the 1 & 2 bridge cases.

SR 520 Toll Traffic & Revenue Projections — SR 520 Finance Plan and Tolling Implementation Committee Scenarios

Table 8-A.H TIC Scenario 8: Higher SR 520 Projection (Both SR 520 & I-90 Tolled by FY 2017)

	Fiscal Year	Weighted Average Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions Bridge Span (millions)[2]	Pass Car Equiv (PCE) Bridge Volumes (millions)[3]	Weighted Average Segment Toll Rate (one-way)[1]	Annual Segment Toll Transactions (millions)[2]	Pass Car Equiv (PCE) Segment Volumes (millions)[3]	Gross Toll Revenue Potential ($ millions)[4]	Plus: Pay-by-Plate Surcharge Revenue ($ millions)[5]	Less: Uncollectible Accounts/ Credit Fees ($ millions)[6]	Less: Toll Collection O&M Costs ($ millions)[7]	Less: Routine Facility O&M Costs ($ millions)[8]	Less: Sales Tax Deferral Repayment ($ millions)[9]	Net Toll Revenue Before Periodic R&R Costs ($ millions)	Less: Periodic Rehab & Repair Costs ($ millions)[7]	Net Toll Revenue After Periodic R&R Costs ($ millions)	FY 2011 NPV of Net Revenue Before R&R @ 6.5% ($ millions)
Pre-Completion*	2010	$8.00															
	2011																
	2012																
	2013																
	2014																
	2015																
	2016										(8.68)			(8.68)		(8.68)	(6.33)
Post-Completion — Full Revenue Operations	2017	$3.10	30.25	31.05				96.33	5.89	(5.11)	(12.88)	(5.90)		78.33		78.33	53.68
	2018	$3.18	34.07	34.97				111.21	5.66	(5.84)	(13.21)	(6.05)		91.77	(1.02)	90.74	59.05
	2019	$3.26	36.15	37.10				120.92	4.96	(6.29)	(12.72)	(6.20)		100.66		100.66	60.82
	2020	$3.34	36.43	37.38				124.90	3.94	(6.44)	(11.58)	(6.35)		104.46		104.46	59.27
	2021	$3.42	36.71	37.67				129.02	2.89	(6.60)	(10.42)	(6.51)		108.38	(5.02)	103.36	57.74
	2022	$3.51	37.00	37.96				133.27	1.83	(6.75)	(9.24)	(6.68)	(25.51)	86.92	(0.49)	86.43	43.48
	2023	$3.60	37.29	38.25				137.66	0.74	(6.92)	(8.03)	(6.84)	(25.51)	91.10	(8.11)	82.99	42.79
	2024	$3.69	37.58	38.55				142.20	0.75	(7.15)	(8.14)	(7.01)	(25.51)	95.14	(1.19)	93.95	41.96
	2025	$3.78	37.87	38.84				146.88	0.76	(7.38)	(8.23)	(7.19)	(25.51)	99.34		99.34	41.13
	2026	$3.88	38.17	39.14				151.72	0.77	(7.62)	(8.31)	(7.37)	(25.51)	103.68	(2.50)	101.18	40.31
	2027	$3.97	38.47	39.44				156.73	0.77	(7.87)	(8.40)	(7.55)	(25.51)	108.16	(7.49)	100.67	39.49
	2028	$4.07	38.77	39.74				161.89	0.78	(8.13)	(8.49)	(7.74)	(25.51)	112.80	(4.13)	108.67	38.67
	2029	$4.18	39.07	40.05				167.23	0.79	(8.40)	(8.58)	(7.94)	(25.51)	117.60	(4.24)	113.36	37.85
	2030	$4.28	39.38	40.36				172.74	0.80	(8.68)	(8.67)	(8.13)	(25.51)	122.55	(4.34)	118.21	37.04
	2031	$4.39	39.53	40.51				177.75	0.81	(8.93)	(8.77)	(8.34)	(25.51)	127.01	(17.10)	109.91	36.04
	2032	$4.50	39.68	40.67				182.90	0.81	(9.19)	(8.84)	(8.55)		157.14	(0.62)	156.52	41.87
	2033	$4.61	39.84	40.83				188.20	0.82	(9.45)	(8.91)	(8.76)		161.90		161.90	40.51
	2034	$4.73	39.99	40.98				193.65	0.83	(9.72)	(8.97)	(8.98)		166.80		166.80	39.19
	2035	$4.84	40.15	41.14				199.26	0.83	(10.00)	(9.05)	(9.20)		171.84	(10.91)	160.94	37.91
	2036	$4.96	40.31	41.30				205.04	0.84	(10.29)	(9.12)	(9.43)		177.03	(2.50)	174.53	36.67
	2037	$5.09	40.46	41.46				210.98	0.85	(10.59)	(9.19)	(9.67)		182.38	(30.11)	152.27	35.47
	2038	$5.22	40.62	41.62				217.10	0.85	(10.90)	(9.31)	(9.91)		187.84	(1.68)	186.16	34.30
	2039	$5.35	40.78	41.78				223.39	0.86	(11.21)	(9.38)	(10.16)		193.50		193.50	33.18
	2040	$5.48	40.94	41.94				229.86	0.87	(11.54)	(9.46)	(10.41)		199.32		199.32	32.09
	2041	$5.62	40.94	41.94				235.61	0.87	(11.82)	(9.51)	(10.67)		204.48	(12.34)	192.14	30.91
	2042	$5.76	40.94	41.94				241.50	0.88	(12.12)	(9.56)	(10.94)		209.76	(18.26)	191.49	29.78
	2043	$5.90	40.94	41.94				247.54	0.88	(12.42)	(9.61)	(11.21)		215.17	(5.99)	209.19	28.68
	2044	$6.05	40.94	41.94				253.73	0.89	(12.73)	(9.66)	(11.49)		220.72	(6.14)	214.59	27.63
	2045	$6.20	40.94	41.94				260.07	0.89	(13.05)	(9.77)	(11.78)		226.36	(16.06)	210.30	26.60
	2046	$6.36	40.94	41.94				266.57	0.89	(13.37)	(9.82)	(12.08)		232.19	(2.50)	229.69	25.62
	2047	$6.52	40.94	41.94				273.24	0.90	(13.71)	(9.88)	(12.38)		238.17	(20.34)	217.83	24.68
	2048	$6.68	40.94	41.94				280.07	0.90	(14.05)	(9.94)	(12.69)		244.30		244.30	23.77
	2049	$6.84	40.94	41.94				287.07	0.91	(14.40)	(10.00)	(13.00)		250.57		250.57	22.89
	2050	$7.02	40.94	41.94				294.24	0.91	(14.76)	(10.06)	(13.33)		257.01		257.01	22.05
	2051	$7.19	40.94	41.94				301.60	0.92	(15.13)	(10.13)	(13.66)		263.61	(7.79)	255.81	21.23
	2052	$7.37	40.94	41.94				309.14	0.93	(15.50)	(10.25)	(14.00)		270.31	(3.39)	266.92	20.44
	2053	$7.56	40.94	41.94				316.87	0.93	(15.89)	(10.31)	(14.35)		277.24		277.24	19.69
	2054	$7.74	40.94	41.94				324.79	0.94	(16.29)	(10.38)	(14.71)		284.35		284.35	18.96
	2055	$7.94	40.94	41.94				332.91	0.94	(16.69)	(10.45)	(15.08)		291.63	(8.05)	283.57	18.26
	2056	$8.14	40.94	41.94				341.23	0.95	(17.11)	(10.52)	(15.46)		299.09	(10.75)	288.34	17.58
Totals FY 2010-16											(8.68)			(8.68)		(8.68)	(6.33)
Totals FY 2017-46			1165.17	1194.36				5485.83	45.00	(276.54)	(285.81)	(259.07)	(255.08)	4454.33	(162.74)	4291.58	1189.75
Totals FY 2017-56			1574.58	1613.75				8546.99	54.23	(430.06)	(387.74)	(397.75)	(255.08)	7130.59	(213.07)	6917.52	1399.29

Footnotes

[1] Reflects the average revenue per passenger car equivalent based on time-of-day variable weekday & weekend toll structures.

[2] Annual volume of vehicles subject to tolls in each travel direction after ramp up adjustment; includes autos and trucks.

[3] Converts medium & large trucks to their passenger car equivalent (PCE) based on trucks paying 2x to 4x the auto toll.

[4] Excludes toll surcharge revenue assessed to customers without transponders for pay-by-plate (video tolling/license plate list).

[5] Pay-by-plate toll surcharge revenue assessed to capture the additional collection costs of video toll/license plate list payment.

[6] 5% deduction for credit card fees & revenue loss due to the net effects of evasion, processing errors & uncollectible accounts.

[7] Both toll collection O&M costs and toll systems R&R timing differ based on when tolling begins.

[8] Pre-completion facility O&M costs are assumed to be capitalized and/or included in existing maintenance budgets.

[9] Reflects the repayment of construction sales tax deferred during construction

* Nights from 11 PM to 5 AM are toll-free for pre-completion tolling (FY 2011-2016).

General Notes

– Demand is reduced for "ramp-up" in initial years as customers get accustomed to tolls.

– Toll rate escalation and O&M inflation, where applicable, is projected at 2.5% per year.

– Weekday segment tolls & all variable rate weekend tolls do not vary by scenario.

– Weekend daily autos & trucks under variable tolls differs only between the 1 & 2 bridge cases.

I-90 Toll Traffic & Revenue Projections — SR 520 Finance Plan and Tolling Implementation Committee Scenarios

Table 8-B.H TIC Scenario 8: Higher I-90 Projection (Both SR 520 & I-90 Tolled by FY 2017)

	Fiscal Year	Weighted Average West Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions West Bridge (millions)[2]	Pass Car Equiv (PCE) West Bridge Volumes (millions)[3]	Weighted Average East Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions East Bridge (millions)[2]	Pass Car Equiv (PCE) East Bridge Volumes (millions)[3]	Gross Toll Revenue Potential ($ millions)[4]	Plus: Pay-by-Plate Surcharge Revenue ($ millions)[5]	Less: Uncollectible Accounts/ Credit Fees ($ millions)[6]	Less: Toll Collection O&M Costs ($ millions)[7]	Less: Routine Facility O&M Costs ($ millions)[8]	Net Toll Revenue Before Periodic R&R Costs ($ millions)	Less: Periodic Rehab & Repair Costs ($ millions)[7]	Net Toll Revenue After Periodic R&R Costs ($ millions)	FY 2011 NPV of Net Revenue Before R&R @ 6.5% ($ millions)
Pre-Completion*	2010															
	2011															
	2012															
	2013															
	2014															
	2015															
	2016										(1.74)		(1.74)		(1.74)	(1.27)
Post-Completion — Full Revenue Operations	2017	$2.34	33.05	35.39				82.87	9.66	(4.63)	(13.65)	(9.36)	64.89	(0.03)	64.86	44.47
	2018	$2.40	37.38	40.04				96.10	9.86	(5.30)	(14.06)	(9.59)	77.01	(2.21)	74.79	49.55
	2019	$2.46	39.82	42.67				104.95	9.36	(5.72)	(13.58)	(9.83)	85.20	(0.49)	84.71	51.48
	2020	$2.52	40.30	43.20				108.90	8.32	(5.86)	(12.37)	(10.08)	88.91	(7.58)	81.33	50.44
	2021	$2.58	40.79	43.74				112.99	7.24	(6.01)	(11.13)	(10.33)	92.76	(1.76)	91.00	49.42
	2022	$2.65	41.28	44.28				117.24	6.12	(6.17)	(9.84)	(10.59)	96.76	(0.27)	96.49	48.40
	2023	$2.71	41.77	44.83				121.64	4.97	(6.33)	(8.52)	(10.85)	100.91	(7.84)	93.07	47.40
	2024	$2.78	42.28	45.38				126.22	3.79	(6.50)	(8.69)	(11.12)	103.69	(2.03)	101.67	45.73
	2025	$2.85	42.79	45.95				130.96	2.56	(6.68)	(8.81)	(11.40)	106.64		106.64	44.16
	2026	$2.92	43.30	46.52				135.88	1.74	(6.88)	(8.94)	(11.68)	110.12		110.12	42.82
	2027	$2.99	43.82	47.09				140.99	1.76	(7.14)	(9.07)	(11.98)	114.57	(4.97)	109.60	41.83
	2028	$3.07	44.35	47.68				146.29	1.79	(7.40)	(9.20)	(12.28)	119.21	(5.22)	113.99	40.87
	2029	$3.14	44.88	48.27				151.80	1.82	(7.68)	(9.33)	(12.58)	124.02	(4.43)	119.59	39.92
	2030	$3.22	45.42	48.87				157.50	1.85	(7.97)	(9.47)	(12.90)	129.02	(9.11)	119.91	39.00
	2031	$3.30	45.70	49.18				162.44	1.87	(8.22)	(9.61)	(13.22)	133.26	(9.03)	124.24	37.82
	2032	$3.39	45.97	49.48				167.52	1.88	(8.47)	(9.70)	(13.55)	137.69	(0.31)	137.38	36.69
	2033	$3.47	46.25	49.79				172.77	1.90	(8.73)	(9.79)	(13.89)	142.26	(8.69)	133.57	35.59
	2034	$3.56	46.53	50.10				178.18	1.92	(9.00)	(9.88)	(14.24)	146.97	(1.84)	145.13	34.53
	2035	$3.65	46.81	50.41				183.75	1.94	(9.28)	(9.98)	(14.59)	151.84	(14.81)	137.04	33.50
	2036	$3.74	47.09	50.72				189.51	1.96	(9.57)	(10.07)	(14.96)	156.87	(0.12)	156.75	32.49
	2037	$3.83	47.37	51.04				195.44	1.98	(9.87)	(10.17)	(15.33)	162.05	(2.81)	159.24	31.52
	2038	$3.92	47.66	51.36				201.56	2.00	(10.18)	(10.33)	(15.71)	167.34	(5.15)	162.19	30.56
	2039	$4.02	47.95	51.68				207.87	2.03	(10.49)	(10.43)	(16.11)	172.86	(15.76)	157.10	29.64
	2040	$4.12	48.24	52.00				214.38	2.05	(10.82)	(10.54)	(16.51)	178.56	(165.91)	12.65	28.75
	2041	$4.22	48.30	52.07				219.94	2.06	(11.10)	(10.60)	(16.92)	183.38	(174.39)	8.99	27.72
	2042	$4.33	48.37	52.13				225.65	2.07	(11.39)	(10.67)	(17.35)	188.32	(6.39)	181.93	26.73
	2043	$4.44	48.44	52.20				231.51	2.09	(11.68)	(10.74)	(17.78)	193.40	(17.39)	176.02	25.78
	2044	$4.54	48.50	52.27				237.52	2.10	(11.98)	(10.80)	(18.22)	198.61	(6.82)	191.79	24.86
	2045	$4.66	48.57	52.34				243.69	2.11	(12.29)	(10.95)	(18.68)	203.89	(9.57)	194.31	23.96
	2046	$4.77	48.64	52.40				250.02	2.13	(12.61)	(11.02)	(19.15)	209.37		209.37	23.10
	2047	$4.89	48.71	52.47				256.51	2.14	(12.93)	(11.09)	(19.63)	215.01	(1.24)	213.77	22.28
	2048	$5.01	48.78	52.54				263.18	2.16	(13.27)	(11.17)	(20.12)	220.79	(1.46)	219.33	21.48
	2049	$5.13	48.85	52.61				270.02	2.17	(13.61)	(11.24)	(20.62)	226.72	(2.82)	223.90	20.71
	2050	$5.26	48.92	52.68				277.04	2.19	(13.96)	(11.32)	(21.13)	232.81	(15.90)	216.91	19.97
	2051	$5.39	48.99	52.75				284.24	2.20	(14.32)	(11.40)	(21.66)	239.06	(3.69)	235.37	19.25
	2052	$5.52	49.06	52.82				291.64	2.22	(14.69)	(11.57)	(22.20)	245.39	(4.13)	241.26	18.56
	2053	$5.66	49.13	52.90				299.22	2.23	(15.07)	(11.66)	(22.76)	251.97	(16.45)	235.52	17.89
	2054	$5.80	49.20	52.97				307.01	2.25	(15.46)	(11.74)	(23.33)	258.73		258.73	17.25
	2055	$5.94	49.28	53.04				315.00	2.27	(15.86)	(11.83)	(23.91)	265.66	(9.08)	256.58	16.63
	2056	$6.08	49.35	53.11				323.20	2.29	(16.27)	(11.92)	(24.51)	272.78	(8.64)	264.14	16.04
Totals FY 2010-16											(1.74)		(1.74)		(1.74)	(1.27)
Totals FY 2017-46			1341.63	1443.07				5016.09	102.92	(255.95)	(311.92)	(410.76)	4140.37	(484.92)	3655.45	1118.73
Totals FY 2017-56			1831.90	1970.97				7903.14	125.03	(401.41)	(426.87)	(630.63)	6569.26	(548.30)	6020.96	1308.79

Footnotes

[1] Reflects the average revenue per passenger car equivalent based on time-of-day variable weekday & weekend toll structures.

[2] Annual volume of vehicles subject to tolls in each travel direction after ramp up adjustment; includes autos and trucks.

[3] Converts medium & large trucks to their passenger car equivalent (PCE) based on trucks paying 2x to 4x the auto toll.

[4] Excludes toll surcharge revenue assessed to customers without transponders for pay-by-plate (video tolling/license plate list).

[5] Pay-by-plate toll surcharge revenue assessed to capture the additional collection costs of video toll/license plate list payment.

[6] 5% deduction for credit card fees & revenue loss due to the net effects of evasion, processing errors & uncollectible accounts.

[7] Both toll collection O&M costs and toll systems R&R timing differ based on when tolling begins.

[8] Pre-completion facility O&M costs are assumed to be capitalized and/or included in existing maintenance budgets.

[9] Reflects the repayment of construction sales tax deferred during construction

* Nights from 11 PM to 5 AM are toll-free for pre-completion tolling (FY 2011-2016).

General Notes

– Demand is reduced for "ramp-up" in initial years as customers get accustomed to tolls.

– Toll rate escalation and O&M inflation, where applicable, is projected at 2.5% per year.

– Weekday segment tolls & all variable rate weekend tolls do not vary by scenario.

– Weekend daily autos & trucks under variable tolls differs only between the 1 & 2 bridge cases.

SR 520 Toll Traffic & Revenue Projections — SR 520 Finance Plan and Tolling Implementation Committee Scenarios

Table 9-A.M TIC Scenario 9: Mid SR 520 Projection (Both SR 520 & I-90 Tolled by FY 2011)

	Fiscal Year	Weighted Average Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions Bridge Span (millions)[2]	Pass Car Equiv (PCE) Bridge Volumes (millions)[3]	Weighted Average Segment Toll Rate (one-way)[1]	Annual Segment Toll Transactions (millions)[2]	Pass Car Equiv (PCE) Segment Volumes (millions)[3]	Gross Toll Revenue Potential ($ millions)[4]	Plus: Pay-by-Plate Surcharge Revenue ($ millions)[5]	Less: Uncollectible Accounts/ Credit Fees ($ millions)[6]	Less: Toll Collection O&M Costs ($ millions)[7]	Less: Routine Facility O&M Costs ($ millions)[8]	Less: Sales Tax Deferral Repayment ($ millions)[9]	Net Toll Revenue Before Periodic R&R Costs ($ millions)	Less: Periodic Rehab & Repair Costs ($ millions)[7]	Net Toll Revenue After Periodic R&R Costs ($ millions)	FY 2011 NPV of Net Revenue Before R&R @ 6.5% ($ millions)
Pre-Completion*	2010										(7.48)			(7.48)		(7.48)	(7.97)
	2011	$1.87	26.14	26.97				50.50	5.01	(2.78)	(11.08)			41.65		41.65	41.65
	2012	$1.92	29.37	30.30				58.15	5.08	(3.16)	(11.67)			48.40		48.40	45.45
	2013	$1.97	31.07	32.07				63.08	4.79	(3.39)	(11.60)			52.87		52.87	46.61
	2014	$2.02	31.24	32.24				65.00	4.22	(3.46)	(10.98)			54.78		54.78	45.35
	2015	$2.07	31.40	32.41				66.98	3.65	(3.53)	(10.34)			56.75		56.75	44.12
	2016	$2.12	31.57	32.59				69.02	3.07	(3.60)	(9.70)			58.78	(2.50)	56.28	42.90
Post-Completion — Full Revenue Operations	2017	$2.11	33.85	35.00				73.69	2.64	(3.82)	(9.59)	(5.90)		57.03		57.03	39.08
	2018	$2.16	35.84	37.05				79.96	2.10	(4.10)	(9.28)	(6.05)		62.63	(1.02)	61.61	40.30
	2019	$2.21	36.05	37.27				82.43	1.41	(4.19)	(8.52)	(6.20)		64.92		64.92	39.23
	2020	$2.27	36.26	37.48				84.97	0.71	(4.28)	(7.76)	(6.35)		67.29		67.29	38.18
	2021	$2.32	36.48	37.70				87.59	0.72	(4.42)	(7.83)	(6.51)		69.56	(5.02)	64.53	37.05
	2022	$2.38	36.70	37.91				90.29	0.73	(4.55)	(7.89)	(6.68)	(25.51)	46.39	(0.49)	45.90	23.21
	2023	$2.44	36.91	38.13				93.08	0.73	(4.69)	(7.96)	(6.84)	(25.51)	48.81	(8.11)	40.70	22.92
	2024	$2.50	37.13	38.35				95.95	0.74	(4.83)	(8.06)	(7.01)	(25.51)	51.27	(1.19)	50.08	22.61
	2025	$2.56	37.35	38.58				98.91	0.75	(4.98)	(8.13)	(7.19)	(25.51)	53.84		53.84	22.30
	2026	$2.63	37.57	38.80				101.96	0.75	(5.14)	(8.21)	(7.37)	(25.51)	56.50	(2.50)	54.00	21.97
	2027	$2.69	37.80	39.02				105.11	0.76	(5.29)	(8.28)	(7.55)	(25.51)	59.23	(7.49)	51.74	21.63
	2028	$2.76	38.02	39.25				108.35	0.77	(5.46)	(8.35)	(7.74)	(25.51)	62.06	(4.13)	57.92	21.27
	2029	$2.83	38.25	39.48				111.69	0.77	(5.62)	(8.43)	(7.94)	(25.51)	64.97	(4.24)	60.73	20.91
	2030	$2.90	38.47	39.70				115.14	0.78	(5.80)	(8.51)	(8.13)	(25.51)	67.97	(4.34)	63.63	20.55
	2031	$2.97	38.59	39.82				118.36	0.79	(5.96)	(8.60)	(8.34)	(25.51)	70.74	(17.10)	53.64	20.08
	2032	$3.05	38.70	39.93				121.66	0.79	(6.12)	(8.66)	(8.55)		99.12	(0.62)	98.50	26.41
	2033	$3.12	38.82	40.05				125.06	0.80	(6.29)	(8.72)	(8.76)		102.08		102.08	25.54
	2034	$3.20	38.93	40.17				128.55	0.80	(6.47)	(8.78)	(8.98)		105.13		105.13	24.70
	2035	$3.28	39.05	40.28				132.14	0.81	(6.65)	(8.85)	(9.20)		108.26	(10.91)	97.35	23.88
	2036	$3.36	39.16	40.40				135.83	0.82	(6.83)	(8.91)	(9.43)		111.47	(2.50)	108.97	23.09
	2037	$3.45	39.28	40.52				139.63	0.82	(7.02)	(8.98)	(9.67)		114.78	(30.11)	84.67	22.32
	2038	$3.53	39.40	40.63				143.53	0.83	(7.22)	(9.08)	(9.91)		118.14	(1.68)	116.47	21.58
	2039	$3.62	39.51	40.75				147.54	0.83	(7.42)	(9.15)	(10.16)		121.64		121.64	20.86
	2040	$3.71	39.63	40.87				151.66	0.84	(7.62)	(9.22)	(10.41)		125.24		125.24	20.17
	2041	$3.80	39.63	40.87				155.45	0.84	(7.81)	(9.27)	(10.67)		128.54	(12.34)	116.20	19.43
	2042	$3.90	39.63	40.87				159.34	0.85	(8.01)	(9.32)	(10.94)		131.92	(18.26)	113.65	18.73
	2043	$4.00	39.63	40.87				163.32	0.85	(8.21)	(9.37)	(11.21)		135.38	(5.99)	129.39	18.05
	2044	$4.10	39.63	40.87				167.40	0.86	(8.41)	(9.42)	(11.49)		138.93	(6.14)	132.79	17.39
	2045	$4.20	39.63	40.87				171.59	0.86	(8.62)	(9.53)	(11.78)		142.52	(16.06)	126.46	16.75
	2046	$4.30	39.63	40.87				175.88	0.87	(8.84)	(9.58)	(12.08)		146.25	(2.50)	143.75	16.14
	2047	$4.41	39.63	40.87				180.27	0.87	(9.06)	(9.64)	(12.38)		150.07	(20.34)	129.74	15.55
	2048	$4.52	39.63	40.87				184.78	0.88	(9.28)	(9.70)	(12.69)		153.99		153.99	14.98
	2049	$4.63	39.63	40.87				189.40	0.88	(9.51)	(9.76)	(13.00)		158.01		158.01	14.43
	2050	$4.75	39.63	40.87				194.14	0.89	(9.75)	(9.82)	(13.33)		162.12		162.12	13.91
	2051	$4.87	39.63	40.87				198.99	0.89	(9.99)	(9.88)	(13.66)		166.34	(7.79)	158.55	13.40
	2052	$4.99	39.63	40.87				203.96	0.90	(10.24)	(10.00)	(14.00)		170.61	(3.39)	167.22	12.90
	2053	$5.12	39.63	40.87				209.06	0.90	(10.50)	(10.07)	(14.35)		175.04		175.04	12.43
	2054	$5.24	39.63	40.87				214.29	0.91	(10.76)	(10.14)	(14.71)		179.59		179.59	11.97
	2055	$5.37	39.63	40.87				219.65	0.91	(11.03)	(10.21)	(15.08)		184.24	(8.05)	176.19	11.53
	2056	$5.51	39.63	40.87				225.14	0.92	(11.30)	(10.28)	(15.46)		189.02	(10.75)	178.26	11.11
Totals FY 2010-16			180.78	186.57				372.74	25.81	(19.93)	(72.86)			305.76	(2.50)	303.26	258.12
Totals FY 2017-46			1145.53	1182.37				3666.06	27.63	(184.68)	(262.25)	(259.07)	(255.08)	2732.61	(162.74)	2569.87	726.32
Totals FY 2017-56			1541.84	1591.07				5685.73	36.57	(286.11)	(361.72)	(397.75)	(255.08)	4421.64	(213.07)	4208.57	858.54

Footnotes

[1] Reflects the average revenue per passenger car equivalent based on time-of-day variable weekday & weekend toll structures.

[2] Annual volume of vehicles subject to tolls in each travel direction after ramp up adjustment; includes autos and trucks.

[3] Converts medium & large trucks to their passenger car equivalent (PCE) based on trucks paying 2x to 4x the auto toll.

[4] Excludes toll surcharge revenue assessed to customers without transponders for pay-by-plate (video tolling/license plate list).

[5] Pay-by-plate toll surcharge revenue assessed to capture the additional collection costs of video toll/license plate list payment.

[6] 5% deduction for credit card fees & revenue loss due to the net effects of evasion, processing errors & uncollectible accounts.

[7] Both toll collection O&M costs and toll systems R&R timing differ based on when tolling begins.

[8] Pre-completion facility O&M costs are assumed to be capitalized and/or included in existing maintenance budgets.

[9] Reflects the repayment of construction sales tax deferred during construction

* Nights from 11 PM to 5 AM are toll-free for pre-completion tolling (FY 2011-2016).

General Notes

– Demand is reduced for "ramp-up" in initial years as customers get accustomed to tolls.

– Toll rate escalation and O&M inflation, where applicable, is projected at 2.5% per year.

– Weekday segment tolls & all variable rate weekend tolls do not vary by scenario.

– Weekend daily autos & trucks under variable tolls differs only between the 1 & 2 bridge cases.

I-90 Toll Traffic & Revenue Projections — SR 520 Finance Plan and Tolling Implementation Committee Scenarios

Table 9-B.M TIC Scenario 9: Mid I-90 Projection (Both SR 520 & I-90 Tolled by FY 2011)

	Fiscal Year	Weighted Average West Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions West Bridge (millions)[2]	Pass Car Equiv (PCE) West Bridge Volumes (millions)[3]	Weighted Average East Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions East Bridge (millions)[2]	Pass Car Equiv (PCE) East Bridge Volumes (millions)[3]	Gross Toll Revenue Potential ($ millions)[4]	Plus: Pay-by-Plate Surcharge Revenue ($ millions)[5]	Less: Uncollectible Accounts/ Credit Fees ($ millions)[6]	Less: Toll Collection O&M Costs ($ millions)[7]	Less: Routine Facility O&M Costs ($ millions)[8]	Net Toll Revenue Before Periodic R&R Costs ($ millions)	Less: Periodic Rehab & Repair Costs ($ millions)[7]	Net Toll Revenue After Periodic R&R Costs ($ millions)	FY 2011 NPV of Net Revenue Before R&R @ 6.5% ($ millions)
Pre-Completion*	2010										(1.50)		(1.50)		(1.50)	(1.59)
	2011	$1.88	29.73	31.53				59.19	8.55	(3.39)	(12.13)		52.22		52.22	52.22
	2012	$1.92	33.47	35.51				68.33	9.00	(3.87)	(12.82)		60.64		60.64	56.94
	2013	$1.97	35.48	37.66				74.29	8.89	(4.16)	(12.77)		66.25		66.25	58.41
	2014	$2.02	35.74	37.95				76.73	8.28	(4.25)	(12.07)		68.69		68.69	56.86
	2015	$2.07	36.00	38.25				79.25	7.67	(4.35)	(11.37)		71.21		71.21	55.35
	2016	$2.12	36.26	38.54				81.85	7.04	(4.44)	(10.64)		73.81		73.81	53.87
Post-Completion — Full Revenue Operations	2017	$2.22	36.43	38.83				86.08	6.39	(4.62)	(9.92)	(9.36)	68.57	(0.03)	68.54	46.99
	2018	$2.27	36.85	39.30				89.29	5.76	(4.75)	(9.20)	(9.59)	71.50	(2.21)	69.29	46.01
	2019	$2.33	37.27	39.78				92.63	5.11	(4.89)	(8.47)	(9.83)	74.56	(0.49)	74.07	45.05
	2020	$2.39	37.71	40.27				96.09	4.45	(5.03)	(7.71)	(10.08)	77.72	(7.58)	70.14	44.10
	2021	$2.45	38.14	40.77				99.69	3.76	(5.17)	(7.82)	(10.33)	80.13	(1.76)	78.37	42.69
	2022	$2.51	38.58	41.27				103.42	3.05	(5.32)	(7.93)	(10.59)	82.63	(0.27)	82.36	41.33
	2023	$2.57	39.03	41.77				107.29	2.32	(5.48)	(8.04)	(10.85)	85.24	(7.84)	77.40	40.04
	2024	$2.63	39.48	42.29				111.30	1.57	(5.64)	(8.19)	(11.12)	87.92	(2.03)	85.89	38.77
	2025	$2.70	39.94	42.81				115.47	1.60	(5.85)	(8.31)	(11.40)	91.51		91.51	37.89
	2026	$2.76	40.40	43.34				119.80	1.62	(6.07)	(8.42)	(11.68)	95.24		95.24	37.03
	2027	$2.83	40.87	43.87				124.29	1.64	(6.30)	(8.54)	(11.98)	99.12	(4.97)	94.14	36.19
	2028	$2.90	41.34	44.41				128.95	1.67	(6.53)	(8.66)	(12.28)	103.15	(5.22)	97.93	35.36
	2029	$2.98	41.82	44.96				133.78	1.69	(6.77)	(8.78)	(12.58)	107.34	(4.43)	102.90	34.55
	2030	$3.05	42.31	45.52				138.80	1.72	(7.03)	(8.91)	(12.90)	111.69	(9.11)	102.58	33.76
	2031	$3.13	42.55	45.80				143.14	1.74	(7.24)	(9.04)	(13.22)	115.37	(9.03)	106.34	32.74
	2032	$3.20	42.80	46.08				147.61	1.75	(7.47)	(9.13)	(13.55)	119.22	(0.31)	118.91	31.77
	2033	$3.28	43.05	46.37				152.23	1.77	(7.70)	(9.21)	(13.89)	123.20	(8.69)	114.51	30.83
	2034	$3.36	43.30	46.66				156.99	1.79	(7.94)	(9.30)	(14.24)	127.30	(1.84)	125.46	29.91
	2035	$3.45	43.55	46.95				161.90	1.81	(8.19)	(9.39)	(14.59)	131.54	(14.81)	116.74	29.02
	2036	$3.53	43.80	47.24				166.96	1.83	(8.44)	(9.48)	(14.96)	135.91	(0.12)	135.79	28.15
	2037	$3.62	44.06	47.53				172.19	1.84	(8.70)	(9.57)	(15.33)	140.43	(2.81)	137.62	27.31
	2038	$3.71	44.31	47.83				177.57	1.86	(8.97)	(9.72)	(15.71)	145.03	(5.15)	139.88	26.49
	2039	$3.81	44.57	48.13				183.13	1.88	(9.25)	(9.82)	(16.11)	149.84	(15.76)	134.08	25.69
	2040	$3.90	44.83	48.42				188.86	1.90	(9.54)	(9.92)	(16.51)	154.80	(165.91)	(11.11)	24.92
	2041	$4.00	44.89	48.49				193.78	1.91	(9.78)	(9.98)	(16.92)	159.00	(174.39)	(15.39)	24.04
	2042	$4.10	44.95	48.55				198.82	1.93	(10.04)	(10.04)	(17.35)	163.32	(6.39)	156.93	23.18
	2043	$4.20	45.02	48.61				204.00	1.94	(10.30)	(10.11)	(17.78)	167.75	(17.39)	150.36	22.36
	2044	$4.30	45.08	48.68				209.31	1.95	(10.56)	(10.18)	(18.22)	172.29	(6.82)	165.47	21.56
	2045	$4.41	45.15	48.74				214.76	1.96	(10.84)	(10.32)	(18.68)	176.89	(9.57)	167.32	20.79
	2046	$4.51	45.21	48.81				220.35	1.98	(11.12)	(10.39)	(19.15)	181.68		181.68	20.05
	2047	$4.63	45.28	48.87				226.09	1.99	(11.40)	(10.46)	(19.63)	186.60	(1.24)	185.36	19.33
	2048	$4.74	45.34	48.94				231.99	2.00	(11.70)	(10.53)	(20.12)	191.64	(1.46)	190.19	18.64
	2049	$4.86	45.41	49.01				238.03	2.02	(12.00)	(10.61)	(20.62)	196.83	(2.82)	194.01	17.98
	2050	$4.98	45.48	49.07				244.24	2.03	(12.31)	(10.68)	(21.13)	202.14	(15.90)	186.24	17.34
	2051	$5.10	45.54	49.14				250.61	2.05	(12.63)	(10.76)	(21.66)	207.60	(3.69)	203.91	16.72
	2052	$5.23	45.61	49.21				257.15	2.06	(12.96)	(10.92)	(22.20)	213.12	(4.13)	208.99	16.12
	2053	$5.35	45.68	49.28				263.86	2.08	(13.30)	(11.01)	(22.76)	218.87	(16.45)	202.42	15.54
	2054	$5.49	45.75	49.35				270.74	2.09	(13.64)	(11.09)	(23.33)	224.78		224.78	14.99
	2055	$5.62	45.82	49.41				277.81	2.11	(14.00)	(11.18)	(23.91)	230.84	(9.08)	221.76	14.45
	2056	$5.76	45.89	49.48				285.06	2.13	(14.36)	(11.26)	(24.51)	237.06	(8.64)	228.42	13.94
Totals FY 2010-16			206.67	219.44				439.64	49.43	(24.45)	(73.30)		391.31		391.31	332.05
Totals FY 2017-46			1257.26	1352.08				4438.47	72.20	(225.53)	(274.49)	(410.76)	3599.88	(484.92)	3114.96	978.58
Totals FY 2017-56			1713.06	1843.84				6984.06	92.75	(353.84)	(382.99)	(630.63)	5709.35	(548.30)	5161.05	1143.63

Footnotes

[1] Reflects the average revenue per passenger car equivalent based on time-of-day variable weekday & weekend toll structures.

[2] Annual volume of vehicles subject to tolls in each travel direction after ramp up adjustment; includes autos and trucks.

[3] Converts medium & large trucks to their passenger car equivalent (PCE) based on trucks paying 2x to 4x the auto toll.

[4] Excludes toll surcharge revenue assessed to customers without transponders for pay-by-plate (video tolling/license plate list).

[5] Pay-by-plate toll surcharge revenue assessed to capture the additional collection costs of video toll/license plate list payment.

[6] 5% deduction for credit card fees & revenue loss due to the net effects of evasion, processing errors & uncollectible accounts.

[7] Both toll collection O&M costs and toll systems R&R timing differ based on when tolling begins.

[8] Pre-completion facility O&M costs are assumed to be capitalized and/or included in existing maintenance budgets.

[9] Reflects the repayment of construction sales tax deferred during construction

* Nights from 11 PM to 5 AM are toll-free for pre-completion tolling (FY 2011-2016).

General Notes

– Demand is reduced for "ramp-up" in initial years as customers get accustomed to tolls.

– Toll rate escalation and O&M inflation, where applicable, is projected at 2.5% per year.

– Weekday segment tolls & all variable rate weekend tolls do not vary by scenario.

– Weekend daily autos & trucks under variable tolls differs only between the 1 & 2 bridge cases.

SR 520 Toll Traffic & Revenue Projections — SR 520 Finance Plan and Tolling Implementation Committee Scenarios

Table 10-A.M TIC Scenario 10: Mid SR 520 Projection (SR 520 Tolled in FY 2011 & I-90 HOT Lanes in FY 2017)

	Fiscal Year	Weighted Average Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions Bridge Span (millions)[2]	Pass Car Equiv (PCE) Bridge Volumes (millions)[3]	Weighted Average Segment Toll Rate (one-way)[1]	Annual Segment Toll Transactions (millions)[2]	Pass Car Equiv (PCE) Segment Volumes (millions)[3]	Gross Toll Revenue Potential ($ millions)[4]	Plus: Pay-by-Plate Surcharge Revenue ($ millions)[5]	Less: Uncollectible Accounts/ Credit Fees ($ millions)[6]	Less: Toll Collection O&M Costs ($ millions)[7]	Less: Routine Facility O&M Costs ($ millions)[8]	Less: Sales Tax Deferral Repayment ($ millions)[9]	Net Toll Revenue Before Periodic R&R Costs ($ millions)	Less: Periodic Rehab & Repair Costs ($ millions)[7]	Net Toll Revenue After Periodic R&R Costs ($ millions)	FY 2011 NPV of Net Revenue Before R&R @ 6.5% ($ millions)
Pre-Completion*	2010										(7.48)			(7.48)		(7.48)	(7.97)
	2011	$2.61	20.19	20.78				54.21	3.87	(2.90)	(8.83)			46.35		46.35	46.35
	2012	$2.67	23.04	23.72				63.42	3.98	(3.37)	(9.41)			54.62		54.62	51.28
	2013	$2.74	25.93	26.69				73.15	4.00	(3.86)	(9.89)			63.41		63.41	55.90
	2014	$2.81	27.49	28.29				79.48	3.72	(4.16)	(9.81)			69.23		69.23	57.31
	2015	$2.88	27.68	28.48				82.03	3.22	(4.26)	(9.27)			71.72		71.72	55.75
	2016	$2.95	27.87	28.68				84.67	2.71	(4.37)	(8.71)			74.29	(2.50)	71.79	54.22
Post-Completion — Full Revenue Operations	2017	$3.73	26.06	26.60	$0.62	9.53	9.76	105.22	2.77	(5.40)	(11.29)	(5.90)		85.41		85.41	58.53
	2018	$3.82	27.64	28.22	$0.64	10.16	10.39	114.42	2.21	(5.83)	(10.99)	(6.05)		93.76	(1.02)	92.74	60.34
	2019	$3.91	27.85	28.43	$0.65	10.28	10.51	118.19	1.49	(5.98)	(10.21)	(6.20)		97.29		97.29	58.79
	2020	$4.01	28.06	28.65	$0.67	10.40	10.64	122.09	0.76	(6.14)	(9.42)	(6.35)		100.93		100.93	57.26
	2021	$4.11	28.27	28.87	$0.69	10.53	10.77	126.12	0.76	(6.34)	(9.51)	(6.51)		104.52	(5.02)	99.50	55.68
	2022	$4.21	28.48	29.09	$0.71	10.66	10.90	130.29	0.77	(6.55)	(9.60)	(6.68)	(25.51)	82.73	(0.49)	82.24	41.38
	2023	$4.32	28.70	29.31	$0.72	10.79	11.03	134.59	0.78	(6.77)	(9.69)	(6.84)	(25.51)	86.56	(8.11)	78.45	40.66
	2024	$4.43	28.92	29.53	$0.74	10.92	11.16	139.04	0.79	(6.99)	(10.05)	(7.01)	(25.51)	90.26	(11.28)	78.98	39.81
	2025	$4.54	29.13	29.76	$0.76	11.05	11.30	143.63	0.80	(7.22)	(10.15)	(7.19)	(25.51)	94.36		94.36	39.08
	2026	$4.65	29.35	29.98	$0.78	11.19	11.44	148.37	0.81	(7.46)	(10.25)	(7.37)	(25.51)	98.60	(2.50)	96.10	38.34
	2027	$4.77	29.58	30.21	$0.80	11.33	11.58	153.28	0.82	(7.71)	(10.35)	(7.55)	(25.51)	102.99	(7.49)	95.50	37.60
	2028	$4.89	29.80	30.44	$0.82	11.47	11.72	158.34	0.83	(7.96)	(10.45)	(7.74)	(25.51)	107.52	(4.13)	103.39	36.86
	2029	$5.01	30.03	30.68	$0.84	11.61	11.86	163.58	0.84	(8.22)	(10.55)	(7.94)	(25.51)	112.21	(4.24)	107.97	36.12
	2030	$5.13	30.25	30.91	$0.86	11.76	12.01	168.99	0.85	(8.49)	(10.66)	(8.13)	(25.51)	117.05	(4.34)	112.71	35.38
	2031	$5.26	30.37	31.03	$0.88	11.84	12.09	173.89	0.86	(8.74)	(11.05)	(8.34)	(25.51)	121.12	(29.10)	92.03	34.37
	2032	$5.39	30.48	31.15	$0.91	11.91	12.16	178.94	0.87	(8.99)	(11.12)	(8.55)		151.15	(0.62)	150.53	40.28
	2033	$5.53	30.60	31.27	$0.93	11.99	12.24	184.14	0.88	(9.25)	(11.20)	(8.76)		155.81		155.81	38.98
	2034	$5.66	30.71	31.39	$0.95	12.06	12.32	189.49	0.88	(9.52)	(11.28)	(8.98)		160.60		160.60	37.73
	2035	$5.81	30.83	31.51	$0.98	12.14	12.39	194.99	0.89	(9.79)	(11.35)	(9.20)		165.53	(10.91)	154.62	36.52
	2036	$5.95	30.95	31.63	$1.00	12.22	12.47	200.65	0.90	(10.08)	(11.43)	(9.43)		170.61	(2.50)	168.11	35.34
	2037	$6.10	31.06	31.75	$1.03	12.30	12.55	206.48	0.91	(10.37)	(11.51)	(9.67)		175.83	(30.11)	145.73	34.20
	2038	$6.25	31.18	31.87	$1.05	12.37	12.63	212.48	0.92	(10.67)	(11.98)	(9.91)		180.84	(15.94)	164.89	33.03
	2039	$6.41	31.30	31.99	$1.08	12.45	12.71	218.65	0.92	(10.98)	(12.06)	(10.16)		186.37		186.37	31.96
	2040	$6.57	31.42	32.11	$1.10	12.53	12.79	225.00	0.93	(11.30)	(12.15)	(10.41)		192.08		192.08	30.93
	2041	$6.73	31.42	32.11	$1.13	12.53	12.79	230.63	0.94	(11.58)	(12.20)	(10.67)		197.11	(12.34)	184.78	29.80
	2042	$6.90	31.42	32.11	$1.16	12.53	12.79	236.39	0.94	(11.87)	(12.25)	(10.94)		202.28	(18.26)	184.01	28.71
	2043	$7.07	31.42	32.11	$1.19	12.53	12.79	242.30	0.95	(12.16)	(12.30)	(11.21)		207.57	(5.99)	201.58	27.67
	2044	$7.25	31.42	32.11	$1.22	12.53	12.79	248.36	0.95	(12.47)	(12.36)	(11.49)		212.99	(6.14)	206.86	26.66
	2045	$7.43	31.42	32.11	$1.25	12.53	12.79	254.57	0.96	(12.78)	(12.86)	(11.78)		218.10	(33.02)	185.08	25.63
	2046	$7.62	31.42	32.11	$1.28	12.53	12.79	260.93	0.96	(13.09)	(12.92)	(12.08)		223.80	(2.50)	221.30	24.70
	2047	$7.81	31.42	32.11	$1.31	12.53	12.79	267.45	0.97	(13.42)	(12.98)	(12.38)		229.64	(20.34)	209.31	23.79
	2048	$8.00	31.42	32.11	$1.35	12.53	12.79	274.14	0.97	(13.76)	(13.04)	(12.69)		235.63		235.63	22.92
	2049	$8.20	31.42	32.11	$1.38	12.53	12.79	280.99	0.98	(14.10)	(13.10)	(13.00)		241.76		241.76	22.09
	2050	$8.41	31.42	32.11	$1.41	12.53	12.79	288.02	0.98	(14.45)	(13.17)	(13.33)		248.06		248.06	21.28
	2051	$8.62	31.42	32.11	$1.45	12.53	12.79	295.22	0.99	(14.81)	(13.23)	(13.66)		254.50	(7.79)	246.71	20.50
	2052	$8.83	31.42	32.11	$1.49	12.53	12.79	302.60	0.99	(15.18)	(13.83)	(14.00)		260.58	(23.55)	237.03	19.71
	2053	$9.05	31.42	32.11	$1.52	12.53	12.79	310.17	1.00	(15.56)	(13.90)	(14.35)		267.35		267.35	18.98
	2054	$9.28	31.42	32.11	$1.56	12.53	12.79	317.92	1.01	(15.95)	(13.97)	(14.71)		274.29		274.29	18.29
	2055	$9.51	31.42	32.11	$1.60	12.53	12.79	325.87	1.01	(16.34)	(14.04)	(15.08)		281.41	(8.05)	273.36	17.62
	2056	$9.75	31.42	32.11	$1.64	12.53	12.79	334.01	1.02	(16.75)	(14.12)	(15.46)		288.70	(10.75)	277.95	16.97
Totals FY 2010-16			152.21	156.65				436.97	21.49	(22.92)	(63.40)			372.14	(2.50)	369.64	312.86
Totals FY 2017-46			899.49	919.03	$27.45	348.69	356.17	5384.04	29.97	(270.70)	(333.18)	(259.07)	(255.08)	4295.98	(216.05)	4079.93	1152.32
Totals FY 2017-56			1213.66	1240.16		474.04	484.09	8380.43	39.88	(421.02)	(468.57)	(397.75)	(255.08)	6877.90	(286.54)	6591.37	1354.47

Footnotes

[1] Reflects the average revenue per passenger car equivalent based on time-of-day variable weekday & weekend toll structures.

[2] Annual volume of vehicles subject to tolls in each travel direction after ramp up adjustment; includes autos and trucks.

[3] Converts medium & large trucks to their passenger car equivalent (PCE) based on trucks paying 2x to 4x the auto toll.

[4] Excludes toll surcharge revenue assessed to customers without transponders for pay-by-plate (video tolling/license plate list).

[5] Pay-by-plate toll surcharge revenue assessed to capture the additional collection costs of video toll/license plate list payment.

[6] 5% deduction for credit card fees & revenue loss due to the net effects of evasion, processing errors & uncollectible accounts.

[7] Both toll collection O&M costs and toll systems R&R timing differ based on when tolling begins.

[8] Pre-completion facility O&M costs are assumed to be capitalized and/or included in existing maintenance budgets.

[9] Reflects the repayment of construction sales tax deferred during construction

* Nights from 11 PM to 5 AM are toll-free for pre-completion tolling (FY 2011-2016).

General Notes

– Demand is reduced for "ramp-up" in initial years as customers get accustomed to tolls.

– Toll rate escalation and O&M inflation, where applicable, is projected at 2.5% per year.

– Weekday segment tolls & all variable rate weekend tolls do not vary by scenario.

– Weekend daily autos & trucks under variable tolls differs only between the 1 & 2 bridge cases.

I-90 Toll Traffic & Revenue Projections — SR 520 Finance Plan and Tolling Implementation Committee Scenarios

Table 10-B.M TIC Scenario 10: Mid SR 520 Projection (SR 520 Tolled in FY 2011 & I-90 HOT Lanes in FY 2017)

	Fiscal Year	Weighted Average HOT Toll Paid (one-way)[1]	Annual I-90 HOT Lane Transactions (millions)[2]	Gross Toll Revenue Potential ($ millions)[4]	Plus: Pay-by-Plate Surcharge Revenue ($ millions)[5]	Less: Uncollectible Accounts/ Credit Fees ($ millions)[6]	Less: Toll Collection O&M Costs ($ millions)[7]	Less: Routine Facility O&M Costs ($ millions)[8]	Net Toll Revenue Before Periodic R&R Costs ($ millions)	Less: Periodic Rehab & Repair Costs ($ millions)[7]	Net Toll Revenue After Periodic R&R Costs ($ millions)	FY 2011 NPV of Net Revenue Before R&R @ 6.5% ($ millions)
Pre-Completion*	2010											
	2011											
	2012											
	2013											
	2014											
	2015											
	2016						(1.74)		(1.74)		(1.74)	(1.27)
Post-Completion — Full Revenue Operations	2017	$1.34	20.10	27.01		(1.35)	(5.42)	(3.97)	16.27	(0.01)	16.26	11.15
	2018	$1.37	20.36	27.91		(1.40)	(5.48)	(4.07)	16.97	(0.25)	16.72	10.92
	2019	$1.40	20.64	28.86		(1.44)	(5.55)	(4.17)	17.70	(0.18)	17.52	10.70
	2020	$1.43	20.92	29.85		(1.49)	(5.62)	(4.27)	18.47	(2.80)	15.67	10.48
	2021	$1.46	21.21	30.88		(1.54)	(5.69)	(4.38)	19.27	(1.15)	18.12	10.27
	2022	$1.49	21.52	31.96		(1.60)	(5.76)	(4.49)	20.12	(0.10)	20.02	10.06
	2023	$1.52	21.83	33.09		(1.65)	(6.12)	(4.60)	20.72	(14.77)	5.95	9.73
	2024	$1.55	22.16	34.28		(1.71)	(6.19)	(4.71)	21.66	(0.09)	21.57	9.55
	2025	$1.58	22.50	35.52		(1.78)	(6.27)	(4.83)	22.64		22.64	9.38
	2026	$1.61	22.85	36.82		(1.84)	(6.35)	(4.95)	23.67	(0.50)	23.17	9.21
	2027	$1.64	23.22	38.19		(1.91)	(6.44)	(5.08)	24.76	(2.59)	22.17	9.04
	2028	$1.68	23.60	39.62		(1.98)	(6.53)	(5.20)	25.91	(6.06)	19.85	8.88
	2029	$1.71	23.99	41.13		(2.06)	(6.62)	(5.33)	27.12	(2.43)	24.69	8.73
	2030	$1.75	24.41	42.71		(2.14)	(7.05)	(5.47)	28.06	(18.30)	9.76	8.48
	2031	$1.79	24.83	44.38		(2.22)	(7.15)	(5.60)	29.40	(3.89)	25.52	8.35
	2032	$1.82	25.28	46.13		(2.31)	(7.25)	(5.74)	30.83	(0.12)	30.71	8.21
	2033	$1.86	25.74	47.98		(2.40)	(7.36)	(5.89)	32.33	(3.21)	29.12	8.09
	2034	$1.90	26.22	49.92		(2.50)	(7.47)	(6.03)	33.92	(0.68)	33.24	7.97
	2035	$1.94	26.72	51.97		(2.60)	(7.58)	(6.19)	35.60	(5.47)	30.13	7.85
	2036	$1.99	27.24	54.13		(2.71)	(7.70)	(6.34)	37.38	(0.54)	36.84	7.74
	2037	$2.03	27.78	56.41		(2.82)	(8.22)	(6.50)	38.86	(17.82)	21.05	7.56
	2038	$2.07	28.35	58.82		(2.94)	(8.35)	(6.66)	40.86	(0.97)	39.89	7.46
	2039	$2.12	28.94	61.36		(3.07)	(8.49)	(6.83)	42.98	(5.82)	37.16	7.37
	2040	$2.17	29.55	64.05		(3.20)	(8.62)	(7.00)	45.23	(65.78)	(20.55)	7.28
	2041	$2.22	30.19	66.90		(3.34)	(8.77)	(7.17)	47.61	(65.96)	(18.35)	7.20
	2042	$2.27	30.18	68.51		(3.43)	(8.81)	(7.35)	48.92	(3.46)	45.46	6.94
	2043	$2.32	30.18	70.16		(3.51)	(8.85)	(7.54)	50.26	(7.54)	42.72	6.70
	2044	$2.38	30.17	71.85		(3.59)	(9.37)	(7.73)	51.16	(23.62)	27.54	6.40
	2045	$2.44	30.17	73.59		(3.68)	(9.42)	(7.92)	52.57	(3.61)	48.96	6.18
	2046	$2.50	30.16	75.36		(3.77)	(9.47)	(8.12)	54.01	(0.50)	53.51	5.96
	2047	$2.56	30.16	77.18		(3.86)	(9.52)	(8.32)	55.48	(0.46)	55.03	5.75
	2048	$2.62	30.15	79.04		(3.95)	(9.57)	(8.53)	56.99	(0.54)	56.46	5.54
	2049	$2.69	30.15	80.95		(4.05)	(9.62)	(8.74)	58.54	(1.04)	57.50	5.35
	2050	$2.75	30.14	82.90		(4.15)	(9.67)	(8.96)	60.13	(5.87)	54.25	5.16
	2051	$2.82	30.13	84.90		(4.25)	(10.29)	(9.18)	61.18	(25.57)	35.61	4.93
	2052	$2.89	30.13	86.95		(4.35)	(10.35)	(9.41)	62.84	(6.29)	56.56	4.75
	2053	$2.96	30.12	89.05		(4.45)	(10.40)	(9.65)	64.55	(6.07)	58.47	4.58
	2054	$3.03	30.12	91.20		(4.56)	(10.46)	(9.89)	66.29		66.29	4.42
	2055	$3.10	30.11	93.40		(4.67)	(10.52)	(10.14)	68.07	(4.87)	63.21	4.26
	2056	$3.18	30.11	95.65		(4.78)	(10.58)	(10.39)	69.90	(5.24)	64.66	4.11
Totals FY 2010-16							(1.74)		(1.74)		(1.74)	(1.27)
Totals FY 2017-46		$55.36	761.02	1439.36		(71.97)	(218.00)	(174.12)	975.27	(258.22)	717.05	253.85
Totals FY 2017-56			1062.34	2300.58		(115.03)	(318.97)	(267.33)	1599.25	(314.16)	1285.09	302.70

Footnotes

[1] Reflects the average revenue per passenger car equivalent based on time-of-day variable weekday & weekend toll structures.
[2] Annual volume of vehicles subject to tolls in each travel direction after ramp up adjustment; includes autos and trucks.
[3] Converts medium & large trucks to their passenger car equivalent (PCE) based on trucks paying 2x to 4x the auto toll.
[4] Excludes toll surcharge revenue assessed to customers without transponders for pay-by-plate (video tolling/license plate list).
[5] Pay-by-plate toll surcharge revenue assessed to capture the additional collection costs of video toll/license plate list payment.
[6] 5% deduction for credit card fees & revenue loss due to the net effects of evasion, processing errors & uncollectible accounts.
[7] Both toll collection O&M costs and toll systems R&R timing differ based on when tolling begins.
[8] Pre-completion facility O&M costs are assumed to be capitalized and/or included in existing maintenance budgets.
[9] Reflects the repayment of construction sales tax deferred during construction
* Nights from 11 PM to 5 AM are toll-free for pre-completion tolling (FY 2011-2016).

General Notes

– Demand is reduced for "ramp-up" in initial years as customers get accustomed to tolls.
– Toll rate escalation and O&M inflation, where applicable, is projected at 2.5% per year.
– Weekday segment tolls & all variable rate weekend tolls do not vary by scenario.
– Weekend daily autos & trucks under variable tolls differs only between the 1 & 2 bridge cases.

SR 520 Toll Traffic & Revenue Projections — SR 520 Finance Plan

Table 11-A.M TIC Scenario 11: Mid SR 520 Projection (Both SR 520 & I-90 Tolled by FY 2011)

	Fiscal Year	Weighted Average Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions Bridge Span (millions)[2]	Pass Car Equiv (PCE) Bridge Volumes (millions)[3]	Weighted Average Segment Toll Rate (one-way)[1]	Annual Segment Toll Transactions (millions)[2]	Pass Car Equiv (PCE) Segment Volumes (millions)[3]	Gross Toll Revenue Potential ($ millions)[4]	Plus: Pay-by-Plate Surcharge Revenue ($ millions)[5]	Less: Uncollectible Accounts/ Credit Fees ($ millions)[6]	Less: Toll Collection O&M Costs ($ millions)[7]	Less: Routine Facility O&M Costs ($ millions)[8]	Less: Sales Tax Deferral Repayment ($ millions)[9]	Net Toll Revenue Before Periodic R&R Costs ($ millions)	Less: Periodic Rehab & Repair Costs ($ millions)[7]	Net Toll Revenue After Periodic R&R Costs ($ millions)	FY 2011 NPV of Net Revenue Before R&R @ 6.5% ($ millions)
Pre-Completion*	2010										(7.48)			(7.48)		(7.48)	(7.97)
	2011	$2.62	25.32	26.08				68.31	4.85	(3.66)	(10.77)			58.73		58.73	58.73
	2012	$2.68	28.47	29.33				78.72	4.92	(4.18)	(11.35)			68.11		68.11	63.96
	2013	$2.75	30.15	31.06				85.45	4.65	(4.50)	(11.30)			74.30		74.30	65.51
	2014	$2.82	30.33	31.25				88.12	4.10	(4.61)	(10.70)			76.91		76.91	63.67
	2015	$2.89	30.51	31.44				90.87	3.55	(4.72)	(10.09)			79.61		79.61	61.88
	2016	$2.96	30.70	31.63				93.70	2.98	(4.83)	(9.47)			82.38	(2.50)	79.88	60.13
Post-Completion — Full Revenue Operations	2017	$3.76	32.15	33.09				124.58	2.50	(6.35)	(9.17)	(7.04)		104.53		104.53	71.64
	2018	$3.86	34.09	35.08				135.38	2.00	(6.87)	(8.89)	(7.21)		114.41	(1.02)	113.38	73.62
	2019	$3.96	34.34	35.33				139.76	1.35	(7.06)	(8.18)	(7.39)		118.47		118.47	71.58
	2020	$4.05	34.59	35.58				144.28	0.68	(7.25)	(7.46)	(7.58)		122.67		122.67	69.60
	2021	$4.16	34.85	35.84				148.94	0.69	(7.48)	(7.54)	(7.77)		126.85	(5.02)	121.82	67.57
	2022	$4.26	35.10	36.10				153.76	0.69	(7.72)	(7.61)	(7.96)	(44.94)	86.22	(0.12)	86.10	43.13
	2023	$4.37	35.36	36.35				158.73	0.70	(7.97)	(7.69)	(8.16)	(44.94)	90.68	(8.11)	82.57	42.59
	2024	$4.48	35.62	36.61				163.87	0.71	(8.23)	(7.79)	(8.36)	(44.94)	95.25	(1.19)	94.07	42.01
	2025	$4.59	35.88	36.88				169.17	0.72	(8.49)	(7.87)	(8.57)	(44.94)	100.01		100.01	41.41
	2026	$4.70	36.15	37.14				174.64	0.72	(8.77)	(7.95)	(8.79)	(44.94)	104.92	(2.50)	102.42	40.80
	2027	$4.82	36.41	37.41				180.30	0.73	(9.05)	(8.03)	(9.01)	(44.94)	110.00	(7.75)	102.25	40.16
	2028	$4.94	36.68	37.68				186.13	0.74	(9.34)	(8.12)	(9.23)	(44.94)	115.24	(4.13)	111.11	39.51
	2029	$5.06	36.95	37.95				192.15	0.75	(9.65)	(8.20)	(9.46)	(44.94)	120.66	(4.24)	116.42	38.84
	2030	$5.19	37.22	38.22				198.37	0.76	(9.96)	(8.29)	(9.70)	(44.94)	126.25	(4.34)	121.91	38.16
	2031	$5.32	37.36	38.36				204.06	0.76	(10.24)	(8.38)	(9.94)	(44.94)	131.32	(17.10)	114.23	37.27
	2032	$5.45	37.50	38.49				209.92	0.77	(10.53)	(8.44)	(10.19)		181.52	(0.16)	181.36	48.37
	2033	$5.59	37.64	38.63				215.94	0.77	(10.84)	(8.51)	(10.45)		186.92		186.92	46.77
	2034	$5.73	37.78	38.77				222.13	0.78	(11.15)	(8.58)	(10.71)		192.49		192.49	45.22
	2035	$5.87	37.92	38.91				228.51	0.79	(11.46)	(8.64)	(10.97)		198.21	(10.91)	187.30	43.73
	2036	$6.02	38.06	39.05				235.06	0.79	(11.79)	(8.71)	(11.25)		204.10	(2.50)	201.60	42.28
	2037	$6.17	38.20	39.19				241.80	0.80	(12.13)	(8.78)	(11.53)		210.16	(30.83)	179.33	40.88
	2038	$6.32	38.34	39.33				248.74	0.81	(12.48)	(8.89)	(11.82)		216.36	(1.68)	214.68	39.51
	2039	$6.48	38.48	39.47				255.88	0.81	(12.83)	(8.96)	(12.11)		222.78		222.78	38.20
	2040	$6.64	38.62	39.61				263.22	0.82	(13.20)	(9.04)	(12.42)		229.38		229.38	36.93
	2041	$6.81	38.62	39.61				269.80	0.82	(13.53)	(9.08)	(12.73)		235.28	(12.34)	222.95	35.57
	2042	$6.98	38.62	39.61				276.54	0.83	(13.87)	(9.13)	(13.04)		241.32	(10.24)	231.08	34.26
	2043	$7.16	38.62	39.61				283.46	0.83	(14.21)	(9.19)	(13.37)		247.52	(5.99)	241.53	32.99
	2044	$7.33	38.62	39.61				290.54	0.84	(14.57)	(9.24)	(13.70)		253.87	(6.14)	247.73	31.77
	2045	$7.52	38.62	39.61				297.81	0.84	(14.93)	(9.34)	(14.05)		260.33	(16.06)	244.27	30.59
	2046	$7.71	38.62	39.61				305.25	0.84	(15.30)	(9.39)	(14.40)		267.00	(2.50)	264.50	29.46
	2047	$7.90	38.62	39.61				312.88	0.85	(15.69)	(9.45)	(14.76)		273.84	(20.76)	253.07	28.37
	2048	$8.10	38.62	39.61				320.71	0.85	(16.08)	(9.51)	(15.13)		280.84		280.84	27.32
	2049	$8.30	38.62	39.61				328.72	0.86	(16.48)	(9.57)	(15.51)		288.03		288.03	26.31
	2050	$8.51	38.62	39.61				336.94	0.86	(16.89)	(9.63)	(15.89)		295.39		295.39	25.34
	2051	$8.72	38.62	39.61				345.37	0.87	(17.31)	(9.69)	(16.29)		302.94	(7.79)	295.14	24.40
	2052	$8.94	38.62	39.61				354.00	0.87	(17.74)	(9.81)	(16.70)		310.62	(2.63)	307.99	23.49
	2053	$9.16	38.62	39.61				362.85	0.88	(18.19)	(9.88)	(17.12)		318.55		318.55	22.62
	2054	$9.39	38.62	39.61				371.92	0.88	(18.64)	(9.95)	(17.54)		326.68		326.68	21.78
	2055	$9.62	38.62	39.61				381.22	0.89	(19.11)	(10.01)	(17.98)		335.01	(8.05)	326.95	20.97
	2056	$9.86	38.62	39.61				390.75	0.89	(19.58)	(10.09)	(18.43)		343.55	(10.75)	332.79	20.20
Totals FY 2010-16			175.48	180.80				505.17	25.05	(26.51)	(71.15)			432.56	(2.50)	430.06	365.90
Totals FY 2017-46			1107.00	1136.76				6318.74	26.64	(317.27)	(255.11)	(308.90)	(449.37)	5014.73	(154.87)	4859.87	1334.43
Totals FY 2017-56			1493.20	1532.90				9824.10	35.35	(492.97)	(352.70)	(474.25)	(449.37)	8090.17	(204.86)	7885.31	1575.23

Footnotes

[1] Reflects the average revenue per passenger car equivalent based on time-of-day variable weekday & weekend toll structures.

[2] Annual volume of vehicles subject to tolls in each travel direction after ramp up adjustment; includes autos and trucks.

[3] Converts medium & large trucks to their passenger car equivalent (PCE) based on trucks paying 2x to 4x the auto toll.

[4] Excludes toll surcharge revenue assessed to customers without transponders for pay-by-plate (video tolling/license plate list).

[5] Pay-by-plate toll surcharge revenue assessed to capture the additional collection costs of video toll/license plate list payment.

[6] 5% deduction for credit card fees & revenue loss due to the net effects of evasion, processing errors & uncollectible accounts.

[7] Both toll collection O&M costs and toll systems R&R timing differ based on when tolling begins.

[8] Pre-completion facility O&M costs are assumed to be capitalized and/or included in existing maintenance budgets.

[9] Reflects the repayment of construction sales tax deferred during construction

* Nights from 11 PM to 5 AM are toll-free for pre-completion tolling (FY 2011-2016).

General Notes

– Demand is reduced for "ramp-up" in initial years as customers get accustomed to tolls.

– Toll rate escalation and O&M inflation, where applicable, is projected at 2.5% per year.

– Weekday segment tolls & all variable rate weekend tolls do not vary by scenario.

– Weekend daily autos & trucks under variable tolls differs only between the 1 & 2 bridge cases.

I-90 Toll Traffic & Revenue Projections — SR 520 Finance Plan

Table 11-B.M TIC Scenario 11: Mid SR 520 Projection (Both SR 520 & I-90 Tolled by FY 2011)

	Fiscal Year	Weighted Average West Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions West Bridge (millions)[2]	Pass Car Equiv (PCE) West Bridge Volumes (millions)[3]	Weighted Average East Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions East Bridge (millions)[2]	Pass Car Equiv (PCE) East Bridge Volumes (millions)[3]	Gross Toll Revenue Potential ($ millions)[4]	Plus: Pay-by-Plate Surcharge Revenue ($ millions)[5]	Less: Uncollectible Accounts/ Credit Fees ($ millions)[6]	Less: Toll Collection O&M Costs ($ millions)[7]	Less: Routine Facility O&M Costs ($ millions)[8]	Net Toll Revenue Before Periodic R&R Costs ($ millions)	Less: Periodic Rehab & Repair Costs ($ millions)[7]	Net Toll Revenue After Periodic R&R Costs ($ millions)	FY 2011 NPV of Net Revenue Before R&R @ 6.5% ($ millions)
Pre-Completion*	2010										(1.50)		(1.50)		(1.50)	(1.59)
	2011	$2.58	26.38	27.86				71.78	7.58	(3.97)	(10.86)		64.53		64.53	64.53
	2012	$2.64	29.73	31.41				82.95	8.00	(4.55)	(11.49)		74.91		74.91	70.33
	2013	$2.71	31.55	33.36				90.27	7.90	(4.91)	(11.46)		81.81		81.81	72.13
	2014	$2.77	31.82	33.65				93.33	7.37	(5.04)	(10.85)		84.82		84.82	70.22
	2015	$2.84	32.08	33.95				96.50	6.84	(5.17)	(10.23)		87.94		87.94	68.36
	2016	$2.91	32.35	34.25				99.78	6.28	(5.30)	(9.60)		91.16		91.16	66.53
Post-Completion — Full Revenue Operations	2017	$3.91	31.46	33.35				130.33	5.52	(6.79)	(8.67)	(9.36)	111.03	(0.03)	111.00	76.09
	2018	$4.01	33.54	35.58				142.50	5.24	(7.39)	(8.47)	(9.59)	122.29	(2.21)	120.08	78.70
	2019	$4.10	33.98	36.06				148.01	4.66	(7.63)	(7.81)	(9.83)	127.40	(0.49)	126.91	76.98
	2020	$4.21	34.41	36.54				153.74	4.06	(7.89)	(7.13)	(10.08)	132.70	(7.58)	125.12	75.29
	2021	$4.31	34.86	37.03				159.69	3.44	(8.16)	(7.24)	(10.33)	137.40	(1.76)	135.64	73.20
	2022	$4.42	35.31	37.53				165.87	2.79	(8.43)	(7.35)	(10.59)	142.30	(0.27)	142.02	71.18
	2023	$4.53	35.76	38.04				172.29	2.13	(8.72)	(7.46)	(10.85)	147.39	(7.84)	139.55	69.23
	2024	$4.64	36.22	38.55				178.96	1.44	(9.02)	(7.61)	(11.12)	152.65	(2.03)	150.62	67.32
	2025	$4.76	36.69	39.07				185.90	1.47	(9.37)	(7.73)	(11.40)	158.86		158.86	65.79
	2026	$4.88	37.16	39.60				193.10	1.49	(9.73)	(7.85)	(11.68)	165.33		165.33	64.28
	2027	$5.00	37.64	40.13				200.58	1.51	(10.10)	(7.97)	(11.98)	172.05	(4.97)	167.07	62.81
	2028	$5.12	38.13	40.68				208.36	1.54	(10.49)	(8.09)	(12.28)	179.04	(5.22)	173.82	61.38
	2029	$5.25	38.62	41.23				216.43	1.57	(10.90)	(8.21)	(12.58)	186.30	(4.43)	181.87	59.97
	2030	$5.38	39.12	41.78				224.83	1.59	(11.32)	(8.34)	(12.90)	193.86	(9.11)	184.75	58.59
	2031	$5.52	39.37	42.07				232.00	1.61	(11.68)	(8.47)	(13.22)	200.23	(9.03)	191.21	56.83
	2032	$5.65	39.63	42.35				239.40	1.62	(12.05)	(8.56)	(13.55)	206.86	(0.31)	206.55	55.12
	2033	$5.79	39.88	42.64				247.03	1.64	(12.43)	(8.64)	(13.89)	213.71	(8.69)	205.02	53.47
	2034	$5.94	40.14	42.93				254.91	1.66	(12.83)	(8.73)	(14.24)	220.78	(1.84)	218.93	51.87
	2035	$6.09	40.40	43.22				263.05	1.68	(13.24)	(8.82)	(14.59)	228.07	(14.81)	213.27	50.31
	2036	$6.24	40.66	43.51				271.44	1.69	(13.66)	(8.91)	(14.96)	235.61	(0.12)	235.49	48.80
	2037	$6.39	40.93	43.81				280.10	1.71	(14.09)	(9.00)	(15.33)	243.38	(2.81)	240.58	47.34
	2038	$6.55	41.19	44.10				289.04	1.73	(14.54)	(9.16)	(15.71)	251.36	(5.15)	246.21	45.90
	2039	$6.72	41.46	44.40				298.26	1.75	(15.00)	(9.25)	(16.11)	259.65	(15.76)	243.89	44.52
	2040	$6.88	41.73	44.70				307.78	1.77	(15.48)	(9.35)	(16.51)	268.21	(165.91)	102.30	43.19
	2041	$7.05	41.79	44.77				315.67	1.78	(15.87)	(9.41)	(16.92)	275.24	(174.39)	100.85	41.61
	2042	$7.22	41.85	44.83				323.76	1.79	(16.28)	(9.48)	(17.35)	282.45	(6.39)	276.06	40.10
	2043	$7.40	41.92	44.89				332.06	1.80	(16.69)	(9.54)	(17.78)	289.85	(17.39)	272.46	38.64
	2044	$7.58	41.98	44.96				340.57	1.82	(17.12)	(9.61)	(18.22)	297.44	(6.82)	290.61	37.23
	2045	$7.76	42.04	45.02				349.30	1.83	(17.56)	(9.74)	(18.68)	305.15	(9.57)	295.58	35.86
	2046	$7.95	42.11	45.09				358.26	1.84	(18.01)	(9.81)	(19.15)	313.14		313.14	34.55
	2047	$8.14	42.18	45.15				367.45	1.85	(18.47)	(9.88)	(19.63)	321.33	(1.24)	320.09	33.29
	2048	$8.33	42.24	45.22				376.88	1.87	(18.94)	(9.96)	(20.12)	329.73	(1.46)	328.27	32.08
	2049	$8.54	42.31	45.29				386.55	1.88	(19.42)	(10.03)	(20.62)	338.36	(2.82)	335.54	30.91
	2050	$8.74	42.37	45.35				396.46	1.89	(19.92)	(10.10)	(21.13)	347.20	(15.90)	331.30	29.78
	2051	$8.95	42.44	45.42				406.64	1.91	(20.43)	(10.18)	(21.66)	356.28	(3.69)	352.59	28.69
	2052	$9.17	42.51	45.49				417.08	1.92	(20.95)	(10.34)	(22.20)	365.50	(4.13)	361.38	27.64
	2053	$9.39	42.58	45.56				427.78	1.94	(21.49)	(10.42)	(22.76)	375.05	(16.45)	358.60	26.63
	2054	$9.62	42.65	45.62				438.77	1.95	(22.04)	(10.51)	(23.33)	384.85		384.85	25.66
	2055	$9.85	42.71	45.69				450.04	1.97	(22.60)	(10.59)	(23.91)	394.90	(9.08)	385.82	24.72
	2056	$10.09	42.78	45.76				461.60	1.98	(23.18)	(10.68)	(24.51)	405.21	(8.64)	396.58	23.82
Totals FY 2010-16			183.92	194.49				534.61	43.98	(28.93)	(65.98)		483.67		483.67	410.51
Totals FY 2017-46			1160.01	1238.46				7183.19	66.17	(362.47)	(256.44)	(410.76)	6219.70	(484.92)	5734.78	1686.14
Totals FY 2017-56			1584.78	1693.02				11312.43	85.33	(569.89)	(359.13)	(630.63)	9838.11	(548.30)	9289.80	1969.37

Footnotes

[1] Reflects the average revenue per passenger car equivalent based on time-of-day variable weekday & weekend toll structures.

[2] Annual volume of vehicles subject to tolls in each travel direction after ramp up adjustment; includes autos and trucks.

[3] Converts medium & large trucks to their passenger car equivalent (PCE) based on trucks paying 2x to 4x the auto toll.

[4] Excludes toll surcharge revenue assessed to customers without transponders for pay-by-plate (video tolling/license plate list).

[5] Pay-by-plate toll surcharge revenue assessed to capture the additional collection costs of video toll/license plate list payment.

[6] 5% deduction for credit card fees & revenue loss due to the net effects of evasion, processing errors & uncollectible accounts.

[7] Both toll collection O&M costs and toll systems R&R timing differ based on when tolling begins.

[8] Pre-completion facility O&M costs are assumed to be capitalized and/or included in existing maintenance budgets.

[9] Reflects the repayment of construction sales tax deferred during construction

* Nights from 11 PM to 5 AM are toll-free for pre-completion tolling (FY 2011-2016).

General Notes

– Demand is reduced for "ramp-up" in initial years as customers get accustomed to tolls.

– Toll rate escalation and O&M inflation, where applicable, is projected at 2.5% per year.

– Weekday segment tolls & all variable rate weekend tolls do not vary by scenario.

– Weekend daily autos & trucks under variable tolls differs only between the 1 & 2 bridge cases.

SR 520 Toll Traffic & Revenue Projections — SR 520 Finance Plan

Table 12-A.M TIC Scenario 12: Mid SR 520 Projection (SR 520 Tolled by FY 2011 & I-90 Tolled by FY 2017)

	Fiscal Year	Weighted Average Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions Bridge Span (millions)[2]	Pass Car Equiv (PCE) Bridge Volumes (millions)[3]	Weighted Average Segment Toll Rate (one-way)[1]	Annual Segment Toll Transactions (millions)[2]	Pass Car Equiv (PCE) Segment Volumes (millions)[3]	Gross Toll Revenue Potential ($ millions)[4]	Plus: Pay-by-Plate Surcharge Revenue ($ millions)[5]	Less: Uncollectible Accounts/ Credit Fees ($ millions)[6]	Less: Toll Collection O&M Costs ($ millions)[7]	Less: Routine Facility O&M Costs ($ millions)[8]	Less: Sales Tax Deferral Repayment ($ millions)[9]	Net Toll Revenue Before Periodic R&R Costs ($ millions)	Less: Periodic Rehab & Repair Costs ($ millions)[7]	Net Toll Revenue After Periodic R&R Costs ($ millions)	FY 2011 NPV of Net Revenue Before R&R @ 6.5% ($ millions)
Pre-Completion*	2010										(7.48)			(7.48)		(7.48)	(7.97)
	2011	$2.38	20.22	20.71				49.22	3.87	(2.65)	(8.84)			41.61		41.61	41.61
	2012	$2.44	23.06	23.62				57.56	3.99	(3.08)	(9.42)			49.05		49.05	46.05
	2013	$2.50	25.94	26.58				66.36	4.00	(3.52)	(9.89)			56.96		56.96	50.22
	2014	$2.56	27.48	28.16				72.07	3.71	(3.79)	(9.81)			62.19		62.19	51.48
	2015	$2.62	27.65	28.34				74.35	3.21	(3.88)	(9.26)			64.43		64.43	50.08
	2016	$2.69	27.83	28.52				76.71	2.70	(3.97)	(8.70)			66.74	(2.50)	64.24	48.71
Post-Completion — Full Revenue Operations	2017	$3.10	32.12	32.97				102.28	2.50	(5.24)	(9.16)	(6.61)		83.77		83.77	57.41
	2018	$3.18	34.07	34.97				111.21	2.00	(5.66)	(8.89)	(6.78)		91.88	(1.02)	90.86	59.13
	2019	$3.26	34.34	35.24				114.87	1.35	(5.81)	(8.18)	(6.95)		95.28		95.28	57.57
	2020	$3.34	34.61	35.51				118.66	0.68	(5.97)	(7.47)	(7.12)		98.78		98.78	56.05
	2021	$3.42	34.88	35.79				122.57	0.69	(6.16)	(7.54)	(7.30)		102.25	(5.02)	97.23	54.47
	2022	$3.51	35.15	36.06				126.61	0.70	(6.37)	(7.62)	(7.48)	(29.37)	76.47	(0.12)	76.35	38.25
	2023	$3.60	35.42	36.34				130.78	0.70	(6.57)	(7.70)	(7.67)	(29.37)	80.17	(8.11)	72.06	37.66
	2024	$3.69	35.70	36.62				135.09	0.71	(6.79)	(7.81)	(7.86)	(29.37)	83.97	(1.19)	82.79	37.03
	2025	$3.78	35.98	36.90				139.54	0.72	(7.01)	(7.89)	(8.05)	(29.37)	87.93		87.93	36.41
	2026	$3.88	36.26	37.18				144.14	0.73	(7.24)	(7.97)	(8.26)	(29.37)	92.02	(2.50)	89.52	35.78
	2027	$3.97	36.54	37.47				148.89	0.74	(7.48)	(8.06)	(8.46)	(29.37)	96.25	(7.75)	88.50	35.14
	2028	$4.07	36.83	37.76				153.80	0.74	(7.73)	(8.14)	(8.67)	(29.37)	100.63	(4.13)	96.49	34.50
	2029	$4.18	37.12	38.05				158.87	0.75	(7.98)	(8.23)	(8.89)	(29.37)	105.15	(4.24)	100.91	33.85
	2030	$4.28	37.41	38.34				164.10	0.76	(8.24)	(8.32)	(9.11)	(29.37)	109.82	(4.34)	105.48	33.19
	2031	$4.39	37.55	38.49				168.86	0.77	(8.48)	(8.42)	(9.34)	(29.37)	114.02	(17.10)	96.92	32.36
	2032	$4.50	37.70	38.64				173.75	0.77	(8.73)	(8.48)	(9.57)		147.74	(0.16)	147.59	39.37
	2033	$4.61	37.85	38.78				178.79	0.78	(8.98)	(8.55)	(9.81)		152.23		152.23	38.09
	2034	$4.73	37.99	38.93				183.97	0.79	(9.24)	(8.61)	(10.06)		156.84		156.84	36.85
	2035	$4.84	38.14	39.08				189.30	0.79	(9.50)	(8.68)	(10.31)		161.59	(10.91)	150.69	35.65
	2036	$4.96	38.29	39.23				194.79	0.80	(9.78)	(8.75)	(10.57)		166.48	(2.50)	163.98	34.49
	2037	$5.09	38.44	39.38				200.43	0.80	(10.06)	(8.82)	(10.83)		171.52	(30.83)	140.69	33.36
	2038	$5.22	38.59	39.54				206.24	0.81	(10.35)	(8.94)	(11.10)		176.66	(1.68)	174.98	32.26
	2039	$5.35	38.74	39.69				212.22	0.82	(10.65)	(9.01)	(11.38)		181.99		181.99	31.21
	2040	$5.48	38.89	39.84				218.37	0.83	(10.96)	(9.09)	(11.67)		187.48		187.48	30.19
	2041	$5.62	38.89	39.84				223.83	0.83	(11.23)	(9.13)	(11.96)		192.33	(12.34)	180.00	29.08
	2042	$5.76	38.89	39.84				229.43	0.83	(11.51)	(9.18)	(12.26)		197.30	(10.24)	187.06	28.01
	2043	$5.90	38.89	39.84				235.16	0.84	(11.80)	(9.24)	(12.56)		202.40	(5.99)	196.41	26.98
	2044	$6.05	38.89	39.84				241.04	0.84	(12.09)	(9.29)	(12.88)		207.62	(6.14)	201.48	25.99
	2045	$6.20	38.89	39.84				247.07	0.85	(12.40)	(9.39)	(13.20)		212.93	(16.06)	196.87	25.02
	2046	$6.36	38.89	39.84				253.24	0.85	(12.70)	(9.45)	(13.53)		218.41	(2.50)	215.91	24.10
	2047	$6.52	38.89	39.84				259.57	0.85	(13.02)	(9.50)	(13.87)		224.04	(20.76)	203.28	23.21
	2048	$6.68	38.89	39.84				266.06	0.86	(13.35)	(9.56)	(14.21)		229.80		229.80	22.36
	2049	$6.84	38.89	39.84				272.71	0.86	(13.68)	(9.62)	(14.57)		235.71		235.71	21.53
	2050	$7.02	38.89	39.84				279.53	0.87	(14.02)	(9.68)	(14.93)		241.77		241.77	20.74
	2051	$7.19	38.89	39.84				286.52	0.87	(14.37)	(9.74)	(15.31)		247.98	(7.79)	240.18	19.97
	2052	$7.37	38.89	39.84				293.68	0.88	(14.73)	(9.86)	(15.69)		254.28	(2.63)	251.66	19.23
	2053	$7.56	38.89	39.84				301.03	0.88	(15.10)	(9.93)	(16.08)		260.80		260.80	18.52
	2054	$7.74	38.89	39.84				308.55	0.89	(15.47)	(10.00)	(16.48)		267.49		267.49	17.83
	2055	$7.94	38.89	39.84				316.27	0.90	(15.86)	(10.07)	(16.90)		274.34	(8.05)	266.29	17.18
	2056	$8.14	38.89	39.84				324.17	0.90	(16.25)	(10.14)	(17.32)		281.36	(10.75)	270.61	16.54
Totals FY 2010-16			152.17	155.93				396.28	21.49	(20.89)	(63.39)			333.49	(2.50)	330.99	280.19
Totals FY 2017-46			1112.00	1139.87				5227.86	26.75	(262.73)	(256.01)	(290.24)	(293.69)	4151.94	(154.87)	3997.08	1109.42
Totals FY 2017-56			1500.93	1538.28				8135.97	35.52	(408.57)	(354.11)	(445.59)	(293.69)	6669.52	(204.86)	6464.66	1306.54

Footnotes

[1] Reflects the average revenue per passenger car equivalent based on time-of-day variable weekday & weekend toll structures.

[2] Annual volume of vehicles subject to tolls in each travel direction after ramp up adjustment; includes autos and trucks.

[3] Converts medium & large trucks to their passenger car equivalent (PCE) based on trucks paying 2x to 4x the auto toll.

[4] Excludes toll surcharge revenue assessed to customers without transponders for pay-by-plate (video tolling/license plate list).

[5] Pay-by-plate toll surcharge revenue assessed to capture the additional collection costs of video toll/license plate list payment.

[6] 5% deduction for credit card fees & revenue loss due to the net effects of evasion, processing errors & uncollectible accounts.

[7] Both toll collection O&M costs and toll systems R&R timing differ based on when tolling begins.

[8] Pre-completion facility O&M costs are assumed to be capitalized and/or included in existing maintenance budgets.

[9] Reflects the repayment of construction sales tax deferred during construction

* Nights from 11 PM to 5 AM are toll-free for pre-completion tolling (FY 2011-2016).

General Notes

– Demand is reduced for "ramp-up" in initial years as customers get accustomed to tolls.

– Toll rate escalation and O&M inflation, where applicable, is projected at 2.5% per year.

– Weekday segment tolls & all variable rate weekend tolls do not vary by scenario.

– Weekend daily autos & trucks under variable tolls differs only between the 1 & 2 bridge cases.

I-90 Toll Traffic & Revenue Projections — SR 520 Finance Plan

Table 12-B.M TIC Scenario 12: Mid SR 520 Projection (SR 520 Tolled by FY 2011 & I-90 Tolled by FY 2017)

	Fiscal Year	Weighted Average West Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions West Bridge (millions)[2]	Pass Car Equiv (PCE) West Bridge Volumes (millions)[3]	Weighted Average East Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions East Bridge (millions)[2]	Pass Car Equiv (PCE) East Bridge Volumes (millions)[3]	Gross Toll Revenue Potential ($ millions)[4]	Plus: Pay-by-Plate Surcharge Revenue ($ millions)[5]	Less: Uncollectible Accounts/ Credit Fees ($ millions)[6]	Less: Toll Collection O&M Costs ($ millions)[7]	Less: Routine Facility O&M Costs ($ millions)[8]	Net Toll Revenue Before Periodic R&R Costs ($ millions)	Less: Periodic Rehab & Repair Costs ($ millions)[7]	Net Toll Revenue After Periodic R&R Costs ($ millions)	FY 2011 NPV of Net Revenue Before R&R @ 6.5% ($ millions)
Pre-Completion*	2010															
	2011															
	2012															
	2013															
	2014															
	2015															
	2016										(1.74)		(1.74)		(1.74)	(1.27)
Post-Completion — Full Revenue Operations	2017	$2.34	31.40	33.62				78.72	5.50	(4.21)	(8.65)	(9.36)	62.01	(0.03)	61.98	42.49
	2018	$2.40	35.51	38.04				91.29	5.55	(4.84)	(8.91)	(9.59)	73.50	(2.21)	71.29	47.30
	2019	$2.46	37.83	40.54				99.71	5.19	(5.24)	(8.58)	(9.83)	81.24	(0.49)	80.75	49.09
	2020	$2.52	38.29	41.04				103.45	4.51	(5.40)	(7.81)	(10.08)	84.68	(7.58)	77.10	48.04
	2021	$2.58	38.75	41.55				107.34	3.82	(5.56)	(7.93)	(10.33)	87.35	(1.76)	85.59	46.53
	2022	$2.65	39.21	42.06				111.37	3.10	(5.72)	(8.04)	(10.59)	90.13	(0.27)	89.86	45.08
	2023	$2.71	39.69	42.59				115.56	2.36	(5.90)	(8.15)	(10.85)	93.02	(7.84)	85.18	43.69
	2024	$2.78	40.16	43.11				119.90	1.60	(6.08)	(8.31)	(11.12)	95.99	(2.03)	93.97	42.33
	2025	$2.85	40.65	43.65				124.41	1.62	(6.30)	(8.43)	(11.40)	99.90		99.90	41.37
	2026	$2.92	41.14	44.19				129.09	1.65	(6.54)	(8.55)	(11.68)	103.96		103.96	40.42
	2027	$2.99	41.63	44.74				133.94	1.67	(6.78)	(8.68)	(11.98)	108.18	(4.97)	103.21	39.50
	2028	$3.07	42.13	45.30				138.98	1.70	(7.03)	(8.80)	(12.28)	112.57	(5.22)	107.35	38.59
	2029	$3.14	42.64	45.86				144.21	1.73	(7.30)	(8.93)	(12.58)	117.12	(4.43)	112.69	37.70
	2030	$3.22	43.15	46.43				149.63	1.76	(7.57)	(9.06)	(12.90)	121.86	(9.11)	112.75	36.83
	2031	$3.30	43.41	46.72				154.31	1.77	(7.80)	(9.20)	(13.22)	125.87	(9.03)	116.84	35.72
	2032	$3.39	43.67	47.01				159.15	1.79	(8.05)	(9.28)	(13.55)	130.05	(0.31)	129.74	34.66
	2033	$3.47	43.94	47.30				164.13	1.81	(8.30)	(9.37)	(13.89)	134.38	(8.69)	125.69	33.62
	2034	$3.56	44.20	47.59				169.27	1.83	(8.55)	(9.46)	(14.24)	138.84	(1.84)	136.99	32.62
	2035	$3.65	44.47	47.89				174.57	1.85	(8.82)	(9.56)	(14.59)	143.44	(14.81)	128.64	31.64
	2036	$3.74	44.74	48.19				180.03	1.86	(9.09)	(9.65)	(14.96)	148.20	(0.12)	148.08	30.70
	2037	$3.83	45.01	48.49				185.67	1.88	(9.38)	(9.74)	(15.33)	153.10	(2.81)	150.29	29.78
	2038	$3.92	45.28	48.79				191.48	1.90	(9.67)	(9.90)	(15.71)	158.10	(5.15)	152.95	28.87
	2039	$4.02	45.55	49.09				197.48	1.92	(9.97)	(10.00)	(16.11)	163.33	(15.76)	147.57	28.01
	2040	$4.12	45.82	49.40				203.66	1.94	(10.28)	(10.10)	(16.51)	168.72	(165.91)	2.81	27.17
	2041	$4.22	45.89	49.46				208.95	1.96	(10.55)	(10.16)	(16.92)	173.27	(174.39)	(1.11)	26.20
	2042	$4.33	45.95	49.53				214.37	1.97	(10.82)	(10.23)	(17.35)	177.95	(6.39)	171.56	25.26
	2043	$4.44	46.01	49.59				219.93	1.98	(11.10)	(10.29)	(17.78)	182.75	(17.39)	165.36	24.36
	2044	$4.54	46.08	49.65				225.65	1.99	(11.38)	(10.36)	(18.22)	187.67	(6.82)	180.85	23.49
	2045	$4.66	46.14	49.72				231.51	2.01	(11.68)	(10.50)	(18.68)	192.66	(9.57)	183.08	22.64
	2046	$4.77	46.21	49.78				237.52	2.02	(11.98)	(10.57)	(19.15)	197.84		197.84	21.83
	2047	$4.89	46.27	49.85				243.69	2.03	(12.29)	(10.64)	(19.63)	203.17	(1.24)	201.93	21.05
	2048	$5.01	46.34	49.91				250.02	2.05	(12.60)	(10.72)	(20.12)	208.63	(1.46)	207.18	20.30
	2049	$5.13	46.41	49.98				256.52	2.06	(12.93)	(10.79)	(20.62)	214.24	(2.82)	211.42	19.57
	2050	$5.26	46.47	50.05				263.19	2.08	(13.26)	(10.87)	(21.13)	220.00	(15.90)	204.10	18.87
	2051	$5.39	46.54	50.12				270.03	2.09	(13.61)	(10.95)	(21.66)	225.91	(3.69)	222.22	18.19
	2052	$5.52	46.61	50.18				277.05	2.11	(13.96)	(11.11)	(22.20)	231.89	(4.13)	227.76	17.54
	2053	$5.66	46.68	50.25				284.26	2.12	(14.32)	(11.19)	(22.76)	238.11	(16.45)	221.66	16.91
	2054	$5.80	46.74	50.32				291.66	2.14	(14.69)	(11.28)	(23.33)	244.50		244.50	16.30
	2055	$5.94	46.81	50.39				299.25	2.15	(15.07)	(11.36)	(23.91)	251.06	(9.08)	241.98	15.72
	2056	$6.08	46.88	50.46				307.04	2.17	(15.46)	(11.45)	(24.51)	257.79	(8.64)	249.15	15.15
Totals FY 2010-16											(1.74)		(1.74)		(1.74)	(1.27)
Totals FY 2017-46			1274.54	1370.92				4765.28	72.26	(241.88)	(277.21)	(410.76)	3907.69	(484.92)	3422.77	1055.54
Totals FY 2017-56			1740.30	1872.42				7507.99	93.26	(380.06)	(387.57)	(630.63)	6202.98	(548.30)	5654.68	1235.15

Footnotes

[1] Reflects the average revenue per passenger car equivalent based on time-of-day variable weekday & weekend toll structures.

[2] Annual volume of vehicles subject to tolls in each travel direction after ramp up adjustment; includes autos and trucks.

[3] Converts medium & large trucks to their passenger car equivalent (PCE) based on trucks paying 2x to 4x the auto toll.

[4] Excludes toll surcharge revenue assessed to customers without transponders for pay-by-plate (video tolling/license plate list).

[5] Pay-by-plate toll surcharge revenue assessed to capture the additional collection costs of video toll/license plate list payment.

[6] 5% deduction for credit card fees & revenue loss due to the net effects of evasion, processing errors & uncollectible accounts.

[7] Both toll collection O&M costs and toll systems R&R timing differ based on when tolling begins.

[8] Pre-completion facility O&M costs are assumed to be capitalized and/or included in existing maintenance budgets.

[9] Reflects the repayment of construction sales tax deferred during construction

* Nights from 11 PM to 5 AM are toll-free for pre-completion tolling (FY 2011-2016).

General Notes

– Demand is reduced for "ramp-up" in initial years as customers get accustomed to tolls.

– Toll rate escalation and O&M inflation, where applicable, is projected at 2.5% per year.

– Weekday segment tolls & all variable rate weekend tolls do not vary by scenario.

– Weekend daily autos & trucks under variable tolls differs only between the 1 & 2 bridge cases.

SR 520 Toll Traffic & Revenue Projections — SR 520 Finance Plan

Table 13-A.M TIC Scenario 13: Mid SR 520 Projection (SR 520 Tolled by FY 2011 & I-90 Tolled by FY 2013)

	Fiscal Year	Weighted Average Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions Bridge Span (millions)[2]	Pass Car Equiv (PCE) Bridge Volumes (millions)[3]	Weighted Average Segment Toll Rate (one-way)[1]	Annual Segment Toll Transactions (millions)[2]	Pass Car Equiv (PCE) Segment Volumes (millions)[3]	Gross Toll Revenue Potential ($ millions)[4]	Plus: Pay-by-Plate Surcharge Revenue ($ millions)[5]	Less: Uncollectible Accounts/ Credit Fees ($ millions)[6]	Less: Toll Collection O&M Costs ($ millions)[7]	Less: Routine Facility O&M Costs ($ millions)[8]	Less: Sales Tax Deferral Repayment ($ millions)[9]	Net Toll Revenue Before Periodic R&R Costs ($ millions)	Less: Periodic Rehab & Repair Costs ($ millions)[7]	Net Toll Revenue After Periodic R&R Costs ($ millions)	FY 2011 NPV of Net Revenue Before R&R @ 6.5% ($ millions)
Pre-Completion*	2010										(7.48)			(7.48)		(7.48)	(7.97)
	2011	$2.39	25.56	26.36				62.92	4.90	(3.39)	(10.86)			53.56		53.56	53.56
	2012	$2.45	28.72	29.62				72.48	4.97	(3.87)	(11.44)			62.14		62.14	58.34
	2013	$2.51	30.40	31.36				78.64	4.69	(4.17)	(11.38)			67.78		67.78	59.76
	2014	$2.57	30.57	31.54				81.06	4.13	(4.26)	(10.77)			70.16		70.16	58.08
	2015	$2.63	30.74	31.72				83.55	3.57	(4.36)	(10.15)			72.61		72.61	56.44
	2016	$2.70	30.91	31.90				86.12	3.00	(4.46)	(9.53)			75.14	(2.50)	72.64	54.84
Post-Completion — Full Revenue Operations	2017	$2.66	34.81	35.99				95.82	2.71	(4.93)	(9.82)	(6.61)		77.18		77.18	52.89
	2018	$2.73	35.06	36.24				98.90	2.05	(5.05)	(9.11)	(6.78)		80.02	(1.02)	79.00	51.50
	2019	$2.80	35.31	36.49				102.07	1.38	(5.17)	(8.38)	(6.95)		82.96		82.96	50.13
	2020	$2.87	35.56	36.75				105.35	0.70	(5.30)	(7.63)	(7.12)		85.99		85.99	48.79
	2021	$2.94	35.82	37.00				108.73	0.71	(5.47)	(7.71)	(7.30)		88.96	(5.02)	83.93	47.39
	2022	$3.01	36.07	37.26				112.22	0.71	(5.65)	(7.78)	(7.48)	(29.37)	62.65	(0.12)	62.53	31.34
	2023	$3.09	36.33	37.52				115.82	0.72	(5.83)	(7.86)	(7.67)	(29.37)	65.82	(8.11)	57.71	30.91
	2024	$3.16	36.59	37.78				119.54	0.73	(6.01)	(7.97)	(7.86)	(29.37)	69.06	(1.19)	67.87	30.46
	2025	$3.24	36.85	38.04				123.37	0.74	(6.21)	(8.04)	(8.05)	(29.37)	72.43		72.43	30.00
	2026	$3.32	37.12	38.30				127.33	0.74	(6.40)	(8.12)	(8.26)	(29.37)	75.92	(2.50)	73.42	29.52
	2027	$3.41	37.38	38.57				131.42	0.75	(6.61)	(8.21)	(8.46)	(29.37)	79.53	(7.75)	71.78	29.04
	2028	$3.49	37.65	38.84				135.64	0.76	(6.82)	(8.29)	(8.67)	(29.37)	83.25	(4.13)	79.12	28.54
	2029	$3.58	37.92	39.11				140.00	0.77	(7.04)	(8.37)	(8.89)	(29.37)	87.09	(4.24)	82.86	28.03
	2030	$3.67	38.19	39.38				144.49	0.78	(7.26)	(8.46)	(9.11)	(29.37)	91.07	(4.34)	86.72	27.52
	2031	$3.76	38.33	39.52				148.62	0.78	(7.47)	(8.56)	(9.34)	(29.37)	94.67	(17.10)	77.57	26.87
	2032	$3.86	38.47	39.65				152.86	0.79	(7.68)	(8.62)	(9.57)		127.78	(0.16)	127.62	34.05
	2033	$3.95	38.61	39.79				157.23	0.79	(7.90)	(8.68)	(9.81)		131.63		131.63	32.93
	2034	$4.05	38.74	39.93				161.72	0.80	(8.13)	(8.75)	(10.06)		135.59		135.59	31.85
	2035	$4.15	38.88	40.07				166.34	0.81	(8.36)	(8.82)	(10.31)		139.66	(10.91)	128.75	30.81
	2036	$4.26	39.02	40.21				171.09	0.81	(8.60)	(8.89)	(10.57)		143.86	(2.50)	141.36	29.80
	2037	$4.36	39.16	40.35				175.98	0.82	(8.84)	(8.95)	(10.83)		148.17	(30.83)	117.34	28.82
	2038	$4.47	39.30	40.49				181.00	0.83	(9.09)	(9.07)	(11.10)		152.57	(1.68)	150.89	27.86
	2039	$4.58	39.44	40.63				186.18	0.83	(9.35)	(9.14)	(11.38)		157.14		157.14	26.95
	2040	$4.70	39.59	40.77				191.49	0.84	(9.62)	(9.21)	(11.67)		161.84		161.84	26.06
	2041	$4.81	39.59	40.77				196.28	0.84	(9.86)	(9.26)	(11.96)		166.05	(12.34)	153.71	25.10
	2042	$4.93	39.59	40.77				201.19	0.85	(10.10)	(9.31)	(12.26)		170.37	(10.24)	160.13	24.18
	2043	$5.06	39.59	40.77				206.22	0.85	(10.35)	(9.36)	(12.56)		174.79	(5.99)	168.80	23.30
	2044	$5.18	39.59	40.77				211.37	0.86	(10.61)	(9.42)	(12.88)		179.33	(6.14)	173.19	22.44
	2045	$5.31	39.59	40.77				216.66	0.86	(10.88)	(9.52)	(13.20)		183.93	(16.06)	167.86	21.62
	2046	$5.45	39.59	40.77				222.07	0.87	(11.15)	(9.57)	(13.53)		188.69	(2.50)	186.19	20.82
	2047	$5.58	39.59	40.77				227.63	0.87	(11.42)	(9.63)	(13.87)		193.57	(20.76)	172.81	20.06
	2048	$5.72	39.59	40.77				233.32	0.87	(11.71)	(9.69)	(14.21)		198.58		198.58	19.32
	2049	$5.87	39.59	40.77				239.15	0.88	(12.00)	(9.75)	(14.57)		203.71		203.71	18.61
	2050	$6.01	39.59	40.77				245.13	0.88	(12.30)	(9.81)	(14.93)		208.97		208.97	17.92
	2051	$6.16	39.59	40.77				251.26	0.89	(12.61)	(9.87)	(15.31)		214.36	(7.79)	206.56	17.26
	2052	$6.32	39.59	40.77				257.54	0.89	(12.92)	(9.99)	(15.69)		219.83	(2.63)	217.20	16.62
	2053	$6.47	39.59	40.77				263.98	0.90	(13.24)	(10.06)	(16.08)		225.49		225.49	16.01
	2054	$6.64	39.59	40.77				270.57	0.91	(13.57)	(10.13)	(16.48)		231.30		231.30	15.42
	2055	$6.80	39.59	40.77				277.34	0.91	(13.91)	(10.20)	(16.90)		237.25	(8.05)	229.19	14.85
	2056	$6.97	39.59	40.77				284.27	0.92	(14.26)	(10.27)	(17.32)		243.34	(10.75)	232.59	14.31
Totals FY 2010-16			176.90	182.50				464.77	25.26	(24.50)	(71.61)			393.91	(2.50)	391.41	333.07
Totals FY 2017-46			1137.72	1173.28				4607.00	27.48	(231.72)	(260.87)	(290.24)	(293.69)	3557.97	(154.87)	3403.10	949.51
Totals FY 2017-56			1533.58	1580.99				7157.17	36.41	(359.68)	(360.26)	(445.59)	(293.69)	5734.36	(204.86)	5529.50	1119.90

Footnotes

[1] Reflects the average revenue per passenger car equivalent based on time-of-day variable weekday & weekend toll structures.

[2] Annual volume of vehicles subject to tolls in each travel direction after ramp up adjustment; includes autos and trucks.

[3] Converts medium & large trucks to their passenger car equivalent (PCE) based on trucks paying 2x to 4x the auto toll.

[4] Excludes toll surcharge revenue assessed to customers without transponders for pay-by-plate (video tolling/license plate list).

[5] Pay-by-plate toll surcharge revenue assessed to capture the additional collection costs of video toll/license plate list payment.

[6] 5% deduction for credit card fees & revenue loss due to the net effects of evasion, processing errors & uncollectible accounts.

[7] Both toll collection O&M costs and toll systems R&R timing differ based on when tolling begins.

[8] Pre-completion facility O&M costs are assumed to be capitalized and/or included in existing maintenance budgets.

[9] Reflects the repayment of construction sales tax deferred during construction

* Nights from 11 PM to 5 AM are toll-free for pre-completion tolling (FY 2011-2016).

General Notes

– Demand is reduced for "ramp-up" in initial years as customers get accustomed to tolls.

– Toll rate escalation and O&M inflation, where applicable, is projected at 2.5% per year.

– Weekday segment tolls & all variable rate weekend tolls do not vary by scenario.

– Weekend daily autos & trucks under variable tolls differs only between the 1 & 2 bridge cases.

I-90 Toll Traffic & Revenue Projections — SR 520 Finance Plan

Table 13-B.M TIC Scenario 13: Mid SR 520 Projection (SR 520 Tolled by FY 2011 & I-90 Tolled by FY 2013)

	Fiscal Year	Weighted Average West Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions West Bridge (millions)[2]	Pass Car Equiv (PCE) West Bridge Volumes (millions)[3]	Weighted Average East Bridge Toll Rate (one-way)[1]	Annual Bridge Toll Transactions East Bridge (millions)[2]	Pass Car Equiv (PCE) East Bridge Volumes (millions)[3]	Gross Toll Revenue Potential ($ millions)[4]	Plus: Pay-by-Plate Surcharge Revenue ($ millions)[5]	Less: Uncollectible Accounts/ Credit Fees ($ millions)[6]	Less: Toll Collection O&M Costs ($ millions)[7]	Less: Routine Facility O&M Costs ($ millions)[8]	Net Toll Revenue Before Periodic R&R Costs ($ millions)	Less: Periodic Rehab & Repair Costs ($ millions)[7]	Net Toll Revenue After Periodic R&R Costs ($ millions)	FY 2011 NPV of Net Revenue Before R&R @ 6.5% ($ millions)
Pre-Completion*	2010															
	2011															
	2012										(1.57)		(1.57)		(1.57)	(1.48)
	2013	$2.34	27.29	28.91				67.58	6.83	(3.72)	(10.04)		60.66		60.66	53.48
	2014	$2.40	31.33	33.24				79.63	7.26	(4.34)	(10.71)		71.84		71.84	59.47
	2015	$2.46	33.27	35.32				86.73	7.09	(4.69)	(10.59)		78.54		78.54	61.05
	2016	$2.52	33.57	35.66				89.74	6.52	(4.81)	(9.94)		81.51		81.51	59.49
Post-Completion — Full Revenue Operations	2017	$2.74	35.43	37.67				103.40	6.21	(5.48)	(9.65)	(9.36)	85.13	(0.03)	85.10	58.34
	2018	$2.81	35.88	38.18				107.40	5.61	(5.65)	(8.97)	(9.59)	88.80	(0.67)	88.12	57.14
	2019	$2.88	36.34	38.69				111.55	4.98	(5.83)	(8.26)	(9.83)	92.62	(0.49)	92.13	55.96
	2020	$2.96	36.80	39.21				115.86	4.34	(6.01)	(7.57)	(10.08)	96.54	(9.19)	87.35	54.77
	2021	$3.03	37.28	39.73				120.34	3.67	(6.20)	(7.68)	(10.33)	99.80	(1.76)	98.04	53.17
	2022	$3.10	37.75	40.26				124.99	2.99	(6.40)	(7.80)	(10.59)	103.20	(0.27)	102.92	51.62
	2023	$3.18	38.24	40.80				129.82	2.28	(6.61)	(7.91)	(10.85)	106.73	(7.84)	98.89	50.13
	2024	$3.26	38.73	41.35				134.85	1.54	(6.82)	(8.03)	(11.12)	110.41	(0.25)	110.17	48.69
	2025	$3.34	39.22	41.91				140.06	1.57	(7.08)	(8.15)	(11.40)	114.99		114.99	47.62
	2026	$3.43	39.73	42.47				145.48	1.59	(7.35)	(8.32)	(11.68)	119.72	(1.87)	117.85	46.55
	2027	$3.51	40.24	43.04				151.11	1.62	(7.64)	(8.44)	(11.98)	124.68	(4.97)	119.70	45.52
	2028	$3.60	40.75	43.62				156.96	1.65	(7.93)	(8.57)	(12.28)	129.83	(5.22)	124.62	44.51
	2029	$3.69	41.27	44.21				163.04	1.67	(8.24)	(8.70)	(12.58)	135.20	(4.43)	130.76	43.52
	2030	$3.78	41.80	44.80				169.36	1.70	(8.55)	(8.83)	(12.90)	140.77	(9.11)	131.67	42.55
	2031	$3.87	42.07	45.11				174.75	1.72	(8.82)	(8.92)	(13.22)	145.51	(6.91)	138.60	41.29
	2032	$3.97	42.34	45.41				180.32	1.74	(9.10)	(9.01)	(13.55)	150.40	(0.31)	150.09	40.08
	2033	$4.07	42.62	45.72				186.07	1.75	(9.39)	(9.15)	(13.89)	155.39	(10.91)	144.48	38.88
	2034	$4.17	42.89	46.02				192.00	1.77	(9.69)	(9.24)	(14.24)	160.61	(1.84)	158.76	37.73
	2035	$4.28	43.16	46.33				198.12	1.79	(10.00)	(9.34)	(14.59)	165.99	(14.81)	151.18	36.62
	2036	$4.38	43.44	46.65				204.44	1.81	(10.31)	(9.43)	(14.96)	171.55	(0.12)	171.43	35.53
	2037	$4.49	43.72	46.96				210.96	1.83	(10.64)	(9.53)	(15.33)	177.29	(2.81)	174.48	34.48
	2038	$4.60	44.00	47.28				217.68	1.85	(10.98)	(9.62)	(15.71)	183.22	(2.63)	180.59	33.46
	2039	$4.72	44.28	47.60				224.63	1.87	(11.32)	(9.72)	(16.11)	189.34	(15.76)	173.58	32.47
	2040	$4.84	44.57	47.92				231.79	1.89	(11.68)	(9.89)	(16.51)	195.60	(168.56)	27.04	31.49
	2041	$4.96	44.63	47.98				237.78	1.90	(11.98)	(9.95)	(16.92)	200.82	(174.39)	26.43	30.36
	2042	$5.08	44.70	48.05				243.92	1.91	(12.29)	(10.02)	(17.35)	206.18	(6.39)	199.79	29.27
	2043	$5.20	44.76	48.11				250.22	1.93	(12.61)	(10.08)	(17.78)	211.68	(17.39)	194.30	28.22
	2044	$5.33	44.82	48.17				256.69	1.94	(12.93)	(10.15)	(18.22)	217.33	(6.82)	210.50	27.20
	2045	$5.46	44.89	48.24				263.33	1.95	(13.26)	(10.22)	(18.68)	223.12	(6.58)	216.54	26.22
	2046	$5.59	44.95	48.30				270.14	1.97	(13.61)	(10.29)	(19.15)	229.06		229.06	25.28
	2047	$5.73	45.02	48.37				277.12	1.98	(13.96)	(10.43)	(19.63)	235.09	(4.38)	230.71	24.36
	2048	$5.87	45.08	48.44				284.29	1.99	(14.31)	(10.51)	(20.12)	241.35	(1.46)	239.89	23.48
	2049	$6.01	45.15	48.50				291.65	2.01	(14.68)	(10.58)	(20.62)	247.77	(2.82)	244.95	22.63
	2050	$6.16	45.22	48.57				299.19	2.02	(15.06)	(10.66)	(21.13)	254.36	(15.90)	238.46	21.82
	2051	$6.31	45.28	48.64				306.94	2.03	(15.45)	(10.73)	(21.66)	261.12	(3.69)	257.44	21.03
	2052	$6.47	45.35	48.70				314.88	2.05	(15.85)	(10.81)	(22.20)	268.07	(0.57)	267.50	20.27
	2053	$6.62	45.42	48.77				323.03	2.07	(16.25)	(10.90)	(22.76)	275.19	(16.45)	258.74	19.54
	2054	$6.79	45.49	48.84				331.40	2.08	(16.67)	(11.07)	(23.33)	282.41	(3.74)	278.67	18.83
	2055	$6.95	45.56	48.91				339.98	2.10	(17.10)	(11.15)	(23.91)	289.91	(9.08)	280.83	18.15
	2056	$7.12	45.63	48.98				348.79	2.11	(17.55)	(11.24)	(24.51)	297.61	(8.64)	288.97	17.49
Totals FY 2010-16			125.46	133.14				323.68	27.70	(17.57)	(42.84)		290.97		290.97	232.02
Totals FY 2017-46			1241.31	1329.81				5417.08	71.04	(274.41)	(271.44)	(410.76)	4531.51	(482.33)	4049.18	1228.68
Totals FY 2017-56			1694.52	1816.53				8534.35	91.48	(431.29)	(379.53)	(630.63)	7184.37	(549.04)	6635.34	1436.29

Footnotes

[1] Reflects the average revenue per passenger car equivalent based on time-of-day variable weekday & weekend toll structures.

[2] Annual volume of vehicles subject to tolls in each travel direction after ramp up adjustment; includes autos and trucks.

[3] Converts medium & large trucks to their passenger car equivalent (PCE) based on trucks paying 2x to 4x the auto toll.

[4] Excludes toll surcharge revenue assessed to customers without transponders for pay-by-plate (video tolling/license plate list).

[5] Pay-by-plate toll surcharge revenue assessed to capture the additional collection costs of video toll/license plate list payment.

[6] 5% deduction for credit card fees & revenue loss due to the net effects of evasion, processing errors & uncollectible accounts.

[7] Both toll collection O&M costs and toll systems R&R timing differ based on when tolling begins.

[8] Pre-completion facility O&M costs are assumed to be capitalized and/or included in existing maintenance budgets.

[9] Reflects the repayment of construction sales tax deferred during construction

* Nights from 11 PM to 5 AM are toll-free for pre-completion tolling (FY 2011-2016).

General Notes

– Demand is reduced for "ramp-up" in initial years as customers get accustomed to tolls.

– Toll rate escalation and O&M inflation, where applicable, is projected at 2.5% per year.

– Weekday segment tolls & all variable rate weekend tolls do not vary by scenario.

– Weekend daily autos & trucks under variable tolls differs only between the 1 & 2 bridge cases.

[This page intentionally blank]

APPENDIX B: SR 520 TRAVEL DEMAND MODELING RESULTS

[This page intentionally blank]

Exhibit B-1
SR-520 and I-90 Bridge Toll-Free & Toll Traffic Vehicle Volumes
2010 Scenario 2 Forecasts

Scenario 2	Toll-Free				Facility Tolled: Single Point on SR 520			
	Cross-Lake Bridge Segments				Cross-Lake Bridge Segments			
	Total X-lake	I-90 Mid-Span Segments		SR-520	Total X-lake	I-90 Mid-Span Segments		SR-520
		MI-Seattle	MI-Bellevue	Mid-Span		MI-Seattle	MI-Bellevue	Mid-Span
Description	(a)+(c)	(a)	(b)	(c)	(a)+(c)	(a)	(b)	(c)
AM Peak (3 hrs)								
Total GP Vehicle Volumes	47,280	26,070	27,520	21,210	45,090	26,660	28,060	18,430
% Change in GP Volumes					*-5%*	*2%*	*2%*	*-13%*
V/C Ratio	0.89	0.82	0.87	1.00	0.85	0.84	0.88	0.87
Medium and Heavy Trucks	1,780	1,100	1,090	680	1,660	1,150	1,150	510
% Medium and Heavy Trucks	*3.8%*	*4.2%*	*4.0%*	*3.2%*	*3.7%*	*4.3%*	*4.1%*	*2.8%*
3+ HOV's in GP Lanes	710	300	380	410	730	310	440	420
% 3+ HOV's in GP Lanes	*1.5%*	*1.2%*	*1.4%*	*1.9%*	*1.6%*	*1.2%*	*1.6%*	*2.3%*
Total 2+ HOV's (in HOV Lanes)	1,870	1,870	1,840		1,900	1,900	1,820	
% Change in HOV Volumes					*2%*	*2%*	*-1%*	
AM Peak Crosslake Vehicle Volumes	49,150	27,940	29,360	21,210	46,990	28,560	29,880	18,430
PM Peak (3 hrs)								
Total GP Vehicle Volumes	54,580	31,150	32,700	23,430	51,600	32,040	33,300	19,560
% Change in GP Volumes					*-5%*	*3%*	*2%*	*-17%*
V/C Ratio	1.03	0.98	1.03	1.11	0.98	1.01	1.05	0.93
Medium and Heavy Trucks	1,590	1,020	1,010	570	1,560	1,180	1,170	380
% Medium and Heavy Trucks	*2.9%*	*3.3%*	*3.1%*	*2.4%*	*3.0%*	*3.7%*	*3.5%*	*1.9%*
3+ HOV's in GP Lanes	1,480	680	830	800	1,600	770	910	830
% 3+ HOV's in GP Lanes	*2.7%*	*2.2%*	*2.5%*	*3.4%*	*3.1%*	*2.4%*	*2.7%*	*4.2%*
Total 2+ HOV's (in HOV Lanes)	4,920	4,920	4,990		4,620	4,620	4,670	
% Change in HOV Volumes					*-6%*	*-6%*	*-6%*	
PM Peak Crosslake Vehicle Volumes	59,500	36,070	37,680	23,430	56,220	36,660	37,970	19,560
Off-Peak (18 hrs)[1]								
Total GP Vehicle Volumes	153,650	80,050	84,980	73,600	143,970	83,630	87,640	60,340
% Change in GP Volumes					*-6%*	*4%*	*3%*	*-18%*
Medium and Heavy Trucks	4,890	2,950	2,960	1,940	4,780	3,290	3,300	1,490
% Medium and Heavy Trucks	*3.2%*	*3.7%*	*3.5%*	*2.6%*	*3.3%*	*3.9%*	*3.8%*	*2.5%*
3+ HOV's in GP Lanes	5,240	2,280	2,600	2,960	5,450	2,690	3,020	2,760
% 3+ HOV's in GP Lanes	*3.4%*	*2.8%*	*3.1%*	*4.0%*	*3.8%*	*3.2%*	*3.4%*	*4.6%*
Total 2+ HOV's (in HOV Lanes)	7,710	7,710	8,210		6,720	6,720	7,230	
% Change in HOV Volumes					*-13%*	*-13%*	*-12%*	
Off-Peak Crosslake Vehicle Volumes	161,350	87,750	93,190	73,600	150,680	90,340	94,860	60,340
Daily (24 hrs)								
Total GP Vehicle Volumes	255,510	137,270	145,200	118,240	240,660	142,330	149,000	98,330
% Change in GP Volumes					*-6%*	*4%*	*3%*	*-17%*
Medium and Heavy Trucks	8,260	5,070	5,060	3,190	8,000	5,620	5,620	2,380
% Medium and Heavy Trucks	*3.2%*	*3.7%*	*3.5%*	*2.7%*	*3.3%*	*3.9%*	*3.8%*	*2.4%*
3+ HOV's in GP Lanes	7,430	3,260	3,810	4,170	7,780	3,770	4,370	4,010
% 3+ HOV's in GP Lanes	*2.9%*	*2.4%*	*2.6%*	*3.5%*	*3.2%*	*2.6%*	*2.9%*	*4.1%*
Total 2+ HOV's (in HOV Lanes)	14,500	14,500	15,040	0	13,240	13,240	13,720	
% Change in HOV Volumes					*-9%*	*-9%*	*-9%*	
Total Crosslake Vehicle Volumes	270,000	151,760	160,230	118,240	253,890	155,560	162,710	98,330
% Change in Crosslake Volumes					*-6%*	*3%*	*2%*	*-17%*

[1] Off Peak vehicle volumes are a summation of vehicle volumes in the Mid-Day, Evening and Late Night periods.

Exhibit B-2
SR-520 and I-90 Bridge Toll-Free & Toll Traffic Vehicle Volumes
2010 Scenario 4 Forecasts

Scenario 4	Toll-Free				Facility Tolled: Single Point on SR 520			
	Cross-Lake Bridge Segments				Cross-Lake Bridge Segments			
	Total X-lake	I-90 Mid-Span Segments		SR-520	Total X-lake	I-90 Mid-Span Segments		SR-520
		MI-Seattle	MI-Bellevue	Mid-Span		MI-Seattle	MI-Bellevue	Mid-Span
Description	(a)+(c)	(a)	(b)	(c)	(a)+(c)	(a)	(b)	(c)
AM Peak (3 hrs)								
Total GP Vehicle Volumes	47,280	26,070	27,520	21,210	44,600	26,770	28,200	17,830
% Change in GP Volumes					*-6%*	*3%*	*2%*	*-16%*
V/C Ratio	0.89	0.82	0.87	1.00	0.84	0.84	0.89	0.84
Medium and Heavy Trucks	1,780	1,100	1,090	680	1,640	1,170	1,170	470
% Medium and Heavy Trucks	*3.8%*	*4.2%*	*4.0%*	*3.2%*	*3.7%*	*4.4%*	*4.1%*	*2.6%*
3+ HOV's in GP Lanes	710	300	380	410	740	310	430	430
% 3+ HOV's in GP Lanes	*1.5%*	*1.2%*	*1.4%*	*1.9%*	*1.7%*	*1.2%*	*1.5%*	*2.4%*
Total 2+ HOV's (in HOV Lanes)	1,870	1,870	1,840		1,890	1,890	1,820	
% Change in HOV Volumes					*1%*	*1%*	*-1%*	
AM Peak Crosslake Vehicle Volumes	49,150	27,940	29,360	21,210	46,500	28,670	30,020	17,830
PM Peak (3 hrs)								
Total GP Vehicle Volumes	54,580	31,150	32,700	23,430	51,320	31,990	33,280	19,330
% Change in GP Volumes					*-6%*	*3%*	*2%*	*-17%*
V/C Ratio	1.03	0.98	1.03	1.11	0.97	1.01	1.05	0.91
Medium and Heavy Trucks	1,590	1,020	1,010	570	1,560	1,200	1,190	360
% Medium and Heavy Trucks	*2.9%*	*3.3%*	*3.1%*	*2.4%*	*3.0%*	*3.8%*	*3.6%*	*1.9%*
3+ HOV's in GP Lanes	1,480	680	830	800	1,590	770	920	820
% 3+ HOV's in GP Lanes	*2.7%*	*2.2%*	*2.5%*	*3.4%*	*3.1%*	*2.4%*	*2.8%*	*4.2%*
Total 2+ HOV's (in HOV Lanes)	4,920	4,920	4,990		4,630	4,630	4,690	
% Change in HOV Volumes					*-6%*	*-6%*	*-6%*	
PM Peak Crosslake Vehicle Volumes	59,500	36,070	37,680	23,430	55,950	36,620	37,970	19,330
Off-Peak (18 hrs)[1]								
Total GP Vehicle Volumes	153,650	80,050	84,980	73,600	139,950	85,530	89,770	54,420
% Change in GP Volumes					*-9%*	*7%*	*6%*	*-26%*
Medium and Heavy Trucks	4,890	2,950	2,960	1,940	4,690	3,490	3,500	1,200
% Medium and Heavy Trucks	*3.2%*	*3.7%*	*3.5%*	*2.6%*	*3.4%*	*4.1%*	*3.9%*	*2.2%*
3+ HOV's in GP Lanes	5,240	2,280	2,600	2,960	5,210	2,740	3,080	2,470
% 3+ HOV's in GP Lanes	*3.4%*	*2.8%*	*3.1%*	*4.0%*	*3.7%*	*3.2%*	*3.4%*	*4.5%*
Total 2+ HOV's (in HOV Lanes)	7,710	7,710	8,210		7,360	7,360	7,850	
% Change in HOV Volumes					*-5%*	*-5%*	*-4%*	
Off-Peak Crosslake Vehicle Volumes	161,350	87,750	93,190	73,600	147,310	92,890	97,620	54,420
Daily (24 hrs)								
Total GP Vehicle Volumes	255,510	137,270	145,200	118,240	235,870	144,290	151,250	91,580
% Change in GP Volumes					*-8%*	*5%*	*4%*	*-23%*
Medium and Heavy Trucks	8,260	5,070	5,060	3,190	7,890	5,860	5,860	2,030
% Medium and Heavy Trucks	*3.2%*	*3.7%*	*3.5%*	*2.7%*	*3.3%*	*4.1%*	*3.9%*	*2.2%*
3+ HOV's in GP Lanes	7,430	3,260	3,810	4,170	7,540	3,820	4,430	3,720
% 3+ HOV's in GP Lanes	*2.9%*	*2.4%*	*2.6%*	*3.5%*	*3.2%*	*2.6%*	*2.9%*	*4.1%*
Total 2+ HOV's (in HOV Lanes)	14,500	14,500	15,040	0	13,880	13,880	14,360	
% Change in HOV Volumes					*-4%*	*-4%*	*-5%*	
Total Crosslake Vehicle Volumes	270,000	151,760	160,230	118,240	249,760	158,180	165,610	91,580
% Change in Crosslake Volumes					*-7%*	*4%*	*3%*	*-23%*

[1] Off Peak vehicle volumes are a summation of vehicle volumes in the Mid-Day, Evening and Late Night periods.

Exhibit B-3
SR-520 and I-90 Bridge Toll-Free & Toll Traffic Vehicle Volumes
2010 Scenario 7 Forecasts

Scenario 7	Toll-Free				Facility Tolled: Single Point on SR 520			
	Cross-Lake Bridge Segments				Cross-Lake Bridge Segments			
	Total X-lake	I-90 Mid-Span Segments		SR-520	Total X-lake	I-90 Mid-Span Segments		SR-520
		MI-Seattle	MI-Bellevue	Mid-Span		MI-Seattle	MI-Bellevue	Mid-Span
Description	(a)+(c)	(a)	(b)	(c)	(a)+(c)	(a)	(b)	(c)
AM Peak (3 hrs)								
Total GP Vehicle Volumes	47,280	26,070	27,520	21,210	44,600	26,770	28,200	17,830
% Change in GP Volumes					*-6%*	*3%*	*2%*	*-16%*
V/C Ratio	0.89	0.82	0.87	1.00	0.84	0.84	0.89	0.84
Medium and Heavy Trucks	1,780	1,100	1,090	680	1,640	1,170	1,170	470
% Medium and Heavy Trucks	*3.8%*	*4.2%*	*4.0%*	*3.2%*	*3.7%*	*4.4%*	*4.1%*	*2.6%*
3+ HOV's in GP Lanes	710	300	380	410	740	310	430	430
% 3+ HOV's in GP Lanes	*1.5%*	*1.2%*	*1.4%*	*1.9%*	*1.7%*	*1.2%*	*1.5%*	*2.4%*
Total 2+ HOV's (in HOV Lanes)	1,870	1,870	1,840		1,890	1,890	1,820	
% Change in HOV Volumes					*1%*	*1%*	*-1%*	
AM Peak Crosslake Vehicle Volumes	49,150	27,940	29,360	21,210	46,500	28,670	30,020	17,830
PM Peak (3 hrs)								
Total GP Vehicle Volumes	54,580	31,150	32,700	23,430	51,320	31,990	33,280	19,330
% Change in GP Volumes					*-6%*	*3%*	*2%*	*-17%*
V/C Ratio	1.03	0.98	1.03	1.11	0.97	1.01	1.05	0.91
Medium and Heavy Trucks	1,590	1,020	1,010	570	1,560	1,200	1,190	360
% Medium and Heavy Trucks	*2.9%*	*3.3%*	*3.1%*	*2.4%*	*3.0%*	*3.8%*	*3.6%*	*1.9%*
3+ HOV's in GP Lanes	1,480	680	830	800	1,590	770	920	820
% 3+ HOV's in GP Lanes	*2.7%*	*2.2%*	*2.5%*	*3.4%*	*3.1%*	*2.4%*	*2.8%*	*4.2%*
Total 2+ HOV's (in HOV Lanes)	4,920	4,920	4,990		4,630	4,630	4,690	
% Change in HOV Volumes					*-6%*	*-6%*	*-6%*	
PM Peak Crosslake Vehicle Volumes	59,500	36,070	37,680	23,430	55,950	36,620	37,970	19,330
Off-Peak (18 hrs)[1]								
Total GP Vehicle Volumes	153,650	80,050	84,980	73,600	139,950	85,530	89,770	54,420
% Change in GP Volumes					*-9%*	*7%*	*6%*	*-26%*
Medium and Heavy Trucks	4,890	2,950	2,960	1,940	4,690	3,490	3,500	1,200
% Medium and Heavy Trucks	*3.2%*	*3.7%*	*3.5%*	*2.6%*	*3.4%*	*4.1%*	*3.9%*	*2.2%*
3+ HOV's in GP Lanes	5,240	2,280	2,600	2,960	5,210	2,740	3,080	2,470
% 3+ HOV's in GP Lanes	*3.4%*	*2.8%*	*3.1%*	*4.0%*	*3.7%*	*3.2%*	*3.4%*	*4.5%*
Total 2+ HOV's (in HOV Lanes)	7,710	7,710	8,210		7,360	7,360	7,850	
% Change in HOV Volumes					*-5%*	*-5%*	*-4%*	
Off-Peak Crosslake Vehicle Volumes	161,350	87,750	93,190	73,600	147,310	92,890	97,620	54,420
Daily (24 hrs)								
Total GP Vehicle Volumes	255,510	137,270	145,200	118,240	235,870	144,290	151,250	91,580
% Change in GP Volumes					*-8%*	*5%*	*4%*	*-23%*
Medium and Heavy Trucks	8,260	5,070	5,060	3,190	7,890	5,860	5,860	2,030
% Medium and Heavy Trucks	*3.2%*	*3.7%*	*3.5%*	*2.7%*	*3.3%*	*4.1%*	*3.9%*	*2.2%*
3+ HOV's in GP Lanes	7,430	3,260	3,810	4,170	7,540	3,820	4,430	3,720
% 3+ HOV's in GP Lanes	*2.9%*	*2.4%*	*2.6%*	*3.5%*	*3.2%*	*2.6%*	*2.9%*	*4.1%*
Total 2+ HOV's (in HOV Lanes)	14,500	14,500	15,040	0	13,880	13,880	14,360	
% Change in HOV Volumes					*-4%*	*-4%*	*-5%*	
Total Crosslake Vehicle Volumes	270,000	151,760	160,230	118,240	249,760	158,180	165,610	91,580
% Change in Crosslake Volumes					*-7%*	*4%*	*3%*	*-23%*

[1] Off Peak vehicle volumes are a summation of vehicle volumes in the Mid-Day, Evening and Late Night periods.

Exhibit B-4
SR-520 and I-90 Bridge Toll-Free & Toll Traffic Vehicle Volumes
2010 Scenario 7 Forecasts

Scenario 7	Toll-Free				Facility Tolled: Single Point on SR 520			
	Cross-Lake Bridge Segments				Cross-Lake Bridge Segments			
	Total X-lake	I-90 Mid-Span Segments		SR-520	Total X-lake	I-90 Mid-Span Segments		SR-520
		MI-Seattle	MI-Bellevue	Mid-Span		MI-Seattle	MI-Bellevue	Mid-Span
Description	(a)+(c)	(a)	(b)	(c)	(a)+(c)	(a)	(b)	(c)
AM Peak (3 hrs)								
Total GP Vehicle Volumes	47,280	26,070	27,520	21,210	44,600	26,770	28,200	17,830
% Change in GP Volumes					*-6%*	*3%*	*2%*	*-16%*
V/C Ratio	0.89	0.82	0.87	1.00	0.84	0.84	0.89	0.84
Medium and Heavy Trucks	1,780	1,100	1,090	680	1,640	1,170	1,170	470
% Medium and Heavy Trucks	*3.8%*	*4.2%*	*4.0%*	*3.2%*	*3.7%*	*4.4%*	*4.1%*	*2.6%*
3+ HOV's in GP Lanes	710	300	380	410	740	310	430	430
% 3+ HOV's in GP Lanes	*1.5%*	*1.2%*	*1.4%*	*1.9%*	*1.7%*	*1.2%*	*1.5%*	*2.4%*
Total 2+ HOV's (in HOV Lanes)	1,870	1,870	1,840		1,890	1,890	1,820	
% Change in HOV Volumes					*1%*	*1%*	*-1%*	
AM Peak Crosslake Vehicle Volumes	49,150	27,940	29,360	21,210	46,500	28,670	30,020	17,830
PM Peak (3 hrs)								
Total GP Vehicle Volumes	54,580	31,150	32,700	23,430	51,320	31,990	33,280	19,330
% Change in GP Volumes					*-6%*	*3%*	*2%*	*-17%*
V/C Ratio	1.03	0.98	1.03	1.11	0.97	1.01	1.05	0.91
Medium and Heavy Trucks	1,590	1,020	1,010	570	1,560	1,200	1,190	360
% Medium and Heavy Trucks	*2.9%*	*3.3%*	*3.1%*	*2.4%*	*3.0%*	*3.8%*	*3.6%*	*1.9%*
3+ HOV's in GP Lanes	1,480	680	830	800	1,590	770	920	820
% 3+ HOV's in GP Lanes	*2.7%*	*2.2%*	*2.5%*	*3.4%*	*3.1%*	*2.4%*	*2.8%*	*4.2%*
Total 2+ HOV's (in HOV Lanes)	4,920	4,920	4,990		4,630	4,630	4,690	
% Change in HOV Volumes					*-6%*	*-6%*	*-6%*	
PM Peak Crosslake Vehicle Volumes	59,500	36,070	37,680	23,430	55,950	36,620	37,970	19,330
Off-Peak (18 hrs)[1]								
Total GP Vehicle Volumes	153,650	80,050	84,980	73,600	139,950	85,530	89,770	54,420
% Change in GP Volumes					*-9%*	*7%*	*6%*	*-26%*
Medium and Heavy Trucks	4,890	2,950	2,960	1,940	4,690	3,490	3,500	1,200
% Medium and Heavy Trucks	*3.2%*	*3.7%*	*3.5%*	*2.6%*	*3.4%*	*4.1%*	*3.9%*	*2.2%*
3+ HOV's in GP Lanes	5,240	2,280	2,600	2,960	5,210	2,740	3,080	2,470
% 3+ HOV's in GP Lanes	*3.4%*	*2.8%*	*3.1%*	*4.0%*	*3.7%*	*3.2%*	*3.4%*	*4.5%*
Total 2+ HOV's (in HOV Lanes)	7,710	7,710	8,210		7,360	7,360	7,850	
% Change in HOV Volumes					*-5%*	*-5%*	*-4%*	
Off-Peak Crosslake Vehicle Volumes	161,350	87,750	93,190	73,600	147,310	92,890	97,620	54,420
Daily (24 hrs)								
Total GP Vehicle Volumes	255,510	137,270	145,200	118,240	235,870	144,290	151,250	91,580
% Change in GP Volumes					*-8%*	*5%*	*4%*	*-23%*
Medium and Heavy Trucks	8,260	5,070	5,060	3,190	7,890	5,860	5,860	2,030
% Medium and Heavy Trucks	*3.2%*	*3.7%*	*3.5%*	*2.7%*	*3.3%*	*4.1%*	*3.9%*	*2.2%*
3+ HOV's in GP Lanes	7,430	3,260	3,810	4,170	7,540	3,820	4,430	3,720
% 3+ HOV's in GP Lanes	*2.9%*	*2.4%*	*2.6%*	*3.5%*	*3.2%*	*2.6%*	*2.9%*	*4.1%*
Total 2+ HOV's (in HOV Lanes)	14,500	14,500	15,040	0	13,880	13,880	14,360	
% Change in HOV Volumes					*-4%*	*-4%*	*-5%*	
Total Crosslake Vehicle Volumes	270,000	151,760	160,230	118,240	249,760	158,180	165,610	91,580
% Change in Crosslake Volumes					*-7%*	*4%*	*3%*	*-23%*

[1] Off Peak vehicle volumes are a summation of vehicle volumes in the Mid-Day, Evening and Late Night periods.

Exhibit B-5
SR-520 and I-90 Bridge Toll-Free & Toll Traffic Vehicle Volumes
2010 Scenario 6 Forecasts

Scenario 6	Toll-Free				Facility Tolled: Single Point on SR 520			
	Cross-Lake Bridge Segments				Cross-Lake Bridge Segments			
	Total X-lake	I-90 Mid-Span Segments		SR-520	Total X-lake	I-90 Mid-Span Segments		SR-520
		MI-Seattle	MI-Bellevue	Mid-Span		MI-Seattle	MI-Bellevue	Mid-Span
Description	(a)+(c)	(a)	(b)	(c)	(a)+(c)	(a)	(b)	(c)
AM Peak (3 hrs)								
Total GP Vehicle Volumes	47,560	26,070	27,520	21,490	44,780	27,690	28,900	17,090
% Change in GP Volumes					*-6%*	*6%*	*5%*	*-20%*
V/C Ratio	0.90	0.82	0.87	1.02	0.85	0.87	0.91	0.81
Medium and Heavy Trucks	2,060	1,100	1,090	960	1,940	1,280	1,280	660
% Medium and Heavy Trucks	*4.3%*	*4.2%*	*4.0%*	*4.5%*	*4.3%*	*4.6%*	*4.4%*	*3.9%*
3+ HOV's in GP Lanes	710	300	380	410	710	300	390	410
% 3+ HOV's in GP Lanes	*1.5%*	*1.2%*	*1.4%*	*1.9%*	*1.6%*	*1.1%*	*1.3%*	*2.4%*
Total 2+ HOV's (in HOV Lanes)	1,870	1,870	1,840		1,870	1,870	1,900	
% Change in HOV Volumes					*0%*	*0%*	*3%*	
AM Peak Crosslake Vehicle Volumes	49,430	27,940	29,360	21,490	46,650	29,560	30,800	17,090
PM Peak (3 hrs)								
Total GP Vehicle Volumes	54,880	31,150	32,700	23,730	51,160	32,080	33,300	19,080
% Change in GP Volumes					*-7%*	*3%*	*2%*	*-20%*
V/C Ratio	1.04	0.98	1.03	1.12	0.97	1.01	1.05	0.90
Medium and Heavy Trucks	1,880	1,020	1,010	860	1,810	1,170	1,160	640
% Medium and Heavy Trucks	*3.4%*	*3.3%*	*3.1%*	*3.6%*	*3.5%*	*3.6%*	*3.5%*	*3.4%*
3+ HOV's in GP Lanes	1,480	680	830	800	1,460	730	880	730
% 3+ HOV's in GP Lanes	*2.7%*	*2.2%*	*2.5%*	*3.4%*	*2.9%*	*2.3%*	*2.6%*	*3.8%*
Total 2+ HOV's (in HOV Lanes)	4,920	4,920	4,990		4,730	4,730	4,740	
% Change in HOV Volumes					*-4%*	*-4%*	*-5%*	
PM Peak Crosslake Vehicle Volumes	59,800	36,070	37,680	23,730	55,890	36,810	38,040	19,080
Off-Peak (18 hrs)[1]								
Total GP Vehicle Volumes	153,910	80,050	84,980	73,860	141,780	86,620	90,620	55,160
% Change in GP Volumes					*-8%*	*8%*	*7%*	*-25%*
Medium and Heavy Trucks	5,160	2,950	2,960	2,210	4,880	3,410	3,420	1,470
% Medium and Heavy Trucks	*3.4%*	*3.7%*	*3.5%*	*3.0%*	*3.4%*	*3.9%*	*3.8%*	*2.7%*
3+ HOV's in GP Lanes	5,240	2,280	2,600	2,960	4,820	2,450	2,790	2,370
% 3+ HOV's in GP Lanes	*3.4%*	*2.8%*	*3.1%*	*4.0%*	*3.4%*	*2.8%*	*3.1%*	*4.3%*
Total 2+ HOV's (in HOV Lanes)	7,710	7,710	8,210		7,910	7,910	8,340	
% Change in HOV Volumes					*3%*	*3%*	*2%*	
Off-Peak Crosslake Vehicle Volumes	161,610	87,750	93,190	73,860	149,690	94,530	98,960	55,160
Daily (24 hrs)								
Total GP Vehicle Volumes	256,350	137,270	145,200	119,080	237,720	146,390	152,820	91,330
% Change in GP Volumes					*-7%*	*7%*	*5%*	*-23%*
Medium and Heavy Trucks	9,100	5,070	5,060	4,030	8,630	5,860	5,860	2,770
% Medium and Heavy Trucks	*3.5%*	*3.7%*	*3.5%*	*3.4%*	*3.6%*	*4.0%*	*3.8%*	*3.0%*
3+ HOV's in GP Lanes	7,430	3,260	3,810	4,170	6,990	3,480	4,060	3,510
% 3+ HOV's in GP Lanes	*2.9%*	*2.4%*	*2.6%*	*3.5%*	*2.9%*	*2.4%*	*2.7%*	*3.8%*
Total 2+ HOV's (in HOV Lanes)	14,500	14,500	15,040	0	14,510	14,510	14,980	
% Change in HOV Volumes					*0%*	*0%*	*0%*	
Total Crosslake Vehicle Volumes	270,840	151,760	160,230	119,080	252,230	160,900	167,800	91,330
% Change in Crosslake Volumes					*-7%*	*6%*	*5%*	*-23%*

[1] Off Peak vehicle volumes are a summation of vehicle volumes in the Mid-Day, Evening and Late Night periods.

Exhibit B-6
SR-520 and I-90 Bridge Toll-Free & Toll Traffic Vehicle Volumes
2010 Scenario 6 Forecasts

Scenario 6	Toll-Free				Facility Tolled: Single Point on SR 520			
	Cross-Lake Bridge Segments				Cross-Lake Bridge Segments			
	Total X-lake	I-90 Mid-Span Segments		SR-520	Total X-lake	I-90 Mid-Span Segments		SR-520
		MI-Seattle	MI-Bellevue	Mid-Span		MI-Seattle	MI-Bellevue	Mid-Span
Description	(a)+(c)	(a)	(b)	(c)	(a)+(c)	(a)	(b)	(c)
AM Peak (3 hrs)								
Total GP Vehicle Volumes	47,560	26,070	27,520	21,490	44,780	27,690	28,900	17,090
% Change in GP Volumes					*-6%*	*6%*	*5%*	*-20%*
V/C Ratio	0.90	0.82	0.87	1.02	0.85	0.87	0.91	0.81
Medium and Heavy Trucks	2,060	1,100	1,090	960	1,940	1,280	1,280	660
% Medium and Heavy Trucks	*4.3%*	*4.2%*	*4.0%*	*4.5%*	*4.3%*	*4.6%*	*4.4%*	*3.9%*
3+ HOV's in GP Lanes	710	300	380	410	710	300	390	410
% 3+ HOV's in GP Lanes	*1.5%*	*1.2%*	*1.4%*	*1.9%*	*1.6%*	*1.1%*	*1.3%*	*2.4%*
Total 2+ HOV's (in HOV Lanes)	1,870	1,870	1,840		1,870	1,870	1,900	
% Change in HOV Volumes					*0%*	*0%*	*3%*	
AM Peak Crosslake Vehicle Volumes	49,430	27,940	29,360	21,490	46,650	29,560	30,800	17,090
PM Peak (3 hrs)								
Total GP Vehicle Volumes	54,880	31,150	32,700	23,730	51,160	32,080	33,300	19,080
% Change in GP Volumes					*-7%*	*3%*	*2%*	*-20%*
V/C Ratio	1.04	0.98	1.03	1.12	0.97	1.01	1.05	0.90
Medium and Heavy Trucks	1,880	1,020	1,010	860	1,810	1,170	1,160	640
% Medium and Heavy Trucks	*3.4%*	*3.3%*	*3.1%*	*3.6%*	*3.5%*	*3.6%*	*3.5%*	*3.4%*
3+ HOV's in GP Lanes	1,480	680	830	800	1,460	730	880	730
% 3+ HOV's in GP Lanes	*2.7%*	*2.2%*	*2.5%*	*3.4%*	*2.9%*	*2.3%*	*2.6%*	*3.8%*
Total 2+ HOV's (in HOV Lanes)	4,920	4,920	4,990		4,730	4,730	4,740	
% Change in HOV Volumes					*-4%*	*-4%*	*-5%*	
PM Peak Crosslake Vehicle Volumes	59,800	36,070	37,680	23,730	55,890	36,810	38,040	19,080
Off-Peak (18 hrs)[1]								
Total GP Vehicle Volumes	153,910	80,050	84,980	73,860	141,780	86,620	90,620	55,160
% Change in GP Volumes					*-8%*	*8%*	*7%*	*-25%*
Medium and Heavy Trucks	5,160	2,950	2,960	2,210	4,880	3,410	3,420	1,470
% Medium and Heavy Trucks	*3.4%*	*3.7%*	*3.5%*	*3.0%*	*3.4%*	*3.9%*	*3.8%*	*2.7%*
3+ HOV's in GP Lanes	5,240	2,280	2,600	2,960	4,820	2,450	2,790	2,370
% 3+ HOV's in GP Lanes	*3.4%*	*2.8%*	*3.1%*	*4.0%*	*3.4%*	*2.8%*	*3.1%*	*4.3%*
Total 2+ HOV's (in HOV Lanes)	7,710	7,710	8,210		7,910	7,910	8,340	
% Change in HOV Volumes					*3%*	*3%*	*2%*	
Off-Peak Crosslake Vehicle Volumes	161,610	87,750	93,190	73,860	149,690	94,530	98,960	55,160
Daily (24 hrs)								
Total GP Vehicle Volumes	256,350	137,270	145,200	119,080	237,720	146,390	152,820	91,330
% Change in GP Volumes					*-7%*	*7%*	*5%*	*-23%*
Medium and Heavy Trucks	9,100	5,070	5,060	4,030	8,630	5,860	5,860	2,770
% Medium and Heavy Trucks	*3.5%*	*3.7%*	*3.5%*	*3.4%*	*3.6%*	*4.0%*	*3.8%*	*3.0%*
3+ HOV's in GP Lanes	7,430	3,260	3,810	4,170	6,990	3,480	4,060	3,510
% 3+ HOV's in GP Lanes	*2.9%*	*2.4%*	*2.6%*	*3.5%*	*2.9%*	*2.4%*	*2.7%*	*3.8%*
Total 2+ HOV's (in HOV Lanes)	14,500	14,500	15,040	0	14,510	14,510	14,980	
% Change in HOV Volumes					*0%*	*0%*	*0%*	
Total Crosslake Vehicle Volumes	270,840	151,760	160,230	119,080	252,230	160,900	167,800	91,330
% Change in Crosslake Volumes					*-7%*	*6%*	*5%*	*-23%*

[1] Off Peak vehicle volumes are a summation of vehicle volumes in the Mid-Day, Evening and Late Night periods.

Exhibit B-7
SR-520 and I-90 Bridge Toll-Free & Toll Traffic Vehicle Volumes
2010 Scenario 9 Forecasts

Scenario 9	**Toll-Free**				**Facility Tolled: Single Point on SR 520 and I-90**			
	Cross-Lake Bridge Segments				Cross-Lake Bridge Segments			
	Total X-lake	I-90 Mid-Span Segments		SR-520	Total X-lake	I-90 Mid-Span Segments		SR-520
		MI-Seattle	MI-Bellevue	Mid-Span		MI-Seattle	MI-Bellevue	Mid-Span
Description	(a)+(c)	(a)	(b)	(c)	(a)+(c)	(a)	(b)	(c)
AM Peak (3 hrs)								
Total GP Vehicle Volumes	47,280	26,070	27,520	21,210	40,700	21,470	24,000	19,230
% Change in GP Volumes					*-14%*	*-18%*	*-13%*	*-9%*
V/C Ratio	0.89	0.82	0.87	1.00	0.77	0.68	0.76	0.91
Medium and Heavy Trucks	1,780	1,100	1,090	680	1,390	830	870	560
% Medium and Heavy Trucks	*3.8%*	*4.2%*	*4.0%*	*3.2%*	*3.4%*	*3.9%*	*3.6%*	*2.9%*
3+ HOV's in GP Lanes	710	300	380	410	690	270	400	420
% 3+ HOV's in GP Lanes	*1.5%*	*1.2%*	*1.4%*	*1.9%*	*1.7%*	*1.3%*	*1.7%*	*2.2%*
Total 2+ HOV's (in HOV Lanes)	1,870	1,870	1,840		2,080	2,080	1,940	
% Change in HOV Volumes					*11%*	*11%*	*5%*	
AM Peak Crosslake Vehicle Volumes	49,150	27,940	29,360	21,210	42,780	23,550	25,930	19,230
PM Peak (3 hrs)								
Total GP Vehicle Volumes	54,580	31,150	32,700	23,430	45,760	25,160	28,490	20,600
% Change in GP Volumes					*-16%*	*-19%*	*-13%*	*-12%*
V/C Ratio	1.03	0.98	1.03	1.11	0.87	0.79	0.90	0.97
Medium and Heavy Trucks	1,590	1,020	1,010	570	1,250	770	800	480
% Medium and Heavy Trucks	*2.9%*	*3.3%*	*3.1%*	*2.4%*	*2.7%*	*3.1%*	*2.8%*	*2.3%*
3+ HOV's in GP Lanes	1,480	680	830	800	1,430	640	900	790
% 3+ HOV's in GP Lanes	*2.7%*	*2.2%*	*2.5%*	*3.4%*	*3.1%*	*2.5%*	*3.2%*	*3.8%*
Total 2+ HOV's (in HOV Lanes)	4,920	4,920	4,990		4,440	4,440	4,210	
% Change in HOV Volumes					*-10%*	*-10%*	*-16%*	
PM Peak Crosslake Vehicle Volumes	59,500	36,070	37,680	23,430	50,190	29,590	32,700	20,600
Off-Peak (18 hrs)[1]								
Total GP Vehicle Volumes	153,650	80,050	84,980	73,600	132,380	66,050	73,460	66,330
% Change in GP Volumes					*-14%*	*-17%*	*-14%*	*-10%*
Medium and Heavy Trucks	4,890	2,950	2,960	1,940	4,070	2,340	2,440	1,730
% Medium and Heavy Trucks	*3.2%*	*3.7%*	*3.5%*	*2.6%*	*3.1%*	*3.5%*	*3.3%*	*2.6%*
3+ HOV's in GP Lanes	5,240	2,280	2,600	2,960	4,250	1,420	2,030	2,830
% 3+ HOV's in GP Lanes	*3.4%*	*2.8%*	*3.1%*	*4.0%*	*3.2%*	*2.1%*	*2.8%*	*4.3%*
Total 2+ HOV's (in HOV Lanes)	7,710	7,710	8,210		10,380	10,380	9,930	
% Change in HOV Volumes					*35%*	*35%*	*21%*	
Off-Peak Crosslake Vehicle Volumes	161,350	87,750	93,190	73,600	142,760	76,430	83,390	66,330
Daily (24 hrs)								
Total GP Vehicle Volumes	255,510	137,270	145,200	118,240	218,840	112,680	125,950	106,160
% Change in GP Volumes					*-14%*	*-18%*	*-13%*	*-10%*
Medium and Heavy Trucks	8,260	5,070	5,060	3,190	6,710	3,940	4,110	2,770
% Medium and Heavy Trucks	*3.2%*	*3.7%*	*3.5%*	*2.7%*	*3.1%*	*3.5%*	*3.3%*	*2.6%*
3+ HOV's in GP Lanes	7,430	3,260	3,810	4,170	6,370	2,330	3,330	4,040
% 3+ HOV's in GP Lanes	*2.9%*	*2.4%*	*2.6%*	*3.5%*	*2.9%*	*2.1%*	*2.6%*	*3.8%*
Total 2+ HOV's (in HOV Lanes)	14,500	14,500	15,040	0	16,900	16,900	16,080	
% Change in HOV Volumes					*17%*	*17%*	*7%*	
Total Crosslake Vehicle Volumes	270,000	151,760	160,230	118,240	235,730	129,570	142,020	106,160
% Change in Crosslake Volumes					*-13%*	*-15%*	*-11%*	*-10%*

[1] Off Peak vehicle volumes are a summation of vehicle volumes in the Mid-Day, Evening and Late Night periods.

Exhibit B-8
SR-520 and I-90 Bridge Toll-Free & Toll Traffic Vehicle Volumes
2010 Scenario 13 Forecasts

Scenario 13	Toll-Free				Facility Tolled: Single Point on SR 520 and I-90			
	Cross-Lake Bridge Segments				Cross-Lake Bridge Segments			
	Total X-lake	I-90 Mid-Span Segments		SR-520	Total X-lake	I-90 Mid-Span Segments		SR-520
		MI-Seattle	MI-Bellevue	Mid-Span		MI-Seattle	MI-Bellevue	Mid-Span
Description	(a)+(c)	(a)	(b)	(c)	(a)+(c)	(a)	(b)	(c)
AM Peak (3 hrs)								
Total GP Vehicle Volumes	47,280	26,070	27,520	21,210	39,360	20,520	23,370	18,840
% Change in GP Volumes					*-17%*	*-21%*	*-15%*	*-11%*
V/C Ratio	0.89	0.82	0.87	1.00	0.74	0.65	0.74	0.89
Medium and Heavy Trucks	1,780	1,100	1,090	680	1,330	790	830	540
% Medium and Heavy Trucks	*3.8%*	*4.2%*	*4.0%*	*3.2%*	*3.4%*	*3.8%*	*3.6%*	*2.9%*
3+ HOV's in GP Lanes	710	300	380	410	680	260	400	420
% 3+ HOV's in GP Lanes	*1.5%*	*1.2%*	*1.4%*	*1.9%*	*1.7%*	*1.3%*	*1.7%*	*2.2%*
Total 2+ HOV's (in HOV Lanes)	1,870	1,870	1,840		2,090	2,090	1,930	
% Change in HOV Volumes					*12%*	*12%*	*5%*	
AM Peak Crosslake Vehicle Volumes	49,150	27,940	29,360	21,210	41,450	22,610	25,300	18,840
PM Peak (3 hrs)								
Total GP Vehicle Volumes	54,580	31,150	32,700	23,430	45,470	24,950	28,430	20,520
% Change in GP Volumes					*-17%*	*-20%*	*-13%*	*-12%*
V/C Ratio	1.03	0.98	1.03	1.11	0.86	0.79	0.90	0.97
Medium and Heavy Trucks	1,590	1,020	1,010	570	1,210	750	790	460
% Medium and Heavy Trucks	*2.9%*	*3.3%*	*3.1%*	*2.4%*	*2.7%*	*3.0%*	*2.8%*	*2.2%*
3+ HOV's in GP Lanes	1,480	680	830	800	1,440	650	880	790
% 3+ HOV's in GP Lanes	*2.7%*	*2.2%*	*2.5%*	*3.4%*	*3.2%*	*2.6%*	*3.1%*	*3.8%*
Total 2+ HOV's (in HOV Lanes)	4,920	4,920	4,990		4,420	4,420	4,200	
% Change in HOV Volumes					*-10%*	*-10%*	*-16%*	
PM Peak Crosslake Vehicle Volumes	59,500	36,070	37,680	23,430	49,890	29,370	32,630	20,520
Off-Peak (18 hrs)[1]								
Total GP Vehicle Volumes	153,650	80,050	84,980	73,600	121,860	57,970	68,760	63,890
% Change in GP Volumes					*-21%*	*-28%*	*-19%*	*-13%*
Medium and Heavy Trucks	4,890	2,950	2,960	1,940	3,710	2,030	2,210	1,680
% Medium and Heavy Trucks	*3.2%*	*3.7%*	*3.5%*	*2.6%*	*3.0%*	*3.5%*	*3.2%*	*2.6%*
3+ HOV's in GP Lanes	5,240	2,280	2,600	2,960	3,530	1,010	1,880	2,520
% 3+ HOV's in GP Lanes	*3.4%*	*2.8%*	*3.1%*	*4.0%*	*2.9%*	*1.7%*	*2.7%*	*3.9%*
Total 2+ HOV's (in HOV Lanes)	7,710	7,710	8,210		11,960	11,960	10,750	
% Change in HOV Volumes					*55%*	*55%*	*31%*	
Off-Peak Crosslake Vehicle Volumes	161,350	87,750	93,190	73,600	133,820	69,930	79,510	63,890
Daily (24 hrs)								
Total GP Vehicle Volumes	255,510	137,270	145,200	118,240	206,690	103,440	120,560	103,250
% Change in GP Volumes					*-19%*	*-25%*	*-17%*	*-13%*
Medium and Heavy Trucks	8,260	5,070	5,060	3,190	6,250	3,570	3,830	2,680
% Medium and Heavy Trucks	*3.2%*	*3.7%*	*3.5%*	*2.7%*	*3.0%*	*3.5%*	*3.2%*	*2.6%*
3+ HOV's in GP Lanes	7,430	3,260	3,810	4,170	5,650	1,920	3,160	3,730
% 3+ HOV's in GP Lanes	*2.9%*	*2.4%*	*2.6%*	*3.5%*	*2.7%*	*1.9%*	*2.6%*	*3.6%*
Total 2+ HOV's (in HOV Lanes)	14,500	14,500	15,040	0	18,470	18,470	16,880	
% Change in HOV Volumes					*27%*	*27%*	*12%*	
Total Crosslake Vehicle Volumes	270,000	151,760	160,230	118,240	225,160	121,910	137,440	103,250
% Change in Crosslake Volumes					*-17%*	*-20%*	*-14%*	*-13%*

[1] Off Peak vehicle volumes are a summation of vehicle volumes in the Mid-Day, Evening and Late Night periods.

Exhibit B-9
SR-520 and I-90 Bridge Toll-Free & Toll Traffic Vehicle Volumes
2010 Scenario 11 Forecasts

Scenario 11	Toll-Free				Facility Tolled: Single Point on SR 520 and I-90			
	Cross-Lake Bridge Segments				Cross-Lake Bridge Segments			
	Total X-lake	I-90 Mid-Span Segments		SR-520	Total X-lake	I-90 Mid-Span Segments		SR-520
		MI-Seattle	MI-Bellevue	Mid-Span		MI-Seattle	MI-Bellevue	Mid-Span
Description	(a)+(c)	(a)	(b)	(c)	(a)+(c)	(a)	(b)	(c)
AM Peak (3 hrs)								
Total GP Vehicle Volumes	47,280	26,070	27,520	21,210	37,160	19,440	22,670	17,720
% Change in GP Volumes					*-21%*	*-25%*	*-18%*	*-16%*
V/C Ratio	0.89	0.82	0.87	1.00	0.70	0.61	0.71	0.84
Medium and Heavy Trucks	1,780	1,100	1,090	680	1,220	790	860	430
% Medium and Heavy Trucks	*3.8%*	*4.2%*	*4.0%*	*3.2%*	*3.3%*	*4.1%*	*3.8%*	*2.4%*
3+ HOV's in GP Lanes	710	300	380	410	640	230	340	410
% 3+ HOV's in GP Lanes	*1.5%*	*1.2%*	*1.4%*	*1.9%*	*1.7%*	*1.2%*	*1.5%*	*2.3%*
Total 2+ HOV's (in HOV Lanes)	1,870	1,870	1,840		1,950	1,950	1,950	
% Change in HOV Volumes					*4%*	*4%*	*6%*	
AM Peak Crosslake Vehicle Volumes	49,150	27,940	29,360	21,210	39,110	21,390	24,610	17,720
PM Peak (3 hrs)								
Total GP Vehicle Volumes	54,580	31,150	32,700	23,430	42,890	22,960	26,900	19,930
% Change in GP Volumes					*-21%*	*-26%*	*-18%*	*-15%*
V/C Ratio	1.03	0.98	1.03	1.11	0.81	0.72	0.85	0.94
Medium and Heavy Trucks	1,590	1,020	1,010	570	1,100	670	730	430
% Medium and Heavy Trucks	*2.9%*	*3.3%*	*3.1%*	*2.4%*	*2.6%*	*2.9%*	*2.7%*	*2.2%*
3+ HOV's in GP Lanes	1,480	680	830	800	1,270	560	790	710
% 3+ HOV's in GP Lanes	*2.7%*	*2.2%*	*2.5%*	*3.4%*	*3.0%*	*2.4%*	*2.9%*	*3.6%*
Total 2+ HOV's (in HOV Lanes)	4,920	4,920	4,990		4,260	4,260	4,110	
% Change in HOV Volumes					*-13%*	*-13%*	*-18%*	
PM Peak Crosslake Vehicle Volumes	59,500	36,070	37,680	23,430	47,150	27,220	31,010	19,930
Off-Peak (18 hrs)[1]								
Total GP Vehicle Volumes	153,650	80,050	84,980	73,600	121,020	56,610	67,690	64,410
% Change in GP Volumes					*-21%*	*-29%*	*-20%*	*-12%*
Medium and Heavy Trucks	4,890	2,950	2,960	1,940	3,550	1,860	2,070	1,690
% Medium and Heavy Trucks	*3.2%*	*3.7%*	*3.5%*	*2.6%*	*2.9%*	*3.3%*	*3.1%*	*2.6%*
3+ HOV's in GP Lanes	5,240	2,280	2,600	2,960	3,370	960	1,710	2,410
% 3+ HOV's in GP Lanes	*3.4%*	*2.8%*	*3.1%*	*4.0%*	*2.8%*	*1.7%*	*2.5%*	*3.7%*
Total 2+ HOV's (in HOV Lanes)	7,710	7,710	8,210		12,690	12,690	11,320	
% Change in HOV Volumes					*65%*	*65%*	*38%*	
Off-Peak Crosslake Vehicle Volumes	161,350	87,750	93,190	73,600	133,700	69,290	79,010	64,410
Daily (24 hrs)								
Total GP Vehicle Volumes	255,510	137,270	145,200	118,240	201,070	99,010	117,260	102,060
% Change in GP Volumes					*-21%*	*-28%*	*-19%*	*-14%*
Medium and Heavy Trucks	8,260	5,070	5,060	3,190	5,870	3,320	3,660	2,550
% Medium and Heavy Trucks	*3.2%*	*3.7%*	*3.5%*	*2.7%*	*2.9%*	*3.4%*	*3.1%*	*2.5%*
3+ HOV's in GP Lanes	7,430	3,260	3,810	4,170	5,280	1,750	2,840	3,530
% 3+ HOV's in GP Lanes	*2.9%*	*2.4%*	*2.6%*	*3.5%*	*2.6%*	*1.8%*	*2.4%*	*3.5%*
Total 2+ HOV's (in HOV Lanes)	14,500	14,500	15,040	0	18,900	18,900	17,380	
% Change in HOV Volumes					*30%*	*30%*	*16%*	
Total Crosslake Vehicle Volumes	270,000	151,760	160,230	118,240	219,960	117,900	134,630	102,060
% Change in Crosslake Volumes					*-19%*	*-22%*	*-16%*	*-14%*

[1] Off Peak vehicle volumes are a summation of vehicle volumes in the Mid-Day, Evening and Late Night periods.

Exhibit B-10
SR-520 and I-90 Bridge Toll-Free & Toll Traffic Vehicle Volumes
2010 Scenario 6 Forecasts

Scenario 6	Toll-Free				Facility Tolled: Single Point on SR 520			
	Cross-Lake Bridge Segments				Cross-Lake Bridge Segments			
	Total X-lake	I-90 Mid-Span Segments		SR-520	Total X-lake	I-90 Mid-Span Segments		SR-520
		MI-Seattle	MI-Bellevue	Mid-Span		MI-Seattle	MI-Bellevue	Mid-Span
Description	(a)+(c)	(a)	(b)	(c)	(a)+(c)	(a)	(b)	(c)
AM Peak (3 hrs)								
Total GP Vehicle Volumes	47,560	26,070	27,520	21,490	44,780	27,690	28,900	17,090
% Change in GP Volumes					*-6%*	*6%*	*5%*	*-20%*
V/C Ratio	0.90	0.82	0.87	1.02	0.85	0.87	0.91	0.81
Medium and Heavy Trucks	2,060	1,100	1,090	960	1,940	1,280	1,280	660
% Medium and Heavy Trucks	*4.3%*	*4.2%*	*4.0%*	*4.5%*	*4.3%*	*4.6%*	*4.4%*	*3.9%*
3+ HOV's in GP Lanes	710	300	380	410	710	300	390	410
% 3+ HOV's in GP Lanes	*1.5%*	*1.2%*	*1.4%*	*1.9%*	*1.6%*	*1.1%*	*1.3%*	*2.4%*
Total 2+ HOV's (in HOV Lanes)	1,870	1,870	1,840		1,870	1,870	1,900	
% Change in HOV Volumes					*0%*	*0%*	*3%*	
AM Peak Crosslake Vehicle Volumes	49,430	27,940	29,360	21,490	46,650	29,560	30,800	17,090
PM Peak (3 hrs)								
Total GP Vehicle Volumes	54,880	31,150	32,700	23,730	51,160	32,080	33,300	19,080
% Change in GP Volumes					*-7%*	*3%*	*2%*	*-20%*
V/C Ratio	1.04	0.98	1.03	1.12	0.97	1.01	1.05	0.90
Medium and Heavy Trucks	1,880	1,020	1,010	860	1,810	1,170	1,160	640
% Medium and Heavy Trucks	*3.4%*	*3.3%*	*3.1%*	*3.6%*	*3.5%*	*3.6%*	*3.5%*	*3.4%*
3+ HOV's in GP Lanes	1,480	680	830	800	1,460	730	880	730
% 3+ HOV's in GP Lanes	*2.7%*	*2.2%*	*2.5%*	*3.4%*	*2.9%*	*2.3%*	*2.6%*	*3.8%*
Total 2+ HOV's (in HOV Lanes)	4,920	4,920	4,990		4,730	4,730	4,740	
% Change in HOV Volumes					*-4%*	*-4%*	*-5%*	
PM Peak Crosslake Vehicle Volumes	59,800	36,070	37,680	23,730	55,890	36,810	38,040	19,080
Off-Peak (18 hrs)[1]								
Total GP Vehicle Volumes	153,910	80,050	84,980	73,860	141,780	86,620	90,620	55,160
% Change in GP Volumes					*-8%*	*8%*	*7%*	*-25%*
Medium and Heavy Trucks	5,160	2,950	2,960	2,210	4,880	3,410	3,420	1,470
% Medium and Heavy Trucks	*3.4%*	*3.7%*	*3.5%*	*3.0%*	*3.4%*	*3.9%*	*3.8%*	*2.7%*
3+ HOV's in GP Lanes	5,240	2,280	2,600	2,960	4,820	2,450	2,790	2,370
% 3+ HOV's in GP Lanes	*3.4%*	*2.8%*	*3.1%*	*4.0%*	*3.4%*	*2.8%*	*3.1%*	*4.3%*
Total 2+ HOV's (in HOV Lanes)	7,710	7,710	8,210		7,910	7,910	8,340	
% Change in HOV Volumes					*3%*	*3%*	*2%*	
Off-Peak Crosslake Vehicle Volumes	161,610	87,750	93,190	73,860	149,690	94,530	98,960	55,160
Daily (24 hrs)								
Total GP Vehicle Volumes	256,350	137,270	145,200	119,080	237,720	146,390	152,820	91,330
% Change in GP Volumes					*-7%*	*7%*	*5%*	*-23%*
Medium and Heavy Trucks	9,100	5,070	5,060	4,030	8,630	5,860	5,860	2,770
% Medium and Heavy Trucks	*3.5%*	*3.7%*	*3.5%*	*3.4%*	*3.6%*	*4.0%*	*3.8%*	*3.0%*
3+ HOV's in GP Lanes	7,430	3,260	3,810	4,170	6,990	3,480	4,060	3,510
% 3+ HOV's in GP Lanes	*2.9%*	*2.4%*	*2.6%*	*3.5%*	*2.9%*	*2.4%*	*2.7%*	*3.8%*
Total 2+ HOV's (in HOV Lanes)	14,500	14,500	15,040	0	14,510	14,510	14,980	
% Change in HOV Volumes					*0%*	*0%*	*0%*	
Total Crosslake Vehicle Volumes	270,840	151,760	160,230	119,080	252,230	160,900	167,800	91,330
% Change in Crosslake Volumes					*-7%*	*6%*	*5%*	*-23%*

[1] Off Peak vehicle volumes are a summation of vehicle volumes in the Mid-Day, Evening and Late Night periods.

Exhibit B-11
SR-520 and I-90 Bridge Toll-Free & Toll Traffic Vehicle Volumes
2030 Scenario 2 Forecasts

Scenario 2	Toll-Free				Facility Tolled: Single Point on SR 520			
	Cross-Lake Bridge Segments				Cross-Lake Bridge Segments			
	Total X-lake	I-90 Mid-Span Segments		SR-520	Total X-lake	I-90 Mid-Span Segments		SR-520
		MI-Seattle	MI-Bellevue	Mid-Span		MI-Seattle	MI-Bellevue	Mid-Span
Description	(a)+(c)	(a)	(b)	(c)	(a)+(c)	(a)	(b)	(c)
AM Peak (3 hrs)								
Total GP Vehicle Volumes	49,400	27,130	29,020	22,270	47,620	28,410	30,330	19,210
% Change in GP Volumes					*-4%*	*5%*	*5%*	*-14%*
V/C Ratio	0.86	0.79	0.85	0.97	0.83	0.83	0.88	0.84
Medium and Heavy Trucks	2,350	1,510	1,520	840	2,170	1,680	1,690	490
% Medium and Heavy Trucks	*4.8%*	*5.6%*	*5.2%*	*3.8%*	*4.6%*	*5.9%*	*5.6%*	*2.6%*
3+ HOV's in GP Lanes	100	90	100	10	90	80	50	10
% 3+ HOV's in GP Lanes	*0.2%*	*0.3%*	*0.3%*	*0.0%*	*0.2%*	*0.3%*	*0.2%*	*0.1%*
Total 3+ HOV's (in HOV Lanes)	1,800	910	990	890	1,770	810	930	960
% Change in HOV Volumes					*-2%*	*-11%*	*-6%*	*8%*
AM Peak Crosslake Vehicle Volumes	51,200	28,040	30,000	23,160	49,390	29,220	31,270	20,170
PM Peak (3 hrs)								
Total GP Vehicle Volumes	58,580	33,050	35,300	25,530	56,940	33,840	36,070	23,100
% Change in GP Volumes					*-3%*	*2%*	*2%*	*-10%*
V/C Ratio	1.03	0.96	1.03	1.12	1.00	0.99	1.05	1.01
Medium and Heavy Trucks	2,150	1,410	1,400	740	2,010	1,520	1,510	490
% Medium and Heavy Trucks	*3.7%*	*4.3%*	*4.0%*	*2.9%*	*3.5%*	*4.5%*	*4.2%*	*2.1%*
3+ HOV's in GP Lanes	40	40	40	0	20	20	40	0
% 3+ HOV's in GP Lanes	*0.1%*	*0.1%*	*0.1%*	*0.0%*	*0.0%*	*0.1%*	*0.1%*	*0.0%*
Total 3+ HOV's (in HOV Lanes)	5,240	2,590	2,780	2,650	5,390	2,560	2,740	2,830
% Change in HOV Volumes					*3%*	*-1%*	*-1%*	*7%*
PM Peak Crosslake Vehicle Volumes	63,820	35,640	38,080	28,180	62,330	36,400	38,810	25,930
Off-Peak (18 hrs)[1]								
Total GP Vehicle Volumes	172,920	91,710	98,620	81,210	169,070	97,010	103,810	72,060
% Change in GP Volumes					*-2%*	*6%*	*5%*	*-11%*
Medium and Heavy Trucks	6,850	4,220	4,240	2,630	6,380	4,590	4,600	1,790
% Medium and Heavy Trucks	*4.0%*	*4.6%*	*4.3%*	*3.2%*	*3.8%*	*4.7%*	*4.4%*	*2.5%*
3+ HOV's in GP Lanes	1,290	1,210	770	80	1,200	1,140	700	60
% 3+ HOV's in GP Lanes	*0.7%*	*1.3%*	*0.8%*	*0.1%*	*0.7%*	*1.2%*	*0.7%*	*0.1%*
Total 3+ HOV's (in HOV Lanes)	8,250	3,460	4,410	4,790	8,480	3,390	4,320	5,090
% Change in HOV Volumes					*3%*	*-2%*	*-2%*	*6%*
Off-Peak Crosslake Vehicle Volumes	181,170	95,170	103,020	86,000	177,550	100,400	108,130	77,150
Daily (24 hrs)								
Total GP Vehicle Volumes	280,900	151,890	162,940	129,010	273,630	159,260	170,210	114,370
% Change in GP Volumes					*-3%*	*5%*	*4%*	*-11%*
Medium and Heavy Trucks	11,350	7,140	7,160	4,210	10,560	7,790	7,800	2,770
% Medium and Heavy Trucks	*4.0%*	*4.7%*	*4.4%*	*3.3%*	*3.9%*	*4.9%*	*4.6%*	*2.4%*
3+ HOV's in GP Lanes	1,430	1,340	910	90	1,310	1,240	790	70
% 3+ HOV's in GP Lanes	*0.5%*	*0.9%*	*0.6%*	*0.1%*	*0.5%*	*0.8%*	*0.5%*	*0.1%*
Total 3+ HOV's (in HOV Lanes)	15,290	6,960	8,180	8,330	15,640	6,760	7,990	8,880
% Change in HOV Volumes					*2%*	*-3%*	*-2%*	*7%*
Total Crosslake Vehicle Volumes	296,190	158,850	171,100	137,340	289,270	166,020	178,210	123,250
% Change in Crosslake Volumes					*-2%*	*5%*	*4%*	*-10%*

[1] Off Peak vehicle volumes are a summation of vehicle volumes in the Mid-Day, Evening and Late Night periods.

Exhibit B-12
SR-520 and I-90 Bridge Toll-Free & Toll Traffic Vehicle Volumes
2030 Scenario 5 Forecasts

Scenario 5	Toll-Free				Facility Tolled: Single Point on SR 520			
	Cross-Lake Bridge Segments				Cross-Lake Bridge Segments			
	Total X-lake	I-90 Mid-Span Segments		SR-520	Total X-lake	I-90 Mid-Span Segments		SR-520
		MI-Seattle	MI-Bellevue	Mid-Span		MI-Seattle	MI-Bellevue	Mid-Span
Description	(a)+(c)	(a)	(b)	(c)	(a)+(c)	(a)	(b)	(c)
AM Peak (3 hrs)								
Total GP Vehicle Volumes	49,400	27,130	29,020	22,270	48,880	28,250	30,160	20,630
% Change in GP Volumes					*-1%*	*4%*	*4%*	*-7%*
V/C Ratio	0.86	0.79	0.85	0.97	0.86	0.82	0.88	0.90
Medium and Heavy Trucks	2,350	1,510	1,520	840	2,170	1,650	1,670	520
% Medium and Heavy Trucks	*4.8%*	*5.6%*	*5.2%*	*3.8%*	*4.4%*	*5.8%*	*5.5%*	*2.5%*
3+ HOV's in GP Lanes	100	90	100	10	90	80	50	10
% 3+ HOV's in GP Lanes	*0.2%*	*0.3%*	*0.3%*	*0.0%*	*0.2%*	*0.3%*	*0.2%*	*0.0%*
Total 3+ HOV's (in HOV Lanes)	1,800	910	990	890	1,800	850	960	950
% Change in HOV Volumes					*0%*	*-7%*	*-3%*	*7%*
AM Peak Crosslake Vehicle Volumes	51,200	28,040	30,000	23,160	50,670	29,090	31,120	21,580
PM Peak (3 hrs)								
Total GP Vehicle Volumes	58,580	33,050	35,300	25,530	58,410	33,660	35,830	24,750
% Change in GP Volumes					*0%*	*2%*	*2%*	*-3%*
V/C Ratio	1.03	0.96	1.03	1.12	1.02	0.98	1.05	1.08
Medium and Heavy Trucks	2,150	1,410	1,400	740	2,020	1,490	1,490	530
% Medium and Heavy Trucks	*3.7%*	*4.3%*	*4.0%*	*2.9%*	*3.5%*	*4.4%*	*4.2%*	*2.1%*
3+ HOV's in GP Lanes	40	40	40	0	20	20	40	0
% 3+ HOV's in GP Lanes	*0.1%*	*0.1%*	*0.1%*	*0.0%*	*0.0%*	*0.1%*	*0.1%*	*0.0%*
Total 3+ HOV's (in HOV Lanes)	5,240	2,590	2,780	2,650	5,390	2,560	2,730	2,830
% Change in HOV Volumes					*3%*	*-1%*	*-2%*	*7%*
PM Peak Crosslake Vehicle Volumes	63,820	35,640	38,080	28,180	63,800	36,220	38,560	27,580
Off-Peak (18 hrs)[1]								
Total GP Vehicle Volumes	172,920	91,710	98,620	81,210	165,990	99,650	106,300	66,340
% Change in GP Volumes					*-4%*	*9%*	*8%*	*-18%*
Medium and Heavy Trucks	6,850	4,220	4,240	2,630	6,290	4,720	4,740	1,570
% Medium and Heavy Trucks	*4.0%*	*4.6%*	*4.3%*	*3.2%*	*3.8%*	*4.7%*	*4.5%*	*2.4%*
3+ HOV's in GP Lanes	1,290	1,210	770	80	1,120	1,110	670	10
% 3+ HOV's in GP Lanes	*0.7%*	*1.3%*	*0.8%*	*0.1%*	*0.7%*	*1.1%*	*0.6%*	*0.0%*
Total 3+ HOV's (in HOV Lanes)	8,250	3,460	4,410	4,790	8,650	3,420	4,320	5,230
% Change in HOV Volumes					*5%*	*-1%*	*-2%*	*9%*
Off-Peak Crosslake Vehicle Volumes	181,170	95,170	103,020	86,000	174,640	103,070	110,630	71,570
Daily (24 hrs)								
Total GP Vehicle Volumes	280,900	151,890	162,940	129,010	273,280	161,560	172,290	111,720
% Change in GP Volumes					*-3%*	*6%*	*6%*	*-13%*
Medium and Heavy Trucks	11,350	7,140	7,160	4,210	10,480	7,860	7,900	2,620
% Medium and Heavy Trucks	*4.0%*	*4.7%*	*4.4%*	*3.3%*	*3.8%*	*4.9%*	*4.6%*	*2.3%*
3+ HOV's in GP Lanes	1,430	1,340	910	90	1,230	1,210	760	20
% 3+ HOV's in GP Lanes	*0.5%*	*0.9%*	*0.6%*	*0.1%*	*0.5%*	*0.7%*	*0.4%*	*0.0%*
Total 3+ HOV's (in HOV Lanes)	15,290	6,960	8,180	8,330	15,840	6,830	8,010	9,010
% Change in HOV Volumes					*4%*	*-2%*	*-2%*	*8%*
Total Crosslake Vehicle Volumes	296,190	158,850	171,100	137,340	289,110	168,380	180,310	120,730
% Change in Crosslake Volumes					*-2%*	*6%*	*5%*	*-12%*

[1] Off Peak vehicle volumes are a summation of vehicle volumes in the Mid-Day, Evening and Late Night periods.

Exhibit B-13
SR-520 and I-90 Bridge Toll-Free & Toll Traffic Vehicle Volumes
2030 Scenario 1 Forecasts

Scenario 1	Toll-Free							Facility Tolled: Bridge & Ramp-to-Ramp Segment Tolls on SR 520						
	Cross-Lake Bridge Segments				SR-520: Short Ramp-to-Ramp Segments			Cross-Lake Bridge Segments				SR-520: Short Ramp-to-Ramp Segments		
Description	Total X-lake (a)+(c)	I-90 Mid-Span Segments MI-Seattle (a)	I-90 Mid-Span Segments MI-Bellevue (b)	SR-520 Mid-Span (c)	I-5 to/from Montlake	I-405 to/from east side I/Cs (D,E,F,G)	Intra east side I/Cs (D,E,F,G)	Total X-lake (a)+(c)	I-90 Mid-Span Segments MI-Seattle (a)	I-90 Mid-Span Segments MI-Bellevue (b)	SR-520 Mid-Span (c)	I-5 to/from Montlake	I-405 to/from east side I/Cs (D,E,F,G)	Intra east side I/Cs (D,E,F,G)
AM Peak (3 hrs)														
Total GP Vehicle Volumes	49,400	27,130	29,020	22,270	4,670	7,800	540	46,570	28,950	30,810	17,620	1,580	2,950	540
% Change in GP Volumes								*-6%*	*7%*	*6%*	*-21%*	*-66%*	*-62%*	*0%*
V/C Ratio	0.86	0.79	0.85	0.97				0.82	0.84	0.90	0.77			
Medium and Heavy Trucks	2,350	1,510	1,520	840	140	230	0	2,120	1,730	1,740	390	40	40	0
% Medium and Heavy Trucks	*4.8%*	*5.6%*	*5.2%*	*3.8%*	*3.0%*	*2.9%*	*0.0%*	*4.6%*	*6.0%*	*5.6%*	*2.2%*	*2.5%*	*1.4%*	*0.0%*
3+ HOV's in GP Lanes	100	90	100	10	90	170	10	80	70	50	10	220	180	20
% 3+ HOV's in GP Lanes	*0.2%*	*0.3%*	*0.3%*	*0.0%*	*1.9%*	*2.2%*	*1.9%*	*0.2%*	*0.2%*	*0.2%*	*0.1%*	*13.9%*	*6.1%*	*3.7%*
Total 3+ HOV's (in HOV Lanes)	1,800	910	990	890				1,790	800	910	990			
% Change in HOV Volumes								*-1%*	*-12%*	*-8%*	*11%*			
AM Peak Crosslake Vehicle Volumes	51,200	28,040	30,000	23,160				48,360	29,750	31,720	18,610			
PM Peak (3 hrs)														
Total GP Vehicle Volumes	58,580	33,050	35,300	25,530	5,170	11,900	670	56,830	34,140	36,290	22,690	950	4,390	710
% Change in GP Volumes								*-3%*	*3%*	*3%*	*-11%*	*-82%*	*-63%*	*6%*
V/C Ratio	1.03	0.96	1.03	1.12				0.99	1.00	1.06	0.99			
Medium and Heavy Trucks	2,150	1,410	1,400	740	120	200	0	1,970	1,540	1,540	430	0	20	0
% Medium and Heavy Trucks	*3.7%*	*4.3%*	*4.0%*	*2.9%*	*2.3%*	*1.7%*	*0.0%*	*3.5%*	*4.5%*	*4.2%*	*1.9%*	*0.0%*	*0.5%*	*0.0%*
3+ HOV's in GP Lanes	40	40	40	0	320	770	20	0	0	40	0	390	680	30
% 3+ HOV's in GP Lanes	*0.1%*	*0.1%*	*0.1%*	*0.0%*	*6.2%*	*6.5%*	*3.0%*	*0.0%*	*0.0%*	*0.1%*	*0.0%*	*41.1%*	*15.5%*	*4.2%*
Total 3+ HOV's (in HOV Lanes)	5,240	2,590	2,780	2,650				5,540	2,550	2,700	2,990			
% Change in HOV Volumes								*6%*	*-2%*	*-3%*	*13%*			
PM Peak Crosslake Vehicle Volumes	63,820	35,640	38,080	28,180				62,370	36,690	38,990	25,680			
Off-Peak (18 hrs)[1]														
Total GP Vehicle Volumes	172,920	91,710	98,620	81,210	12,980	21,290	1,430	167,410	98,790	105,250	68,620	9,000	14,340	2,120
% Change in GP Volumes								*-3%*	*8%*	*7%*	*-16%*	*-31%*	*-33%*	*48%*
Medium and Heavy Trucks	6,850	4,220	4,240	2,630	430	610	10	6,210	4,720	4,730	1,490	230	300	10
% Medium and Heavy Trucks	*4.0%*	*4.6%*	*4.3%*	*3.2%*	*3.3%*	*2.9%*	*0.7%*	*3.7%*	*4.8%*	*4.5%*	*2.2%*	*2.6%*	*2.1%*	*0.5%*
3+ HOV's in GP Lanes	1,290	1,210	770	80	580	810	40	1,040	1,030	630	10	1,260	1,280	70
% 3+ HOV's in GP Lanes	*0.7%*	*1.3%*	*0.8%*	*0.1%*	*4.5%*	*3.8%*	*2.8%*	*0.6%*	*1.0%*	*0.6%*	*0.0%*	*14.0%*	*8.9%*	*3.3%*
Total 3+ HOV's (in HOV Lanes)	8,250	3,460	4,410	4,790				8,820	3,430	4,290	5,390			
% Change in HOV Volumes								*7%*	*-1%*	*-3%*	*13%*			
Off-Peak Crosslake Vehicle Volumes	181,170	95,170	103,020	86,000				176,220	102,220	109,540	74,000			
Daily (24 hrs)														
Total GP Vehicle Volumes	280,900	151,890	162,940	129,010	22,820	40,990	2,640	270,810	161,880	172,350	108,930	11,530	21,680	3,370
% Change in GP Volumes								*-4%*	*7%*	*6%*	*-16%*	*-49%*	*-47%*	*28%*
Medium and Heavy Trucks	11,350	7,140	7,160	4,210	690	1,040	10	10,300	7,990	8,010	2,310	270	360	10
% Medium and Heavy Trucks	*4.0%*	*4.7%*	*4.4%*	*3.3%*	*3.0%*	*2.5%*	*0.4%*	*3.8%*	*4.9%*	*4.6%*	*2.1%*	*2.3%*	*1.7%*	*0.3%*
3+ HOV's in GP Lanes	1,430	1,340	910	90	990	1,750	70	1,120	1,100	720	20	1,870	2,140	120
% 3+ HOV's in GP Lanes	*0.5%*	*0.9%*	*0.6%*	*0.1%*	*4.3%*	*4.3%*	*2.7%*	*0.4%*	*0.7%*	*0.4%*	*0.0%*	*16.2%*	*9.9%*	*3.6%*
Total 3+ HOV's (in HOV Lanes)	15,290	6,960	8,180	8,330				16,150	6,780	7,900	9,370			
% Change in HOV Volumes								*6%*	*-3%*	*-3%*	*12%*			
Total Crosslake Vehicle Volumes	296,190	158,850	171,100	137,340				286,950	168,660	180,250	118,290			
% Change in Crosslake Volumes								*-3%*	*6%*	*5%*	*-14%*			

[1] Off Peak vehicle volumes are a summation of vehicle volumes in the Mid-Day, Evening and Late Night periods.

Exhibit B-14
SR-520 and I-90 Bridge Toll-Free & Toll Traffic Vehicle Volumes
2030 Scenario 7 Forecasts

Scenario 7	Toll-Free				Facility Tolled: Single Point on SR 520			
	Cross-Lake Bridge Segments				Cross-Lake Bridge Segments			
	Total X-lake	I-90 Mid-Span Segments		SR-520	Total X-lake	I-90 Mid-Span Segments		SR-520
		MI-Seattle	MI-Bellevue	Mid-Span		MI-Seattle	MI-Bellevue	Mid-Span
Description	(a)+(c)	(a)	(b)	(c)	(a)+(c)	(a)	(b)	(c)
AM Peak (3 hrs)								
Total GP Vehicle Volumes	49,400	27,130	29,020	22,270	46,010	28,930	30,790	17,080
% Change in GP Volumes					*-7%*	*7%*	*6%*	*-23%*
V/C Ratio	0.86	0.79	0.85	0.97	0.81	0.84	0.90	0.75
Medium and Heavy Trucks	2,350	1,510	1,520	840	2,110	1,720	1,740	390
% Medium and Heavy Trucks	*4.8%*	*5.6%*	*5.2%*	*3.8%*	*4.6%*	*5.9%*	*5.7%*	*2.3%*
3+ HOV's in GP Lanes	100	90	100	10	80	70	50	10
% 3+ HOV's in GP Lanes	*0.2%*	*0.3%*	*0.3%*	*0.0%*	*0.2%*	*0.2%*	*0.2%*	*0.1%*
Total 3+ HOV's (in HOV Lanes)	1,800	910	990	890	1,840	860	970	980
% Change in HOV Volumes					*2%*	*-5%*	*-2%*	*10%*
AM Peak Crosslake Vehicle Volumes	51,200	28,040	30,000	23,160	47,850	29,790	31,760	18,060
PM Peak (3 hrs)								
Total GP Vehicle Volumes	58,580	33,050	35,300	25,530	56,220	33,990	36,110	22,230
% Change in GP Volumes					*-4%*	*3%*	*2%*	*-13%*
V/C Ratio	1.03	0.96	1.03	1.12	0.98	0.99	1.05	0.97
Medium and Heavy Trucks	2,150	1,410	1,400	740	1,980	1,550	1,540	430
% Medium and Heavy Trucks	*3.7%*	*4.3%*	*4.0%*	*2.9%*	*3.5%*	*4.6%*	*4.3%*	*1.9%*
3+ HOV's in GP Lanes	40	40	40	0	10	10	40	0
% 3+ HOV's in GP Lanes	*0.1%*	*0.1%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.1%*	*0.0%*
Total 3+ HOV's (in HOV Lanes)	5,240	2,590	2,780	2,650	5,420	2,530	2,690	2,890
% Change in HOV Volumes					*3%*	*-2%*	*-3%*	*9%*
PM Peak Crosslake Vehicle Volumes	63,820	35,640	38,080	28,180	61,630	36,520	38,800	25,110
Off-Peak (18 hrs)[1]								
Total GP Vehicle Volumes	172,920	91,710	98,620	81,210	165,990	98,780	105,170	67,210
% Change in GP Volumes					*-4%*	*8%*	*7%*	*-17%*
Medium and Heavy Trucks	6,850	4,220	4,240	2,630	6,200	4,730	4,750	1,470
% Medium and Heavy Trucks	*4.0%*	*4.6%*	*4.3%*	*3.2%*	*3.7%*	*4.8%*	*4.5%*	*2.2%*
3+ HOV's in GP Lanes	1,290	1,210	770	80	1,070	1,060	630	10
% 3+ HOV's in GP Lanes	*0.7%*	*1.3%*	*0.8%*	*0.1%*	*0.6%*	*1.1%*	*0.6%*	*0.0%*
Total 3+ HOV's (in HOV Lanes)	8,250	3,460	4,410	4,790	8,750	3,450	4,330	5,300
% Change in HOV Volumes					*6%*	*0%*	*-2%*	*11%*
Off-Peak Crosslake Vehicle Volumes	181,170	95,170	103,020	86,000	174,730	102,230	109,500	72,500
Daily (24 hrs)								
Total GP Vehicle Volumes	280,900	151,890	162,940	129,010	268,220	161,700	172,070	106,520
% Change in GP Volumes					*-5%*	*6%*	*6%*	*-17%*
Medium and Heavy Trucks	11,350	7,140	7,160	4,210	10,290	8,000	8,030	2,290
% Medium and Heavy Trucks	*4.0%*	*4.7%*	*4.4%*	*3.3%*	*3.8%*	*4.9%*	*4.7%*	*2.1%*
3+ HOV's in GP Lanes	1,430	1,340	910	90	1,160	1,140	720	20
% 3+ HOV's in GP Lanes	*0.5%*	*0.9%*	*0.6%*	*0.1%*	*0.4%*	*0.7%*	*0.4%*	*0.0%*
Total 3+ HOV's (in HOV Lanes)	15,290	6,960	8,180	8,330	16,010	6,840	7,990	9,170
% Change in HOV Volumes					*5%*	*-2%*	*-2%*	*10%*
Total Crosslake Vehicle Volumes	296,190	158,850	171,100	137,340	284,210	168,540	180,060	115,670
% Change in Crosslake Volumes					*-4%*	*6%*	*5%*	*-16%*

[1] Off Peak vehicle volumes are a summation of vehicle volumes in the Mid-Day, Evening and Late Night periods.

Exhibit B-15
SR-520 and I-90 Bridge Toll-Free & Toll Traffic Vehicle Volumes
2030 Scenario 6 Forecasts

Scenario 6	Toll-Free							Facility Tolled: Bridge & Ramp-to-Ramp Segment Tolls on SR 520						
	Cross-Lake Bridge Segments				SR-520: Short Ramp-to-Ramp Segments			Cross-Lake Bridge Segments				SR-520: Short Ramp-to-Ramp Segments		
Description	Total X-lake (a)+(c)	I-90 Mid-Span Segments MI-Seattle (a)	I-90 Mid-Span Segments MI-Bellevue (b)	SR-520 Mid-Span (c)	I-5 to/from Montlake	I-405 to/from east side I/Cs (D,E,F,G)	Intra east side I/Cs (D,E,F,G)	Total X-lake (a)+(c)	I-90 Mid-Span Segments MI-Seattle (a)	I-90 Mid-Span Segments MI-Bellevue (b)	SR-520 Mid-Span (c)	I-5 to/from Montlake	I-405 to/from east side I/Cs (D,E,F,G)	Intra east side I/Cs (D,E,F,G)
AM Peak (3 hrs)														
Total GP Vehicle Volumes	49,680	27,130	29,020	22,550	4,670	7,800	540	43,770	29,490	31,350	14,280	1,860	3,120	550
% Change in GP Volumes								*-12%*	*9%*	*8%*	*-37%*	*-60%*	*-60%*	*2%*
V/C Ratio	0.87	0.79	0.85	0.99				0.77	0.86	0.91	0.62			
Medium and Heavy Trucks	2,630	1,510	1,520	1,120	140	230	0	2,330	1,760	1,770	570	50	60	0
% Medium and Heavy Trucks	*5.3%*	*5.6%*	*5.2%*	*5.0%*	*3.0%*	*2.9%*	*0.0%*	*5.3%*	*6.0%*	*5.6%*	*4.0%*	*2.7%*	*1.9%*	*0.0%*
3+ HOV's in GP Lanes	100	90	100	10	90	170	10	110	80	40	30	230	170	20
% 3+ HOV's in GP Lanes	*0.2%*	*0.3%*	*0.3%*	*0.0%*	*1.9%*	*2.2%*	*1.9%*	*0.3%*	*0.3%*	*0.1%*	*0.2%*	*12.4%*	*5.4%*	*3.6%*
Total 3+ HOV's (in HOV Lanes)	1,800	910	990	890				1,630	1,150	1,270	480			
% Change in HOV Volumes								*-9%*	*26%*	*28%*	*-46%*			
AM Peak Crosslake Vehicle Volumes	51,480	28,040	30,000	23,440				45,400	30,630	32,620	14,770			
PM Peak (3 hrs)														
Total GP Vehicle Volumes	58,870	33,050	35,300	25,820	5,170	11,900	670	54,740	34,370	36,520	20,370	1,230	4,580	700
% Change in GP Volumes								*-7%*	*4%*	*3%*	*-21%*	*-76%*	*-62%*	*4%*
V/C Ratio	1.03	0.96	1.03	1.13				0.96	1.00	1.07	0.89			
Medium and Heavy Trucks	2,450	1,410	1,400	1,040	120	200	0	2,220	1,560	1,560	660	0	20	0
% Medium and Heavy Trucks	*4.2%*	*4.3%*	*4.0%*	*4.0%*	*2.3%*	*1.7%*	*0.0%*	*4.1%*	*4.5%*	*4.3%*	*3.2%*	*0.0%*	*0.4%*	*0.0%*
3+ HOV's in GP Lanes	40	40	40	0	320	770	20	30	0	40	30	460	690	30
% 3+ HOV's in GP Lanes	*0.1%*	*0.1%*	*0.1%*	*0.0%*	*6.2%*	*6.5%*	*3.0%*	*0.1%*	*0.0%*	*0.1%*	*0.1%*	*37.4%*	*15.1%*	*4.3%*
Total 3+ HOV's (in HOV Lanes)	5,240	2,590	2,780	2,650				4,670	3,730	3,870	940			
% Change in HOV Volumes								*-11%*	*44%*	*39%*	*-65%*			
PM Peak Crosslake Vehicle Volumes	64,110	35,640	38,080	28,470				59,410	38,100	40,390	21,310			
Off-Peak (18 hrs)[1]														
Total GP Vehicle Volumes	173,180	91,710	98,620	81,470	12,980	21,290	1,430	161,830	99,840	106,140	61,990	9,960	14,680	2,060
% Change in GP Volumes								*-7%*	*9%*	*8%*	*-24%*	*-23%*	*-31%*	*44%*
Medium and Heavy Trucks	7,120	4,220	4,240	2,900	430	610	10	6,340	4,800	4,820	1,540	240	300	10
% Medium and Heavy Trucks	*4.1%*	*4.6%*	*4.3%*	*3.6%*	*3.3%*	*2.9%*	*0.7%*	*3.9%*	*4.8%*	*4.5%*	*2.5%*	*2.4%*	*2.0%*	*0.5%*
3+ HOV's in GP Lanes	1,290	1,210	770	80	580	810	40	1,290	1,130	650	160	1,350	1,210	70
% 3+ HOV's in GP Lanes	*0.7%*	*1.3%*	*0.8%*	*0.1%*	*4.5%*	*3.8%*	*2.8%*	*0.8%*	*1.1%*	*0.6%*	*0.3%*	*13.6%*	*8.2%*	*3.4%*
Total 3+ HOV's (in HOV Lanes)	8,250	3,460	4,410	4,790				7,680	4,910	5,840	2,770			
% Change in HOV Volumes								*-7%*	*42%*	*32%*	*-42%*			
Off-Peak Crosslake Vehicle Volumes	181,430	95,170	103,020	86,260				169,520	104,760	111,980	64,760			
Daily (24 hrs)														
Total GP Vehicle Volumes	281,730	151,890	162,940	129,840	22,820	40,990	2,640	260,340	163,700	174,010	96,640	13,050	22,380	3,310
% Change in GP Volumes								*-8%*	*8%*	*7%*	*-26%*	*-43%*	*-45%*	*25%*
Medium and Heavy Trucks	12,200	7,140	7,160	5,060	690	1,040	10	10,890	8,120	8,150	2,770	290	380	10
% Medium and Heavy Trucks	*4.3%*	*4.7%*	*4.4%*	*3.9%*	*3.0%*	*2.5%*	*0.4%*	*4.2%*	*5.0%*	*4.7%*	*2.9%*	*2.2%*	*1.7%*	*0.3%*
3+ HOV's in GP Lanes	1,430	1,340	910	90	990	1,750	70	1,430	1,210	730	220	2,040	2,070	120
% 3+ HOV's in GP Lanes	*0.5%*	*0.9%*	*0.6%*	*0.1%*	*4.3%*	*4.3%*	*2.7%*	*0.5%*	*0.7%*	*0.4%*	*0.2%*	*15.6%*	*9.2%*	*3.6%*
Total 3+ HOV's (in HOV Lanes)	15,290	6,960	8,180	8,330				13,980	9,790	10,980	4,190			
% Change in HOV Volumes								*-9%*	*41%*	*34%*	*-50%*			
Total Crosslake Vehicle Volumes	297,020	158,850	171,100	138,170				274,330	173,490	184,990	100,840			
% Change in Crosslake Volumes								*-8%*	*9%*	*8%*	*-27%*			

[1] Off Peak vehicle volumes are a summation of vehicle volumes in the Mid-Day, Evening and Late Night periods.

Exhibit B-16
SR-520 and I-90 Bridge Toll-Free & Toll Traffic Vehicle Volumes
2030 Scenario 9 Forecasts

Scenario 9	Toll-Free				Facility Tolled: Single Point on SR 520 and I-90			
	Cross-Lake Bridge Segments				Cross-Lake Bridge Segments			
	Total X-lake	I-90 Mid-Span Segments		SR-520	Total X-lake	I-90 Mid-Span Segments		SR-520
		MI-Seattle	MI-Bellevue	Mid-Span		MI-Seattle	MI-Bellevue	Mid-Span
Description	(a)+(c)	(a)	(b)	(c)	(a)+(c)	(a)	(b)	(c)
AM Peak (3 hrs)								
Total GP Vehicle Volumes	49,400	27,130	29,020	22,270	44,020	23,050	26,260	20,970
% Change in GP Volumes					*-11%*	*-15%*	*-10%*	*-6%*
V/C Ratio	0.86	0.79	0.85	0.97	0.77	0.67	0.77	0.92
Medium and Heavy Trucks	2,350	1,510	1,520	840	1,680	1,050	1,140	630
% Medium and Heavy Trucks	*4.8%*	*5.6%*	*5.2%*	*3.8%*	*3.8%*	*4.6%*	*4.3%*	*3.0%*
3+ HOV's in GP Lanes	100	90	100	10	40	30	140	10
% 3+ HOV's in GP Lanes	*0.2%*	*0.3%*	*0.3%*	*0.0%*	*0.1%*	*0.1%*	*0.5%*	*0.0%*
Total 3+ HOV's (in HOV Lanes)	1,800	910	990	890	1,940	1,000	970	940
% Change in HOV Volumes					*8%*	*10%*	*-2%*	*6%*
AM Peak Crosslake Vehicle Volumes	51,200	28,040	30,000	23,160	45,960	24,050	27,240	21,910
PM Peak (3 hrs)								
Total GP Vehicle Volumes	58,580	33,050	35,300	25,530	53,370	29,190	32,980	24,180
% Change in GP Volumes					*-9%*	*-12%*	*-7%*	*-5%*
V/C Ratio	1.03	0.96	1.03	1.12	0.93	0.85	0.96	1.06
Medium and Heavy Trucks	2,150	1,410	1,400	740	1,590	1,020	1,090	570
% Medium and Heavy Trucks	*3.7%*	*4.3%*	*4.0%*	*2.9%*	*3.0%*	*3.5%*	*3.3%*	*2.4%*
3+ HOV's in GP Lanes	40	40	40	0	0	0	100	0
% 3+ HOV's in GP Lanes	*0.1%*	*0.1%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.3%*	*0.0%*
Total 3+ HOV's (in HOV Lanes)	5,240	2,590	2,780	2,650	5,480	2,720	2,790	2,760
% Change in HOV Volumes					*5%*	*5%*	*0%*	*4%*
PM Peak Crosslake Vehicle Volumes	63,820	35,640	38,080	28,180	58,850	31,910	35,770	26,940
Off-Peak (18 hrs)[1]								
Total GP Vehicle Volumes	172,920	91,710	98,620	81,210	164,460	85,270	94,860	79,190
% Change in GP Volumes					*-5%*	*-7%*	*-4%*	*-2%*
Medium and Heavy Trucks	6,850	4,220	4,240	2,630	5,380	3,340	3,550	2,040
% Medium and Heavy Trucks	*4.0%*	*4.6%*	*4.3%*	*3.2%*	*3.3%*	*3.9%*	*3.7%*	*2.6%*
3+ HOV's in GP Lanes	1,290	1,210	770	80	280	270	940	10
% 3+ HOV's in GP Lanes	*0.7%*	*1.3%*	*0.8%*	*0.1%*	*0.2%*	*0.3%*	*1.0%*	*0.0%*
Total 3+ HOV's (in HOV Lanes)	8,250	3,460	4,410	4,790	9,700	4,580	4,360	5,120
% Change in HOV Volumes					*18%*	*32%*	*-1%*	*7%*
Off-Peak Crosslake Vehicle Volumes	181,170	95,170	103,020	86,000	174,170	89,860	99,220	84,310
Daily (24 hrs)								
Total GP Vehicle Volumes	280,900	151,890	162,940	129,010	261,850	137,510	154,100	124,340
% Change in GP Volumes					*-7%*	*-9%*	*-5%*	*-4%*
Medium and Heavy Trucks	11,350	7,140	7,160	4,210	8,650	5,410	5,780	3,240
% Medium and Heavy Trucks	*4.0%*	*4.7%*	*4.4%*	*3.3%*	*3.3%*	*3.9%*	*3.8%*	*2.6%*
3+ HOV's in GP Lanes	1,430	1,340	910	90	320	300	1,180	20
% 3+ HOV's in GP Lanes	*0.5%*	*0.9%*	*0.6%*	*0.1%*	*0.1%*	*0.2%*	*0.8%*	*0.0%*
Total 3+ HOV's (in HOV Lanes)	15,290	6,960	8,180	8,330	17,120	8,300	8,120	8,820
% Change in HOV Volumes					*12%*	*19%*	*-1%*	*6%*
Total Crosslake Vehicle Volumes	296,190	158,850	171,100	137,340	278,980	145,820	162,230	133,160
% Change in Crosslake Volumes					*-6%*	*-8%*	*-5%*	*-3%*

[1] Off Peak vehicle volumes are a summation of vehicle volumes in the Mid-Day, Evening and Late Night periods.

Exhibit B-17
SR-520 and I-90 Bridge Toll-Free & Toll Traffic Vehicle Volumes
2030 Scenario 3 Forecasts

Scenario 3	Toll-Free							Facility Tolled: Bridge & Ramp-to-Ramp Segment Tolls on SR 520 and I-90						
	Cross-Lake Bridge Segments				SR-520: Short Ramp-to-Ramp Segments			Cross-Lake Bridge Segments				SR-520: Short Ramp-to-Ramp Segments		
Description	Total X-lake (a)+(c)	I-90 Mid-Span Segments MI-Seattle (a)	I-90 Mid-Span Segments MI-Bellevue (b)	SR-520 Mid-Span (c)	I-5 to/from Montlake	I-405 to/from east side I/Cs (D,E,F,G)	Intra east side I/Cs (D,E,F,G)	Total X-lake (a)+(c)	I-90 Mid-Span Segments MI-Seattle (a)	I-90 Mid-Span Segments MI-Bellevue (b)	SR-520 Mid-Span (c)	I-5 to/from Montlake	I-405 to/from east side I/Cs (D,E,F,G)	Intra east side I/Cs (D,E,F,G)
AM Peak (3 hrs)														
Total GP Vehicle Volumes	49,400	27,130	29,020	22,270	4,670	7,800	540	44,450	23,370	24,700	21,080	1,310	2,830	630
% Change in GP Volumes								*-10%*	*-14%*	*-15%*	*-5%*	*-72%*	*-64%*	*17%*
V/C Ratio	0.86	0.79	0.85	0.97				0.78	0.68	0.72	0.92			
Medium and Heavy Trucks	2,350	1,510	1,520	840	140	230	0	1,590	1,010	1,010	580	30	20	0
% Medium and Heavy Trucks	*4.8%*	*5.6%*	*5.2%*	*3.8%*	*3.0%*	*2.9%*	*0.0%*	*3.6%*	*4.3%*	*4.1%*	*2.8%*	*2.3%*	*0.7%*	*0.0%*
3+ HOV's in GP Lanes	100	90	100	10	90	170	10	70	70	20	0	210	190	20
% 3+ HOV's in GP Lanes	*0.2%*	*0.3%*	*0.3%*	*0.0%*	*1.9%*	*2.2%*	*1.9%*	*0.2%*	*0.3%*	*0.1%*	*0.0%*	*16.0%*	*6.7%*	*3.2%*
Total 3+ HOV's (in HOV Lanes)	1,800	910	990	890				1,970	930	1,060	1,040			
% Change in HOV Volumes								*9%*	*2%*	*7%*	*17%*			
AM Peak Crosslake Vehicle Volumes	51,200	28,040	30,000	23,160				46,410	24,290	25,770	22,120			
PM Peak (3 hrs)														
Total GP Vehicle Volumes	58,580	33,050	35,300	25,530	5,170	11,900	670	55,390	30,630	32,270	24,760	910	4,430	790
% Change in GP Volumes								*-5%*	*-7%*	*-9%*	*-3%*	*-82%*	*-63%*	*18%*
V/C Ratio	1.03	0.96	1.03	1.12				0.97	0.89	0.94	1.08			
Medium and Heavy Trucks	2,150	1,410	1,400	740	120	200	0	1,570	1,040	1,020	530	0	20	0
% Medium and Heavy Trucks	*3.7%*	*4.3%*	*4.0%*	*2.9%*	*2.3%*	*1.7%*	*0.0%*	*2.8%*	*3.4%*	*3.2%*	*2.1%*	*0.0%*	*0.5%*	*0.0%*
3+ HOV's in GP Lanes	40	40	40	0	320	770	20	0	0	0	0	400	660	40
% 3+ HOV's in GP Lanes	*0.1%*	*0.1%*	*0.1%*	*0.0%*	*6.2%*	*6.5%*	*3.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*44.0%*	*14.9%*	*5.1%*
Total 3+ HOV's (in HOV Lanes)	5,240	2,590	2,780	2,650				5,860	2,790	2,980	3,070			
% Change in HOV Volumes								*12%*	*8%*	*7%*	*16%*			
PM Peak Crosslake Vehicle Volumes	63,820	35,640	38,080	28,180				61,250	33,420	35,250	27,830			
Off-Peak (18 hrs)[1]														
Total GP Vehicle Volumes	172,920	91,710	98,620	81,210	12,980	21,290	1,430	165,120	85,240	91,600	79,880	8,290	14,050	2,200
% Change in GP Volumes								*-5%*	*-7%*	*-7%*	*-2%*	*-36%*	*-34%*	*54%*
Medium and Heavy Trucks	6,850	4,220	4,240	2,630	430	610	10	4,920	3,110	3,120	1,810	210	290	10
% Medium and Heavy Trucks	*4.0%*	*4.6%*	*4.3%*	*3.2%*	*3.3%*	*2.9%*	*0.7%*	*3.0%*	*3.6%*	*3.4%*	*2.3%*	*2.5%*	*2.1%*	*0.5%*
3+ HOV's in GP Lanes	1,290	1,210	770	80	580	810	40	340	330	20	10	1,290	1,220	90
% 3+ HOV's in GP Lanes	*0.7%*	*1.3%*	*0.8%*	*0.1%*	*4.5%*	*3.8%*	*2.8%*	*0.2%*	*0.4%*	*0.0%*	*0.0%*	*15.6%*	*8.7%*	*4.1%*
Total 3+ HOV's (in HOV Lanes)	8,250	3,460	4,410	4,790				10,270	4,640	5,390	5,630			
% Change in HOV Volumes								*24%*	*34%*	*22%*	*18%*			
Off-Peak Crosslake Vehicle Volumes	181,170	95,170	103,020	86,000				175,390	89,880	96,990	85,510			
Daily (24 hrs)														
Total GP Vehicle Volumes	280,900	151,890	162,940	129,010	22,820	40,990	2,640	264,960	139,240	148,570	125,720	10,510	21,310	3,620
% Change in GP Volumes								*-6%*	*-8%*	*-9%*	*-3%*	*-54%*	*-48%*	*37%*
Medium and Heavy Trucks	11,350	7,140	7,160	4,210	690	1,040	10	8,080	5,160	5,150	2,920	240	330	10
% Medium and Heavy Trucks	*4.0%*	*4.7%*	*4.4%*	*3.3%*	*3.0%*	*2.5%*	*0.4%*	*3.0%*	*3.7%*	*3.5%*	*2.3%*	*2.3%*	*1.5%*	*0.3%*
3+ HOV's in GP Lanes	1,430	1,340	910	90	990	1,750	70	410	400	40	10	1,900	2,070	150
% 3+ HOV's in GP Lanes	*0.5%*	*0.9%*	*0.6%*	*0.1%*	*4.3%*	*4.3%*	*2.7%*	*0.2%*	*0.3%*	*0.0%*	*0.0%*	*18.1%*	*9.7%*	*4.1%*
Total 3+ HOV's (in HOV Lanes)	15,290	6,960	8,180	8,330				18,100	8,360	9,430	9,740			
% Change in HOV Volumes								*18%*	*20%*	*15%*	*17%*			
Total Crosslake Vehicle Volumes	296,190	158,850	171,100	137,340				283,050	147,590	158,010	135,460			
% Change in Crosslake Volumes								*-4%*	*-7%*	*-8%*	*-1%*			

[1] Off Peak vehicle volumes are a summation of vehicle volumes in the Mid-Day, Evening and Late Night periods.

Exhibit B-18
SR-520 and I-90 Bridge Toll-Free & Toll Traffic Vehicle Volumes
2030 Scenario 4 Forecasts

Scenario 4	Toll-Free							Facility Tolled: Bridge & Ramp-to-Ramp Segment Tolls on SR 520 and I-90						
	Cross-Lake Bridge Segments				SR-520: Short Ramp-to-Ramp Segments			Cross-Lake Bridge Segments				SR-520: Short Ramp-to-Ramp Segments		
Description	Total X-lake (a)+(c)	I-90 Mid-Span Segments MI-Seattle (a)	I-90 Mid-Span Segments MI-Bellevue (b)	SR-520 Mid-Span (c)	I-5 to/from Montlake	I-405 to/from east side I/Cs (D,E,F,G)	Intra east side I/Cs (D,E,F,G)	Total X-lake (a)+(c)	I-90 Mid-Span Segments MI-Seattle (a)	I-90 Mid-Span Segments MI-Bellevue (b)	SR-520 Mid-Span (c)	I-5 to/from Montlake	I-405 to/from east side I/Cs (D,E,F,G)	Intra east side I/Cs (D,E,F,G)
AM Peak (3 hrs)														
Total GP Vehicle Volumes	49,400	27,130	29,020	22,270	4,670	7,800	540	44,450	23,370	24,700	21,080	1,310	2,830	630
% Change in GP Volumes								*-10%*	*-14%*	*-15%*	*-5%*	*-72%*	*-64%*	*17%*
V/C Ratio	0.86	0.79	0.85	0.97				0.78	0.68	0.72	0.92			
Medium and Heavy Trucks	2,350	1,510	1,520	840	140	230	0	1,590	1,010	1,010	580	30	20	0
% Medium and Heavy Trucks	*4.8%*	*5.6%*	*5.2%*	*3.8%*	*3.0%*	*2.9%*	*0.0%*	*3.6%*	*4.3%*	*4.1%*	*2.8%*	*2.3%*	*0.7%*	*0.0%*
3+ HOV's in GP Lanes	100	90	100	10	90	170	10	70	70	20	0	210	190	20
% 3+ HOV's in GP Lanes	*0.2%*	*0.3%*	*0.3%*	*0.0%*	*1.9%*	*2.2%*	*1.9%*	*0.2%*	*0.3%*	*0.1%*	*0.0%*	*16.0%*	*6.7%*	*3.2%*
Total 3+ HOV's (in HOV Lanes)	1,800	910	990	890				1,970	930	1,060	1,040			
% Change in HOV Volumes								*9%*	*2%*	*7%*	*17%*			
AM Peak Crosslake Vehicle Volumes	51,200	28,040	30,000	23,160				46,410	24,290	25,770	22,120			
PM Peak (3 hrs)														
Total GP Vehicle Volumes	58,580	33,050	35,300	25,530	5,170	11,900	670	55,390	30,630	32,270	24,760	910	4,430	790
% Change in GP Volumes								*-5%*	*-7%*	*-9%*	*-3%*	*-82%*	*-63%*	*18%*
V/C Ratio	1.03	0.96	1.03	1.12				0.97	0.89	0.94	1.08			
Medium and Heavy Trucks	2,150	1,410	1,400	740	120	200	0	1,570	1,040	1,020	530	0	20	0
% Medium and Heavy Trucks	*3.7%*	*4.3%*	*4.0%*	*2.9%*	*2.3%*	*1.7%*	*0.0%*	*2.8%*	*3.4%*	*3.2%*	*2.1%*	*0.0%*	*0.5%*	*0.0%*
3+ HOV's in GP Lanes	40	40	40	0	320	770	20	0	0	0	0	400	660	40
% 3+ HOV's in GP Lanes	*0.1%*	*0.1%*	*0.1%*	*0.0%*	*6.2%*	*6.5%*	*3.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*44.0%*	*14.9%*	*5.1%*
Total 3+ HOV's (in HOV Lanes)	5,240	2,590	2,780	2,650				5,860	2,790	2,980	3,070			
% Change in HOV Volumes								*12%*	*8%*	*7%*	*16%*			
PM Peak Crosslake Vehicle Volumes	63,820	35,640	38,080	28,180				61,250	33,420	35,250	27,830			
Off-Peak (18 hrs)[1]														
Total GP Vehicle Volumes	172,920	91,710	98,620	81,210	12,980	21,290	1,430	165,120	85,240	91,600	79,880	8,290	14,050	2,200
% Change in GP Volumes								*-5%*	*-7%*	*-7%*	*-2%*	*-36%*	*-34%*	*54%*
Medium and Heavy Trucks	6,850	4,220	4,240	2,630	430	610	10	4,920	3,110	3,120	1,810	210	290	10
% Medium and Heavy Trucks	*4.0%*	*4.6%*	*4.3%*	*3.2%*	*3.3%*	*2.9%*	*0.7%*	*3.0%*	*3.6%*	*3.4%*	*2.3%*	*2.5%*	*2.1%*	*0.5%*
3+ HOV's in GP Lanes	1,290	1,210	770	80	580	810	40	340	330	20	10	1,290	1,220	90
% 3+ HOV's in GP Lanes	*0.7%*	*1.3%*	*0.8%*	*0.1%*	*4.5%*	*3.8%*	*2.8%*	*0.2%*	*0.4%*	*0.0%*	*0.0%*	*15.6%*	*8.7%*	*4.1%*
Total 3+ HOV's (in HOV Lanes)	8,250	3,460	4,410	4,790				10,270	4,640	5,390	5,630			
% Change in HOV Volumes								*24%*	*34%*	*22%*	*18%*			
Off-Peak Crosslake Vehicle Volumes	181,170	95,170	103,020	86,000				175,390	89,880	96,990	85,510			
Daily (24 hrs)														
Total GP Vehicle Volumes	280,900	151,890	162,940	129,010	22,820	40,990	2,640	264,960	139,240	148,570	125,720	10,510	21,310	3,620
% Change in GP Volumes								*-6%*	*-8%*	*-9%*	*-3%*	*-54%*	*-48%*	*37%*
Medium and Heavy Trucks	11,350	7,140	7,160	4,210	690	1,040	10	8,080	5,160	5,150	2,920	240	330	10
% Medium and Heavy Trucks	*4.0%*	*4.7%*	*4.4%*	*3.3%*	*3.0%*	*2.5%*	*0.4%*	*3.0%*	*3.7%*	*3.5%*	*2.3%*	*2.3%*	*1.5%*	*0.3%*
3+ HOV's in GP Lanes	1,430	1,340	910	90	990	1,750	70	410	400	40	10	1,900	2,070	150
% 3+ HOV's in GP Lanes	*0.5%*	*0.9%*	*0.6%*	*0.1%*	*4.3%*	*4.3%*	*2.7%*	*0.2%*	*0.3%*	*0.0%*	*0.0%*	*18.1%*	*9.7%*	*4.1%*
Total 3+ HOV's (in HOV Lanes)	15,290	6,960	8,180	8,330				18,100	8,360	9,430	9,740			
% Change in HOV Volumes								*18%*	*20%*	*15%*	*17%*			
Total Crosslake Vehicle Volumes	296,190	158,850	171,100	137,340				283,050	147,590	158,010	135,460			
% Change in Crosslake Volumes								*-4%*	*-7%*	*-8%*	*-1%*			

[1] Off Peak vehicle volumes are a summation of vehicle volumes in the Mid-Day, Evening and Late Night periods.

Exhibit B-19
SR-520 and I-90 Bridge Toll-Free & Toll Traffic Vehicle Volumes
2030 Scenario 13 Forecasts

Scenario 13	Toll-Free				Facility Tolled: Single Point on SR 520 and I-90			
	Cross-Lake Bridge Segments				Cross-Lake Bridge Segments			
	Total X-lake	I-90 Mid-Span Segments		SR-520	Total X-lake	I-90 Mid-Span Segments		SR-520
		MI-Seattle	MI-Bellevue	Mid-Span		MI-Seattle	MI-Bellevue	Mid-Span
Description	(a)+(c)	(a)	(b)	(c)	(a)+(c)	(a)	(b)	(c)
AM Peak (3 hrs)								
Total GP Vehicle Volumes	49,400	27,130	29,020	22,270	44,060	23,100	26,330	20,960
% Change in GP Volumes					*-11%*	*-15%*	*-9%*	*-6%*
V/C Ratio	0.86	0.79	0.85	0.97	0.77	0.67	0.77	0.92
Medium and Heavy Trucks	2,350	1,510	1,520	840	1,580	990	1,080	590
% Medium and Heavy Trucks	*4.8%*	*5.6%*	*5.2%*	*3.8%*	*3.6%*	*4.3%*	*4.1%*	*2.8%*
3+ HOV's in GP Lanes	100	90	100	10	260	240	140	20
% 3+ HOV's in GP Lanes	*0.2%*	*0.3%*	*0.3%*	*0.0%*	*0.6%*	*1.0%*	*0.5%*	*0.1%*
Total 3+ HOV's (in HOV Lanes)	1,800	910	990	890	1,810	860	1,040	950
% Change in HOV Volumes					*1%*	*-5%*	*5%*	*7%*
AM Peak Crosslake Vehicle Volumes	51,200	28,040	30,000	23,160	45,870	23,960	27,370	21,910
PM Peak (3 hrs)								
Total GP Vehicle Volumes	58,580	33,050	35,300	25,530	55,640	30,770	34,200	24,870
% Change in GP Volumes					*-5%*	*-7%*	*-3%*	*-3%*
V/C Ratio	1.03	0.96	1.03	1.12	0.97	0.90	1.00	1.09
Medium and Heavy Trucks	2,150	1,410	1,400	740	1,590	1,030	1,100	560
% Medium and Heavy Trucks	*3.7%*	*4.3%*	*4.0%*	*2.9%*	*2.9%*	*3.3%*	*3.2%*	*2.3%*
3+ HOV's in GP Lanes	40	40	40	0	290	280	90	10
% 3+ HOV's in GP Lanes	*0.1%*	*0.1%*	*0.1%*	*0.0%*	*0.5%*	*0.9%*	*0.3%*	*0.0%*
Total 3+ HOV's (in HOV Lanes)	5,240	2,590	2,780	2,650	5,950	2,910	3,250	3,040
% Change in HOV Volumes					*14%*	*12%*	*17%*	*15%*
PM Peak Crosslake Vehicle Volumes	63,820	35,640	38,080	28,180	61,590	33,680	37,460	27,910
Off-Peak (18 hrs)[1]								
Total GP Vehicle Volumes	172,920	91,710	98,620	81,210	159,190	81,760	91,320	77,430
% Change in GP Volumes					*-8%*	*-11%*	*-7%*	*-5%*
Medium and Heavy Trucks	6,850	4,220	4,240	2,630	4,790	2,940	3,200	1,850
% Medium and Heavy Trucks	*4.0%*	*4.6%*	*4.3%*	*3.2%*	*3.0%*	*3.6%*	*3.5%*	*2.4%*
3+ HOV's in GP Lanes	1,290	1,210	770	80	1,960	1,860	1,100	100
% 3+ HOV's in GP Lanes	*0.7%*	*1.3%*	*0.8%*	*0.1%*	*1.2%*	*2.3%*	*1.2%*	*0.1%*
Total 3+ HOV's (in HOV Lanes)	8,250	3,460	4,410	4,790	8,480	3,430	4,650	5,050
% Change in HOV Volumes					*3%*	*-1%*	*5%*	*5%*
Off-Peak Crosslake Vehicle Volumes	181,170	95,170	103,020	86,000	167,670	85,190	95,960	82,480
Daily (24 hrs)								
Total GP Vehicle Volumes	280,900	151,890	162,940	129,010	258,890	135,630	151,850	123,260
% Change in GP Volumes					*-8%*	*-11%*	*-7%*	*-4%*
Medium and Heavy Trucks	11,350	7,140	7,160	4,210	7,960	4,960	5,380	3,000
% Medium and Heavy Trucks	*4.0%*	*4.7%*	*4.4%*	*3.3%*	*3.1%*	*3.7%*	*3.5%*	*2.4%*
3+ HOV's in GP Lanes	1,430	1,340	910	90	2,510	2,380	1,330	130
% 3+ HOV's in GP Lanes	*0.5%*	*0.9%*	*0.6%*	*0.1%*	*1.0%*	*1.8%*	*0.9%*	*0.1%*
Total 3+ HOV's (in HOV Lanes)	15,290	6,960	8,180	8,330	16,240	7,200	8,940	9,040
% Change in HOV Volumes					*6%*	*3%*	*9%*	*9%*
Total Crosslake Vehicle Volumes	296,190	158,850	171,100	137,340	275,130	142,830	160,790	132,300
% Change in Crosslake Volumes					*-7%*	*-10%*	*-6%*	*-4%*

[1] Off Peak vehicle volumes are a summation of vehicle volumes in the Mid-Day, Evening and Late Night periods.

Exhibit B-20
SR-520 and I-90 Bridge Toll-Free & Toll Traffic Vehicle Volumes
2030 Scenario 8 Forecasts

Scenario 8	**Toll-Free**				**Facility Tolled: Single Point on SR 520 and I-90**			
	Cross-Lake Bridge Segments				Cross-Lake Bridge Segments			
	Total X-lake	I-90 Mid-Span Segments		SR-520	Total X-lake	I-90 Mid-Span Segments		SR-520
		MI-Seattle	MI-Bellevue	Mid-Span		MI-Seattle	MI-Bellevue	Mid-Span
Description	(a)+(c)	(a)	(b)	(c)	(a)+(c)	(a)	(b)	(c)
AM Peak (3 hrs)								
Total GP Vehicle Volumes	49,400	27,130	29,020	22,270	43,490	24,160	27,300	19,330
% Change in GP Volumes					*-12%*	*-11%*	*-6%*	*-13%*
V/C Ratio	0.86	0.79	0.85	0.97	0.76	0.70	0.80	0.85
Medium and Heavy Trucks	2,350	1,510	1,520	840	1,570	1,110	1,200	460
% Medium and Heavy Trucks	*4.8%*	*5.6%*	*5.2%*	*3.8%*	*3.6%*	*4.6%*	*4.4%*	*2.4%*
3+ HOV's in GP Lanes	100	90	100	10	30	30	120	0
% 3+ HOV's in GP Lanes	*0.2%*	*0.3%*	*0.3%*	*0.0%*	*0.1%*	*0.1%*	*0.4%*	*0.0%*
Total 3+ HOV's (in HOV Lanes)	1,800	910	990	890	2,040	1,000	990	1,040
% Change in HOV Volumes					*13%*	*10%*	*0%*	*17%*
AM Peak Crosslake Vehicle Volumes	51,200	28,040	30,000	23,160	45,530	25,160	28,290	20,370
PM Peak (3 hrs)								
Total GP Vehicle Volumes	58,580	33,050	35,300	25,530	54,080	30,660	34,150	23,420
% Change in GP Volumes					*-8%*	*-7%*	*-3%*	*-8%*
V/C Ratio	1.03	0.96	1.03	1.12	0.95	0.89	1.00	1.02
Medium and Heavy Trucks	2,150	1,410	1,400	740	1,510	1,070	1,140	440
% Medium and Heavy Trucks	*3.7%*	*4.3%*	*4.0%*	*2.9%*	*2.8%*	*3.5%*	*3.3%*	*1.9%*
3+ HOV's in GP Lanes	40	40	40	0	0	0	100	0
% 3+ HOV's in GP Lanes	*0.1%*	*0.1%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.3%*	*0.0%*
Total 3+ HOV's (in HOV Lanes)	5,240	2,590	2,780	2,650	5,760	2,750	2,800	3,010
% Change in HOV Volumes					*10%*	*6%*	*1%*	*14%*
PM Peak Crosslake Vehicle Volumes	63,820	35,640	38,080	28,180	59,840	33,410	36,950	26,430
Off-Peak (18 hrs)[1]								
Total GP Vehicle Volumes	172,920	91,710	98,620	81,210	163,740	86,300	96,130	77,440
% Change in GP Volumes					*-5%*	*-6%*	*-3%*	*-5%*
Medium and Heavy Trucks	6,850	4,220	4,240	2,630	4,910	3,280	3,490	1,630
% Medium and Heavy Trucks	*4.0%*	*4.6%*	*4.3%*	*3.2%*	*3.0%*	*3.8%*	*3.6%*	*2.1%*
3+ HOV's in GP Lanes	1,290	1,210	770	80	180	170	840	10
% 3+ HOV's in GP Lanes	*0.7%*	*1.3%*	*0.8%*	*0.1%*	*0.1%*	*0.2%*	*0.9%*	*0.0%*
Total 3+ HOV's (in HOV Lanes)	8,250	3,460	4,410	4,790	10,320	4,770	4,520	5,550
% Change in HOV Volumes					*25%*	*38%*	*2%*	*16%*
Off-Peak Crosslake Vehicle Volumes	181,170	95,170	103,020	86,000	174,070	91,080	100,650	82,990
Daily (24 hrs)								
Total GP Vehicle Volumes	280,900	151,890	162,940	129,010	261,310	141,120	157,580	120,190
% Change in GP Volumes					*-7%*	*-7%*	*-3%*	*-7%*
Medium and Heavy Trucks	11,350	7,140	7,160	4,210	7,990	5,460	5,830	2,530
% Medium and Heavy Trucks	*4.0%*	*4.7%*	*4.4%*	*3.3%*	*3.1%*	*3.9%*	*3.7%*	*2.1%*
3+ HOV's in GP Lanes	1,430	1,340	910	90	210	200	1,060	10
% 3+ HOV's in GP Lanes	*0.5%*	*0.9%*	*0.6%*	*0.1%*	*0.1%*	*0.1%*	*0.7%*	*0.0%*
Total 3+ HOV's (in HOV Lanes)	15,290	6,960	8,180	8,330	18,120	8,520	8,310	9,600
% Change in HOV Volumes					*19%*	*22%*	*2%*	*15%*
Total Crosslake Vehicle Volumes	296,190	158,850	171,100	137,340	279,440	149,650	165,890	129,790
% Change in Crosslake Volumes					*-6%*	*-6%*	*-3%*	*-5%*

[1] Off Peak vehicle volumes are a summation of vehicle volumes in the Mid-Day, Evening and Late Night periods.

Exhibit B-21
SR-520 and I-90 Bridge Toll-Free & Toll Traffic Vehicle Volumes
2030 Scenario 12 Forecasts

Scenario 12	Toll-Free				Facility Tolled: Single Point on SR 520 and I-90			
	Cross-Lake Bridge Segments				Cross-Lake Bridge Segments			
	Total X-lake	I-90 Mid-Span Segments		SR-520	Total X-lake	I-90 Mid-Span Segments		SR-520
		MI-Seattle	MI-Bellevue	Mid-Span		MI-Seattle	MI-Bellevue	Mid-Span
Description	(a)+(c)	(a)	(b)	(c)	(a)+(c)	(a)	(b)	(c)
AM Peak (3 hrs)								
Total GP Vehicle Volumes	49,400	27,130	29,020	22,270	43,490	24,160	27,300	19,330
% Change in GP Volumes					*-12%*	*-11%*	*-6%*	*-13%*
V/C Ratio	0.86	0.79	0.85	0.97	0.76	0.70	0.80	0.85
Medium and Heavy Trucks	2,350	1,510	1,520	840	1,570	1,110	1,200	460
% Medium and Heavy Trucks	*4.8%*	*5.6%*	*5.2%*	*3.8%*	*3.6%*	*4.6%*	*4.4%*	*2.4%*
3+ HOV's in GP Lanes	100	90	100	10	30	30	120	0
% 3+ HOV's in GP Lanes	*0.2%*	*0.3%*	*0.3%*	*0.0%*	*0.1%*	*0.1%*	*0.4%*	*0.0%*
Total 3+ HOV's (in HOV Lanes)	1,800	910	990	890	2,040	1,000	990	1,040
% Change in HOV Volumes					*13%*	*10%*	*0%*	*17%*
AM Peak Crosslake Vehicle Volumes	51,200	28,040	30,000	23,160	45,530	25,160	28,290	20,370
PM Peak (3 hrs)								
Total GP Vehicle Volumes	58,580	33,050	35,300	25,530	54,080	30,660	34,150	23,420
% Change in GP Volumes					*-8%*	*-7%*	*-3%*	*-8%*
V/C Ratio	1.03	0.96	1.03	1.12	0.95	0.89	1.00	1.02
Medium and Heavy Trucks	2,150	1,410	1,400	740	1,510	1,070	1,140	440
% Medium and Heavy Trucks	*3.7%*	*4.3%*	*4.0%*	*2.9%*	*2.8%*	*3.5%*	*3.3%*	*1.9%*
3+ HOV's in GP Lanes	40	40	40	0	0	0	100	0
% 3+ HOV's in GP Lanes	*0.1%*	*0.1%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.3%*	*0.0%*
Total 3+ HOV's (in HOV Lanes)	5,240	2,590	2,780	2,650	5,760	2,750	2,800	3,010
% Change in HOV Volumes					*10%*	*6%*	*1%*	*14%*
PM Peak Crosslake Vehicle Volumes	63,820	35,640	38,080	28,180	59,840	33,410	36,950	26,430
Off-Peak (18 hrs)[1]								
Total GP Vehicle Volumes	172,920	91,710	98,620	81,210	163,740	86,300	96,130	77,440
% Change in GP Volumes					*-5%*	*-6%*	*-3%*	*-5%*
Medium and Heavy Trucks	6,850	4,220	4,240	2,630	4,910	3,280	3,490	1,630
% Medium and Heavy Trucks	*4.0%*	*4.6%*	*4.3%*	*3.2%*	*3.0%*	*3.8%*	*3.6%*	*2.1%*
3+ HOV's in GP Lanes	1,290	1,210	770	80	180	170	840	10
% 3+ HOV's in GP Lanes	*0.7%*	*1.3%*	*0.8%*	*0.1%*	*0.1%*	*0.2%*	*0.9%*	*0.0%*
Total 3+ HOV's (in HOV Lanes)	8,250	3,460	4,410	4,790	10,320	4,770	4,520	5,550
% Change in HOV Volumes					*25%*	*38%*	*2%*	*16%*
Off-Peak Crosslake Vehicle Volumes	181,170	95,170	103,020	86,000	174,070	91,080	100,650	82,990
Daily (24 hrs)								
Total GP Vehicle Volumes	280,900	151,890	162,940	129,010	261,310	141,120	157,580	120,190
% Change in GP Volumes					*-7%*	*-7%*	*-3%*	*-7%*
Medium and Heavy Trucks	11,350	7,140	7,160	4,210	7,990	5,460	5,830	2,530
% Medium and Heavy Trucks	*4.0%*	*4.7%*	*4.4%*	*3.3%*	*3.1%*	*3.9%*	*3.7%*	*2.1%*
3+ HOV's in GP Lanes	1,430	1,340	910	90	210	200	1,060	10
% 3+ HOV's in GP Lanes	*0.5%*	*0.9%*	*0.6%*	*0.1%*	*0.1%*	*0.1%*	*0.7%*	*0.0%*
Total 3+ HOV's (in HOV Lanes)	15,290	6,960	8,180	8,330	18,120	8,520	8,310	9,600
% Change in HOV Volumes					*19%*	*22%*	*2%*	*15%*
Total Crosslake Vehicle Volumes	296,190	158,850	171,100	137,340	279,440	149,650	165,890	129,790
% Change in Crosslake Volumes					*-6%*	*-6%*	*-3%*	*-5%*

[1] Off Peak vehicle volumes are a summation of vehicle volumes in the Mid-Day, Evening and Late Night periods.

Exhibit B-22
SR-520 and I-90 Bridge Toll-Free & Toll Traffic Vehicle Volumes
2030 Scenario 10 Forecasts

Scenario 10	Toll-Free							Facility Tolled: Tolls on SR 520 + HOT Lanes on I-90 & I-405						
	Cross-Lake Bridge Segments				SR-520: Short Ramp-to-Ramp Segments			Cross-Lake Bridge Segments				SR-520: Short Ramp-to-Ramp Segments		
Description	Total X-lake (a)+(c)	I-90 Mid-Span Segments MI-Seattle (a)	I-90 Mid-Span Segments MI-Bellevue (b)	SR-520 Mid-Span (c)	I-5 to/from Montlake	I-405 to/from east side I/Cs (D,E,F,G)	Intra east side I/Cs (D,E,F,G)	Total X-lake (a)+(c)	I-90 Mid-Span Segments MI-Seattle (a)	I-90 Mid-Span Segments MI-Bellevue (b)	SR-520 Mid-Span (c)	I-5 to/from Montlake	I-405 to/from east side I/Cs (D,E,F,G)	Intra east side I/Cs (D,E,F,G)
AM Peak (3 hrs)														
Total GP Vehicle Volumes	49,680	27,130	29,020	22,550	4,670	7,800	540	38,900	20,600	21,200	18,300	1,860	3,120	550
% Change in GP Volumes								*-22%*	*-24%*	*-27%*	*-19%*	*-60%*	*-60%*	*2%*
V/C Ratio	0.87	0.79	0.85	0.99				0.68	0.92	0.95	0.80			
Medium and Heavy Trucks	2,630	1,510	1,520	1,120	140	230	0	1,940	1,240	1,120	700	50	60	0
% Medium and Heavy Trucks	*5.3%*	*5.6%*	*5.2%*	*5.0%*	*3.0%*	*2.9%*	*0.0%*	*5.0%*	*6.0%*	*5.3%*	*3.8%*	*2.7%*	*1.9%*	*0.0%*
3+ HOV's in GP Lanes	100	90	100	10	90	170	10	90	50	20	40	230	170	20
% 3+ HOV's in GP Lanes	*0.2%*	*0.3%*	*0.3%*	*0.0%*	*1.9%*	*2.2%*	*1.9%*	*0.2%*	*0.2%*	*0.1%*	*0.2%*	*12.4%*	*5.4%*	*3.6%*
Total 3+ HOV's (in HOV Lanes)*	1,800	910	990	890				10,900	9,700	10,200	1,200			
% Change in HOV Volumes								*NA*	*NA*	*NA*	*35%*			
AM Peak Crosslake Vehicle Volumes	51,480	28,040	30,000	23,440				49,800	30,300	31,400	19,500			
PM Peak (3 hrs)														
Total GP Vehicle Volumes	58,870	33,050	35,300	25,820	5,170	11,900	670	44,900	22,800	23,900	22,100	1,230	4,580	700
% Change in GP Volumes								*-24%*	*-31%*	*-32%*	*-14%*	*-76%*	*-62%*	*4%*
V/C Ratio	1.03	0.96	1.03	1.13				0.79	1.01	1.03	0.95			
Medium and Heavy Trucks	2,450	1,410	1,400	1,040	120	200	0	1,800	1,050	1,000	750	0	20	0
% Medium and Heavy Trucks	*4.2%*	*4.3%*	*4.0%*	*4.0%*	*2.3%*	*1.7%*	*0.0%*	*4.0%*	*4.6%*	*4.2%*	*3.4%*	*0.0%*	*0.4%*	*0.0%*
3+ HOV's in GP Lanes	40	40	40	0	320	770	20	40	20	20	20	460	690	30
% 3+ HOV's in GP Lanes	*0.1%*	*0.1%*	*0.1%*	*0.0%*	*6.2%*	*6.5%*	*3.0%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*	*37.4%*	*15.1%*	*4.3%*
Total 3+ HOV's (in HOV Lanes)*	5,240	2,590	2,780	2,650				15,000	11,500	12,800	3,500			
% Change in HOV Volumes								*NA*	*NA*	*NA*	*32%*			
PM Peak Crosslake Vehicle Volumes	64,110	35,640	38,080	28,470				59,900	34,300	36,700	25,600			
Off-Peak (18 hrs)[1]														
Total GP Vehicle Volumes	173,180	91,710	98,620	81,470	12,980	21,290	1,430	150,200	83,400	88,000	66,800	9,960	14,680	2,060
% Change in GP Volumes								*-13%*	*-9%*	*-11%*	*-18%*	*-23%*	*-31%*	*44%*
Medium and Heavy Trucks	7,120	4,220	4,240	2,900	430	610	10	5,600	4,050	4,160	1,550	240	300	10
% Medium and Heavy Trucks	*4.1%*	*4.6%*	*4.3%*	*3.6%*	*3.3%*	*2.9%*	*0.7%*	*3.7%*	*4.9%*	*4.7%*	*2.3%*	*2.4%*	*2.0%*	*0.5%*
3+ HOV's in GP Lanes	1,290	1,210	770	80	580	810	40	970	830	660	140	1,350	1,210	70
% 3+ HOV's in GP Lanes	*0.7%*	*1.3%*	*0.8%*	*0.1%*	*4.5%*	*3.8%*	*2.8%*	*0.6%*	*1.0%*	*0.8%*	*0.2%*	*13.6%*	*8.2%*	*3.4%*
Total 3+ HOV's (in HOV Lanes)*	8,250	3,460	4,410	4,790				23,000	18,700	18,900	4,300			
% Change in HOV Volumes								*NA*	*NA*	*NA*	*-10%*			
Off-Peak Crosslake Vehicle Volumes	181,430	95,170	103,020	86,260				173,200	102,100	106,900	71,100			
Daily (24 hrs)														
Total GP Vehicle Volumes	281,730	151,890	162,940	129,840	22,820	40,990	2,640	234,000	126,800	133,100	107,200	13,050	22,380	3,310
% Change in GP Volumes								*-17%*	*-17%*	*-18%*	*-17%*	*-43%*	*-45%*	*25%*
Medium and Heavy Trucks	12,200	7,140	7,160	5,060	690	1,040	10	9,340	6,340	6,280	3,000	290	380	10
% Medium and Heavy Trucks	*4.3%*	*4.7%*	*4.4%*	*3.9%*	*3.0%*	*2.5%*	*0.4%*	*4.0%*	*5.0%*	*4.7%*	*2.8%*	*2.2%*	*1.7%*	*0.3%*
3+ HOV's in GP Lanes	1,430	1,340	910	90	990	1,750	70	1,100	900	700	200	2,040	2,070	120
% 3+ HOV's in GP Lanes	*0.5%*	*0.9%*	*0.6%*	*0.1%*	*4.3%*	*4.3%*	*2.7%*	*0.5%*	*0.7%*	*0.5%*	*0.2%*	*15.6%*	*9.2%*	*3.6%*
Total 3+ HOV's (in HOV Lanes)*	15,290	6,960	8,180	8,330				48,900	39,900	41,900	9,000			
% Change in HOV Volumes								*NA*	*NA*	*NA*	*8%*			
Total Crosslake Vehicle Volumes	297,020	158,850	171,100	138,170				282,900	166,700	175,000	116,200			
% Change in Crosslake Volumes								*-5%*	*5%*	*2%*	*-16%*			

[1] Off Peak vehicle volumes are a summation of vehicle volumes in the Mid-Day, Evening and Late Night periods.

* I-90 HOV lanes are converted to HOT lanes that allow SOV vehicles in for a toll cost.

Exhibit B-23
SR-520 and I-90 Bridge Toll-Free & Toll Traffic Vehicle Volumes
2030 Scenario 11 Forecasts

Scenario 11	Toll-Free				Facility Tolled: Single Point on SR 520 and I-90			
	Cross-Lake Bridge Segments				Cross-Lake Bridge Segments			
	Total X-lake	I-90 Mid-Span Segments		SR-520	Total X-lake	I-90 Mid-Span Segments		SR-520
		MI-Seattle	MI-Bellevue	Mid-Span		MI-Seattle	MI-Bellevue	Mid-Span
Description	(a)+(c)	(a)	(b)	(c)	(a)+(c)	(a)	(b)	(c)
AM Peak (3 hrs)								
Total GP Vehicle Volumes	49,400	27,130	29,020	22,270	38,720	19,190	23,140	19,530
% Change in GP Volumes					*-22%*	*-29%*	*-20%*	*-12%*
V/C Ratio	0.86	0.79	0.85	0.97	0.68	0.56	0.68	0.85
Medium and Heavy Trucks	2,350	1,510	1,520	840	1,300	770	880	530
% Medium and Heavy Trucks	*4.8%*	*5.6%*	*5.2%*	*3.8%*	*3.4%*	*4.0%*	*3.8%*	*2.7%*
3+ HOV's in GP Lanes	100	90	100	10	340	320	140	20
% 3+ HOV's in GP Lanes	*0.2%*	*0.3%*	*0.3%*	*0.0%*	*0.9%*	*1.7%*	*0.6%*	*0.1%*
Total 3+ HOV's (in HOV Lanes)	1,800	910	990	890	1,810	820	1,070	990
% Change in HOV Volumes					*1%*	*-10%*	*8%*	*11%*
AM Peak Crosslake Vehicle Volumes	51,200	28,040	30,000	23,160	40,530	20,010	24,220	20,520
PM Peak (3 hrs)								
Total GP Vehicle Volumes	58,580	33,050	35,300	25,530	51,080	27,410	31,690	23,670
% Change in GP Volumes					*-13%*	*-17%*	*-10%*	*-7%*
V/C Ratio	1.03	0.96	1.03	1.12	0.89	0.80	0.92	1.04
Medium and Heavy Trucks	2,150	1,410	1,400	740	1,340	860	960	480
% Medium and Heavy Trucks	*3.7%*	*4.3%*	*4.0%*	*2.9%*	*2.6%*	*3.1%*	*3.0%*	*2.0%*
3+ HOV's in GP Lanes	40	40	40	0	610	600	170	10
% 3+ HOV's in GP Lanes	*0.1%*	*0.1%*	*0.1%*	*0.0%*	*1.2%*	*2.2%*	*0.5%*	*0.0%*
Total 3+ HOV's (in HOV Lanes)	5,240	2,590	2,780	2,650	5,860	2,650	3,240	3,210
% Change in HOV Volumes					*12%*	*2%*	*17%*	*21%*
PM Peak Crosslake Vehicle Volumes	63,820	35,640	38,080	28,180	56,940	30,060	34,930	26,880
Off-Peak (18 hrs)[1]								
Total GP Vehicle Volumes	172,920	91,710	98,620	81,210	153,930	77,820	88,110	76,110
% Change in GP Volumes					*-11%*	*-15%*	*-11%*	*-6%*
Medium and Heavy Trucks	6,850	4,220	4,240	2,630	4,210	2,600	2,900	1,610
% Medium and Heavy Trucks	*4.0%*	*4.6%*	*4.3%*	*3.2%*	*2.7%*	*3.3%*	*3.3%*	*2.1%*
3+ HOV's in GP Lanes	1,290	1,210	770	80	2,070	1,960	1,110	110
% 3+ HOV's in GP Lanes	*0.7%*	*1.3%*	*0.8%*	*0.1%*	*1.3%*	*2.5%*	*1.3%*	*0.1%*
Total 3+ HOV's (in HOV Lanes)	8,250	3,460	4,410	4,790	8,600	3,310	4,650	5,290
% Change in HOV Volumes					*4%*	*-4%*	*5%*	*10%*
Off-Peak Crosslake Vehicle Volumes	181,170	95,170	103,020	86,000	162,530	81,130	92,760	81,400
Daily (24 hrs)								
Total GP Vehicle Volumes	280,900	151,890	162,940	129,010	243,730	124,420	142,940	119,310
% Change in GP Volumes					*-13%*	*-18%*	*-12%*	*-8%*
Medium and Heavy Trucks	11,350	7,140	7,160	4,210	6,850	4,230	4,740	2,620
% Medium and Heavy Trucks	*4.0%*	*4.7%*	*4.4%*	*3.3%*	*2.8%*	*3.4%*	*3.3%*	*2.2%*
3+ HOV's in GP Lanes	1,430	1,340	910	90	3,020	2,880	1,420	140
% 3+ HOV's in GP Lanes	*0.5%*	*0.9%*	*0.6%*	*0.1%*	*1.2%*	*2.3%*	*1.0%*	*0.1%*
Total 3+ HOV's (in HOV Lanes)	15,290	6,960	8,180	8,330	16,270	6,780	8,960	9,490
% Change in HOV Volumes					*6%*	*-3%*	*10%*	*14%*
Total Crosslake Vehicle Volumes	296,190	158,850	171,100	137,340	260,000	131,200	151,910	128,800
% Change in Crosslake Volumes					*-12%*	*-17%*	*-11%*	*-6%*

[1] Off Peak vehicle volumes are a summation of vehicle volumes in the Mid-Day, Evening and Late Night periods.

Exhibit B-24
SR-520 and I-90 Bridge Toll-Free & Toll Traffic Vehicle Volumes
2030 Scenario 6.1 Forecasts

Scenario 6.1	Toll-Free							Facility Tolled: Bridge & Ramp-to-Ramp Segment Tolls on SR 520						
	Cross-Lake Bridge Segments				SR-520: Short Ramp-to-Ramp Segments			Cross-Lake Bridge Segments				SR-520: Short Ramp-to-Ramp Segments		
Description	Total X-lake (a)+(c)	I-90 Mid-Span Segments MI-Seattle (a)	I-90 Mid-Span Segments MI-Bellevue (b)	SR-520 Mid-Span (c)	I-5 to/from Montlake	I-405 to/from east side I/Cs (D,E,F,G)	Intra east side I/Cs (D,E,F,G)	Total X-lake (a)+(c)	I-90 Mid-Span Segments MI-Seattle (a)	I-90 Mid-Span Segments MI-Bellevue (b)	SR-520 Mid-Span (c)	I-5 to/from Montlake	I-405 to/from east side I/Cs (D,E,F,G)	Intra east side I/Cs (D,E,F,G)
AM Peak (3 hrs)														
Total GP Vehicle Volumes	49,400	27,130	29,020	22,270	4,670	7,800	540	43,290	29,450	31,310	13,840	1,860	3,120	550
% Change in GP Volumes								*-12%*	*9%*	*8%*	*-38%*	*-60%*	*-60%*	*2%*
V/C Ratio	0.86	0.79	0.85	0.97				0.76	0.86	0.91	0.61			
Medium and Heavy Trucks	2,350	1,510	1,520	840	140	230	0	2,050	1,760	1,770	290	50	60	0
% Medium and Heavy Trucks	*4.8%*	*5.6%*	*5.2%*	*3.8%*	*3.0%*	*2.9%*	*0.0%*	*4.7%*	*6.0%*	*5.7%*	*2.1%*	*2.7%*	*1.9%*	*0.0%*
3+ HOV's in GP Lanes	100	90	100	10	90	170	10	70	70	40	0	230	170	20
% 3+ HOV's in GP Lanes	*0.2%*	*0.3%*	*0.3%*	*0.0%*	*1.9%*	*2.2%*	*1.9%*	*0.2%*	*0.2%*	*0.1%*	*0.0%*	*12.4%*	*5.4%*	*3.6%*
Total 3+ HOV's (in HOV Lanes)	1,800	910	990	890				1,870	890	1,000	980			
% Change in HOV Volumes								*4%*	*-2%*	*1%*	*10%*			
AM Peak Crosslake Vehicle Volumes	51,200	28,040	30,000	23,160				45,150	30,330	32,310	14,820			
PM Peak (3 hrs)														
Total GP Vehicle Volumes	58,580	33,050	35,300	25,530	5,170	11,900	670	54,250	34,330	36,510	19,920	1,230	4,580	700
% Change in GP Volumes								*-7%*	*4%*	*3%*	*-22%*	*-76%*	*-62%*	*4%*
V/C Ratio	1.03	0.96	1.03	1.12				0.95	1.00	1.06	0.87			
Medium and Heavy Trucks	2,150	1,410	1,400	740	120	200	0	1,920	1,550	1,550	370	0	20	0
% Medium and Heavy Trucks	*3.7%*	*4.3%*	*4.0%*	*2.9%*	*2.3%*	*1.7%*	*0.0%*	*3.5%*	*4.5%*	*4.2%*	*1.9%*	*0.0%*	*0.4%*	*0.0%*
3+ HOV's in GP Lanes	40	40	40	0	320	770	20	0	0	40	0	460	690	30
% 3+ HOV's in GP Lanes	*0.1%*	*0.1%*	*0.1%*	*0.0%*	*6.2%*	*6.5%*	*3.0%*	*0.0%*	*0.0%*	*0.1%*	*0.0%*	*37.4%*	*15.1%*	*4.3%*
Total 3+ HOV's (in HOV Lanes)	5,240	2,590	2,780	2,650				5,430	2,530	2,670	2,900			
% Change in HOV Volumes								*4%*	*-2%*	*-4%*	*9%*			
PM Peak Crosslake Vehicle Volumes	63,820	35,640	38,080	28,180				59,680	36,860	39,180	22,820			
Off-Peak (18 hrs)[1]														
Total GP Vehicle Volumes	172,920	91,710	98,620	81,210	12,980	21,290	1,430	161,040	99,720	106,090	61,320	9,960	14,680	2,060
% Change in GP Volumes								*-7%*	*9%*	*8%*	*-24%*	*-23%*	*-31%*	*44%*
Medium and Heavy Trucks	6,850	4,220	4,240	2,630	430	610	10	6,070	4,790	4,800	1,280	240	300	10
% Medium and Heavy Trucks	*4.0%*	*4.6%*	*4.3%*	*3.2%*	*3.3%*	*2.9%*	*0.7%*	*3.8%*	*4.8%*	*4.5%*	*2.1%*	*2.4%*	*2.0%*	*0.5%*
3+ HOV's in GP Lanes	1,290	1,210	770	80	580	810	40	1,010	1,000	610	10	1,350	1,210	70
% 3+ HOV's in GP Lanes	*0.7%*	*1.3%*	*0.8%*	*0.1%*	*4.5%*	*3.8%*	*2.8%*	*0.6%*	*1.0%*	*0.6%*	*0.0%*	*13.6%*	*8.2%*	*3.4%*
Total 3+ HOV's (in HOV Lanes)	8,250	3,460	4,410	4,790				8,710	3,440	4,280	5,270			
% Change in HOV Volumes								*6%*	*-1%*	*-3%*	*10%*			
Off-Peak Crosslake Vehicle Volumes	181,170	95,170	103,020	86,000				169,740	103,150	110,380	66,590			
Daily (24 hrs)														
Total GP Vehicle Volumes	280,900	151,890	162,940	129,010	22,820	40,990	2,640	258,580	163,500	173,910	95,080	13,050	22,380	3,310
% Change in GP Volumes								*-8%*	*8%*	*7%*	*-26%*	*-43%*	*-45%*	*25%*
Medium and Heavy Trucks	11,350	7,140	7,160	4,210	690	1,040	10	10,040	8,100	8,120	1,940	290	380	10
% Medium and Heavy Trucks	*4.0%*	*4.7%*	*4.4%*	*3.3%*	*3.0%*	*2.5%*	*0.4%*	*3.9%*	*5.0%*	*4.7%*	*2.0%*	*2.2%*	*1.7%*	*0.3%*
3+ HOV's in GP Lanes	1,430	1,340	910	90	990	1,750	70	1,080	1,070	690	10	2,040	2,070	120
% 3+ HOV's in GP Lanes	*0.5%*	*0.9%*	*0.6%*	*0.1%*	*4.3%*	*4.3%*	*2.7%*	*0.4%*	*0.7%*	*0.4%*	*0.0%*	*15.6%*	*9.2%*	*3.6%*
Total 3+ HOV's (in HOV Lanes)	15,290	6,960	8,180	8,330				16,010	6,860	7,950	9,150			
% Change in HOV Volumes								*5%*	*-1%*	*-3%*	*10%*			
Total Crosslake Vehicle Volumes	296,190	158,850	171,100	137,340				274,570	170,340	181,870	104,230			
% Change in Crosslake Volumes								*-7%*	*7%*	*6%*	*-24%*			

[1] Off Peak vehicle volumes are a summation of vehicle volumes in the Mid-Day, Evening and Late Night periods.

Exhibit B-25
SR-520 and I-90 Bridge Toll-Free & Toll Traffic Vehicle Volumes
2030 Scenario 7.1 Forecasts

Scenario 7.1	Toll-Free				Facility Tolled: Single Point on SR 520			
	Cross-Lake Bridge Segments				Cross-Lake Bridge Segments			
	Total X-lake	I-90 Mid-Span Segments		SR-520	Total X-lake	I-90 Mid-Span Segments		SR-520
		MI-Seattle	MI-Bellevue	Mid-Span		MI-Seattle	MI-Bellevue	Mid-Span
Description	(a)+(c)	(a)	(b)	(c)	(a)+(c)	(a)	(b)	(c)
AM Peak (3 hrs)								
Total GP Vehicle Volumes	49,400	27,130	29,020	22,270	46,110	28,870	30,650	17,240
% Change in GP Volumes					*-7%*	*6%*	*6%*	*-23%*
V/C Ratio	0.86	0.79	0.85	0.97	0.81	0.84	0.89	0.75
Medium and Heavy Trucks	2,350	1,510	1,520	840	2,110	1,730	1,730	380
% Medium and Heavy Trucks	*4.8%*	*5.6%*	*5.2%*	*3.8%*	*4.6%*	*6.0%*	*5.6%*	*2.2%*
3+ HOV's in GP Lanes	100	90	100	10	600	80	50	520
% 3+ HOV's in GP Lanes	*0.2%*	*0.3%*	*0.3%*	*0.0%*	*1.3%*	*0.3%*	*0.2%*	*3.0%*
Total 3+ HOV's (in HOV Lanes)	1,800	910	990	890	1,180	1,180	1,300	0
% Change in HOV Volumes					*-34%*	*30%*	*31%*	*-100%*
AM Peak Crosslake Vehicle Volumes	51,200	28,040	30,000	23,160	47,280	30,040	31,950	17,240
PM Peak (3 hrs)								
Total GP Vehicle Volumes	58,580	33,050	35,300	25,530	56,600	34,050	36,230	22,550
% Change in GP Volumes					*-3%*	*3%*	*3%*	*-12%*
V/C Ratio	1.03	0.96	1.03	1.12	0.99	0.99	1.06	0.99
Medium and Heavy Trucks	2,150	1,410	1,400	740	1,960	1,540	1,540	420
% Medium and Heavy Trucks	*3.7%*	*4.3%*	*4.0%*	*2.9%*	*3.5%*	*4.5%*	*4.3%*	*1.9%*
3+ HOV's in GP Lanes	40	40	40	0	620	0	40	620
% 3+ HOV's in GP Lanes	*0.1%*	*0.1%*	*0.1%*	*0.0%*	*1.1%*	*0.0%*	*0.1%*	*2.7%*
Total 3+ HOV's (in HOV Lanes)	5,240	2,590	2,780	2,650	4,020	4,020	4,160	0
% Change in HOV Volumes					*-23%*	*55%*	*50%*	*-100%*
PM Peak Crosslake Vehicle Volumes	63,820	35,640	38,080	28,180	60,610	38,060	40,400	22,550
Off-Peak (18 hrs)[1]								
Total GP Vehicle Volumes	172,920	91,710	98,620	81,210	167,930	98,910	105,350	69,020
% Change in GP Volumes					*-3%*	*8%*	*7%*	*-15%*
Medium and Heavy Trucks	6,850	4,220	4,240	2,630	6,160	4,710	4,730	1,450
% Medium and Heavy Trucks	*4.0%*	*4.6%*	*4.3%*	*3.2%*	*3.7%*	*4.8%*	*4.5%*	*2.1%*
3+ HOV's in GP Lanes	1,290	1,210	770	80	3,950	1,170	670	2,780
% 3+ HOV's in GP Lanes	*0.7%*	*1.3%*	*0.8%*	*0.1%*	*2.4%*	*1.2%*	*0.6%*	*4.0%*
Total 3+ HOV's (in HOV Lanes)	8,250	3,460	4,410	4,790	5,070	5,070	6,030	0
% Change in HOV Volumes					*-39%*	*47%*	*37%*	*-100%*
Off-Peak Crosslake Vehicle Volumes	181,170	95,170	103,020	86,000	173,010	103,990	111,380	69,020
Daily (24 hrs)								
Total GP Vehicle Volumes	280,900	151,890	162,940	129,010	270,640	161,830	172,230	108,810
% Change in GP Volumes					*-4%*	*7%*	*6%*	*-16%*
Medium and Heavy Trucks	11,350	7,140	7,160	4,210	10,230	7,980	8,000	2,250
% Medium and Heavy Trucks	*4.0%*	*4.7%*	*4.4%*	*3.3%*	*3.8%*	*4.9%*	*4.6%*	*2.1%*
3+ HOV's in GP Lanes	1,430	1,340	910	90	5,170	1,250	760	3,920
% 3+ HOV's in GP Lanes	*0.5%*	*0.9%*	*0.6%*	*0.1%*	*1.9%*	*0.8%*	*0.4%*	*3.6%*
Total 3+ HOV's (in HOV Lanes)	15,290	6,960	8,180	8,330	10,270	10,270	11,490	0
% Change in HOV Volumes					*-33%*	*48%*	*40%*	*-100%*
Total Crosslake Vehicle Volumes	296,190	158,850	171,100	137,340	280,900	172,090	183,730	108,810
% Change in Crosslake Volumes					*-5%*	*8%*	*7%*	*-21%*

[1] Off Peak vehicle volumes are a summation of vehicle volumes in the Mid-Day, Evening and Late Night periods.

Exhibit B-26
SR-520 and I-90 Bridge Toll-Free & Toll Traffic Vehicle Volumes
2030 Scenario 7.2 Forecasts

Scenario 7.2	Toll-Free				Facility Tolled: Single Point on SR 520			
	Cross-Lake Bridge Segments				Cross-Lake Bridge Segments			
	Total X-lake	I-90 Mid-Span Segments		SR-520	Total X-lake	I-90 Mid-Span Segments		SR-520
		MI-Seattle	MI-Bellevue	Mid-Span		MI-Seattle	MI-Bellevue	Mid-Span
Description	(a)+(c)	(a)	(b)	(c)	(a)+(c)	(a)	(b)	(c)
AM Peak (3 hrs)								
Total GP Vehicle Volumes	49,400	27,130	29,020	22,270	44,380	28,560	30,050	15,820
% Change in GP Volumes					*-10%*	*5%*	*4%*	*-29%*
V/C Ratio	0.86	0.79	0.85	0.97	0.78	0.83	0.88	0.69
Medium and Heavy Trucks	2,350	1,510	1,520	840	2,160	1,770	1,770	390
% Medium and Heavy Trucks	*4.8%*	*5.6%*	*5.2%*	*3.8%*	*4.9%*	*6.2%*	*5.9%*	*2.5%*
2+ HOV's in GP Lanes	100	90	100	10	90	80	100	10
% 2+ HOV's in GP Lanes	*0.2%*	*0.3%*	*0.3%*	*0.0%*	*0.2%*	*0.3%*	*0.3%*	*0.1%*
Total 2+ HOV's (in HOV Lanes)	1,800	910	990	890	6,900	2,780	3,080	4,120
% Change in HOV Volumes					*283%*	*205%*	*211%*	*363%*
AM Peak Crosslake Vehicle Volumes	51,200	28,040	30,000	23,160	51,280	31,340	33,130	19,940
PM Peak (3 hrs)								
Total GP Vehicle Volumes	58,580	33,050	35,300	25,530	52,670	32,560	34,300	20,110
% Change in GP Volumes					*-10%*	*-1%*	*-3%*	*-21%*
V/C Ratio	1.03	0.96	1.03	1.12	0.92	0.95	1.00	0.88
Medium and Heavy Trucks	2,150	1,410	1,400	740	2,060	1,630	1,620	430
% Medium and Heavy Trucks	*3.7%*	*4.3%*	*4.0%*	*2.9%*	*3.9%*	*5.0%*	*4.7%*	*2.1%*
2+ HOV's in GP Lanes	40	40	40	0	170	150	230	20
% 2+ HOV's in GP Lanes	*0.1%*	*0.1%*	*0.1%*	*0.0%*	*0.3%*	*0.5%*	*0.7%*	*0.1%*
Total 2+ HOV's (in HOV Lanes)	5,240	2,590	2,780	2,650	14,960	6,700	7,140	8,260
% Change in HOV Volumes					*185%*	*159%*	*157%*	*212%*
PM Peak Crosslake Vehicle Volumes	63,820	35,640	38,080	28,180	67,630	39,260	41,440	28,370
Off-Peak (18 hrs)[1]								
Total GP Vehicle Volumes	172,920	91,710	98,620	81,210	155,050	94,230	98,640	60,820
% Change in GP Volumes					*-10%*	*3%*	*0%*	*-25%*
Medium and Heavy Trucks	6,850	4,220	4,240	2,630	6,430	4,920	4,940	1,510
% Medium and Heavy Trucks	*4.0%*	*4.6%*	*4.3%*	*3.2%*	*4.1%*	*5.2%*	*5.0%*	*2.5%*
2+ HOV's in GP Lanes	1,290	1,210	770	80	1,350	1,310	1,030	40
% 2+ HOV's in GP Lanes	*0.7%*	*1.3%*	*0.8%*	*0.1%*	*0.9%*	*1.4%*	*1.0%*	*0.1%*
Total 2+ HOV's (in HOV Lanes)	8,250	3,460	4,410	4,790	32,560	12,590	15,330	19,970
% Change in HOV Volumes					*295%*	*264%*	*248%*	*317%*
Off-Peak Crosslake Vehicle Volumes	181,170	95,170	103,020	86,000	187,610	106,820	113,970	80,790
Daily (24 hrs)								
Total GP Vehicle Volumes	280,900	151,890	162,940	129,010	252,100	155,350	162,990	96,750
% Change in GP Volumes					*-10%*	*2%*	*0%*	*-25%*
Medium and Heavy Trucks	11,350	7,140	7,160	4,210	10,650	8,320	8,330	2,330
% Medium and Heavy Trucks	*4.0%*	*4.7%*	*4.4%*	*3.3%*	*4.2%*	*5.4%*	*5.1%*	*2.4%*
2+ HOV's in GP Lanes	1,430	1,340	910	90	1,610	1,540	1,360	70
% 2+ HOV's in GP Lanes	*0.5%*	*0.9%*	*0.6%*	*0.1%*	*0.6%*	*1.0%*	*0.8%*	*0.1%*
Total 2+ HOV's (in HOV Lanes)	15,290	6,960	8,180	8,330	54,420	22,070	25,550	32,350
% Change in HOV Volumes					*256%*	*217%*	*212%*	*288%*
Total Crosslake Vehicle Volumes	296,190	158,850	171,100	137,340	306,520	177,420	188,540	129,100
% Change in Crosslake Volumes					*3%*	*12%*	*10%*	*-6%*

[1] Off Peak vehicle volumes are a summation of vehicle volumes in the Mid-Day, Evening and Late Night periods.

Exhibit B-27
SR-520 and I-90 Bridge Toll-Free & Toll Traffic Vehicle Volumes
2030 Scenario 12.1 Forecasts

Scenario 12.1	Toll-Free				Facility Tolled: Single Point on SR 520 and I-90			
	Cross-Lake Bridge Segments				Cross-Lake Bridge Segments			
	Total X-lake	I-90 Mid-Span Segments		SR-520	Total X-lake	I-90 Mid-Span Segments		SR-520
		MI-Seattle	MI-Bellevue	Mid-Span		MI-Seattle	MI-Bellevue	Mid-Span
Description	(a)+(c)	(a)	(b)	(c)	(a)+(c)	(a)	(b)	(c)
AM Peak (3 hrs)								
Total GP Vehicle Volumes	49,400	27,130	29,020	22,270	41,660	23,480	26,790	18,180
% Change in GP Volumes					*-16%*	*-13%*	*-8%*	*-18%*
V/C Ratio	0.86	0.79	0.85	0.97	0.73	0.68	0.78	0.80
Medium and Heavy Trucks	2,350	1,510	1,520	840	1,430	1,030	1,120	400
% Medium and Heavy Trucks	*4.8%*	*5.6%*	*5.2%*	*3.8%*	*3.4%*	*4.4%*	*4.2%*	*2.2%*
3+ HOV's in GP Lanes	100	90	100	10	30	30	140	0
% 3+ HOV's in GP Lanes	*0.2%*	*0.3%*	*0.3%*	*0.0%*	*0.1%*	*0.1%*	*0.5%*	*0.0%*
Total 3+ HOV's (in HOV Lanes)	1,800	910	990	890	2,140	1,060	1,020	1,080
% Change in HOV Volumes					*19%*	*16%*	*3%*	*21%*
AM Peak Crosslake Vehicle Volumes	51,200	28,040	30,000	23,160	43,800	24,540	27,810	19,260
PM Peak (3 hrs)								
Total GP Vehicle Volumes	58,580	33,050	35,300	25,530	52,720	30,040	33,720	22,680
% Change in GP Volumes					*-10%*	*-9%*	*-4%*	*-11%*
V/C Ratio	1.03	0.96	1.03	1.12	0.92	0.88	0.98	0.99
Medium and Heavy Trucks	2,150	1,410	1,400	740	1,410	1,010	1,090	400
% Medium and Heavy Trucks	*3.7%*	*4.3%*	*4.0%*	*2.9%*	*2.7%*	*3.4%*	*3.2%*	*1.8%*
3+ HOV's in GP Lanes	40	40	40	0	0	0	100	0
% 3+ HOV's in GP Lanes	*0.1%*	*0.1%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.3%*	*0.0%*
Total 3+ HOV's (in HOV Lanes)	5,240	2,590	2,780	2,650	5,840	2,740	2,790	3,100
% Change in HOV Volumes					*11%*	*6%*	*0%*	*17%*
PM Peak Crosslake Vehicle Volumes	63,820	35,640	38,080	28,180	58,560	32,790	36,510	25,770
Off-Peak (18 hrs)[1]								
Total GP Vehicle Volumes	172,920	91,710	98,620	81,210	162,190	85,560	95,650	76,630
% Change in GP Volumes					*-6%*	*-7%*	*-3%*	*-6%*
Medium and Heavy Trucks	6,850	4,220	4,240	2,630	4,610	3,140	3,370	1,470
% Medium and Heavy Trucks	*4.0%*	*4.6%*	*4.3%*	*3.2%*	*2.8%*	*3.7%*	*3.5%*	*1.9%*
3+ HOV's in GP Lanes	1,290	1,210	770	80	60	50	840	10
% 3+ HOV's in GP Lanes	*0.7%*	*1.3%*	*0.8%*	*0.1%*	*0.0%*	*0.1%*	*0.9%*	*0.0%*
Total 3+ HOV's (in HOV Lanes)	8,250	3,460	4,410	4,790	10,970	5,220	4,830	5,750
% Change in HOV Volumes					*33%*	*51%*	*10%*	*20%*
Off-Peak Crosslake Vehicle Volumes	181,170	95,170	103,020	86,000	173,160	90,780	100,480	82,380
Daily (24 hrs)								
Total GP Vehicle Volumes	280,900	151,890	162,940	129,010	256,570	139,080	156,160	117,490
% Change in GP Volumes					*-9%*	*-8%*	*-4%*	*-9%*
Medium and Heavy Trucks	11,350	7,140	7,160	4,210	7,450	5,180	5,580	2,270
% Medium and Heavy Trucks	*4.0%*	*4.7%*	*4.4%*	*3.3%*	*2.9%*	*3.7%*	*3.6%*	*1.9%*
3+ HOV's in GP Lanes	1,430	1,340	910	90	90	80	1,080	10
% 3+ HOV's in GP Lanes	*0.5%*	*0.9%*	*0.6%*	*0.1%*	*0.0%*	*0.1%*	*0.7%*	*0.0%*
Total 3+ HOV's (in HOV Lanes)	15,290	6,960	8,180	8,330	18,950	9,020	8,640	9,930
% Change in HOV Volumes					*24%*	*30%*	*6%*	*19%*
Total Crosslake Vehicle Volumes	296,190	158,850	171,100	137,340	275,520	148,110	164,800	127,410
% Change in Crosslake Volumes					*-7%*	*-7%*	*-4%*	*-7%*

[1] Off Peak vehicle volumes are a summation of vehicle volumes in the Mid-Day, Evening and Late Night periods.

[This page intentionally blank]

[This page intentionally blank]

Washington State Department of Transportation

SR 520 Bridge Replacement and HOV Program

SR 520 Toll Traffic and Revenue Technical Report – 2008

April 2009

Prepared for:

Julie Meredith, P.E.

and

Helena Kennedy Smith

Submitted by:

SR 520 GEC Team

Washington State Department of Transportation

Plaza 600 Building
600 Stewart Street, Suite 520
Seattle, Washington 98101-1217
Phone 206-770-3500
Fax 206-770-3569