

SR 520 Bridge Net Toll Revenue Report 2019 Update

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Prepared for:
**Washington State
Department of Transportation**

Prepared by:
WSP USA



**Washington State
Department of Transportation**



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Information and statements contained in this report are based on information provided to WSP by, and obtained from, WSDOT including the Toll Division and the Northwest Region Office, WSDOT's General Toll Consultant (GTC), and other sources. In the preparation of this report and the opinions contained herein, WSDOT and WSP make certain assumptions with respect to conditions that may exist or events that may occur in the future that are subject to change. Unless a source is otherwise noted, these assumptions are attributable to WSDOT and WSP. The estimates documented in this report, including Stantec's traffic and revenue forecast inputs, predate the current COVID-19 Pandemic and do not take into account the potential effects that the Pandemic may have on near-term and/or long-term travel behavior or the various cost items from which the net toll revenue projections are based.

While WSP believes that the projections or other forward-looking statements contained within the report are based on reasonable assumptions and correctly represent the inputs and estimates provided by WSDOT and others as of January 21, 2020¹, such forward looking statements involve risks and uncertainties that may cause actual results to differ materially from the results predicted. Specifically, the forward-looking statements and estimates documented in the report were prepared prior to the onset of the current ongoing COVID-19 Pandemic. Notably, since March 2020, traffic levels on SR 520 and other major highways in the region have plummeted with the onset and acceleration of the pandemic. A modern pandemic of this magnitude has never occurred and there are no similar occurrences that can be used to reliably estimate how low toll traffic and revenue might drop, how long the direct impacts will last, if a recovery will occur rapidly or slowly, and if residual effects will linger for years beyond the recovery. As such, the post-COVID-19 future net revenue projections may differ materially from the pre-COVID-19 expectations and the estimates for revenue adjustments and cost items from which the net revenue projections are assembled could vary higher or lower than this report's pre-COVID-19 estimates.

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¹ With one exception, current biennium costs were revised to include one-time additional items to be paid from tolls as mandated in the State Legislature's transportation budget, Engrossed Substitute House Bill (ESHB) 2322 (March 11, 2020),

Acronyms and Abbreviations

ACH	Automated Clearing House
ADA	Americans with Disabilities Act
AFS	Accounting and Financial Services
BOS	Back Office System (software)
CPR	Customer Program for Resolution
CSC	Customer Service Center (operations)
DES	Department of Enterprise Services
DOL	Department of Licensing
ESHB	Engrossed Substitute House Bill
ETL	Express Toll Lane
FTE	Full Time Equivalent
GTC	General Toll Consultant
HOV	High Occupancy Vehicle
HOT	High Occupancy Toll (lane)
IT	Information Technology
LES	Law Enforcement Systems
NOCP	Notice of Civil Penalty
NWR	Northwest Region (division of WSDOT)
OEO	Office of Equal Opportunity
PBM	Pay By Mail
PBP	Pay By Plate
RTS	Roadway Toll System
SOC-1	Service Organization Control One
SR	State Route
STA	Short Term Account
T&R	Traffic and Revenue
TNB	Tacoma Narrows Bridge
WSDOT	Washington State Department of Transportation
WSF	Washington State Ferries (WSDOT Marine Division)

1 | Introduction and Key Forecast Changes

Background and Purpose

This report documents the preparation of the “November 2019 forecast” of net toll revenues for the State Route (SR) 520 Bridge across Lake Washington. The forecasts presented herein reflect the current toll rates and policies adopted by the Washington State Transportation Commission (WSTC), with the most recent changes going into effect on July 1, 2017. This *SR 520 Net Toll Revenue Report—2019 Update* builds upon previous annual forecasts, including the most recent “November 2018 forecast” and accompanying *SR 520 Bridge Net Toll Revenue Report—2018 Update*, dated March 29, 2019. As in the past two years, WSDOT’s statewide traffic and revenue consultant, Stantec, prepared the traffic and gross toll revenue potential (T&R) forecasts for the SR 520 Bridge that serve as the basis for the net toll revenue projections. Stantec’s forecasts do not consider the impacts to traffic and revenue related to the current COVID-19 Pandemic Crisis; rather, they represent a scenario where the pandemic did not occur. Similarly, the November 2019 forecast of net toll revenue projections are based upon the available, pre-COVID-19 information about future toll collection and facility maintenance expenditures and revenue adjustments. This report documents the updated projections, describing the changes in key assumptions, inputs, and influences of operating experience compared to the previous November 2018 forecast, with select comparisons back to the initial projections from September 2011.

The net toll revenue projections are used to update the project’s financial plan and represent the operating cash flow that would be available to pay debt service on toll financing, pay deferred sales tax on construction, and contribute to other reserve accounts, including one for periodic capital repair and replacement of facility and toll collection components. Specifically, the projections are used to demonstrate that tolls on the SR 520 Bridge are predicted to produce revenues in each fiscal year of the forecast in amounts sufficient for the state to meet its financial obligations in compliance with the bond covenants in Section 7.02(a) of Master Resolution number 1117 (MBR), and to support the WSTC should they opt to revise any toll rates or policies beyond those already in place as of July 1, 2017.

All annual amounts in this document are expressed in terms of the state fiscal year (FY), which runs from July 1 to June 30. The SR 520 forecast horizon covers 37 years, extending from FY 2020 through FY 2056.

September 2011 Forecast

For purposes of this document and related materials, the initial CDM Smith investment-grade traffic and gross toll revenue potential forecasts and accompanying net toll revenue projections that were used to support the initial October 2011 bond financing are collectively referred to as the “September 2011 forecast.”

September 2012 Forecast

In September 2012, as part of ongoing financial planning and the negotiation of a loan from the United States Department of Transportation (USDOT) through the Transportation Infrastructure Finance and Innovation Act (TIFIA), CDM Smith completed a revised traffic and gross toll revenue potential forecast. Accompanying net revenue projections were also prepared, along with memoranda covering these revisions. During their subsequent toll rate setting process, the WSTC opted to round toll rates to the nearest nickel (\$0.05) for the July 1, 2013 (FY 2014) and future planned toll increases.

For purposes of this document and related materials, the traffic and gross toll revenue potential forecasts, along with the accompanying net toll revenue projections—inclusive of the minor revision for nickel rounding—are collectively referred to as the “September 2012 forecast.”

October 2013 Forecast

CDM Smith performed a comprehensive traffic and gross toll revenue forecast update in 2013. Detailed updates to the facility operations and maintenance (O&M) costs, toll collection O&M costs, and revenue adjustments were also prepared in late summer 2013 to yield updated net revenue projections. Collectively, these traffic and gross toll revenue forecasts, along with the net toll revenue projections, are referred to as the “October 2013 forecast.”

November 2014 Forecast

CDM Smith performed another comprehensive traffic and gross toll revenue forecast update in 2014. As in 2013, a detailed review of the facility O&M costs, toll collection O&M costs, and revenue adjustments were made in the summer and fall of 2014, ultimately leading to revised inputs and assumptions to select forecast components. Collectively, these current traffic and gross toll revenue forecasts, along with the accompanying net toll revenue projections, are referred to as the “November 2014 forecast.”

November 2015 Forecast

In preparation for the September 2016 final bond sale, another comprehensive traffic and gross toll revenue forecast update was prepared by CDM Smith in 2015. Their update incorporates new socio-economic forecasts, additional model years, traffic and tolling performance trends to date, and a revised construction closure schedule and roadway configuration related to the newly funded SR 520 “Rest of the West” improvements.

In the same manner as in previous forecasts, a detailed review of revenue adjustments, facility O&M and repair and replacement (R&R) costs, and toll collection O&M and R&R costs were made in the latter half of 2015, resulting in revised inputs, assumptions and net toll revenue projections.

Subsequent amendments to the 2015 traffic and revenue forecasts were completed in March 2016 to capture revised future toll rates and policies proposed and subsequently adopted by the WSTC. Specifically, previously planned step increases in weekday toll rates ranging from 12 to 18 percent by time of day plus a 2.5 percent increase on weekends was replaced with two 5 percent toll increases in FY 2017 and FY 2018, covering both weekdays and weekends. In addition, the night tolling from 11 PM to 5 AM was deferred one year from FY 2017 to FY 2018. Finally, the WSTC opted to maintain the current transit and registered vanpool exemptions, but not extend a toll exemption to carpools with three or more occupants, as originally assumed when the new floating bridge with HOV lanes opened in April 2016. The net revenue projections were similarly amended on March 25, 2016 and provided in support of toll rate setting activities and an update to the SR 520 financial plan.

November 2016 Forecast

CDM Smith’s 2016 traffic and gross toll revenue projections capture a number of minor refinements, including updated population and employment forecasts, actual patterns that reflect slight shifts in traffic by time of day and day of week, updated construction closure assumptions for FY 2017, the addition of impacts due to construction closures on the parallel I-90 bridge, and a slight reduction in the *Good To Go!* account share of total transactions. Overall, these changes result in lower traffic and revenue through FY 2025, and slightly higher values thereafter.

November 2017 Forecast

In early 2017, the State contracted with Stantec to provide the November 2017 SR 520 traffic and revenue forecast. Stantec provided the updated traffic and revenue forecasts in late October 2017, and these forecasts form the basis for the net revenue projections documented in the *SR 520 Bridge Net Toll Revenue Report—2017 Update*. Stantec’s traffic and gross toll revenue potential forecasts are based on their proprietary traffic and revenue forecasting tools and processes and reflect different sources of information and assumptions for population and employment forecasts, users’ values of time, and toll payment method shares for *Good To Go!* account transponder pass and Pay By Plate transactions as well as Pay By Mail transactions. Compared to the previous November 2016 forecast prepared by CDM Smith, Stantec’s November 2017 forecast had slightly lower toll transactions over the full forecast horizon and lower gross toll revenue potential estimates in most years, with the exceptions of FY 2019 where the number of construction closure days was revised downward, and the four years at the end of the horizon, FYs 2053-56.

November 2018 Forecast

Stantec’s 2018 traffic and gross toll revenue projections reflect revised socioeconomic and demographic projections and model adjustments to more accurately align with recent actual experience, including a revised distribution of payment methods and differentials in average toll rates between payment methods. Projected revenue gains due to both higher average toll rates and toll traffic forecasts are partially offset by the change in payment split assumptions and revisions to the construction schedule, the latter which reflects an additional year of restricted capacity in FY 2027 due to the revised timing for completion of the Portage Bay Bridge and I-5 Connector. Overall, these changes resulted in higher traffic and gross toll revenue potential in all years of the forecast period.

November 2019 Forecast

Stantec’s 2019 traffic and gross toll revenue projections reflect updated socioeconomic and demographic projections for the region. Additional model adjustments were made to more accurately align with recent refinements on how tolls by payment method are categorized in reported data and differentials in average toll rates between payment methods. Further revisions to the construction schedule were incorporated to reflect the latest information available at the time of the forecast in mid-2019. Construction revisions were due to changes in the schedule for the Portage Bay Bridge and I-5 Connector. Overall, these changes resulted in minor changes to traffic and a half a percent reduction in gross toll revenue potential over the forecast horizon, primarily due to the shift of Pay By Mail trips to *Good To Go!* trips, which forgo the Pay By Mail incremental \$2.00 toll rate.

Exhibit 1 shows the weekday two-axle vehicle *Good To Go!* pass toll rate schedules over time, including the last WSTC rate increases that went into effect for FY 2018 on July 1, 2017. Exhibit 2 provides the corresponding weekend toll rates for the same time periods.

Exhibit 1: Weekday *Good To Go!* Pass Toll Rate Schedules by Fiscal Year

2.5% Increases + Sequential Nickel Rounding through FY 2016 | 5% Increases in FY 2017 & FY 2018 | Night Tolling in FY 2018

Time Period	Actual and Planned Rate Assumptions	5-6 AM	6-7 AM	7-9 AM	9-10 AM	10 AM-2 PM	2-3 PM	3-6 PM	6-7 PM	7-9 PM	9-11 PM	11 PM-5 AM
FY 2012	Opening Rates	\$1.60	\$2.80	\$3.50	\$2.80	\$2.25	\$2.80	\$3.50	\$2.80	\$2.25	\$1.60	\$0.00
FY 2013	+2.5% (No Rounding)	\$1.64 +2.5%	\$2.87 +2.5%	\$3.59 +2.6%	\$2.87 +2.5%	\$2.31 +2.7%	\$2.87 +2.5%	\$3.59 +2.6%	\$2.87 +2.5%	\$2.31 +2.7%	\$1.64 +2.5%	\$0.00
FY 2014	+2.5% with Nickel Rounding	\$1.70 +3.7%	\$2.95 +2.8%	\$3.70 +3.1%	\$2.95 +2.8%	\$2.35 +1.7%	\$2.95 +2.8%	\$3.70 +3.1%	\$2.95 +2.8%	\$2.35 +1.7%	\$1.70 +3.7%	\$0.00
FY 2015	+2.5% with Nickel Rounding	\$1.75 +2.9%	\$3.00 +1.7%	\$3.80 +2.7%	\$3.00 +1.7%	\$2.40 +2.1%	\$3.00 +1.7%	\$3.80 +2.7%	\$3.00 +1.7%	\$2.40 +2.1%	\$1.75 +2.9%	\$0.00
FY 2016	+2.5% with Nickel Rounding	\$1.80 +2.9%	\$3.10 +3.3%	\$3.90 +2.6%	\$3.10 +3.3%	\$2.45 +2.1%	\$3.10 +3.3%	\$3.90 +2.6%	\$3.10 +3.3%	\$2.45 +2.1%	\$1.80 +2.9%	\$0.00
FY 2017	+5.0% with Nickel Rounding	\$1.90 +5.6%	\$3.25 +4.8%	\$4.10 +5.1%	\$3.25 +4.8%	\$2.55 +4.1%	\$3.25 +4.8%	\$4.10 +5.1%	\$3.25 +4.8%	\$2.55 +4.1%	\$1.90 +5.6%	\$0.00
FY 2018+	+5.0% and Night Tolling with Nickel Rounding	\$2.00 +5.3%	\$3.40 +4.6%	\$4.30 +4.9%	\$3.40 +4.6%	\$2.70 +5.9%	\$3.40 +4.6%	\$4.30 +4.9%	\$3.40 +4.6%	\$2.70 +5.9%	\$2.00 +5.3%	\$1.25

Note: • Pay By Mail toll rates are higher than the *Good To Go!* rates above, ranging from \$1.50 in FY 2012 to \$2.00 higher for FY 2017 and beyond.

Exhibit 2: Weekend *Good To Go!* Pass Toll Rate Schedules by Fiscal Year

2.5% Increases + Sequential Nickel Rounding through FY 2016 | 5% Increases in FY 2017 & FY 2018 | Night Tolling in FY 2018

Time Period	Actual and Planned Rate Assumptions	5-8 AM	8-11 AM	11 AM-6 PM	6-9 PM	9-11 PM	11 PM-5 AM
FY 2012	Opening Rates	\$1.10	\$1.65	\$2.20	\$1.65	\$1.10	\$0.00
FY 2013	+2.5% (No Rounding)	\$1.13 +2.7%	\$1.69 +2.4%	\$2.26 +2.7%	\$1.69 +2.4%	\$1.13 +2.7%	\$0.00
FY 2014	+2.5% with Nickel Rounding	\$1.15 +1.8%	\$1.75 +3.6%	\$2.30 +1.8%	\$1.75 +3.6%	\$1.15 +1.8%	\$0.00
FY 2015	+2.5% with Nickel Rounding	\$1.20 +4.3%	\$1.80 +2.9%	\$2.35 +2.2%	\$1.80 +2.9%	\$1.20 +4.3%	\$0.00
FY 2016	+2.5% with Nickel Rounding	\$1.25 +4.2%	\$1.85 +2.8%	\$2.40 +2.1%	\$1.85 +2.8%	\$1.25 +4.2%	\$0.00
FY 2017	+5.0% with Nickel Rounding	\$1.30 +4.0%	\$1.95 +5.4%	\$2.50 +4.2%	\$1.95 +5.4%	\$1.30 +4.0%	\$0.00
FY 2018+	+5.0% and Night Tolling with Nickel Rounding	\$1.40 +7.7%	\$2.05 +5.1%	\$2.65 +6.0%	\$2.05 +5.1%	\$1.40 +7.7%	\$1.25

Note: • Pay By Mail toll rates are higher than the *Good To Go!* rates above, ranging from \$1.50 in FY 2012 to \$2.00 higher for FY 2017 and beyond.
• The weekend toll schedule will apply on the following holidays when occurring on a weekday: New Years Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.

The November 2019 forecast assumes all of the same toll rates and policies of the previous forecast, including the financial planning assumption that there would be no further planned toll increases over the forecast horizon. While WSTC may opt to revise the toll schedule or policies at a future date between now and FY 2056, the pre-COVID-19 SR 520 financial plan does not require any further toll increases if the net revenue projections are met.

Project Description

The SR 520 corridor stretches nearly 13 miles between I-5 in Seattle to the west and SR 202 to the east, crossing I-405 at about the halfway point, and serving various Eastside communities, including Bellevue, Kirkland and Redmond. The SR 520 Bridge Replacement and HOV Program includes the portion of the

corridor between I-5 and I-405, and is comprised of five major components, the first four of which include construction funding supported by tolls:

- 1) Pontoon Construction;
- 2) Eastside Transit and HOV Project;
- 3) Floating Bridge and West Connection Bridge Project;
- 4) West Approach Bridge North; and
- 5) I-5 to Lake Washington (Rest of the West), which includes the West Approach Bridge South.

The total program cost is currently estimated at \$4.51 billion, all of which is now funded. The final element of the \$2.87 billion portion of the program that includes toll funding — the West Approach Bridge North — was completed in late summer of 2017, and with the bike/pedestrian connection completed in December 2017. Essentially, these program components with toll funding have replaced the existing four-lane floating bridge and upgraded the corridor to six lanes (two general purpose lanes and one high occupancy vehicle lane in each direction) between the west approach to the floating bridge in Seattle and the I-405 interchange on the Eastside.

In mid-2015, the State Legislature passed legislation establishing new transportation revenue (the Connecting Washington account) and included \$1.64 billion in funding to complete SR 520’s planned improvements between I-5 and the western shore of Lake Washington, referred to as the Rest of the West.² Additionally, the SR 520 Corridor Program received the \$24 million balance of needed funding as \$14 million authorized in 2015 and \$10 million in existing agency resources authorized in 2014.³ The Rest of the West improvements are not assumed to include any toll funding; however, construction activity associated with these improvements will lead to additional lane and full bridge closures, primarily during weekend and night periods between 11:00 PM and 5:00 AM through operational completion.

Exhibit 3: SR 520 Bridge Replacement and HOV Program Map



Note: this Project Map does not identify the cities of Aberdeen, Kenmore, and Tacoma elsewhere in the state where pontoon development and construction previously occurred under the SR 520 Floating Bridge design-build contract.

WSDOT began tolling the existing SR 520 Bridge across Lake Washington in late December 2011 to help pay for a replacement floating bridge across the lake and other corridor improvements. Time of day

² See Chapter 44, Washington Laws of 2015 (2ESSB 5987) and Chapter 43, Washington Laws of 2015 (2ESSB 5988). Annual appropriated amounts can be found here: http://leap.leg.wa.gov/leap/Budget/Detail/2015/cTLEAPDoc2015NL-1_0629.pdf, project M00400R on page 8.

³ See Chapter 10, Washington Laws of 2015 (2ESHB 1299) and Chapter 222, Washington Laws of 2014 (ESSB 6001)

variable tolling was implemented to manage congestion on the corridor, using all-electronic tolling with no toll booths.

More information including costs, benefits, maps, and photos can be found on the SR 520 Bridge Replacement and HOV Program website: <http://www.wsdot.wa.gov/Projects/SR520Bridge/>.

Key Changes in the November 2019 Net Revenue Projections

This section highlights the key changes to the November 2019 net revenue forecast results compared with the previous November 2018 and initial September 2011 projections, measured over a common forecast horizon from FY 2020 through FY 2056. Exhibit 4 compares the primary components of the November 2019 forecast with the initial September 2011 forecast.

Exhibit 4: Gross to Net Revenue Comparison—September 2011 and November 2019 (FY 2020-56)

Forecast Category (#) = T&R table column reference	Sep 2011 Forecast (\$ millions)	Nov 2019 Forecast (\$ millions)	Variance (\$ millions)	Variance (%)*
Total Toll Transactions (8)	1,321.3	1,395.2	73.9	+5.6%
Gross Toll Revenue Potential (11)	4,638.3	4,786.6	148.3	+3.2%
Subtotal: Revenue Adjustments	(66.2)	29.1	95.4	+
Subtotal: O&M Costs	(1,386.7)	(1,400.4)	(13.6)	+1.0%
Net Toll Revenue (30)	3,185.4	3,415.4	230.0	+7.2%
Subtotal: R&R Costs + Deferred Sales Tax	(357.6)	(608.9)	(251.3)	+70.3%
Total after Deferred Sales Tax and R&R	2,827.8	2,806.5	(21.2)	-0.8%

* A positive dollar variance on negative forecast values represents a cost (loss) reduction, with the negative percentage (%) variance representing percentage reduction in the cost (loss). The percentage change going from a negative value to a positive value or vice versa doesn't compute, and is only shown as a "+" or "-" based on the sign of the variance.

Exhibit 5 compares the primary components of the November 2019 forecast with the most recent November 2018 forecast.

Exhibit 5: Gross to Net Revenue Comparison—November 2018 and November 2019 (FY 2020-56)

Forecast Category (#) = T&R table column reference	Nov 2018 Forecast (\$ millions)	Nov 2019 Forecast (\$ millions)	Variance (\$ millions)	Variance (%)*
Total Toll Transactions (8)	1,394.3	1,395.2	1.0	+0.1%
Gross Toll Revenue Potential (11)	4,810.7	4,786.6	(24.1)	-0.5%
Subtotal: Revenue Adjustments	(15.8)	29.1	94.9	+
Subtotal: O&M Costs	(1,429.3)	(1,400.4)	28.9	-2.0%
Net Toll Revenue (30)	3,315.6	3,415.4	99.8	+3.0%
Subtotal: R&R Costs + Deferred Sales Tax	(560.4)	(608.9)	(48.5)	+8.7%
Total after Deferred Sales Tax and R&R	2,755.2	2,806.5	51.3	+1.9%

* A positive dollar variance on negative forecast values represents a cost (loss) reduction, with the negative percentage (%) variance representing percentage reduction in the cost (loss). The percentage change going from a negative value to a positive value or vice versa doesn't compute, and is only shown as a "+" or "-" based on the sign of the variance.

Traffic and Gross Revenues

- Total toll transactions for Stantec’s current November 2019 forecast over a comparable FY 2020-56 forecast horizon are 5.6 percent higher than the CDM Smith forecast projected in September 2011 and 0.1 percent higher than the previous Stantec November 2018 forecast.
 - Over the forecast horizon, Pay By Mail transactions are 12.9 percent lower, while *Good To Go!* account-based transactions are 1.9 percent higher, than the previous forecast.
- Over the near-term (FY 2020-30), the current toll transaction forecast is 0.3 percent above the November 2018 forecast and gross toll revenue potential is 0.1 percent lower, compared with 4.0 percent higher transactions and 2.1 percent higher gross toll revenue potential compared to the September 2011 forecast.
- Additional information regarding the changes in the November 2019 traffic and gross toll revenue potential forecasts can be found in Stantec’s report, *SR 520 Bridge Traffic and Revenue Study 2019 Update*, dated April 13, 2020.

Revenue Adjustments

- Overall revenue adjustments in the November 2019 forecast total a net contribution of \$29.1 million, which is \$95.4 million higher than the (\$66.2) million deduction over the forecast horizon in the initial September 2011 forecast, and \$94.9 million higher than the (\$65.8) million deduction in the November 2018 forecast. About two-thirds of these increases are attributed to an increase in miscellaneous pledged revenues from the sale of property.
- The share of *Good To Go!* account holders using the Pay By Plate option in FY 2020 was estimated in the September 2011 forecast to be 8.5 percent of *Good To Go!* transactions, providing approximately \$0.46 million in Pay By Plate fees. Updates since the September 2011 forecast include a significant increase in the number of *Good To Go!* account holders using the Pay By Plate option and corresponding revenue generated from the \$0.25 Pay By Plate fee. The Pay By Plate shares of total annual transactions were again revised upwards in the November 2019 forecast to better align with actual experience, with a projected *Good To Go!* Pay By Plate share of 23.0 percent of total transactions for FY 2020, up from 22.7 percent in the prior forecast. In dollar terms, Pay By Plate fees are expected to total \$1.51 million in FY 2020, or just over three times as much as originally estimated in the September 2011 forecast.
- The November 2019 forecast extends the assumption of higher uncollectible revenue (leakage) in the near term due to delays in transitioning to the new Back Office System (BOS) software and Customer Service Center (CSC) operations vendors and associated with revenue not recognized due to unreadable license plates and the assumed rate of unidentified owners/addresses. The forecast adjustment accounts for the delay in the commencement of the BOS and CSC vendors for systems software and operations, respectively. The following assumptions were applied in the November 2018 forecast and delayed by one year in the November 2019 forecast.
 - The percentage share of unreadable license plates is assumed to be 7.0 percent in FY 2020, 6.5 percent in FY 2021, and 6.0 percent in FY 2022 and beyond with full transition to the new BOS and CSC vendors. The previous November 2018 forecast assumed similar levels of leakage but with reductions occurring one year earlier.

- In working with the Roadway Toll System (RTS) equipment vendor, WSDOT has seen improvements in plate image readability over the past year that would indicate leakage rates are slightly lower than the prior forecast assumptions. However, the prior plate image readability leakage rates are being retained as a conservative approach until there is more operational experience showing improvement.
- The percentage share of unidentified owners/addresses is assumed to be 10.5 percent in FY 2020, 7.5 percent in FY 2021, and 4.5 percent in FY 2022 and beyond with the full transition to the new CSC vendors. The previous November 2018 forecast assumed similar levels of leakage but with the reductions occurring one year earlier and reaching steady state in FY 2021. The current assumptions remain below the uniform 15 percent unidentified owners/addresses rate assumed in the September 2011 forecast.
- Miscellaneous pledged revenues, which primarily consists of interest earnings on account balances and revenue from property sales are \$61.0 million higher, or nearly double the November 2018 forecast value. This significant increase is due to a combination of confirmed annual revenue through FY 2039 from the sale of the Aberdeen Pontoon Casting Basin property, and an increase in the assumed interest rate on account balances from 0.5 to 0.9 percent per year.
 - With completion of the sale contract for the Aberdeen Pontoon Casting Basin property, payments commenced in January 2019 and will be \$32,139.73 per month for principal and interest over the next 20 years. Proceeds from the casting basin property sale were not assumed in the November 2018 forecast.

Operating and Maintenance Costs

- Compared to the September 2011 forecast, overall O&M costs in the November 2019 forecast are \$13.6 million higher (1.0 percent) over the forecast horizon. Key changes include:
 - Higher state and consultant operations costs;
 - Higher bridge insurance premiums;
 - Higher credit card fees; and
 - Lower transponder purchase and inventory costs.
- Compared to the November 2018 forecast, overall O&M costs for the November 2019 forecast including the roadway facility, toll collection, insurance and credit card fees, are \$28.9 million (2.0 percent) lower over the forecast horizon, with significant cost increases in certain categories being offset by significant reductions in others.
 - Reductions in toll collection O&M cost estimates:
 - State and Consultant Operations costs were revised lower due to a combination of a lower share of the systemwide state costs allocated to SR 520 and decreases in toll bill printing and postage costs, with an overall 14.8 percent reduction of total State and Consultant Operations over the forecast horizon.
 - Increases in toll collection O&M cost estimates:
 - An upward revision of \$3.9 million was made to the CSC/BOS O&M costs in FY 2020 due to a one-time contract extension for the single outgoing CSC/BOS vendor increasing the period of overlap with the new incoming CSC and BOS

vendors; over the forecast horizon, SR 520's share of systemwide CSC/BOS vendor costs is \$9.9 million or 2.0% higher than the prior forecast.

- An upward revision of \$3.48 million was made to the State and Consultant Operations costs category in FYs 2020 and 2021 based on a one-time adjustment to the 2019-21 biennium budget. These additional costs were specified in the Legislature's transportation budget, Engrossed Substitute House Bill (ESHB) 2322 (March 11, 2020) and include toll-funded expenditure items attributed to Washington State Patrol and Washington State Transportation Commission (WSTC) services associated with toll facilities and operations. The \$3.48 million represents SR 520's share of these systemwide costs.
- Insurance premium costs were forecasted to be 20.7 percent higher over the forecast horizon, reflecting premiums that revalue the assets covered, specifically the East Approach and Floating bridges, as well as adjustments to the cost of providing business interruption insurance.
- Credit card fee projections were revised upward by 14.8 percent over the forecast horizon, primarily due to more frequent bank card processing of lower dollar amounts. Each card transaction has a fixed and variable cost component that rolled up into a single variable cost percentage, such that more transactions on the same overall dollar amount increases costs. Bank card transactions are expected to increase due to a new "zero balance" account option that allows *Good To Go!* customers to "pay as they go" rather than requiring them use a prepaid account that reloads via bank card only when the balance runs low. More transactions increase the overall credit card processing costs over the forecast horizon.
- Transponder costs were increased by 36.4 percent over the forecast horizon, the result of increased transponder sale volume assumptions at the system level and higher per-unit purchase costs.

Net Revenues

- As a result of changes in the pre-COVID-19 traffic and gross toll revenue potential forecasts as well as revisions to the revenue adjustments and O&M costs, the November 2019 forecast for net toll revenues totals \$3.42 billion over the forecast horizon.
 - This is 7.2 percent (\$230.0 million) higher than the original September 2011 forecast; and
 - 3.0 percent (\$99.8 million) higher than the November 2018 forecast over the FY 2020-56 forecast horizon.

Other Project Uses of Toll Revenues

- The original projection for total deferred sales tax to be repaid with toll revenues was \$124.2 million in the September 2011 forecast, to be paid in 10 equal installments starting with FY 2022. This value was subsequently revised to reflect changes in the project scope due to addition of a new West Approach Bridge North for westbound traffic in 2012 and additional pontoon costs in 2013, bringing the total to \$159.4 million for the November 2013 and 2014 forecasts. The November 2015 forecast revised the 10-year payment schedule for deferred sales tax payments, deferring the first payment by one additional year to FY 2023. This change accounts for a revised completion schedule for the toll-funded West Approach Bridge North,

with no change in the amount (deferred sales tax payments begin in the fifth full year following operational completion). There were no further changes for the subsequent forecasts.

- Periodic facility repair and replacement (R&R) costs for the items specifically identified to be paid from toll revenues in the November 2019 forecast total \$376.5 million over the forecast horizon. This represents an increase of 74 percent (\$160.2 million) from the original September 2011 forecast, and an increase of 24.5 percent (\$74.0 million) compared to the previous November 2018 forecast.
 - Changes in facility R&R estimates from the September 2011 forecast to subsequent forecasts are due to updates to required standard bridge inspections, higher projected estimates for estimates for bridge surface grinding, bridge deck sealer, strip seal expansion joints, and replacement of anchor cables, and added costs for the aforementioned increase in project scope adding the West Approach Bridge North structure.
- The November 2019 forecast for toll collection R&R costs totals \$73 million, which is \$55.9 million higher than the original September 2011 forecast, but about 25.9 percent (25.5 million) lower than the November 2018 forecast.
 - The share of those systemwide R&R costs allocated to SR 520 decreased from the November 2018 forecast due system expansion from the authorization of tolling for the I-405 Express Toll Lanes (ETLs) between Renton and Bellevue and for the Gateway Program, which includes tolling on SR 509 and SR 167 Completion Projects.

Summary of Changes in Projected Net Revenue

Exhibit 6 below compares the current November 2019 forecast, item by item, with the previous November 2018 forecast over the 37-year forecast horizon. Starting with gross toll revenue potential, the table lists the period totals for each revenue adjustment and expenditure deduction that collectively yield net toll revenue. Each component in the table includes its column number reference (#) in the November 2019 T&R table located in Appendix A as Exhibit 27. Negative values in parentheses refer to costs or revenue deductions, both of which have the effect of lowering net revenues.

Exhibit 6: Net Revenue Component Comparison—November 2018 / November 2019 (FY 2020-56)

Forecast Category (#) = T&R table column reference	Nov 2018 Forecast (\$ millions)	Nov 2019 Forecast (\$ millions)	Variance (\$ millions)	Variance (%)*
Gross Toll Revenue Potential (11)	4,810.7	4,786.6	(24.1)	-0.5%
Toll Payment Discounts and Fees (12)	85.9	87.5	1.6	+1.9%
Revenue Not Recognized (13)	(176.5)	(168.9)	7.6	-4.3%
Unpaid Toll Revenue (14)	(227.8)	(206.2)	21.7	-9.5%
Recaptured Tolls at <i>Good To Go!</i> Rates (15)	29.0	21.3	(7.7)	-26.6%
Miscellaneous Pledged Revenues (17)	63.7	124.8	61.0	+95.8%
Transponder Sales Revenue (18)	47.5	65.6	18.1	+38.2%
Pay By Mail Rebilling Fees (19)	67.1	71.5	4.3	+6.5%
Tolls Recovered at Pay By Mail Rates (20)	45.3	33.5	(11.8)	-25.9%
Subtotal: Revenue Adjustments	(65.8)	29.1	94.9	+
Credit Card Fees (22)	(102.5)	(117.7)	(15.2)	+14.8%
Toll Collection O&M	(1,022.2)	(938.0)	84.2	-8.2%
<i>Transponder Purchase & Inventory Costs (23)</i>	<i>(47.5)</i>	<i>(64.7)</i>	<i>(17.3)</i>	<i>+36.4%</i>
<i>State and Consultant Operations Costs (24)</i>	<i>(587.9)</i>	<i>(500.7)</i>	<i>87.2</i>	<i>-14.8%</i>
<i>Roadway Toll Systems (RTS) O&M Costs (25)</i>	<i>(42.4)</i>	<i>(42.4)</i>	<i>(0.1)</i>	<i>+0.2%</i>
<i>CSC Operations Vendor O&M Costs (26)</i>	<i>(448.0)</i>	<i>(457.2)</i>	<i>(9.1)</i>	<i>+2.0%</i>
<i>BOS Software Vendor O&M Costs (27)</i>	<i>(40.1)</i>	<i>(40.9)</i>	<i>(0.8)</i>	<i>+1.9%</i>
Routine Facility O&M Costs (28)	(153.6)	(162.5)	(8.8)	+5.8%
Bridge Insurance Premiums (29)	(151.0)	(182.2)	(31.2)	+20.7%
Subtotal: O&M Costs	(1,429.3)	(1,400.4)	28.9	-2.0%
Net Toll Revenue (30)	3,315.6	3,415.4	99.8	+3.0%
Deferred Sales Tax (31)	(159.4)	(159.4)	-	-
Periodic Facility R&R (32)	(302.5)	(376.5)	(74.0)	+24.5%
Periodic Toll Equipment and CSC R&R (33)	(98.5)	(73.0)	25.5	-25.9%
Total after Deferred Sales Tax and R&R	2,755.2	2,806.5	51.3	+1.9%

* A positive dollar variance on negative forecast values represents a cost (loss) reduction, with the negative percentage (%) variance representing percentage reduction in the cost (loss). The percentage change going from a negative value to a positive value or vice versa doesn't compute, and is only shown as a "+" or "-" based on the sign of the variance.

Over the forecast horizon, the current net revenue projections are 3.0 percent higher than the previous forecast. Downstream uses of net revenue are \$51.3 million higher, with a decrease in Periodic Toll Equipment and CSC R&R costs offset by an increase in Periodic Facility R&R

2 | Traffic and Revenue Overview

Toll Traffic and Gross Toll Revenue Potential

Annual toll traffic and gross toll revenue potential projections were prepared by Stantec based on the completed floating bridge and Eastside projects with six lanes (one HOV and two general purpose lanes in each direction) plus a phased schedule for constructing the Rest of the West, which would complete six lanes from the floating bridge through the Montlake interchange and west to I-5 in 2028. The Portage Bay Bridge project assumed to be complete in FY 2026 in the November 2018 forecast was revised to FY 2029 in the November 2019 forecast, although with 72 fewer weeknight closure days and 17 fewer weekend closure days.

Stantec’s forecasts do not consider the impacts to traffic and revenue related to the current COVID-19 Pandemic Crisis; rather, they represent a scenario where the pandemic did not occur. These pre-COVID-19 annual traffic and gross toll revenue potential forecasts extend out through FY 2056 and serve as inputs to the estimation of net toll revenues.

As documented herein, both the volume of toll transactions and amount of gross toll revenue potential impact certain cost estimates, and thus, the net revenue projections. Exhibit 7 illustrates Stantec’s projected toll transactions for the November 2019 forecast, compared to the previous November 2018 forecast. Exhibit 9 illustrates the corresponding gross toll revenue potential trends through FY 2056 for the same two forecasts. The annual forecast detail for the November 2019 traffic and gross toll revenue potential by fiscal year can be found in columns 2-11 of the Exhibit 27 T&R table in Appendix A.

Exhibit 7: Stantec Toll Transaction Forecast Comparison (FY 2019-56)

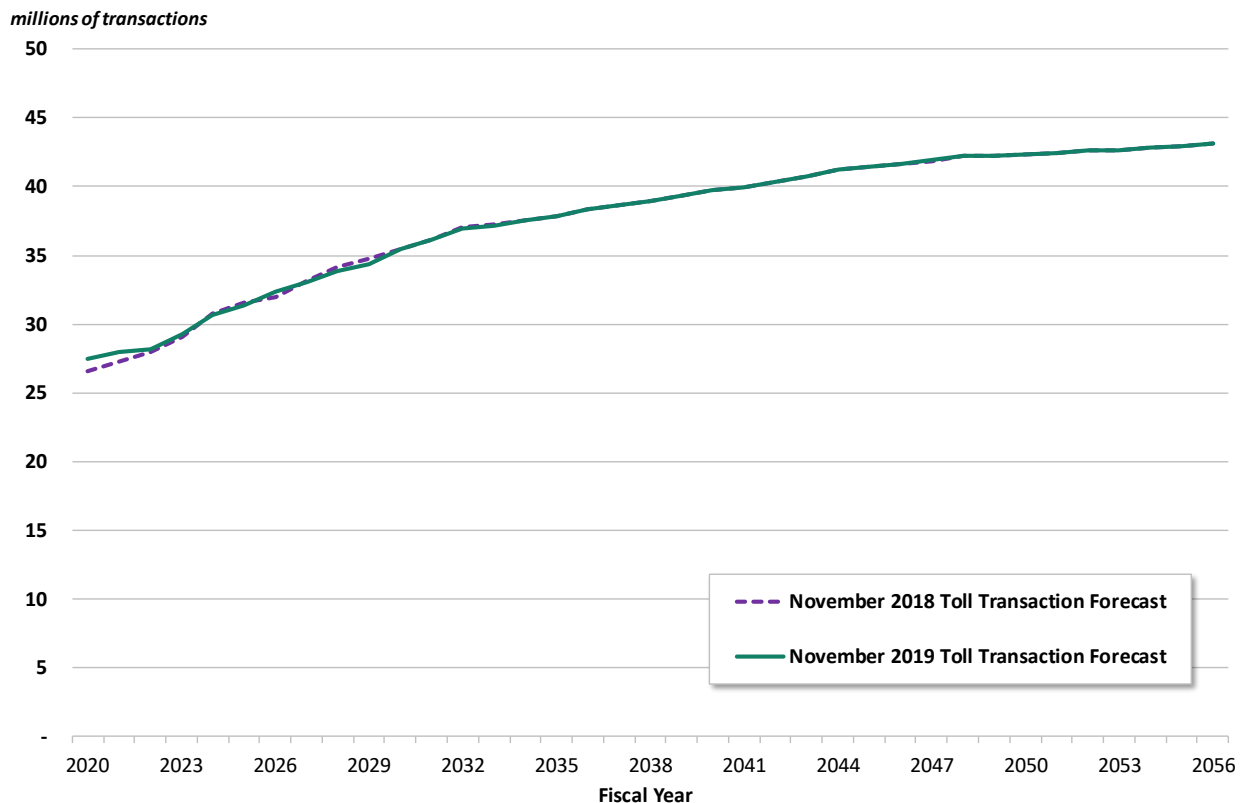
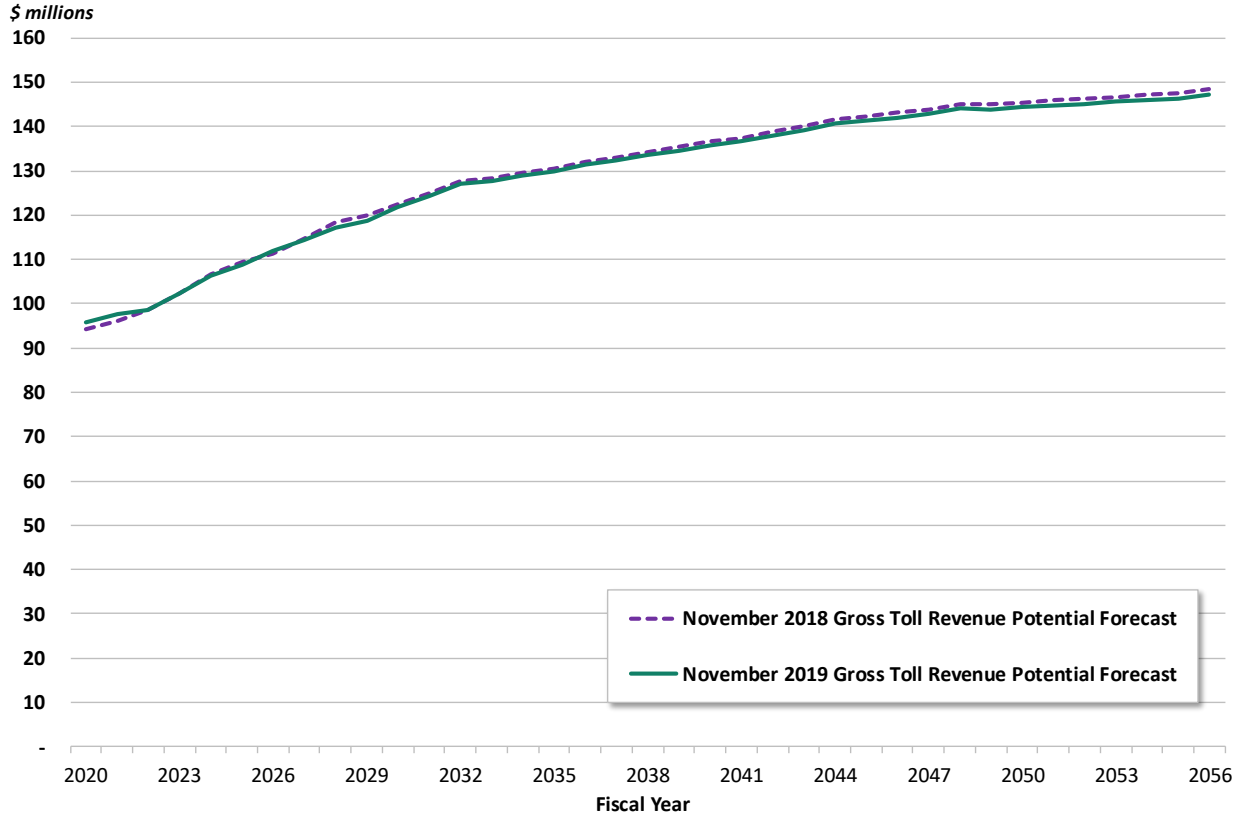


Exhibit 8: Stantec Gross Toll Revenue Potential Forecast Comparison (FY 2020-56)



Payment and Toll Transaction Types

The second key input received from Stantec is the output distribution of traffic (toll transactions) and revenue by toll payment method. This information is used to estimate the costs of collection that differ between user types, as described later in this report. Stantec prepares forecasts for three main categories of customers: prepaid *Good To Go!* account-holders, using either transponder passes or license plates (Pay By Plate), and non-account, Pay By Mail customers.

Good To Go! Account Transactions

When *Good To Go!* customers set up a prepaid account, they have two options for how to pay their toll: they can purchase a pass (transponder) for their vehicle(s), and/or they can enroll in “Pay By Plate” in which a picture of the vehicle’s license plate is captured and linked to their account for payment, with an additional \$0.25 processing fee.

Currently, a *Good To Go!* account requires a minimum opening balance of \$30. All accounts established on-line are automatically enrolled in auto-charge account replenishment. Replenishment can either be tied to a credit or debit card, or direct withdrawal from a checking or savings account. When an account reaches a minimum threshold, the account is replenished to a pre-selected amount of at least \$30, typically using automatic replenishment. Alternatively, a customer can contact the CSC and arrange for manual replenishment, though this is not common.

Beginning in FY 2021 concurrent with the full transition to new CSC vendors, WSDOT will give customers the option of having a “zero balance account”. This “pay as you go” option will still require an

automatic method to collect toll payment, but rather than maintaining a prepaid balance, toll charges will be allowed to accrue until a certain threshold dollar amount or time has elapsed, at which point the credit/debit card or bank account will be debited.

Pay By Mail / Non-Account Transactions

Customers who do not have a *Good To Go!* account will be billed for their toll using a photo tolling system and Pay By Mail billing process. Vehicles passing through the toll facility that are not linked to a *Good To Go!* account (via a transponder pass or license plate number) will trigger the Pay By Mail billing process. Using a photo of the license plate, the plate number will be read and matched with vehicle registration data to obtain an owner name and mailing address from the Washington State Department of Licensing (DOL) or from a contracted vendor in the case of other states. A bill will then be mailed to the registered owner for the applicable Pay By Mail toll rate (plus any additional fees that may be incurred for late payment). Pay By Mail customers will have 80 days and two invoice cycles from the time of travel to pay their toll before the transaction is considered unpaid and becomes subject to a civil penalty. The Pay By Mail toll rate for two axle vehicles was initially \$1.50 higher than the applicable *Good To Go!* rate for each time of day. The Washington State Transportation Commission gradually increased this increment, and in 2016, adopted a step up to a \$2.00 increment for two axle vehicles, consistent with the previous forecast assumption. Like the base *Good To Go!* toll, the Pay By Mail increment increases for vehicles with three or more axles, with the increment equal to \$1.00 per axle up to a maximum of \$6.00. The Pay By Mail toll increments are assumed to remain unchanged for the rest of the forecast period.

Although the incidence of use is very low, it is possible for customers without a *Good To Go!* account to self-initiate toll payment before or after travel via opening a Short-Term Account prior to receiving a bill in the mail. This process effectively allows the user to establish a 14-day temporary account linked to a credit or debit card, which may be opened up to 10 days prior, or up to three days after, the first travel day.

Virtually all of the toll trips by customers without a *Good To Go!* account are projected to be processed as Pay By Mail transactions in which the customer responds to a toll bill received in the mail, with less than one percent initiating payment via a Short-Term Account. At the beginning of FY 2020, the \$0.50 discount for the Short-Term Account payment method was discontinued. In its place, a new option will allow a customer to pre-register their vehicles' license plates to a *Good To Go!* account without requiring an initial deposit or maintaining a minimum account balance — the aforementioned zero balance account — which will be available in FY 2021. It is unknown at this time what the incremental cost of collection or leakage rates will be for this option. Once sufficient data from actual experience is available, adjustments in projected payment method splits and associated leakage assumptions may be required.

Projected Gross Toll Revenue and Transactions by Payment Type

Projections for the percentage shares of *Good To Go!* and non-account toll transactions provided in Stantec's forecast are shown for representative years in Exhibit 12 in the next section. Over time, it is estimated that the share of *Good To Go!* account customers will increase to an assumed ceiling of 90.5 percent — 2.0 percentage points higher than in the November 2018 forecast — while the share of non-account (Pay By Mail) customers will decrease. Marketing efforts, the expansion of tolling to other WSDOT facilities, technology advancements, and customer incentives (the lower toll rate for account-based toll payments) are among the factors that will influence the market share distribution between account and non-account customers.

As part of the estimation of toll payment fees and discounts described later in this report, the Stantec estimated market shares by payment method include several sub-categories. *Good To Go!* transactions

are subdivided into transponder pass transactions and Pay By Plate transactions, as shown in Exhibit 12 on page 22, with their percentage shares relative to total transactions. For *Good To Go!* accountholders, transponder pass usage is forecasted to comprise between 68 and 74 percent of all *Good To Go!* transactions, with the remaining transactions attributed to Pay By Plate.

Gross to Net Toll Revenue

Toll transactions and gross toll revenue potential forecast values by payment type are provided by Stantec as the initial inputs used in the net revenue forecasts.

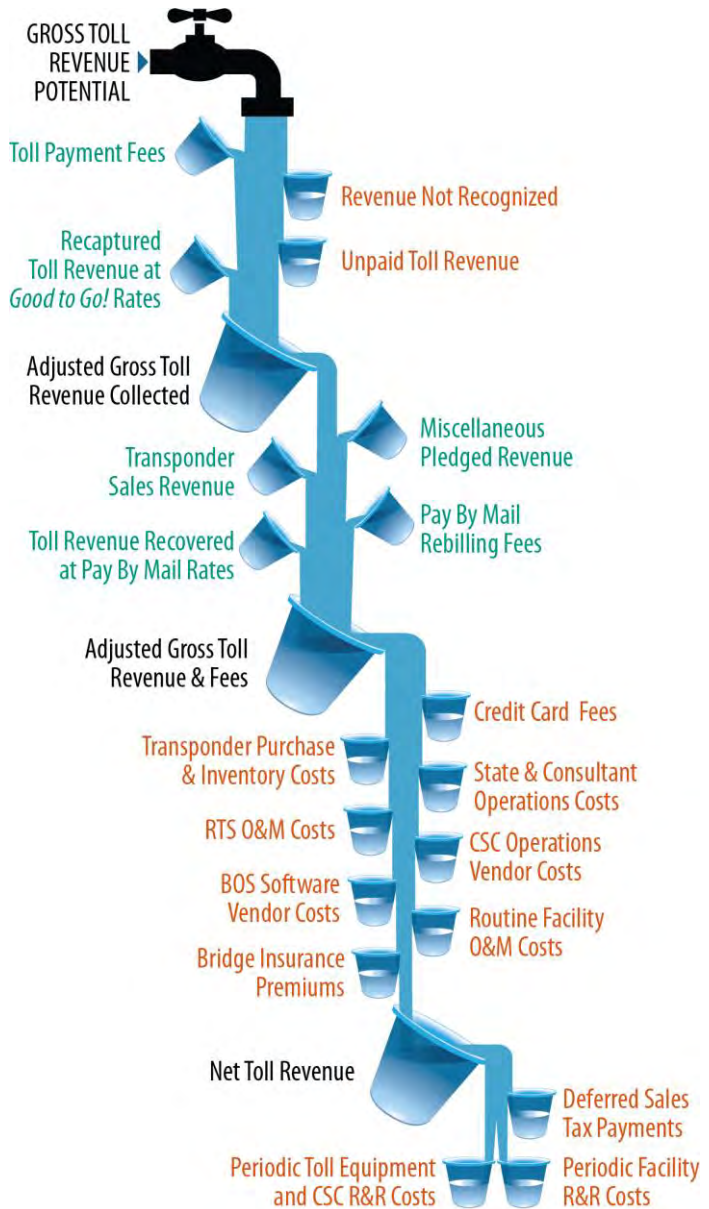
Exhibit 9 to the right illustrates the flow of funds or “waterfall” of revenue adjustments and expenditures that are projected to occur in transitioning from gross toll revenue potential to the net revenues available to support project financing.

The 2019 net toll revenue report is organized around this waterfall by presenting the revisions to assumptions and values for each “bucket.” Consistent with the toll traffic and gross revenue forecasts, the projections for the revenue adjustments and O&M expenditure items that yield net revenues were prepared for the FY 2020-56 forecast horizon.

A detailed T&R table provided as Exhibit 27 in Appendix A provides the annual toll transactions and the annual dollar projections for each of the waterfall elements listed in Exhibit 9, shown in numbered columns. As the sections of this report cover the net revenue components in the waterfall diagram, reference is made to annual values for each component in the Appendix A, Exhibit 27 T&R table by their column number.

Note that while the waterfall follows the structure of the T&R table, the subsequent uses of the net toll revenues in the bottom three buckets actually follow a separate flow of funds in the financial plan that account for annual contributions to debt service and various reserve accounts.

Exhibit 9: Net Revenue Waterfall



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3 | Actual Net Revenue Performance in FY 2019

Exhibit 10 compares the actual performance in FY 2019, the sixth full fiscal year of operations, with the comparable forecast data from the previous November 2018 forecast.

Exhibit 10: Actual Revenue and November 2018 Forecast Comparison for FY 2019

Category	Forecast vs. Actual Comparison for Net Revenue Items			
	(\$ millions)			% Variance from Forecast ¹
	Nov 2018 Forecast	Actual Values ⁰	Variance from Forecast	
Gross Toll Revenue Potential	92.6	92.2	(0.4)	-0.4%
Toll Payment Discounts and Fees	1.4	1.6	0.2	+12.2%
Revenue Not Recognized	(5.2)	(4.4)	0.9	-16.9%
Unpaid Toll Revenue	(5.0)	(4.5)	0.5	-9.6%
Recaptured Toll Revenue at Good To Go! Rates	0.5	0.8	0.2	+44.3%
Subtotal: Adjusted Gross Toll Revenue Collected	84.3	85.7	1.4	+1.7%
Miscellaneous Pledged Revenues	1.0	2.1	1.2	+124.2%
Transponder Sales Revenue	0.9	0.9	0.0	+2.9%
Pay By Mail Rebilling Fees & Miscellaneous Fees ²	1.3	1.6	0.3	+21.9%
Recovered Toll Revenue	1.0	1.0	-	-
Credit Card Fees	(1.8)	(1.8)	(0.1)	+5.4%
Toll Collection O&M Costs ³	(16.6)	(14.0)	2.6	-15.9%
Routine Facility O&M Costs	(2.5)	(2.2)	0.3	-11.9%
Bridge Insurance Premiums	(2.8)	(2.8)	(0.0)	+0.0%
Net Toll Revenue	64.8	70.5	5.7	+8.9%

⁰ Actual values calculated from CSC Data, the Unbilled Transaction Report, and Monthly Toll Business Report.

¹ A positive dollar variance on negative forecast values represents a cost (loss) reduction, with the negative percentage (%) variance representing percentage reduction in the cost (loss), a "positive" outcome.

² Miscellaneous fees include NSF, account statement, and bank transaction fees, and are not forecasted.

³ Toll Collection O&M costs includes Transponder Purchase and Inventory costs, RTS, CSC/BOS vendor costs, and State and Consultant Operations costs.

The following summarize the key differences between actual FY 2019 performance and the November 2018 forecast.

- **Actual Toll transactions** were 0.6 percent higher while **gross toll revenue potential** was 0.4 percent lower than Stantec's November 2018 forecast for FY 2019.

The reported FY 2019 value for the forecast metric of gross toll revenue potential is not actually observed; rather it is estimated from adjusted gross toll revenues collected along with actual discounts, fees and unpaid tolls, plus estimates of revenue not recognized.

- **Adjusted gross toll revenue collected** was 1.7 percent above the November 2018 forecast for FY 2019.
 - **Toll payment discounts and fees** were up due to a higher than anticipated market share of *Good To Go!* Pay By Plate transactions of 25.1 percent compared to a forecast value of 22.5 percent, which resulted in higher revenue attributable to the Pay By Plate \$0.25 fees.

- The deduction for **revenue not recognized** was lower, in part due to higher overall reliance on account-based license plate payment methods relative to non-account Pay By Mail transactions, when compared to the forecast.
- The deduction for **unpaid toll revenue** after 80 days and two invoices was slightly lower in FY 2019 than forecasted; similar to revenue not recognized the decrease in leakage compared to the forecast can largely be attributed to the lower actual share of Pay By Mail transactions (12.4 percent) compared to the forecast (14.5 percent).
- The November 2019 forecast maintains the categorization of recaptured and recovered toll revenue that was first developed in the November 2016 forecast. Since then, unpaid tolls after 80 days and two invoices that are subsequently collected from mailing a notice of civil penalty (NOCP) are categorized as follows:
 - **Recaptured toll revenue at *Good To Go!* rates** accounts for toll revenue eventually collected from a NOCP transaction at the appropriate Good To Go! toll rate as a result of the Customer Program for Resolution (CPR), with the \$40 civil penalty either waived or not applicable. These revenues are associated with toll payment resolution whereby a new *Good To Go!* account is opened for the customer or a payment issue for an existing account is rectified. The revenue recovered through the CPR program is assumed to flow directly into the SR 520 Toll Account (16J) and is reported in the “Tolling Revenue” line within the SR 520 financial statements
 - **Toll revenue recovered at Pay By Mail rates** accounts for toll revenue recovered from NOCPs at the Pay By Mail rates, with or without an adjudication hearing or payment of the accompanying \$40 civil penalty. These recovered revenues flow into the Civil Penalty Account (17P) and are assumed to be legislatively transferred to the SR 520 Toll and Fee Account (16J) in the subsequent biennium, where they are reported as an “Operating Transfer In” within the SR 520 financial statements
- **Miscellaneous pledged revenue** was \$2.1 million in FY 2019. This substantial increase from the \$1 million forecasted in November 2018 was largely due to higher interest earnings than forecasted plus \$0.2 million in revenue associated to the sale of the Aberdeen Casting Basin site that was not assumed in the November 2018 forecast.
- **Credit card fees** were higher by 5.4 percent, due to a combination of higher toll revenue and a slightly higher share of adjusted gross toll revenue attributed to payments including bank card fees.
- **Toll collection O&M costs** were lower than forecasted, due to a combination of lower expenditures for state and consultant operations and lower payments to the RTS vendor while they completed acceptance testing on the new roadside toll equipment.
- **Routine facility O&M costs** were lower than forecast by 11.9 percent due to lower than anticipated maintenance requirements.
- **Net toll revenue** ended up 8.9 percent higher than forecast due to the combination of higher gross toll revenue potential and Pay by Plate fees, higher miscellaneous revenues, and lower than expected O&M costs.

Exhibit 11 compares the performance of the net revenue components in FY 2019 with the initial September 2011 forecast. While there have been many refinements to the inputs, assumptions, and underlying costs since the initial net revenue projections were prepared in September 2011 that have

resulted in various puts and takes, the primary reason why actual net revenues for FY 2019 came in higher than the initial forecast are due to lower collection costs that more than offset the higher experienced revenue leakage.

Exhibit 11: Actual Revenue and September 2011 Forecast Comparison for FY 2019

Category	Forecast vs. Actual Comparison for Net Revenue Items			
	(\$ millions)			% Variance from Forecast ¹
	Sep 2011 Forecast	Actual Values ⁰	Variance from Forecast	
Gross Toll Revenue Potential	92.1	92.2	0.1	+0.1%
Toll Payment Discounts and Fees	0.2	1.6	1.3	+546.3%
Revenue Not Recognized	(3.8)	(4.4)	(0.6)	+15.1%
Unpaid Toll Revenue	(1.5)	(4.5)	(3.0)	+192.0%
Recaptured Toll Revenue at Good To Go! Rates	-	0.8	0.8	-
Subtotal: Adjusted Gross Toll Revenue Collected	87.0	85.7	(1.3)	-1.5%
Miscellaneous Pledged Revenues	-	2.1	2.1	-
Transponder Sales Revenue	1.3	0.9	(0.3)	-27.8%
Pay By Mail Rebilling Fees & Miscellaneous Fees ²	1.1	1.6	0.6	+55.1%
Recovered Toll Revenue	0.3	1.0	0.7	+205.4%
Credit Card Fees	(2.0)	(1.8)	0.2	-9.6%
Toll Collection O&M Costs ³	(16.5)	(14.0)	2.5	-15.1%
Routine Facility O&M Costs	(3.0)	(2.2)	0.7	-25.1%
Bridge Insurance Premiums	(2.6)	(2.8)	(0.2)	+7.6%
Net Toll Revenue before R&R	65.5	70.5	5.0	+7.6%

⁰ Actual values calculated from CSC Data, the Unbilled Transaction Report, and Monthly Toll Business Report.

¹ A positive dollar variance on negative forecast values represents a cost (loss) reduction, with the negative percentage (%) variance representing percentage reduction in the cost (loss), a "positive" outcome.

² Miscellaneous fees include NSF, account statement, and bank transaction fees, and are not forecasted.

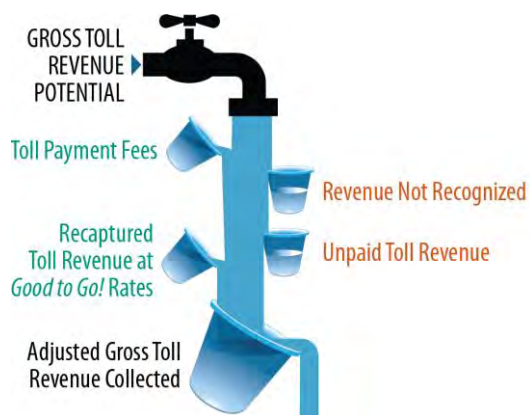
³ Toll Collection O&M costs includes Transponder Purchase and Inventory costs, RTS, CSC/BOS vendor costs, and State and Consultant Operations costs.

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4 | Changes to Revenue Adjustments

Exhibit 6 on page 11 summarizes the November 2019 forecast period totals for each element of the gross-to-net revenue projections, the prior November 2018 forecast values, and the forecast variances. This chapter provides detail on the changes to the individual revenue adjustment items, and the following chapter covers the changes in the projections for operations and maintenance expenses.

Revenue adjustments for toll payment discounts and fees, revenue not recognized, unpaid toll revenue, and recaptured toll revenue at *Good To Go!* toll rates can be found in columns 12-15 of the T&R table in Appendix A.



These items have been updated to reflect actual data from FY 2012-19, with changes made to key forecast assumptions noted in the following descriptions.

Toll Payment Fees and Discounts (Column 12)

Pay By Plate Fee

WSDOT applies a \$0.25 fee per transaction for *Good To Go!* customers who choose to pay via a pre-registered license plate (Pay By Plate) rather than with a transponder pass. This fee is not assumed to escalate with inflation.

The November 2019 forecast for Pay By Plate fees was revised \$1.6 million higher than the November 2018 forecast, due to a higher assumed share of Pay By Plate of total transactions.

- Recent data shows that among *Good To Go!* account transactions, there continues to be a higher rate of growth in those using the Pay By Plate payment method than those using a transponder pass, with Pay By Plate use in FY 2019 comprising 28.7% of all *Good To Go!* transactions or 25.1 percent of total transactions. There appears to be several contributing factors to this trend.
 - The method for calculating the actual payment splits for Pay By Plate and Pay By Mail transactions was revised to allocate leakage attributed to bad license plate reads to both payment methods based on their share of resolved transactions, whereas in prior years all leakage associated with license plates had been assigned to Pay By Mail transactions.
 - The Customer Program for Resolution (CPR), discussed in more detail on page 26, allows for non-account customers to resolve a notice of civil penalty without payment of the penalty if they open a *Good To Go!* account or resolve insufficient funds with an existing account. Since these transactions are typically handled over the phone, transponder passes are not always sold with these new accounts.
 - With tolls on SR 520 having been in operation for eight years now, many customers will have acquired new vehicles (or new windshields on existing vehicles). In these cases, the \$0.25 incremental fee may not be enough of a financial deterrent for customers to

purchase and register a new transponder for their new vehicle, or the attempted transfer of a sticker tag pass to a new vehicle rendered the tag non-functional, inadvertently changing the method of payment to Pay By Plate.

- The option of having a zero balance *Good To Go!* account starting in FY 2021 may also encourage more infrequent users to establish an account in the future without acquiring a transponder pass.
- Exhibit 12 shows that Stantec’s projections for the share of customers using Pay By Plate is expected to grow over the forecast period, moving from 23.0 percent in FY 2020 to 23.8 percent by FY 2025, and eventually 28.4 percent of total transactions by FY 2055.
- Stantec’s Pay By Plate shares for the current forecast are slightly higher across the board than in the previous forecast. Nonetheless, continued demand for switchable Flex Pass transponders required to receive a carpool exemption on the I-405 Express Toll Lanes, combined with the recent marketing campaign timed around the opening of the SR 99 Tunnel and commencement of tolling in November 2019 may increase overall pass usage in the region and potentially slow or reverse the projected decline in the overall *Good To Go!* share shown in Exhibit 12.

Exhibit 12: Annual Shares of Total Transactions by Payment method (Selected Fiscal Years)

Fiscal Year	Good To Go! Account Transactions						Non-Account / Pay By Mail Transactions ²	
	Transponder (Pass)		Pay By Plate ¹		Total		Nov 2018 Forecast	Nov 2019 Forecast
	Nov 2018 Forecast	Nov 2019 Forecast	Nov 2018 Forecast	Nov 2019 Forecast	Nov 2018 Forecast	Nov 2019 Forecast		
2012	70.8% ³		11.9% ³		82.7% ³		17.3% ³	
2013	68.9% ³		14.8% ³		83.7% ³		16.3% ³	
2014	66.9% ³		17.6% ³		84.5% ³		15.5% ³	
2015	63.6% ³		20.1% ³		83.7% ³		16.3% ³	
2016	62.9% ³		21.1% ³		84.0% ³		16.0% ³	
2017	62.9% ³		21.6% ³		84.5% ³		15.5% ³	
2018	63.0% ³		22.4% ³		85.4% ³		14.6% ³	
2019	63.0%	62.5% ³	22.5%	25.1% ³	85.5%	87.6% ³	14.5%	12.4% ³
2020	63.0%	63.9%	22.7%	23.0%	85.7%	86.9%	14.3%	13.1%
2025	62.9%	63.8%	23.5%	23.8%	86.5%	87.6%	13.5%	12.4%
2030	62.9%	63.6%	24.4%	24.6%	87.2%	88.2%	12.8%	11.8%
2035	62.6%	63.5%	25.1%	25.5%	87.7%	89.0%	12.3%	11.0%
2040	62.3%	63.4%	25.9%	26.3%	88.1%	89.8%	11.9%	10.2%
2045	61.9%	63.3%	26.6%	27.2%	88.5%	90.5%	11.5%	9.5%
2050	61.3%	62.7%	27.2%	27.8%	88.5%	90.5%	11.5%	9.5%
2055	60.7%	62.0%	27.8%	28.4%	88.5%	90.5%	11.5%	9.5%

¹ Pay By Plate percentage shares are modeled by Stantec starting with the Nov 2017 Forecast.

² Values through FY 2019 include short term account transactions where customers initiate payment before receiving a bill; represents approximately 0.03% of total transactions.

³ Actual values for the *Good To Go!* / Non-Account Transaction split are calculated from CSC data analysis for calendar years 2012-19 and Toll Business Report data fiscal years 2017-2019. Actual values for the *Good To Go!* Transponder and Pay By Plate percentages are calculated using 16J-TRAINS Pay By Plate fee revenue divided by the \$0.25 fee to yield the number of transactions, adjusted for license plate leakage.

Pay By Plate fee revenue estimates are provided in column 12 of the Exhibit 27 T&R table provided in Appendix A. The \$1.6 million forecast period increase in toll payment fees shown in Exhibit 6 on page 11 is attributed to the forecast period increase in Pay By Plate toll traffic.

Short-Term Accounts

Non-account customers may set up a Short-Term Account (STA) by self-initiating payment provisions prior to or within 72 hours of traveling on SR 520. WSDOT previously offered a \$0.50 discount per transaction from the higher Pay By Mail toll rate to incentivize prompt payment, thereby reducing the number of Pay By Mail transactions and the delay in receiving revenue. However, this option was not widely used and in 2018, the WSTC decided to remove the \$0.50 STA discount while leaving this self-initiated payment option in place, effective for FY 2020. With the transition to the new CSC and BOS vendors, customers will have a new zero balance *Good To Go!* account payment option that charge tolls to a credit/debit card after travel rather than requiring the customer to use a prepaid account where a minimum balance is maintained. With no incremental or account maintenance fees associated with this new account type, it is anticipated that zero balance accounts will be the primary choice for new *Good To Go!* account registrations going forward.

Other Fees and Discounts

In addition to the fees described above, WSDOT is authorized to charge miscellaneous customer fees that are not included in the net revenue projections herein, including inactive account and paper statement/reprinting fees. Revenues from these items are not expected to have a material impact on net revenues and are simply intended to offset administration and processing costs incurred by the state. These revenues are not included in future year forecasts.

Uncollectible Revenue (Columns 13 & 14)

Uncollectible revenue, or “gross” revenue leakage before any overdue toll bill recovery, is divided into two T&R table categories: Revenue Not Recognized (unbillable) and Unpaid Toll Revenue. Revenue not recognized is un-pursuable revenue that occurs when a license plate is unreadable, or when the vehicle owner and address from a readable license plate cannot be identified. Unpaid Toll Revenue results from customer non-payment of toll bills after two invoices within 80 days of travel. Note that uncollectible revenue effectively gets reduced to a “net” revenue leakage measure in the overall net revenue projections after accounting for the portion of unpaid toll revenue recaptured at *Good To Go!* toll rates or recovered at Pay By Mail rates after a notice of civil penalty is mailed to customers with toll bills more than 80 days past due (see columns 15 and 19 of Exhibit 27).

Forecasts for uncollectible revenue are based on a toll collection activity workflow model which is refined annually based upon the accumulation of new data. This model estimates the probability that a toll transaction will become uncollectible under a variety of scenarios and points in the toll transaction workflow process. Exhibit 28 in Appendix B illustrates this workflow and the points in the process where leakage occurs. Other refinements made as part of the November 2016 forecast resulted in higher rates of unidentified vehicle owners and addresses from readable plates and adjustments to the payment rates of first and second invoices; these refinements have been maintained through the November 2019 forecast, including ramping down to industry standard rates of leakage with the transition to the new CSC and BOS vendors.

Revenue Not Recognized (Column 13)

Unreadable License Plates

Notwithstanding recent improvements in license plate image readability, the November 2019 forecast maintains the same assumptions for the readable share of license plate images, which is a function of the in-lane cameras, interfacing issues between the RTS lane system vendor, the BOS software, and the integration with CSC operating procedures for reviewing license plate images. These assumptions include the following.

- The assumed share of total image-based (non-account plus *Good To Go!* Pay By Plate) transactions with readable license plates after manual review is 93 percent in FY 2020 and 93.5 percent in FY 2021, the revised transition year to the new CSC and BOS vendors.
- With the new vendors in place, the forecast assumes that 94 percent plate readability from FY 2022 onward, which is slightly lower than the industry average.
 - The 94 percent plate readability / 6 percent unreadable assumptions take into account that the new CSC and BOS vendor contracts will include more specific requirements and performance indicators to better align with industry best practices to improve plate image review productivity and accuracy.
 - Since March 2019, RTS hardware-related improvements have shown improved image readability, overcoming some of the sun glare and shadow issues associated with the east-west orientation of the roadway. However, the readability assumptions do not account for these RTS-related improvements. Readability assumptions may be revised upward in future forecasts pending additional experience confirming recent RTS-related trends.
- Although the higher short-term rates of unreadable plates was shifted out an extra year due to the delayed CSC/BOS vendor transition, the total dollar value for unreadable plate leakage over the forecast horizon is lower in the November 2019 forecast due to the new forecast's higher share of *Good To Go!* pass customers not requiring a license plate image.

Unidentified Owner/Address

After a license plate is read, the system checks to see if the customer has a *Good To Go!* account, and if so, the account is debited for the toll plus an additional \$0.25 administrative fee as a Pay By Plate transaction. If the plate number is not associated with a *Good To Go!* account, then further processing is initiated to obtain a valid owner name and address for the vehicle from the Department of Licensing (DOL) for in-state plates. For out-of-state plates, a contracted vendor provides license plate lookup services to provide the vehicle's owner name and address. The lookup costs are embedded within the vendor contract starting in FY 2020 with the extension of the current vendor contract.

Pay By Mail transactions for which the owner cannot be identified from the license plate are deemed as revenue not recognized, and include Canadian and all other out of country license plates (British Columbia, from where most Canadian plates on SR 520 originate, stopped providing vehicle owner information as part of their response to the U.S. Patriot Act in 2001).

The expected rate of unidentified owners/addresses from readable license plates is assumed to be higher than typical industry experience as the result of challenges in the current CSC back office, where the tools to properly process license plates may be lacking. This has led to transactions being left in an "in-process" holding pattern until they are ultimately dismissed with the passage of time. While efforts to improve

both the rates of license plate image readability and successful processing for owner identification continue, the November 2019 forecast does not account for any improvement until new BOS systems software and CSC operations vendor contracts are fully executed in FY 2021, instead maintaining the assumptions of the November 2018 forecast as follows.

- An unidentified owner rate of 10.5 percent of image-based transactions with readable license plates will be maintained until FY 2021 when the new CSC vendor contracts are assumed to be in place. The unidentified owner rate is assumed to decrease to 7.5 percent for FY 2021, and then stabilize at 4.5 percent in FY 2022 and beyond. This steady-state rate matches the November 2018 forecast and provides a contingency above industry norms to account for potential local issues related to the inability to identify owners from temporary licenses as well as from Canadian plates.
- The dollar value for unidentified owner leakage is slightly lower in the November 2019 forecast due to a combination of a higher *Good To Go!* transponder transaction share and a higher volume of license plate image-based transactions attributed to Pay By Plate transactions among *Good To Go!* customers and a decrease in higher toll Pay By Mail transactions.
 - The total share of *Good To Go!* transponder and Pay By Plate transactions are projected to be up to two percentage points higher in the 2019 forecast compared to the 2018 forecast, as shown in Exhibit 12.
 - The volume of *Good To Go!* transactions are forecasted to be 1.9 percent higher than the prior forecast, with corresponding gross revenue 2.2 percent higher (see Exhibit 27, columns 3 and 9).
 - Similarly, forecast period Pay By Mail transactions are projected to be 12.9 percent lower and gross revenue 12.3 percent lower, compared to the November 2018 forecast (see Exhibit 27, columns 6 and 10).

Total Revenue Not Recognized

Incorporating the higher November 2019 forecast values for traffic and slightly lower forecast values for revenue, results in a forecast period decrease in revenue not recognized of \$7.64 million, a 4.3 percent decrease from the previous forecast.

The combined revenues not recognized from unreadable plates and from readable plates with unidentified owners are shown in column 13 of Exhibit 27 in Appendix A.

Unpaid Toll Revenue (Column 14)

Unpaid Toll Revenue is a measure of the Pay By Mail revenues from toll transactions with readable license plates, identified owners, and thus toll bills mailed that are not collected within two billing cycles or 80 days. This measure excludes the benefits of any recovery efforts after 80 days, which are covered in subsequent sections. The November 2019 forecast for Unpaid Toll Revenue was revised down by \$21.7 million or 9.5 percent over the 37-year forecast horizon in comparison to the November 2018 forecast. A few factors contribute to this decrease.

- The November 2019 forecast for gross revenue potential generated from Pay By Mail customers decreased by 12.3 percent over the forecast horizon.

- The decrease in Pay By Mail revenue results in fewer transactions going through license plate image review and subsequent owner and address lookup, with fewer overall transactions requiring toll bills.
- The decrease in toll bill volume is partially offset by lower rates of toll bill payment for toll bills that are issued. The November 2019 forecast assumes a reduction in first toll bill payment rates from 60 percent to 58 percent in comparison to the 2018 forecast while payment rates on second toll bills increased from 37 percent to 39 percent. The cumulative impact is a slight decrease in overall toll bill payment rates from 74.8 percent to 74.4 percent.

Unpaid toll revenue is shown in column 14 of Exhibit 27 in Appendix A. The Toll Payment Activity Workflow and percentages are shown in Exhibit 28 in Appendix B.

Overall Changes in Uncollectible Revenue (Columns 13 & 14)

Total gross leakage attributed to revenue not recognized and unpaid toll revenue is 7.3 percent (\$29.3 million) lower over the forecast horizon in the November 2019 forecast than projected in the November 2018 forecast.

For the 37-year period of the November 2019 forecast, the overall rate of gross leakage on a transaction basis is projected to be 6.0 percent, with net leakage after recaptured and recovered tolls, projected at 5.2 percent. On a revenue basis, gross leakage is projected 7.8 percent, with net leakage at 6.7 percent after tolls recaptured or recovered via the NOCP process. Revenue leakage is higher than transaction leakage because the vast majority of leakage is linked to Pay By Mail transactions, which pay a \$2.00 higher toll rate that is charged, in part, to offset potential leakage and the additional costs of collection for processing Pay By Mail transactions.

Recaptured Toll Revenue at *Good To Go!* Rates (Column 15)

As with the previous forecast, the November 2019 forecast for revenue recovered in the notice of civil penalty (NOCP) process has been subdivided into two categories as a result of different accounting treatment in the SR 520 financial statements:

- “Recaptured Toll Revenue at *Good To Go!* Rates” (column 15); and
- “Toll Revenue Recovered at Pay By Mail Rates” (column 20), discussed in a later section.

In both cases, most customers who fail to pay their tolls during the regular two invoice / 80-day billing cycle will receive a notice of civil penalty (NOCP) equal to \$40 for each overdue toll owed. Specifically, by FY 2025, 88 percent of invoiced transactions unpaid after 80 days are assumed to be certified for a notice of civil penalty by a WSDOT toll enforcement officer, with the remaining 12 percent dismissed, a slight decrease from the 15 percent dismissal rate assumed in the November 2018 forecast. The increased percentage of dismissed transactions reflects the latest actual experience specific to SR 520 toll collections. The \$40 NOCP fees are not considered “pledged revenue” in Master Resolution number 1117, and thus, are not captured within the net revenue forecast values.

A policy implemented at the beginning of FY 2016, and assumed to continue indefinitely in the November 2019 forecast, allows for more leniency in the handling of customer who are repeatedly failing to pay their toll bills. Referred to as the Customer Program for Resolution, this policy allows customers to open a new *Good To Go!* account by phone (or in person at the CSC) and resolve their unpaid tolls at the appropriate *Good To Go!* rate without payment of one or more civil penalties. Similarly, customers

with existing *Good To Go!* accounts with an insufficient account balance for reason of an expired or changed credit card who end up receiving a NOCP are offered the opportunity to rectify their account and make payment, again without civil penalty.

- The toll revenue recovered through the CPR is assumed to stay in the SR 520 Toll and Fee Account (16J) and is reported as “Tolling Revenue” within the SR 520 financial statements.
- Recaptured toll revenue at *Good To Go!* rates is estimated to be 50 percent of transactions for which the customers received an NOCP in the mail and took some kind of action, consistent with the November 2018 forecast.
- Toll revenues recaptured at *Good To Go!* rates from the civil penalty process are assumed to be collected partially in the fiscal year of travel and partially in the following fiscal year to account for an average six month lag from the date of travel for toll bill processing, first and second invoice notification, NOCP notification, and subsequent resolution of payment.

Annual revenue projections for recaptured toll revenues are provided in column 15 of Exhibit 27 in Appendix A. The transaction workflow diagram shown in Exhibit 28 in Appendix B also illustrates the process by which toll bills go unpaid after two invoices and 80 days.

Miscellaneous Pledged Revenues (Column 17)

Column 17 of the November 2019 forecast T&R table in Appendix A provides actual “Miscellaneous Pledged Revenues” received in FYs 2012-19, and starting with the November 2015 forecast, projections for them as well. Miscellaneous revenues pledged towards debt service, as defined in Master Resolution number 1117, include interest earnings on subaccount balances within the SR 520 Toll and Fee Account (16J); SR 520’s share of interest earned on the Toll Facilities Account (495) where prepaid *Good To Go!* customer funds are held, contract liquidated damages, sales of surplus property, and cash over and short. Forecasted amounts for the November 2019 update include revised interest earnings and new revenue attributed to the sale of the Aberdeen Casting Basin property.



Miscellaneous Pledged Revenues total \$124.8 million over the forecast horizon in the November 2019 forecast, which is nearly double that projected in the November 2018 forecast. The increase is due to a combination of higher interest rate assumptions being applied to projected account balances and the proceeds from the sale of the Aberdeen Pontoon Casting Basin property, which was excluded in prior forecasts.

For the SR 520 Toll and Fee Account (16J), interest earning projections are calculated using an annual earnings interest rate of 0.9 percent as applied to average annual account balances, excluding miscellaneous revenues (which are primarily interest earnings), from the draft 2019 financial plan originally developed from the November 2018 forecast, and updated by the current revenue and expenditure projections. The 0.9 percent interest rate assumed for the November 2019 forecast is almost twice as high as the 0.5 percent assumed in the November 2018 forecast, but still conservative in comparison to the actual interest rate yields in excess of 1.3 percent.

The annual projections for interest earnings are capped at the level earned in the last year that deferred sales tax is due, FY 2032. This is done to avoid overstating interest in the latter years of the forecast horizon, recognizing that as unrestricted balances begin to accumulate, a portion of them may be programmed elsewhere by the legislature.

The sale of the Aberdeen Pontoon Casting Basin property was in final negotiations but was not completed at the time the November 2018 forecast was finalized. The subsequent completion of the sales contract resulted in principal plus interest payments commencing January 2019 of \$32,139.73 per month for 240 months. The total value of the sale contributing to pledged revenue is \$8.39 million, with the final payment anticipated in mid FY 2039.

Transponder Sales Revenue (Column 18)

WSDOT purchases, retains, and sells *Good To Go!* transponders directly to customers and through third-party retailers and walk-in centers. Transponder sales revenues are initially assumed to exceed total transponder purchase and inventory costs through FY 2028, after which point transponder costs, escalating at a higher rate than revenue, result in costs exceeding revenue. Beginning with FY 2029, it is assumed the retail and wholesale prices would be adjusted to align transponder pass sales with costs, such that the transponder distribution process has a net neutral impact on net revenue.

- The November 2019 forecast, similar to prior recent forecasts, places transponder sales revenue in column 18, upstream of the “Adjusted Gross Toll Revenue & Fees” subtotal in column 21, whereas transponder purchase and inventory costs are in column 23, “Transponder Purchase and Inventory Costs.”
- In the November 2018 forecast, projections for systemwide transponder sales were set equal to transponder costs which reflected a lower cost per unit as recently negotiated with Neology, Inc. the transponder technology vendor starting in FY 2020, with the full cost of \$1.51 per sticker tag transponder and \$15.77 per Flex Pass transponder.
- In the November 2019 forecast, annual projections for systemwide transponder sales revenue in the near term were set equal to a weighted-average direct retail and wholesale price for transponder purchases multiplied by the estimated sales volume.
 - Flex-Pass transponder revenue per unit is based on the assumption of 50 percent sales through direct retail at \$15.00 per transponder and 50 percent sold at wholesale to third party distributors at \$12.00 per transponder
 - Sticker tag revenue per transponder is based on the assumption of 50 percent sales through direct retail at \$5.00 per tag and 50 percent sold at wholesale at \$4.00 per tag.
 - License plate mounted transponders and motorcycle transponders are assumed to be sold through direct retail at \$15.00 and \$8.00 per transponder respectively.
 - Transponder retail prices are not assumed to increase until the point at which costs exceed revenue, occurring in FY 2029 for the November 2019 forecast.
- SR 520 is allocated a share of the systemwide transponder sales revenue (and costs) on a proportional transaction basis.
 - The prior forecast allocated systemwide transponder costs across five toll facilities, taking into account the commencement of tolling at the SR 99 Tunnel in November 2019.

- The November 2019 forecast allocates systemwide transponder revenue across five facilities through FY 2024, plus the I-405 Express Toll Lanes from Renton to Bellevue in FY 2025 and the two Gateway Program projects in FY 2026. The Tacoma Narrows Bridge (TNB) is removed from the allocation after FY 2032 when tolls are assumed to end.
- The overall November 2019 forecast for transponder sales is \$18.11 million or 38.2 percent higher over the forecast horizon compared with the November 2018 forecast (see Exhibit 6).
- Annual projections of transponder sales revenue are provided in column 18 of in Appendix A.

Pay By Mail Rebilling Fees (Column 19)

Pay By Mail customers who do not pay their first invoice are subject to a rebilling fee of \$5.00 with the second invoice. The fee is applied on a per invoice basis when an invoice includes any toll transactions being billed for a second time. The \$5.00 fee amount does not escalate over time with inflation. Rebilling fee revenues are primarily driven by the forecasted volume of Pay By Mail transactions and assumed number of transactions per invoice, with secondary effects coming from potential changes in the rate of payment of first and second toll invoices.

The projections for Pay By Mail rebilling fees include the \$5.00 fee per unpaid first invoice that is successfully collected on the second invoice before 80 days have elapsed plus a portion of the overdue rebilling fees on the unpaid second invoices that are later assumed to be recovered from the civil penalty adjudication process with an assumed six month average lag.

- Compared to the November 2018 values, the November 2019 forecast for Pay By Mail transactions has been revised downward by 12.9 percent over the forecast horizon, decreasing the total number of potential unpaid first invoices for Pay By Mail.
- Conversely, the November 2019 forecast applies a lower assumption of 2.10 toll transactions per mailed invoice, down from 2.17 in the previous forecast to 2.10, based on the current systemwide averages. The 2.10 transactions per mailed invoice is maintained throughout the forecast horizon and has the effect of increasing the number of unpaid invoices for a given volume of toll trips, and thus, the potential for late payment fee revenues.
- The November 2019 forecast assumptions regarding first and second toll bill payment rates were updated from the prior forecast, supported by actual data through FY 2019, as follows:
 - A 58 percent first toll invoice payment rate assumption means that 42 percent of first invoices will go unpaid and thus be subject to a rebilling fee on the second invoice, an increase from 40 percent non-payment in the prior forecast.
 - 39 percent of the above unpaid first invoices are assumed to be paid on the second invoice inside of 80 days from the date of travel, an increase from 37 percent in the prior forecast, contributing to rebilling fee revenue.
 - The overall rate of payment for both invoices is assumed to be 74.4 percent in the current forecast compared to 74.8 percent in the November 2018 forecast
- Of the 25.6 percent of all toll invoices that go unpaid after 80 days, 88 percent are assumed to be certified for a notice of civil penalty by a WSDOT toll enforcement officer, with the remaining 12 percent dismissed, primarily due to incorrect customer or vehicle identification. This is a decrease compared to 15 percent assumed in the November 2018 forecast.

- For the November 2019 forecast, the portion of NOCP transactions from which the toll is assumed to be recovered through the CPR or normal civil penalty adjudication process and subsequent collection efforts are 35 percent, a reduction from 45 percent in the November 2018 forecast.
- For the 50 percent of such transactions for which tolls are recovered at the Pay By Mail rate, the \$5 rebilling fee is also assumed to be recovered. For the remaining 50 percent of transactions for which the toll revenue is recaptured at the *Good To Go!* rate via the CPR program, no rebilling fees are assumed to be collected.

Annual projections of late payment fees are provided in column 19 of Exhibit 27 in Appendix A, and the toll bill payment process is illustrated in the transaction workflow diagram as Exhibit 28 in Appendix B.

Toll Revenue Recovered at Pay By Mail Rates via NOCP (Column 20)

As noted earlier for “Recaptured Toll Revenue at Good To Go! Rates”, “Toll Revenue Recovered at Pay By Mail Rates” represents a subset of the category formerly referred to as “Recovered Toll Revenue”. This change was made starting in the November 2016 forecast as a result of different accounting treatments in the SR 520 financial statements.

In both cases, most customers who fail to pay their tolls during the regular two invoice / 80-day billing cycle will receive a notice of civil penalty (NOCP) equal to \$40 for each overdue toll owed. Specifically, 88 percent of overdue toll transactions are assumed to be certified for a notice of civil penalty by a WSDOT toll enforcement officer, with the remaining 12 percent dismissed, a slight increase from the 85 percent assumed to be certified in the prior forecast. The revision better reflects actual experience through the end of FY 2019.

Customers receiving a NOCP will have the opportunity to remit payment for tolls and fees or request a hearing to avoid having their motor vehicle registration withheld from renewal and/or have the amount due sent to collections. The November 2019 forecast assumes that 35 percent will take action, and that 65 percent will ignore the NOCP altogether, and will ultimately be subject to hold on the renewal of their vehicle registration. Revenue attributed to the \$40 NOCP fee is not considered pledged revenue under Master Resolution number 1117, and thus is not captured within the net revenue forecast values.

- For those customers that take action as a result of a NOCP, 50 percent are assumed to remit the toll due at the Pay By Mail rate, consistent with the November 2018 forecast.
 - 55 percent of those are assumed make a payment for the civil penalty as well.
 - 45 percent are assumed to only pay the toll and ignore the civil penalty due.
- Among the 45 percent above that take action, the forecast assumes that \$0.80 will be collected for every dollar owed, consistent with the November 2018 forecast. This assumption captures the possibility that an administrative law judge through the civil penalty adjudication process may reduce or forgive some of the civil penalties due.

Toll revenues and their associated civil penalties recovered in this manner flow into the Civil Penalty Account (17P). The toll portion of these revenues must be legislatively transferred to the SR 520 Toll Account (16J), which is assumed to occur in the subsequent biennium. Once transferred, the toll revenues are reported as an “Operating Transfer In” within the SR 520 financial statements.

5 | Changes to Operating and Maintenance Costs

This section documents the anticipated uses of Adjusted Gross Toll Revenues & Fees, which are those operating expenses that would be paid from toll revenues upstream of debt service and contributions to various reserve accounts, including those for deferred sales taxes and periodic repair and rehabilitation costs. As shown in the waterfall below, the SR 520 operational expenditures include: credit card fees, several categories of toll collection O&M costs, facility O&M costs, and bridge insurance premiums. Additional details regarding each of these deductions are provided below, with the annual projections provided in columns 22-29 of the T&R table, Exhibit 27 in Appendix A.

Some of the assumptions have been updated to reflect actual experience through FY 2019 and contracted values with vendors over the next biennium. Changes to these assumptions are noted in the descriptions of each cost category below. All costs are expressed in year of expenditure dollars (YOE \$) except where noted otherwise.

The WSDOT Toll Division provided near term, current 2019/21 biennium (FYs 2020-21) toll collection cost values based on the agency’s Decision Package budget request, with adjustments for cost escalation and certain calculated cost values. The State Legislature’s transportation budget, Engrossed Substitute House Bill (ESHB) 2322 (March 11, 2020) added a few one-time additional items to be paid from tolls in the current 2019/21 biennium.

The assumptions and methods underlying the toll collection and facility O&M are documented in a consolidated report entitled: *Facility and Toll Collection O&M and R&R Assumptions and Costs for the SR 520 Bridge Replacement and HOV Program: 2019 Update*. A description of each of cost item is provided below.



Credit Card / Banking Fees (Column 22)

As a convenience to customers and to facilitate electronic toll collection, WSDOT accepts credit and debit cards for the payment of tolls on SR 520. For *Good To Go!* pre-paid accounts, credit card fees are tied to periodic account replenishment payments rather than individual toll transactions. Credit and debit card transactions are processed by a third-party vendor which charges set fees for the service. The bank processing fees for each transaction involve a fixed amount and a variable component as a percentage of the transaction amount. In the forecasts, these two fees are combined into a single fee rate as a percentage of toll revenue collected.

Starting with the transition to the new BOS and CSC vendors in FY 2021, WSDOT will offer an additional, “zero balance” account option to *Good To Go!* customers that will not require maintaining a prepaid account balance; rather the bank card registered to the account will be directly debited on a more frequent basis as tolls accrue. It is anticipated that this new zero balance account option will be preferred by new customers and increase fixed transaction costs due to more frequent bank card transactions of

lower dollar amounts, versus less frequent account replenishments at or above the \$30 minimum value with the current prepaid account option.

Since customers can use any Washington State toll facility with the same *Good To Go!* account, the total systemwide credit card receipts resulting in bank processing fees paid by the state are allocated back to the individual toll facilities based on each facility's share of systemwide toll revenues. Even with more frequent credit/debit card charges under the forthcoming zero balance accounts, there is still a likelihood that many customer bank card transactions could include trips on more than one toll facility, thus necessitating the revenue-based allocation of actual systemwide fees to each facility, including SR 520.

For forecasting purposes, credit card fees attributed to SR 520 are calculated directly from the specific toll revenues and fees expected to be collected on SR 520 based upon the November 2019 T&R forecast. Specifically, the November 2019 forecast assumes that the fixed and variable fee components collectively equate to 2.65 percent of revenue collected in FY 2020 and 2.75 percent thereafter, with the increase in FY 2021 accounting for increased transaction costs associated with the new "post-paid" zero balance customer account option. This represents an increase from the assumed credit card equivalent fee rate of 2.40 percent in the November 2018 forecast. Note that these bank processing fee assumptions also include an adjustment factor to capture the fees paid when prepaid account-holders close out their accounts and request account balance refunds on their credit/debit cards, typically a very small share of total accounts.

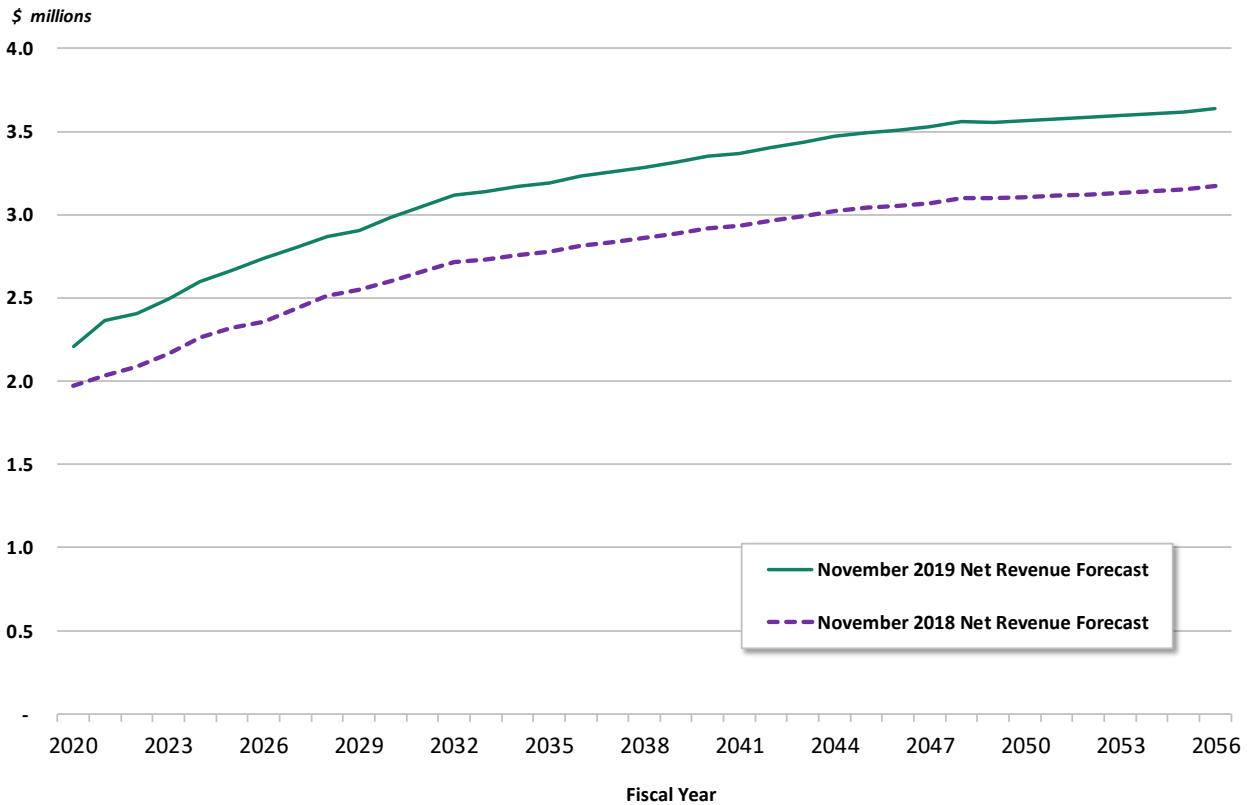
Credit card fees are provided in Exhibit 27, column 22. Toll revenues subject to credit card fees are calculated from Total Gross Toll Revenue Potential (column 11), adjusted for the tolls actually received after factoring in *Good To Go!* Pay By Plate fees, total leakage, and rebilling fees recovered within 80 days (before the Civil Penalty process). Of the applicable revenue collected, 92 percent is assumed to be tied to a credit or debit card and thus subject to the bank card fee rate, unchanged from the prior forecast and confirmed by recent historical data through FY 2019. Similar to the prior forecast, the November 2019 forecast also assumes credit card fees associated with payments made in the civil penalty process will remain in the civil penalty account (17P) and are not transferred to the SR 520 Toll and Fee Account (16J); this includes the category for recaptured toll revenue at the Good To Go! Rates via CPR. The assumption is based on actual practice to date in which credit card fees related to all payments in the civil penalty adjudication process were not transferred to the toll account. Credit card fees associated with transponder sales are embedded in transponder purchase and inventory costs in column 23 of Exhibit 27, and thus excluded from column 22.

WSDOT also accepts automated clearing house (ACH) payments directly from a customer bank account as an alternative means of account replenishment that does not carry the credit card fee. Pay By Mail customers also have the option of paying their invoices by check, or even cash in-person at one of the *Good To Go!* customer retail locations. These alternatives account for the approximately 8 percent of revenues collected that are not subject to bank card processing fees.

Credit card fees increased by \$15.2 million or 14.8 percent over the forecast horizon from the November 2018 to November 2019 forecasts. The November 2019 forecast increase is primarily due to the higher credit card fee rates associated with an expected higher volume of lower dollar amount bank card transactions.

Exhibit 13 illustrates the projected credit card fees by fiscal year over the forecast horizon for the two forecasts, with the November 2019 amounts corresponding to column 22 of Exhibit 27 in Appendix A.

Exhibit 13: Projected Credit Card Fees in YOE \$ (FY 2020-56)



Toll Collection Operations and Maintenance (Columns 23-27)

Toll collection O&M expenditures include all administrative and technical functions required for processing toll transactions and collecting revenue from customers. Beginning with the task of identifying a transaction, to recording the transaction, to ultimately collecting payment, the toll collection process requires involvement and coordination by various distinct parties across multiple functions:

- Transponder purchase, inventory, and sales, including the coordination with transponder pass manufacturers and third party (non-CSC) resellers;
- State and Consultant Operations costs (includes WSDOT Toll Division, WSDOT Accounting and Financial Services, and consultants);
- Roadway Toll System (RTS) vendor costs and associated WSDOT Toll Division staff support; and
- Customer Service Center (CSC) Operations and Back Office System (BOS) Software vendor(s)..

Costs associated with the operating functions noted above are depicted in columns 23-27 of Exhibit 27 in Appendix A. As previously mentioned, credit card fees associated with direct transponder sales to customers using a credit/debit bank card are included in the transponder purchase and inventory costs in column 23 rather than in column 22.

Specific details regarding the toll collection cost activities and changes in the cost assumptions included in the annual total toll O&M cost forecast values (columns 23-27 of Exhibit 27) are provided below by cost subcategory.

Transponder Sales and Inventory Costs (Column 23)

WSDOT purchases, retains, and sells *Good To Go!* transponders directly to customers via online/mail orders, at CSC retail locations, and through third-party retailers. Transponder sales revenues are expected to directly offset all transponder purchase and inventory costs in every forecast year. This includes any credit card fees associated with WSDOT direct sales not involving a third-party retailer and WSDOT costs associated with transponder testing and administration.

Transponder purchase and inventory costs, as well as associated revenues, are tallied at a system level and allocated to the individual facilities based on the number of *Good To Go!* account transponder toll transactions generated by each facility; this amount excludes toll exempt HOV carpool transactions on the I-405 Express Toll Lanes between Bellevue and Lynnwood, which require a Flex Pass transponder (declarable tag) that allow users to switch the transponder to HOV exemption status.

The November 2019 forecast recognized the commencement of tolling at the SR 99 Tunnel in November 2019 and that the SR 99 Program covered the \$1.8 million ramp-up period transponder purchase and distribution costs associated with this new facility, “holding harmless” the other toll facilities. SR 520 was similarly exempted from bearing any costs associated with the initial surge in transponders sold and/or distributed during the first-year ramp-up periods for the I-405 Express Toll Lanes in FY 2016. Unlike I-405 which requires a more expensive Flex Pass transponder for HOV carpool declaration to be eligible for toll exemption, SR 99 does not have a carpool exemption and frequent tunnel users were assumed to be more likely to purchase the less expensive sticker tags.

In the November 2019 forecast, projections for systemwide transponder sales reflect a lower cost per unit as recently negotiated with transponder vendor Neology, Inc. starting in FY 2020 for \$0.78 per sticker tag transponder and \$10.30 per Flex Pass transponder, with the full cost of \$2.22 per sticker tag transponder and \$15.56 per Flex Pass transponder.

Beginning with FY 2020, costs related to packaging, mailing, and inventory management are assumed to escalate by 2.5 percent per year, consistent with other cost escalation assumptions. The portion of the retail price that represents the unit cost from the manufacturer is assumed to increase by 1.0 percent per year. The declining real cost of transponder technology is the result of improvements in technology and reductions in production costs as the volume of production increases with the growth in toll facilities worldwide.

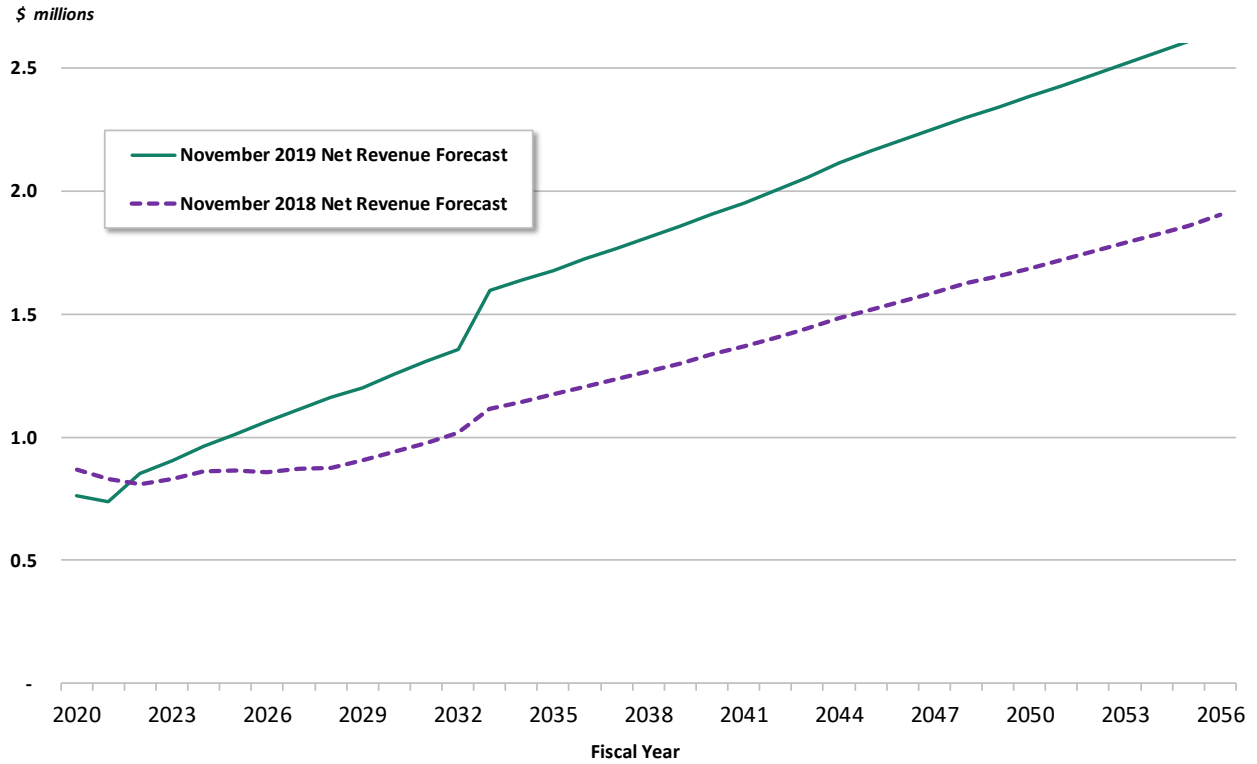
Compared to the November 2018 forecast, transponder purchase and inventory cost projections in the November 2019 forecast have been revised upwards to reflect higher expected transponder unit prices, higher credit card fee rates (up from 2.40 percent to 2.65 percent in FY 2020 and 2.70 percent thereafter) and increases in overall sales volumes with new facilities coming online.

Overall, transponder costs increased by \$17.26 million or 36.4 percent over the forecast horizon in the November 2019 forecast. The changes in the November 2019 forecast are primarily due to:

- Increases in overall sales volumes with new facilities coming online;
- Higher transponder costs after consideration of packaging, mailing and processing; and
- Higher credit card fee rates.

Transponder sales and inventory costs are included within the toll collection costs shown in column 23 of the Exhibit 27 T&R table. As noted in the previous chapter, these costs directly offset the transponder sales revenue forecast provided in column 18 from FY 2029 forward.

Exhibit 14: Transponder Sales and Inventory Costs in YOY \$ (FY 2020-56)



State and Consultant Operations (WSDOT Toll Division / Accounting and Financial Services) (Column 24)

State and Consultant Operations costs include the activities of the WSDOT Toll Division, their consultants, and the WSDOT Accounting and Financial Services (AFS) Division. The Toll Division currently operates five toll facilities: the SR 520 Bridge; the SR 16 Tacoma Narrows Bridge (TNB); the SR 167 High Occupancy Toll (HOT) lanes; the I-405 Express Toll Lanes (ETLs) between Bellevue and Lynnwood and the SR 99 Tunnel. The Toll Division is responsible for general management, vendor oversight, marketing, information technology (IT), and printing and postage costs associated with Pay By Mail transactions, which are handled by the Washington Department of Enterprise Services (DES).

Normal salary and benefits associated with state full time equivalent employee (FTE) include those working in finance and program management, government relations, CSC and BOS operations, RTS operations, and WSDOT AFS group support. The costs for these FTEs are allocated to existing and proposed facilities using two separate methodologies, one for the near-term budget period (FY 2019-21) and one for the longer-term forecast period (FY 2022-56).

Near term budget period FTEs are based on actual experience and WSDOT Toll Division budgetary requests, using the percentage share of time each employee charges to the toll program, the total of which is then allocated based on each facility’s share of total transactions. Labor costs increased due to the addition of four FTE’s representing a communications consultant, contract and agreement manager, transportation engineer, and customer service specialist. The addition of four staff to meet the operational

needs of the system was partially offset by a revision in assumed benefits rates which are calculated as a percent of employee salaries. The November 2018 forecast assumed 28 percent adjusted to a slightly lower rate of 27 percent in the November 2019 forecast. In addition to a reduction in the actual costs, specifically health care related costs, the percentage is based on a weighted average of base salaries, the basis of which was maintained in the November 2019 forecast.

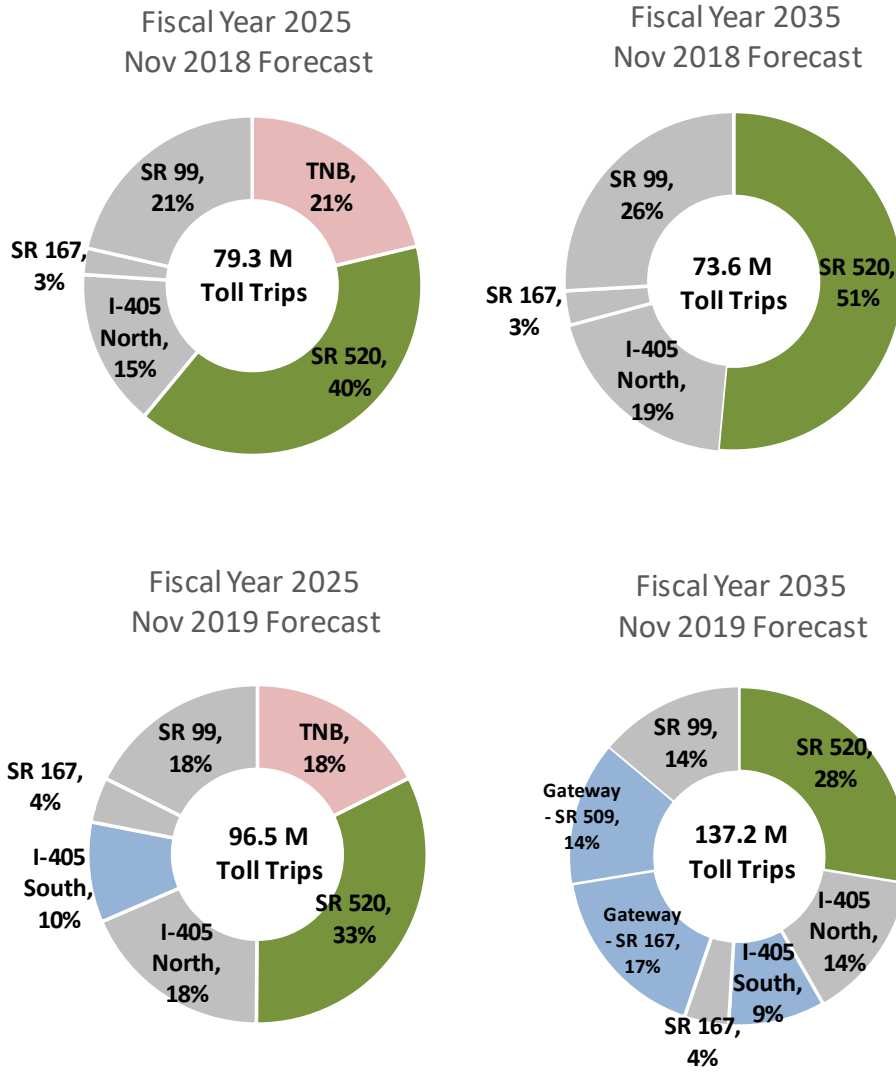
Longer term forecast projections start with the FY 2021 budgeted staff levels, both filled and unfilled, as the basis for staff levels in FY 2022. Changes in staffing levels after FY 2022 are primarily driven by the addition or removal of toll facilities from the system. Increased staffing levels are only assumed for facilities that have received legislative authorization for tolling, including the I-405 ETLs between Renton and Bellevue and the Gateway Program's SR 509 and SR 167 completion projects, and decreased staffing is attributed to the assumed removal of tolls from the Tacoma Narrows Bridge after FY 2032 when the project's debt and deferred sales taxes are repaid. The long-term forecast also assumes that salaries and wages will escalate by 2.5 percent per year to account for inflationary increases in compensation.

As part of the above salaries and benefits, the forecast includes centralized toll operation, management, and administrative expenses (Toll Division assistant secretary, executive assistant, strategic direction and planning, additional government relations, traffic and revenue analysis, toll rate setting, and payroll and human resource management). The capital programs for the toll facilities in development or under construction share the costs for the general management and administrative items. However, as these projects begin to transition to operations, the management and administration costs are assumed to be paid by toll revenues, with these systemwide costs allocated to each individual toll facility based on transaction levels.

Because these collective state operations services are provided on a systemwide basis, costs are allocated according to the projected share of total toll transactions for each facility, which varies slightly year to year due to differences in each facility's traffic forecasts. The cost allocations in the November 2019 forecast include the transactions for the existing five facilities — SR 520, Tacoma Narrows Bridge, I-405 Express Toll Lanes between Bellevue and Lynnwood, SR 167 HOT Lanes and the SR 99 Tunnel — plus the addition of the I-405 Express Toll Lanes between Renton and Bellevue in FY 2025 and the Gateway Program projects starting in FY 2026, which received toll authorization in 2019. The forecast allocates systemwide Toll Division staff and related costs by each facility's percentage share of the total number of toll paying transactions.

Exhibit 15 on the following page shows the systemwide annual transaction forecasts and the respective cost allocation shares by toll facility, comparing the current November 2019 forecast with the prior November 2018 forecast for FY 2025 and FY 2035. As previously noted, the slight increase in SR 520's November 2019 forecast for traffic, combined with higher or new projections on the other facilities, results in higher systemwide transaction forecasts compared to November 2018. Collectively, the net effect of these two factors reduce SR 520's share of systemwide costs. Note that the cost allocation for FY 2035 excludes the Tacoma Narrows Bridge, under the current assumption that it will not be part of the system after FY 2032 when tolls may be removed following the repayment of outstanding debt and deferred sales taxes.

Exhibit 15: Transaction-based Cost Allocation Shares for WSDOT Toll Facilities



Under the prior CSC operations vendor agreement, the state was responsible for reimbursing the (outgoing) CSC vendor for the actual printing and postage costs related to mailing Pay By Mail customer toll bills as well as for customers opting to receive *Good To Go!* account statements by mail. In 2016, the prior agreement was amended, transferring the role of printing and postage for Pay By Mail customer toll bills as well as providing customer opt-in *Good To Go!* account statements by mail to the Washington State Department of Enterprise Services (DES). The transition to DES was anticipated to provide some cost savings through economies of scale, as they process mailings for other state agencies and can leverage bulk mailing rates. Recent increases in costs since transitioning to DES in FYs 2017 and 2018 were largely offset by reductions in unit costs in FY 2019, which are reflected in the updated November 2019 forecast. The following presents the revised, current printing and postage assumptions:

- The November 2019 forecast base assumptions capture actual experience in which the average cost to process and mail an invoice is assumed to be \$0.76 in 2020 dollars, inflated by 2.5 percent per year.

- The November 2019 forecast assumes a systemwide average of 2.10 transactions per invoice for SR 520, aligned with actual systemwide data for FY 2019. Previously, the number of toll transactions per invoice was assumed to average 2.16, which was also based on reported results for FY 2012-18 at a systemwide level.
- Comparing the November 2018 to the November 2019 forecast, the net revisions to state costs for toll bill printing and postage are expected to result in a decrease of \$40.4 million or 26.1 percent over the forecast horizon due to the above factors.

In addition to printing and postage, license plate lookups are generally required for out-of-state license plates to acquire the vehicle owner's name and address for mailing toll bills to non-account customers. The current CSC vendor has a contract for this service with a separate vendor, Law Enforcement Systems (LES), which administers a fixed cost of \$1.25 per out-of-state plate inquiry. In the November 2019 forecast, the cost of these services are assumed to be embedded within the extension of the current vendor contract through FY 2020 as well as in the new vendor contract, and thus, have been removed as a separate cost forecast item.

The November 2019 forecast for State and Consultant Operations Costs (state FTE's, allocation of systemwide costs, and forecasting activities) decreased by 87.2 million (14.8 percent) over the forecast horizon compared to the November 2018 forecast. The decrease in these costs can be attributed to the following.

- The SR 520 share of total systemwide costs decreased from 40 percent in the November 2018 forecast to 33 percent in the November 2019 forecast for FY 2025, and 51 percent in the November 2018 forecast to 28 percent in the November 2019 forecast for FY 2035 (after TNB is removed from the allocation of costs).
- Another cost reduction factor is the slight decrease in costs for staff benefits as a percentage share of salaries, decreasing from 28 percent of employees' salaries in the November 2018 forecast to a rate of 27 percent in the November 2019 forecast.
- For the November 2019 forecast, a one-time cost increase of \$3.48 million was made to the State and Consultant Operations Costs for FYs 2020 and 2021. These additional, toll-funded costs were mandated in the Legislature's transportation budget (ESHB 2322, dated March 11, 2020), and include toll-funded expenditure items attributed to Washington State Patrol and WSTC services for toll facilities and operations. The \$3.48 million represents SR 520's share of these systemwide costs for the biennium, and is composed of the following items:
 - Washington State Patrol enforcement and service costs of \$1.998 million;
 - WSTC activities costing of \$0.271 million;
 - WSDOT Transportation Planning, Data, and Research (Program T) costs of \$0.763 million;
 - WSDOT charges from other agencies (Program U), including legal settlements and claims, in the amount of \$0.205 million;
 - WSDOT Transportation Management and Support (Program S) costs of \$0.199 million; and
 - WSDOT Traffic Operations (Program Q) costs of \$0.053 million.

- WSDOT does not expect these additional cost items to be toll-funded beyond the current 2019/21 biennium and legislative budget direction would be required for continued toll funding and allocation of these costs to the SR 520 program.

The November 2019 forecast for State and Consultant Operations toll collection costs, including those activities performed or overseen by the Toll Division, are provided in Exhibit 16 with escalation assumptions listed in Exhibit 17.

Exhibit 16: State Operations Assumptions in the November 2019 forecast – SR 520 Values

Cost Item	Key Assumptions
Salaries & Wages	SR 520's share includes the standard cost for 24.0 FTEs by job classification in FY 2019, including 5.3 FTEs for general administrative and management costs, decreasing to approximately 16.7 total FTEs by FY 2022. Centralized general administration and management costs were previously covered by a combination of other motor vehicle funding sources and tolls. Starting with the 2015 estimates, all costs are assumed to be paid out of toll revenues.
Benefits	27 percent of Salaries & Wages, revised from previous estimate of 28 percent to reflect state standard staff calculation tool
Personal Services / Consulting	Toll consultants support CSC operations, RTS operations, and operational results analysis and reporting. As tolling matures and WSDOT moves from a development and construction phase into a tolling operational phase, toll consultant support tasks will be transferred to WSDOT staff. By FY 2021, toll consultant support will be reduced by 50 percent to a core staff who will primarily support the analysis and implementation of toll program changes and continual improvement initiatives.
Office Supplies / Materials	Standard cost of \$513 per year, per FTE.
Rent	Assumes Goldsmith building location in Seattle, including part of the third floor and fourth floor for approximately \$32,000 per month.
Printing and Postage	Cost of \$0.76 per mailing in FY 2019 (includes cost of \$0.068 per envelope, printing costs of \$0.214, bulk postage rate of \$0.373 per mailing, \$0.065 for insert processing, and \$0.043 for presort processing. Consumable and other mailing costs account for mailings not associated with toll bills. Similar cost per mailing of \$0.76 assumed with an additional cost of \$0.004 per mailing for consumables.
Computers and Equipment	Standard cost of \$5,125 per year, per FTE, in addition to facility specific equipment costs as provided by WSDOT.
Phone and Communications	Standard cost of \$10,250 per year, per FTE.
Vehicles Operations	Standard cost of \$539 per year, per FTE.
Record Retention ¹	Standard cost of \$574 per year, per FTE.

Note: FTE = full time equivalent employee

¹ Includes WSDOT time to copy, catalog and prepare documents for archiving, coordination with staff to get files, organization of files once received, paper and organizational supplies, etc.

Exhibit 17: State Operations Escalation Assumptions in the November 2018 Forecast

Cost Item	Escalation per Period	Period in Years
Salaries and Benefits	2.5%	1
Rent	10.0%	5
Telephone	2.5%	1
Printing/Postage/Office Supplies/Computers	2.5%	1
Consultants/Contracted Services	2.5%	1
2 Vehicles + Operations + Parking	5.0%	1
Records Management	10.0%	2
CSC System Management	2.5%	1

State toll collection costs are included in column 24 in Exhibit 27 within Appendix A, with additional subcomponent detail in the Excel electronic version of this table.

Roadway Toll Systems (Column 25)

Roadway Toll Systems (RTS) include all equipment and software required to identify a toll transaction and transmit data about that transaction to the customer service center for processing. Sometimes referred to as “lane systems,” this equipment includes transponder readers, cameras, and other communication devices that need regular maintenance to ensure that the system is functioning properly.

RTS operations and maintenance activities are performed by a private contractor, Kapsch (formerly Schneider Electric), in conjunction with WSDOT maintenance staff. The vendor contract specifies that Kapsch will provide ongoing maintenance of the toll collection equipment through the contract period. The 10-year systemwide RTS vendor contract for all facilities began in FY 2017 with the installation of the permanent toll collection system on SR 520. WSDOT will perform any necessary maintenance to equipment gantries or other ancillary roadside equipment. After the RTS systemwide vendor contract expires, the state will have the option to re-bid the contract or assume responsibility for all RTS maintenance functions (the forecast assumes the equipment and services vendor contract is rebid).

Examples of these duties include:

- Realigning / recalibrating cameras and transponder readers;
- Cleaning camera lenses;
- Maintaining equipment data connections; and
- Monitoring / auditing equipment performance.

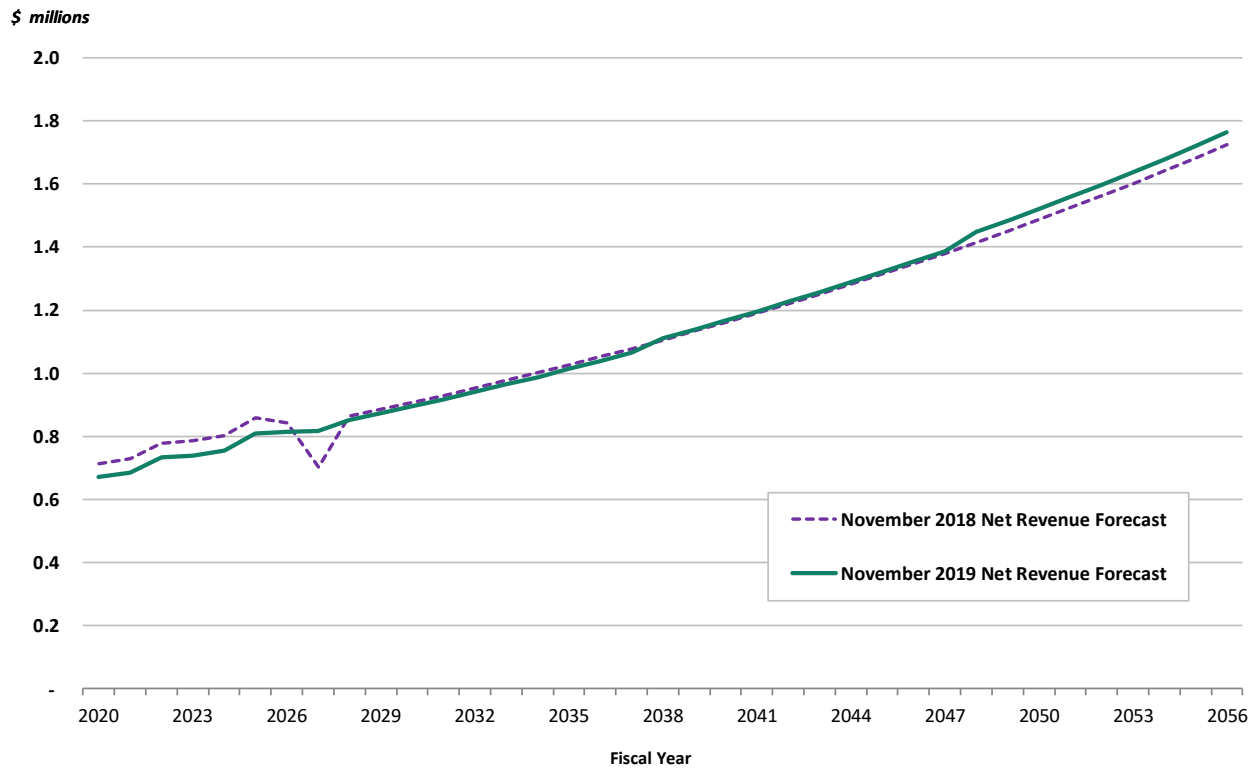
For the November 2019 forecast, RTS costs are less than one percent higher over the forecast horizon compared to the November 2018 forecast. Reassignment of certain WSDOT Toll Division RTS-related costs to the State and Consultant Operations cost category were offset by slightly higher projected vendor costs and increases in WSDOT’s Northwest Region (NWR) costs attributed to signals maintenance and the traffic management center.

- Slightly higher costs are primarily based on the terms of a new service level agreement with NWR on Signals Shop and Traffic Management activities.

- Increased costs for vendor provided services is due to assumed cost escalation on the RTS vendor’s annual performance testing, starting with the next assumed contract in FY 2028. An increase in the annual Service Organization Control One (SOC-1) audit costs is based on actual experience.

Exhibit 18 illustrates the RTS cost projections for the current and prior forecasts. The current November 2019 forecast values can be found in column 25 of the Exhibit 27 T&R table. In addition to routine maintenance, periodic capital repair and replacement of RTS equipment will be required. These costs are detailed in a later section.

Exhibit 18: Roadway Toll Systems O&M Costs in YOE \$ (FY 2020-56)



Customer Service Center Operations and Back Office System Software (Columns 26 & 27)

CSC operations and BOS software vendor contract costs have been forecasted separately, consistent with the recent re-procurement of these functions by two independent vendors. These systemwide costs are allocated to SR 520 based on its share of total transactions, with CSC costs allocated on the basis of *toll trips* only, whereas BOS costs are allocated on the basis of both *toll and toll-free / non-revenue trips*. Both the CSC and BOS cost allocations exclude cash trips on TNB, which are processed under a separate, facility-specific vendor contract.

The CSC operations vendor is responsible for processing toll transactions, collecting toll revenue, maintaining customer accounts, and interfacing with customers via telephone and at *Good To Go!* walk-in centers. The current, outgoing vendor for both CSC and BOS functions, Electronic Transactions Consultants (ETC), is being transitioned to two new vendors, ETAN for BOS software and AECOM for CSC operations. Contracts for these new vendors were awarded in 2017 and 2018, respectively, though

the transition has taken longer than initially anticipated, with completion now expected at the beginning of FY 2021 (July 1, 2020).

The November 2019 forecast reflects further refinements in the allocation of CSC and BOS vendor costs, between the following two items:

- Toll collection activities which are paid from tolls and affect the net toll revenue projections; and
- Activities engaged in processing delinquent transactions for which notices of civil penalty (NOCPs) are sent and adjudicated, the costs for which are paid from civil penalty fees collected and not toll revenues, thus not impacting net toll revenues.

Two financial accounts are maintained to keep the costs and revenues associated with these activities separate. Delinquent toll bills that are subsequently recovered via the adjudication process are deposited into the Civil Penalty Account (17P), are and typically transferred from there to the SR 520 Toll and Fee Revenue (16J) Account through legislative authorization at the end of each fiscal year. The amount of time the CSC vendor spends supporting the two activities determines how the costs are allocated between the two accounts.

The aforementioned Customer Program for Resolution (CPR) alternative payment option, implemented in mid-2015, allows customers who receive a notice of civil penalty but call or visit a customer service center to receive a waiver of the \$40 civil penalty fee, up to two times. When the CPR process is used to recapture toll revenue, the amount recaptured is automatically transferred into the SR 520 Toll and Fee Revenue Account, denoting the CSC vendor activities as toll collection-related. The first customer-initiated request typically results in both fees and penalties being waved, the second request requires *Good To Go!* account holders to bring their account back to good standing and non-account holders to open a *Good To Go!* account. Further requests for civil penalty fees to be waved requires a hearing with an Administrative Law Judge. While helping to improve the rate of toll collection in the NOCP process, the waiver of \$40 fees payable has resulted in a noticeable decrease in civil penalty fee revenue.

The previous November 2018 forecast assumed that the rate of CPR use would rapidly decline after the first year of the program, as Pay By Mail customers benefiting from the CPR converted to *Good To Go!* accounts, with remaining NOCP transactions going through the normal adjudication process with any recovered tolls transferred back to the SR 520 account by legislative authorization at the end of each fiscal year. However, experience over the past year has shown a continued increase in both the number of transactions and value of transactions that are resolved through the CPR program. The November 2019 forecast maintains the 50 percent share of NOCP transactions resolved and paid through the CPR program over the forecast horizon.

In the prior forecast, ETC's contract was set to expire in February 2019. The November 2019 forecast reflects another ETC contract extension to the end of FY 2020, providing for longer and smoother transition to the new systems software and operations vendors. SR 520's share of this total allocated cost is \$10.0 million, representing an increase in FY 2020 costs of 63 percent.

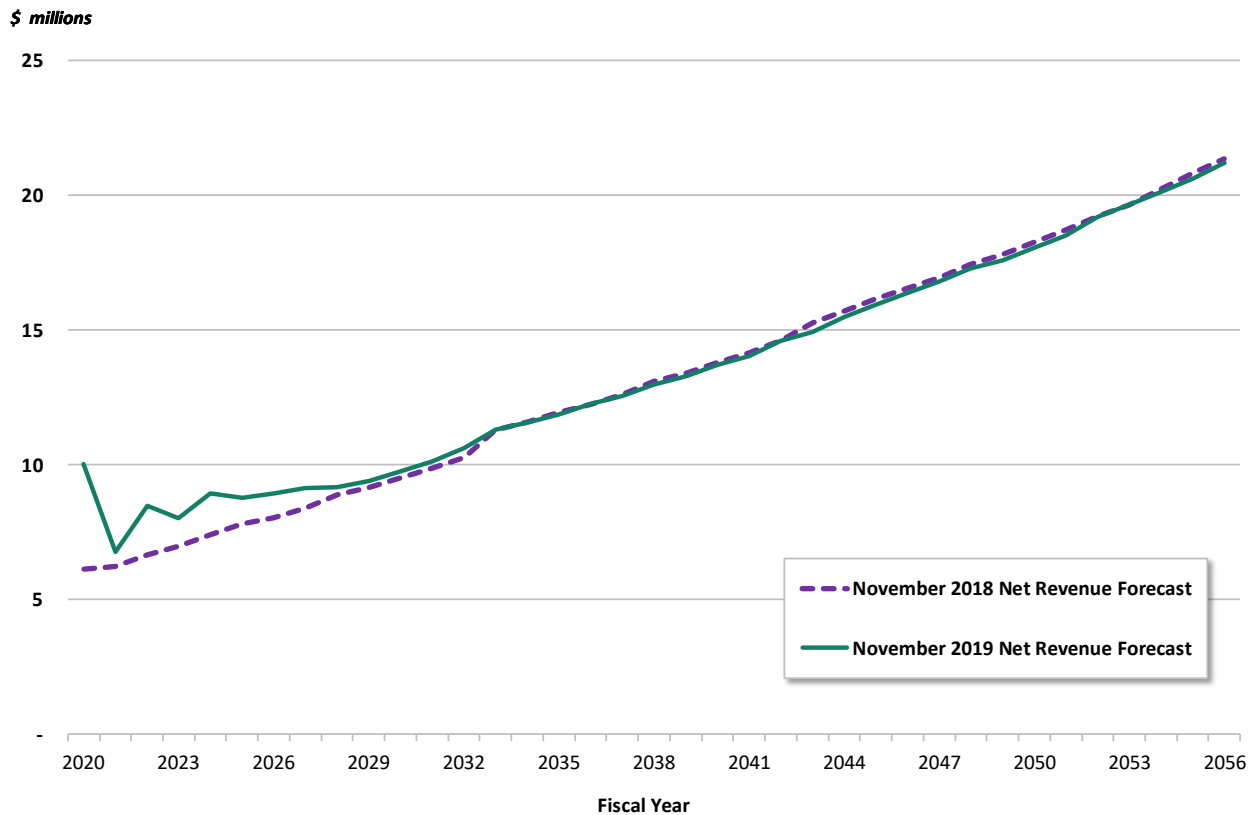
Starting with FY 2021, future CSC vendor costs for FYs 2021-29 were based off an average of initially proposed costs from the shortlisted CSC operations vendors and similar expectations for the BOS software vendors. CSC operations and BOS software vendor costs for FY 2030 and beyond are estimated using a bottom-up systemwide cost analysis reflecting current market rates for all CSC operating and BOS software functions, consistent with having separate vendors provide these functions, plus the addition of a five percent risk contingency.

The following summarizes the primary factors contributing to increased CSC vendor costs in the November 2019 forecast.

- The November 2019 forecast for CSC and BOS vendor costs over the forecast horizon is \$9.9 million or 2.0 percent higher than the prior forecast, as a result of the following:
 - A \$3.89 million increase in FY 2020 associated to the extension of the current vendor contract, providing operational overlap as the new BOS and CSC vendors and systems become fully operational, currently anticipated as of July 2020 (FY 2021).
 - Systemwide CSC costs in this 2019 Update increased over the forecast horizon, primarily due to higher overall transactions with the inclusion of the new Renton to Bellevue I-405 ETL section and the two Gateway Program projects.
 - CSC vendor costs are allocated by toll trips, the BOS cost allocation also includes non-revenue trips starting with the 2019 forecast. The revision to the allocation method for BOS vendor costs results in a higher allocation of costs to I-405 and SR 167 as a result of toll-free carpool trips, which results in a smaller cost allocation share for SR 520. The revision in allocation methods helps to offset some of the increases in the total systemwide BOS maintenance costs.

Exhibit 19 illustrates the forecast horizon CSC and BOS costs for the November 2019 and November 2018 forecasts. CSC Operations Vendor O&M costs are included in column 26 and BOS Software Vendor O&M costs in column 27 of Exhibit 27 in Appendix A.

Exhibit 19: SR 520 Share of System-wide CSC and BOS Cost Projection in YOE \$ (FY 2020-56)



Routine Facility Operations and Maintenance (Column 28)

Routine operation and maintenance of the SR 520 physical assets are critical to providing continuous, uninterrupted toll revenue generation. Proper maintenance of the facility also ensures that the expected level of service is provided to motorists. Typically, facility O&M activities include lane restriping, lighting maintenance, routine bridge repairs, pothole and pavement repair, traffic operations, signage, litter pickup, etc. These activities help to preserve safety and travel reliability along the corridor. A more detailed list of facility maintenance activities is provided in Appendix C as Exhibit 29.

All O&M costs are provided in year of expenditure dollars, with no change to the previous assumption for annual escalation at 2.5 percent.

After the selection of a preferred design alternative in 2010, WSDOT's SR 520 project office established a maintenance task force of engineering, maintenance, and design staff to conduct a full review of the Program's projected facility O&M costs.

During 2017, WSDOT's Northwest Region maintenance staff took over responsibility for reviewing, revising, preparing, and documenting the updated facility O&M cost estimates, with support from the SR 520 project office and the WSDOT Toll Division. Collectively, WSDOT refined the previous estimates by using the latest design and construction information from the toll funded construction segments along the SR 520 corridor. The revised O&M (and R&R) cost estimates from the toll funded and non-toll funded facility are documented in the consolidated memorandum, dated April 7, 2019 and entitled *Facility and Toll Collection O&M and R&R Assumptions and Costs for the SR 520 Bridge Replacement and HOV Program: 2019 Update*.

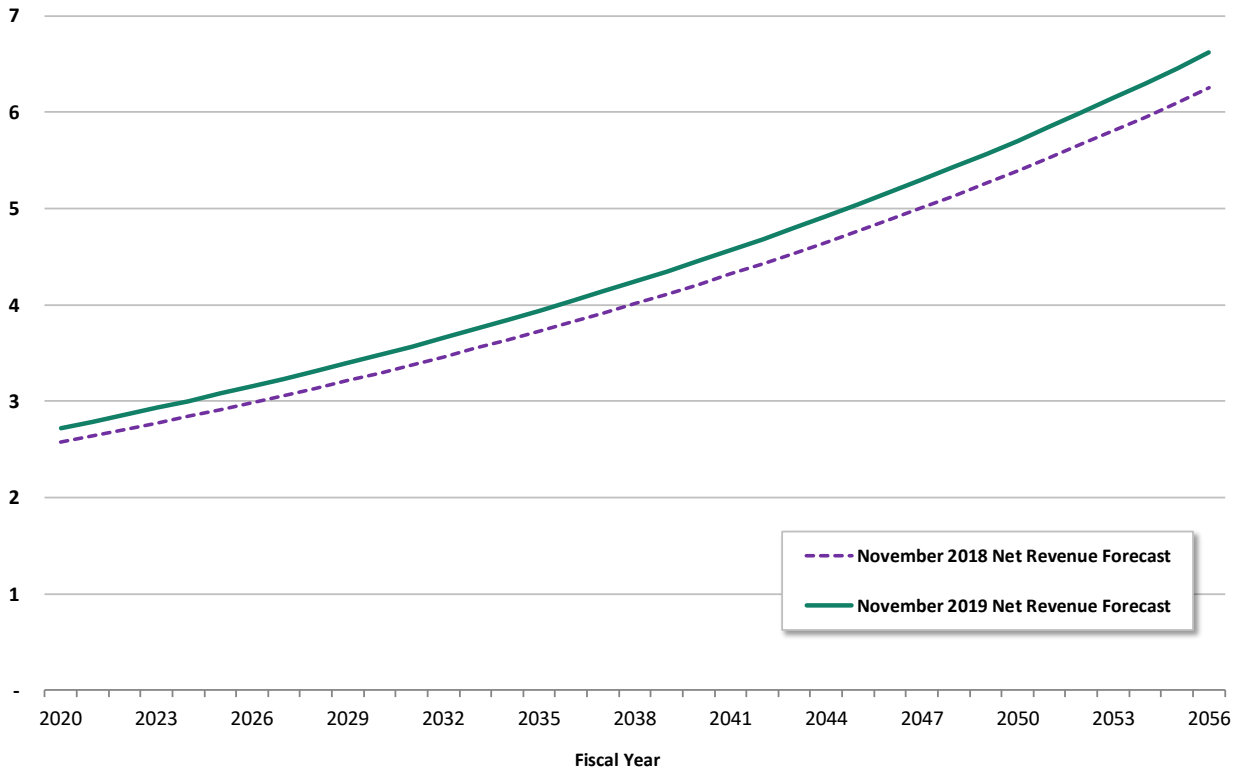
For the November 2019 forecast, the facility O&M costs increased by 5.8 percent (\$8.8 million) from the November 2018 forecast horizon estimates.

As described in the Introduction, the SR 520 corridor program is comprised of five major components, the first four of which include construction funding supported by tolls. The facility O&M costs for these four components with toll funding are assumed to be paid from future tolls in the current and previous forecasts. The capital costs for the fifth component — the section from I-5 to Lake Washington, including the West Approach Bridge South (referred to as the "Rest of the West") — are funded solely from the Connecting Washington transportation revenue package as passed by the legislature in 2015 and funded with motor vehicle fuel taxes. Because the Rest of the West does not include any toll funding, WSDOT assumes that the O&M costs for the existing and reconstructed roadway and structures comprising this fifth component will continue to be paid from motor vehicle revenues other than tolls.

The current and prior annual facility O&M cost projections are illustrated in Exhibit 20, with forecast values provided in column 28 of Exhibit 27 in Appendix A.

Exhibit 20: Projected Facility O&M Costs for the toll funded segments in YOE \$ (FY 2020-56)

\$ millions



Bridge Insurance (Column 29)

Current insurance premium and coverage information for SR 520 is provided by the Washington State Department of Enterprise Services Office of Risk Management (DES/ORM). Coverage commences annually on July 1, in alignment with the state fiscal year. The current FY 2020 premium forecast estimates were based on the actual premium payment that occurred in July 2019 and SR 520’s estimated share of state brokerage fees.

Current and future insurance policies cover various risks to bridge structures, including property damage losses caused by forces of nature, such as earthquakes, floods, and boiler/machinery failure, acts of terrorism, as well as sub-limits on coverage for demolition/ increased cost of construction, course of construction, business interruption, and service interruption. The coverage is procured under an Aggregate Property Insurance Policy that bundles SR 520 with other assets, though this aggregate policy excludes the Tacoma Narrows Bridge.

Unchanged for FY 2020, the annual insurance policy covers both completed and under construction bridge components of the SR 520 corridor between I-5 and I-405, including property damage losses for the Portage Bay bridge structures, the west approach viaduct structures, the floating bridge, and the east approach, caused by forces of nature, component failure, or acts of terrorism. The all-risk loss coverage limit is \$400 million, though in the case of an earthquake or flood loss, there is a \$100 million sublimit on damage. All property damage loss coverage is subject to a \$10 million deductible.

In addition, business interruption coverage replaces lost revenue for up to one year with no deductible and a \$100 million policy limit when associated with a covered loss. Should a non-covered loss occur, such

as damage to a bridge, overpass or lid within a 20-mile radius of the center of the floating bridge, then the contingent business interruption coverage with a \$10 million, 30-day limit would apply to replace lost toll revenues in cases where the damage results in restricted access to the bridge by a military or civil authority.

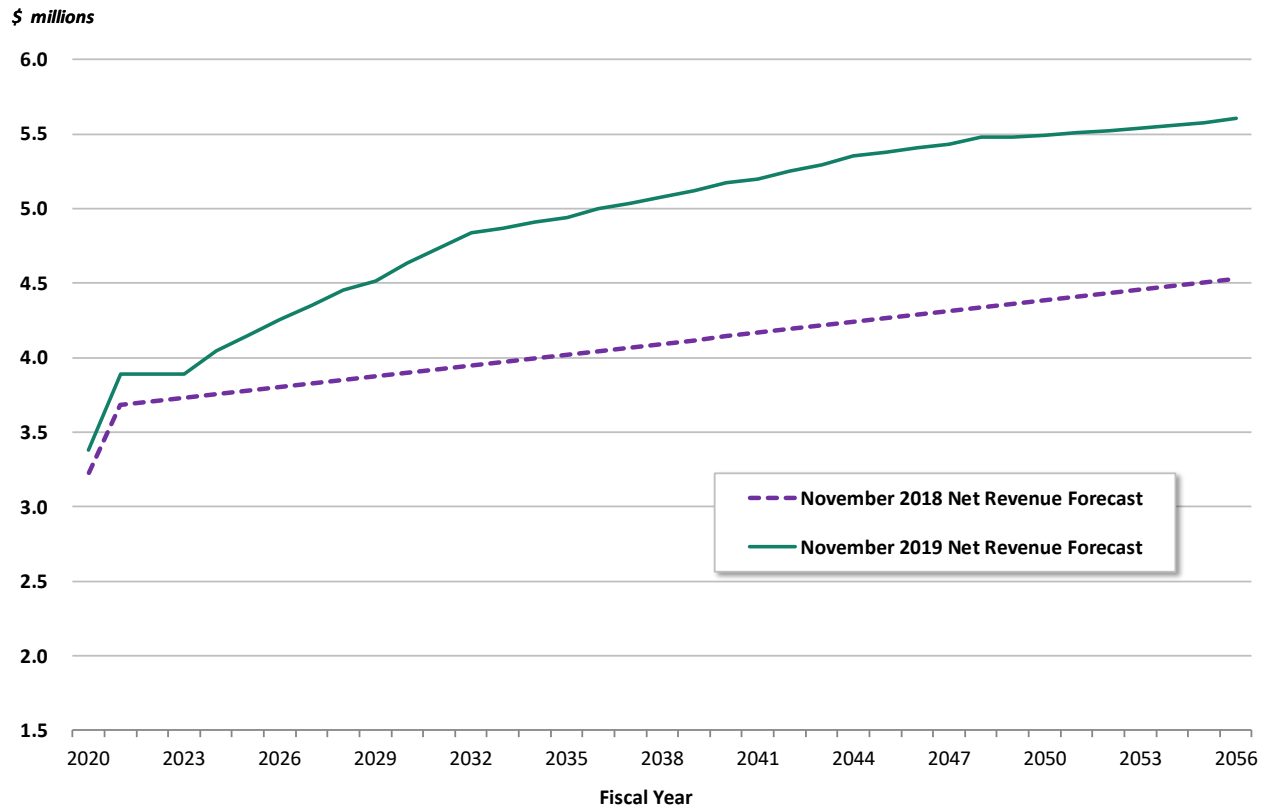
The November 2019 forecast reflects risks and insured values for the covered assets that were re-evaluated in 2019. As a result, the total premium cost for FY 2019, including SR 520's share of statewide administrative and brokerage fees, increased from \$2.40 to \$2.83 million for assets with a total insured value that increased from \$1.38 to \$1.49 billion, though the coverage retained the \$400 million all-risk limit per incident. Note that the administrative and brokerage fees included in the SR 520 insurance cost allow the state to obtain competitive insurance policies covering other facilities and assets. In FY 2020 the insurance premium, which had already been paid at the time of this report, was \$153,000 higher than the November 2018 forecast projection, with the increase attributed to further incurrence of risk in the national market (specifically those associated with wild fires), and consolidation in the insurance market including the exit of large foreign-based providers from the U.S. market.

Insurance coverage from FY 2021 forward is assumed to continue to cover property damage as well as business interruption in the same manner as the current FY 2020 policy, with costs assumed to include both premiums and SR 520's share of statewide brokerage fees. The consideration of a proposed policy rider for cyber-terrorism liability coverage has not been included within the SR 520 coverage, though the State has a policy with a \$5 million limit covering all agencies.

Since the West Side components of the program won't be completed until the mid-to-late part of this decade, it is premature to obtain a detailed premium estimate for the final completed corridor. Future year premiums could be higher if the State opts to insure for a higher limit due to higher replacement costs once construction has finished, higher construction replacement cost inflation, and/or faster toll revenue growth, but could also be lower as risks are reduced with the replacement of the original West Side structures with new ones designed to better withstand risk factors such as a seismic event.

Annual insurance premium forecasts are provided in column 29 of Exhibit 27 in Appendix A.

Exhibit 21: Projected Insurance Costs in YOE \$ (FY 2020-56)



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6 | Changes to Other Project Uses of Toll Revenues

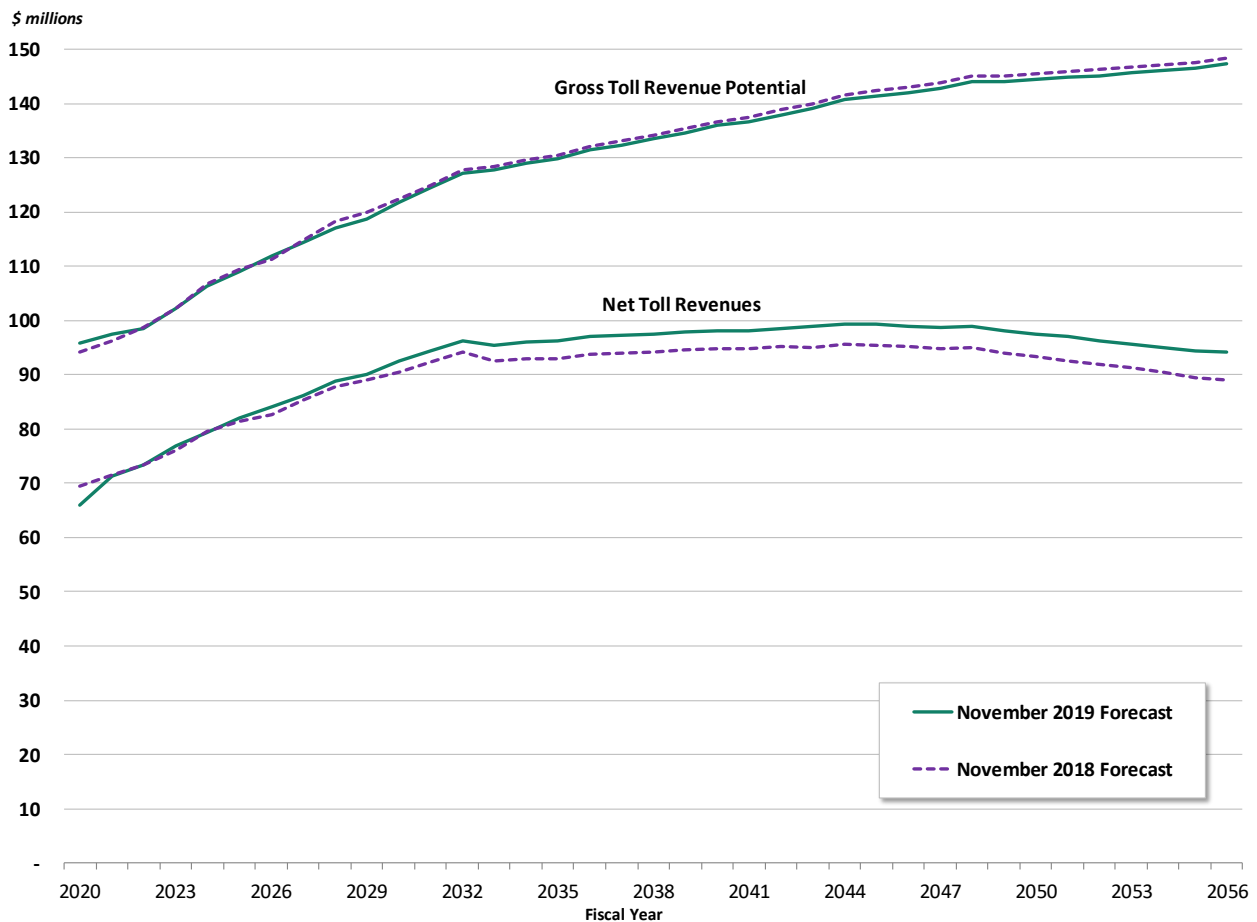
Total Net Revenue (Column 30)

Starting with Stantec’s pre-COVID-19 Gross Toll Revenue Potential (Exhibit 27 T&R table column 11), the addition and subtraction of the various revenue adjustments in columns 12-21 and the O&M expenditures in columns 22-29 result in the total net revenue available to support financing, contribute to required reserves, and provide for other project uses. The annual net revenue projections can be found in column 30 of Exhibit 27 in Appendix A.



Exhibit 22 illustrates the spreads between the gross and net revenue over the forecast horizon for the prior November 2018 and current November 2019 forecasts. The differences in the sums of the annual values over the forecast horizon are shown in Exhibit 6 on page 11.

Exhibit 22: Projected Gross and Net Toll Revenues (FY 2020-56)



Other downstream uses of net toll revenues include deferred sales tax, periodic facility R&R costs, and periodic toll-related R&R costs as shown in the waterfall on the previous page. In accordance with the SR 520 financial plan flow of funds, net revenues are used to pay debt service first, with annual reserve account contributions for deferred sales tax and R&R coming downstream from coverage revenues. Descriptions for these other uses of tolls are provided below.

Deferred Sales Tax on Construction (Column 31)

The 2008 Washington State Legislature, through ESHB 3096 codified as RCW 47.01.412, granted the SR 520 Program the ability to defer a portion of the state and local sales tax payable on construction until five years after the replacement bridge is constructed and open to traffic. Specifically, the first of 10 equal annual installments are due on December 31st of the fifth calendar year after the certified date by which the program components with toll funding are operationally complete.

The final program component with toll funding, the West Approach Bridge North, was completed in mid-2017, which would make the first deferred sales tax payment due on December 31, 2022, midway through FY 2023. Toll revenues are assumed to be the source of funding used to make the 10 annual payments through FY 2032.

The State is deferring sales tax on almost all of the corridor program components with toll funding support, with the exception of sales tax paid in Grays Harbor County that applied to the floating bridge pontoon construction site development. The November 2019 forecast values, shown in column 31 of Exhibit 27 in Appendix A, are unchanged from the November 2018 forecast of \$159.4 million over the forecast horizon.

Toll-Related Repair and Replacement Costs (Column 32)

Toll-related R&R costs include the periodic repair, rehabilitation, and replacement of the RTS hardware and equipment. In addition to hardware and equipment, the R&R cost forecast includes SR 520's share of the systemwide administrative and technical-related costs incurred by WSDOT to periodically procure both the RTS and CSC vendor contracts as well as implement and test new systems software and toll collection equipment hardware.

Additional detail on toll-related R&R and vendor procurement costs is provided below, and the annual cost projections in year of expenditure dollars are provided in column 32 of Exhibit 27 in Appendix A.

Roadway Toll Systems Repair and Replacement Costs

RTS vendor R&R costs include upgrades to, or replacement of, cameras and transponder readers, networking equipment, and fiber optic communication lines. While it may be possible to get more than 10 years out of some hardware components and/or for WSDOT to extend the contract for an established RTS vendor, the cost projections conservatively assume that the RTS vendor and entire RTS system will be replaced every 10 years. This periodic procurement is next scheduled to commence in FY 2025 and conclude in FY 2026, which includes up to one year for procurement of a state-wide vendor to provide the entire roadway toll system, followed by implementation and testing of each facility to allow for a smooth transition to a new vendor and/or new equipment.

Allocation of systemwide RTS procurement costs are calculated using the total number of active toll facilities rather than the number of toll points to avoid concerns of over-allocation of primarily fixed costs to the I-405 Express Toll Lanes and the SR 167 HOT lanes with their multiple toll points. The November 2019 forecast is 12.9 percent (\$4.1 million) lower than the November 2018 forecast. The reduction in SR 520's costs can largely be attributed to the addition of two additional authorized toll facilities in the cost allocation beginning with the next procurement cycle that concludes in FY 2026.

It is conceivable that one or more vendor procurement cycles may be concluded by choosing the same systems or operations vendor to continue to provide services. This would likely result in procurement, implementation and testing cost savings. Acknowledging this, it is most conservative to assume that any cost savings or exclusions occur at the end of the forecast horizon.

CSC and BOS Repair and Replacement Costs

In addition to costs related to RTS vendor procurement, implementation, and testing, the periodic costs to procure the BOS software and CSC operations vendor contracts along with implementation and testing are also included in the Periodic Toll Equipment and CSC R&R column in the net revenue table as provided in Exhibit 27. A USDOT Urban Partnership Agreement grant covering SR 520 paid for the initial procurement of the current Customer Service Center vendor, including implementation, and testing. Going forward, future costs associated with procuring one or more CSC and BOS vendors will be allocated across all the authorized toll facilities based on each facility's share of total system wide transactions.

For the November 2019 forecast, periodic systemwide CSC and BOS vendor(s) procurement costs are allocated on the basis of projected transactions across the five existing facilities plus three newly authorized toll facilities: the Gateway Program's SR 509 and SR 167 Completion Projects and the I-405 Renton to Bellevue ETLs, which are expected to go live in the latter half of this decade. In addition, tolls are assumed to be removed from the Tacoma Narrows Bridge at the end of FY 2032, thus removing it from CSC vendor procurement cost allocation starting with FY 2033.

Periodic CSC operations vendor procurement costs are allocated based on each facility's forecasted *toll trips* in the years the costs are projected to be incurred. Periodic BOS software vendor procurement costs are allocated based on each facility's *total toll and toll-free / non-revenue trips*. As noted above for RTS R&R costs, the costs for the final forecast horizon procurement cycle are omitted as the benefits from that vendor procurement would occur beyond the FY 2056 forecast horizon. In addition, it is conceivable that one or more vendor procurements may be concluded by choosing the same systems software or operations vendor to continue to provide services. Should this occur, it would likely result in procurement, implementation and testing cost savings. Acknowledging this, it is most conservative to assume that any cost savings or exclusions occur at the end of the forecast horizon.

The current CSC/BOS vendor contract extension expires at the end of FY 2020, by which time the transition to the new BOS software vendor (ETAN) and new CSC operations vendor (AECOM) will have been completed, with the new vendors anticipated to be operational at the beginning of FY 2021. While the same vendor could potentially be selected for both the systems software and operations functions in future procurement cycles, the contracts for these functions will remain separate.

The existing CSC/BOS vendor was contracted to provide hosted software capable of account management, transponder inventory management, website administration, image reviews, adjudication management, pay-by-mail invoice generation and distribution (transferred to WA Department of Enterprise Services in 2016), collection oversight and accounting. The deployed software is referred to as

a first generation (Gen 1) system in customer toll transactions processing for WSDOT. The incoming BOS vendor is providing a second generation (Gen 2) system software solution. The (Gen 2) BOS software for toll transaction processing and customer account management would provide the capability to integrate of *Good To Go!* toll technology as an alternative payment method for Washington State Ferries (WSF). In addition, the Gen 2 system would address other concerns with the existing system by allowing for the following improvements:

- Enhancing key performance indicators (KPIs) to better measure things which would add immediate value to the customer service delivery, such as the customer website for account management, the CSC phone system, and support for routine and ad hoc reporting;
- Reduce the frequency of changes to operating rules, which can create an unstable environment where operational consistency is difficult to achieve;
- Facilitate training that better prepares customer-facing staff to deliver consistent information and service to customers;
- Provide a better path toward compliance with established policies and procedures required for good customer service; and
- Expedite recognition and resolution of transaction processing and customer service issues.

The forecast for procurement costs assume that the BOS software vendor providing enhanced, Gen 2 capabilities would be contracted anew every 10 years.

Following the current two-vendor procurement, the WSDOT Toll Division allows for a separate BOS and CSC vendor procurement model going forward. However, separate BOS and CSC vendor RFPs do not preclude the selection of the same vendor for both contracts.

- BOS Software — The back office system software is integrated with the RTS (lane system) equipment, the CSC vendor (if different), WSDOT’s accounting system (TRAINS), the Washington State Department of Licensing (DOL), and a third party out-of-state license plate look-up vendor. The latter two parties are required for identifying Pay By Mail customer names and addresses for mailing toll bills.
 - The CSC systems software vendor and the system itself is assumed to be procured every 10 years, with the first procurement cycle anticipated to be functionally completed by the end of FY 2020.
- CSC Operations — The customer service center operations vendor is primarily responsible for the staff performing the front and back office customer service operations tasks. These would include call center operations, back office transaction processing, license plate image review, transponder inventory management and distribution, adjudication management, collection oversight, and retail front office services. Toll bill printing and mailing, recently transferred from the CSC back office vendor to the state Department of Enterprise Services, could potentially be added back to the scope of work for a future CSC operations vendor procurement.
 - The CSC operations vendor is assumed to be procured every eight years, composed of a six-year base contract combined with one two-year contract extension. The November 2019 forecast assumes that the last year of the outgoing vendor’s contract would overlap with the first year of the new vendor contract to allow for a full year of vendor transition overlap.

- In addition, WSDOT can evaluate what services may remain with the CSC operator or be brought in-house on a task by task basis in order to optimally leverage each group's areas of expertise.

Systemwide costs related to the current cycle of BOS systems and CSC operations vendor procurements remained constant in the November 2019 forecast, maintaining the overall enterprise assumption of \$28 million dating back to the November 2016 forecast.

Future total systemwide BOS/CSC vendor procurement costs are broken out by the following primary categories, with the amounts provided in 2019 dollars before annual adjustments for cost escalation to year of expenditure dollars (at an assumed 2.5 percent) and before allocation of these costs to SR 520 and the other toll facilities in the system.

- BOS Software RFP development, vendor solicitation, start-up and transition, system development and design, and installation – WSDOT and consultants will work with the vendor to transition the current system to a new Gen 2 system within the current procurement cycle, with costs allocated over two years:
 - Data warehouse costs of \$3,000,000.
 - Facilities costs of \$130,639
 - WSDOT, Consultants and Vendor costs of procurement, design, implementation and testing of \$23,869,361
- CSC Operations RFP development, vendor solicitation, start-up and transition, and development and design – WSDOT and consultants will work with the vendor to transition a new operation vendor or updated contract with the existing vendor within the current procurement cycle, with costs allocated over two years at a projected cost of \$39,260,703.

In addition to the initial development costs for software and hardware, maintenance and technical support are included in the routine WSDOT and Consultant Operations staff costs and vendor contract costs discussed in their respective sections.

Ten-year totals of forecasted transactions (FYs 2020-29) for the existing five toll facilities were used to calculate the facility allocation shares for systemwide costs in the initial systems software and operations vendor procurement cycle. After the current vendor procurement cycle, costs for future procurement cycles are allocated based on each facility's forecasted transactions by year, including those for the three aforementioned newly authorized toll facilities (all online by FY 2026). The Tacoma Narrows Bridge, where tolls are assumed to end after FY 2032, is removed from the allocation in future procurements, including the procurements immediately preceding the end of TNB tolls.

The Gen 2 BOS software is designed to be capable of adding new toll facilities as such facilities are authorized for tolling by the state legislature. Although the forecast assumes the Gen 2 system is capable of back office integration with WSF, this is not yet assumed to be part of the operations, and thus, costs for that customization are excluded since WSF doesn't contribute to procurement or operational costs.

Future BOS and CSC vendor procurements will not be concurrent due to the different assumed procurement cycles, with the BOS vendor on a 10-year cycle and the CSC vendor on an up to eight-year cycle, as previously noted.

For the November 2019 forecast, SR 520’s transaction allocated share of the unchanged systemwide CSC/BOS R&R cost estimate has decreased, resulting in a total forecast period cost reduction of \$21.4 million or 32.0 percent relative to the November 2018 forecast.

- The forecast assumes a decrease in SR 520 share of total systemwide costs from 42 percent in the prior forecast to 34 percent in the November 2019 forecast for FY 2025. For FY 2035 after tolling has ended on TNB, the SR 520 share decreases from 51 percent to 28 percent, as shown in Exhibit 15.

Exhibit 23 illustrates the total SR 520 toll-related R&R costs for the November 2019 and previous November 2018 forecasts. Exhibit 24 further illustrates the composition of the November 2019 forecast values by the three categories of toll-related R&R costs.

Exhibit 23: Toll Collection Repair and Replacement Cost Estimates by Forecast in YOE \$ (FY 2020-56)

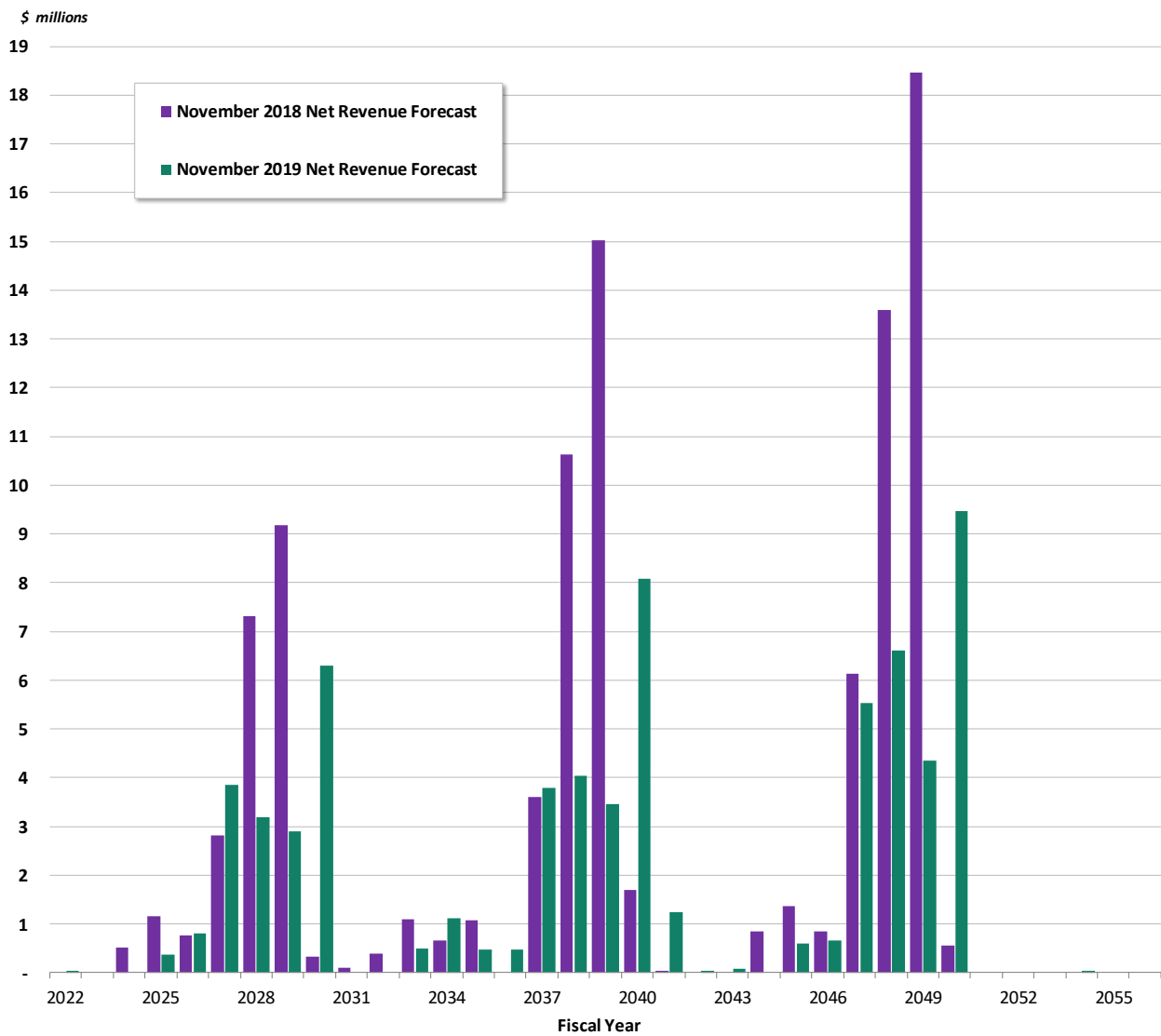
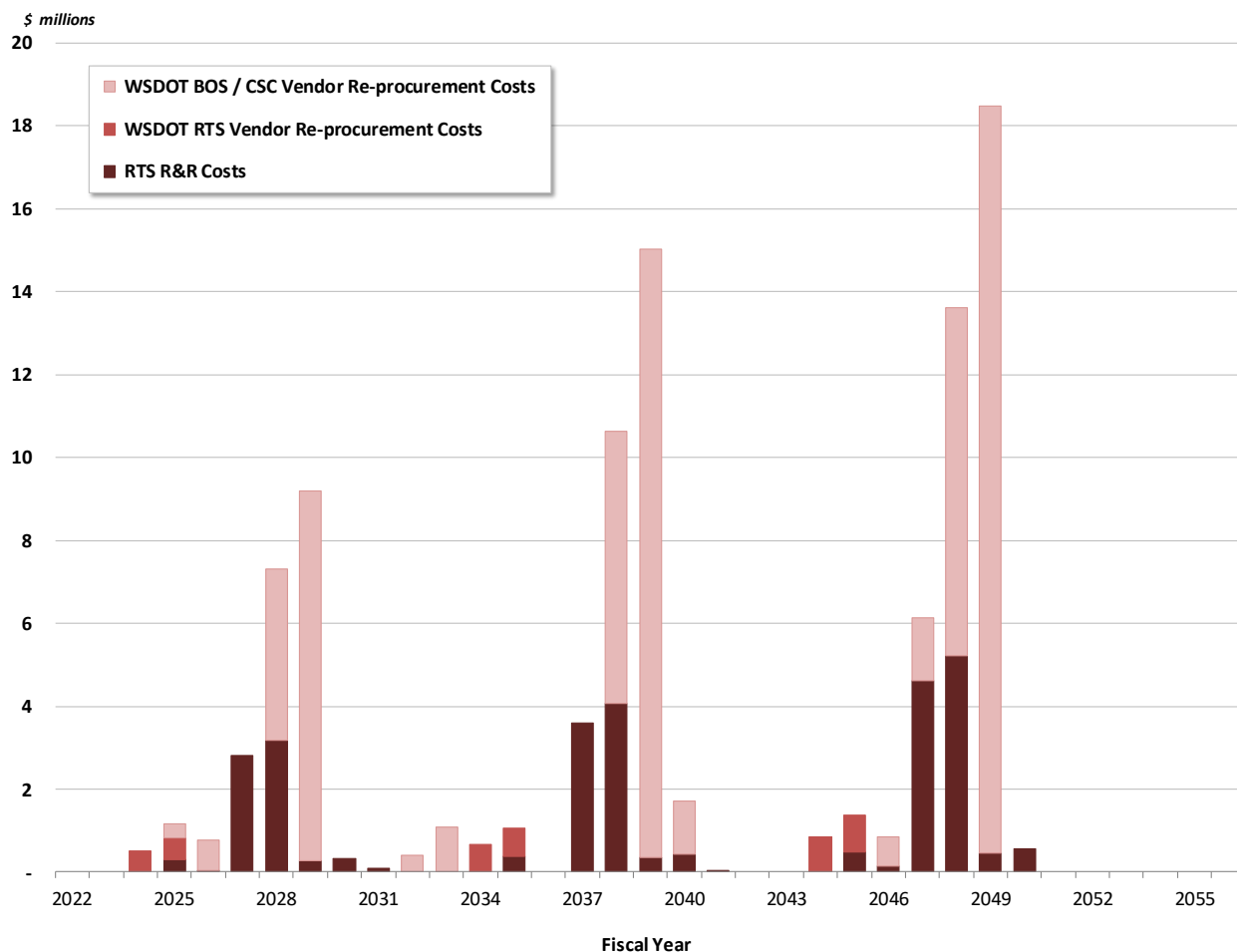


Exhibit 24: November 2019 Forecast for Toll Collection Repair & Replacement Costs by Component in YOY \$ (FY 2020-56)



Periodic Facility Repair and Replacement Costs (Column 33)

Costs associated with periodic facility R&R activities are assumed to be funded from the WSDOT preservation program (“P program”) using toll revenues and other non-toll sources. Periodic facility costs typically involve major capital upgrades, renewal, and improvements, including replacement of anchor cables, replacement of strip seal expansion joints, surface rehabilitation, painting, and related capital rehabilitation. Cost estimates for periodic R&R items are dependent upon several design characteristics of the facility, including the type of construction materials and structural attributes.

As with facility O&M costs, WSDOT’s NWR maintenance staff has responsibility for reviewing, revising, preparing, and documenting the costs for R&R activities. Like the O&M costs, R&R projections were prepared by roadway segment and cost category. The November 2019 forecast includes a 24.5 percent (\$74 million) increase in Periodic Facility R&R costs over the forecast period, primarily attributed to revisions to cost estimates for bridge deck resealing. A map illustrating the roadway segments in the SR 520 corridor is provided as Exhibit 3 in the Introduction on page 5.

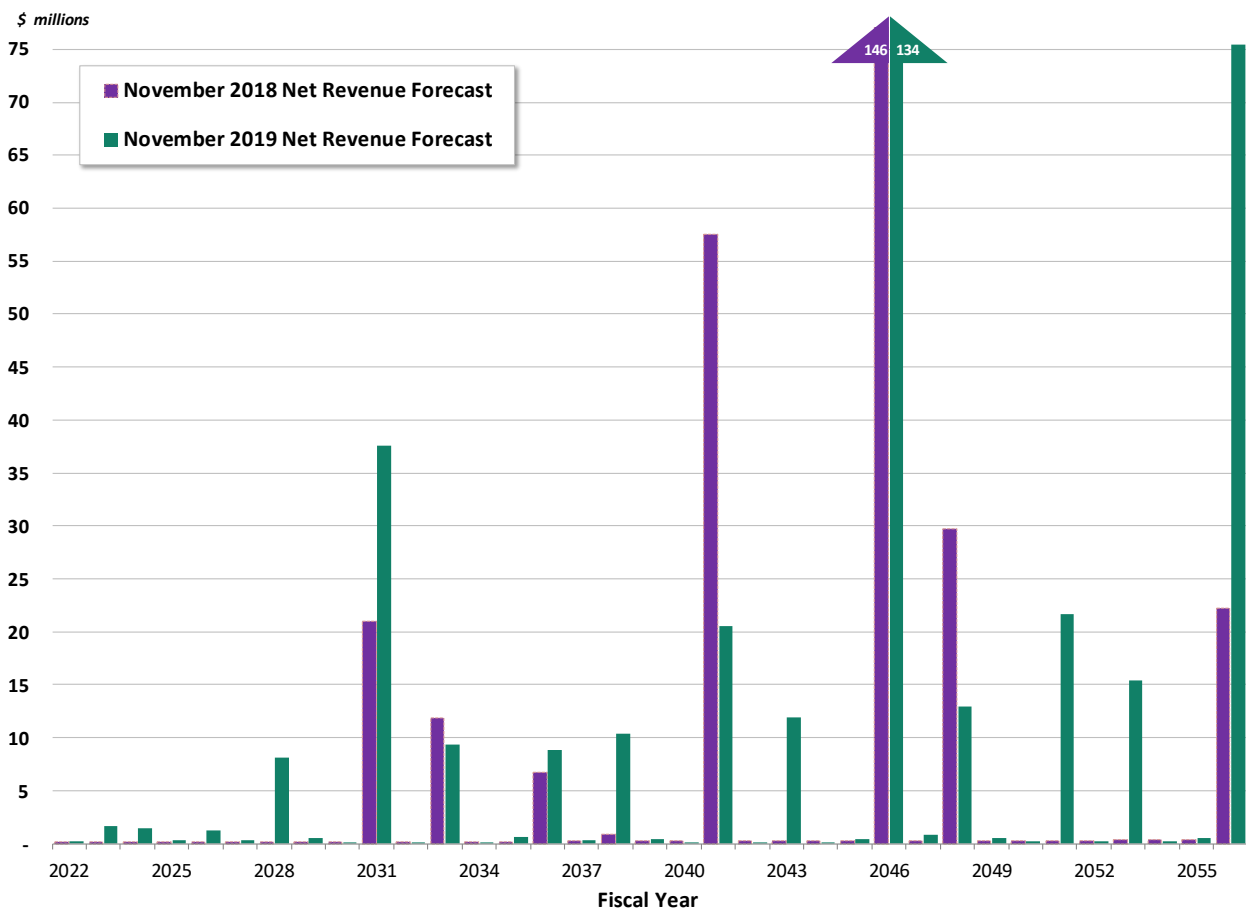
For the purpose of these projections, it was previously determined that toll revenues would be used to fund all facility R&R expenditures for the bridge structures and related components with toll funding, such as replacement of expansion joints, bridge decking, and anchor cables. In addition, toll revenues would pay for the traffic management and data systems R&R costs throughout the SR 520 corridor.

In contrast, WSDOT’s non-toll funding from the Preservation Program would be used for non-bridge program components with toll capital funding, primarily the at-grade highway section between the floating bridge and I-405. R&R costs not paid from tolls in this section would include pavement grinding and resurfacing, and roadway lighting.

The 2015 Legislature authorized \$1.64 billion in funding for the Rest of the West improvements between I-5 to Lake Washington via the Connecting Washington transportation revenue package. As a result of this action taken by the State Legislature to construct the fifth and final component of the SR 520 corridor program using only motor vehicle tax revenues other than tolls, WSDOT assumes that the R&R costs for the Rest of the West will continue to be funded from non-toll motor vehicle revenues sources within the Preservation Program.

Facility R&R costs funded by toll revenues are shown in column 33 of the Exhibit 27 T&R table for the November 2019 forecast. Annual amounts for all three forecasts are depicted in **Error! Reference source not found.** on the following page.

Exhibit 25: Toll-Funded Facility Repair & Replacement Costs by Forecast in YOE \$ (FY 2020-56)



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Appendix A: Annual Toll Traffic & Revenue Projections

The T&R table provided on the following page as Exhibit 27 shows the adjustments, additions, and reductions to Stantec’s Gross Toll Revenue Potential forecast that yield the net toll revenue cash flow available for debt service and other downstream uses.

Key changes and additions to T&R table columns by forecast are shown in Exhibit 26 below, with (#) representing the table column number.

Exhibit 26: Changes in the T&R Table Format across the Annual Net Revenue Forecasts

SEPTEMBER 2011	SEPTEMBER 2012*	OCTOBER 2013 & NOVEMBER 2014	NOVEMBER 2015	NOVEMBER 2016-18	NOVEMBER 2019
Gross Toll Revenue (11)	Gross Toll Revenue Potential (11)	No change	No change	No change	No change
Free Trip Incentive (12)	No Change	Included in actuals for Toll Payment Discounts & Fees (12)	No change	No change	No change
Self-Initiated Payment Incentives (13)	No Change	Included in Toll Payment Discounts & Fees (12)	No change	No change	No change
Good To Go! Pay By Plate Fees (14)	Good To Go! Pay By Plate Surcharge (14)	Included in Toll Payment Discounts & Fees (12)	No change	No change	No change
Late Payment Fees (15)	No change	Pay By Mail (PBM) Rebilling Fees (18)	No change	No change	No change
N/A	N/A	N/A	N/A	Recaptured Toll Revenue at Good to Go! Rates via CPR (15)	No change
N/A	N/A	Gross Toll Revenue Collected (15)	No change	Gross Toll Revenue Collected (16)	No change
Uncollectible Transactions/Leakage (16)	Uncollectible Accounts (16)	Revenue Not Recognized (13), Unpaid Toll Revenue (14)	No change	No change	No change
N/A	N/A	Misc. Pledged Revenues (16)	No change	Misc. Pledged Revenues (17)	No change
Recovered Toll & Fee Revenue (17)	No change	Recovered Toll Revenue (19), recovered fees included in PBM Rebilling Fees (18)	No change	Toll Revenue Recovered at PBM Rates via NOCP (20), recovered fees included in PBM Rebilling Fees (19)	No change
Adjusted Gross Toll Revenues (18)	No change	Adjusted Gross Toll Revenue & Fees (20)	No change	Adjusted Gross Toll Revenue & Fees (21)	No change
Transponder Sales Revenue (19)	No change	Transponder Sales Revenue (17)	No change	Transponder Sales Revenue (18)	No change
Credit Card Fees (21)	Credit Card Fees (22)	Credit Card Fees (21)	Credit Card Fees (21): now excludes fees from tag sales	Credit Card Fees (22)	No change
Transponder Purchase & Inventory Cost (20)	No change	Included in Toll Collection O&M (22)	Included in Toll Collection O&M (22); now includes credit card fees on tag sales	Included in Toll Collection O&M (23)	No change
Routine Toll Collection O&M Costs (22)	Toll Collection O&M Costs (22)	Toll Collection O&M Costs (22), costs now include Transponder Purchase & Inventory	No change	Toll Collection O&M Costs (23)	Toll Collection CSC O&M Costs split up: CSC Ops Vendor O&M (26), BOS Software Vendor O&M (27)
N/A	N/A	Periodic Toll Equipment and CSC R&R Costs (28)	No change)	Periodic Toll Equipment and CSC R&R Costs (29)	No change
Remaining Net Toll Revenues After R&R/Deferred Sales Tax (28)	Net Toll Revenue After Deferred Sales Tax and Periodic R&R (28)	Total Net Toll Revenue After Deferred Sales Tax and Periodic R&R (29)	No change	Removed	No change

* Forecast values correspond to the September 2012 Net Revenue forecast update, modified to incorporate nickel rounding of toll rates in fiscal years 2014-16, as adopted by the Washington State Transportation Commission in May 2013.

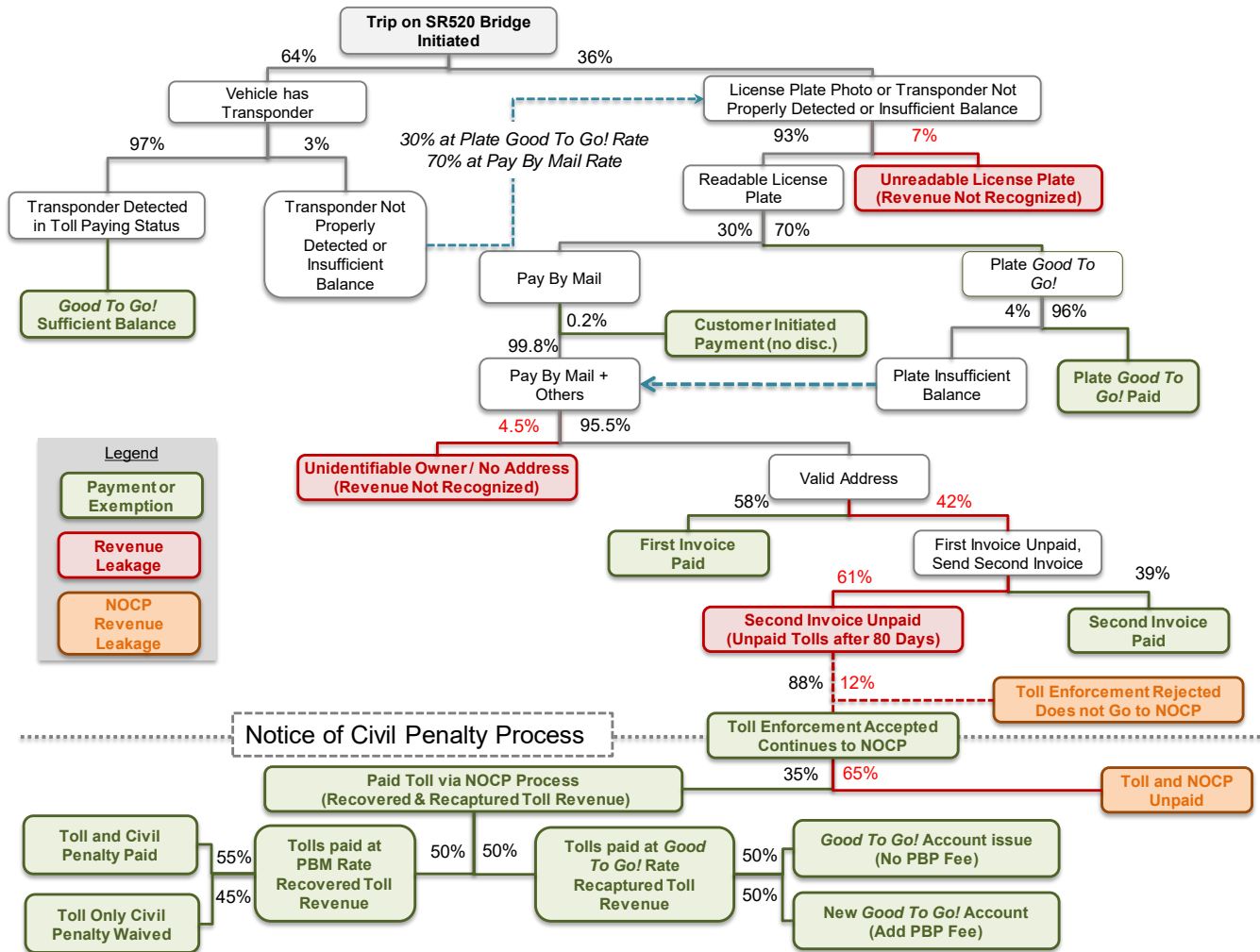
Exhibit 27: SR 520 Traffic and Revenue Table – November 2019 Forecast
Annual Transactions, Gross Revenue, and Net Revenue | FY 2012-56 | Pre-COVID-19 Projections

Updated: 4/7/2020

Fiscal Year	Good To Go! Accounts			Pay By Mail / No Account			Total Toll Transactions (millions) ⁴	Toll Revenue Potential		Total Gross Toll Revenue Potential (\$ millions) ⁴	Plus (Less):				Subtotal: Adjusted Gross Toll Revenue Collected (\$ millions)	Plus (Less):				Subtotal: Adjusted Gross Toll Revenue & Fees (\$ millions)	Less (Less):				Total Net Toll Revenue (\$ millions)	Deferred Sales Tax Payments (\$ millions) ²⁶	Periodic Toll Equipment and CSC Repair & Replacement (R&R) Costs (\$ millions) ²⁷	Periodic Facility Repair & Replacement (R&R) Costs (\$ millions) ²⁸				
	Wtd. Average Toll per PCE Transaction (one-way) ¹	Annual Bridge Toll Transactions (millions) ²	PCE Bridge Volumes (millions) ³	Wtd. Average Toll per PCE Transaction (one-way) ¹	Annual Bridge Toll Transactions (millions) ²	PCE Bridge Volumes (millions) ³		Good To Go! Pre-Paid Accounts (\$ millions) ⁵	Pay By Mail / No Account (\$ millions) ⁵		Toll Payment Discounts and Fees (\$ millions) ^{7,8,9}	Revenue Not Recognized (\$ millions) ^{10,11}	Unpaid Toll Revenue (\$ millions) ^{10,12}	Recaptured Toll Revenue at Good To Go! Rates via CPR (\$ millions) ¹³		Misc. Pledged Revenues (\$ millions) ¹⁴	Transponder Sales Revenue (\$ millions) ¹⁵	Pay By Mail Rebilling Fees (2nd Invoice & Later Recovery) (\$ millions) ^{16,17}	Toll Revenue Recovered at Pay By Mail Rates via NOCP (\$ millions) ¹⁸		Credit Card Fees (\$ millions) ¹⁹	Transponder Purchase and Inventory Costs (\$ millions) ²⁰	State and Consultant Operations Costs (\$ millions) ²¹	Roadway (RTS) O&M Costs (\$ millions) ²²					CSC Operations Vendor O&M Costs (\$ millions) ²³	BOS Software Vendor O&M Costs (\$ millions) ²³	Routine Facility O&M Costs (\$ millions) ²⁴	Bridge Insurance Premium (\$ millions) ²⁵
2012	\$2.66	7.95	8.05	\$3.96	1.66	1.69	9.61	21.39	6.67	28.06	(0.21)	(0.69)	(1.05)	-	26.10	2.00	1.32	0.83	-	30.25	(0.43)	(0.93)	(3.53)	(0.32)	(2.18)	-	-	(1.64)	21.22	-	-	
2013	\$2.78	16.92	17.01	\$4.19	3.30	3.35	20.22	47.28	14.02	61.30	0.67	(1.52)	(5.01)	0.00	55.44	0.24	0.47	1.38	-	57.53	(0.91)	(0.33)	(1.94)	(0.29)	(4.60)	-	-	(2.43)	47.02	-	-	
2014	\$2.85	17.69	17.77	\$4.23	3.27	3.31	20.96	50.57	14.02	64.59	0.86	(1.68)	(3.28)	0.01	60.50	0.21	0.50	1.51	-	62.72	(1.08)	(0.35)	(3.40)	(0.36)	(3.87)	-	-	(2.52)	51.14	-	-	
2015	\$2.93	18.43	18.52	\$4.19	3.59	3.62	22.02	54.21	15.17	69.38	1.02	(3.82)	(2.69)	0.06	63.95	0.51	0.55	1.60	0.89	67.49	(1.20)	(0.34)	(3.67)	(0.37)	(4.78)	-	-	(2.22)	54.91	-	(0.35)	
2016	\$2.93	19.77	19.86	\$4.79	3.45	3.48	23.22	58.13	16.67	74.80	1.20	(3.70)	(3.73)	0.79	69.35	0.70	0.83	1.40	0.82	73.09	(1.31)	(0.55)	(4.36)	(0.27)	(4.75)	-	(0.81)	(2.26)	58.77	-	(0.48)	
2017	\$3.08	20.26	20.36	\$5.10	3.72	3.75	23.97	62.79	19.13	81.91	1.26	(4.54)	(4.29)	0.63	74.98	3.77	0.85	1.14	0.82	81.55	(1.56)	(0.59)	(4.91)	(0.41)	(5.62)	-	(2.35)	(2.24)	63.87	-	(0.80)	(0.21)
2018	\$3.11	22.59	22.70	\$6.15	3.19	3.22	25.79	70.52	19.83	90.35	1.47	(4.40)	(4.85)	0.62	83.18	0.98	0.87	1.31	1.00	87.35	(1.73)	(0.59)	(4.90)	(0.52)	(5.92)	-	(1.75)	(2.48)	69.46	-	(2.56)	(0.28)
2019	\$3.18	23.17	23.28	\$5.36	3.35	3.38	26.52	74.06	18.13	92.19	1.58	(4.36)	(4.53)	0.79	85.68	2.14	0.91	1.64	1.00	91.36	(1.85)	(0.65)	(4.94)	(0.37)	(8.02)	-	(2.21)	(2.83)	70.49	-	(4.04)	(0.06)
2020	\$3.17	23.88	24.17	\$5.21	3.61	3.65	27.49	76.71	19.03	95.74	1.51	(5.34)	(4.55)	0.44	87.81	2.33	1.00	1.54	0.75	93.43	(2.21)	(0.76)	(7.69)	(0.67)	(10.03)	-	(2.72)	(3.38)	65.96	-	(4.97)	(0.08)
2021	\$3.18	24.33	24.62	\$5.23	3.63	3.67	27.96	78.37	19.19	97.56	1.55	(4.31)	(4.71)	0.48	90.56	2.51	0.94	1.62	0.75	96.38	(2.36)	(0.74)	(7.75)	(0.68)	(5.80)	(0.96)	(2.79)	(3.89)	71.41	-	-	(0.25)
2022	\$3.20	24.51	24.80	\$5.26	3.61	3.65	28.11	79.39	19.19	98.58	1.58	(3.53)	(4.71)	0.50	92.41	2.73	0.95	1.67	0.73	98.49	(2.41)	(0.85)	(5.91)	(0.73)	(7.42)	(1.07)	(2.86)	(3.89)	73.36	-	(0.03)	(0.18)
2023	\$3.19	25.55	25.85	\$5.25	3.71	3.75	29.25	82.52	19.68	102.20	1.66	(3.65)	(5.04)	0.51	95.68	2.85	0.99	1.72	0.73	101.98	(2.50)	(0.90)	(6.14)	(0.74)	(6.95)	(1.08)	(2.93)	(3.89)	76.84	(15.94)	-	(1.62)
2024	\$3.17	26.80	27.12	\$5.22	3.83	3.88	30.63	86.01	20.24	106.25	1.75	(3.79)	(5.20)	0.53	99.53	2.90	1.04	1.79	0.80	106.05	(2.60)	(0.96)	(6.41)	(0.76)	(7.83)	(1.10)	(3.00)	(4.04)	79.35	(15.94)	-	(1.48)
2025	\$3.18	27.51	27.84	\$5.22	3.88	3.93	31.39	88.43	20.53	108.95	1.80	(3.87)	(5.26)	0.54	102.16	2.97	1.07	1.82	0.80	108.82	(2.66)	(1.01)	(6.23)	(0.81)	(7.89)	(0.89)	(3.08)	(4.15)	82.09	(15.94)	(0.37)	(0.27)
2026	\$3.17	28.38	28.72	\$5.22	3.95	4.00	32.33	91.02	20.87	111.89	1.87	(3.97)	(5.37)	0.55	104.97	3.08	1.11	1.85	0.84	111.86	(2.74)	(1.07)	(6.71)	(0.81)	(8.07)	(0.86)	(3.15)	(4.26)	84.19	(15.94)	(0.81)	(1.20)
2027	\$3.17	29.08	29.43	\$5.22	4.00	4.04	33.08	93.24	21.11	114.35	1.92	(4.05)	(5.43)	0.56	107.35	3.20	1.13	1.88	0.84	114.42	(2.80)	(1.11)	(6.77)	(0.82)	(8.30)	(0.84)	(3.23)	(4.35)	86.19	(15.94)	(3.85)	(0.28)
2028	\$3.17	29.83	30.19	\$5.22	4.05	4.09	33.88	95.68	21.39	117.06	1.98	(4.13)	(5.51)	0.57	109.97	3.31	1.17	1.90	0.88	117.23	(2.87)	(1.16)	(6.68)	(0.85)	(8.38)	(0.79)	(3.31)	(4.46)	88.73	(15.94)	(3.20)	(8.06)
2029	\$3.17	30.26	30.62	\$5.23	4.05	4.10	34.30	97.18	21.45	118.63	2.02	(4.18)	(5.53)	0.57	111.51	3.40	1.20	1.91	0.88	118.90	(2.91)	(1.20)	(6.56)	(0.87)	(8.65)	(0.74)	(3.40)	(4.51)	90.06	(15.94)	(2.89)	(0.51)
2030	\$3.16	31.23	31.60	\$5.21	4.18	4.23	35.40	99.77	22.03	121.81	2.10	(4.30)	(5.70)	0.58	114.48	3.56	1.26	1.97	0.90	122.17	(2.98)	(1.26)	(6.73)	(0.90)	(9.03)	(0.73)	(3.48)	(4.64)	92.44	(15.94)	(6.30)	(0.10)
2031	\$3.16	31.98	32.36	\$5.22	4.16	4.21	36.14	102.36	22.01	124.36	2.16	(4.36)	(5.69)	0.59	117.06	3.67	1.31	1.98	0.90	124.91	(3.05)	(1.31)	(6.86)	(0.92)	(9.35)	(0.76)	(3.57)	(4.73)	94.36	(15.94)	-	(37.52)
2032	\$3.16	32.75	33.14	\$5.23	4.21	4.26	36.95	104.86	22.25	127.11	2.22	(4.45)	(5.77)	0.59	119.71	3.80	1.36	2.00	0.93	127.80	(3.12)	(1.36)	(7.09)	(0.94)	(9.73)	(0.90)	(3.66)	(4.84)	96.17	(15.94)	-	(0.11)
2033	\$3.16	33.02	33.41	\$5.23	4.18	4.23	37.20	105.70	22.13	127.83	2.25	(4.46)	(5.75)	0.60	120.46	3.80	1.60	2.00	0.93	128.79	(3.14)	(1.60)	(7.71)	(0.96)	(10.32)	(0.99)	(3.75)	(4.87)	95.46	-	(0.49)	(9.34)
2034	\$3.16	33.38	33.78	\$5.24	4.17	4.22	37.55	106.88	22.07	128.96	2.29	(4.49)	(5.74)	0.59	121.61	3.80	1.64	1.99	0.95	129.98	(3.17)	(1.64)	(7.88)	(0.99)	(10.57)	(0.99)	(3.84)	(4.91)	95.99	-	(1.11)	(0.11)
2035	\$3.16	33.72	34.12	\$5.24	4.15	4.20	37.86	107.87	21.97	129.84	2.32	(4.51)	(5.73)	0.59	122.52	3.80	1.68	1.99	0.95	130.93	(3.19)	3.80	(8.08)	(1.01)	(10.88)	(0.99)	(3.94)	(4.94)	96.22	-	(0.47)	(0.59)
2036	\$3.16	34.19	34.60	\$5.24	4.14	4.19	38.33	109.42	21.98	131.40	2.36	(4.55)	(5.74)	0.59	124.07	3.80	1.73	1.99	0.95	132.54	(3.23)	(1.73)	(8.28)	(1.04)	(11.25)	(1.00)	(4.04)	(5.00)	96.97	-	(0.48)	(8.82)
2037	\$3.16	34.49	34.90	\$5.25	4.12	4.17	38.61	110.46	21.88	132.33	2.40	(4.57)	(5.72)	0.59	125.03	3.80	1.77	1.99	0.95	133.53	(3.26)	(1.77)	(8.45)	(1.06)	(11.55)	(1.00)	(4.14)	(5.04)	97.27	-	(3.79)	(0.36)
2038	\$3.17	34.86	35.28	\$5.25	4.10	4.15	38.96	111.66	21.80	133.46	2.43	(4.60)	(5.71)	0.59	126.17	3.80	1.81	1.98	0.95	134.71	(3.29)	3.80	(8.64)	(1.11)	(11.98)	(1.01)	(4.24)	(5.08)	97.56	-	(4.04)	(10.32)
2039	\$3.17	35.23	35.65	\$5.26	4.08	4.13	39.31	112.86	21.72	134.58	2.47	(4.63)	(5.70)	0.59	127.31	3.58	1.86	1.98	0.95	135.67	(3.32)	(1.86)	(8.83)	(1.14)	(12.26)	(1.01)	(4.35)	(5.12)	97.79	-	(3.46)	(0.38)
2040	\$3.16	35.68	36.10	\$5.26	4.07	4.12	39.75	114.23	21.66	135.90	2.51	(4.66)	(5.70)	0.59	128.64	3.42	1.91	1.98	0.95	136.89	(3.35)	(1.91)	(9.05)	(1.17)	(12.68)	(1.02)	(4.46)	(5.17)	98.09	-	(8.08)	(0.13)
2041	\$3.16	35.94	36.37	\$5.26	4.04	4.09	39.98	115.07	21.50	136.57	2.54	(4.67)	(5.67)	0.59	129.36	3.42	1.95	1.97	0.95	137.64	(3.37)	3.42	(9.24)	(1.20)	(12.97)	(1.07)	(4.57)	(5.20)	98.09	-	(1.25)	(20.54)
2042	\$3.17	36.35	36.79	\$5.27	4.02	4.07	40.37	116.49	21.45	137.94	2.58	(4.71)	(5.66)	0.59	130.74	3.42	2.00	1.97	0.95	139.07	(3.40)	(2.00)	(9.45)	(1.23)	(13.36)	(1.25)	(4.68)	(5.25)	98.45	-	(0.04)	(0.14)
2043	\$3.17	36.73	37.17	\$5.28	4.00	4.04	40.73	117.71	21.34	139.06	2.62	(4.73)	(5.65)	0.59	131.88	3.42	2.06	1.97	0.95	140.26	(3.43)	(2.06)	(9.66)	(1.26)	(13.68)	(1.26)	(4.80)	(5.29)	98.83	-	(0.09)	(11.96)
2044	\$3.17	37.22	37.67	\$5.28	3.99	4.03	41.21	119.33	21.31	140.63	2.67	(4.78)	(5.65)	0.59	133.46	3.42	2.12	1.97	0.94	141.90	(3.47)	(2.12)	(9.89)	(1.29)	(14.22)	(1.26)	(4.92)	(5.35)	99.37	-	-	(0.14)
2045	\$3.17	37.50	37.95	\$5.29	3.95	4.00	41.4																									

Appendix B: Toll Payment Activity Workflow

Exhibit 28: SR 520 Toll Transaction Activity Workflow—November 2019 Forecast (FY 2025)



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Appendix C: List of Facility Maintenance Activities

Exhibit 29: SR 520 Maintenance Categories and Activities

Maintenance Activity	Unit of Measure
Pavement Patching, Repair & Crack Sealing	Lane Mile
Shoulder Maintenance	Shoulder Mile
Sweeping and Cleaning	Shoulder Mile
Maintain Ditches	Linear Feet of Ditch
Maintain Culverts	Each
Maintain Catch Basins and Inlets	Each
Maintain Detention/Retention Basins	Storm water Treatment Facility (Each)
Litter Pickup	Shoulder mile
Landscape Maintenance (3 yr plant establish)	Acres
Bridge Deck Repair	Square Feet of Bridge Deck
Structural Bridge Repair	Square Feet of Bridge Deck
Bridge Cleaning	Square Feet of Bridge Deck
Movable and Floating Bridge Operations	Bridges (Each)
Urban Tunnel Systems Operations	Urban Tunnel Systems (Each)
Snow and Ice Control Operations	Lane Mile
Pavement Striping Maintenance	Lane Mile
Raised/Recessed Pavement Marker Maintenance	
<i>Raised</i>	<i>Each</i>
Pavement Marking Maintenance	Each
Regulatory Sign Maintenance	Each
Guide Sign Maintenance	Each
Guardrail Maintenance	
<i>Concrete Barrier</i>	<i>Linear Feet of Concrete Barrier</i>
Highway Lighting Systems Operations	Each
Toll Equipment Power	Annual Lump Sum
Under-Lid Lighting Operations	Annual Lump Sum
Intelligent Transportation Systems Operations	
<i>Closed Circuit Television</i>	<i>Each</i>
<i>Variable Message/Changeable Sign</i>	<i>Each</i>
<i>Data Station System</i>	<i>Each</i>
3rd Party (unknown) Damages	Lane Mile
Wetland Mitigation Sites	Acres
ATM Sign Structures	Each
Static Sign Structures	Each
Noise Walls	Linear Feet
Fish Culverts	Each
Sidewalk	Linear Feet
Locates (all disciplines)	Each
Retaining Wall	Linear Feet