Interstate BRIDGE Replacement Program

Level 2 Traffic and Revenue Study

November 2023

Level 2 Traffic and Revenue Study

Prepared for:

Washington State Department of Transportation in partnership with the Oregon Department of Transportation

Prepared by:

Stantec Consulting Services, Inc.
601 SW Second Avenue Suite 1400
Portland, OR 97204

WSP USA
1300 SW 5th Avenue, Suite 3100
Portland, OR 97201

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

LIMITS AND DISCLAIMER

This Report was assembled by Stantec Consulting Services Inc. (Stantec) and WSP USA Inc. (WSP) in accordance with an agreement with the Washington State Department of Transportation (WSDOT), in partnership with the Oregon Department of Transportation (ODOT). This Report is subject to the terms and conditions of that agreement and is meant to be read as a whole and in conjunction with this Limits and Disclaimer.

It is the opinion of Stantec and WSP that the traffic forecasts, gross toll revenue estimates, and net toll revenue estimates (collectively, "Forecasts & Estimates") provided herein represent as of the date the Forecasts & Estimates were made, reasonable predictions of levels of traffic and toll revenues that can be expected to accrue from tolling the Interstate Bridge over the identified forecast period and that they have been prepared in accordance with accepted industry-wide practice. However, given the uncertainties within the current regional, national, and international economic climate, the Forecasts & Estimates are conditioned and qualified as follows:

- This Report presents the results of Stantec's and WSP's consideration of the information available at the time of the study and the application of our experience and professional judgment to that information. It is not a guarantee of any future events or trends.
- The Forecasts & Estimates will be subject to future economic and social conditions, demographic developments, and regional transportation construction activities that cannot be predicted with certainty.
- The Forecasts & Estimates contained in this Report, while presented with numeric specificity, are based on a number of estimates and assumptions which, though considered reasonable to the forecaster, are inherently subject to economic and competitive uncertainties and contingencies, most of which are beyond the control of WSDOT and ODOT and cannot be predicted with certainty. In many instances, a broad range of alternative assumptions could be considered reasonable with the availability of alternative toll schedules, and any changes in the assumptions used could result in material differences in estimated outcomes.
- The general configuration and location of the Interstate Bridge and its interchanges, as well as access to and from the Interstate Bridge, will remain as discussed herein.
- No other new competing highway projects, including new river crossings, are assumed to be constructed or significantly improved in the project corridor during the forecast period, except those identified herein.
- Major highway and transit improvements that are currently underway or fully funded will be completed as planned.
- The Interstate Bridge will be well maintained, efficiently operated, and effectively signed to encourage usage.
- No reduced growth initiatives or related controls that would significantly inhibit normal development patterns will be introduced during the forecast period.
- Economic business cycles with periods of economic growth and recession are assumed to occur over the forecast period, and it is assumed that there will be no future protracted recession during the forecast period.

- No local, regional, or national emergency and no protracted fuel or energy shortage will arise that will abnormally restrict the use of motor vehicles.
- If, for any reason, any of these stated conditions should change due to changes in the economy, competitive environment, pandemic conditions and associated actions, or other factors, Stantec's and WSP's opinions or estimates may require amendment or further adjustments.
- Stantec's toll traffic and gross revenue projections and WSP's net toll revenue projections only represent their best judgment at the time made, and Stantec and WSP do not warrant, guarantee, or represent that actual toll revenues will not vary from the Forecasts & Estimates.

By their very nature, assumptions regarding information or data are accepted as true or certain to happen without actual proof of same. Stantec and WSP used assumptions to generate the Forecasts & Estimates in this Report. Many statements contained in this document that are not historical facts are forward-looking statements, which are based on Stantec's or WSP's opinions, as well as assumptions made by, and information currently available to, the management and staff of Stantec or WSP. Because the statements are based on expectations about future events and economic performance, and are not statements of fact, actual results may differ materially from those projected. The assumptions and resulting forecasts could change based on a variety of factors, including but not limited to: (a) economic conditions; (b) social and demographic conditions; (c) force majeure; (d) changes in operations and maintenance of the toll facility represented in the Report; and/or (e) new or changed transportation network or transit systems in the Portland/Vancouver region. These potential risks and uncertainties may be magnified by the transitory or permanent effects of the COVID-19 pandemic on mobility, travel, and the economy. The words "anticipate," "assume," "estimate," "expect," "objective," "projection," "plan," "forecast," "goal," "budget," or similar words are intended to identify forward-looking statements. The words or phrases "to date", "now", "currently", and the like are intended to mean as of the date of this document.

This Report, and the opinions, analysis, evaluations, or recommendations contained herein, are for the sole use and benefit of the contracting parties. There are no intended third-party beneficiaries, and Stantec, WSP, and their affiliates shall have no liability whatsoever to any third parties for any defect, deficiency, error, omission in any statement contained in or in any way related to this document or the services provided.

Neither this document nor any information contained therein or otherwise supplied by Stantec and WSP in connection with the study and the services provided to WSDOT and ODOT shall be used in connection with any financing solicitation, proxy, and proxy statement, proxy soliciting materials, prospectus, Securities Registration Statement, or similar document without the express written consent of Stantec.

Stantec and WSP are not municipal advisors as defined in Federal law (the Dodd Frank Bill) and are not subject to the fiduciary duty a Municipal Advisor has to a municipal entity client including WSDOT and ODOT pursuant to Section 15B (c)(1) of the Securities Exchange Act (Revised) with respect to the information and material contained in this document. Stantec and WSP are not recommending and have not recommended any action regarding municipal securities to WSDOT and ODOT. WSDOT and ODOT should discuss the information and material contained in this Report with any and all internal and external advisors that they deems appropriate before acting on this information.

ACRONYMS AND ABBREVIATIONS

ACH	automated clearing house
ATR	automatic traffic recorder
AWDT	average weekday daily traffic
BOS	back office system
CAGR	compounded annual growth rate
CRC	Columbia River crossing
CSC	Customer Service Center
ETC	electric toll collection
FHWA	Federal Highway Administration
FPL	Federal Poverty Level
FTA	Federal Transit Administration
FTE	full-time equivalent
FY	fiscal year
HBO	Home-Based Other
HBS	Home-Based Shop
HBW	Home-Based Work
HDA	high demand area
HOV	high-occupancy vehicle
IBR	Interstate Bridge Replacement
IGS	Investment Grade Study
I-5	Interstate 5
LPA	Locally Preferred Alternative
LRT	light rail transit
MOU	memorandum of understanding
mph	miles per hour
MPO	metropolitan planning organization
NEPA	National Environmental Policy Act
NHBO	Non-Home-Based Other
NHBW	Non-Home-Based Work
O-D	origin-destination
ODOT	Oregon Department of Transportation
O&M	operation and maintenance
OST	Office of the State Treasurer

OT	Oregon Transportation Commission
P-A	production-attraction
PBM	pay-by-mail
PBE	passenger car equivalent
PTR	permanent traffic recorder
RFP	request for proposal
RMPP	Regional Mobility Pricing Project
R&R	repair and replacement
RTDM	Regional Travel Demand Model
RTP	Regional Transportation Plan
RTS	roadway toll systems
SED	socioeconomic data
SEIS	Supplemental Environmental Impact Statement
SOV	single-occupancy vehicle
Stantec	Stantec Consulting Services Inc.
T&R	Traffic and Revenue (Study)
TAZ	traffic analysis zones
TTR	Transportation Technical Report (Draft)
WSDOT	Washington Department of Transportation
WSP	WSP USA Inc
WSTC	Washington State Transportation Commission
VOT	value-of time
YOC	year of collection
YOE	year of expenditure

1. INTRODUCTION

1.1 Project Background

Interstate 5 (I-5) provides a critical connection between Oregon and Washington that supports local jobs and families and is a vital trade route for regional, national, and international economies. It also serves as a vital community connection in the Portland-Vancouver region, with the I-5 Interstate Bridge comprising one of only two crossings of the Columbia River, serving the metropolitan area that spans both states. In the project area, the existing Interstate Bridge across the Columbia River consists of two dual lift bridges, which opened to traffic in 1917 and 1958. Beyond the concrete and steel of the existing bridge is a thriving background of scenic views, natural systems, and a rich cultural heritage.

Transportation challenges within the project area include seismic vulnerability; closely spaced interchanges; impaired freight movement; limited public transportation options, connectivity, travel time reliability; substandard bicycle and pedestrian facilities; high crash rates; bridge lift delays; substandard travel lane widths and lack of shoulders; growing travel demand and congestion; and impacts on aquatic habitat from stormwater runoff. The Interstate Bridge Replacement (IBR) Program will replace the aging Interstate Bridge across the Columbia River with seismically resilient, multimodal structures, expansion of light-rail transit (LRT) into Vancouver, enhanced zero emission express bus service and associated transit improvements, expansion of active transportation (walking, biking, and rolling), along with 5 miles of improvements to I-5, including seven interchanges. The current bridge, as of October 2022, carried over 135,000 vehicles on an average weekday, roughly 10% of which is truck traffic, including freight.

In December 2022, the IBR Program estimated the project cost based on a conceptual level of design, and inclusive of risk elements, to range from $5 billion to $7.5 billion, with a most likely risk-mitigated target of $5.935 billion. While funding from Oregon, Washington, and federal grants will make up a large share of the construction costs, the program's financial plan calls for at least 20% of the capital funding to come from leveraging tolls. Moreover, tolls provide a sustainable source of revenues to pay for ongoing operations and maintenance of the facility.

As a bi-state facility, several entities are involved in implementing tolling on the I-5 Bridge, including the Washington and Oregon Legislatures, the Transportation Commissions, and the Departments of Transportation. The legislatures create statutes regarding tolling, such as authorizing toll facilities and identifying where to toll. The Oregon and Washington State Transportation Commissions will work together to set toll rates and determine toll policies. The two Departments of Transportation will determine the best path for the implementation and operation of tolling based on the established tolls and policies for the IBR Program. At present, ODOT and WSDOT have entered into a memorandum of understanding (MOU) in which ODOT will serve as the toll administrator, collecting tolls on the Interstate Bridge on behalf of both states. This will provide the most consistent and seamless customer experience given that ODOT is implementing other regional toll facilities under the Oregon Toll Program.

1.1.1 Oregon and Washington State Transportation Commission Toll Rate Setting and Policy Coordination

During the former Columbia River Crossing Project, the Oregon and Washington State Transportation Commissions established a bi-state toll subcommittee composed of two commissioners from each state to recommend toll rates and policies for consideration and approval by each state's full Transportation Commission. It is anticipated that a similar process will occur for the IBR Program. The subcommittee would likely provide recommendations on topics including, but not limited to, toll rates, policies including discounts and exemptions, and fees and civil penalties to be considered by both Transportation Commissions during their joint rate setting process concurrent with a Level 3 Toll Traffic and Revenue (T&R) Study.

While the two Transportation Commissions will ultimately set toll rates and polices, the IBR Program and the Program's agency partners agreed that tolling on the bridge would vary by time of day. They also agreed that tolling would generate revenue to help fund construction and pay for facility operations and maintenance, while managing demand and improving mobility through the corridor.

Examples of possible exemptions and discounts that could be considered include those for carpools, emergency vehicles, low-income travelers, tribes, and public transit. Public input is an important part of setting toll rates and policies, and both the IBR Program and the Transportation Commissions will seek input from the communities that will be affected. The IBR Program will work with the Transportation Commissions to determine the process for incorporating public input around toll rate-setting and policies.

Both Transportation Commissions have supported the study of a low-income toll program, including how such a program could be implemented in each state, and they will work together to determine how to approach this on IBR. This Level 2 Toll T&R Study analyzes two representative low-income toll scenarios designed to inform future Transportation Commission discussions.

Due to the bi-state nature of the IBR Program, the process for tribal consultation related to toll rates, policies, and consideration of tribal exemptions will be determined jointly by the Oregon and Washington Transportation Commissions. Washington State's existing toll policies related to tribes is different than the approach under consideration for the Oregon Toll Program. The two Transportation Commissions will work together to reconcile the different approaches in each state in considering tribal discounts and exemptions for the IBR Program. While this study does not account for potential tribal discounts or exemptions, a future sensitivity test could be completed to understand the traffic and revenue impact and to help inform decision-making by the two Transportation Commissions.

1.2 Study Purpose

This study provides estimates of future traffic, gross toll revenue potential, and net toll revenue expected from tolling the Interstate Bridge for the express purpose of developing conservative revenue projections to use in financial planning for the IBR Program. Seven toll scenarios (described in Section 4.2 of this report) containing varied toll rates, policies, and background roadway network assumptions were analyzed under a full-build condition, which included all the investments identified as part of the Modified Locally Preferred Alternative (LPA). The various toll scenarios were analyzed

with the primary goal of demonstrating the funding capacity of the toll revenues and how they vary across different toll and policy assumptions, the results of which are intended to inform the Oregon and Washington State Transportation Commissions as they begin a bi-state coordination process that will eventually lead to their joint toll rate and policy rule-making process to be adopted for the Interstate Bridge.

One objective of the traffic and revenue (T&R) forecasts is to support financial planning, including the capacity of the toll revenues to support the construction of the replacement bridge. However, there is a degree of uncertainty regarding the actual revenue that will occur as the demand trends of the immediate post-pandemic period and toll policies may change as the program moves towards implementation. As such, this Level 2 T&R Study attempts to minimize the risk of this uncertainty by providing a conservative estimate of the potential funding that could be leveraged from tolling for financial planning purposes, thereby minimizing the chance of overstating revenue. However, these conservative estimates of traffic would result in understating or misrepresenting the potential environmental impacts and design considerations of the IBR Program. As such, these traffic volumes are neither suitable for, nor are they intended to be used for, design and/or environmental analysis. Additional context on the different forecasts and their purposes is provided in Section 4.3.1.

This analysis was performed to capture the interaction with other tolling initiatives in the region, specifically the I-205 Toll Project and the Regional Mobility Pricing Project (RMPP) as planned by ODOT in late 2022. The I-205 Toll Project, which has been adopted within the Regional Transportation Plan (RTP), was included in the modeling assumptions for all scenarios analyzed as part of this Level 2 T&R Study. At the time, the project included tolls on both the Abernethy and Tualatin River Bridges and widening of Interstate 205 (I-205) to three lanes in each direction between the Abernethy Bridge and Stafford Road, as documented in ODOT's Level 2 T&R Study for the project.[1] More recently, subsequent to this study's traffic modeling analysis, the I-205 Toll Project has been narrowed to include tolls only at the Abernethy Bridge, with the addition of an auxiliary lane south of the bridge deferred indefinitely. The potential impact of this project change will be discussed further in Section 4.3.2.

The RMPP proposes to add congestion pricing to I-5 and I-205 in the Portland metropolitan region. The RMPP is currently undergoing National Environmental Policy Act (NEPA) analysis. At the time of this study's T&R modeling and forecasting, the RMPP was not yet included in the RTP. For this reason, its impact on the IBR Program has only been evaluated separately under two specific scenarios, as described later in the report. As of the date of this report, a draft update of the RTP that includes the RMPP is out for public review. Subsequent IBR Program T&R analyses will incorporate the latest RMPP assumptions. For all scenarios, this study's gross toll revenue forecasts were further analyzed to determine the net revenue projections available to support capital funding.

The forecasting tools used in preparing the Level 2 T&R Study forecasts were built upon and calibrated to pre-pandemic regional travel patterns with readily available traffic data for 2015, and

[1] https://www.oregon.gov/odot/tolling/Documents/I-205_L2_T+R_Study_Report_October-2022_Final_Revised.pdf

they were supplemented by some data for 2019. However, the forecasting approach also accounted for the near-term impacts of the travel disruptions caused by the COVID-19 pandemic and a gradual recovery to pre-pandemic levels in the long term. It is anticipated that a broader set of more recent observed data, including updated origin-destination (O-D) patterns, will be collected, and a stated preference survey analysis will be conducted as part of a future Level 3 (investment grade) T&R Study. The Level 3 T&R Study analysis may include the use of an updated version of a regional travel demand model, if an updated version is tested and available by the time Level 3 T&R Study starts. These Level 2 T&R Study forecasts provide a reasonably conservative estimate of revenue potential across various toll scenarios, and they are designed to inform policy discussions until such time as the Level 3 T&R Study is undertaken in mid-2024 in conjunction with the two State Transportation Commissions' rate setting process.

The Level 2 T&R Study was conducted jointly by Stantec and WSP (the T&R Study team). The toll modeling, analysis, and preparation of traffic and gross toll revenue forecasts for the Interstate Bridge was led by Stantec. WSP was responsible for project management, coordination across teams, and preparation of the net revenue projections.

1.3 Organization of the Report

Chapter 2 discusses the existing bridge traffic trends. Discussions include average weekday traffic, variation by time of day, truck percentages, origin-destination (O-D) patterns of trips crossing the river and travel times along major facilities in the region.

Chapter 3 describes the modeling approach. Discussions include the modeling tools implemented for this T&R analysis, calibration results, and demand adjustments for pandemic-related changes in regional travel.

Chapter 4 summarizes key tolling assumptions for the IBR Program. Discussions include toll rates and hourly schedules by vehicle type, payment methods, and toll escalation. Chapter 4 also discusses the seven different toll scenarios analyzed as part of this Level 2 T&R Study. The model-estimated average weekday traffic volumes on the Interstate Bridge under each scenario are also presented for key future years. The final section of this chapter describes the key assumptions for preparing annual T&R forecasts, followed by the detailed annual T&R forecasts by state fiscal year.

Chapter 5 describes the process by which the forecasts for gross toll revenue potential are transformed into net toll revenue projections. It also presents the gross-to-net revenue projection steps for each scenario analyzed. This chapter provides net toll revenue projection charts for fiscal years (FYs) 2026 through 2067 under each scenario.

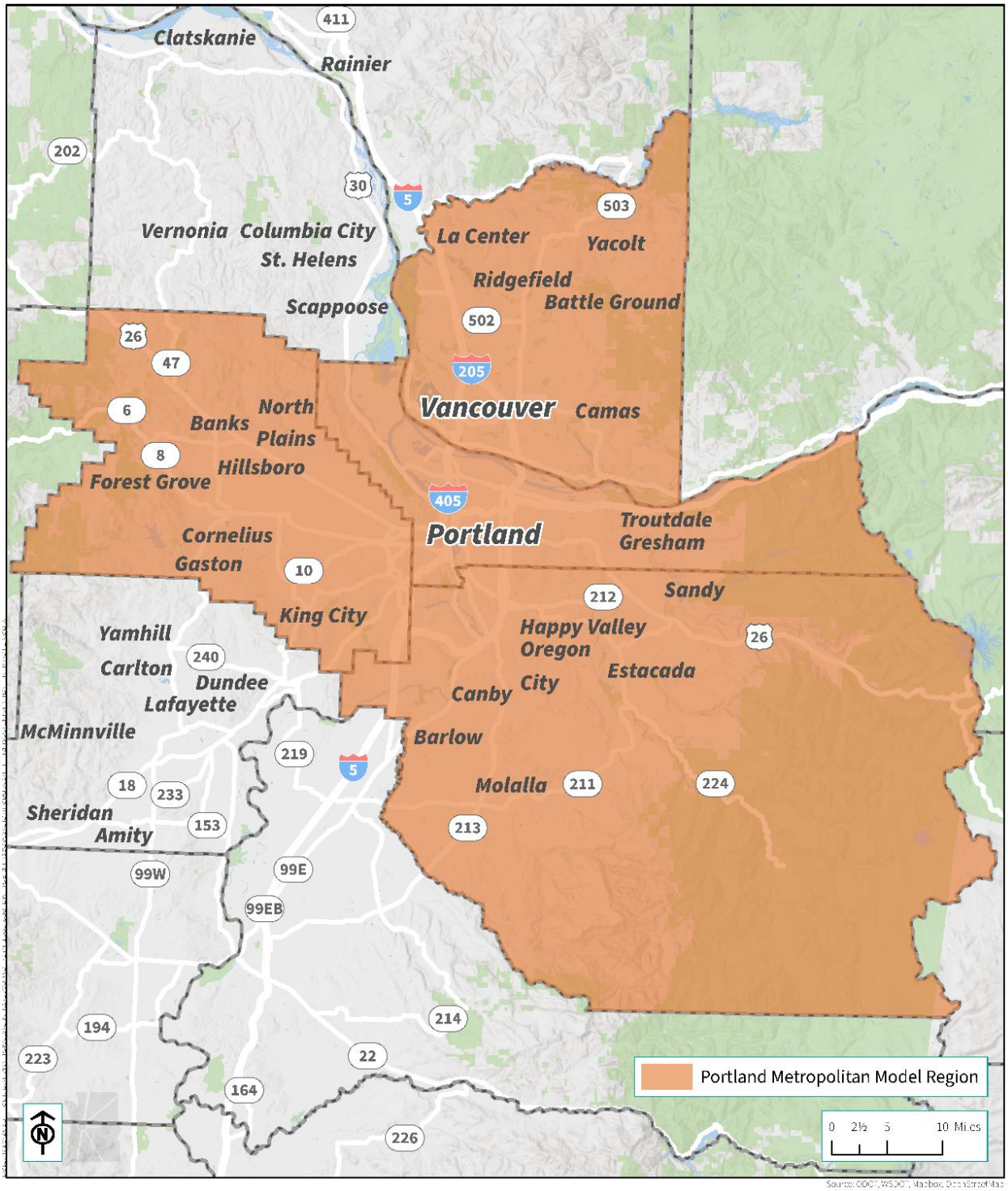
2. EXISTING TRAFFIC CONDITIONS

This chapter provides a high-level summary of the existing traffic conditions in the region. This study used the Regional Travel Demand Model (RTDM), maintained and applied by Metro, Portland's metropolitan planning organization (MPO), as the primary tool to model regional travel patterns. The geographic extents of the RTDM are presented in Figure 2-1. The latest version of the RTDM available at the time of this Level 2 T&R Study was calibrated to 2015 conditions. As such, 2015 was retained as the base year to which a customized toll model was further calibrated to ensure best utilization of the available regionwide data, as well as for consistency with the IBR Program's analyses. The model calibration process primarily used traffic data for 2015, but some missing datasets were supplemented with 2019 data (as discussed later in this section). After careful analysis of the historical traffic trends along the study corridor and the latest post-pandemic traffic data through October 2022, it was determined that the traffic levels and operations between 2015 and 2019 were not materially different. As such, retaining a 2015 base year and supplementing with pre-pandemic 2019 data were deemed acceptable for calibration purposes within this Level 2 T&R Study conducted using a macroscopic modeling platform. Once the modeling tools were calibrated, more recent 2022 traffic data were also used to inform the near-term, post-pandemic traffic forecasts.

The T&R team coordinated with the IBR Program office and Metro to obtain all available data collected as part of earlier or ongoing studies within the region. These data included counts collected for the most recent validation of the Portland metro area's RTDM, INRIX speed data collected along the I-5 and I-205 corridors, and StreetLight© O-D data for all the trips crossing the river using the I-5 or I-205 Bridges. Additionally, data from various permanent count stations, known as automatic traffic recorder (ATR) in Oregon and permanent traffic recorder (PTR) locations in Washington, were compiled across the major freeways within the study area to supplement the existing counts. As part of a subsequent Level 3 T&R study, a customized data collection program will be undertaken to obtain the latest traffic data for the study corridor.

Following the recent COVID-19 pandemic, the traffic patterns in the region have changed. As such, the T&R team obtained and analyzed the available data for the most recent years before and after the pandemic, 2019 and 2021, to further understand the growth trend in the region before the pandemic and the state of the recovery post-pandemic, as discussed later in this section. Chapter 3 provides a discussion of the adjustments made to the modeling approach to account for these impacts.

Figure 2-1. Regional Travel Demand Model Region



In summary, the following sets of observed data were readily available and were used in this Level 2 T&R Study:

1. Traffic count data along selected screenlines and additional locations along major freeways within the study area for 2015 (2015 data match other data within the RTDM and exhibit patterns similar to 2019, as well as current conditions).
2. Origin-destination data from StreetLight are for 2019. These data were used primarily to assess the representation of trip O-D patterns of river-crossing trips in the RTDM. The data were not directly used to manipulate demand matrices but were used as a secondary performance measure in the calibration process.
3. Observed speed data from traffic data analytics provider INRIX are for 2019. These data were collected to support another operational study within the corridor and included link-level data along the I-5 and I-205 corridors in the project vicinity. Since the year of data collection varied from the base year being calibrated, this speed dataset was used as high-level targets to replicate congested conditions along the two freeway corridors, including the river crossings.

The following sections provide a high-level summary of each dataset.

2.1 Traffic Counts

The traffic data used for this study consisted of a 2015 count dataset collected to support the latest RTDM validation effort completed in 2017. These data included daily traffic counts at over 180 locations south of the Columbia River, constituting 16 screenlines[2] or cutlines, as shown in Figure 2-2. The count data included 24-hour counts representing an average weekday.

This calibration dataset was supplemented with additional traffic counts on facilities north of the Columbia River, as well as other major freeways within the travel demand model region that were not included in the 16 screenlines defined for RTDM validation. The data were obtained from several ATR locations along I-5, I-205, I-405, I-84, US-26, SR 14, and SR 500 within the Portland and Vancouver areas. The data are publicly available from the web-based traffic geodatabases maintained by ODOT[3] and WSDOT[4] for the respective states. The data were collected for 2015, 2019, and 2021. The average weekday traffic is calculated as the average of Tuesday, Wednesday, and Thursday counts during the months of May and October to represent typical weekday traffic conditions with minimal impact of seasonally varying factors like holidays or seasonal tourist activity. The locations of these ATR stations are presented in Figure 2-3.

While the traffic data for all the locations described above were included in the toll model calibration process, the primary focus of this analysis was to understand and properly represent in the toll model,

[2] A screenline represents a line on a map in reference to the volume of traffic crossing that line over a unit of time via one or more network roadways.
[3] https://ordot.public.ms2soft.com/tcds/tsearch.asp?loc=Ordot&mod=TCDS
[4] https://wsdot.public.ms2soft.com/tcds/tsearch.asp?loc=Wsdot&mod=TCDS

the trips crossing the Columbia River using the existing two routes across the river: the six-lane (three in each direction) Interstate Bridge under study, and its primary alternative, the eight-lane (four in each direction) I-205 Glenn Jackson Bridge. As such, the remainder of this section will present an overview of the traffic trends along the two bridges.

Figure 2-2. Map of Screenline Locations

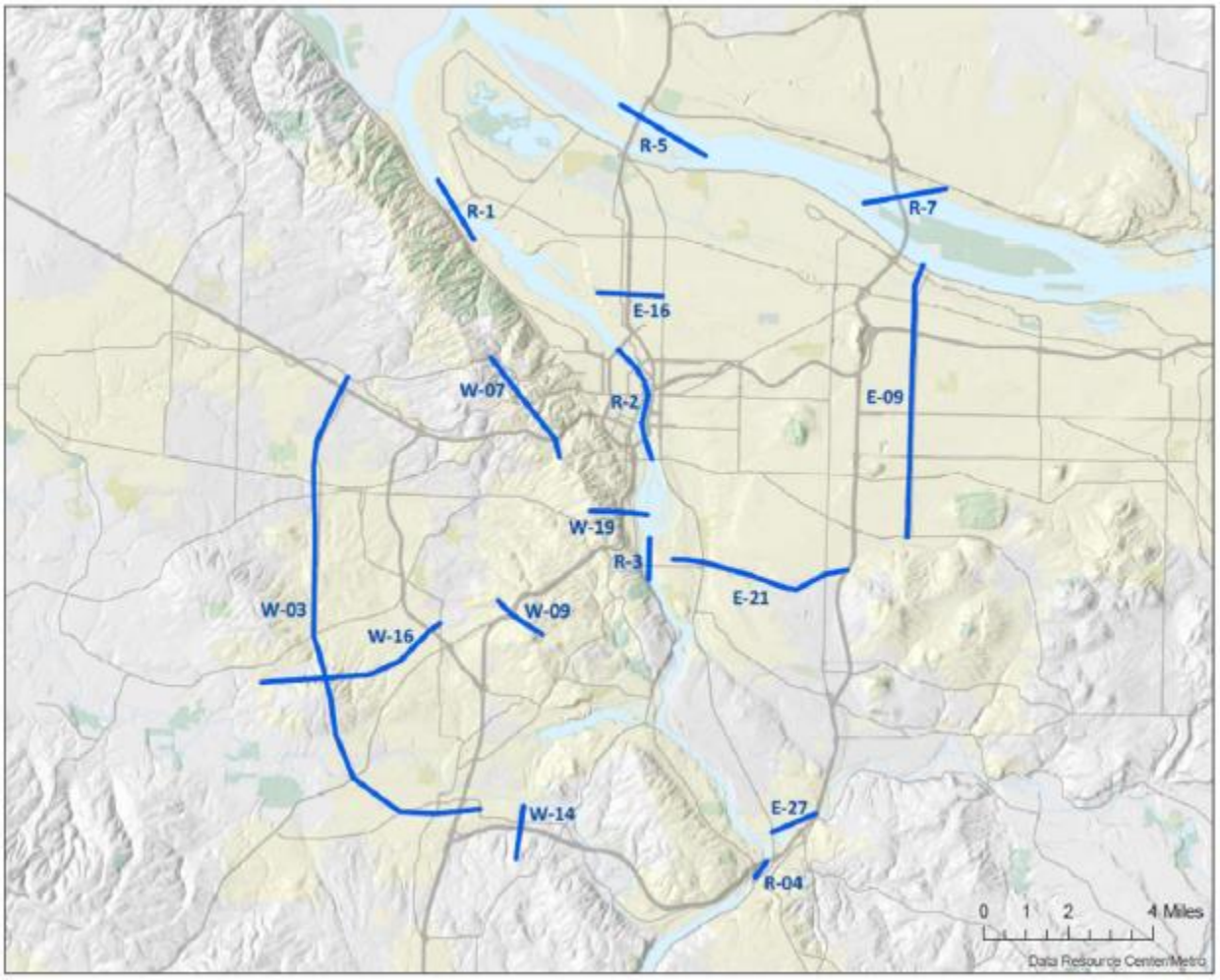
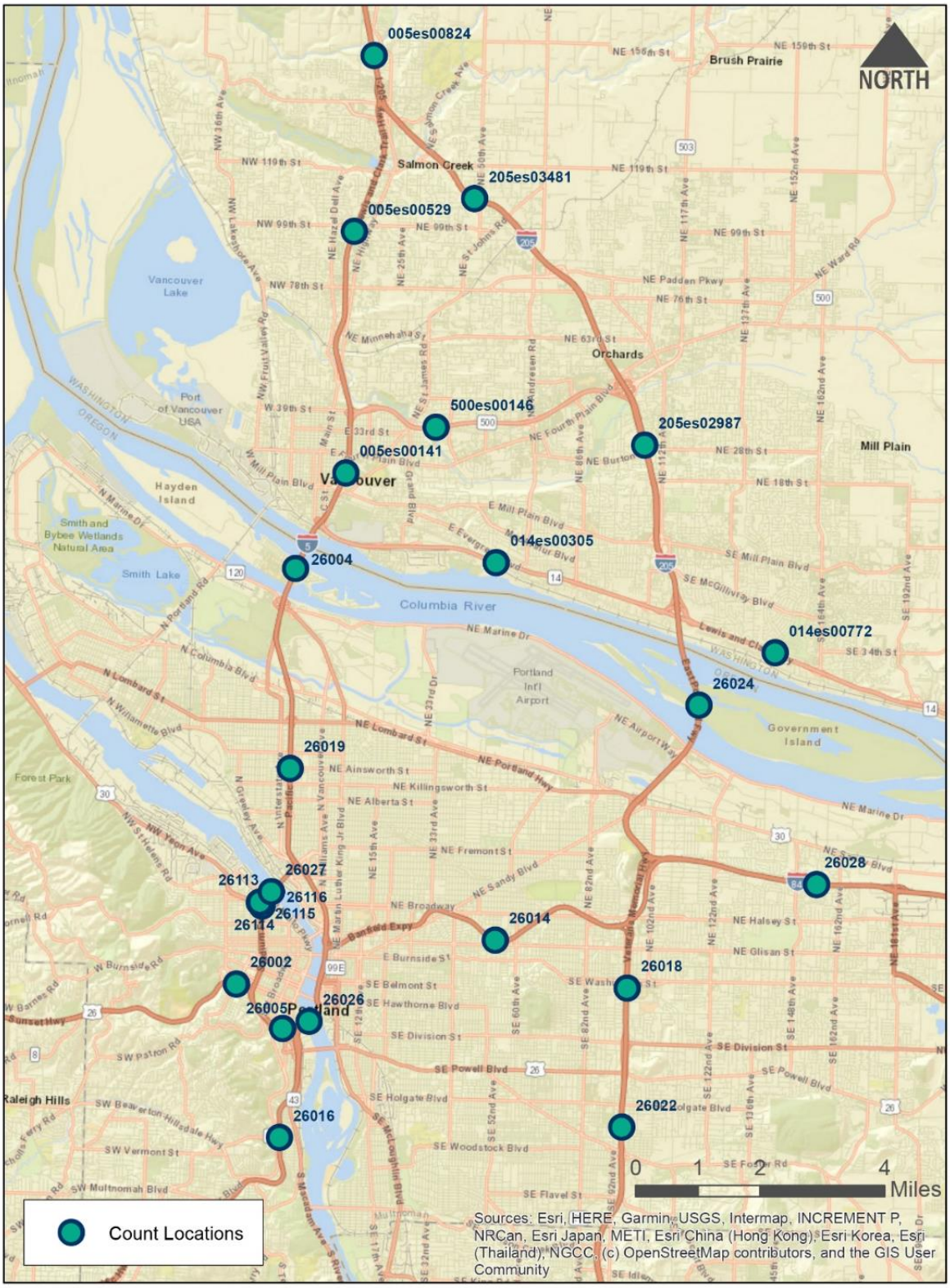


Image source: 2017 Kate v1.0 Trip-Based Demand Model Validation Report for Base Year 2015

Figure 2-3. Map of ATR/PTR Count Locations



2.1.1 Average Weekday Traffic

The 2015 average weekday daily traffic (AWDT) along the I-5 and I-205 Bridges is shown in Table 2-1, along with AWDT at permanent count stations north and south of each bridge. These are the only two crossings of the Columbia River within the Portland-Vancouver metropolitan area. Along I-5, the daily northbound traffic is slightly lower than the southbound traffic, on both the Interstate Bridge and at ATR/PTR locations north and south of the bridge. On the parallel I-205 Glenn Jackson Bridge, the daily traffic is more balanced by direction, at approximately 80,000 daily trips across the river using the I-205 Bridge. Overall, the daily traffic using the I-205 Bridge is higher than that using the Interstate Bridge, due to the additional capacity on the I-205 Glenn Jackson Bridge versus the I-5 Interstate Bridge (four lanes versus three lanes, respectively, in each direction), as well as higher levels of congestion along and near the Interstate Bridge caused by its narrow lane widths, substandard vertical and horizontal sight distance, short merging and diverging distances for ramps at both ends of the bridge, and periodic opening of the bridge span. Additionally, the sections of I-5 north and south of the Interstate Bridge consist of several closely spaced on- and off-ramps, most of which experience heavy merging, diverging, and weaving of vehicles within short distances, severely impacting traffic flow near the Interstate Bridge.

Table 2-1. Average Weekday Traffic along I-5 and I-205 in 2015

Location	NB	SB	Two-Way Total
I-5: South of East Fourth Plain Boulevard (WA PTR 005es00141)	66,100	71,400	137,500
I-5: Interstate Bridge (OR ATR 26004)	68,200	69,300	137,500
I-5: South of N Ainsworth Street Undercrossing (OR ATR 26019)	67,900	71,600	139,500
I-205: North of Northeast Burton Road (WA PTR 205es02987)	60,400	61,700	122,100
I-205: Glenn Jackson Bridge (OR ATR 26024)	81,400	80,400	161,800
I-205: South of SE Washington Street (OR ATR 26018)	80,400	81,400	161,800

2.1.2 Hourly Distribution of Traffic

The hourly profile of the traffic using the I-5 and I-205 Bridges on an average weekday is illustrated in Figure 2-4 and Figure 2-5, respectively, for 2015. On the I-5 Interstate Bridge, the peak direction of traffic is southbound during the morning rush hours, while the afternoon peak direction of traffic is northbound. This pattern reflects the commuter-oriented traffic using the I-5 Interstate Bridge to access the Portland Metro area for employment. In the morning, peak traffic conditions occur southbound from 5 a.m. to 9 a.m., with hourly traffic reaching a maximum of approximately 5,500 vehicles from 6 a.m. to 7 a.m. In the afternoon, the peak traffic condition occurs northbound from 2 p.m. to 7 p.m. Unlike the morning period which has a clear single peak hour, the afternoon traffic is spread somewhat uniformly across five peak hours, with the volumes peaking at just over 5,000 vehicles per hour. As discussed in the previous section, the congestion at the I-5 Interstate Bridge is caused primarily by the bridge's design limitations, as well as the close spacing of high-volume interchanges. In addition, I-5 south of the I-5 Interstate Bridge has a high occupancy vehicle (HOV) lane, which extends for approximately 3.5 miles between the Going Street and the Marine Drive

interchanges, which restricts the use of the left-most lane to HOVs from 3 p.m. to 6 p.m., reducing the capacity of the roadway from three to two lanes for non-HOV vehicles south of Marine Drive.

On the I-205 Glenn Jackson Bridge, the traffic exhibits a similar trend where traffic peaks in the southbound direction during the AM peak and in the northbound direction during the PM peak. The morning peak occurs in the southbound direction from 6 a.m. to 7 a.m., similar to the I-5 Interstate Bridge. In the afternoon, the northbound peak traffic is spread across three hours from 3 p.m. to 6 p.m., after which the traffic begins to drop. Both directions of traffic on the I-205 Glenn Jackson Bridge peak at just over 7,000 vehicles per hour. The shorter peak period along the I-205 Glenn Jackson Bridge can be attributed to the higher capacity and the lower congestion across the bridge compared to the I-5 Interstate Bridge, resulting in higher throughput.

Figure 2-4. Hourly Distribution of Traffic using I-5 Interstate Bridge – 2015 Average Weekday

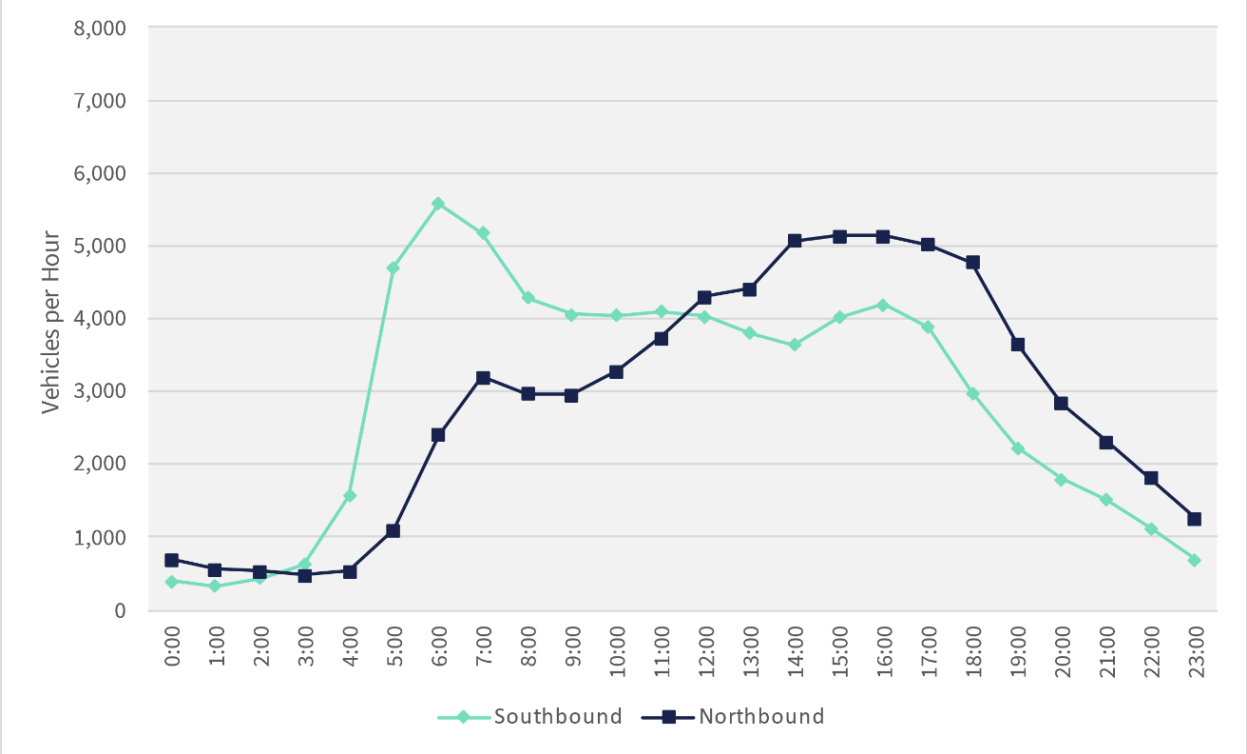


Figure 2-5. Hourly Distribution of Traffic using I-205 Glenn Jackson Bridge – 2015 Average Weekday

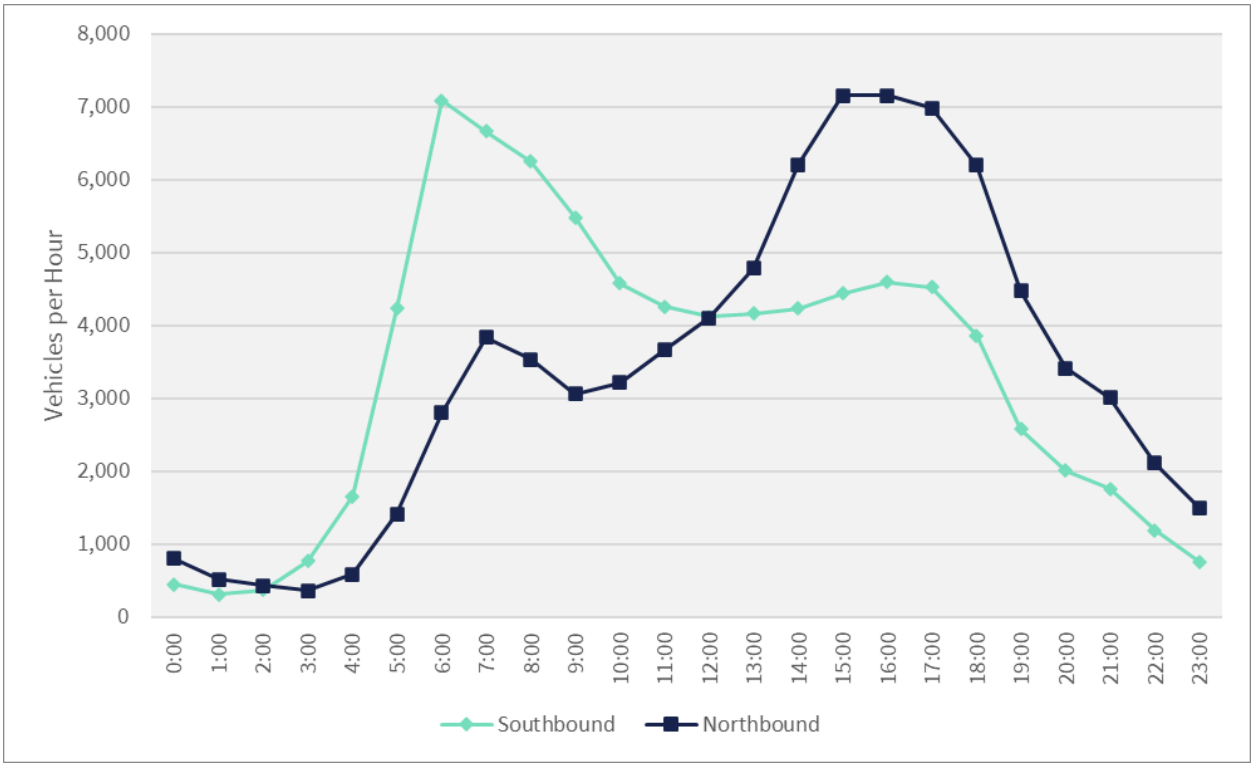


Table 2-2 presents the share of daily traffic using the I-5 and I-205 Bridges at different times of day. On each bridge, the peak direction (southbound in a.m. and northbound in p.m.) of travel recorded roughly the same percentage of daily traffic using the bridges. On the I-5 Interstate Bridge, traffic during the four-hour AM peak period constituted approximately 28.5% of the daily southbound traffic, while the PM peak period accounted for about 30% of the daily northbound traffic. Similarly, approximately 30% of the daily southbound traffic used the I-205 Glenn Jackson Bridge during the AM peak period, while approximately 34% used the bridge in the northbound direction during the PM peak period. The larger percentage share of traffic in the PM peak period is related to the presence of trips for many purposes, while the AM peak period largely comprises work/school commute trips.

Table 2-2. Traffic Distribution by Period – 2015 Average Weekday

Period	I-5 Bridge		I-205 Bridge	
	NB	SB	NB	SB
AM (5-9 a.m.)	14.2%	28.5%	14.2%	30.1%
MD (9 a.m.–2 p.m.)	27.4%	29.0%	23.1%	28.1%
PM (2–6 p.m.)	29.9%	22.7%	33.8%	22.1%
Overnight (6 p.m.–5 a.m.)	28.5%	19.8%	28.8%	19.6%
Daily Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**

2.1.3 Truck Shares

The I-5 Interstate Bridge is part of a critical north-south freight route connecting the states of Washington, Oregon, and California, as well as Canada and Mexico. Typically, on most tolled facilities, trucks constitute a significant share of the total revenue, as trucks typically pay higher tolls than passenger cars. Higher tolls for trucks are intended to address trucks consuming more roadway space and causing more roadway wear and tear than cars. Therefore, it is important to understand the truck composition of the traffic using the I-5 Interstate Bridge, particularly relative to the RTDM and the proposed toll policy for trucks, to better estimate the truck traffic and revenue potential.

Vehicle classification count data were obtained from permanent count stations along the I-5 Interstate Bridge and I-205 Glenn Jackson Bridge. The classification data were available by Federal Highway Administration (FHWA) vehicle types, as well as shape-based classes. FHWA classes 4 to 6 were grouped together to represent medium trucks while classes 7 to 13 were considered heavy trucks, which aligns closely with the heavy truck definition in the RTDM, as well as the Oregon Toll Program's proposed shape-based classification approach that would consider vehicles 35 feet or longer as heavy trucks.

Table 2-3 shows the percent shares of trucks on both regional river crossings. On the Interstate Bridge, trucks comprise roughly 9% of the total traffic, while they represent about 7% of the total traffic on the Glenn Jackson Bridge. More recent traffic data for 2021 have indicated that truck shares have increased slightly compared to pre-pandemic conditions, likely due to the increase in e-commerce during and after the COVID-19 pandemic and a slower rebound in general passenger vehicles. As more truck data emerge in the near future, some of the more permanent shifts in truck traffic may become more evident and may inform the assumptions for subsequent T&R analyses.

Table 2-3. Truck Share along Interstate Bridge and Glenn Jackson Bridge – 2015 Average Weekday

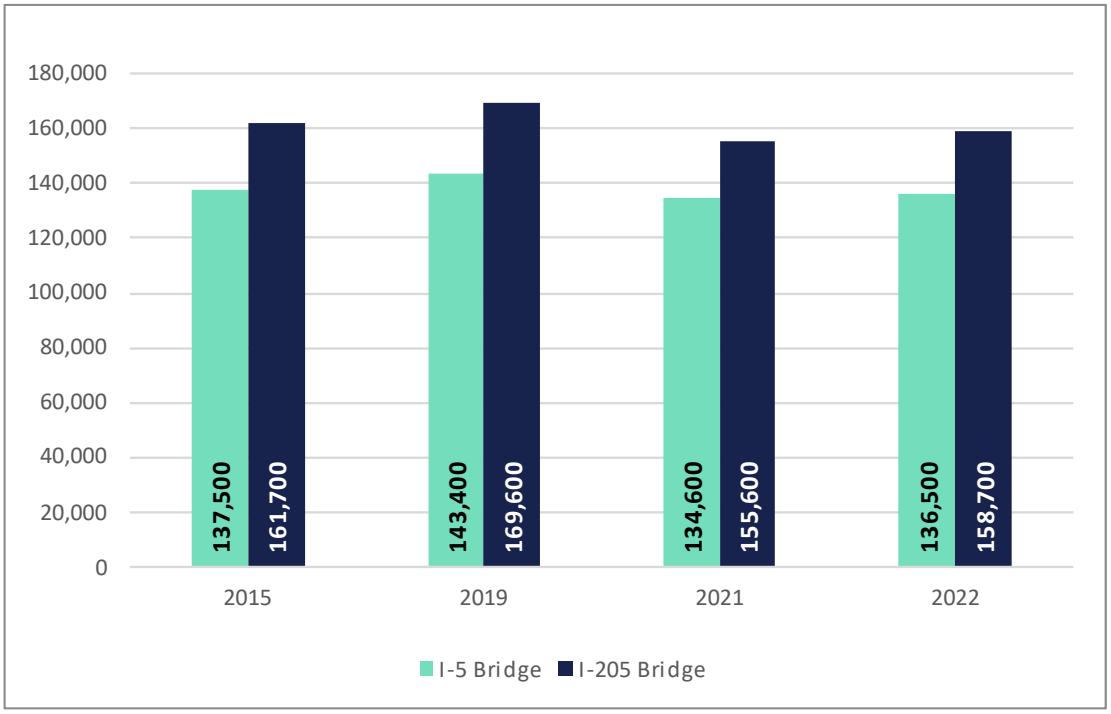
Location	Medium Trucks	Heavy Trucks	Total Trucks
I-5: Interstate Bridge (OR ATR 26-004)	2.2%	6.6%	8.8%
I-205: Glenn Jackson Bridge (OR ATR 26-024)	2.5%	4.6%	7.1%

2.1.4 Recent Growth Trends

Following the recent COVID-19 pandemic, the traffic patterns in the region have changed slightly. As such, Stantec obtained and analyzed the available data for the most recent years before and after the pandemic to further understand the growth trend in the region before the pandemic, as well as the state of recovery post-pandemic. The average weekday river crossings along the I-5 and I-205 Bridges since 2015 are presented in Figure 2-6. Between 2015 and 2019, the traffic on the I-5 Interstate Bridge increased at an annual rate of approximately 1.1%, while traffic on the I-205 Glenn Jackson Bridge increased at approximately 1.2%. In 2021, traffic was still below 2019 levels on both bridges, but it showed continued recovery into 2022. Based on observed average weekday data from May and October of 2022, the traffic on the I-5 Interstate Bridge had recovered to approximately 95% of pre-pandemic 2019 levels, while that on the I-205 Glenn Jackson Bridge reached approximately 94% of pre-pandemic traffic levels.

As of October 2022, the traffic on both bridges across the Columbia River reflects several post-pandemic changes in travel behavior, including reduced daily commuter trips, increased non-commute and discretionary trips, and relocation of population away from city centers, etc. As traffic remains below pre-pandemic levels and continues to grow at a gradual pace, this T&R analysis accounted for the impacts of post-pandemic travel changes by assuming a slower recovery in the near term, as discussed further in Section 3.

Figure 2-6. Historical Traffic Trends along the I-5 and I-205 River Bridge Crossings



2.2 Origin-Destination Data

StreetLight O-D data were obtained and reviewed for the study area. StreetLight data anonymously track the movement of mobile devices for use in travel analyses. While these data were not directly used to modify demand, they were reviewed to serve as indicative measures of the representation of choice market between the I-5 and I-205 Bridges in the RTDM. The data included observed O-D patterns for all trips crossing the Columbia River using each of the two bridges. The origin and destination of each trip were collected at a district level, which was defined by aggregating multiple traffic analysis zones (TAZs) of the RTDM as part of a separate study for the IBR Program. The district-level O-D data were available at an hourly level for the average weekdays (Monday through Thursday) of March, April, September, and October of 2019.

Figure 2-7 illustrates the spatial distribution of trips that originate in Oregon and use one of the two northbound bridges, either the I-5 Bridge or the I-205 Bridge, to cross the river. The different colors represent the shares of total northbound river crossings originating in each district that choose the I-5 Interstate Bridge to cross the river. For example, of all the river-crossing trips originating in the

southwest region of the study area, colored in the darkest shade of blue, more than 80% of the trips chose the I-5 Interstate Bridge to cross the river, while less than 20% of those trips used the I-205 Glenn Jackson Bridge. Similarly, in Figure 2-8, most districts near downtown Vancouver have more than 60% of southbound river crossings using the I-5 Interstate Bridge. As expected, a high percentage of trips in each district chose the nearest bridge to cross the river.

Travelers to or from several districts situated between the I-5 and I-205 corridors may be relatively indifferent in their choice between the two bridges, represented in the maps by districts that have 40% to 59% of total trips' origins using the existing Interstate Bridge. When tolling is introduced on the Interstate Bridge, some of these previously indifferent travelers may gravitate to the I-205 Glenn Jackson Bridge route to avoid paying a toll on Interstate Bridge to cross the river. The O-D data indicated that such trips constituted roughly 4% of existing daily trips in the northbound direction and 22% in the southbound direction.

Figure 2-7. Map of River-Crossing Trip Origins using the Northbound Interstate Bridge – 2019 Average Weekday

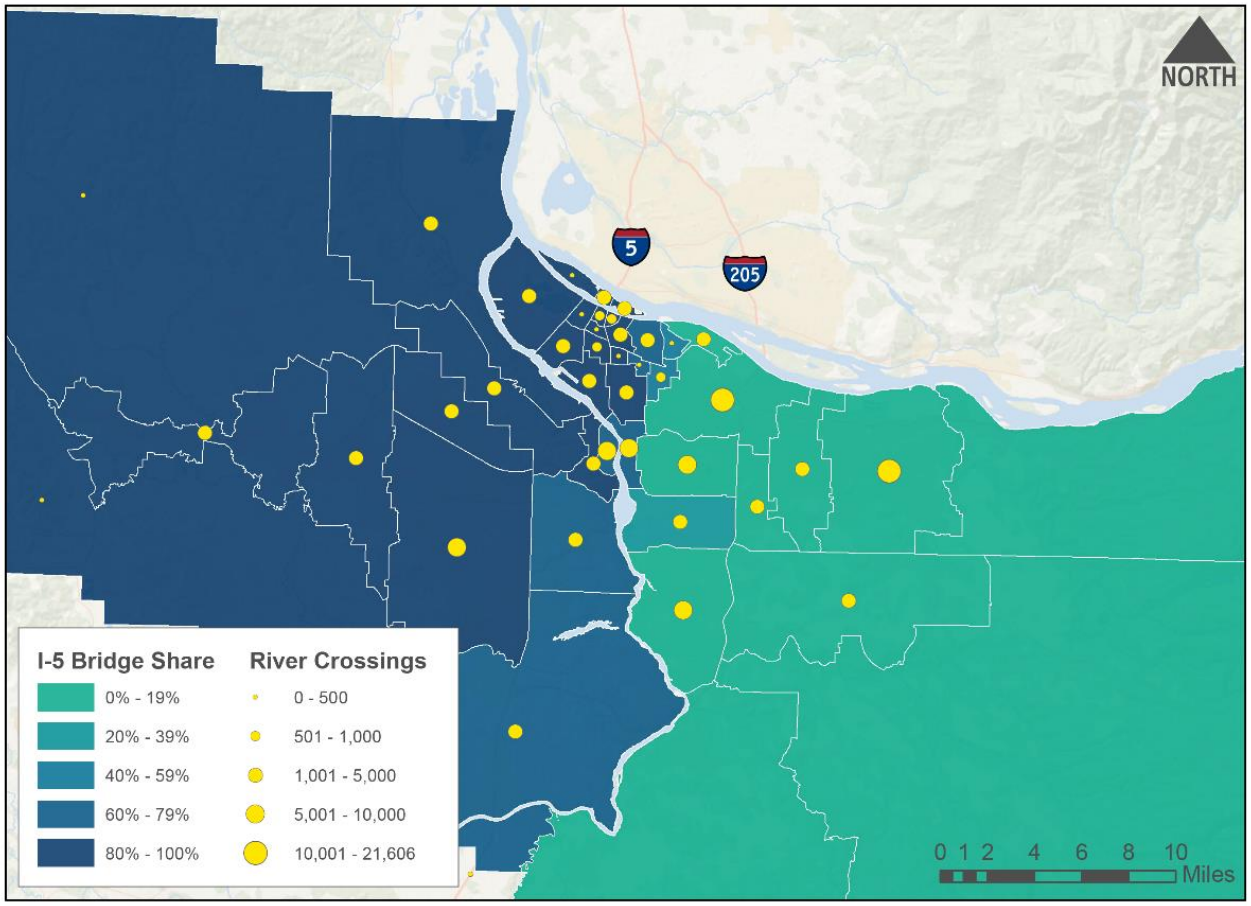
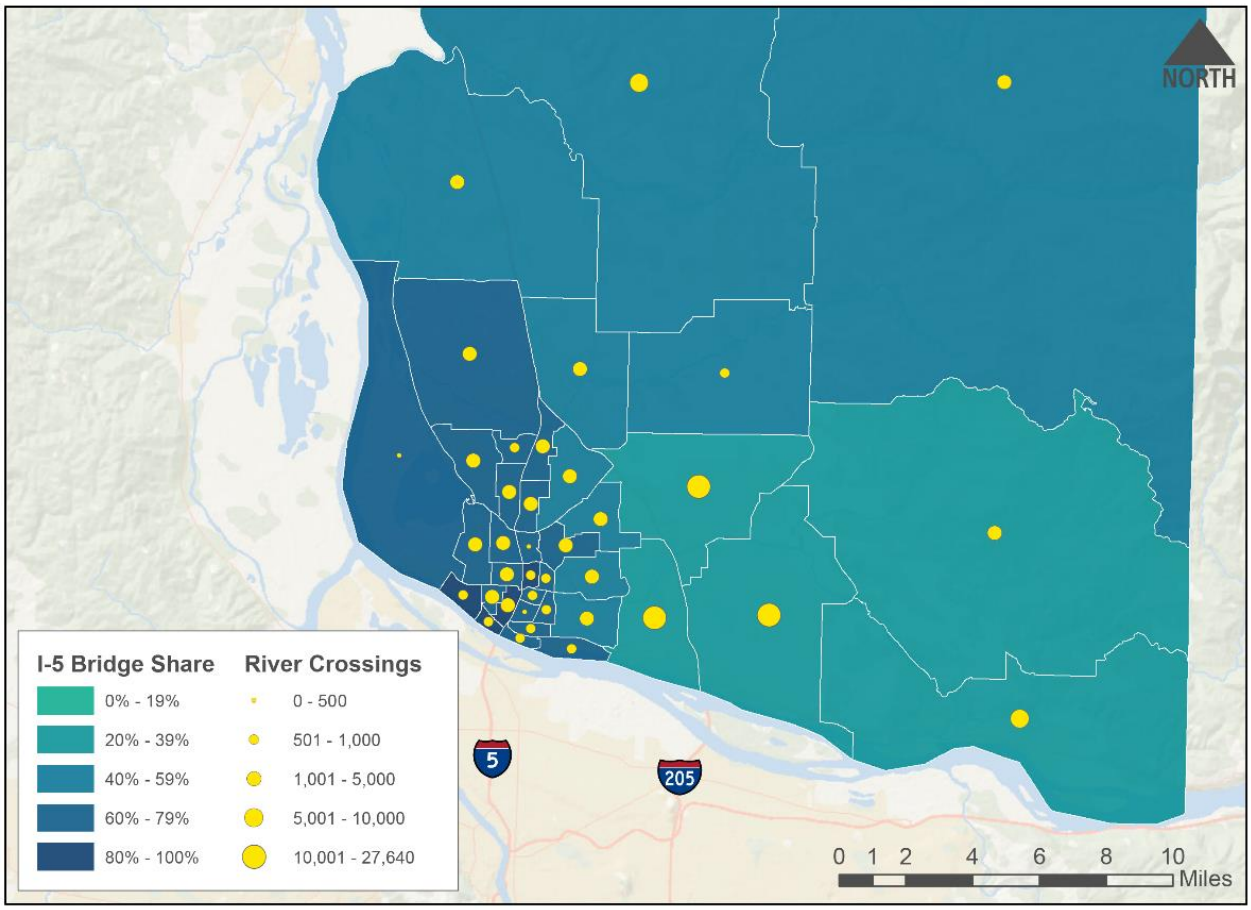


Figure 2-8. Map of River-Crossing Trip Origins using the Southbound Interstate Bridge – 2019 Average Weekday



2.3 Travel Time Data

Travel time data were obtained from INRIX for the I-5 and I-205 corridors for the morning and afternoon peak periods – 6 a.m. to 10 a.m. and 3 p.m. to 7 p.m. The data represented 2019 travel conditions and were available as travel times along various continuous segments of I-5 and I-205. These travel time data were converted into travel speed to identify congested sections of these facilities and to provide direct comparisons with model estimates. Figure 2-9 through Figure 2-12 illustrate the observed speed in each direction during a representative hour in the morning peak period from 7 a.m. to 8 a.m. and a representative hour in the afternoon peak period from 4 p.m. to 5 p.m. On I-5, the sections north and south of the I-5 Interstate Bridge are highly congested during the peak periods, which can extend for several hours.

In the morning, the average speed along the southbound I-5 Interstate Bridge was observed to be approximately 30 miles per hour (mph), while the sections of I-5 south of the bridge recorded speeds lower than 30 mph extending into downtown Portland. On I-205, the average travel speed during the morning peak hour was generally higher than on I-5: The I-205 Glenn Jackson Bridge showed an

average speed of about 40 mph, while speeds south of the bridge were generally higher than 45 mph approaching I-84.

In the afternoon peak hour, the northbound direction of travel experiences severe congestion on both bridges. On I-5, congestion begins in downtown Portland and extends north all the way to the river crossing. The average travel speed in the northbound direction was lower than 30 mph over at least 5 miles of the corridor, reflecting congested conditions. The I-205 corridor recorded relatively higher speeds compared to I-5. North of the river crossing, the congestion was relieved and speeds increased to higher than 45 mph on both corridors.

Figure 2-9. Observed 2019 Average Travel Speed – Southbound/Westbound – AM Peak Hour

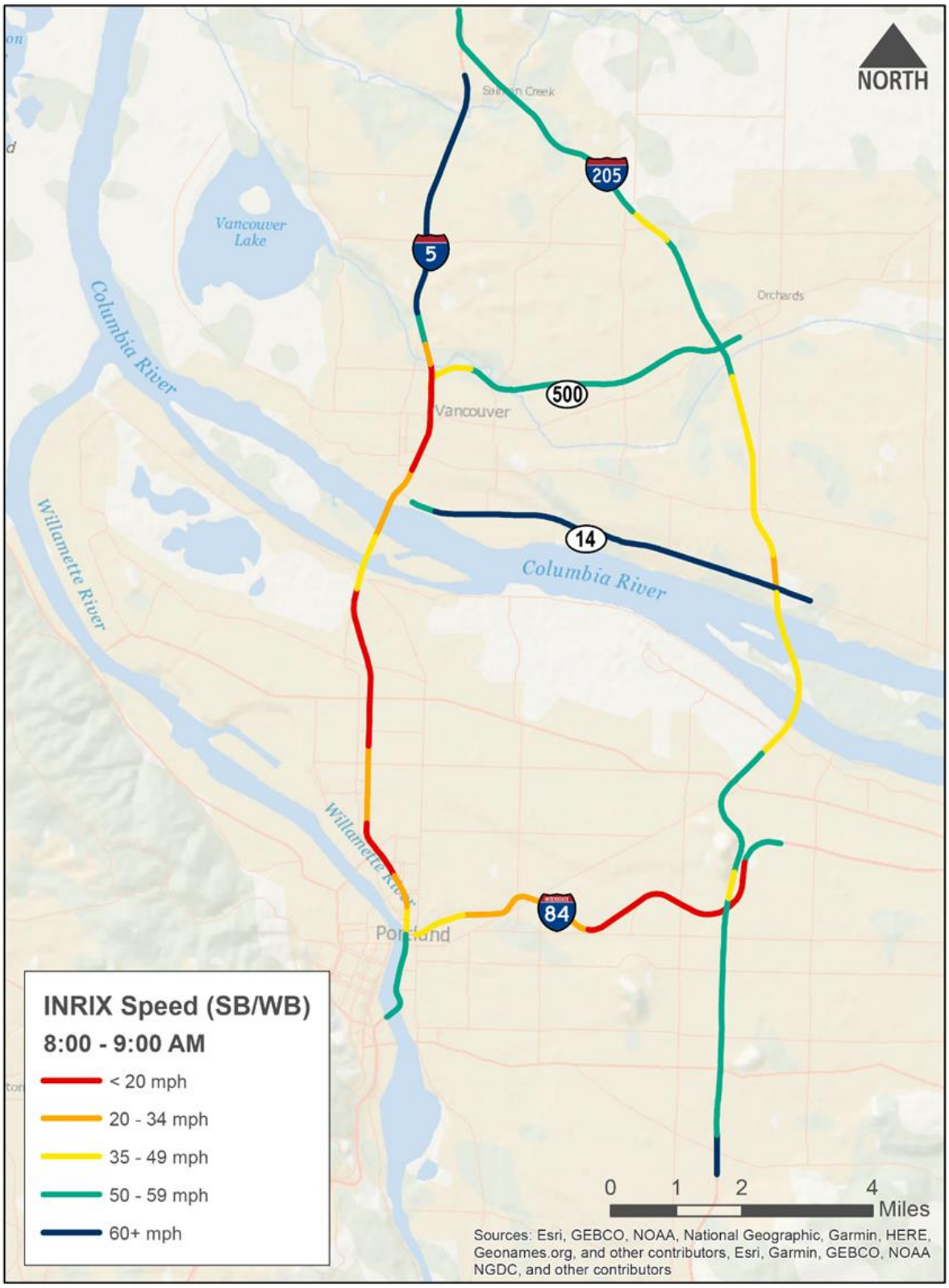


Figure 2-10. Observed 2019 Average Travel Speed – Northbound/Eastbound – AM Peak Hour

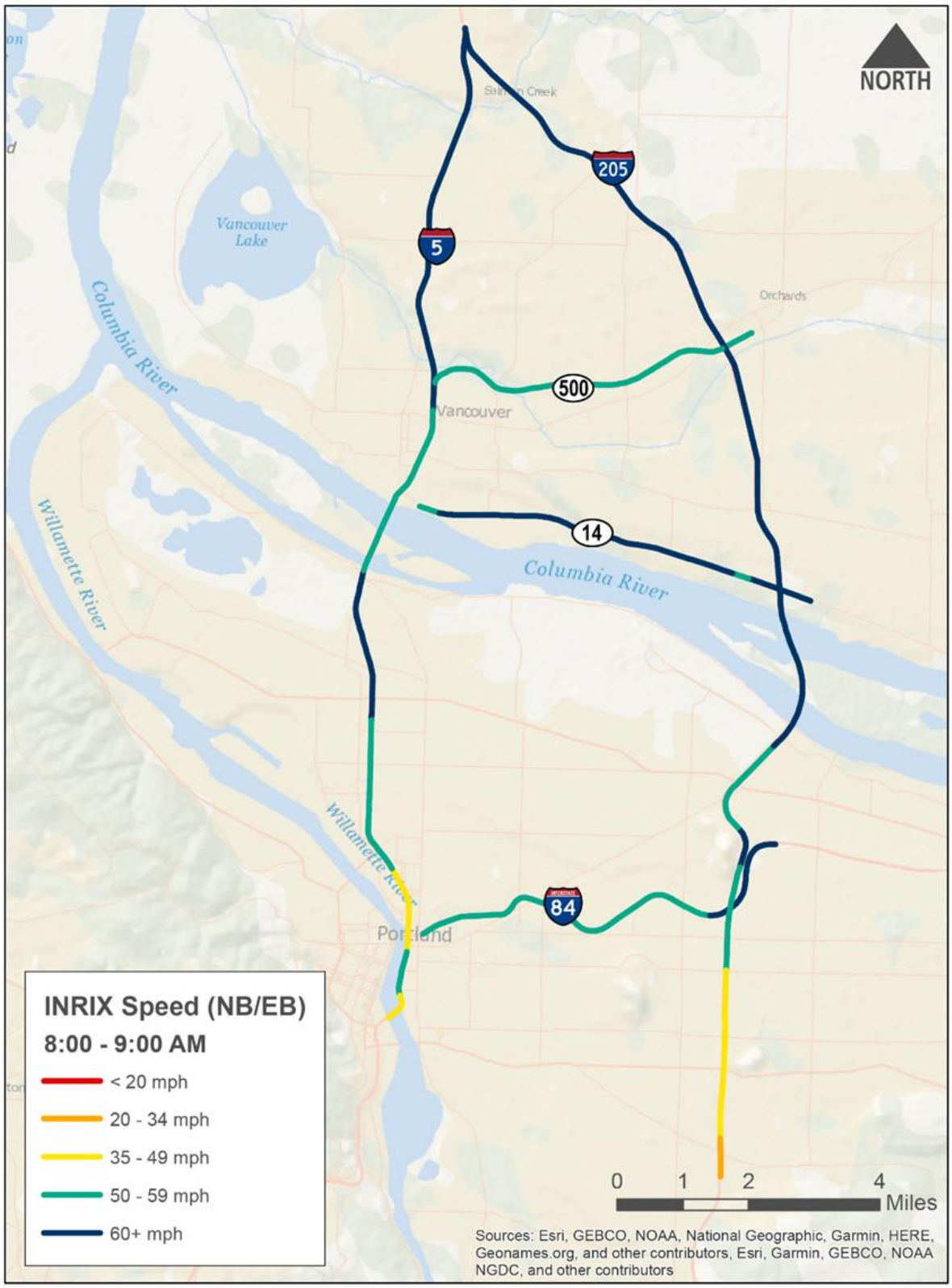


Figure 2-11. Observed 2019 Average Travel Speed – Southbound/Westbound – PM Peak Hour

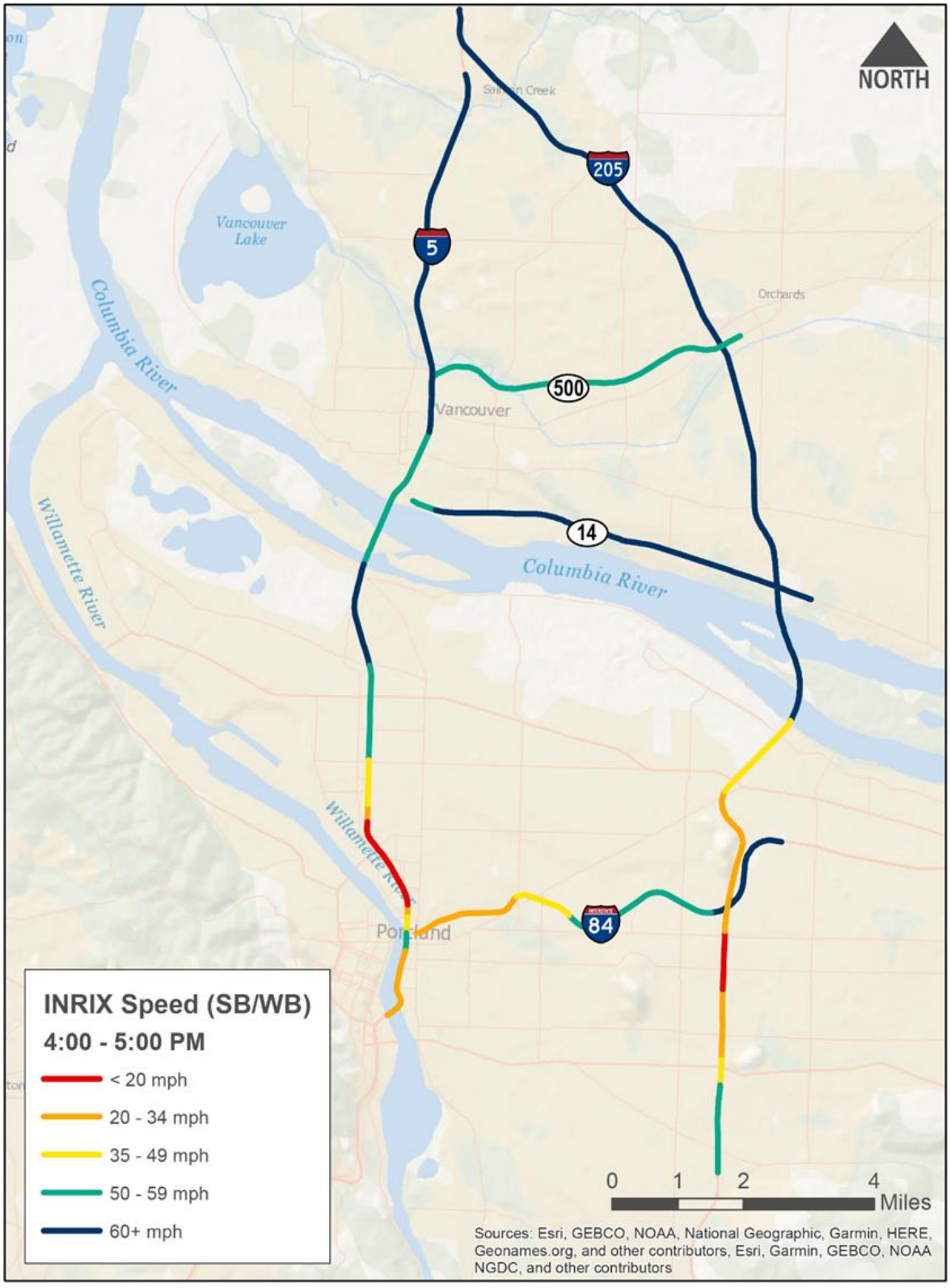
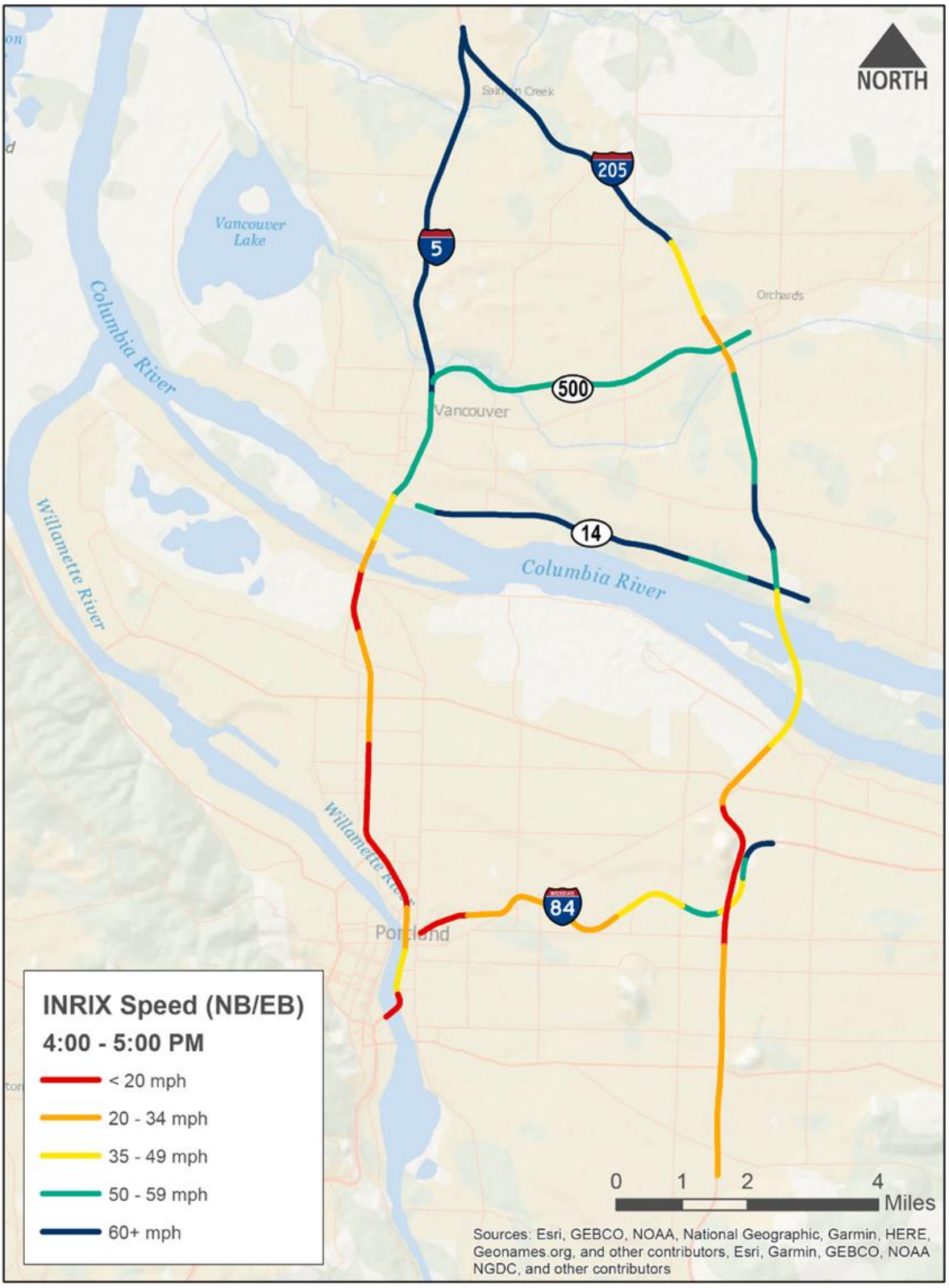


Figure 2-12. Observed 2019 Average Travel Speed – Northbound/Eastbound – PM Peak Hour



3. MODELING APPROACH

Introducing tolling along the I-5 Interstate Bridge could alter regional travel behaviors in different ways, including the following:

- Change in destination or frequency of trip-making to reduce trips across the river to avoid paying tolls (destination choice)
- Change in mode of travel from a single-occupancy vehicle (SOV) to HOV, transit, or non-motorized modes (mode choice)
- Change in route by diverting to a toll-free alternative in the I-205 Glenn Jackson Bridge (route choice)
- Change in the time of day when a trip is made, most likely shifting to when the toll is lower

To comprehensively account for the complex interaction of the various traveler reactions to tolling, a two-tiered modeling approach was adopted for this study: (1) use of a regional travel demand-model to simulate tolling impacts on destination and mode choice, and (2) use of a specialized traffic assignment routine to model tolling impacts on route choice, referred to as the 'toll diversion model' or simply 'toll model' in this report. The highway networks and the trip demand files generated by the RTDM served as input to the toll model to estimate the traffic using the Interstate Bridge under various future scenarios.

A base year model was calibrated to 2015 conditions. Three future year models were implemented for this analysis to support the T&R forecasting process. The RTDM provides outputs for future model years 2027 and 2045, which were directly adopted for this Level 2 T&R study. A third future model year, 2032, was developed to approximate for the date of completion for the new bridge assumed at the time this T&R Study commenced. The future year models included limited adjustments to demand matrices to account for post-pandemic recovery. This chapter describes the two models, results of model calibration, and adjustments applied for near- and long-term impacts of the pandemic on regional travel.

3.1 Regional Travel Demand Model

The RTDM, maintained and applied by Metro, was the primary tool used for modeling multi-modal travel patterns within the study region. The RTDM is a trip-based travel demand model that can estimate average weekday vehicle trips by trip purpose, vehicle type, and income group. The RTDM includes five auto trip purposes: Home-Based Work (HBW), Home-Based Other (HBO), Home-Based Shopping (HBS), Non-Home-Based Work (NHBW), and Non-Home-Based Other (NHBO); three income groups (defined in 2010 dollars): low income (less than $25,000), medium income ($25,000 to $100,000), and high income (more than $100,000); and two vehicle types: SOV and HOV.

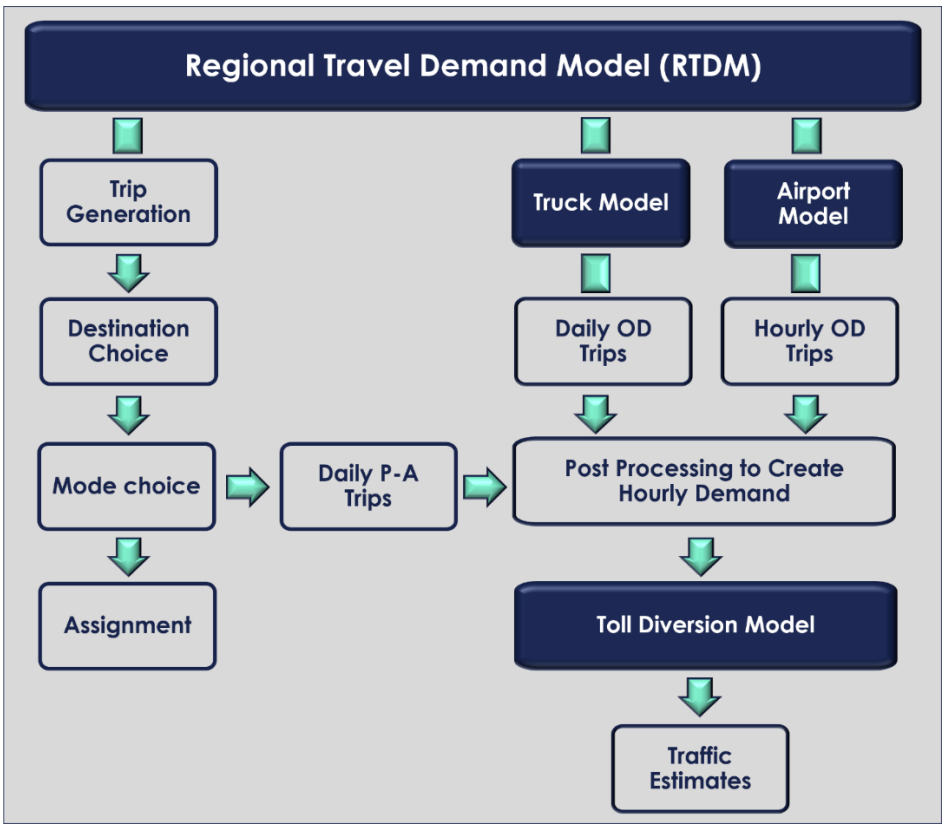
The destination choice, mode choice, and route choice models within the RTDM have been updated by Metro to account for proposed tolling of various facilities in the region. The tolls are input into the model in the form of time-equivalents; i.e., monetary (dollar) values of tolls are converted into time

penalties using value-of-time (VOT) assumptions that vary by vehicle type, income group, and time of day.

Trucks and airport trips within the region are modeled using independent models outside of the RTDM. The hourly O-D demand from these models is integrated into the RTDM just before the traffic assignment step. As a result, the response of truck traffic to tolling is represented only in the route choice step. Any truck trips that are eliminated due to tolls are expected to be minimal, and they are not represented in this analysis.

Figure 3-1 illustrates the interaction of the different components of the RTDM and how their output interfaces with the toll (diversion) model. The vehicular demand is obtained from the mode choice model of the RTDM in the form of daily production-attraction (P-A) format matrices by trip purpose, mode, and income group. These matrices are then stratified into hourly matrices using the time-of-day factors defined in the RTDM and converted to hourly O-D demand matrices for assignment. The airport and truck models provide O-D matrices that are combined with the auto demand matrices to prepare for toll assignments in a way that is consistent with how assignments are done in the RTDM process. The T&R team closely coordinated with Metro, which led the preparation and implementation of the RTDM, for the various tolling scenarios analyzed for this study.

Figure 3-1. Modeling Approach



3.2 Socioeconomic/Land Use Forecast Summary

The T&R team reviewed the socioeconomic data (SED) or land use forecasts assumptions within the RTDM for each model year, including base year 2015, 2027, and 2045. The SED forecasts included future year projections of population, households, and employment for the four counties included within the RTDM extents—Multnomah, Washington, Clackamas, and Clark Counties. Table 3-1 presents a summary of the regional land use projections by year, along with the compounded annual growth rates (CAGRs) between the model years. The total population, household, and employment levels are projected to experience higher growth in the near-term between 2015 and 2027 and relatively slower growth in the long-term beyond 2027.

The RTDM socioeconomic forecasts presented here represent pre-pandemic projections and do not consider any permanent shifts in socioeconomic and demographic impacts of the COVID-19 pandemic. Adjustments for post-pandemic impacts are applied to the total regional trips generated by the SED inputs within the RTDM, and they are reflected in the traffic forecasts.

Table 3-1. Summary of RTDM Land Use Forecast

Land Use	2015	2027	2045	2015-2027 CAGR	2027-2045 CAGR
Population	2,216,954	2,601,873	3,065,985	1.34%	0.92%
Households	850,898	1,035,124	1,228,679	1.65%	0.96%
Employment	1,072,925	1,315,085	1,592,290	1.71%	1.07%

Source: https://www.oregon.gov/odot/tolling/Documents/I-205_L2_T+R_Study_Report_October-2022_Final_Revised.pdf

3.3 Toll Diversion Methodology

The initial RTDM forecasts were further refined with a customized toll diversion process that uses a logit-based route choice model, the Toll Diversion Model (or the "toll model"). A unique feature within the toll model is the implementation of an embedded route choice model that is executed in each iteration of the equilibrium assignment. The use of an embedded route choice technique within the equilibrium assignment enables the ability to perform dynamic tolling and dynamic scaling of capacity to represent a peak spreading phenomenon within the modeling process. Traditional equilibrium provides for only a single 'best path' for each assignment iteration, while the route choice routine used in the toll model provides for three best paths: non-tolled, registered account customers, and unregistered "pay-by-mail" users via license plate image recognition.

The structure of the Toll Model is defined as follows:

$$\text{Toll Share} = (1 / (1+ e^{U}))$$

Where:

Toll Share = Probability of selecting a toll road

e = Natural Logarithm

U = "Utility" of Toll Route: a * (TimeTR-TimeFR) + b * Cost + CTR + CETC

TimeTR = Toll road travel time in minutes
TimeFR = Non-toll road travel time in minutes
Cost = Toll in dollars
CTR = Constant for toll road bias
CETC = Constant for ETC bias
a, b = Coefficients

3.3.1 Value of Time

In the toll model, the VOTs vary by trip purpose, vehicle type, and income group. The three home-based trip purposes—HBW, HBO, and HBS—are assigned a value of time that varies by income group and mode (SOV and HOV). For non-home-based purposes (NHBW and NHBO), a uniform value of time is assumed for all income groups and modes. The VOT for vehicles with two and more occupants is usually assumed to be higher than that for SOVs because multiple individuals experience time savings. Truck VOTs are assumed to be higher than auto VOTs.

The VOTs assumed in the toll model differ in function from those used within the RTDM's toll modeling process. While the VOTs in the RTDM are used to convert toll cost into time penalties, those in the toll model represent the willingness to pay a toll rate to save travel time. As such, these VOTs are not directly comparable, and they are somewhat independent from each other. Moreover, the VOTs assumed in the toll model for this analysis are generally lower than those in the RTDM, which contributes to conservatism in the toll traffic and revenue forecasts, consistent with their intended use in financial planning.

Table 3-2 summarizes the VOT assumptions by trip type. The VOTs are expected to remain constant in real terms, keeping pace with, but not exceeding, the rate of inflation (assumed to be 2.15% annually).

Table 3-2. Value of Time by Trip Purpose, Mode and Income Group (FY 2023/2022 Dollars)

Trip Type	Income Group (2022$)	VOT (2022 $/hour)
HBW SOV	Low-income (< $35,000)	$12.99
	Medium-income ($35,000 - $140,000)	$22.74
	High-income (> $140,000)	$30.55
HBW HOV	Low-income (< $35,000)	$15.58
	Medium-income ($35,000 - $140,000)	$27.29
	High-income (> $140,000)	$36.66
HBS SOV	Low-income (< $35,000)	$7.99
	Medium-income ($35,000 - $140,000)	$13.99
	High-income (> $140,000)	$18.79
HBS HOV	Low-income (< $35,000)	$9.58
	Medium-income ($35,000 - $140,000)	$16.79
	High-income (> $140,000)	$22.55

Trip Type	Income Group (2022$)	VOT (2022 $/hour)
HBO SOV	Low-income (< $35,000)	$10.72
	Medium-income ($35,000 - $140,000)	$18.77
	High-income (> $140,000)	$25.21
HBO HOV	Low-income (< $35,000)	$12.86
	Medium-income ($35,000 - $140,000)	$22.52
	High-income (> $140,000)	$30.26
NHBW SOV	All	$22.96
NHBW HOV	All	$27.55
NHBO SOV	All	$21.05
NHBO HOV	All	$21.05
Light Truck	Not applicable	$22.96
Medium Truck	Not applicable	$29.60
Heavy Truck	Not applicable	$71.84

3.4 Base Year Model Calibration and Validation

As mentioned previously, the version of RTDM applied in this study was calibrated to base year 2015. The different model components like trip generation, destination choice, and mode choice models are reasonably calibrated and validated for this study, as documented in the Metro RTDM Kate Validation Report (August 2017).[5] In estimating the attractiveness of a toll facility, the toll model relies on estimated time savings offered by the facility in comparison to a toll-free alternative. Therefore, it is critical to represent the congestion and resulting travel times reasonably closely to observed trends to generate reliable estimates of traffic using the I-5 Interstate Bridge under toll conditions. While the calibration of the assignment model was adequate for planning purposes, some limitations were identified in the RTDM assignment process that resulted in overestimated speeds and underestimated travel times along the I-5 and I-205 corridors near the river crossings. As such, additional refinements were performed to the base year 2015 traffic assignment to improve alignment with the observed data. These refinements were performed outside of the RTDM environment, in a base year toll model prepared using RTDM output like demand matrices, highway network, and relevant parameters. As previously stated, only readily available data were used, and no additional data collection efforts were undertaken for this study. The following sections present a comparison of calibrated toll model estimates and observed data, including traffic volumes, travel speed, and O-D shares of the trips using the I-5 and I-205 Bridges.

[5] Oregon Metro. 2017. Kate v1.0 Trip-Based Demand Model Validation Report for Base Year 2015.

3.4.1 Average Weekday Traffic Volume

Observed traffic counts were available across several screenlines throughout the region, as defined for the RTDM validation performed by Metro, and as shown previously in Figure 2-2. The same dataset and screenlines were retained for comparison of toll model results to counts during calibration.

Table 3-3 shows a daily-level comparison of the total traffic across each screenline, by direction. The volumes at most screenlines are within 5% of observed counts, indicating that traffic movements across the region are generally well replicated in the model. The screenlines R-05 and R-07 represent the I-5 and I-205 Bridges, respectively. In the northbound direction, the total river crossings on the two bridges combined are approximately 2% lower than observed counts, while those in the southbound direction are approximately 3% higher than observed counts.

Table 3-3. Toll Model Calibration Summary at Regional Screenlines – Base Year 2015

	NB/EB			SB/WB		
Screenline	Count	Estimate	% Diff	Count	Estimate	% Diff
E-09	191,800	197,000	+3%	198,600	195,600	-2%
E-16	118,000	117,400	-1%	127,000	119,200	-6%
E-21	148,800	150,100	+1%	152,000	148,700	-2%
E-27	92,800	91,400	-2%	91,200	91,700	+1%
R-01	14,500	14,600	+1%	13,400	13,400	0%
R-02	263,700	266,600	+1%	260,900	264,400	+1%
R-04	61,300	63,100	+3%	62,400	63,800	+2%
R-05 (I-5 Bridge)	**68,200**	**68,600**	**+1%**	**69,300**	**70,400**	**+2%**
R-07 (I-205 Bridge)	**81,400**	**78,000**	**-4%**	**80,400**	**83,400**	**+4%**
W-03A	190,500	186,100	-2%	192,400	189,400	-2%
W-03B	117,200	119,100	+2%	383,000	377,400	-1%
W-07	103,000	102,300	-1%	105,500	103,000	-2%
W-09	81,900	85,700	+5%	86,700	82,200	-5%
W-14	51,400	52,300	+2%	53,600	52,100	-3%
W-16	101,200	100,900	0%	99,700	100,300	+1%
W-19	113,700	112,800	-1%	113,000	109,900	-3%

Table 3-4 presents a detailed summary of model-estimated volumes versus observed traffic counts on the I-5 and I-205 Bridges, as well as several other adjacent count locations to the north and south of the bridges. Model-estimated volumes are within +/-5% of the observed counts at almost all locations.

Table 3-4. Toll Model Calibration Summary for I-5 and I-205 Corridors – Base Year 2015

		NB/EB			SB/WB			Two-Way		
I-5	Location	Count	Est.	% Diff	Count	Est.	% Diff	Count	Est.	% Diff
N	North of I-5 and I-205 Interchange (WA PTR 005es00824)	55,200	56,000	+1%	54,800	54,500	0%	110,000	110,500	0%
	South of 99th Street (WA PTR 005es00529)	36,400	35,500	-3%	33,900	34,200	+1%	70,300	69,700	-1%
	South of Fourth Plain Blvd (WA PTR 005es00141)	66,100	65,300	-1%	71,400	70,800	-1%	137,500	136,100	-1%
	I-5 Interstate Bridge (OR ATR 26-004)	**68,200**	**68,600**	**+1%**	**69,300**	**70,400**	**+2%**	**137,500**	**139,000**	**+1%**
	South of Ainsworth St Undercrossing (OR ATR 26-019)	67,900	71,800	+6%	71,600	73,600	+3%	139,500	145,400	+4%
	NE of Stadium Fwy No. 61 Interchange (OR ATR 26-026)	78,700	78,800	0%	67,200	69,000	+3%	145,900	147,800	+1%
S	North of Terwilliger Blvd Conn. NO. 1 (OR ATR 26-016)	77,200	76,500	-1%	77,000	75,100	-2%	154,200	151,600	-2%

		NB/EB			SB/WB			Two-Way		
I-205	Location	Count	Est.	% Diff	Count	Est.	% Diff	Count	Est.	% Diff
N	West of 50th Avenue (WA PTR 205es03481)	35,800	36,200	+1%	36,800	37,500	+2%	72,600	73,700	+1%
	North of Burton Road (WA PTR 205es02987)	60,400	59,300	-2%	61,700	60,100	-2%	122,100	119,400	-2%
	I-205 Glenn Jackson Bridge (OR ATR 26-024)	**81,400**	**78,000**	**-4%**	**80,400**	**83,400**	**+4%**	**161,800**	**161,400**	**0%**
	South of Washington St Undercrossing (OR ATR 26-018)	80,400	78,700	-2%	81,400	76,900	-6%	161,800	155,600	-4%
S	South of Mt. Hood Highway No. 26 (US26) (OR ATR 26-022)	83,100	83,700	+1%	84,300	86,700	+3%	167,400	170,400	+2%

3.4.2 Travel Speed

In addition to replicating traffic volumes, it is also important to represent congestion within the network to ensure that any operational or capacity constraints that impact throughput are properly accounted for in the model. As discussed in Section 2.3, the speed data from INRIX was available for 2019 across several facilities. Table 3-5 and Table 3-6 show a comparison of the average, hourly observed speeds and toll model estimated speeds for the southbound or westbound in the AM period and northbound or eastbound in the PM period, respectively. The color shading represents different speed categories (1) 0 to 20 mph, (2) 20 to 40 mph, and (3) 40 to 60 mph.

The speed data were compared between 2015 toll model results and 2019 observed data. While traffic patterns and operations along the I-5 and I-205 corridors may have changed slightly between 2015 and 2019, congested conditions in these corridors have remained largely consistent, allowing for corridor-level comparisons between the two years. However, because traffic operations along major facilities are a result of complex interaction of various localized operations not fully represented in a macroscopic modeling environment, the speed data were used primarily as indicative measures of the reasonableness of model estimates with the understanding that speed estimates may differ from observed trends at certain locations. The model-estimated speeds were generally within reasonable limits for a region-level model analysis.

In the morning peak period, the hourly average speed patterns are similar between observed and estimated data for both bridges. The speeds along the I-5 Interstate Bridge are within 5 mph of observed data. Speeds along the sections of I-5 to the north and south of the bridge, as illustrated in Section 2.3, are calculated as the average speed along segments for which speed data were available. The average speed along the highway segments to the north and south of the bridge are also reasonably close to observed data.

Table 3-5. Observed and Toll Model-Estimated Speed (mph) – Morning Peak Period

SB/WB		INRIX OBS (2019) (mph)				TDM (2015) (mph)			
		6 AM	7 AM	8 AM	9 AM	6 AM	7 AM	8 AM	9 AM
I-5	N. of Bridge	29	23	30	57	37	38	40	58
	Interstate Bridge	**45**	**36**	**30**	**40**	**42**	**33**	**31**	**40**
	S. of Bridge	48	25	18	23	41	31	28	29
I-205	N. of Bridge	54	35	45	62	51	44	50	59
	Glenn Jackson Bridge	**52**	**42**	**42**	**58**	**44**	**34**	**44**	**58**
	S. of Bridge	58	56	54	57	51	46	49	53
I-84 WB		38	24	21	29	42	37	35	38
SR 14 WB		61	60	60	61	60	58	60	62
SR 500 WB		53	51	55	57	50	49	50	52

0–20 mph 20–45 mph > 45 mph

Table 3-6. Observed and Toll Model-Estimated Speed (mph) – Afternoon Peak Period

NB/EB		INRIX OBS (2019) (mph)				TDM (2015) (mph)			
		3 PM	4 PM	5 PM	6 PM	3 PM	4 PM	5 PM	6 PM
I-5	N. of Bridge	62	61	59	61	53	53	53	58
	Interstate Bridge	**28**	**28**	**29**	**30**	**29**	**33**	**31**	**30**
	S. of Bridge	17	17	17	22	26	27	27	31
I-205	N. of Bridge	60	53	52	62	56	54	55	60
	Glenn Jackson Bridge	**50**	**42**	**41**	**41**	**51**	**41**	**39**	**44**
	S. of Bridge	32	21	21	33	38	28	30	43
I-84 EB		34	31	33	44	41	40	41	45
SR 14 EB		61	60	57	60	57	58	58	61
SR 500 EB		56	56	55	55	50	50	49	52

0–20 mph 20–45 mph > 45 mph

3.5 Post-Pandemic Adjustments

As COVID-19 pandemic restrictions eased, traffic volumes recovered at varying rates across the country depending on the composition of local employment and other economic conditions that impact remote work trends and their degree of permanence. In the Portland-Vancouver metro area, with a sizable share of employment in the technology and professional services sectors, the pandemic caused many employees to transition to remote or hybrid work, reducing daily work-related travel. At the same time, some residents and employers in the region relocated from the Portland city center and into the suburbs, including the Vancouver, Washington, area across the Columbia River from Portland, Oregon, which could potentially increase work-related trips in both directions made by hybrid and fully on-site workers and result in a redistribution of travel patterns. It is critical to account for these shifts in travel behaviors when estimating the traffic and revenue potential of the I-5 Interstate Bridge, particularly because toll revenue is expected to provide funding for the bridge construction. Regional travel models like the RTDM are periodically updated using data collected through extensive surveys and count programs, including a household travel survey. This model refinement effort is a time-intensive effort, and Metro performs it as conditions warrant and resources are available to capture travel behavior changes in the region. The data collection effort for the next Metro RTDM refinement is scheduled to begin in the coming year, and the updated model is expected to be available for application by late 2024. As a result, an updated version of the RTDM that incorporates near- and long-term post-pandemic shifts is not available at the time of this study. In lieu of having an updated model, a basic scaling approach was adopted to adjust demand in the early years of the forecast period based on post-pandemic observed bridge counts.

It is important to understand how the RTDM estimates might compare against post-pandemic traffic counts. The T&R team developed an intermediate 2021 assignment model to represent 2021 demand without pandemic impacts. This demand was developed by interpolating between base year 2015 and

future year 2027 RTDM demand. The 2021 model estimates were then compared to the 2021 observed count data to assess the scale of demand adjustment necessary to account for post-pandemic trends. The 2021 observed data consisted of average weekday traffic counts at various locations along I-5 and I-205. The objective of adjusting the demand was to scale the regional demand to match observed river-crossing traffic. As such, the model performance was measured at an aggregate level by averaging multiple locations along I-5 and I-205 where observed 2021 count data were available. The counts were obtained for May and October of 2021 to represent an average weekday. Table 3-7 shows a comparison of the RTDM traffic estimates along the I-5 and I-205 corridors using unadjusted 2021 demand. On I-5, the RTDM demand is approximately 10.3% higher than the observed 2021 counts, while it is 8.7% higher along I-205. As expected, the unadjusted RTDM demand resulted in higher traffic estimates along the facilities when compared to counts.

Table 3-7. Comparison of Average 2021 Traffic before Post-Pandemic Demand Adjustment

I-5	NB	SB	Two-Way
Avg 2021 Observed Traffic	69,300	67,400	136,700
Avg 2021 Estimated Traffic (before adjustment)	76,800	74,100	150,900
% Difference	+10.8%	+9.9%	+10.4%
I-205	**NB**	**SB**	**Two-Way**
Avg 2021 Observed Traffic	78,800	78,200	157,000
Avg 2021 Estimated Traffic (before adjustment)	84,300	86,400	170,700
% Difference	+7.0%	+10.5%	+8.7%

To adjust the 2021 RTDM to match 2021 pandemic volumes more closely, the demand matrices input to the RTDM assignments were adjusted to achieve assigned volumes closer to observed data. Since the biggest decline in regional traffic is likely related to the drop in work-related trips, only the HBW trip demand was adjusted. Also, most of the workers who transitioned to hybrid work arrangements are assumed to likely be in medium- and high-income groups. As such, the demand was adjusted only for the HBW medium income and HBW high income groups, resulting in an approximately 8.0% reduction in regional auto demand compared to the RTDM output. Table 3-8 presents a comparison of the average observed and model-estimated total traffic along I-5 and I-205. After demand adjustments, 2021 model estimates are within 1.0% of observed data on I-5 and within 3.5% on I-205, which is within acceptable limits for this Level 2 T&R Study analysis.

Table 3-8. Comparison of Average 2021 Traffic after Demand Adjustment

I-5	NB	SB	Two-Way
Avg 2021 Observed Traffic	69,300	67,400	136,700
Avg 2021 Estimated Traffic (after adjustment)	69,500	66,800	136,300
% Difference	+0.3%	-0.9%	-0.3%
I-205	**NB**	**SB**	**Two-Way**
Avg 2021 Observed Traffic	78,800	78,200	157,000
Avg 2021 Estimated Traffic (after adjustment)	76,200	78,000	154,200
% Difference	-3.3%	-0.3%	-1.8%

Travel in 2021 still reflected behavior very early in the recovery period for the region. Based on observed data through October 2022, travel levels and patterns driven by local economic activity have gradually been returning to pre-pandemic levels. However, with a likely permanent shift by some people working remotely/under flexible or hybrid work arrangements, it is likely that the observed traffic recovery is a combination of conventional commuting trips as well as discretionary non-commute trips, including those that may have previously been associated with an intermediate stop on a commute trip. Employees with flexible remote work arrangements can now make discretionary personal or recreational trips during midday, which was less common pre-pandemic. As a result, while the total daily traffic levels are approaching pre-pandemic levels—and have all but fully recovered on the Interstate Bridge—the composition of traffic by trip purpose is likely somewhat different and may continue to change, depending on the long-term remote and/or flexible work arrangements adopted by the regional employers and their employees. Additionally, the recent rise in e-commerce and relocation of some residents to suburbs further from city centers could be contributing to additional trips and changing patterns during an average weekday. As regional travel patterns and trends continue to evolve and adjust to a new normal, it is anticipated that regional traffic will gradually attain and then surpass pre-pandemic levels in the coming years.

Given the transitionary state of regional travel patterns, it was conservatively assumed that a full recovery to pre-pandemic regional traffic levels would occur gradually over about 10 years, by 2031/FY 2032. This also aligns with the intermediate model year of FY 2032, which was developed to approximate for the date of completion of the new bridge at the time this T&R Study commenced. It is possible that the actual recovery may occur faster, but the assumption of an extended regional traffic recovery period is conservative from a T&R standpoint.

4. TRAFFIC AND GROSS TOLL REVENUE FORECAST

This chapter describes the key assumptions for toll modeling including tolling implementation timelines and opening years, weekday and weekend toll schedules, the assumed toll escalation rate, truck toll assumptions, toll payment methods and other regional toll projects included in this analysis. The results of toll modeling are presented as average weekday estimates of traffic along the Interstate Bridge. The final section highlights key assumptions for transforming average weekday estimates into annual forecasts and presents the 40-year forecasts of traffic and gross toll revenue under each base case toll scenario.

The objective of these forecasts is to support financial analysis that will be used to estimate the funding requirements for the modified locally preferred alternative. The T&R forecasts presented in this report are structured to provide a conservative estimate of the potential funding that could be leveraged from tolling for financial planning purposes, minimizing the chance of overstating revenue. However, these conservative estimates of traffic and revenue would result in understating or misrepresenting the potential environmental impacts and design considerations of the program. As such, these traffic volumes are neither suitable for, nor are they intended to be used for, design and/or environmental analysis. Additional context on the different forecasts and their purposes is provided in Section 4.3.1.

The Level 2 T&R Study forecasts provided in this report are based on the current regional travel demand model, readily available traffic counts, and future estimates of population and employment provided by Metro. The forecasts are intended to provide a reasonably conservative estimate of revenue potential across various toll scenarios to ascertain how different assumptions and policy levers impact traffic and revenue. The scenario results are designed to inform policy discussions in preparation for and to narrow the range of scenarios to carry into the Level 3 (investment grade) Toll T&R Study expected to be undertaken in mid-2024 in conjunction with the two State Transportation Commissions' formal rate setting process.

It is anticipated that a broader set of more recent observed travel data, including updated O-D patterns, will be collected, and a stated preference survey analysis will be conducted as part of the future Level 3 Toll T&R Study. The Level 3 analysis will also include updated assumptions about other regional network characteristics, including pricing on other facilities, and it may include the use of an updated version of the regional travel demand model, if an updated version is tested and available when the next study starts. The results of the Level 3 Toll T&R Study will be used for the final financial modeling, and it will supersede the contents of this report.

4.1 General IBR Tolling Assumptions

4.1.1 Tolling Timeline

Tolling of the Interstate Bridge is proposed to be implemented in two different timeframes. The first timeframe, referred to as "pre-completion tolling" in this report, is proposed to start on the existing Interstate Bridge while the construction of the replacement bridge is underway. Relative to deferring

toll collection until the new bridge is completed, pre-completion tolling offers several benefits: (a) it generates additional toll revenue to support construction financing, (b) it provides revenues to make debt service payments once bonds are issued, thereby minimizing capitalized interest costs, (c) it provides an opportunity to fine-tune toll collection operations and the T&R forecasts before issuing bonds, and (d) it helps manage traffic demand through the corridor. This study assumed that pre-completion tolling would begin by April 1, 2026. During the pre-completion tolling period, this study conservatively assumed that the existing Interstate Bridge would not be tolled overnight between 11 p.m. and 5 a.m. due to potential overnight lane closures, though the actual hours of tolling will be determined jointly by the two State Transportation Commissions.

In the second tolling timeframe, construction of the new bridge is assumed to be complete. This would begin with the transition of tolling to the new replacement bridge once open, which for this Level 2 T&R study, is currently estimated to be effective beginning with FY 2034, i.e., July 1, 2033. This analysis assumed that over-night tolling between 11 p.m. and 5 a.m. would also begin when the new bridge opens.

4.1.2 Weekday Toll Rate Schedules

Actual toll rates and policies implemented on the Interstate Bridge will be jointly set by the Oregon Transportation Commission (OTC) and the Washington State Transportation Commission (WSTC). This Level 2 T&R Study assumed a time-of-day variable toll schedule with rates that vary by hour according to a set schedule for the Interstate Bridge. The toll schedules examined in this study were developed with the assumption of higher rates during congested peak hours and lower rates during off-peak hours, which incentivizes some trips to shift out of congested peak times and into lower-cost off-peak times. The variable toll schedule would help relieve peak period congestion and would improve peak period mobility while also generating revenue to help fund the new bridge construction.

For this Level 2 T&R Study, two sets of variable I-5 toll rates were assumed for analysis across seven scenarios—base tolls (described later herein as applying to Scenarios A, C, D, F and G) and lower tolls (applying to Scenarios B and E). The base toll schedule was developed to provide a high probability of meeting the IBR Program's preliminary funding targets. The lower toll schedule was developed to test how traffic and revenue estimates would change with toll rates. These lower toll rates, which would result in higher traffic using the tolled Interstate Bridge compared to base toll rates, have been incorporated into the program's separate forecasting process for environmental analysis and design considerations to generate appropriate traffic volumes for estimating the potential environment impacts of the program (see Section 4.3.1 for more information on the different types and purposes of traffic forecasts). An analysis of the existing traffic patterns and potential funding needs was considered in developing both toll rate schedules. The range of tolls assumed and analyzed in this study result in similar average revenue per trip metrics as prior analyses for the Columbia River Crossing project considered in the year opening and adjusted to the same year's dollars.

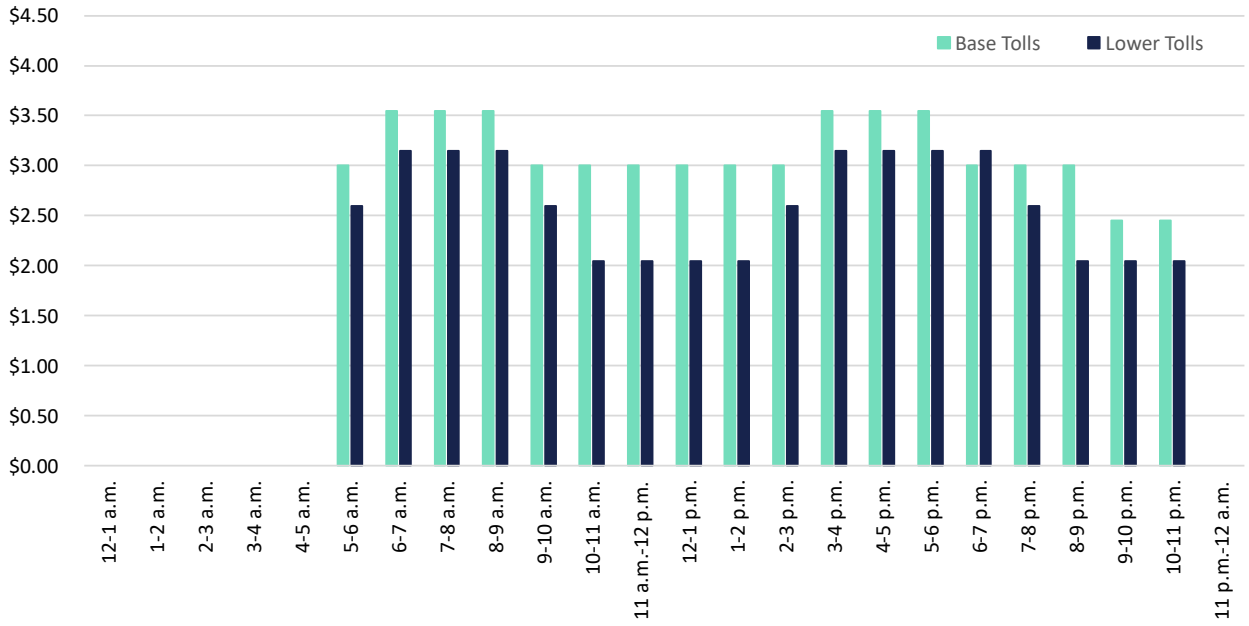
Figure 4-1 and Figure 4-2 illustrate the two sets of analyzed average weekday toll rates for a standard two-axle vehicle with an electronic toll payment account during the pre-completion and post-completion period, respectively. The base toll rates are slightly higher, and they include more variation in hourly rates over a 24-hour period. Under the base toll schedule, at their values in the assumed start year of tolling (FY 2026), the tolls would vary between a maximum rate of $3.55 during

the peak hours and a minimum of $2.15 during the off-peak hours. Similarly, under the lower toll schedule, the maximum rate of $3.15 is assumed during the peak traffic hours, with a $1.50 minimum toll rate during the off-peak hours.

With the exception of Scenario C, which tests the effects of no toll escalation on the base toll rates, tolls are assumed to increase by 2.15% per year to match general price inflation, thereby keeping the real toll rates constant, as discussed later in Section 4.1.4. The annual inflation rate of 2.15% was adopted to match the assumption ODOT used within the Oregon Toll Program, and it is consistent with the average of two inflation forecast measures used by the WSDOT Transportation Revenue Forecast Council.

Additionally, for the revenue projections documented in this study, tolls during the pre-completion timeframe (FYs 2026 to 2033) were conservatively assumed to be zero overnight from 11 p.m. to 5 a.m. in lieu of the minimum toll, as presented in Figure 4-2. This assumption considers that construction activities including potential lane closures overnight may reduce the value proposition for charging tolls overnight and may further reduce construction impacts on travel at other times.

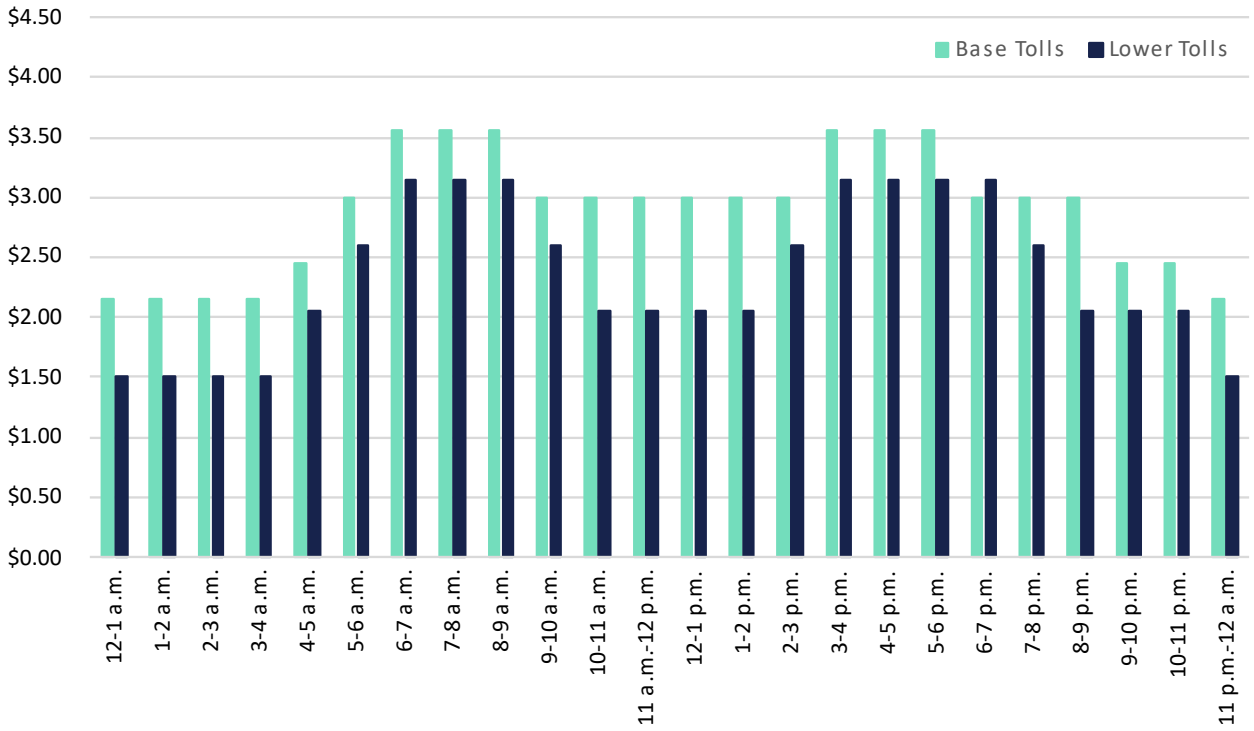
Figure 4-1. Pre-Completion Weekday Toll Rate Schedules for Autos and Light Trucks with an Electronic Payment Account (FY 2026/2025 Dollars)



Toll Plan	12–4 a.m.	4–5 a.m.	5–6 a.m.	6–9 a.m.	9–10 a.m.	10 a.m. –2 p.m.	2–3 p.m.	3–6 p.m.	6–7 p.m.	7–8 p.m.	8–9 p.m.	9–11 p.m.	11 p.m. –12 a.m.
Base Tolls	$0.00	$0.00	$3.00	$3.55	$3.00	$3.00	$3.00	$3.55	$3.00	$3.00	$3.00	$2.45	$0.00
Lower Tolls	$0.00	$0.00	$2.60	$3.15	$2.60	$2.05	$2.60	$3.15	$3.15	$2.60	$2.05	$2.05	$0.00

Note: Overnight tolling between 11 p.m. and 5 a.m. is not assumed until new bridge opening, which is estimated to be in FY 2034.

Figure 4-2. Post-Completion Weekday Toll Rate Schedules for Autos and Light Trucks with an Electronic Payment Account (FY 2026/2025 Dollars)



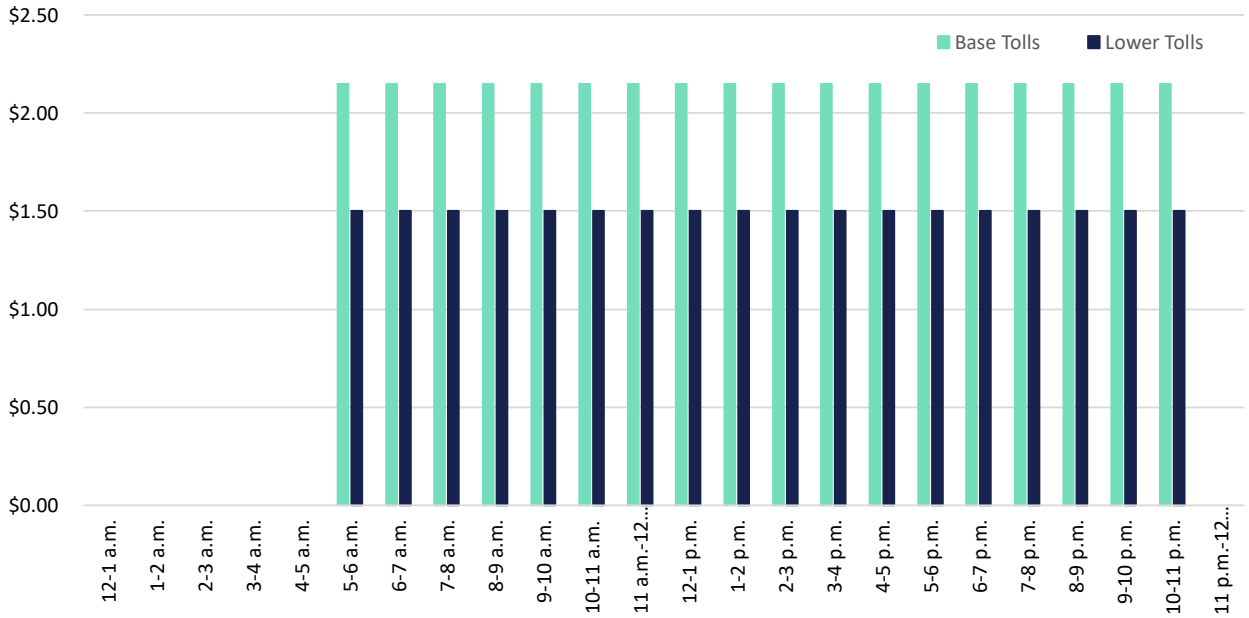
Toll Plan	12–4 a.m.	4–5 a.m.	5–6 a.m.	6–9 a.m.	9–10 a.m.	10 a.m. – 2 p.m.	2–3 p.m.	3–6 p.m.	6–7 p.m.	7–8 p.m.	8–9 p.m.	9–11 p.m.	11p.m. –12 a.m.
Base Tolls	$2.15	$2.45	$3.00	$3.55	$3.00	$3.00	$3.00	$3.55	$3.00	$3.00	$3.00	$2.45	$2.15
Lower Tolls	$1.50	$2.05	$2.60	$3.15	$2.60	$2.05	$2.60	$3.15	$3.15	$2.60	$2.05	$2.05	$1.50

The tolls for various vehicle types and payment methods are discussed in the following sections.

4.1.3 Weekend Toll Rate Schedules

For purposes of this study, toll rates on weekend days are conservatively assumed to remain constant throughout the day at the minimum (non-zero) weekday toll under each scenario. Figure 4-3 and Figure 4-4 present the weekend toll rates for the base (Scenarios A, C, D, F and G) and the lower (Scenarios B and E) schedules. It is assumed that the weekend toll schedule will also apply to certain national holidays when traffic patterns are more comparable to a weekend day. As with weekdays, overnight tolls from 11 p.m. to 5 a.m. are assumed to be zero during the pre-completion phase (FYs 2026 to 2033), as presented in Figure 4-4.

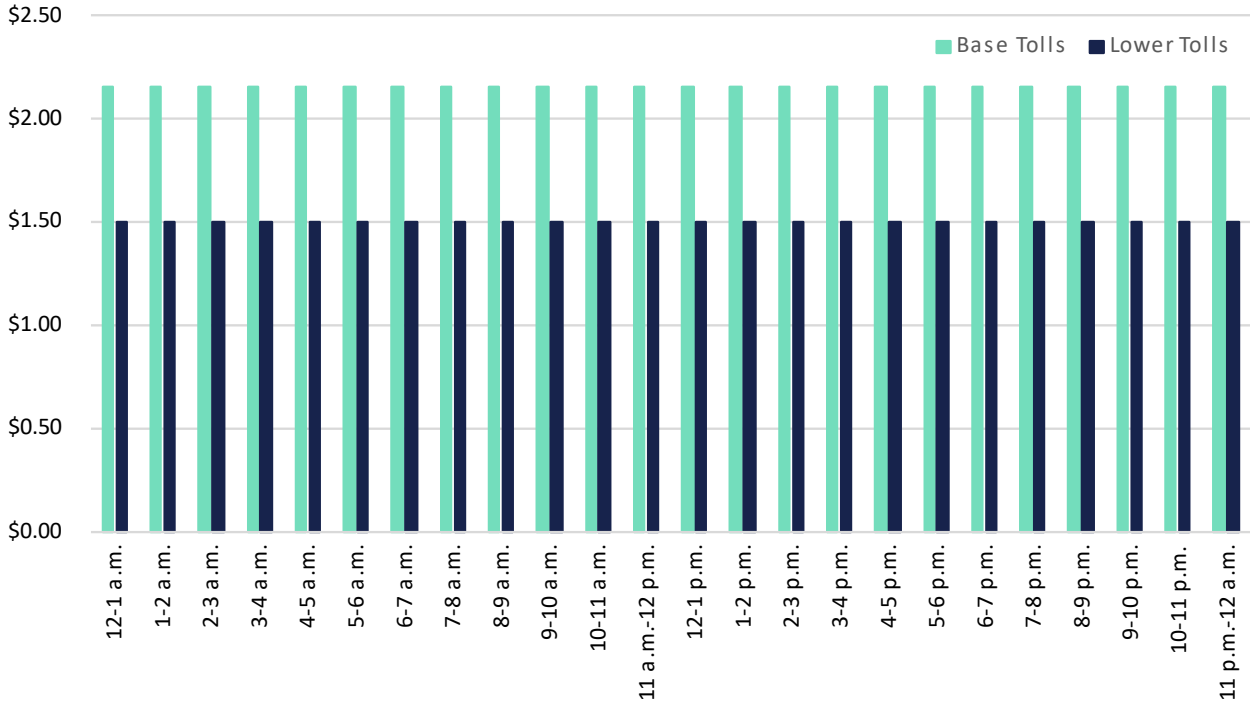
Figure 4-3. Pre-Completion Weekend Toll Rate Schedule for Autos and Light Trucks with an Electronic Payment Account (FY 2026/2025 Dollars)



Toll Plan	12–4 a.m.	4–5 a.m.	5–6 a.m.	6–9 a.m.	9–10 a.m.	10 a.m. –2 p.m.	2–3 p.m.	3–6 p.m.	6–7 p.m.	7–8 p.m.	8–9 p.m.	9–11 p.m.	11p.m. –12 a.m.
Base Tolls	$0.00	$0.00	$2.15	$2.15	$2.15	$2.15	$2.15	$2.15	$2.15	$2.15	$2.15	$2.15	$0.00
Lower Tolls	$0.00	$0.00	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$0.00

Note: Overnight tolling between 11 p.m. and 5 a.m. is not assumed until the new bridge opens, which is estimated to be in FY 2034.

Figure 4-4. Post-Completion Weekend Toll Rate Schedule for Autos and Light Trucks with an Electronic Payment Account (FY 2026/2025 Dollars)



Toll Plan	12–4 a.m.	4–5 a.m.	5–6 a.m.	6–9 a.m.	9–10 a.m.	10 a.m. –2 p.m.	2–3 p.m.	3–6 p.m.	6–7 p.m.	7–8 p.m.	8–9 p.m.	9–11 p.m.	11p.m. –12 a.m.
Base Tolls	$2.15	$2.15	$2.15	$2.15	$2.15	$2.15	$2.15	$2.15	$2.15	$2.15	$2.15	$2.15	$2.15
Lower Tolls	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50	$1.50

4.1.4 Toll Rate Escalation

When developing study assumptions for toll policy to assess the revenue generation potential of a tolled facility, it is typical to encounter the question of whether to escalate tolls over time. If no escalation is assumed, then toll rates will not keep up with inflation in facility maintenance and toll collection costs. As a result, net toll revenue after operations and maintenance (O&M) costs—that will likely be pledged to debt service on construction bonds—may decline over time, especially if growth in traffic volumes and gross toll revenues are not high enough to overcome the rising O&M costs. Additionally, tolls may eventually become too low, reducing their effectiveness at sustaining efficient future peak period mobility. On the contrary, if tolls are allowed to increase to keep pace with inflation (and driver incomes), tolls are likely to generate stable-to-growing levels of net toll revenue, while also helping maintain good peak period mobility.

All scenarios, except Scenario C, assumed that the toll rates would escalate at a rate of 2.15% annually, including during the pre-completion tolling period and through the end of the analysis period for this study. Scenario C maintained initial toll rates without toll escalation over the forecast horizon. As previously noted, actual toll rates, including escalation policies, will be jointly set by OTC and WSTC. Table 4-1 shows the hourly toll rates by year for the two toll scenarios analyzed.

Table 4-1. Toll Schedules Analyzed with Escalation for Autos and Light Trucks with an Electronic Payment Account in Select Future Years (Values Rounded to Nearest $0.05)

	Base Tolls			Lower Tolls		
Time of Day	FY 2026	FY 2034	FY 2046	FY 2026	FY 2034	FY 2046
12–4 a.m.	$0.00	$2.55	$3.30	$0.00	$1.75	$2.25
4–5 a.m.	$0.00	$2.90	$3.75	$0.00	$2.45	$3.15
5–6 a.m.	$3.00	$3.55	$4.60	$2.60	$3.10	$4.00
6–9 a.m.	$3.55	$4.20	$5.40	$3.15	$3.75	$4.85
9–10 a.m.	$3.00	$3.55	$4.60	$2.60	$3.10	$4.00
10 a.m.–2 p.m.	$3.00	$3.55	$4.60	$2.05	$2.45	$3.15
2–3 p.m.	$3.00	$3.55	$4.60	$2.60	$3.10	$4.00
3–6 p.m.	$3.55	$4.20	$5.40	$3.15	$3.75	$4.85
6–7 p.m.	$3.00	$3.55	$4.60	$3.15	$3.75	$4.85
7–8 p.m.	$3.00	$3.55	$4.60	$2.60	$3.10	$4.00
8–9 p.m.	$3.00	$3.55	$4.60	$2.05	$2.45	$3.15
9–11 p.m.	$2.45	$2.90	$3.75	$2.05	$2.45	$3.15
11 p.m.–12 a.m.	$0.00	$2.55	$3.30	$0.00	$1.75	$2.25
Weekends All Day	$2.15	$2.55	$3.30	$1.50	$1.75	$2.25

4.1.5 Truck Toll Assumptions

The Metro RTDM groups larger vehicles into two separate categories—medium trucks (larger box delivery-type trucks with two or three axles) and heavy trucks (tractor-trailer units and other heavy vehicles typically with four or more axles). For this Level 2 T&R Study analysis, the same two groupings of trucks were maintained. A factor of two times (2x) the base two-axle vehicle (auto) toll was assumed for medium trucks and four times (4x) the base auto toll for large trucks. These truck toll multiplier assumptions are consistent with the prior CRC work as well as the ODOT I-205 Toll Project's Level 2 Toll Traffic and Revenue Study Report analysis at the time of this study's traffic modeling.[6] Additionally, these simplified modeling assumptions align with a common industry standard of charging a multiple of the auto toll that is one less than the number of axles (e.g., a truck with N axles

[6] https://www.oregon.gov/odot/tolling/Documents/I-205_L2_T+R_Study_Report_October-2022_Final_Revised.pdf

would pay N-1 times the base auto toll). However, WSDOT toll facilities use an alternate method that sets the truck toll multiplier at one-half the number of axles (N/2), with a cap of three times (3x) the auto toll for trucks with six or more axles.

Subsequent to this study's traffic modeling, ODOT's Oregon Toll Program is examining lower truck toll multiplier assumptions for its updated analyses of the I-205 Toll Project and the RMPP. As such, future T&R analyses for IBR Program would likely test truck multiplier assumptions consistent with those of other planned toll facilities.

Actual truck classification and toll rate policies will be jointly determined by the two Transportation Commissions subject to any collection technology limitations, and they may include additional rate categories by size beyond the two considered in the regional demand modeling. Additionally, ODOT is developing a shape-based classification of trucks for tolling under the Oregon Toll Program. Since ODOT would be the toll administrator for the I-5 Interstate Bridge, it is likely that the same classification method would be adopted for the I-5 Interstate Bridge as well. However, this shape-based classification for tolling does not completely align with the axle-based truck categorizations assumed in the RTDM and used by WSDOT. As shown before in Table 2-3, the heavy trucks constitute approximately 6.5% of total traffic on the I-5 Interstate Bridge. The RTDM estimates heavy trucks to be about 9% of the total bridge traffic. As such, adjustments were necessary to reallocate the estimated truck trips to the proposed tolling classifications to be consistent with observed truck shares.

4.1.6 Payment Methods

The OTC and WSTC will jointly set the toll increment and escalation policies for PBM users. This analysis assumed two payment methods would be offered to users of the Interstate Bridge, an electronic toll collection (ETC) method for customers who have a registered account for payment linked to an in-vehicle transponder (or potentially a license plate number), and a pay-by-mail (PBM) method for non-registered customers where tolls are assessed by capturing a video image of the license plate and sending bills to the registered vehicle owner. Typically, the toll rates for the PBM method are higher than ETC to account for the additional costs associated with identifying registered owners and sending invoices via mail. For this T&R analysis, it was assumed that PBM customers would be assessed a flat, non-escalating toll increment of $2.00 in addition to the underlying ETC rates. The toll increment was applied uniformly across all vehicle types, i.e., autos, medium trucks, and heavy trucks would pay the same $2.00 toll increment in addition to their respective base ETC toll. This assumption differs from current WSDOT toll operations where the truck PBM toll increment is assessed based on number of axles, similar to the base ETC toll rate.

Since ETC customers use registered accounts with validated payment methods (like credit cards, bank accounts, etc.), the toll collection efficiency is generally high, meaning that a toll may be collected for most e of the transactions recorded at a toll gantry. In comparison, toll collection via the PBM method tends to be less efficient due to the challenges associated with vehicle identification, like invalid license plates, outdated addresses, video image discrepancies, etc., resulting in revenue loss from uncollectable tolls. The shares of each transaction type directly impact the estimates of potential toll revenue.

For this study, ETC penetration rates were provided as initial values for demand modeling. The initial values varied between 50% in FY 2026 and 65% in FY 2046 for autos as well as trucks to account for gradual growth in the shares of ETC transactions as more customers opt into having an account for reasons of convenience, cost savings, and/or expanding electronic payment applications and utility. The actual forecast rates of ETC penetration are determined within the model based on demand conditions and differential toll rates, and they tend to yield ETC rates that are higher than the initial values noted above. The model's estimated ETC penetration rates are presented later in Section 4.4.3.

4.1.7 Other Toll Projects in the Region

At the beginning of this study's toll modeling analysis, ODOT had proposed to implement two separate tolling projects in the Portland metro area: the I-205 Toll Project and the RMPP. At that time, the I-205 Toll Project included two toll bridges along I-205 southeast of Portland—the Abernethy Bridge and the Tualatin River Bridge. In August 2023, following the completion of the traffic and revenue forecasts presented herein, the I-205 Toll Project has evolved to only toll of the Abernethy Bridge and has eliminated the widening improvements at this stage.[7] The RMPP proposes to implement tolling along the I-5 and I-205 corridors extending between the Oregon-Washington state line and the Boone Bridge in Wilsonville, south of the Portland Metro area. Figure 4-5 illustrates the location and extents of the two toll projects' study areas relative to the IBR Program. For purposes of this study, RMPP tolling in Scenarios F and G is assumed to begin in FY 2028. The exact toll points for RMPP have not yet been determined.

For this Level 2 T&R Study, the I-205 Toll Project, which has been approved and adopted into the RTP, was included as a background project in all scenarios analyzed and assumed to be operational before starting pre-completion tolling along the Interstate Bridge. Based on the best information available at the time the modeling was conducted, the Abernethy and Tualatin River Bridges were assumed to be tolled in all model years in addition to the I-5 Interstate Bridge.[8] Noting the aforementioned recent changes to the I-205 Toll Project, the IBR Program T&R team does not believe that these changes would materially impact the IBR traffic and revenue results, in part due to their distance from the I-5 bridge and the offsetting effects of a lower toll and no widening; nevertheless, the extents of tolling and/or the timing for implementing improvements and tolls on I-205 are subject to change. The latest ODOT network and tolling assumptions will be incorporated into subsequent T&R analyses (see Section 4.3.2 for additional information).

Other tolling assumptions were also adopted from the I-205 Toll Project's Level 2 T&R Study for consistency. Tolls were assumed to escalate at 2.15% annually (except for Scenario C), and, as previously noted, the base ETC truck toll rates were assumed to be 2x and 4x the auto rates for the

[7] The widening improvements and the additional toll collection point at the Tualatin River crossing may be implemented in the future. Additional information on I-205 tolling and proposed improvements can be found here: https://www.oregon.gov/odot/tolling/Pages/I-205-Tolling.aspx and here: https://www.i205corridor.org/

[8] The toll schedules assumed for these two bridges can be found here: https://www.oregon.gov/odot/tolling/Documents/I-205_L2_T+R_Study_Report_October-2022_Final_Revised.pdf

medium and heavy truck categories, respectively. The PBM toll increment was assumed to be a fixed, non-escalating increment of $2.00 regardless of vehicle type. The Oregon Toll Program's tolling assumptions have continued to evolve since this IBR Program T&R analysis was conducted, including lower truck toll multipliers and different PBM toll increments. Subsequent IBR Program T&R analyses will incorporate the latest toll rate and policy assumptions of other ODOT toll facilities in the region.

The RMPP is currently undergoing NEPA analysis. At the time of this study's T&R modeling and forecasting, the RMPP was not yet included in the RTP. As a result, the RMPP was evaluated in two scenarios specifically developed to assess the impact of the corridor-level tolling project on the traffic and revenue of the IBR Program rather than including the RMPP as a given for all scenarios. At the time of publication, a draft update of the 2023 RTP that includes the RMPP is out for public review, and it will be finalized in November 2023. Subsequent IBR Program T&R analyses will incorporate the latest regional network and pricing assumptions.

Figure 4-5. Oregon Toll Program Features at the Time of IBR Program T&R Analysis (May 2023)

Source: Oregon Department of Transportation; This graphic represents the RMPP and the I-205 Toll Project as of May 2023 when this IBR Program T&R analysis was completed, and it has since been revised, as these projects have evolved as part of ongoing studies.

4.2 T&R Scenario-Specific Assumptions and Analysis Approach

This section describes the assumptions and modeling approach for various scenarios analyzed as part of this study. For each scenario, the baseline IBR Program tolling assumptions described in the previous section apply in conjunction with the scenario-specific assumptions. Table 4-2 presents a summary of the general IBR Program assumptions common to all scenarios, as well as those specific to each scenario.

Table 4-2. Summary of Assumptions

General IBR Tolling Assumptions	
Tolling Beginning	Pre-completion tolling starting April 1, 2026 New bridge opening and tolling starting July 1, 2033
Toll Escalation	2.15% annual toll escalation through forecast term
Overnight Tolling	Toll-free between 11 p.m. and 5 a.m. during pre-completion period; minimum toll rate after the new bridge opens
Truck Toll	2x for medium trucks, 4x for heavy trucks
PBM Toll Increment	$2.00 flat toll increment for all vehicle types, constant across all model years
ETC Penetration	**Autos:** 50% in FY 2027, 55% in FY 2032, 65% in FY 2046 **Trucks:** 50% in FY 2027, 60% in FY 2032, 65% in FY 2046 These are seed targets input to the model. The final ETC shares are determined by the model based on traffic conditions and toll rates within the model.

Scenario-Specific Assumptions					
Scenario	**Description**	**Toll Schedule**	**Annual Toll Escalation**	**Low-Income Discount**	**Background Toll Projects**
Scenario A	Base Tolls (financial planning)	Base Tolls	2.15%	None	I-205 Toll Project
Scenario B	Lower Tolls (NEPA)	Lower Tolls	2.15%	None	I-205 Toll Project
Scenario C	Base Tolls + No toll escalation	Base Tolls	none	None	I-205 Toll Project
Scenario D	Scenario A + RMPP	Base Tolls	2.15%	None	I-205 Toll Project + RMPP
Scenario E	Scenario B + RMPP	Lower Tolls	2.15%	None	I-205 Toll Project + RMPP
Scenario F	Scenario A + 50% low-income discount + higher participation rate	Base Tolls	2.15%	Included	I-205 Toll Project
Scenario G	Scenario A + 25% low-income discount + lower participation rate	Base Tolls	2.15%	Included	I-205 Toll Project

4.2.1 Scenario A | Base Tolls | Escalation

This scenario estimated the traffic and toll revenue for the bridge assuming the base toll schedule developed for financial planning purposes around a preliminary Interstate Bridge toll funding target. The base toll schedule, presented in Figure 4-1, was assumed for the Interstate Bridge, and all other general tolling assumptions presented in Section 4.1 were assumed in conjunction with these toll

rates. As discussed before, the I-205 Toll Project was assumed as a background network project in this scenario, but the RMPP was excluded.

The modeling approach for this scenario was consistent with the approach presented in Chapter 3. First, the RTDM was implemented at the regional level to model the impact of the base toll schedule. Then, the P-A format matrices from the RTDM were obtained and prepared for the Toll Model.

While this scenario was validated as meeting the $1.24 billion toll capital funding target identified in the 2023 IBR Financial Plan, it was not analyzed as a preferred or priority scenario.[9] Rather, it is presented in this report as a reference point against which the other scenarios may be compared.

4.2.2 Scenario B | Lower Tolls | Escalation

This scenario analyzed and prepared a traffic and toll revenue forecast for the Interstate Bridge under the lower toll schedule presented in Figure 4-1, while all other general IBR tolling assumptions were held consistent with those of Scenario A. Similar to Scenario A, the I-205 Toll Project was assumed as a background network project in this scenario, but the RMPP was excluded. The lower toll schedule analyzed in this scenario is also consistent with the rates assumed for the environmental analysis. The modeling approach was consistent with Scenario A.

4.2.3 Scenario C | Base Tolls | No Escalation

This scenario analyzed the traffic and revenue of the Interstate Bridge with the base toll schedule and all general IBR tolling assumptions, but it assumed that the opening year toll rates on the facility would be fixed over the forecast horizon (not escalated by 2.15% annually). Effectively, the real cost of the toll for using the I-5 Interstate Bridge would decline over time as traveler's incomes and values of time would slowly increase with general priced inflation (assumed at 2.15% annually), while tolls would hold steady. The objective of this scenario is to demonstrate how traffic may increase under declining real toll rates and to serve as a financial stress test for how net revenues would trend in the absence of annual toll escalation, in light of inflationary increases in the costs for facility and toll collection operations and maintenance. Similar to Scenario A, the I-205 Toll Project was assumed as a background network project in this scenario, but the RMPP was excluded. The modeling methodology was consistent with that of Scenario A.

4.2.4 Scenario D | Base Tolls | Escalation | RMPP

The objective of this scenario was to estimate the traffic and toll revenue impacts on the Interstate Bridge with the base (Scenario A) tolls when RMPP tolling is implemented along the I-5 and I-205 corridors south of the Columbia River, which, for purposes of this study, is assumed to begin in FY 2028. Due to its proximity to the Interstate Bridge, as well as the scale of toll implementation at a

[9] https://www.interstatebridge.org/media/e4gmctwf/2023_ibr_financial_plan_revb_20230331_remediated-2.pdf

corridor level, it was important to understand how the RMPP would impact cross-river travel and, specifically, the Interstate Bridge's traffic and revenue projections. Except for the addition of the RMPP to the network, all other tolling assumptions of project timeline, truck tolls and payment methods discussed in Section 4.1 would remain unchanged.

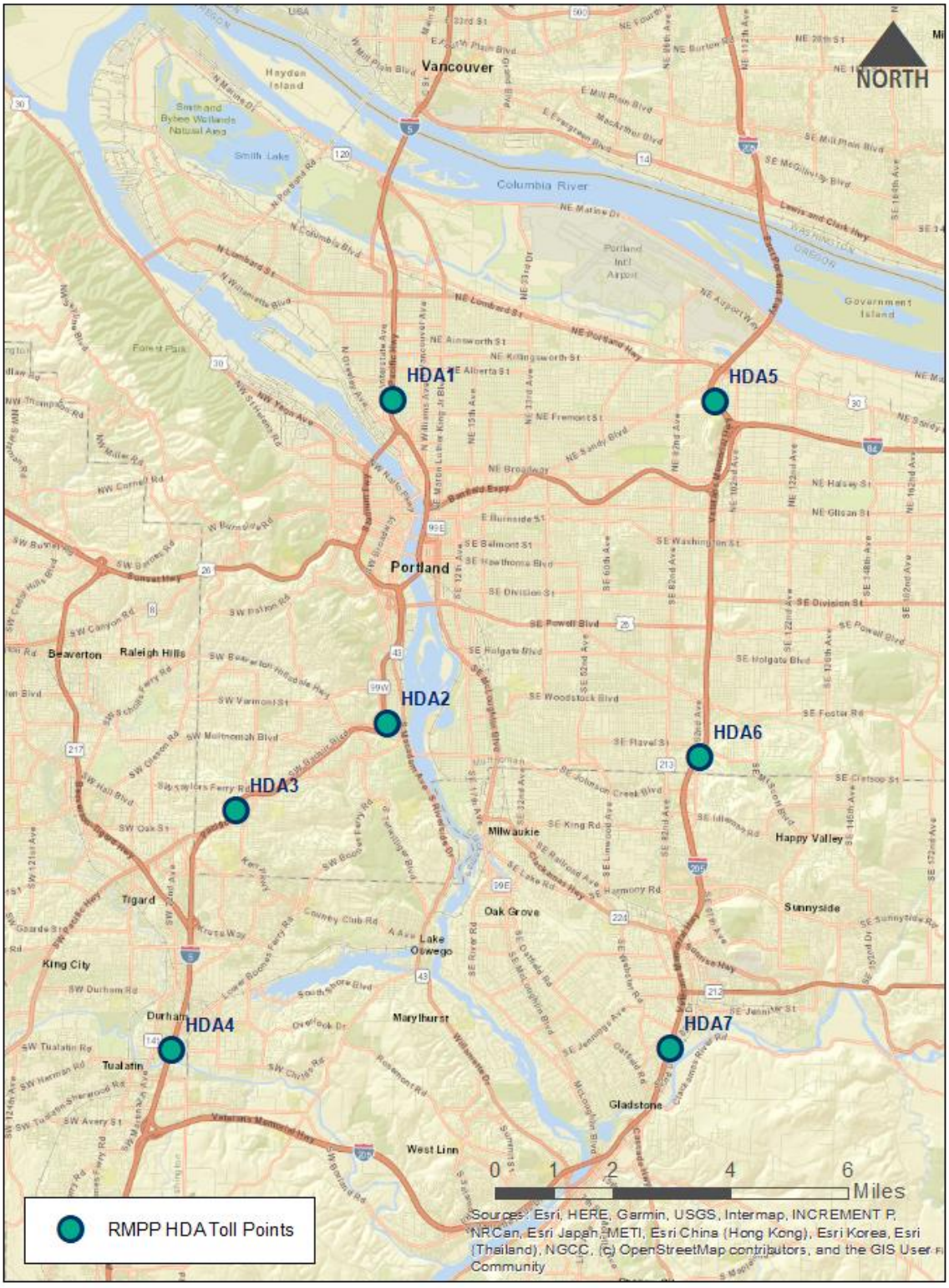
The RMPP tolling plan included in this scenario analysis included two types of tolls, based on the concept that had been developed at the time of this study's T&R forecasts in spring 2023: [10]

1. Demand management fees: This fee was assessed on all on-ramps used to access the I-5 and I-205 facilities within the project extents. The fee was assumed to be $0.75 in FY 2026/2025 dollars, and it was assumed to escalate at 2.15% annually over the analysis period. The demand management fee was assumed to be charged between 5 a.m. and 9 p.m.
2. High Demand Area (HDA) fees: This fee was analogous to a mainline toll, and it was assessed along the mainline sections of I-5 and I-205, which would experience high congestion without tolls. These fees, which are in addition to the demand management fees on the on-ramps, were assumed to vary by location and time of day based on typical conditions on a predictable schedule, and they would be assessed only during the peak hours of the day when congestion would be prevalent.

The HDA tolling locations are illustrated in Figure 4-6. In addition, all on-ramps within the extents of the RMPP were modeled to include the demand management fee.

[10] The RMPP tolling methods, extents, and rates/policies may differ from those listed herein as the project progresses through the environmental process.

Figure 4-6. Potential High Demand Area Toll Points, RMPP Tolling Concept (2022)



The draft conceptual RMPP toll schedule assumed in this study included hourly toll rates, ranging from a $0.00 toll in non-congested hours to a maximum of $1.50 (2027 dollars) in 2027 and $2.50 (2027 dollars) in 2045 during congested hours. The hourly rates were developed to manage traffic congestion along sections of I-5 and I-205, and, as such, the 2045 model includes a higher number of locations, more hours, and, in most cases, higher real tolls compared to the 2027 analysis as a result of demand growth and higher congestion levels in the longer-term future.

The toll rates assumed for the RMPP in this study represent a draft toll plan developed as part of ongoing environmental analysis, and they were consistent with the RTP assumptions as of April 2023. Any updates to the toll plans beyond April 2023 are not yet incorporated into this Level 2 T&R Study analysis for the IBR Program, but they could be analyzed in a subsequent phase of the study.

4.2.4.1 RMPP Modeling Approach

Similar to the other scenarios discussed under Section 4.2, the RTDM was used as an initial step to provide a general indication of the impact of RMPP tolling on regional travel patterns. The trip distribution and mode choice models of the RTDM capture the potential additional changes in travel behavior due to the corridor-wide tolling of I-5 and I-205 south of the Columbia River, including reductions in vehicle trips crossing the river due to the increased toll costs. Some of these reduced trips are also due to an increase in carpooling as travelers combine their trips to help offset the added toll costs. Other travelers may select trip destinations that do not require crossing the river, thus saving the cost of tolls. As presented in Table 4-3, when RMPP tolling was assumed in the regional network, the river crossings were reduced by approximately 10% in model year 2027 and by approximately 5% in 2045.

Table 4-3. Cross-River Trip Reduction due to RMPP

Model Year	Decrease
2027 (FY 2028)	10%
2045 (FY 2046)	5%

For this Level 2 study, RMPP hourly tolls were represented as time equivalents in the toll model i.e., monetary values of tolls were converted into time equivalents or time penalties using a generalized VOT. This approach is consistent with the methods used in the RTDM to estimate traffic response to tolling on RMPP within the RTDM and retains the probabilistic route choice modeling for trips using the Interstate Bridge, which is the focus of the Level 2 IBR Study. Table 4-4 presents the VOTs assumed to convert RMPP tolls into time equivalents, by vehicle type.

Table 4-4. VOT used to Calculate Time Equivalents of RMPP Tolls (2022$)

Vehicle Type	VOT
Autos	$21.81
Trucks	$71.85

4.2.5 Scenario E | Lower Tolls | Escalation | RMPP

Scenario E was analyzed using a similar approach and assumptions as Scenario D except for the toll schedule for the Interstate Bridge. This scenario assumed the lower (Scenario B) toll rate schedule presented in Figure 4-1, while all other modeling assumptions were retained unchanged. The objective of this scenario was to estimate the traffic and toll revenue of the Interstate Bridge under the lower toll schedule and in conjunction with the RMPP toll program in the Portland Metro area.

4.2.6 Scenario F | Base Tolls | Escalation | Higher Low-Income Discount

In 2021, the Oregon Legislature passed House Bill 3055, which directed ODOT to implement a method for establishing equitable, income-based tolls on toll facilities in the state. While the two state Transportation Commissions will ultimately set the toll policies and toll rates on IBR, two low-income discount scenarios were analyzed as part of this study to support Commission conversations and to prepare for analyzing different approaches that the two Commissions may request. The discount programs analyzed in the two scenarios represent draft placeholder assumptions developed to help understand the potential traffic response of varying toll assumptions by income group, and its impact on Interstate Bridge toll revenue. Discounts, rather than credits, were analyzed for consistency with the expected capabilities of the ODOT toll system upon initial implementation.

The two low-income scenarios analyzed (Scenarios F and G) varied assumptions of the discount percentage, as well as the enrollment rate in the program. The enrollment or participation rate is the assumed share of all the Interstate Bridge users who are eligible for a discount based on their household income, have a registered ETC account, and voluntarily enroll in the program to receive discounted toll rates. WSTC and ODOT/OTC have recently completed studies that examine different approaches to low-income toll programs, which will likely inform the two Commissions' subsequent rate setting activities for the IBR Program.[11] [12]

Scenario F serves as the higher of the two low-income scenarios analyzed, assuming that a low-income discount program would offer a 50% discount on tolls to eligible customers of the Interstate Bridge, along with a 60% enrollment rate in the discount program among eligible registered ETC users. There are few comparable low-income discount programs to what ODOT is contemplating as part of the Oregon Toll Program, which informed t analytical scenarios assumed for this study. The most comparable discount program is for the Elizabeth River Crossings in Virginia, which offers a 50% discount on toll rates applicable to a maximum of 10 trips per week. For this program, the enrollment rate has been less than 5% of eligible participants. In comparison, the assumption of 60% enrollment in the discount program for the IBR Program is conservatively high for financial planning purposes.

[11] Low-Income Report: Options to Develop a Low-Income Toll Program and Best Practices for Implementation, https://www.oregon.gov/odot/About/GR/Oregon-Toll-Program_Low-Income-Toll-Report_08.30.2022_FINAL.pdf
[12] Low-Income Toll Program Study for I-405 & SR 167 Express Toll Lanes, https://wstc.wa.gov/wp-content/uploads/2021/08/2021-WSTC-Tolling-Equity-Report.pdf

The T&R team also developed a methodology adapted for the RTDM to assess the share of trips that would qualify for and take advantage of a low-income discount. The team estimated the impact of the program on the annual traffic and toll revenue of the Interstate Bridge. This section describes the discount program assumptions and the analysis methodology.

4.2.6.1 Discount Program Eligibility Criteria

The following eligibility criteria were assumed:

1. Annual household income below 200% of Federal Poverty Level (FPL) limits
2. Registered ETC account customer

The FPL limits are based on household size, ranging from a single-person household to an eight-person or larger household. Table 4-5 presents the federal poverty limits for 2022, as well as the 200% of these limits that forms the criteria for eligibility for the analyzed discount program for the IBR Program. The 200% FPL threshold represents a metric that is commonly used in determining eligibility for social services by other state agencies.

First, the federal poverty limits were compared to the income group classification present in the RTDM. In the RTDM and, by extension, the toll model, the trips are stratified only by income and not by household size. The income group definitions adopted in the RTDM are presented in Table 4-6. The incomes in RTDM were in 2010 dollars, which were converted to 2022 dollars for consistency with FPL guidelines. In Table 4-5 and Table 4-6, the income classifications are not consistent between the RTDM and the 200% FPL to enable direct application of toll discounts by income group in the toll model. For example, a single-person household with an annual income of $30,000 would fall in income group 1 of RTDM, but it may not qualify for the discount since the income is higher than the 200% FPL for s one-person household of $27,180. Conversely, it is possible that a household in RTDM income group 2 earning $40,000 annually may qualify as a low-income household if there are three or more persons in the household, but not if the household size is smaller. As such, it was necessary to disaggregate the RTDM trips by income and household size to estimate the share of households qualifying as low-income for the discount program.

Table 4-5. Federal Poverty Guidelines - 2022

Persons in Family/Household	Poverty Guideline	200% FPL
1	$13,590	$27,180
2	$18,310	$36,620
3	$23,030	$46,060
4	$27,750	$55,500
5	$32,470	$64,940
6	$37,190	$74,380
7	$41,910	$83,820
8	$46,630	$93,260

Table 4-6. Income Group Definition in RTDM and Toll Model

RTDM Demand Groups	2010 Dollars	2022 Dollars
Income Group 1	< $25,000	< $35,000
Income Group 2	$25,000 - $100,000	$35,000 - $140,000
Income Group 3	> $100,000	> $140,000

4.2.6.2 Discount Modeling Approach

The T&R team used readily available data to develop a reasonable approach to estimate the share of trips in the RTDM that could be eligible for low-income discount. Since trip demand in the RTDM is not stratified by household size, household data by TAZ that is input to the RTDM was used as a proxy for trips. The trips per household depend on several factors like household income, vehicle ownership, and age of persons in the household; therefore, the total eligible trips available for the discount could vary from the total households eligible for the discount. However, based on data availability at the time of this analysis, assuming a uniform trip rate across all households was considered a reasonable approach for this Level 2 T&R Study.

TAZ-level household data, by income and size, from socioeconomic data used as input into the RTDM were obtained from Metro and used as the basis for this analysis. For each category of household size, the percentage of households below poverty level was approximated based on the household distribution data by income provided by Census table B19001, shown in Table 4-7. The resulting matrix of eligible households at the regional level by each income group is presented in

Table 4-8. At the regional level, approximately 23% of the total households were estimated to be eligible for a low-income discount.

Table 4-7. Census Table B19001 - Distribution of Households by Income Level

	Portland-Vancouver-Hillsboro, OR-WA Metropolitan Area	
Income Range	Estimate	Margin of Error
Less than $10,000	41,670	±4.4%
$10,000 to $14,999	27,928	±5.3%
$15,000 to $19,999	26,309	±5.4%
$20,000 to $24,999	28,925	±4.6%
$25,000 to $29,999	29,855	±5.4%
$30,000 to $34,999	31,557	±4.4%
$35,000 to $39,999	31,727	±4.1%
$40,000 to $44,999	34,540	±4.1%
$45,000 to $49,999	31,174	±4.8%
$50,000 to $59,999	64,777	±3.5%

Income Range	Portland-Vancouver-Hillsboro, OR-WA Metropolitan Area	
	Estimate	Margin of Error
$60,000 to $74,999	93,289	±2.9%
$75,000 to $99,999	132,181	±2.1%
$100,000 to $124,999	107,876	±2.2%
$125,000 to $149,999	81,241	±2.7%
$150,000 to $199,999	98,051	±2.5%
$200,000 or more	111,005	±2.0%
Total	**972,105**	**±0.2%**

Table 4-8. Share of RTDM Income Group by Household Size Eligible for Low-Income Discount

Income Group	Income Range (2022$)	Household Size				Total
		1	2	3	4+	
1	Less than $35,000	74.0%	100.0%	100.0%	100.0%	84.0%
2	$35,000 to $140,000	0.0%	1.9%	11.7%	28.5%	8.3%
3	$140,000 or more	0.0%	0.0%	0.0%	0.0%	0.0%
	Total	**33.8%**	**14.7%**	**19.1%**	**23.5%**	**23.0%**

The estimated share of qualifying households by income group was applied to the segmented RTDM trip matrices to estimate an average toll rate for each trip purpose to be input to the Toll Model. The resulting route choice assignment results were then further processed to estimate the share of auto trips paying the discounted and full toll rates on an average weekday. These trips served as the input to the annual T&R forecasting process.

The low-income toll discount demonstrated by Scenario F is intended to be illustrative. OTC and WSTC will jointly determine the policies and criteria for implementing any potential low-income program.

4.2.7 Scenario G | Base Tolls | Escalation | Lower Low-Income Discount

Under Scenario G, a low-income discount program was analyzed where eligible customers of the Interstate Bridge would be offered a 25% discount on tolls and assumed a lower participation rate in the program of 30% of eligible customers. All other assumptions and modeling methodology were held unchanged from Scenario F. This scenario served as the lower bookend of the potential reduction in revenue as a result of offering discounted toll rates to qualifying customers of the bridge.

The low-income toll discount demonstrated by Scenario G is intended to be illustrative. OTC and WSTC will jointly determine the policies and criteria for implementing any potential low-income program.

4.2.8 Scenario Summary Matrix

Table 4-9 summarizes the seven toll scenarios analyzed in this T&R study.

Table 4-9. Toll Scenario Summary Matrix

Scenario	Brief Description	Toll Rate & Policy Assumptions				Other Regional Toll Facilities	Comments
		Min Auto Toll (FY 2026 $)	Max Auto Toll (FY 2026 $)	Annual Toll Escalation	Low Income Discount		
Scenario A	Base Tolls	$2.15	$3.55	2.15%	No	I-205 Toll Project	Financial Plan Base Case
Scenario B	Lower Tolls (NEPA)	$1.50	$3.15	2.15%	No	I-205 Toll Project	IBR NEPA analysis using Scenario B rates & policies
Scenario C	Scenario A + No Toll Escalation	$2.15	$3.55	None	No	I-205 Toll Project	Financial Stress Test
Scenario D	Scenario A + RMPP	$2.15	$3.55	2.15%	No	RMPP + I-205 Toll Project	RMPP has not yet been adopted in the OR RTP/STIP
Scenario E	Scenario B + RMPP	$1.50	$3.15	2.15%	No	RMPP + I-205 Toll Project	RMPP has not yet been adopted in the OR RTP/STIP
Scenario F	Scenario A + 50% Low Income	$2.15	$3.55	2.15%	Yes	I-205 Toll Project	Applies to < 200% FPL, has higher participation rate
Scenario G	Scenario A + 25% Low Income	$2.15	$3.55	2.15%	Yes	I-205 Toll Project	Applies to < 200% FPL, has lower participation rate

Notes:

- Weekend toll rates assumed to be constant at the minimum value.
- The minimum toll is effectively $0.00 overnight during pre-completion tolling (FYs 2026-33) when tolling is assumed to be suspended.
- RMPP = ODOT's Regional Mobility Pricing Project.
- The low-income toll scenarios assume that all eligible participants have an ETC account; FPL = Federal Poverty Level.

4.3 Average Weekday Traffic Estimates

4.3.1 Different Traffic Forecast Types and Objectives

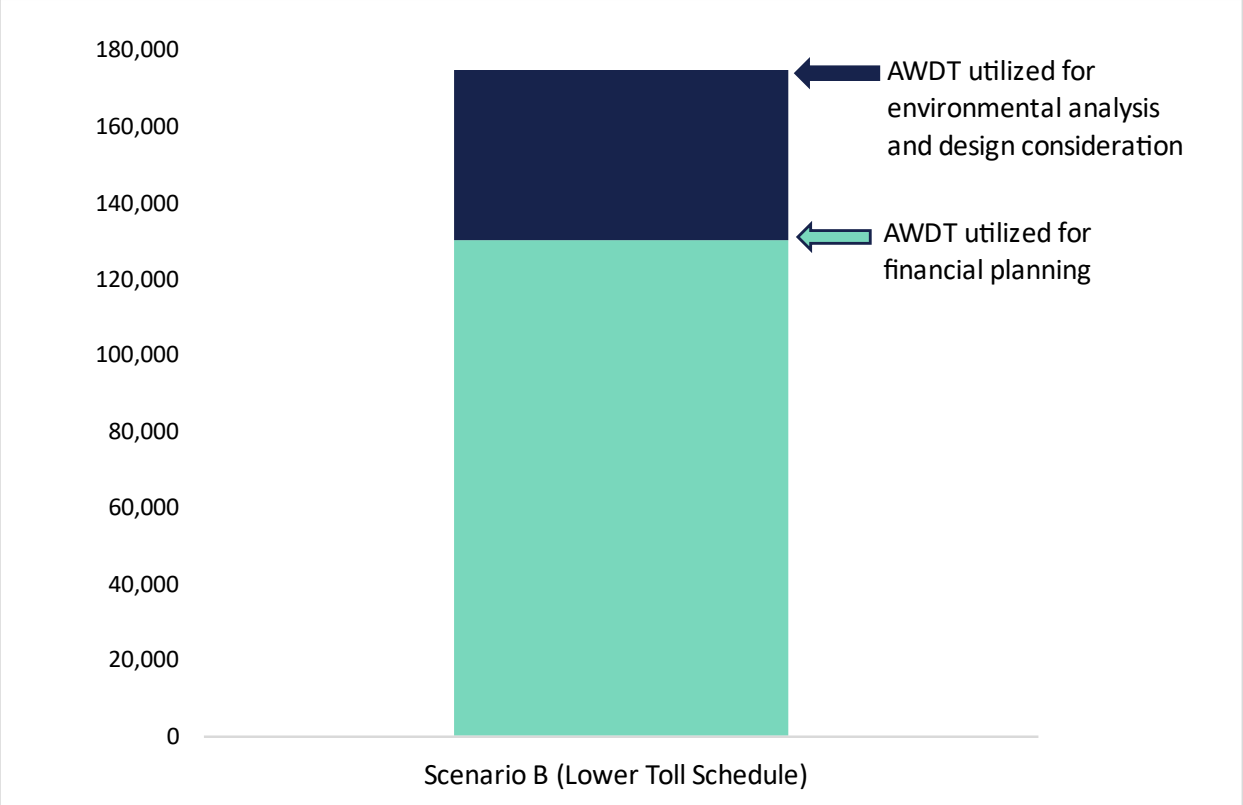
There is inherent variability associated with any future year volume forecast, and the purpose for which a forecast is developed influences how that variability can be managed. The Level 2 T&R Study forecasts presented in this report are prepared for the purpose of financial evaluation and planning, with the objective of yielding a conservative revenue projection. A separate set of environmental forecasts are prepared to support the Draft Supplemental Environmental Impact Statement (SEIS) and the Draft Transportation Technical Report (TTR) for the IBR Program's NEPA process, as well as to inform the program design considerations. These environmental forecasts, along with the background and assumptions for the analysis, will be documented in the forthcoming Draft TTR .

Uncertainty associated with the T&R forecasts documented herein is addressed by avoiding the potential overstatement of the anticipated toll revenue that would result from the traffic forecasts. Uncertainty associated with the environmental forecasts is addressed by avoiding the

understatement of the anticipated long-term environmental impacts that would be generated by traffic volumes.

Figure 4-7 illustrates how the average weekday traffic forecasts prepared for the environmental and Level 2 T&R Study analyses constitute a range of possible outcomes, recognizing that these two forecasts were specifically developed for different objectives. For consistency, both traffic forecasts are shown for future year 2045 for the Scenario B toll assumptions, which represent the toll rate schedule and policy assumptions used for environmental analysis and design considerations.

Figure 4-7. Average Weekday Daily Traffic Volume Forecasts (Scenario B) – 2045 / FY 2046



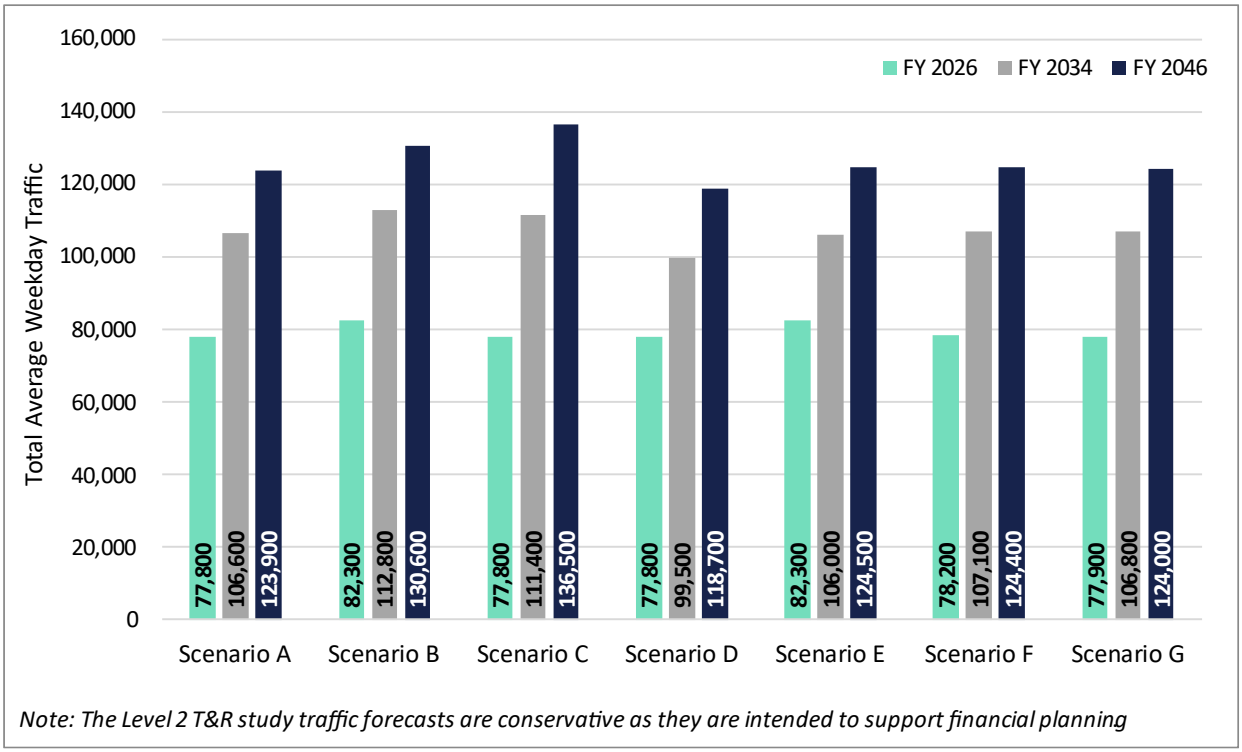
The Level 2 T&R Study analysis was performed with the primary goal of estimating an achievable annual revenue stream for the IBR Program over the course of a 40-plus-year forecast horizon sufficient to accommodate most reasonable toll financing periods. The daily traffic estimates that form the basis of these annual revenue projections include allowances for uncertainty of future traffic conditions over the course of the forecast period, which results in a value of approximately 131,000 AWDT, shown as the lower boundary of the forecast range in Figure 4-7. These volumes reflect a more conservative estimate of future traffic that meets the objective for a prudent forecast of potential revenue generated from tolling the Interstate Bridge. As such, the Level 2 T&R Study forecasts used for revenue projections are lower than those used for environmental impact analysis and design considerations.

There is a degree of uncertainty regarding the actual revenue that would occur as the demand trends of the immediate post-pandemic period and toll policies may change as the program moves towards implementation. The Level 2 T&R Study attempts to minimize the risk of this uncertainty by providing a conservative revenue estimate. A future Level 3 Toll T&R Study will be conducted to prepare refined forecasts before starting tolling and subsequent financing. This will include additional detailed data collection and a stated preference survey analysis to assess travelers' value of time perceptions and their willingness to pay tolls under various conditions. The traffic and revenue forecasts could increase as the traffic trends become clearer, and additional data are gathered along with updates to Metro's regional travel demand model. The average weekday traffic volumes that are realized on the IBR facility once tolled will also reflect travelers' actual perceptions of congestion on the competing I-205 bridge and the value they perceive for the reliability and improved traffic flow from the IBR and other improvements in the I-5 corridor, which may result in a revenues above the projections. In other words, additional travelers beyond those forecasted may conclude that the benefits of using the new Interstate Bridge exceed the monetary cost of the toll.

4.3.2 Level 2 T&R Study Average Weekday Traffic Forecasts

The toll model was implemented for three horizon years to estimate the traffic on the Interstate Bridge under the different tolling and construction timeframes. The traffic estimates for the assumed years of pre-completion tolling and the new bridge opening were estimated by interpolation between the specific model horizon year estimates. Figure 4-8 presents the lower total average weekday traffic estimates assumed for financial planning purposes for each scenario analyzed. In FY 2026—which corresponds to the estimated first year of tolling on the existing bridge—the average weekday estimate of traffic is estimated to be the highest under Scenario B, which assumes the lowest bridge toll rates. By FY 2046, Scenario C is projected to result in the highest daily transactions, as without toll rate escalation in this scenario, the lower toll rates of Scenarios B and E eventually surpass the initial base rates. The traffic estimates for FY 2034—the first year of tolling on the new bridge—include the net effect of an increase in traffic due to new bridge's design improvement providing better traffic flows and a slight reduction in overnight trips form 11 p.m. to 5 a.m. when overnight tolling commences on the replacement bridge.

Figure 4-8. Total Average Weekday Toll Traffic Estimates on Interstate Bridge



FY 2026 estimates include toll-free overnight trips between 11 p.m. and 5 a.m.

As discussed in prior sections, all seven scenarios analyzed in this Level 2 T&R study assumed the I-205 Toll Project as a background project that would include tolling along the Abernethy Bridge, as well as the Tualatin River Bridge, consistent with the project definition at the time this T&R analysis was performed. However, recent changes to the I-205 Toll Project include tolling of the Abernethy Bridge only, and they exclude widening improvements at this time.

Based on a preliminary, high-level assessment jointly conducted by the Oregon Toll Program and the IBR T&R teams, it was determined that the impact of this change on the traffic and revenue of the Interstate Bridge would likely be minimal. Implementing tolling on a single bridge, instead of two bridges, could attract more traffic to I-205 when compared to I-5 due to the lower tolls, particularly for long-distance trips through the region. However, based on ODOT's I-5 and I-205 Corridor User Analysis Report,[13] it was determined that such through trips on I-205 constituted only about 5% of the total trips, indicating that very small percentage of regional north-south trips may be using I-205 to travel through the region. Additionally, the capacity constraints on I-205 between Stafford Road and OR 43 interchanges may result in travel delays, which may offset the benefits offered by a lower toll rate. As such, it is expected that any additional traffic shifting from I-5 to I-205 in response to the updated

[13] https://www.oregon.gov/odot/tolling/Documents/RMPP_I5I205%20Corridor%20User%20Analysis_508.pdf

I-205 Toll Project would be minimal and may not materially impact the traffic and revenue forecasts for the Interstate Bridge presented in this report.

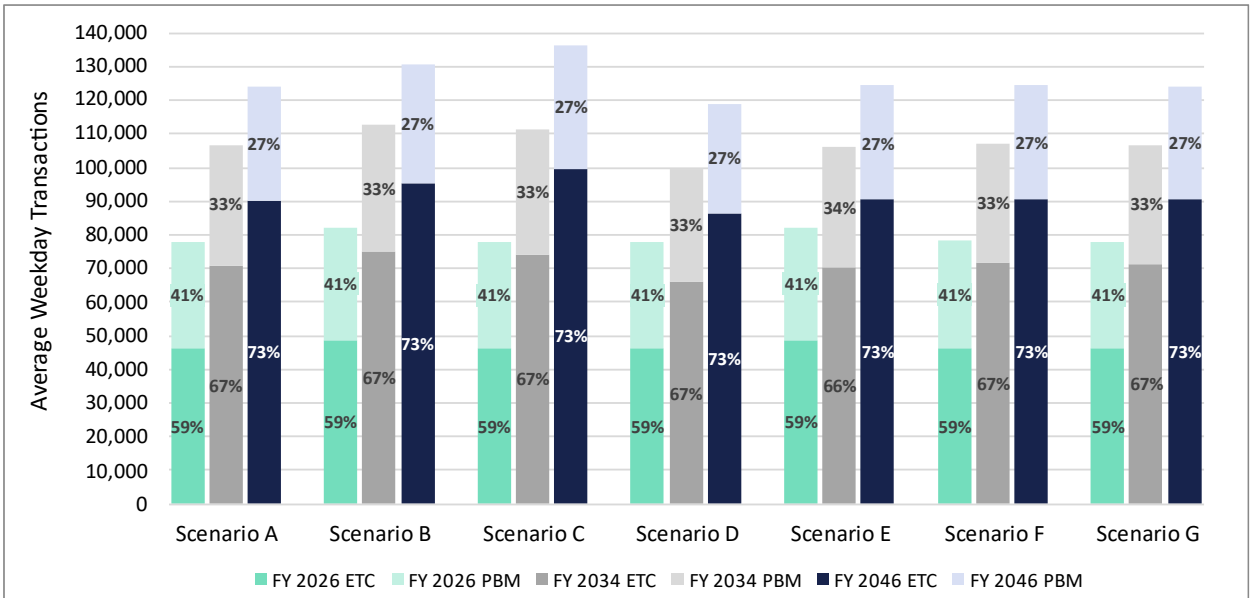
4.3.3 Growth Assumptions

As discussed in Section 3, the toll traffic estimates assume that recovery from the pandemic would continue at a gradual rate between FYs 2021 and 2031 and that regional traffic would attain pre-pandemic levels by FY 2031. During this period, regional traffic demand was conservatively adjusted to be lower than that estimated by the RTDM. As stated previously, the traffic in FY 2034 is also higher due to the replacement bridge's improved design that includes full width general purpose lanes, added safety shoulders, and auxiliary lanes to more safely accommodate weaving movements between interchange ramps. With the replacement bridge currently anticipated to open in FY 2034, the estimated average annual traffic growth rate between FYs 2027 and 2034 is higher than that between FYs 2034 and 2046. The growth beyond FY 2034 is driven by the socioeconomic growth assumptions within the RTDM and route choice in response to network congestion and time savings offered by the tolled Interstate Bridge and other tolled facilities where relevant.

It is assumed that over the course of the forecast horizon, the share of travelers with ETC accounts and vehicle transponders will increase. The toll model then determines the number of transactions made by each payment method based on time savings and tolls charged, including the PBM surcharge.

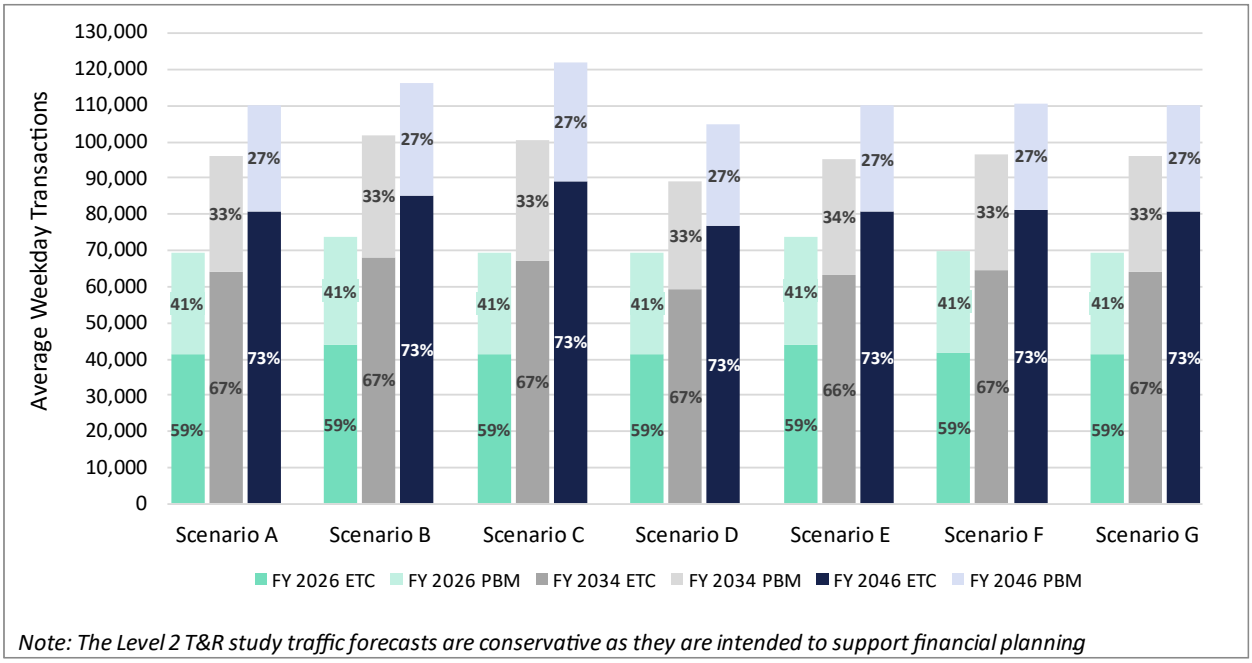
The traffic estimates under each scenario by assumed vehicle and payment types are presented in Figure 4-9, Figure 4-10, and Figure 4-11. Truck estimates represent both medium and heavy trucks combined. In all scenarios, the share of ETC transactions increases over the forecast period. The forecasted ETC market share for auto transactions increases from approximately 60% in FY 2027 to 73% in FY 2046. Similarly, the forecasted ETC market share for truck transactions increases from 56% in FY 2027 to 70% in FY 2046. The increasing share of ETC transactions reflects rising customer adoption of ETC accounts and transponder passes for reasons of convenience and cost savings reflected in the modeling outputs. Nevertheless, the ETC shares of total transactions are conservative, and it is anticipated that ODOT will endeavor to maximize customer registered account participation with ETC transponders as the lowest cost method of toll collection, likely achieving higher rates sooner.

Figure 4-9. Average Weekday Total Transactions by Payment Type on Interstate Bridge



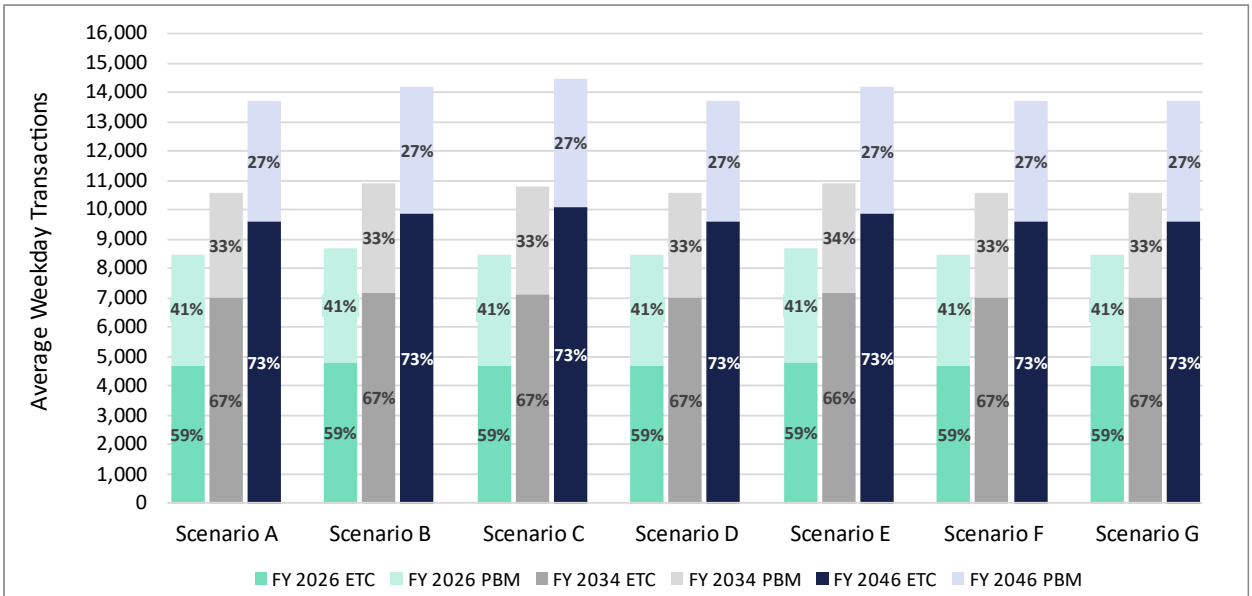
Note: The Level 2 T&R study traffic forecasts are conservative as they are intended to support financial planning

Figure 4-10. Average Weekday Auto Transactions by Payment Type on Interstate Bridge



Note: The Level 2 T&R study traffic forecasts are conservative as they are intended to support financial planning

Figure 4-11. Average Weekday Truck Transactions by Payment Type on Interstate Bridge



Note: The Level 2 T&R study traffic forecasts are conservative as they are intended to support financial planning

4.3.4 Traffic Response by Scenario

When tolls are introduced on an existing facility, a certain portion of the traffic is expected to leave the facility to avoid paying tolls. The decrease in traffic volumes due to tolling is a result of the combined impact of drivers rerouting to other facilities, choosing to share rides instead of driving alone, shifting travel modes, choosing a different trip destination, or not making a trip at all (including reduced trip frequency), also referred to as trip suppression. In several cases where tolls were applied to previously toll-free roadways, traffic diversion away from the facility (also referred to as 'the toll constraint') has generally been in the range of 20% to 50%. The scale of reduction can depend on a variety of factors like the type of tolled facility, availability and efficiency of alternate routes, cost of using alternate routes, and types of trips using the facility, etc. Generally, it is expected that diversion rates away from the tolled facility would decrease over time as a result of regional traffic growth and increased congestion / travel time and costs along alternative routes, making the tolled facility relatively more attractive due to the potential time savings and travel time reliability offered.

For this Level 2 T&R Study, diversion is measured by comparing the estimated traffic under the proposed, tolled build (modified LPA) scenario to a no-build, non-tolled condition. The build condition was not modeled without tolls as tolls are an integral part of the funding to build the new bridge. The diversion rates were evaluated for FY 2046, which represents a stabilized traffic condition after the completion of the new bridge and associated transit improvements. By that point, any lingering ramp-up effects from the transition to post-completion tolling are expected to have dissipated, and travelers would have fully recognized the tradeoff between the time saving and toll costs associated with the replacement Interstate Bridge.

Table 4-10 presents the estimated change in traffic volumes by vehicle type for each scenario as estimated within this study for revenue projections and financial planning. When modeling natural barrier conditions like the Interstate Bridge, where toll-free alternatives are limited, the toll model's route choice process assigns all the diverted traffic across the available alternative routes in the highway network, i.e., the I-205 Glenn Jackson Bridge. However, as discussed earlier in this section, the level of traffic reduction on the Interstate Bridge could vary in reality, and, similarly, I-205 may not be able to accommodate all of the change in traffic without significant peak period spreading. These demand effects are further discussed in the following Section 4.3.5.

Table 4-10. Change in I-5 Traffic in Response to Tolling in FY 2046

Case	Average Weekday Daily Traffic (AWDT) - FY 2046		
	Autos	Trucks	Total
No-Build	156,800	25,500	182,300
Scenario A	110,200	13,800	124,000
Scenario B	116,400	14,200	130,600
Scenario C	122,000	14,500	136,500
Scenario D	105,000	13,800	118,800
Scenario E	110,300	14,200	124,500
Scenario F	110,600	13,800	124,400
Scenario G	110,300	13,800	124,100

Note: These traffic forecasts are conservative as they are intended to support financial planning.

Under Scenario A, the base toll condition, travel across the Interstate Bridge is estimated to be reduced by 32%, compared to the future non-tolled, no-build scenario. This reduction reflects the intentionally conservative traffic forecasts for the Interstate Bridge, which lean away from overstating resulting revenues because of the objectives to support financial planning and prudent rate setting. Truck reduction rates are higher than those for autos as trucks pay a comparatively higher toll rate. As a result of lower toll rates, Scenario B has less traffic reduction than Scenario A, at approximately 28%. Under Scenario B approximately 26% of autos and 44% of trucks are estimated to divert off I-5.

In Scenario C, tolls were assumed to remain at their initial levels without escalation. As a result, the tolls effectively decline in real terms over time, with the initially lower but escalating tolls of Scenarios B and E having surpassed those of Scenario C by FY 2046, leading to the highest level of toll transactions and the lowest diversion rate among all seven scenarios.

Scenarios D and E assumed the most expansive RMPP tolling concept at the time of analysis in spring 2023 as a background network project to analyze its impact on IBR traffic and revenue. Under Scenario D (base toll) assumptions, approximately 35% of the total traffic was estimated to divert off the Interstate Bridge, while the diversion was estimated to be approximately 31% under Scenario E (lower tolls).

To isolate the impact of RMPP on Interstate Bridge traffic in Scenarios D and E, average weekday estimates were compared to Scenarios A and B, respectively, which assumed the same toll schedules,

but excluded RMPP tolling. Comparing Scenario D with Scenario A, both of which assume the base toll schedule, total traffic on the Interstate Bridge was estimated to be approximately 4% lower under Scenario D, as shown in Table 4-11. Similarly, average weekday traffic was approximately 5% lower in Scenario E than Scenario B. A series of sensitivity runs indicated that the reduction in Interstate Bridge traffic in Scenarios D and E is driven primarily by the reduction in total river-crossing trips (i.e., trip suppression) due to RMPP tolling in the Portland Metro area. As discussed before, trip suppression is one of the expected reactions from introducing tolling on an existing facility as some users decide to cancel their trips to avoid paying tolls.

Table 4-11. Impact of RMPP on Interstate Bridge AWDT – FY 2046

Comparison Case	Average Weekday Daily Traffic in FY 2046		
	Autos	Trucks	Total
Scenario A	110,200	13,800	124,000
Scenario D	105,000	13,800	118,800
Difference	*-5%*	*0%*	*-4%*
Scenario B	116,400	14,200	130,600
Scenario E	110,300	14,200	124,500
Difference	*-5%*	*0%*	*-5%*

To further understand traffic response in Scenarios D and E, the toll costs of making a trip using the I-5 and I-205 corridors was compared with those under Scenarios A and B. The RMPP project would effectively increase the cost of a trip using the I-5 corridor south of the river crossing and would introduce additional tolling along the I-205 corridor south of the river and north of the Abernethy Bridge, a segment of I-205 which was assumed to be toll-free in comparable Scenarios A and B, as well as Scenarios C, F, and G. Also, the RMPP conceptual toll schedule for preliminary analysis was developed with the goal of managing congestion; therefore, tolls are assumed to vary by direction and hour of the day along the I-5 and I-205 corridors.[14] As such, the estimates of average weekday traffic along the bridge were a result of the complex interaction of Interstate Bridge tolls, RMPP tolls, congestion, and trip patterns that vary by hour of the day.

Comparing the total toll costs of using I-5 and I-205 corridors with and without assumed tolling on RMPP (Scenario A versus D and Scenario B versus E), the incremental toll costs incurred due to the RMPP were relatively lower along the I-5 corridor than along I-205. For example, the Scenario A morning peak period base toll on the Interstate Bridge for a trip from Vancouver to downtown Portland in FY 2046 would be $5.40 with assumed escalation ($3.55 in FY 2026 year of opening dollars). The RMPP incremental toll cost for this I-5 trip under Scenario D was assumed to be up to $1.90 in FY 2046 dollars ($1.25 in FY 2026 dollars). For a comparable trip using I-205, the RMPP would add

[14] RMPP tolling assumptions are subject to change as project planning and environmental analysis progresses. The OTC will ultimately set toll rates and policies in conjunction with a detailed, Level 3 Toll T&R Study closer to the time of implementation.

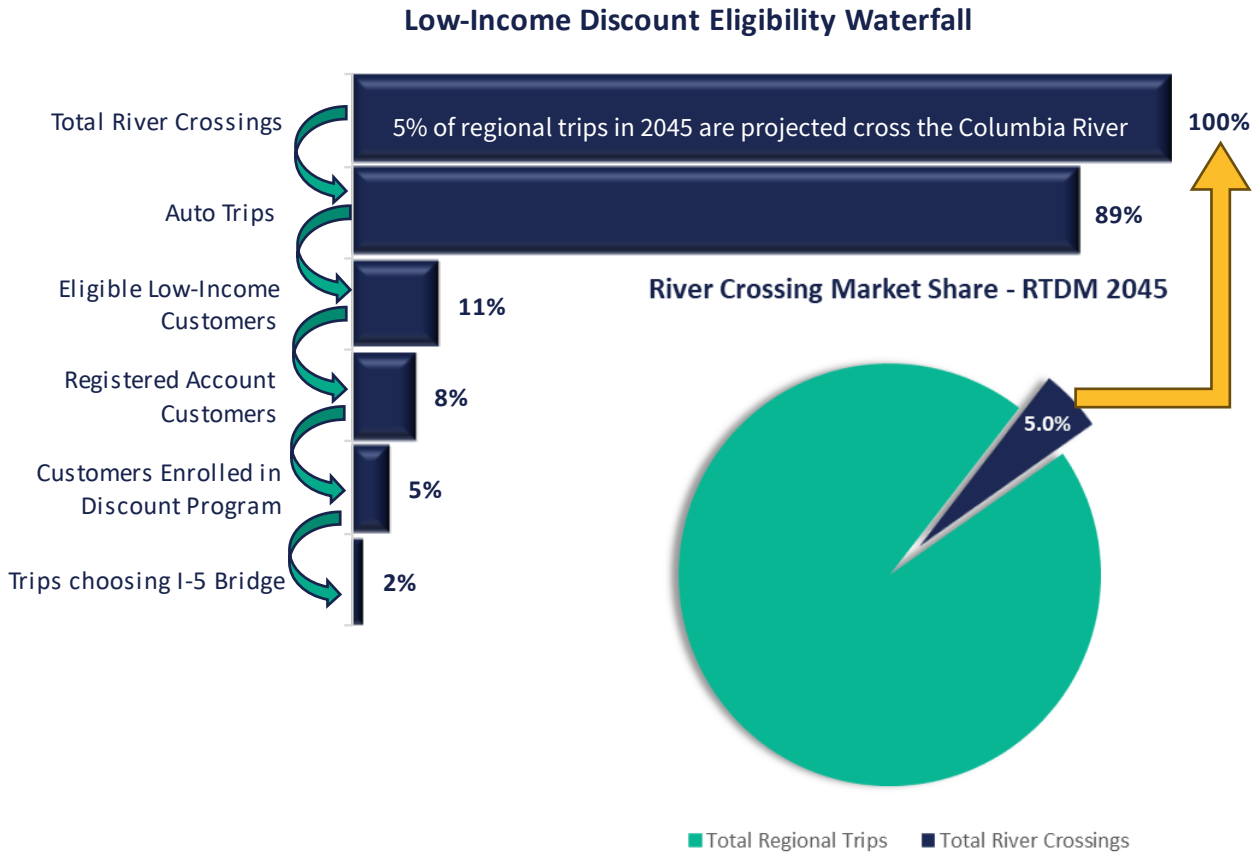
$2.70 ($1.75 in FY 2026 dollars) to what would have been a toll-free trip under Scenario A. Similarly, in the afternoon peak period, the RMPP incremental toll cost of the reverse trip northbound was assumed to be up to $3.85 ($2.50 in FY 2026 dollars) on I-5 compared to about $5.00 ($3.25 in FY 2026 dollars) via I-205.

The differences in assumed incremental toll costs between the two corridors with the RMPP could help to retain more traffic on I-5. This could cause a balancing effect on the traffic levels between the two corridors, relative to no RMPP.

In Scenarios F and G, where the base toll rate schedule was analyzed with a low-income discount program, the change in traffic patterns (diversion rates) were similar to Scenario A. Under Scenario F, the average weekday traffic is slightly higher as a result of the 50% discount in toll rates for low-income users as well as higher enrollment rate assumption, attracting more traffic to the Interstate Bridge than Scenario A, which did not assume such a discount program. Under Scenario G, where a lower toll discount and participation rate are assumed, the average weekday traffic is minimally higher than Scenario A and, thus, slightly lower than Scenario F.

While the inclusion of a low-income discount program in the analysis resulted in an increased share of low-income group traffic along the Interstate Bridge on an average weekday level, its overall impact on the bridge's daily traffic is estimated to be relatively small. As discussed in Table 4-8, although approximately 23% of regional households are estimated to be eligible for a discount, several factors impact the actual percentage of trips that would potentially take advantage of this discount, including: geographical distribution of the eligible households, their trip destinations, vehicle ownership by income group, number of trips made per household, registering for an account, and low-income discounts, etc. Figure 4-12 illustrates the progressive reduction from total regional trips to discount-eligible users of the bridge. As shown in the pie chart, the river-crossing trips constitute approximately 5% of the total trips in the region, as estimated by the 2045 RTDM. When all the eligibility constraints for low-income discounts are applied to the river-crossing trips, it is estimated that approximately 2% of the total river crossings would take advantage of the discounted toll rates on the Interstate Bridge.

Figure 4-12. Low-Income Discount Eligibility Flow Diagram – Assuming 60% Enrollment Rate



Scenario A estimates of average weekday traffic also include some eligible low-income users who would pay the full toll rate. As such, the slightly higher traffic estimates under Scenario F compared to Scenario A represent the incremental traffic attracted to the facility as a result of the low-income discounts.

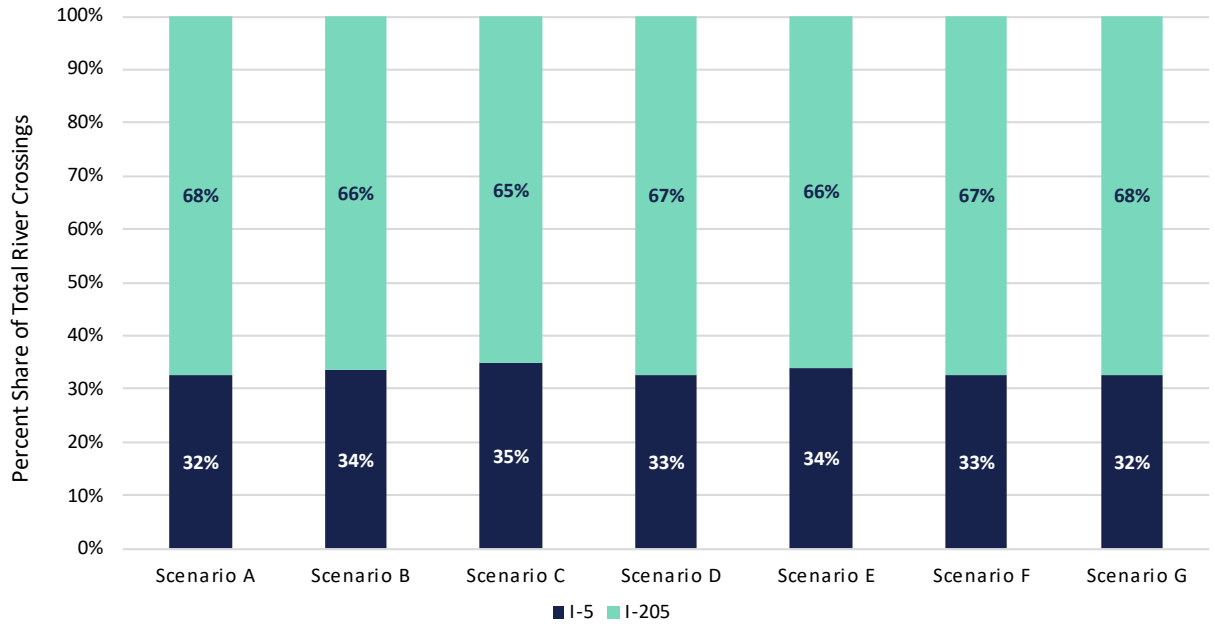
4.3.5 Projected Traffic Distribution between River Crossings

Table 4-12 presents a summary of the share of total river crossings on an average weekday that are assigned to each bridge under different scenarios. Under the no-build case, the I-5 Interstate Bridge is estimated to receive approximately 46% of the total river crossings (between I-5 and I-205) on an average weekday. Under this study's conservative financial planning assumptions, when tolling is introduced on the I-5 Interstate Bridge, the estimated share of traffic using that bridge drops. Across all of the toll scenarios, nearly a third of the total river crossings use the I-5 Interstate Bridge, while others are assumed to primarily divert to the I-205 Glenn Jackson Bridge.

When modeling a natural barrier condition like a river crossing, the number of alternative routes is typically limited, and the route choice process assigns all the diverted traffic across the alternative routes available in the highway network. In the case of the Interstate Bridge, all the diverted traffic is assigned to the I-205 Glenn Jackson Bridge in the model, as this is the only other river-crossing route.

In reality, it is likely that some of the diverted trip-makers may alter their behavior further by electing to make fewer crossings, seeking alternative destinations that do not require crossing the river, or, if congestion is worse than predicted by the model, these trip-makers may choose to pay the toll to use the Interstate Bridge. It is important to keep in mind that the modeled shares of each bridge represent a conservative estimate for financial planning purposes for the Interstate Bridge, and the actual number of river crossings and bridge shares with I-5 tolls could be higher in practice.

Table 4-12. Estimated Shares of River Crossings by Bridge for Financial Planning Revenue Projections



Note: The Level 2 T&R study traffic forecasts are conservative as they are intended to support financial planning

4.4 Annual Traffic and Revenue Forecast Assumptions

4.4.1 Annualization Factor

The average weekday traffic estimates generated by the model have to be expanded into an annual forecast of Interstate Bridge toll traffic and accompanying revenues that reflect the combined weekday and weekend traffic on the bridge. For this analysis, the annual estimates of traffic were developed by multiplying the average weekday transactions by an annualization factor. This annualization factor was developed using historical annual count data for the I-5 and I-205 Bridges that capture the travel characteristics that vary by the day of the week and the share of trucks. Table 4-13 presents the annualization values assumed for auto and truck transactions, as well as revenue.

Table 4-13. Annualization Factors

Year	Autos	Trucks
Toll Traffic	335	300
Revenue	290	275

4.4.2 Ramp-Up

Ramp-up factors are applied to annual traffic and revenue in the early years of operation to reduce the forecasted traffic and revenue due to lag in adoption and use of the toll facility as customers evaluate their options and become accustomed to the benefits, operations, and payment methods of the toll facility. The ramp-up period is expected to be short, as customers are already familiar with the existing, non-tolled Interstate Bridge. Table 4-14 presents the assumed ramp-up factors for this analysis.

Table 4-14. Traffic Ramp-Up

Year	Ramp-Up Factor	% Reduction
FY 2026	95%	-5%
FY 2027	97%	-3%
FY 2028	100%	0%

4.4.3 Toll Transaction and Revenue Forecasts

This section presents the annual forecasts of toll transactions and toll revenue estimated for all seven scenarios described in prior sections. The revenue projections represent the gross potential, i.e., assuming that the applicable toll charge is collected from every ETC and PBM transaction at the time of travel with no revenue losses or delays. Allowances for uncollectible and unpaid transactions are covered in the calculation of net toll revenues in the next chapter of this report.

Table 4-15 through Table 4-21 present the T&R forecast for 42 years, beginning in FY 2026, when pre-completion tolling is assumed to start. The gross revenues presented are in year of collection (YOC) dollars, also referred to as nominal dollars. The T&R estimates for FY 2026 represent only a single quarter when tolling is in effect, with FY 2027 representing the first full year of toll operations. As such, the year-over-year growth in FY 2027 appears very high as it is calculated off a partial year of tolling. After FY 2027, transactions and revenue continue to grow every year, with a bump in FY 2034, caused primarily by the opening of the new bridge with its improved design, standard lane widths and safety shoulders, and added auxiliary lanes to facilitate safe merging between adjacent on- and off-ramps, as well as the proposed beginning of overnight tolling between 11 p.m. and 5 a.m., which, collectively, result in higher toll transactions at daily and annual levels. Also, the recovery from the pandemic-related travel impacts is assumed to extend through FY 2031, which also contributes to relatively higher year-over-year growth in the pre-completion years. Beyond FY 2034, transactions and revenue are assumed to grow steadily, but modestly, through FY 2067.

A comparison of the annual transaction and gross toll revenue forecasts under the various scenarios is illustrated in Figure 4-13 and Figure 4-14. Scenario D results in the lowest total transactions, while

Scenarios C is projected to generate the lowest revenue over the forecast period. The results of some scenarios are too similar to visually ascertain differences in the chart trend lines Figure 4-15 shows the share of transactions by ETC and PBM shares. ETC penetration rates increase from approximately 60% in FY 2026 to 75% in FY 2067, while PBM shares decrease over the same period. This trend is consistent with other toll facilities across the country, as more and more customers see the benefit of having an ETC account, such as toll discounts, ease of payment, and avoidance of potential late fees.

Table 4-15. Annual Transactions and Gross Toll Revenue Forecast (in YOC$) – Scenario A | Base Tolls | Escalation

Fiscal Year	Transactions (in millions)			% Growth	Revenue (in millions of dollars)			% Growth
	ETC	PBM	Total		ETC	PBM	Total	
2026*	**3.38**	**2.31**	**5.69**	**-**	**11.43**	**12.30**	**23.73**	**-**
2027	14.75	9.63	24.38	328.5%	51.75	51.93	103.68	337.0%
2028	16.20	10.12	26.31	7.9%	58.59	55.29	113.88	9.8%
2029	17.19	10.31	27.49	4.5%	63.82	57.04	120.87	6.1%
2030	18.18	10.50	28.67	4.3%	69.06	58.80	127.86	5.8%
2031	19.17	10.69	29.85	4.1%	74.29	60.56	134.85	5.5%
2032	20.15	10.88	31.03	3.9%	79.53	62.31	141.84	5.2%
2033	20.63	10.83	31.45	1.4%	82.90	63.00	145.90	2.9%
2034*	**23.60**	**11.84**	**35.44**	**12.7%**	**97.55**	**69.66**	**167.21**	**14.6%**
2035	24.14	11.79	35.92	1.4%	102.71	70.61	173.32	3.7%
2036	24.67	11.73	36.40	1.3%	107.86	71.56	179.42	3.5%
2037	25.20	11.67	36.87	1.3%	113.02	72.51	185.53	3.4%
2038	25.74	11.62	37.35	1.3%	118.18	73.46	191.64	3.3%
2039	26.27	11.56	37.83	1.3%	123.34	74.40	197.75	3.2%
2040	26.81	11.50	38.31	1.3%	128.50	75.35	203.85	3.1%
2041	27.34	11.45	38.79	1.2%	133.66	76.30	209.96	3.0%
2042	27.88	11.39	39.27	1.2%	138.82	77.25	216.07	2.9%
2043	28.41	11.33	39.75	1.2%	143.98	78.20	222.18	2.8%
2044	28.95	11.28	40.22	1.2%	149.14	79.15	228.29	2.7%
2045	29.48	11.22	40.70	1.2%	154.30	80.09	234.39	2.7%
2046	30.02	11.16	41.18	1.2%	159.46	81.04	240.50	2.6%
2047	30.31	11.08	41.39	0.5%	164.42	81.74	246.15	2.4%
2048	30.57	11.02	41.59	0.5%	169.41	82.76	252.17	2.4%
2049	30.81	11.00	41.80	0.5%	174.36	83.96	258.32	2.4%
2050	31.02	10.99	42.01	0.5%	179.28	85.31	264.59	2.4%
2051	31.22	11.00	42.22	0.5%	184.19	86.77	270.97	2.4%
2052	31.41	11.02	42.43	0.5%	189.36	88.42	277.78	2.5%
2053	31.60	11.04	42.64	0.5%	194.55	90.14	284.69	2.5%
2054	31.78	11.08	42.86	0.5%	199.78	91.94	291.72	2.5%
2055	31.95	11.12	43.07	0.5%	205.06	93.79	298.85	2.4%
2056	32.12	11.16	43.29	0.5%	210.65	95.78	306.43	2.5%
2057	32.20	11.18	43.37	0.2%	215.66	97.54	313.20	2.2%
2058	32.27	11.19	43.46	0.2%	220.71	99.33	320.03	2.2%
2059	32.34	11.21	43.55	0.2%	226.06	101.23	327.29	2.3%
2060	32.40	11.23	43.63	0.2%	231.44	103.16	334.60	2.2%
2061	32.47	11.25	43.72	0.2%	236.86	105.12	341.98	2.2%
2062	32.54	11.27	43.81	0.2%	242.32	107.10	349.42	2.2%
2063	32.61	11.29	43.90	0.2%	248.09	109.19	357.28	2.2%
2064	32.67	11.31	43.98	0.2%	253.93	111.31	365.23	2.2%
2065	32.74	11.33	44.07	0.2%	259.80	113.44	373.24	2.2%
2066	32.80	11.36	44.16	0.2%	265.99	115.69	381.68	2.3%
2067	32.87	11.38	44.25	0.2%	272.25	117.97	390.22	2.2%

*FY 2026 represents a partial fiscal year (April to June 2026), and FY 2034 is the assumed year the new bridge opens.
Note: These traffic forecasts are conservative as they are intended to support financial planning.

Table 4-16. Annual Transactions and Gross Toll Revenue Forecast (in YOC$) – Scenario B | Lower Tolls | Escalation

Fiscal Year	Transactions (in millions)			% Growth	Revenue (in millions of dollars)			% Growth
	ETC	PBM	Total		ETC	PBM	Total	
2026*	**3.58**	**2.47**	**6.05**	**-**	**10.04**	**11.60**	**21.64**	**-**
2027	15.63	10.26	25.89	327.9%	45.43	48.91	94.34	335.9%
2028	17.14	10.77	27.90	7.8%	51.39	51.99	103.38	9.6%
2029	18.16	10.96	29.12	4.4%	55.95	53.56	109.50	5.9%
2030	19.19	11.14	30.33	4.2%	60.50	55.13	115.63	5.6%
2031	20.21	11.33	31.54	4.0%	65.06	56.70	121.75	5.3%
2032	21.24	11.52	32.75	3.8%	69.62	58.26	127.88	5.0%
2033	21.73	11.46	33.19	1.3%	72.57	58.85	131.42	2.8%
2034*	**24.95**	**12.54**	**37.49**	**12.9%**	**84.67**	**64.68**	**149.34**	**13.6%**
2035	25.50	12.48	37.98	1.3%	89.10	65.44	154.54	3.5%
2036	26.06	12.41	38.47	1.3%	93.53	66.21	159.73	3.4%
2037	26.61	12.35	38.96	1.3%	97.96	66.97	164.93	3.3%
2038	27.17	12.28	39.45	1.3%	102.39	67.74	170.13	3.2%
2039	27.73	12.22	39.94	1.2%	106.82	68.51	175.32	3.1%
2040	28.28	12.15	40.43	1.2%	111.25	69.27	180.52	3.0%
2041	28.84	12.09	40.92	1.2%	115.68	70.04	185.72	2.9%
2042	29.39	12.02	41.42	1.2%	120.11	70.81	190.91	2.8%
2043	29.95	11.96	41.90	1.2%	124.54	71.57	196.11	2.7%
2044	30.50	11.89	42.39	1.2%	128.97	72.34	201.31	2.7%
2045	31.06	11.83	42.89	1.2%	133.40	73.10	206.50	2.6%
2046	31.61	11.76	43.38	1.1%	137.83	73.87	211.70	2.5%
2047	31.93	11.67	43.59	0.5%	142.09	74.37	216.46	2.2%
2048	32.20	11.61	43.81	0.5%	146.39	75.21	221.59	2.4%
2049	32.45	11.58	44.03	0.5%	150.62	76.21	226.83	2.4%
2050	32.68	11.57	44.25	0.5%	154.83	77.35	232.19	2.4%
2051	32.89	11.58	44.47	0.5%	159.31	78.70	238.01	2.5%
2052	33.09	11.60	44.69	0.5%	163.80	80.13	243.92	2.5%
2053	33.29	11.63	44.92	0.5%	168.30	81.63	249.93	2.5%
2054	33.47	11.67	45.14	0.5%	172.84	83.19	256.03	2.4%
2055	33.66	11.71	45.37	0.5%	177.42	84.81	262.23	2.4%
2056	33.84	11.76	45.60	0.5%	182.32	86.57	268.89	2.5%
2057	33.92	11.77	45.69	0.2%	186.72	88.11	274.83	2.2%
2058	33.99	11.79	45.78	0.2%	191.14	89.68	280.82	2.2%
2059	34.06	11.81	45.87	0.2%	195.59	91.27	286.86	2.2%
2060	34.13	11.83	45.96	0.2%	200.34	92.98	293.32	2.3%
2061	34.21	11.85	46.05	0.2%	205.13	94.70	299.83	2.2%
2062	34.28	11.87	46.14	0.2%	209.96	96.45	306.41	2.2%
2063	34.35	11.89	46.24	0.2%	214.82	98.22	313.03	2.2%
2064	34.42	11.91	46.33	0.2%	220.00	100.10	320.10	2.3%
2065	34.49	11.94	46.42	0.2%	225.22	102.00	327.22	2.2%
2066	34.56	11.96	46.51	0.2%	230.50	103.92	334.42	2.2%
2067	34.63	11.98	46.61	0.2%	235.80	105.86	341.66	2.2%

*FY 2026 represents a partial fiscal year (April to June 2026), and FY 2034 is the assumed year the new bridge opens.
Note: These traffic forecasts are conservative as they are intended to support financial planning.

Table 4-17. Annual Transactions and Gross Toll Revenue Forecast (in YOC) – Scenario C | Base Tolls | No Escalation

Fiscal Year	Transactions (in millions)			% Growth	Revenue (in millions of dollars)			% Growth
	ETC	PBM	Total		ETC	PBM	Total	
2026*	3.38	2.31	5.69	-	11.43	12.30	23.73	-
2027	14.80	9.67	24.47	330.1%	50.85	51.41	102.25	331.0%
2028	16.37	10.23	26.60	8.7%	56.35	54.22	110.57	8.1%
2029	17.48	10.49	27.97	5.2%	60.27	55.45	115.72	4.7%
2030	18.59	10.75	29.35	4.9%	64.20	56.68	120.88	4.5%
2031	19.71	11.01	30.72	4.7%	68.12	57.91	126.03	4.3%
2032	20.82	11.28	32.09	4.5%	72.05	59.14	131.19	4.1%
2033	21.44	11.27	32.71	1.9%	74.31	59.26	133.56	1.8%
2034*	**24.68**	**12.38**	**37.05**	**13.3%**	**83.98**	**64.52**	**148.50**	**11.2%**
2035	25.37	12.37	37.74	1.9%	86.44	64.62	151.06	1.7%
2036	26.07	12.37	38.44	1.8%	88.90	64.72	153.62	1.7%
2037	26.76	12.37	39.13	1.8%	91.36	64.81	156.17	1.7%
2038	27.46	12.36	39.82	1.8%	93.82	64.91	158.73	1.6%
2039	28.15	12.36	40.51	1.7%	96.28	65.01	161.29	1.6%
2040	28.85	12.35	41.20	1.7%	98.74	65.11	163.84	1.6%
2041	29.54	12.35	41.89	1.7%	101.19	65.21	166.40	1.6%
2042	30.24	12.35	42.58	1.7%	103.65	65.30	168.96	1.5%
2043	30.93	12.34	43.28	1.6%	106.11	65.40	171.51	1.5%
2044	31.63	12.34	43.97	1.6%	108.57	65.50	174.07	1.5%
2045	32.33	12.33	44.66	1.6%	111.03	65.60	176.63	1.5%
2046	33.02	12.33	45.35	1.5%	113.49	65.70	179.18	1.4%
2047	33.43	12.28	45.71	0.8%	114.77	65.41	180.18	0.6%
2048	33.81	12.26	46.08	0.8%	116.05	65.37	181.42	0.7%
2049	34.17	12.28	46.45	0.8%	117.25	65.47	182.72	0.7%
2050	34.51	12.31	46.82	0.8%	118.40	65.67	184.06	0.7%
2051	34.83	12.36	47.19	0.8%	119.50	65.95	185.45	0.8%
2052	35.04	12.38	47.43	0.5%	120.22	66.09	186.31	0.5%
2053	35.25	12.42	47.67	0.5%	120.91	66.29	187.19	0.5%
2054	35.45	12.46	47.90	0.5%	121.58	66.51	188.09	0.5%
2055	35.64	12.51	48.14	0.5%	122.24	66.76	189.00	0.5%
2056	35.83	12.56	48.38	0.5%	122.88	67.04	189.92	0.5%
2057	35.91	12.57	48.48	0.2%	123.16	67.13	190.29	0.2%
2058	35.99	12.59	48.58	0.2%	123.43	67.23	190.66	0.2%
2059	36.07	12.61	48.67	0.2%	123.69	67.34	191.03	0.2%
2060	36.14	12.63	48.77	0.2%	123.95	67.45	191.40	0.2%
2061	36.22	12.65	48.87	0.2%	124.21	67.57	191.78	0.2%
2062	36.29	12.68	48.97	0.2%	124.46	67.70	192.16	0.2%
2063	36.37	12.70	49.07	0.2%	124.72	67.83	192.54	0.2%
2064	36.44	12.73	49.16	0.2%	124.97	67.95	192.92	0.2%
2065	36.51	12.75	49.26	0.2%	125.22	68.09	193.31	0.2%
2066	36.59	12.77	49.36	0.2%	125.48	68.22	193.70	0.2%
2067	36.66	12.80	49.46	0.2%	125.73	68.35	194.08	0.2%

*FY 2026 represents a partial fiscal year (April to June 2026), and FY 2034 is the assumed year the new bridge opens.
Note: These traffic forecasts are conservative as they are intended to support financial planning.

Table 4-18. Annual Transactions and Gross Toll Revenue Forecast (in YOC) – Scenario D | Base Tolls | Escalation | RMPP

Fiscal Year	Transactions (in millions)			% Growth	Revenue (in millions of dollars)			% Growth
	ETC	PBM	Total		ETC	PBM	Total	
2026*	3.38	2.31	5.69	-	11.43	12.30	23.73	-
2027	14.75	9.63	24.38	328.5%	51.75	51.93	103.68	337.0%
2028	14.74	9.27	24.01	-1.5%	54.04	51.15	105.19	1.5%
2029	15.65	9.45	25.10	4.5%	58.93	52.76	111.69	6.2%
2030	16.56	9.62	26.18	4.3%	63.82	54.38	118.19	5.8%
2031	17.48	9.79	27.27	4.2%	68.70	55.99	124.69	5.5%
2032	18.39	9.97	28.36	4.0%	73.59	57.61	131.19	5.2%
2033	18.88	9.95	28.83	1.6%	76.90	58.40	135.30	3.1%
2034*	**21.96**	**11.07**	**33.03**	**14.6%**	**91.70**	**65.57**	**157.27**	**16.2%**
2035	22.52	11.05	33.57	1.6%	96.84	66.62	163.46	3.9%
2036	23.08	11.02	34.10	1.6%	101.97	67.68	169.65	3.8%
2037	23.64	10.99	34.63	1.6%	107.10	68.74	175.84	3.6%
2038	24.21	10.96	35.17	1.5%	112.23	69.80	182.02	3.5%
2039	24.77	10.93	35.70	1.5%	117.36	70.85	188.21	3.4%
2040	25.33	10.91	36.24	1.5%	122.49	71.91	194.40	3.3%
2041	25.89	10.88	36.77	1.5%	127.62	72.97	200.59	3.2%
2042	26.45	10.85	37.31	1.5%	132.75	74.03	206.78	3.1%
2043	27.02	10.82	37.84	1.4%	137.88	75.09	212.97	3.0%
2044	27.58	10.79	38.37	1.4%	143.01	76.14	219.16	2.9%
2045	28.14	10.77	38.91	1.4%	148.14	77.20	225.34	2.8%
2046	28.70	10.74	39.44	1.4%	153.27	78.26	231.53	2.7%
2047	28.98	10.66	39.64	0.5%	157.99	78.95	236.94	2.3%
2048	29.22	10.61	39.83	0.5%	162.78	79.97	242.75	2.5%
2049	29.45	10.59	40.03	0.5%	167.54	81.15	248.69	2.4%
2050	29.65	10.58	40.23	0.5%	172.27	82.48	254.74	2.4%
2051	29.84	10.59	40.44	0.5%	176.99	83.91	260.90	2.4%
2052	30.03	10.61	40.64	0.5%	181.96	85.51	267.48	2.5%
2053	30.20	10.64	40.84	0.5%	186.96	87.19	274.15	2.5%
2054	30.37	10.67	41.05	0.5%	191.99	88.94	280.93	2.5%
2055	30.54	10.71	41.25	0.5%	197.07	90.74	287.81	2.4%
2056	30.70	10.76	41.46	0.5%	202.45	92.68	295.12	2.5%
2057	30.77	10.77	41.54	0.2%	207.27	94.38	301.66	2.2%
2058	30.84	10.78	41.62	0.2%	212.14	96.12	308.26	2.2%
2059	30.90	10.80	41.71	0.2%	217.29	97.97	315.26	2.3%
2060	30.97	10.82	41.79	0.2%	222.47	99.85	322.32	2.2%
2061	31.03	10.84	41.87	0.2%	227.70	101.75	329.44	2.2%
2062	31.10	10.86	41.96	0.2%	232.96	103.67	336.62	2.2%
2063	31.16	10.88	42.04	0.2%	238.51	105.69	344.21	2.3%
2064	31.23	10.90	42.13	0.2%	244.14	107.75	351.89	2.2%
2065	31.29	10.92	42.21	0.2%	249.79	109.83	359.62	2.2%
2066	31.35	10.94	42.29	0.2%	255.75	112.01	367.76	2.3%
2067	31.42	10.96	42.38	0.2%	261.78	114.22	376.00	2.2%

*FY 2026 represents a partial fiscal year (April to June 2026), and FY 2034 is the assumed year the new bridge opens.
Note: These traffic forecasts are conservative as they are intended to support financial planning.

Table 4-19. Annual Transactions and Gross Toll Revenue Forecast (in YOC) – Scenario E | Base Tolls | Escalation | RMPP

Fiscal Year	Transactions (in millions)			% Growth	Revenue (in millions of dollars)			% Growth
	ETC	PBM	Total		ETC	PBM	Total	
2026*	**3.58**	**2.47**	**6.05**	**-**	**10.04**	**11.60**	**21.64**	**-**
2027	15.63	10.26	25.89	327.9%	45.43	48.91	94.34	335.9%
2028	15.83	10.03	25.86	-0.1%	47.90	48.70	96.60	2.4%
2029	16.79	10.20	26.99	4.4%	52.19	50.16	102.35	6.0%
2030	17.75	10.38	28.12	4.2%	56.49	51.62	108.10	5.6%
2031	18.70	10.55	29.26	4.0%	60.78	53.08	113.86	5.3%
2032	19.66	10.73	30.39	3.9%	65.07	54.54	119.61	5.1%
2033	20.15	10.68	30.83	1.5%	67.93	55.15	123.09	2.9%
2034*	**23.39**	**11.84**	**35.23**	**14.3%**	**80.11**	**61.36**	**141.47**	**14.9%**
2035	23.95	11.79	35.74	1.4%	84.44	62.17	146.61	3.6%
2036	24.50	11.74	36.25	1.4%	88.77	62.98	151.75	3.5%
2037	25.06	11.69	36.75	1.4%	93.10	63.79	156.89	3.4%
2038	25.62	11.65	37.26	1.4%	97.43	64.60	162.03	3.3%
2039	26.17	11.60	37.77	1.4%	101.76	65.41	167.17	3.2%
2040	26.73	11.55	38.28	1.3%	106.09	66.22	172.31	3.1%
2041	27.28	11.50	38.79	1.3%	110.42	67.03	177.45	3.0%
2042	27.84	11.46	39.30	1.3%	114.74	67.84	182.59	2.9%
2043	28.40	11.41	39.80	1.3%	119.07	68.66	187.73	2.8%
2044	28.95	11.36	40.31	1.3%	123.40	69.47	192.87	2.7%
2045	29.51	11.31	40.82	1.3%	127.73	70.28	198.01	2.7%
2046	30.06	11.26	41.33	1.2%	132.06	71.09	203.15	2.6%
2047	30.36	11.18	41.53	0.5%	136.03	71.56	207.59	2.2%
2048	30.62	11.12	41.74	0.5%	140.14	72.39	212.53	2.4%
2049	30.85	11.10	41.95	0.5%	144.19	73.37	217.56	2.4%
2050	31.07	11.09	42.16	0.5%	148.23	74.48	222.71	2.4%
2051	31.27	11.10	42.37	0.5%	152.27	75.69	227.96	2.4%
2052	31.47	11.12	42.58	0.5%	156.56	77.08	233.64	2.5%
2053	31.65	11.15	42.80	0.5%	160.88	78.53	239.41	2.5%
2054	31.83	11.18	43.01	0.5%	165.22	80.04	245.26	2.4%
2055	32.00	11.22	43.22	0.5%	169.61	81.61	251.22	2.4%
2056	32.17	11.27	43.44	0.5%	174.30	83.31	257.61	2.5%
2057	32.25	11.28	43.53	0.2%	178.52	84.80	263.32	2.2%
2058	32.32	11.30	43.62	0.2%	182.76	86.31	269.08	2.2%
2059	32.39	11.32	43.70	0.2%	187.03	87.85	274.88	2.2%
2060	32.46	11.33	43.79	0.2%	191.32	89.41	280.73	2.1%
2061	32.52	11.35	43.88	0.2%	195.90	91.08	286.98	2.2%
2062	32.59	11.37	43.96	0.2%	200.53	92.77	293.30	2.2%
2063	32.66	11.40	44.05	0.2%	205.19	94.47	299.67	2.2%
2064	32.72	11.42	44.14	0.2%	209.90	96.20	306.10	2.1%
2065	32.79	11.44	44.23	0.2%	214.90	98.04	312.94	2.2%
2066	32.86	11.46	44.32	0.2%	219.95	99.89	319.85	2.2%
2067	32.92	11.48	44.41	0.2%	225.04	101.77	326.81	2.2%

*FY 2026 represents a partial fiscal year (April to June 2026), and FY 2034 is the assumed year the new bridge opens.
Note: These traffic forecasts are conservative as they are intended to support financial planning.

Table 4-20. Annual Transactions and Gross Toll Revenue Forecast (in YOC) – Scenario F | Base Tolls | Escalation | Higher Low-Income Discount

Fiscal Year	Transactions (in millions)			% Growth	Revenue (in millions of dollars)			% Growth
	ETC	PBM	Total		ETC	PBM	Total	
2026*	3.40	2.31	5.71	-	11.14	12.30	23.44	-
2027	14.86	9.63	24.49	328.5%	50.48	51.93	102.41	336.9%
2028	16.31	10.12	26.42	7.9%	57.16	55.29	112.45	9.8%
2029	17.30	10.31	27.61	4.5%	62.28	57.04	119.33	6.1%
2030	18.29	10.50	28.79	4.3%	67.40	58.80	126.20	5.8%
2031	19.28	10.69	29.97	4.1%	72.52	60.56	133.08	5.4%
2032	20.27	10.88	31.15	3.9%	77.64	62.31	139.95	5.2%
2033	20.76	10.83	31.58	1.4%	80.96	63.00	143.96	2.9%
2034*	**23.74**	**11.84**	**35.58**	**12.7%**	**95.24**	**69.66**	**164.90**	**14.5%**
2035	24.28	11.79	36.06	1.4%	100.28	70.61	170.89	3.6%
2036	24.82	11.73	36.54	1.3%	105.32	71.56	176.88	3.5%
2037	25.35	11.67	37.02	1.3%	110.36	72.51	182.87	3.4%
2038	25.89	11.62	37.50	1.3%	115.40	73.46	188.85	3.3%
2039	26.42	11.56	37.98	1.3%	120.44	74.40	194.84	3.2%
2040	26.96	11.50	38.46	1.3%	125.48	75.35	200.83	3.1%
2041	27.50	11.45	38.94	1.2%	130.52	76.30	206.82	3.0%
2042	28.03	11.39	39.42	1.2%	135.56	77.25	212.80	2.9%
2043	28.57	11.33	39.90	1.2%	140.60	78.20	218.79	2.8%
2044	29.10	11.28	40.38	1.2%	145.63	79.15	224.78	2.7%
2045	29.64	11.22	40.86	1.2%	150.67	80.09	230.77	2.7%
2046	30.18	11.16	41.34	1.2%	155.71	81.04	236.76	2.6%
2047	30.47	11.08	41.55	0.5%	160.54	81.74	242.27	2.3%
2048	30.73	11.02	41.75	0.5%	165.42	82.76	248.17	2.4%
2049	30.97	11.00	41.96	0.5%	170.24	83.96	254.20	2.4%
2050	31.18	10.99	42.17	0.5%	175.05	85.31	260.36	2.4%
2051	31.39	11.00	42.38	0.5%	179.84	86.77	266.61	2.4%
2052	31.58	11.02	42.60	0.5%	184.88	88.42	273.30	2.5%
2053	31.76	11.04	42.81	0.5%	189.95	90.14	280.09	2.5%
2054	31.94	11.08	43.02	0.5%	195.06	91.94	286.99	2.5%
2055	32.12	11.12	43.24	0.5%	200.20	93.79	293.99	2.4%
2056	32.29	11.16	43.45	0.5%	205.67	95.78	301.45	2.5%
2057	32.36	11.18	43.54	0.2%	210.55	97.54	308.09	2.2%
2058	32.44	11.19	43.63	0.2%	215.49	99.33	314.82	2.2%
2059	32.50	11.21	43.72	0.2%	220.72	101.23	321.95	2.3%
2060	32.57	11.23	43.80	0.2%	225.97	103.16	329.13	2.2%
2061	32.64	11.25	43.89	0.2%	231.27	105.12	336.39	2.2%
2062	32.71	11.27	43.98	0.2%	236.60	107.10	343.69	2.2%
2063	32.78	11.29	44.07	0.2%	242.22	109.19	351.40	2.2%
2064	32.84	11.31	44.15	0.2%	247.93	111.31	359.23	2.2%
2065	32.91	11.33	44.24	0.2%	253.65	113.44	367.09	2.2%
2066	32.98	11.36	44.33	0.2%	259.69	115.69	375.38	2.3%
2067	33.04	11.38	44.42	0.2%	265.81	117.97	383.77	2.2%

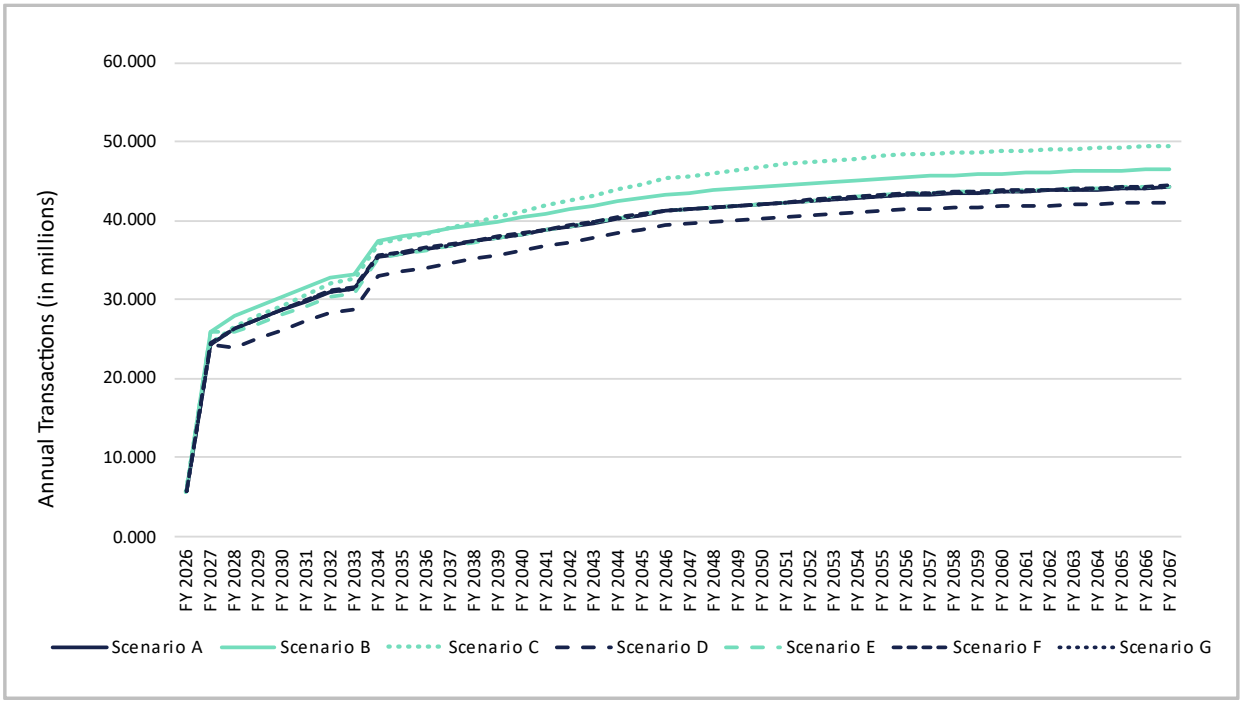
*FY 2026 represents a partial fiscal year (April to June 2026), and FY 2034 is the assumed year the new bridge opens.
Note: These traffic forecasts are conservative as they are intended to support financial planning.

Table 4-21. Annual Transactions and Gross Toll Revenue Forecast (in YOC) – Scenario G | Base Tolls | Escalation | Higher Low-Income Discount

Fiscal Year	Transactions (in millions)			% Growth	Revenue (in millions of dollars)			% Growth
	ETC	PBM	Total		ETC	PBM	Total	
2026*	3.38	2.31	5.70	-	11.36	12.30	23.66	-
2027	14.78	9.63	24.41	328.6%	51.45	51.93	103.38	337.0%
2028	16.23	10.12	26.34	7.9%	58.25	55.29	113.54	9.8%
2029	17.21	10.31	27.52	4.5%	63.46	57.04	120.50	6.1%
2030	18.20	10.50	28.70	4.3%	68.67	58.80	127.47	5.8%
2031	19.19	10.69	29.88	4.1%	73.87	60.56	134.43	5.5%
2032	20.18	10.88	31.06	3.9%	79.08	62.31	141.39	5.2%
2033	20.66	10.83	31.49	1.4%	82.44	63.00	145.44	2.9%
2034*	**23.64**	**11.84**	**35.48**	**12.7%**	**97.00**	**69.66**	**166.66**	**14.6%**
2035	24.17	11.79	35.96	1.4%	102.13	70.61	172.74	3.6%
2036	24.71	11.73	36.43	1.3%	107.26	71.56	178.82	3.5%
2037	25.24	11.67	36.91	1.3%	112.39	72.51	184.90	3.4%
2038	25.78	11.62	37.39	1.3%	117.52	73.46	190.98	3.3%
2039	26.31	11.56	37.87	1.3%	122.65	74.40	197.06	3.2%
2040	26.85	11.50	38.35	1.3%	127.78	75.35	203.14	3.1%
2041	27.38	11.45	38.83	1.2%	132.92	76.30	209.22	3.0%
2042	27.92	11.39	39.31	1.2%	138.05	77.25	215.30	2.9%
2043	28.45	11.33	39.78	1.2%	143.18	78.20	221.37	2.8%
2044	28.99	11.28	40.26	1.2%	148.31	79.15	227.45	2.7%
2045	29.52	11.22	40.74	1.2%	153.44	80.09	233.53	2.7%
2046	30.06	11.16	41.22	1.2%	158.57	81.04	239.61	2.6%
2047	30.35	11.08	41.43	0.5%	163.50	81.74	245.23	2.3%
2048	30.61	11.02	41.63	0.5%	168.46	82.76	251.21	2.4%
2049	30.85	11.00	41.84	0.5%	173.39	83.96	257.35	2.4%
2050	31.06	10.99	42.05	0.5%	178.28	85.31	263.58	2.4%
2051	31.26	11.00	42.26	0.5%	183.16	86.77	269.93	2.4%
2052	31.46	11.02	42.47	0.5%	188.30	88.42	276.71	2.5%
2053	31.64	11.04	42.68	0.5%	193.46	90.14	283.60	2.5%
2054	31.82	11.08	42.90	0.5%	198.66	91.94	290.60	2.5%
2055	31.99	11.12	43.11	0.5%	203.90	93.79	297.69	2.4%
2056	32.16	11.16	43.33	0.5%	209.46	95.78	305.25	2.5%
2057	32.24	11.18	43.42	0.2%	214.44	97.54	311.98	2.2%
2058	32.31	11.19	43.50	0.2%	219.46	99.33	318.79	2.2%
2059	32.38	11.21	43.59	0.2%	224.79	101.23	326.02	2.3%
2060	32.45	11.23	43.68	0.2%	230.13	103.16	333.30	2.2%
2061	32.51	11.25	43.76	0.2%	235.53	105.12	340.65	2.2%
2062	32.58	11.27	43.85	0.2%	240.96	107.10	348.05	2.2%
2063	32.65	11.29	43.94	0.2%	246.70	109.19	355.89	2.3%
2064	32.72	11.31	44.03	0.2%	252.50	111.31	363.81	2.2%
2065	32.78	11.33	44.12	0.2%	258.34	113.44	371.78	2.2%
2066	32.85	11.36	44.20	0.2%	264.49	115.69	380.18	2.3%
2067	32.91	11.38	44.29	0.2%	270.72	117.97	388.69	2.2%

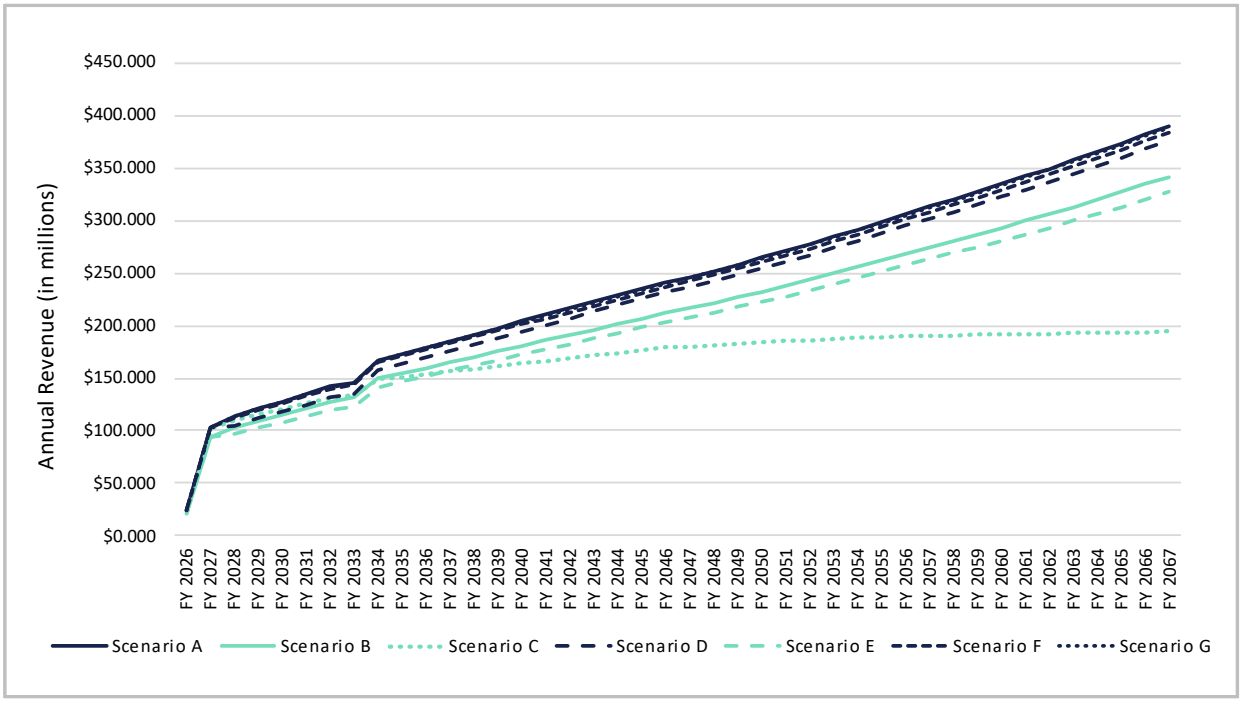
*FY 2026 represents a partial fiscal year (April to June 2026), and FY 2034 is the assumed year the new bridge opens.
Note: These traffic forecasts are conservative as they are intended to support financial planning.

Figure 4-13. Annual Transaction Forecast Comparison across Scenarios



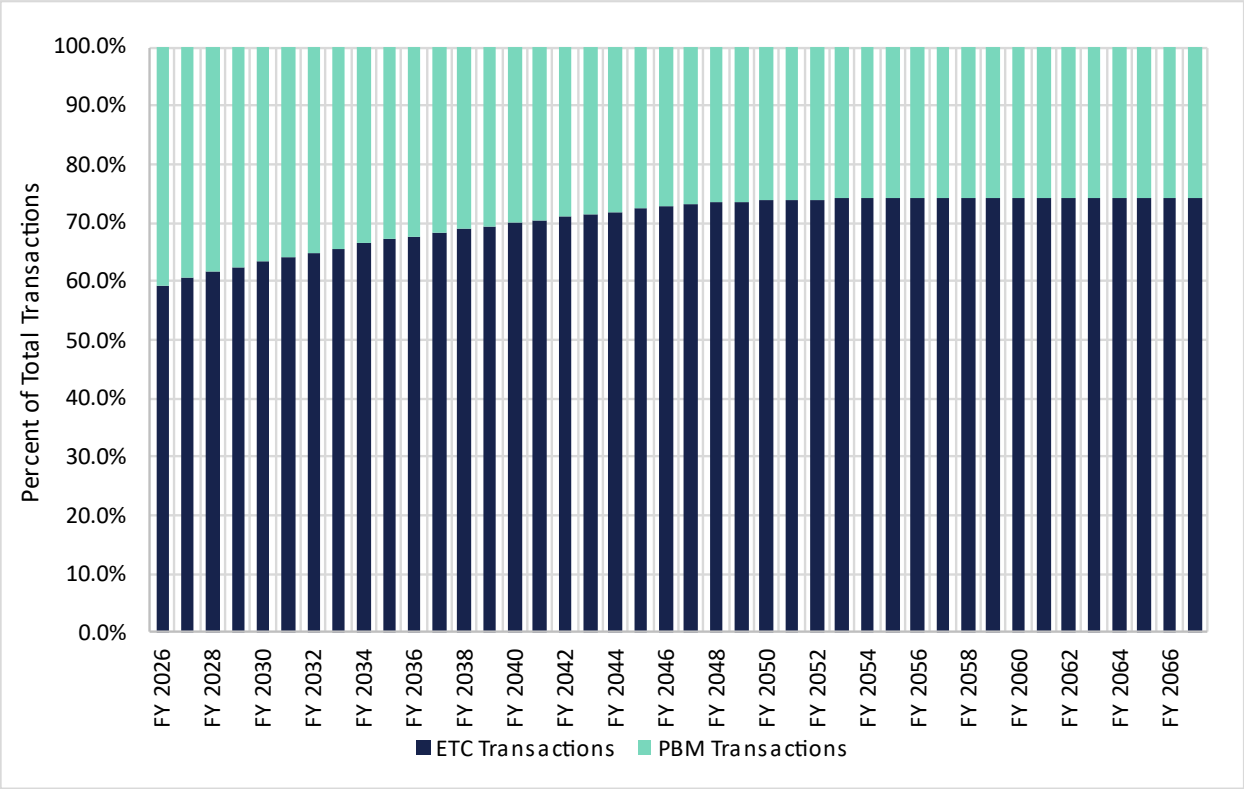
*FY 2026 values represent partial year – April 1 to June 30, 2026.

Figure 4-14. Annual Gross Revenue Forecast Comparison across Scenarios



*FY 2026 values represent a partial year – April 1 to June 30, 2026

Figure 4-15. Transaction Shares by Payment Type over Time



5. NET REVENUE FORECAST

This chapter describes the process by which the forecasts for gross toll revenue potential are transitioned into net toll revenue projections, the cash flows available to support initial capital investments, and ongoing capital repair and replacement (R&R) activities. The net revenue projections are prepared for all seven scenarios, consistent with toll trips and gross toll revenue potential forecasts documented in Chapter 4. Detailed gross-to-net toll revenue projections for the scenarios are provided for the 42-year forecast horizon (FYs 2026-67) in Appendix A; the table columns in the appendix tables refer to the items described in the following sections.

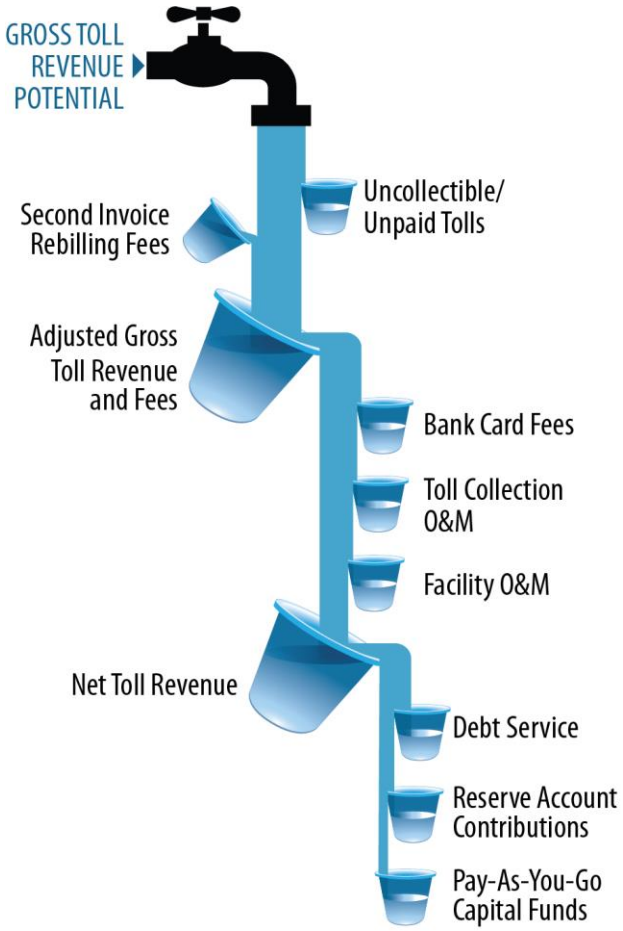
5.1 Gross-to-Net Toll Revenue Process

Starting with the annual toll trips and gross toll revenue potential forecasts, adjustments are made for revenue leakage, rebilling fees, and routine O&M costs associated with both toll collection and facility (roadway and bridge) maintenance functions.

5.1.1 Flow of Funds

Figure 5-1 illustrates the assumed flow of funds or the "waterfall" of revenue adjustments and expenditures that are deducted from gross toll revenue potential as components of the net revenues available to support project financing, R&R, and other uses.[15]

Figure 5-1. Revenue Waterfall



The primary components of net toll revenues in the waterfall include the following:

- Revenue and fee adjustments:
  - Deductions for uncollectible and unpaid tolls (leakage)
  - PBM rebilling fees
- O&M costs:
  - Bank card processing fees
  - Toll collection O&M costs
  - Facility O&M costs

The primary uses of net toll revenues in the waterfall include the following:

- Debt service on capital investments or improvements financed by borrowing against future net toll revenues (not estimated as part of this study)
- Reserve account contributions:
  - Periodic toll equipment R&R and vendor re-procurement costs
  - Periodic facility R&R costs
  - Revenue stabilization account and/or debt service reserve account
- Excess net toll revenue for other uses, which may include pay-as-you-go capital improvement expenditures (not estimated as part of this study)

[15] While the assumed flow of funds presents a typical definition of net revenue and its representative uses, the actual flow of funds will be jointly determined by both states, and it will become part of each state's bond trust indenture tied to the issuance of toll-backed debt.

This chapter is organized around the waterfall by presenting the assumptions and values for each "bucket." Consistent with toll trips and gross toll revenue potential forecasts, the projections for the revenue adjustments and the O&M expenditure items that yield net revenues were prepared for the full FYs 2026-67 forecast horizon. As this chapter covers the net revenue components in the waterfall diagram, the text in the following sections, when appropriate, references annual values for each component in the T&R tables by the respective table column number in Appendix A. While the waterfall generally follows the structure of the T&R tables in Appendix A, the subsequent uses of the net toll revenues in the bottom three buckets may eventually follow a separate, more detailed, flow of funds in the IBR Program's financial plan.

5.2 Adjusted Gross Toll Revenue Collected

ODOT and WSDOT have entered into an MOU in which ODOT would serve as the toll administrator, collecting tolls on the Interstate Bridge on behalf of both states. Given that the Oregon Toll Program is undertaking other regional toll projects, which requires procuring vendors for operating a commercial back office and customer service center, economies of scale make it beneficial for the Interstate Bridge to share in the operating costs. Moreover, customers will experience a seamless, consistent experience and payment method across multiple regional facilities.

In the T&R tables presented in Appendix A, forecasted toll trips (columns 3, 6, and 8) and projected gross toll revenue potential (columns 9 through 11) by payment type discussed in previous sections serve as the initial inputs used in the net revenue forecasts. Toll trips are categorized by two primary payment methods (registered account customers and unregistered PBM users), and they serve as the basis to calculate revenue leakage or uncollectible revenue, which consists of revenue not recognized for unbillable tolls (column 12) and unpaid revenue resulting from nonpayment of toll bills (column 13). Adjusted gross toll revenue collected (column 14) is what remains after deducting leakage estimates from gross toll revenue potential.

Forecasts for uncollectible revenue (leakage) are based on a toll collection activity workflow model that estimates the probability that a toll trip will result in uncollectible revenue based on the intended payment method and a variety of decision points in the toll trip workflow process. The leakage and collection rates assumed in this workflow model are informed by industry standards and available benchmark measures for similar ETC facilities. For the overall forecast horizon, total uncollectible revenue is projected to be slightly over 12% for all the scenarios except Scenario C, where the value is 13.4%. Because uncollectible revenue is primarily associated with PBM transactions, the assumed fixed $2.00 toll increment on these transactions becomes a decreasing share of the PBM revenue not collected in the six scenarios where tolls escalate by 2.15% per year. Absent base toll escalation under Scenario C, the $2.00 toll increment on PBM transactions remains a constant share of PBM revenue, which over time, contributes to a higher share of uncollectible revenue from total revenue across all payment methods.

5.2.1 Revenue Not Recognized

Revenue not recognized is unbillable revenue that occurs primarily when a license plate image is unreadable or when the vehicle owner and address from a readable license plate cannot be identified.

While more prevalent for unregistered/PBM customers where there is reliance on license plate identification to send a toll bill by mail, this can also arise for a registered account customer in cases where the vehicle does not have a transponder pass or if there is an equipment error reading the transponder, requiring the toll collection system to default to a license plate image that has a low but not zero probability of being unreadable.

5.2.1.1 Unreadable License Plates

Noting the recent improvements in license plate image readability, the assumptions for the readable share of license plate images are a function of whether the front and rear plates are obscured, dirty, or missing; weather conditions impacting the in-lane cameras, interfacing issues between the Roadway Toll Systems (RTS) vendor's lane hardware and the Back Office System (BOS) software; and the Customer Service Center (CSC) operating procedures for reviewing license plate images. Unreadable license plate assumptions include the following, which are uniform across the seven toll scenarios:

- The assumed shares of total image-based trips (unregistered customers plus registered customers identified via license plate) with readable license plates after manual review are 95% in the first operating year (FY 2026) and 95.5% thereafter.
- The 95.5% plate readability/4.5% unreadable plate assumptions consider that the RTS, CSC, and BOS vendor contracts will include specific requirements and performance indicators to align with industry best practices to improve plate image review productivity and accuracy.
- Readability assumptions may be revised upward in future forecasts pending additional experience confirming recent RTS-related trends.

5.2.1.2 Unidentified Owners/Addresses

After a license plate is successfully read, the system confirms if the plate belongs to a registered ETC customer, and, if so, the account is debited with the appropriate ETC toll in the same way as if the vehicle had a transponder that was successfully read. If the license plate number is not associated with a registered customer account, then the transaction becomes classified as a PBM, and further processing is initiated to obtain a valid vehicle owner name and address for the license plate from the Oregon Driver and Motor Vehicle Services Department. For out-of-state plates, a contracted vendor will provide a license plate lookup service to provide the vehicle owner's name and address. The out-of-state lookup costs for vehicles with plates outside of Oregon and Washington are assumed to be embedded within the vendor contract pricing.

Unregistered customer, PBM trips for which the vehicle owner name and address cannot be identified from the license plate are also deemed as revenue not recognized since they are unbillable. Any license plates from other countries, such as Canada and Mexico, are automatically assumed to be unbillable.

The expected rate of unidentified owners/addresses from readable license plates is assumed to be in line with typical industry experience. An unidentified owner rate of 7.5% of unregistered customer image-based transactions with readable license plates is assumed for the first year of operations (FY 2026), dropping to 4.5% thereafter. These assumptions reflect a bit of time for the RTS, BOS, and CSC vendors to resolve any initial operational issues. This steady-state rate includes a factor to

account for potential issues related to the inability to read or identify owners from temporary licenses, as well as from Canadian or other out-of-country plates. The combined total revenue not recognized from unreadable plates and from readable plates with unidentified owners is shown in column 12 of the T&R tables in Appendix A.

5.2.2 Unpaid Toll Revenue

Unpaid toll revenue results from customer nonpayment of toll bills after 80 days from the date of travel, which is assumed to include two toll invoicing cycles. While toll bill nonpayment primarily comprises unregistered, PBM customers, a registered account customer may also be mailed a toll bill if the credit or debit card linked to their account is expired. In consultation with ODOT, this study conservatively excludes any subsequent revenue recovery from unpaid toll bills after 80 days. Additionally, this study's net revenue projections exclude any violation or civil penalty revenue collection that may result from delinquent toll bills more than 80 days past due. In the future, with appropriate policy direction jointly developed by the two state Transportation Commissions, these additional revenue items could be incorporated to reduce projected unpaid toll revenue losses. The forecast for unpaid toll revenue assumes 60% of the first toll bills mailed will be paid, and 37% of second toll bills mailed will be paid, resulting in a cumulative toll bill payment rate of about 75%.[16] Unpaid toll revenue is shown in column 13 of the T&R tables in Appendix A.

5.3 Adjusted Gross Toll Revenue and Fees

Adjusted gross toll revenue and fees (column 16) result from adding in rebilling fees associated with toll bills that go unpaid at the first invoice, but that are paid with a rebilling fee on the second invoice by mail. There are two additional revenue items that factor into adjusted gross toll revenue and fees, which have been conservatively excluded for this study. The first is revenue from delinquent toll bills and, if applicable, violation or civil penalty fees recovered through a toll bill adjudication process. The processes for revenue recovery and augmentation via these items have not yet been determined. The second excluded item is revenue from transponder sales. Following ODOT's guidance, it is assumed that every year, a limited number of sticker tags transponders will be distributed free-of-charge by ODOT to registered account customers. For transponders above this quota, which are assumed to be sold rather than distributed free-of-charge, it has yet to be determined whether ODOT will sell transponders at cost-recovery prices or provide subsidized discount pricing. At present, this study's net toll revenue projections conservatively assume no transponder sales revenues, but they do include the corresponding purchase and distribution costs.

5.3.1 Pay-by-Mail Second Invoice Rebilling Fees

Unregistered customers who do not pay the first invoice received by mail for one or more toll trips are assumed to be charged a rebilling fee of $5.80 with the second toll bill, consistent with the assumption

[16] These assumptions are based on experience with WSDOT toll facilities refined over several years of operations.

in the I-205 Toll Project's Level 2 Toll Traffic and Revenue Study Report.[17] The fee is applied on a per toll bill basis when a toll bill includes any toll trips being billed for a second time. Unlike the base tolls, but similar to the $2.00 toll increment to process a PBM transaction, the $5.80 fee amount does not escalate over time with inflation. Rebilling fee revenues are primarily driven by the forecasted volume of unregistered customer/PBM trips, with secondary effects coming from potential changes in the rate of payment of first and second toll bills.

The projections for rebilling fees only include trips for which the $5.80 fee per unpaid first toll bill is successfully collected on the second toll bill before 80 days have elapsed. For this study, it is conservatively assumed that rebilling fees that go unpaid after second toll bills will not be subsequently collected (no recovery efforts are assumed beyond mailing a second toll invoice). Rebilling fee assumptions are subject to change as ODOT develops and refines operational business rules and may ultimately be levied per past-due invoice rather than for each past-due unpaid toll trip. In practice, rebilling fees would likely be recovered for many such transactions concurrently with a civil penalty (violation fee) following the mailing of a notice of civil penalty after an elapsed period (e.g., 80 days) of non-payment.

As noted previously, the forecast assumptions regarding first and second toll bill payment rates are as follows:

- A 60% first toll bill payment rate assumption means that 40% of the first toll bills mailed will go unpaid and, thus, will be subject to a rebilling fee on the second toll bill.
- 37% of the above unpaid first toll bills are assumed to be paid on the second toll bill within 80 days from the date of travel contributing to rebilling fee revenue.
- This results in 14.8% of PBM toll trips with identified owners being paid after the second invoice, along with a $5.80 rebilling fee per trip.

Annual projections of PBM rebilling fees are shown in column 15 of the T&R tables in Appendix A.

5.4 Net Toll Revenues

This section documents the assumed expenditures to be paid from adjusted gross toll revenues and fees to derive remaining net toll revenues. Assumed components of net toll revenue include expenditures for O&M activities, but they exclude downstream uses of net toll revenue such as debt service and contributions to various reserve accounts, including those for periodic capital R&R costs. As shown in the waterfall in Figure 5-1, the IBR net toll revenue expenditure components include bank card fees, toll collection O&M costs, and facility O&M costs. Additional details including sub-categories for each of these expenditure components are provided in the following sections, with the annual projections shown in columns 17 through 23 of the T&R tables provided in Appendix A. All costs are expressed in year of expenditure dollars (YOE dollars), unless otherwise noted.

[17] I-205 Toll Project. Level 2 Toll Traffic and Revenue Study Report. Revised October 2022. Available at https://www.oregon.gov/odot/tolling/Documents/I-205_L2_T+R_Study_Report_October-2022_Final_Revised.pdf

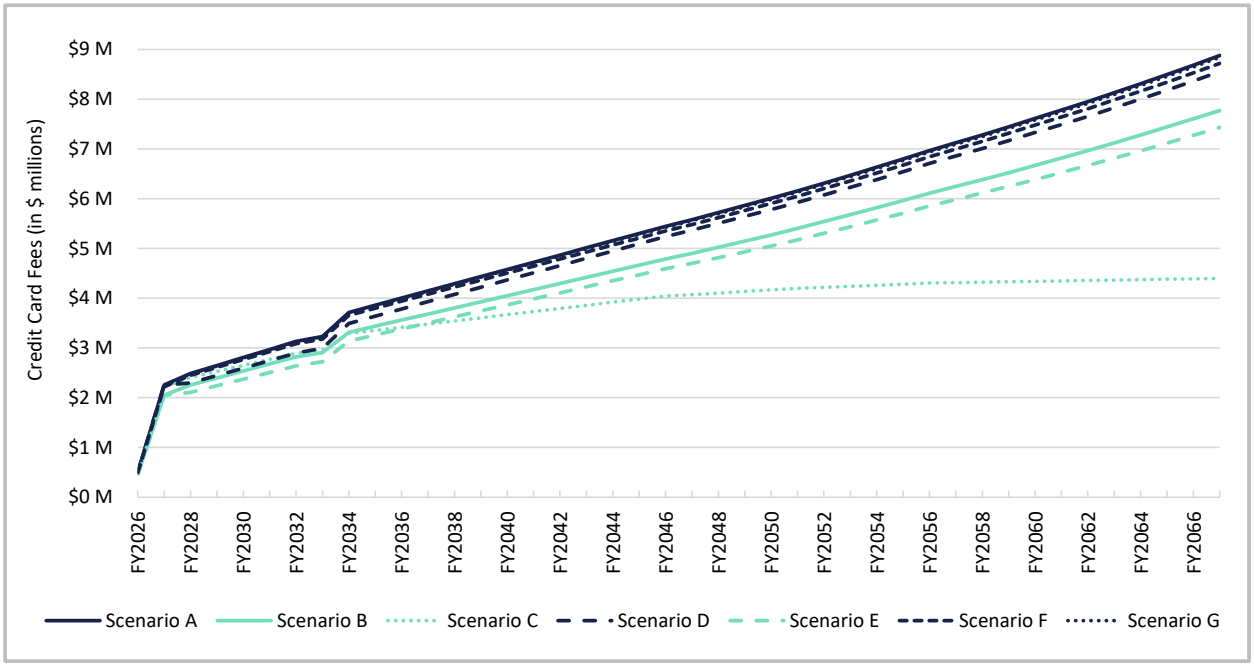
5.4.1 Credit Card Fees

As a convenience to customers and to facilitate electronic toll collection, it is assumed ODOT will accept credit and debit (bank) cards for the payment of tolls. Credit card transactions are assumed to be processed by a third-party vendor and include a set fee for the service. Banking fees typically involve a fixed amount per transaction and a variable component as a percentage of the transaction amount. The credit card fee rates are based on negotiations with credit card companies.

For this study, a credit card fee rate of 2.75% is assumed based on peer agencies and market rates. Credit card fees are applied to 92% of adjusted gross toll revenue and fees anticipated to be collected via bank cards, with the remaining 8% assumed to be collected via automated clearing house (ACH) transactions debiting one's checking or savings account, paid via check (mailed or in-person), or paid via cash, which is assumed to be in-person at a customer service center location.

Figure 5-2 illustrates the projected annual credit card fees by scenario over the forecast horizon, corresponding to column 17 of the T&R tables included in Appendix A.

Figure 5-2. IBR Credit Card Fees by Scenario (YOE dollars)



5.4.2 Toll Collection O&M Costs

Toll collection O&M expenditures include all administrative and technical functions required for processing toll trips and collecting revenue from customers, and they are assumed to be a required component in projecting net toll revenues. Beginning with the task of identifying a trip, to recording

the trip, to ultimately collecting payment, the toll collection process requires involvement and coordination by various parties across multiple functions:

- Transponder purchase, sales, and distribution, including the coordination with transponder manufacturers and third party (non-CSC) resellers
- State and consultant operations costs
- RTS vendor contract O&M costs
- BOS vendor and CSC operations vendor contract O&M costs

For Scenarios A, B, C, F, and G, the toll collection O&M costs have been estimated assuming IBR and the I-205 Toll Project are the only active ODOT toll facilities in the region. Future expansion of the toll facilities in Oregon to include the RMPP are assumed in Scenarios D and E, with tolling on the RMPP assumed to start in FY 2028. For these two scenarios, the RMPP creates additional efficiencies for system-wide costs, in which these mostly fixed costs are spread across more toll points and customers, resulting in a smaller share of these costs being allocated to IBR.

Costs associated with the operating functions noted above are depicted in columns 18 through 22 of the T&R tables provided in Appendix A. Specific details regarding the toll collection cost activities and cost assumptions included in the forecast values are provided below by subcategory.

System-wide toll collection O&M costs covered in this section, which exclude the maintenance of toll equipment installed at and uniquely attributed to the Interstate Bridge, are assumed to be allocated across the operational toll facilities on the basis of each facility's customer trips—IBR trips, I-205 Toll Project trips, and, where applicable in Scenarios D and E, the RMPP trips. These cost allocation assumptions are conservative with respect to IBR net toll revenues, are subject to change, and/or will be superseded by a future bi-state agreement. Such an agreement would outline how ODOT's system-wide toll collection O&M and other system costs will be shared across the regional toll facilities. This T&R study is focused on forecasting future operations and capital replacement costs, and it does not consider any cost allocation sharing of ODOT's initial toll system implementation costs. Toll Collection O&M costs are estimated in current year dollars and then escalated to year of expenditure amounts based on an assumed 2.5% average annual price inflation rate over the forecast horizon.

5.4.2.1 Transponder Purchase and Inventory Costs

Transponders are assumed to be purchased into inventory, sold and/or distributed by ODOT. Sales or complimentary distributions of transponders are assumed to occur directly with customers via online/mail orders, at CSC retail locations, and through third-party retailers. Transponder purchase, inventory, and distribution costs are based on regional historical procurement experience and assumed availability of new transponder technology. Projected costs per unit, which tend to be less than $1.00 per sticker tag, are multiplied by projected registered account use, as well as by the purchase of new or replacement transponders with changes in the vehicle fleet.

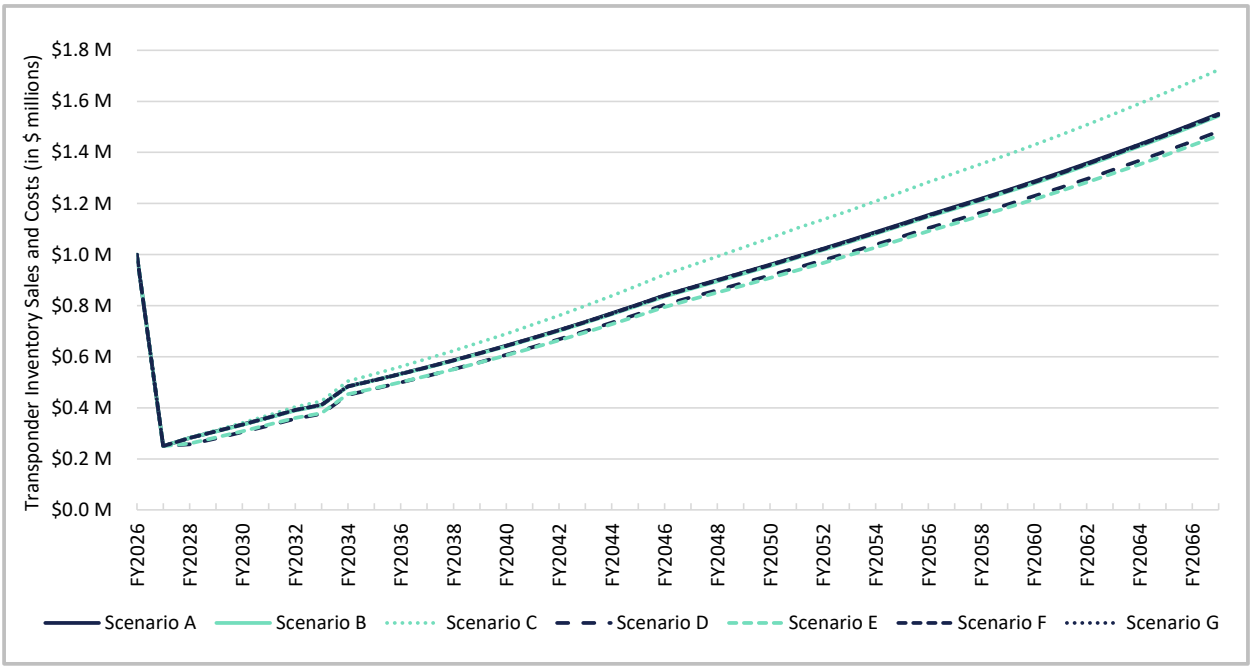
ODOT may opt to sell transponders to customers or distribute a certain number of sticker tag transponders free of charge to registered account customers, either initially or each year. However, the transponder costs included in column 18 of the T&R tables in Appendix A reflect resulting purchase and distribution costs only, and they do not assume any sales revenue offset. For customers

who do not receive a free transponder but purchase one directly, it has yet to be determined whether ODOT will sell transponders at cost-recovery prices or provide subsidized discount pricing. This study does not factor in transponder revenue, and it is unlikely that any transponders sold by ODOT would be at prices above cost-recovery.

The forecast assumptions include initial higher ramp-up and initial transponder distribution costs for FY 2026, the fiscal year in which tolling is assumed to start on the Interstate Bridge. Thereafter, costs related to packaging, mailing, and inventory management are estimated to increase at the combined rate of growth in traffic and 2.5% per year general price inflation.

Transponder purchase and inventory costs over the 42-year forecast horizon are projected to range from $34.8 million to $40.3 million across the seven scenarios, varying proportionately with their traffic projections. Figure 5-3 illustrates the projected annual transponder sales and inventory costs by scenario over the forecast horizon.

Figure 5-3. IBR Transponder Sales and Inventory Costs by Scenario (YOE dollars)



5.4.2.2 State and Consultant Operations Costs

ODOT is assumed to be responsible for general management, vendor oversight, marketing, financial planning and analysis, accounting, and administrative services associated with toll collection. For Scenarios A, B, C, F, and G, systemwide state and consultant operations costs have been estimated assuming that IBR and the I-205 Toll Project are the only toll facilities in the region, thereby excluding any economies of scale from other future toll facilities, specifically RMPP, that would lower IBR's share of these system-wide costs. Scenarios D and E include RMPP tolling that is assumed to begin as early as FY 2028. A total of 16.6 state full-time equivalent (FTE) employees are estimated to be required for functioning and operations of the Oregon Toll Program. At a facility level, IBR is assumed to increase

the total state FTE employees by 4.8 when tolling starts. The salary and wages assumed are in line with industry standards and market observations. In addition to costs associated with salaries and wages, state operations costs include the following items:

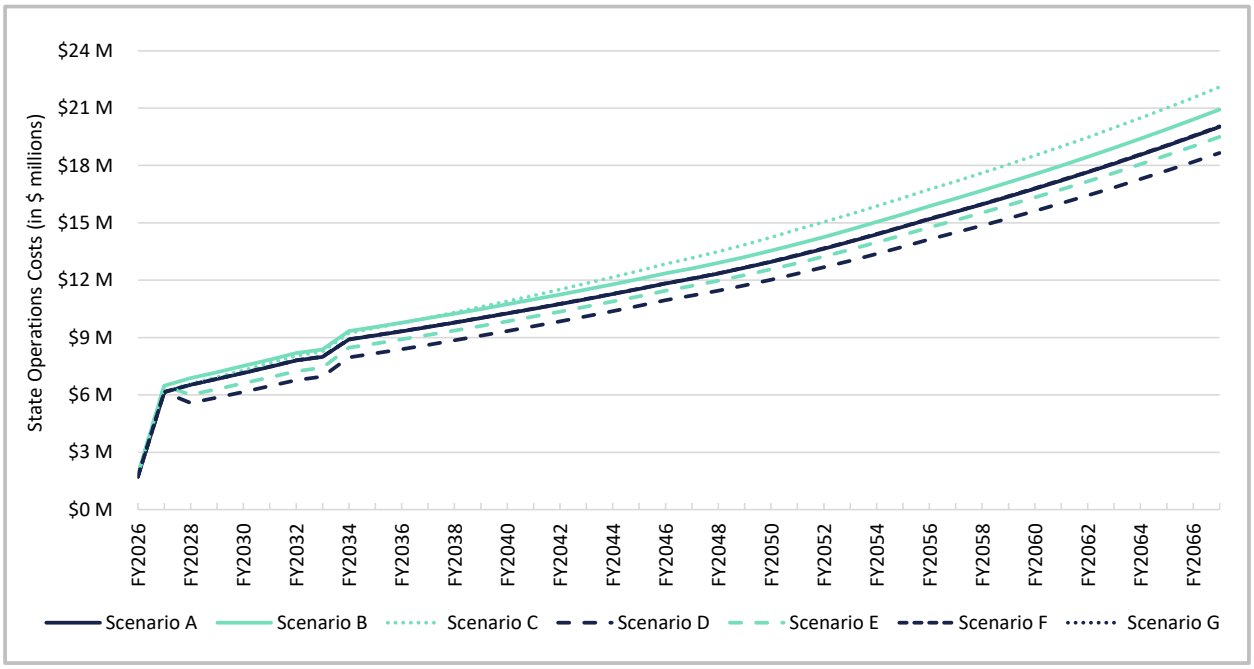
- Benefits (assumed to be 27.0% of salaries and wages)
- Rent, office supplies and materials, printing, computers and equipment, telephone and communications, purchased services, records retention, human resources support, vehicle operations, miscellaneous goods, and services

Consultant costs include all associated fees related to ongoing general toll consultant support, T&R forecasting work, net revenue projections analysis, finance, marketing, and other consulting tasks. Similar to other costs, state and consultant operations costs are escalated by 2.5% per year to account for average inflationary increases in costs over time.

Initial FY 2026 state and consultant costs, reflecting a partial year of toll operations, are approximately $1.7 million for Scenarios A, C, D, F, and G, $1.8 million for Scenarios B and E, and increase to approximately $6.2 million and $6.5 million respectively in FY 2027 with a full year of operations. Annual escalation of 2.5% per year is assumed through the forecast horizon (FYs 2026-67).

Total 42-year forecast horizon state and consultant operations costs range from $475 million to $560 million in YOE dollars, with amounts varying by toll scenario based upon the number of forecasted toll trips (Scenario C has the highest level of forecast period toll trips). Figure 5-4 illustrates the projected annual state and consultant operations costs over the forecast horizon, corresponding to column 19 of the T&R tables included in Appendix A.

Figure 5-4. IBR State Operations Costs by Scenario (YOE dollars)



5.4.2.3 Roadway Toll System O&M Costs

RTS costs include all equipment and software required to identify a toll trip and transmit data about that trip from the roadway to the CSC for processing. Sometimes referred to as "lane systems," this equipment includes transponder readers, cameras, and other communication hardware that need regular maintenance to ensure that the system is functioning properly. The RTS costs also include a host (also known as the "operational back office") where image processing is performed before the transaction is passed to the Back Office System Vendor as described below in Section 5.4.2.4. The RTS O&M costs are assumed to include maintenance of the gantries and associated civil infrastructure work. Gantry work may be conducted by the RTS vendor as part of the procurement, currently optional, or by the state or a separate vendor.

Examples of maintenance activities that may be conducted:

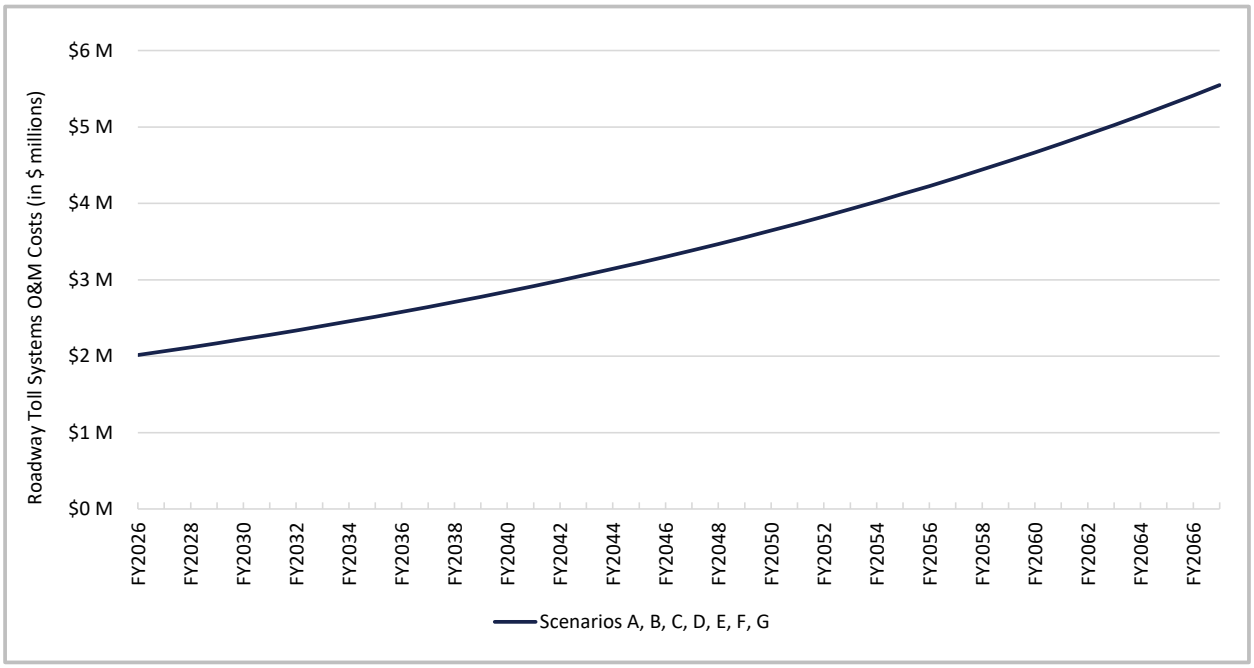
- Realigning/recalibrating cameras and transponder readers
- Cleaning camera lenses
- Maintaining power-related services
- Maintaining equipment data connections, including fiber commercial services
- Monitoring/auditing equipment performance

RTS O&M activities are assumed to be performed by a private vendor, in conjunction with ODOT maintenance staff. The vendor will be required to provide ongoing maintenance of the toll collection system and infrastructure through an assumed 10-year contract period. The RTS vendor contract for toll equipment is assumed to begin in FY 2026 with the installation of the pre-completion toll collection system on the existing Interstate Bridge. ODOT is expected to perform necessary routine maintenance to equipment gantries and associated civil infrastructure or other ancillary roadside equipment. After the initial RTS vendor contract expires, ODOT has the option to rebid the contract or to assume responsibility for all RTS maintenance functions. The forecast assumes that the equipment and services vendor contract is rebid every 10 years with continued oversight by ODOT staff.

The vendor costs are estimated to be consistent with observed industry standards on other similar contracts. Annual allocation of the costs embedded within the contract pricing are assumed to increase by 2.5% per year over the forecast horizon.

RTS O&M costs over the forecast horizon by scenario are shown in Figure 5-5. All scenarios assume the same tolling configuration and gantry locations resulting in the same RTS costs. The forecast values for RTS can be found in column 20 of the T&R tables in Appendix A.

Figure 5-5. IBR Roadway Toll Systems O&M Costs by Scenario (YOE dollars)



5.4.2.4 Customer Service Center Operations and Back Office System Vendor Costs

Vendor O&M costs have been forecast for both the BOS software and CSC operations components. While the work could be performed by one combined or two separate vendors, the collective CSC and BOS functions include processing toll trips, collecting toll revenue, maintaining customer accounts, interfacing with customers via telephone and in-person at customer walk-in centers, and supporting interoperability with other agencies, likely including WSDOT's *Good To Go!* system, the Port of Hood River's BreezeBy system, the E-ZPass consortium of operators, among others.

The CSC and BOS cost forecast values are based on estimated resource requirements using market labor rates aligned with the various CSC systems software and operating functions. The estimate is determined using a bottom-up, activity-based benchmarking approach from similar project contracts for cashless toll facilities in the United States. The costs comprise variable transaction-dependent and fixed non-transaction-dependent components. The CSC and BOS cost forecasts assumed for tolling on the IBR are consistent with having a single vendor for BOS software and CSC operations functions, plus the addition of a risk contingency. The contract term is assumed to start in FY 2025 in support of tolling on I-205 and continue for 10 years, which will likely be divided into a base contract period plus an extension period. At the end of 10 years, the forecast assumes a new contract will be rebid and that it will follow a similar cycle for the remainder of the forecast period with one year of overlap assumed to allow for vendor transition.

The CSC operations tasks are also assumed to include call center operations, back-office transaction processing, any additional image review attributed to out-of-state license plate lookups or adjudication review, toll bill printing and mailing, transponder inventory management, collection oversight, and retail front office services. The labor and associated cost requirements are based on

the total number of trips that have to be processed. The BOS and CSC costs are assumed to escalate at 2.5% per year annually through the forecast horizon.

The allocated CSC operations costs for IBR in FY 2026—a partial first year of tolling—are estimated to be about $1.9 million. Following the ramp-up period, annual costs for FY 2030 range from $7.6 to $7.9 million for the scenarios without RMPP, varying by the level of projected toll trips. This study's preliminary analysis of system-wide cost allocations also shows that assumed CSC costs for Scenarios D and E are lower due to the economies of scale from the addition of the RMPP, at nearly $4.5 and $4.8 million, respectively. The CSC operations costs continue to grow through the forecast horizon as a result of growth in toll trips combined with an assumed 2.5% annual rate of cost escalation.

Figure 5-6 and Figure 5-7 illustrate the forecast horizon for BOS and CSC costs. Annual projections of BOS and CSC operations costs are provided in columns 21 and 22, respectively, of the T&R tables in Appendix A. Scenario G costs are very similar to Scenario A, making them difficult to distinguish in the following figures' trend lines.

Figure 5-6. IBR Back Office System (BOS) Vendor O&M Costs by Scenario (YOE dollars)

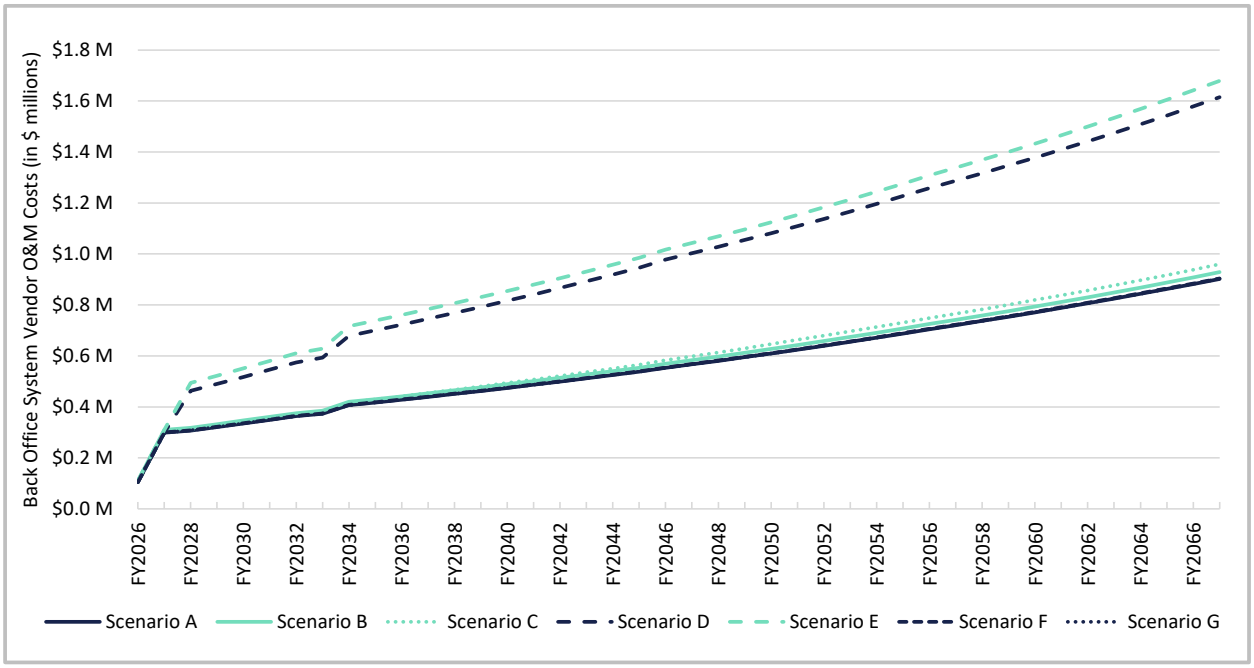
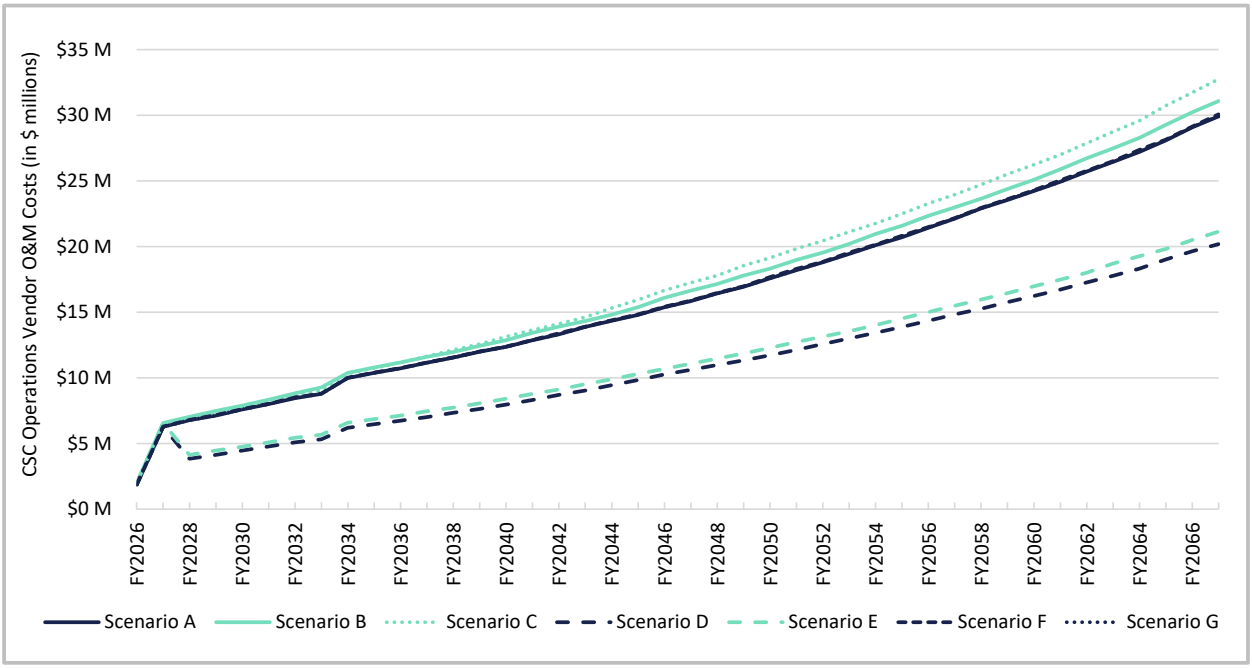


Figure 5-7. IBR Customer Service Center (CSC) Vendor O&M Costs by Scenario (YOE dollars)



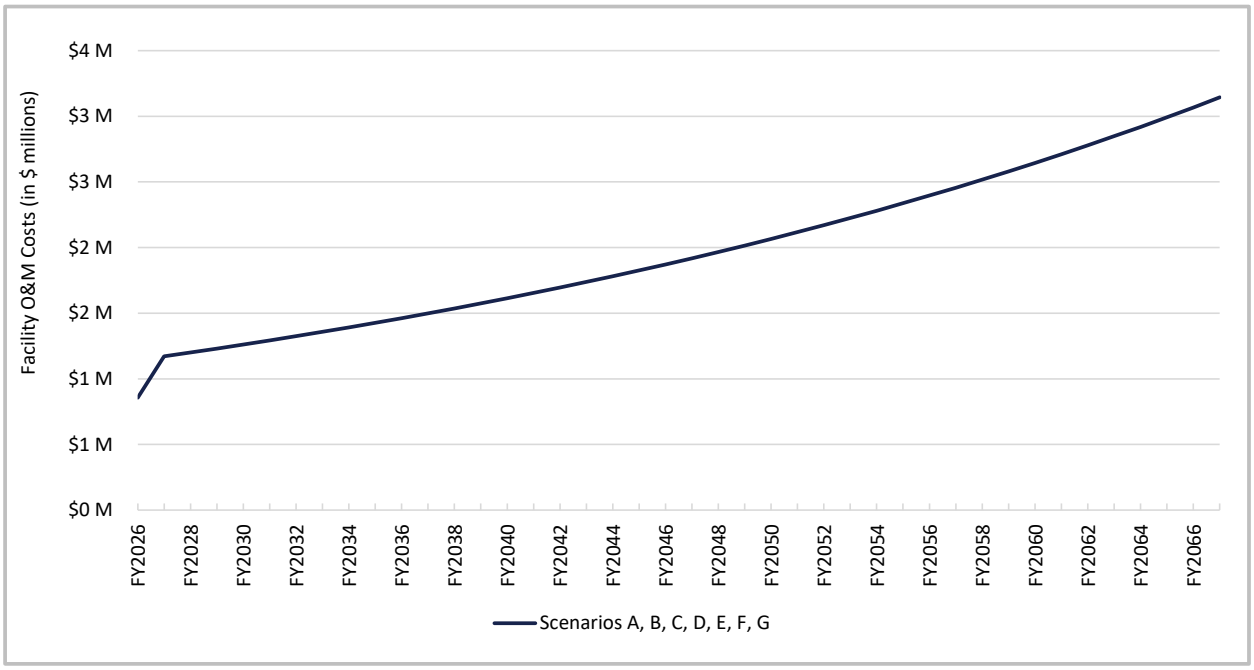
5.4.3 Facility O&M Costs

Routine operations and maintenance of physical assets are critical to providing continuous, uninterrupted toll revenue generation, with these costs assumed to be a required component for projecting net toll revenues. Proper maintenance of the facilities 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, and signage, etc. These activities help to preserve safety and travel reliability along the corridor. IBR Program construction funding is expected to be supported by tolls, and the facility O&M costs are assumed to be paid from future toll revenues.

The maintenance limits assumed for estimating the facility O&M costs stretch across the entire IBR Program, including bridges and approaches. In 2023, ODOT and WSDOT, in coordination with the IBR Program, assessed and refined the facility O&M (and R&R) estimates based on the most up-to-date maintenance work and pricing information available for the corridor. This update assumes future maintenance costs for the existing roadway, as well as for the expanded bridge decks with additional auxiliary lanes and safety shoulders. The updated O&M costs serve as primary inputs for the future facility O&M cost forecasts. A standard contingency of 10% for potential unforeseen expenditures is also included, and a 2.5% annual inflation factor is applied to estimate future costs to YOE dollars. This inflation factor is consistent with assumptions for other O&M-related costs.

For the FYs 2026-67 forecast horizon, facility O&M costs total $82.9 million in YOE dollars for each of the Scenarios, which are illustrated in Figure 5-8. Annual projections of facility O&M costs are shown in column 23 of the T&R tables provided in Appendix A.

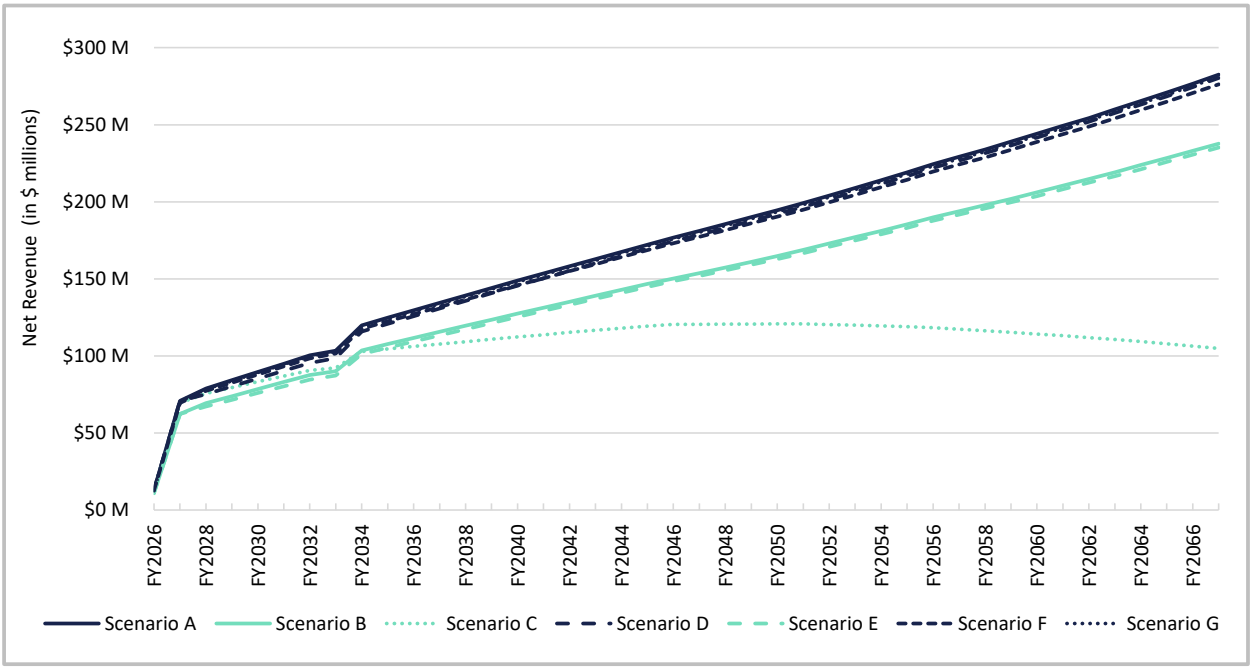
Figure 5-8. IBR Toll Project Facility O&M Costs by Scenario (YOE dollars)



5.4.4 Annual Net Toll Revenue Forecast Results

This section presents the net toll revenue results of all scenarios for the IBR Project. Figure 5-9 illustrates the draft net toll revenue projections for all seven scenarios over the FYs 2026–2067 forecast horizon. The 40-plus-year horizon was selected to accommodate most reasonable financing periods.

Figure 5-9. IBR Toll Project Net Toll Revenue Projections by Scenario (YOE dollars)



The following bullets, combined with Table 5-1, provide a high level summary of the net toll revenue forecasts, as well as their percentage differences relative to Scenario A.

- Over the 40-plus-year forecast horizon, Scenario A (base toll rates with escalation) provides the greatest net toll revenue, generating $7.39 billion over the forecast horizon, with $635 million during the first 8 years of pre-completion operations.
- Removing toll escalation from the base rates in Scenario C results in a 39% overall decrease in forecast period net toll revenues, with the variance from Scenario A increasing over time. Scenario C also results in declining net toll revenues in the latter half of the forecast horizon as the projected traffic growth rates slow beyond 2045.
- Scenario D, which adds RMPP to Scenario A's base tolls, is within 2% of Scenario A, generating $7.24 billion.
- Scenario G, which pairs the lower, more modest low-income discount and participation assumptions with the base tolls of Scenario A, is within 1% of Scenario A at $7.36 billion, whereas the higher low-income discount and participation rates of Scenario F yield net toll revenues that are slightly more than 2% lower than Scenario A.
- Lower toll rates in Scenario B result in a 15% decrease in net revenues over the forecast horizon compared to the base toll analysis in Scenario A.
- Scenario E, which combines the lower toll rates of Scenario B with RMPP added to the regional network, yields net toll revenues that are slightly lower than Scenario B, and the lowest of the scenarios with toll escalation.

Table 5-1. IBR Toll Project Net Toll Revenue Projections by Scenario by Period (YOC dollars)

Scenario	Net Toll Revenues in Millions of Dollars			Total % Share of Scenario A
	FYs 2026–2033	FYs 2034–2050	FYs 2026–2067	
Scenario A | Base Tolls | Escalation	635	6,759	7,394	100.0%
Scenario B | Lower Tolls | Escalation	556	5,735	6,290	85.1%
Scenario C | Base Tolls | No Escalation	591	3,887	4,478	60.6%
Scenario D | Base Tolls | Escalation | RMPP	609	6,667	7,276	98.4%
Scenario E | Lower Tolls | Escalation | RMPP	540	5,661	6,201	83.9%
Scenario F | Base Tolls | Escalation | Higher Low-Income Discount	624	6,617	7,240	97.9%
Scenario G | Base Tolls | Escalation | Lower Low-Income Discount	632	6,725	7,358	99.5%

5.4.5 Preliminary Toll Funding Estimates

Preliminary estimates of the potential capital funding contribution from the draft net toll revenue projections for Scenarios A and B were jointly prepared in early 2023 by the Washington Office of the State Treasurer (OST) and ODOT, the latter in coordination with the Oregon State Treasury, to inform the 2023 IBR Financial Plan.[18] That work confirmed that Scenario A's net toll revenues were sufficient to meet the Financial Plan's target of $1.24 billion in toll funding, based on a combination of bond proceeds and pay-as-you-go net toll revenues. While it is likely that several of the other scenarios would also be sufficient to meet the $1.24 billion target, additional coordination with OST and ODOT will be required to confirm toll funding for each scenario.

The net toll revenue forecasts should be viewed in the context of the Disclaimer section at the beginning of this report, and they are subject to change with modifications of any of the assumptions documented herein. Subsequent T&R analysis and forecasts concurrent with the toll rate setting activities of the Oregon and Washington State Transportation Commissions will be accompanied with additional, more detailed, financial analysis of the toll funding potential.

5.5 Periodic Repair and Replacement Costs

One of the downstream uses of net revenues are R&R costs, which include periodic investments to preserve or renew capital assets above and beyond the routine activities included in annual O&M costs. For tolling on IBR, periodic R&R costs are not included as a component in determining net toll

[18] https://www.interstatebridge.org/media/e4gmctwf/2023_ibr_financial_plan_revb_20230331_remediated-2.pdf

revenues; rather, they are assumed to be a downstream use of net toll revenues as shown in Figure 5-1. The R&R costs are divided into two main categories: Periodic Toll Equipment R&R and Vendor Re-procurement Costs, and Periodic Facility R&R Costs.

5.5.1 Periodic Toll Equipment Repair and Replacement and Vendor Re-Procurement Costs

Toll-related R&R costs include the periodic repair, rehabilitation, and replacement of the RTS hardware and equipment located in the roadway at the toll collection point. In addition to hardware and equipment, the R&R cost forecast includes the administrative and technical-related costs incurred by ODOT to periodically re-procure the RTS vendor contract, as well as to test and implement the toll collection equipment hardware. Furthermore, toll equipment R&R costs include costs to periodically re-procure BOS and CSC operations vendor contracts, as well as to test and implement the new systems software.

Consistent with related assumptions noted previously, this study assumes that IBR and the I-205 Toll Project are the only toll facilities in the region for Scenarios A, B, C, F, and G, and the two facilities will split periodic RTS, CSC, and BOS vendor re-procurement costs. Scenarios D and E assume that the RMPP is implemented starting in FY 2028, with re-procurement costs shared across the three programs, including IBR, the I-205 Toll Project and the RMPP, thereby lowering IBR's share of the total costs.

5.5.1.1 Roadway Toll System Repair and Replacement Costs

RTS R&R cost projections conservatively assume that the RTS toll equipment vendor will be replaced every 10 years. The initial 10-year RTS vendor contract cycle for toll equipment is assumed to begin in FY 2026 with the installation and testing of the pre-completion toll collection system on the existing Interstate Bridge. Future replacements are scheduled every 10 years thereafter, including re-procurement of new vendors, testing, and implementation. The gantry structures are assumed to be in place before starting toll operations, and the replacement of gantries and related civil works will occur every 20 years. A 2.5% annual inflation factor is used to estimate future replacement costs in YOE dollars. RTS equipment replacement and implementation and testing, spare parts, network equipment, gantries, toll rate signs, integration, transition, and coordination support are all included in the RTS R&R costs.

5.5.1.2 Back Office System and Customer Service Center Vendor Repair and Replacement Costs

The BOS and CSC R&R cost projections assume that the BOS and CSC vendor will be replaced every 10 years. The initial 10-year BOS and CSC vendor contract cycle is scheduled to start in FY 2026, and future replacements are scheduled every 10 years thereafter, including re-procurement of new vendors, testing, and implementation of systems. The BOS and CSC operations vendor re-procurement costs include requests for proposals (RFPs) development, vendor solicitation, system development, design and installation, start-up and transition support, and a data warehouse (for

systems). The underlying costs for the periodic BOS and CSC vendor re-procurements are assumed to escalate at 2.5% per year.

For the FYs 2026-67 forecast horizon, periodic toll equipment R&R and vendor re-procurement costs total $230.5 million for Scenario A, $234.4 million for Scenario B, $237.3 million for Scenario C, $147.1 million for Scenario D, $149.1 million for Scenario E, $230.8 million for Scenario F, and $230.6 million for Scenario G in YOE dollars. Annual projections are shown in column 25 of the T&R Tables included in Appendix A.

5.5.2 Periodic Facility Repair and Replacement Costs

Periodic facility R&R costs apply to the IBR roadway and structures, and they include major rehabilitation activities such as pavement resurfacing, deck overlay and deck sealing, bridge joint sealing and replacement, bridge railing repairs, and painting. ODOT provided estimates for anticipated future expenditures and the frequency intervals for the various replacement activities. R&R work considers the existing asset condition and performance requirements with the objective of ensuring smooth and safe operations on the corridor. Bridge deck overlay and painting works are planned to be completed every 20 years, while joint repairs and bridge deck rail major maintenance are scheduled to be conducted in 10-year intervals, with a shorter 5-year interval for deck-sealing works.

Consistent with standard industry practices, a 25% contingency is factored into the periodic replacement costs to account for unexpected expenditures and budget for design and planning works. Furthermore, an annual escalation of 2.5% is included to estimate future year facility R&R costs in YOE dollars.

Tolls provide a sustainable source of revenues to keep the Interstate Bridge in a state of good repair without deferring major maintenance and capital replacement activities. Funding these facility R&R costs with tolls may also be a requirement of the bond trust indenture (contract with investors) associated with each state's toll financing. For the FYs 2026-67 forecast horizon, periodic facility R&R costs total $73.6 million in YOE dollars for each of the scenarios. The projected costs through the forecast horizon are provided in column 26 of the T&R tables in Appendix A.

APPENDIX A. TOLL TRAFFIC AND REVENUE PROJECTIONS

This appendix includes the detailed T&R net toll revenue tables for the study, the toll rate schedule, and associated toll traffic and revenue projections for Scenarios A, B, C, D, E, F, and G. All scenarios assume the opening date is July 1, 2033, with pre-completion tolling starting on April 1, 2026. The seven scenarios differ in their assumptions of toll rates and escalation.

Each T&R table shows the toll trip and gross toll revenue potential forecasts and the various adjustments, fees, and expenditures that yield the net toll revenue available for debt service, as well as other ODOT-related downstream uses of net toll revenues.

This appendix includes the following tables:

- Toll Traffic and Revenue Forecasts and Net Toll Revenue Projections – Scenario A
- Toll Traffic and Revenue Forecasts and Net Toll Revenue Projections – Scenario B
- Toll Traffic and Revenue Forecasts and Net Toll Revenue Projections – Scenario C
- Toll Traffic and Revenue Forecasts and Net Toll Revenue Projections – Scenario D
- Toll Traffic and Revenue Forecasts and Net Toll Revenue Projections – Scenario E
- Toll Traffic and Revenue Forecasts and Net Toll Revenue Projections – Scenario F
- Toll Traffic and Revenue Forecasts and Net Toll Revenue Projections – Scenario G

Table A-1. Toll Traffic, Gross and Net Revenue Projections – Scenario A | Base Tolls | Escalation

I-5 Interstate Bridge Replacement (IBR) Program | Taffic and Net Toll Revenue Projections | Scenario A
Annual Toll Trips, Gross Toll Revenue Potential, and Net Toll Revenues | FY 2026-67

Prepared 4/20/2023

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	Registered Account Trips			Unregistered LPT Toll Bill by Mail Trips				Toll Revenue Potential			Less:	Less:		Plus:		Less:	Less:	Less:	Less:	Less:	Less:	Less:		Uses of Net Toll Revenue	
Fiscal Year	Weighted Average Toll per PCE Trip[1]	Annual Toll Trips (millions)[2]	PCE Toll Trips (millions)[3]	Weighted Average Toll per PCE Trip[1]	Annual Toll Trips (millions)[2]	PCE Toll Trips (millions)[3]	**Total Toll Trips (millions)**	Registered Account Customers ($ millions)[4]	Unregistered Pay-by-Mail Customers ($ millions)[5]	**Total Gross Toll Revenue Potential ($ millions)**	Revenue Not Recognized ($ millions)[6]	Unpaid Toll Revenue ($ millions)[7]	**Subtotal: Adjusted Gross Toll Revenue Collected ($ millions)**	Pay-by-Mail Second Invoice Rebilling Fees ($ millions)[8]	**Subtotal: Adjusted Gross Toll Revenue & Fees ($ millions)**	Credit Card Fees ($ millions)[9]	Transponder Purchase and Inventory Costs ($ millions)[10]	State and Consultant Operations Costs ($ millions)[11]	Roadway Toll Systems (RTS) O&M Costs ($ millions)	CSC Back Office System (BOS) Vendor O&M Costs ($ millions)[11]	CSC Operations Vendor O&M Costs ($ millions)[11]	Routine Facility O&M Costs ($ millions)[12]	**Total Net Toll Revenue ($ millions)**	Periodic Toll Equipment R&R and Vendor Reprocurement Costs ($ millions)[13]	Periodic Facility R&R Costs ($ millions)[14]
2026	$2.86	3.38	4.00	$4.35	2.31	2.83	**5.69**	11.43	12.30	**23.73**	(1.64)	(2.85)	**19.23**	0.68	**19.91**	(0.50)	(1.00)	(1.73)	(2.02)	(0.11)	(1.87)	(0.86)	**11.83**	-	-
2027	$2.96	14.75	17.51	$4.43	9.63	11.71	**24.38**	51.75	51.93	**103.68**	(5.12)	(12.44)	**86.12**	2.94	**89.06**	(2.25)	(0.25)	(6.15)	(2.07)	(0.30)	(6.27)	(1.17)	**70.60**	-	-
2028	$3.04	16.20	19.26	$4.51	10.12	12.25	**26.31**	58.59	55.29	**113.88**	(5.48)	(13.29)	**95.11**	3.10	**98.20**	(2.48)	(0.28)	(6.53)	(2.12)	(0.31)	(6.77)	(1.20)	**78.51**	-	-
2029	$3.12	17.19	20.47	$4.59	10.31	12.43	**27.49**	63.82	57.04	**120.87**	(5.69)	(13.75)	**101.43**	3.17	**104.59**	(2.65)	(0.31)	(6.84)	(2.17)	(0.32)	(7.12)	(1.23)	**83.96**	-	-
2030	$3.19	18.18	21.67	$4.66	10.50	12.61	**28.67**	69.06	58.80	**127.86**	(5.89)	(14.22)	**107.75**	3.23	**110.98**	(2.81)	(0.33)	(7.15)	(2.22)	(0.34)	(7.59)	(1.26)	**89.28**	-	-
2031	$3.25	19.17	22.88	$4.74	10.69	12.78	**29.85**	74.29	60.56	**134.85**	(6.09)	(14.68)	**114.07**	3.30	**117.38**	(2.97)	(0.36)	(7.47)	(2.28)	(0.35)	(8.00)	(1.29)	**94.65**	-	-
2032	$3.30	20.15	24.09	$4.81	10.88	12.96	**31.03**	79.53	62.31	**141.84**	(6.29)	(15.15)	**120.40**	3.37	**123.77**	(3.13)	(0.39)	(7.80)	(2.34)	(0.36)	(8.45)	(1.32)	**99.97**	-	-
2033	$3.36	20.63	24.69	$4.87	10.83	12.94	**31.45**	82.90	63.00	**145.90**	(6.38)	(15.31)	**124.20**	3.36	**127.57**	(3.23)	(0.41)	(7.99)	(2.40)	(0.37)	(8.78)	(1.36)	**103.03**	-	-
2034	$3.47	23.60	28.14	$4.92	11.84	14.15	**35.44**	97.55	69.66	**167.21**	(7.11)	(17.03)	**143.07**	3.69	**146.76**	(3.71)	(0.48)	(8.90)	(2.46)	(0.41)	(9.98)	(1.39)	**119.43**	(12.94)	-
2035	$3.56	24.14	28.82	$5.00	11.79	14.13	**35.92**	102.71	70.61	**173.32**	(7.24)	(17.25)	**148.83**	3.69	**152.52**	(3.86)	(0.51)	(9.11)	(2.52)	(0.42)	(10.37)	(1.43)	**124.30**	(18.45)	-
2036	$3.66	24.67	29.50	$5.08	11.73	14.10	**36.40**	107.86	71.56	**179.42**	(7.37)	(17.52)	**154.53**	3.68	**158.21**	(4.00)	(0.53)	(9.33)	(2.58)	(0.43)	(10.72)	(1.46)	**129.15**	(5.30)	-
2037	$3.75	25.20	30.17	$5.15	11.67	14.07	**36.87**	113.02	72.51	**185.53**	(7.50)	(17.80)	**160.23**	3.67	**163.90**	(4.15)	(0.56)	(9.55)	(2.64)	(0.44)	(11.15)	(1.50)	**133.92**	-	(3.55)
2038	$3.83	25.74	30.85	$5.23	11.62	14.05	**37.35**	118.18	73.46	**191.64**	(7.62)	(18.08)	**165.93**	3.66	**169.59**	(4.29)	(0.59)	(9.78)	(2.71)	(0.45)	(11.54)	(1.54)	**138.70**	-	-
2039	$3.91	26.27	31.52	$5.31	11.56	14.02	**37.83**	123.34	74.40	**197.75**	(7.75)	(18.36)	**171.64**	3.65	**175.29**	(4.43)	(0.61)	(10.02)	(2.78)	(0.46)	(11.98)	(1.57)	**143.43**	-	-
2040	$3.99	26.81	32.20	$5.38	11.50	14.00	**38.31**	128.50	75.35	**203.85**	(7.88)	(18.63)	**177.34**	3.64	**180.98**	(4.58)	(0.64)	(10.26)	(2.85)	(0.47)	(12.36)	(1.61)	**148.21**	-	-
2041	$4.07	27.34	32.87	$5.46	11.45	13.97	**38.79**	133.66	76.30	**209.96**	(8.01)	(18.91)	**183.04**	3.64	**186.68**	(4.72)	(0.67)	(10.50)	(2.92)	(0.49)	(12.87)	(1.65)	**152.85**	-	-
2042	$4.14	27.88	33.55	$5.54	11.39	13.95	**39.27**	138.82	77.25	**216.07**	(8.14)	(19.19)	**188.74**	3.63	**192.37**	(4.87)	(0.70)	(10.75)	(2.99)	(0.50)	(13.31)	(1.70)	**157.55**	-	(4.02)
2043	$4.21	28.41	34.23	$5.62	11.33	13.92	**39.75**	143.98	78.20	**222.18**	(8.26)	(19.46)	**194.45**	3.62	**198.07**	(5.01)	(0.74)	(11.01)	(3.07)	(0.51)	(13.87)	(1.74)	**162.12**	-	-
2044	$4.27	28.95	34.90	$5.70	11.28	13.90	**40.22**	149.14	79.15	**228.29**	(8.39)	(19.74)	**200.15**	3.61	**203.76**	(5.16)	(0.77)	(11.27)	(3.14)	(0.52)	(14.35)	(1.78)	**166.77**	(16.70)	-
2045	$4.34	29.48	35.58	$5.77	11.22	13.87	**40.70**	154.30	80.09	**234.39**	(8.52)	(20.02)	**205.85**	3.60	**209.46**	(5.30)	(0.80)	(11.54)	(3.22)	(0.54)	(14.80)	(1.83)	**171.43**	(30.74)	-
2046	$4.40	30.02	36.26	$5.85	11.16	13.84	**41.18**	159.46	81.04	**240.50**	(8.64)	(20.30)	**211.56**	3.59	**215.15**	(5.44)	(0.84)	(11.83)	(3.30)	(0.55)	(15.38)	(1.87)	**175.94**	(13.97)	-
2047	$4.49	30.31	36.59	$5.94	11.08	13.75	**41.39**	164.42	81.74	**246.15**	(8.75)	(20.51)	**216.90**	3.57	**220.47**	(5.58)	(0.87)	(12.08)	(3.38)	(0.57)	(15.84)	(1.92)	**180.23**	-	(4.55)
2048	$4.59	30.57	36.90	$6.04	11.02	13.70	**41.59**	169.41	82.76	**252.17**	(8.88)	(20.79)	**222.49**	3.56	**226.05**	(5.72)	(0.90)	(12.35)	(3.47)	(0.58)	(16.43)	(1.97)	**184.63**	-	-
2049	$4.69	30.81	37.18	$6.14	11.00	13.68	**41.80**	174.36	83.96	**258.32**	(9.03)	(21.13)	**228.16**	3.56	**231.72**	(5.86)	(0.93)	(12.65)	(3.56)	(0.59)	(16.93)	(2.02)	**189.18**	-	-
2050	$4.79	31.02	37.43	$6.24	10.99	13.68	**42.01**	179.28	85.31	**264.59**	(9.19)	(21.49)	**233.90**	3.56	**237.46**	(6.01)	(0.96)	(12.96)	(3.65)	(0.61)	(17.57)	(2.07)	**193.64**	-	-
2051	$4.89	31.22	37.67	$6.34	11.00	13.70	**42.22**	184.19	86.77	**270.97**	(9.37)	(21.89)	**239.71**	3.56	**243.27**	(6.15)	(0.99)	(13.30)	(3.74)	(0.62)	(18.19)	(2.12)	**198.16**	-	-
2052	$5.00	31.41	37.89	$6.44	11.02	13.72	**42.43**	189.36	88.42	**277.78**	(9.56)	(22.31)	**245.91**	3.57	**249.48**	(6.31)	(1.02)	(13.65)	(3.83)	(0.64)	(18.80)	(2.17)	**203.05**	-	(41.57)
2053	$5.10	31.60	38.12	$6.55	11.04	13.76	**42.64**	194.55	90.14	**284.69**	(9.76)	(22.77)	**252.17**	3.58	**255.75**	(6.47)	(1.05)	(14.01)	(3.93)	(0.66)	(19.44)	(2.22)	**207.96**	-	-
2054	$5.21	31.78	38.33	$6.66	11.08	13.81	**42.86**	199.78	91.94	**291.72**	(9.97)	(23.24)	**258.52**	3.60	**262.11**	(6.63)	(1.09)	(14.39)	(4.02)	(0.67)	(20.09)	(2.28)	**212.93**	(21.36)	-
2055	$5.32	31.95	38.54	$6.77	11.12	13.86	**43.07**	205.06	93.79	**298.85**	(10.18)	(23.72)	**264.94**	3.61	**268.55**	(6.79)	(1.12)	(14.79)	(4.12)	(0.69)	(20.70)	(2.34)	**218.00**	(30.35)	-
2056	$5.44	32.12	38.74	$6.88	11.16	13.92	**43.29**	210.65	95.78	**306.43**	(10.40)	(24.23)	**271.79**	3.62	**275.41**	(6.97)	(1.15)	(15.19)	(4.23)	(0.70)	(21.43)	(2.40)	**223.34**	(8.68)	-
2057	$5.55	32.20	38.83	$7.00	11.18	13.94	**43.37**	215.66	97.54	**313.20**	(10.61)	(24.69)	**277.90**	3.63	**281.53**	(7.12)	(1.19)	(15.58)	(4.33)	(0.72)	(22.12)	(2.46)	**228.01**	-	(5.82)
2058	$5.67	32.27	38.92	$7.12	11.19	13.95	**43.46**	220.71	99.33	**320.03**	(10.81)	(25.16)	**284.06**	3.63	**287.70**	(7.28)	(1.22)	(15.97)	(4.44)	(0.74)	(22.90)	(2.52)	**232.63**	-	-
2059	$5.80	32.34	39.00	$7.24	11.21	13.98	**43.55**	226.06	101.23	**327.29**	(11.03)	(25.65)	**290.61**	3.64	**294.25**	(7.44)	(1.25)	(16.37)	(4.55)	(0.75)	(23.56)	(2.58)	**237.74**	-	-
2060	$5.92	32.40	39.08	$7.37	11.23	14.00	**43.63**	231.44	103.16	**334.60**	(11.25)	(26.15)	**297.20**	3.65	**300.85**	(7.61)	(1.29)	(16.79)	(4.67)	(0.77)	(24.23)	(2.64)	**242.85**	-	-
2061	$6.05	32.47	39.16	$7.50	11.25	14.03	**43.72**	236.86	105.12	**341.98**	(11.47)	(26.66)	**303.85**	3.65	**307.50**	(7.78)	(1.32)	(17.21)	(4.78)	(0.79)	(24.92)	(2.71)	**247.99**	-	-
2062	$6.17	32.54	39.24	$7.62	11.27	14.05	**43.81**	242.32	107.10	**349.42**	(11.70)	(27.18)	**310.54**	3.66	**314.20**	(7.95)	(1.36)	(17.65)	(4.90)	(0.81)	(25.72)	(2.78)	**253.05**	-	(6.59)
2063	$6.31	32.61	39.33	$7.75	11.29	14.08	**43.90**	248.09	109.19	**357.28**	(11.93)	(27.71)	**317.63**	3.67	**321.30**	(8.13)	(1.39)	(18.10)	(5.02)	(0.82)	(26.45)	(2.85)	**258.53**	-	-
2064	$6.44	32.67	39.40	$7.89	11.31	14.11	**43.98**	253.93	111.31	**365.23**	(12.18)	(28.26)	**324.80**	3.67	**328.47**	(8.31)	(1.43)	(18.56)	(5.15)	(0.84)	(27.21)	(2.92)	**264.05**	(26.83)	-
2065	$6.58	32.74	39.49	$8.03	11.33	14.13	**44.07**	259.80	113.44	**373.24**	(12.42)	(28.82)	**332.00**	3.68	**335.68**	(8.49)	(1.47)	(19.03)	(5.28)	(0.86)	(28.08)	(2.99)	**269.48**	(22.33)	-
2066	$6.72	32.80	39.56	$8.17	11.36	14.16	**44.16**	265.99	115.69	**381.68**	(12.67)	(29.39)	**339.61**	3.69	**343.30**	(8.69)	(1.51)	(19.52)	(5.41)	(0.88)	(29.07)	(3.07)	**275.16**	(22.89)	-
2067	$6.87	32.87	39.64	$8.31	11.38	14.19	**44.25**	272.25	117.97	**390.22**	(12.93)	(29.99)	**347.30**	3.70	**350.99**	(8.88)	(1.55)	(20.02)	(5.55)	(0.90)	(29.91)	(3.14)	**281.05**	-	(7.45)
Totals FY 2026-33	129.63	154.57		75.25	90.49	**204.89**	491.36	421.23	**912.59**	(42.60)	(101.68)	**768.31**	23.16	**791.46**	(20.02)	(3.34)	(51.66)	(17.61)	(2.45)	(54.86)	(9.69)	**631.83**	-	-
Totals FY 2034-67	1,019.21	1,227.61		384.03	474.17	**1,403.23**	6,214.68	3,041.25	**9,255.93**	(326.51)	(764.05)	**8,165.37**	123.44	**8,288.81**	(209.71)	(33.53)	(464.01)	(129.19)	(21.42)	(632.27)	(73.22)	**6,725.46**	(230.54)	(73.56)
Totals FY 2026-67	1,148.84	1,382.17		459.28	564.66	**1,608.12**	6,706.04	3,462.48	**10,168.52**	(369.11)	(865.73)	**8,933.68**	146.59	**9,080.27**	(229.73)	(36.9)	(515.7)	(146.79)	(23.88)	(687.13)	(82.9)	**7,357.29**	(230.5)	(73.6)

Footnotes

[1] Reflects the average revenue per passenger car equivalent (PCE) traffic volumes based on the time-of-day variable weekday and weekend toll schedules.

[2] Annual auto and truck customer one-way toll trips on the I-5 Interstate Bridge (tolls are charged in both travel directions).

[3] Converts trucks to their passenger car equivalent (PCE) traffic volumes based upon the toll multiples paid; medium trucks are counted as two cars (2x) and large trucks as four cars (4x).

[4] Gross toll revenue potential from registered account customers before any adjustments for uncollectible revenue, fees, and credits.

[5] Gross toll revenue potential from unregistered customers identified for a toll bill by mail from their license plate, before adjustments for uncollectible revenue/fees. The revenue from unregistered (non-account) customers assumes an additional toll increment of $2.00 per trip regardless of vehicle type to offset higher collection costs / leakage via payment by mail.

[6] Revenue not recognized can result from unreadable vehicle license plate images or the inability to identify the vehicle owner's name and address from a readable license plate image, resulting in unbillable revenue. License plate images are used identify unregistered customers as well as registered customers if their transponder pass is not correctly read or missing.

[7] Recognized but unpaid toll revenue after 80 days (two toll billing cycles) from date of travel.

[8] Late payment rebilling fee per invoice assessed to unregistered pay-by-mail customers who don't pay their first invoice within 30 days.

[9] Credit card fees estimated at 2.75% of applicable gross toll revenues collected via bank card; no additional factor currently assumed for any fees related to account balance refunds.

[10] Includes transponder purchase and inventory costs for distribution of sticker tag transponders by ODOT to registered account customers. Tags are assumed to be free-of-charge.

[11] System-wide components of toll collection costs are allocated on the basis of transactions across all assumed operational toll facilities.

[12] Includes annual facility operations and maintenance (O&M) costs that would be routinely incurred for the bridge and approaches, plus a contigency for unforeseen expenses.

[13] Includes periodic RTS/CSC/BOS vendor re-procurement costs, system testing and acceptance, as well as periodic RTS equipment repair and replacement (R&R) costs.

[14] Includes periodic bridge and approach facilities major maintenance, repair and replacement (R&R) costs .

Key Assumptions

- Toll traffic and gross toll revenue potential projections supporting financial planning for Scenario A prepared by Stantec, dated 12/2/2022.
- Overnight hours from 11 PM to 5 AM are assumed to be toll-free during pre-completion tolling of the existing bridge through FY 2033.
- The traffic and revenue forecasts include ramp-up reduction factors of 95% (-5%) in FY 2026 and 97% (-3%) in FY 2027 to allow time for some users to become accustomed to tolling, determine their best travel options and/or obtain a registered account.
- Tolls are assumed to escalate annually by 2.15% as a conservative assumption for general price inflation, which maintains constant real tolls.
- System-wide toll collection costs are allocated to each toll facility within the ODOT system, which for Scenario A is assumed to include the I-205 Toll Project commencing before IBR tolling in FY 2026.

Table A-2. Toll Traffic, Gross and Net Revenue Projections – Scenario B | Lower Tolls | Escalation

I-5 Interstate Bridge Replacement (IBR) Program | Taffic and Net Toll Revenue Projections | Scenario B
Annual Toll Trips, Gross Toll Revenue Potential, and Net Toll Revenues | FY 2026-67

Prepared 4/20/2023

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	Registered Account Trips			Unregistered LPT Toll Bill by Mail Trips				Toll Revenue Potential			Less:	Less:		Plus:		Less:	Less:	Less:	Less:	Less:	Less:	Less:		Uses of Net Toll Revenue	
Fiscal Year	Weighted Average Toll per PCE Trip[1]	Annual Toll Trips (millions)[2]	PCE Toll Trips (millions)[3]	Weighted Average Toll per PCE Trip[1]	Annual Toll Trips (millions)[2]	PCE Toll Trips (millions)[3]	**Total Toll Trips (millions)**	Registered Account Customers ($ millions)[4]	Unregistered Pay-by-Mail Customers ($ millions)[5]	**Total Gross Toll Revenue Potential ($ millions)**	Revenue Not Recognized ($ millions)[6]	Unpaid Toll Revenue ($ millions)[7]	**Subtotal: Adjusted Gross Toll Revenue Collected ($ millions)**	Pay-by-Mail Second Invoice Rebilling Fees ($ millions)[8]	**Subtotal: Adjusted Gross Toll Revenue & Fees ($ millions)**	Credit Card Fees ($ millions)[9]	Transponder Purchase and Inventory Costs ($ millions)[10]	State and Consultant Operations Costs ($ millions)[11]	Roadway Toll Systems (RTS) O&M Costs ($ millions)	CSC Back Office System (BOS) Vendor O&M Costs ($ millions)[11]	CSC Operations Vendor O&M Costs ($ millions)[11]	Routine Facility O&M Costs ($ millions)[12]	**Total Net Toll Revenue ($ millions)**	Periodic Toll Equipment R&R and Vendor Reprocurement Costs ($ millions)[13]	Periodic Facility R&R Costs ($ millions)[14]
2026	$2.38	3.58	4.23	$3.87	2.47	3.00	**6.05**	10.04	11.60	**21.64**	(1.54)	(2.68)	**17.42**	0.72	**18.15**	(0.46)	(1.00)	(1.83)	(2.02)	(0.11)	(1.98)	(0.86)	**9.90**	-	-
2027	$2.46	15.63	18.47	$3.94	10.26	12.42	**25.89**	45.43	48.91	**94.34**	(4.79)	(11.68)	**77.87**	3.13	**81.00**	(2.05)	(0.25)	(6.48)	(2.07)	(0.31)	(6.56)	(1.17)	**62.11**	-	-
2028	$2.53	17.14	20.29	$4.01	10.77	12.97	**27.90**	51.39	51.99	**103.38**	(5.12)	(12.45)	**85.81**	3.30	**89.11**	(2.25)	(0.28)	(6.88)	(2.12)	(0.32)	(7.02)	(1.20)	**69.04**	-	-
2029	$2.60	18.16	21.53	$4.07	10.96	13.15	**29.12**	55.95	53.56	**109.50**	(5.30)	(12.87)	**91.34**	3.36	**94.70**	(2.40)	(0.31)	(7.19)	(2.17)	(0.33)	(7.48)	(1.23)	**73.59**	-	-
2030	$2.66	19.19	22.78	$4.14	11.14	13.33	**30.33**	60.50	55.13	**115.63**	(5.48)	(13.28)	**96.87**	3.43	**100.30**	(2.54)	(0.33)	(7.52)	(2.22)	(0.35)	(7.87)	(1.26)	**78.21**	-	-
2031	$2.71	20.21	24.03	$4.20	11.33	13.50	**31.54**	65.06	56.70	**121.75**	(5.66)	(13.70)	**102.40**	3.50	**105.90**	(2.68)	(0.36)	(7.85)	(2.28)	(0.36)	(8.33)	(1.29)	**82.75**	-	-
2032	$2.75	21.24	25.28	$4.26	11.52	13.67	**32.75**	69.62	58.26	**127.88**	(5.84)	(14.11)	**107.93**	3.57	**111.50**	(2.82)	(0.39)	(8.19)	(2.34)	(0.38)	(8.81)	(1.32)	**87.25**	-	-
2033	$2.80	21.73	25.90	$4.31	11.46	13.64	**33.19**	72.57	58.85	**131.42**	(5.92)	(14.25)	**111.26**	3.56	**114.81**	(2.90)	(0.41)	(8.38)	(2.40)	(0.39)	(9.26)	(1.36)	**89.72**	-	-
2034	$2.86	24.95	29.62	$4.33	12.54	14.93	**37.49**	84.67	64.68	**149.34**	(6.54)	(15.80)	**127.00**	3.91	**130.91**	(3.31)	(0.48)	(9.34)	(2.46)	(0.42)	(10.37)	(1.39)	**103.14**	(13.35)	-
2035	$2.94	25.50	30.32	$4.39	12.48	14.90	**37.98**	89.10	65.44	**154.54**	(6.65)	(15.93)	**131.96**	3.90	**135.87**	(3.44)	(0.51)	(9.56)	(2.52)	(0.43)	(10.77)	(1.43)	**107.21**	(18.86)	-
2036	$3.01	26.06	31.02	$4.45	12.41	14.87	**38.47**	93.53	66.21	**159.73**	(6.75)	(16.15)	**136.83**	3.89	**140.72**	(3.56)	(0.53)	(9.78)	(2.58)	(0.44)	(11.18)	(1.46)	**111.18**	(5.30)	-
2037	$3.09	26.61	31.73	$4.52	12.35	14.83	**38.96**	97.96	66.97	**164.93**	(6.86)	(16.38)	**141.69**	3.88	**145.57**	(3.68)	(0.56)	(10.02)	(2.64)	(0.45)	(11.61)	(1.50)	**115.11**	-	(3.55)
2038	$3.16	27.17	32.43	$4.58	12.28	14.80	**39.45**	102.39	67.74	**170.13**	(6.97)	(16.61)	**146.55**	3.87	**150.42**	(3.81)	(0.58)	(10.25)	(2.71)	(0.46)	(11.97)	(1.54)	**119.10**	-	-
2039	$3.22	27.73	33.12	$4.64	12.22	14.77	**39.94**	106.82	68.51	**175.32**	(7.07)	(16.83)	**151.42**	3.86	**155.28**	(3.93)	(0.61)	(10.50)	(2.78)	(0.48)	(12.44)	(1.57)	**122.97**	-	-
2040	$3.29	28.28	33.83	$4.70	12.15	14.73	**40.43**	111.25	69.27	**180.52**	(7.18)	(17.06)	**156.28**	3.85	**160.13**	(4.05)	(0.64)	(10.74)	(2.85)	(0.49)	(12.87)	(1.61)	**126.88**	-	-
2041	$3.35	28.84	34.53	$4.77	12.09	14.70	**40.92**	115.68	70.04	**185.72**	(7.28)	(17.29)	**161.15**	3.84	**164.98**	(4.17)	(0.67)	(11.00)	(2.92)	(0.50)	(13.43)	(1.65)	**130.64**	-	-
2042	$3.41	29.39	35.23	$4.83	12.02	14.67	**41.42**	120.11	70.81	**190.91**	(7.39)	(17.51)	**166.01**	3.83	**169.84**	(4.30)	(0.70)	(11.25)	(2.99)	(0.51)	(13.90)	(1.70)	**134.48**	-	(4.02)
2043	$3.47	29.95	35.93	$4.89	11.96	14.63	**41.90**	124.54	71.57	**196.11**	(7.49)	(17.74)	**170.87**	3.82	**174.69**	(4.42)	(0.73)	(11.52)	(3.07)	(0.53)	(14.33)	(1.74)	**138.36**	-	-
2044	$3.52	30.50	36.63	$4.96	11.89	14.60	**42.39**	128.97	72.34	**201.31**	(7.60)	(17.97)	**175.74**	3.81	**179.55**	(4.54)	(0.77)	(11.79)	(3.14)	(0.54)	(14.82)	(1.78)	**142.17**	(17.18)	-
2045	$3.57	31.06	37.33	$5.02	11.83	14.56	**42.89**	133.40	73.10	**206.50**	(7.70)	(18.20)	**180.60**	3.80	**184.40**	(4.67)	(0.80)	(12.07)	(3.22)	(0.55)	(15.38)	(1.83)	**145.89**	(31.24)	-
2046	$3.62	31.61	38.03	$5.08	11.76	14.53	**43.38**	137.83	73.87	**211.70**	(7.81)	(18.42)	**185.47**	3.79	**189.26**	(4.79)	(0.84)	(12.36)	(3.30)	(0.57)	(16.09)	(1.87)	**149.43**	(13.97)	-
2047	$3.70	31.93	38.39	$5.15	11.67	14.43	**43.59**	142.09	74.37	**216.46**	(7.89)	(18.59)	**189.98**	3.76	**193.74**	(4.90)	(0.87)	(12.62)	(3.38)	(0.58)	(16.64)	(1.92)	**152.83**	-	(4.55)
2048	$3.78	32.20	38.71	$5.23	11.61	14.38	**43.81**	146.39	75.21	**221.59**	(8.00)	(18.82)	**194.78**	3.75	**198.53**	(5.02)	(0.90)	(12.91)	(3.47)	(0.60)	(17.14)	(1.97)	**156.53**	-	-
2049	$3.86	32.45	39.00	$5.31	11.58	14.35	**44.03**	150.62	76.21	**226.83**	(8.13)	(19.10)	**199.60**	3.75	**203.35**	(5.14)	(0.93)	(13.22)	(3.56)	(0.61)	(17.78)	(2.02)	**160.10**	-	-
2050	$3.94	32.68	39.27	$5.39	11.57	14.35	**44.25**	154.83	77.35	**232.19**	(8.26)	(19.41)	**204.51**	3.75	**208.26**	(5.27)	(0.96)	(13.55)	(3.65)	(0.63)	(18.32)	(2.07)	**163.83**	-	-
2051	$4.03	32.89	39.52	$5.48	11.58	14.36	**44.47**	159.31	78.70	**238.01**	(8.42)	(19.76)	**209.83**	3.75	**213.58**	(5.40)	(0.99)	(13.90)	(3.74)	(0.64)	(18.97)	(2.12)	**167.83**	-	-
2052	$4.12	33.09	39.76	$5.57	11.60	14.40	**44.69**	163.80	80.13	**243.92**	(8.59)	(20.14)	**215.20**	3.76	**218.96**	(5.54)	(1.02)	(14.26)	(3.83)	(0.66)	(19.54)	(2.17)	**171.94**	-	(41.57)
2053	$4.21	33.29	39.99	$5.65	11.63	14.44	**44.92**	168.30	81.63	**249.93**	(8.76)	(20.53)	**220.63**	3.77	**224.41**	(5.68)	(1.05)	(14.64)	(3.93)	(0.67)	(20.20)	(2.22)	**176.01**	-	-
2054	$4.30	33.47	40.21	$5.74	11.67	14.48	**45.14**	172.84	83.19	**256.03**	(8.94)	(20.94)	**226.14**	3.79	**229.93**	(5.82)	(1.08)	(15.04)	(4.02)	(0.69)	(20.95)	(2.28)	**180.04**	(21.98)	-
2055	$4.39	33.66	40.43	$5.83	11.71	14.54	**45.37**	177.42	84.81	**262.23**	(9.13)	(21.37)	**231.73**	3.80	**235.53**	(5.96)	(1.11)	(15.45)	(4.12)	(0.71)	(21.58)	(2.34)	**184.25**	(30.98)	-
2056	$4.49	33.84	40.65	$5.93	11.76	14.60	**45.60**	182.32	86.57	**268.89**	(9.33)	(21.82)	**237.74**	3.82	**241.56**	(6.11)	(1.15)	(15.88)	(4.23)	(0.73)	(22.34)	(2.40)	**188.73**	(8.68)	-
2057	$4.58	33.92	40.74	$6.03	11.77	14.62	**45.69**	186.72	88.11	**274.83**	(9.50)	(22.22)	**243.10**	3.82	**246.93**	(6.25)	(1.18)	(16.28)	(4.33)	(0.74)	(22.98)	(2.46)	**192.71**	-	(5.82)
2058	$4.68	33.99	40.83	$6.13	11.79	14.64	**45.78**	191.14	89.68	**280.82**	(9.68)	(22.63)	**248.51**	3.83	**252.33**	(6.38)	(1.21)	(16.69)	(4.44)	(0.76)	(23.64)	(2.52)	**196.70**	-	-
2059	$4.78	34.06	40.92	$6.22	11.81	14.66	**45.87**	195.59	91.27	**286.86**	(9.87)	(23.05)	**253.95**	3.83	**257.79**	(6.52)	(1.25)	(17.11)	(4.55)	(0.78)	(24.39)	(2.58)	**200.61**	-	-
2060	$4.89	34.13	41.00	$6.33	11.83	14.69	**45.96**	200.34	92.98	**293.32**	(10.06)	(23.48)	**259.78**	3.84	**263.62**	(6.67)	(1.28)	(17.54)	(4.67)	(0.79)	(25.09)	(2.64)	**204.93**	-	-
2061	$4.99	34.21	41.09	$6.44	11.85	14.71	**46.05**	205.13	94.70	**299.83**	(10.26)	(23.93)	**265.64**	3.85	**269.49**	(6.82)	(1.31)	(17.99)	(4.78)	(0.81)	(25.89)	(2.71)	**209.17**	-	-
2062	$5.10	34.28	41.17	$6.54	11.87	14.74	**46.14**	209.96	96.45	**306.41**	(10.46)	(24.38)	**271.57**	3.85	**275.42**	(6.97)	(1.35)	(18.45)	(4.90)	(0.83)	(26.72)	(2.78)	**213.42**	-	(6.59)
2063	$5.21	34.35	41.25	$6.65	11.89	14.76	**46.24**	214.82	98.22	**313.03**	(10.66)	(24.84)	**277.53**	3.86	**281.39**	(7.12)	(1.39)	(18.92)	(5.02)	(0.85)	(27.49)	(2.85)	**217.76**	-	-
2064	$5.32	34.42	41.34	$6.77	11.91	14.79	**46.33**	220.00	100.10	**320.10**	(10.87)	(25.32)	**283.91**	3.87	**287.77**	(7.28)	(1.42)	(19.40)	(5.15)	(0.87)	(28.28)	(2.92)	**222.46**	(27.62)	-
2065	$5.44	34.49	41.42	$6.88	11.94	14.82	**46.42**	225.22	102.00	**327.22**	(11.09)	(25.82)	**290.32**	3.88	**294.19**	(7.44)	(1.46)	(19.90)	(5.28)	(0.89)	(29.27)	(2.99)	**226.96**	(22.33)	-
2066	$5.55	34.56	41.51	$7.00	11.96	14.85	**46.51**	230.50	103.92	**334.42**	(11.31)	(26.32)	**296.79**	3.88	**300.68**	(7.61)	(1.50)	(20.41)	(5.41)	(0.91)	(30.22)	(3.07)	**231.56**	(22.89)	-
2067	$5.67	34.63	41.59	$7.11	11.98	14.88	**46.61**	235.80	105.86	**341.66**	(11.53)	(26.82)	**303.31**	3.89	**307.20**	(7.77)	(1.54)	(20.93)	(5.55)	(0.93)	(31.09)	(3.14)	**236.26**	-	(7.45)
Totals FY 2026-33		136.87	162.50		79.90	95.68	**216.77**	430.56	394.99	**825.55**	(39.64)	(95.02)	**690.90**	24.58	**715.47**	(18.10)	(3.33)	(54.31)	(17.61)	(2.54)	(57.32)	(9.69)	**552.57**	-	-
Totals FY 2034-67		1,074.14	1,288.51		404.95	497.99	**1,479.09**	5,379.33	2,761.98	**8,141.31**	(294.02)	(691.17)	**7,156.12**	130.15	**7,286.28**	(184.34)	(33.36)	(485.24)	(129.19)	(22.05)	(657.68)	(73.22)	**5,701.20**	(234.37)	(73.56)
Totals FY 2026-67		1,211.01	1,451.01		484.85	593.67	**1,695.86**	5,809.89	3,156.97	**8,966.87**	(333.66)	(786.19)	**7,847.02**	154.73	**8,001.75**	(202.44)	(36.7)	(539.6)	(146.79)	(24.59)	(715.00)	(82.9)	**6,253.77**	(234.4)	(73.6)

Footnotes

[1] Reflects the average revenue per passenger car equivalent (PCE) traffic volumes based on the time-of-day variable weekday and weekend toll schedules.

[2] Annual auto and truck customer one-way toll trips on the I-5 Interstate Bridge (tolls are charged in both travel directions).

[3] Converts trucks to their passenger car equivalent (PCE) traffic volumes based upon the toll multiples paid; medium trucks are counted as two cars (2x) and large trucks as four cars (4x).

[4] Gross toll revenue potential from registered account customers before any adjustments for uncollectible revenue, fees, and credits.

[5] Gross toll revenue potential from unregistered customers identified for a toll bill by mail from their license plate, before adjustments for uncollectible revenue/fees. The revenue from unregistered (non-account) customers assumes an additional toll increment of $2.00 per trip regardless of vehicle type to offset higher collection costs / leakage via payment by mail.

[6] Revenue not recognized can result from unreadable vehicle license plate images or the inability to identify the vehicle owner's name and address from a readable license plate image, resulting in unbillable revenue. License plate images are used identify unregistered customers as well as registered customers if their transponder pass is not correctly read or missing.

[7] Recognized but unpaid toll revenue after 80 days (two toll billing cycles) from date of travel.

[8] Late payment rebilling fee per invoice assessed to unregistered pay-by-mail customers who don't pay their first invoice within 30 days.

[9] Credit card fees estimated at 2.75% of applicable gross toll revenues collected via bank card; no additional factor currently assumed for any fees related to account balance refunds.

[10] Includes transponder purchase and inventory costs for distribution of sticker tag transponders by ODOT to registered account customers. Tags are assumed to be free-of-charge.

[11] System-wide components of toll collection costs are allocated on the basis of transactions across all assumed operational toll facilities.

[12] Includes annual facility operations and maintenance (O&M) costs that would be routinely incurred for the bridge and approaches, plus a contigency for unforeseen expenses.

[13] Includes periodic RTS/CSC/BOS vendor re-procurement costs, system testing and acceptance, as well as periodic RTS equipment repair and replacement (R&R) costs.

[14] Includes periodic bridge and approach facilities major maintenance, repair and replacement (R&R) costs .

Key Assumptions

- Toll traffic and gross toll revenue potential projections supporting financial planning for Scenario B prepared by Stantec, dated 12/2/2022
- Overnight hours from 11 PM to 5 AM are assumed to be toll-free during pre-completion tolling of the existing bridge through FY 2033.
- The traffic and revenue forecasts include ramp-up reduction factors of 95% (-5%) in FY 2026 and 97% (-3%) in FY 2027 to allow time for some users to become accustomed to tolling, determine their best travel options and/or obtain a registered account.
- Tolls are assumed to escalate annually by 2.15% as a conservative assumption for general price inflation, which maintains constant real tolls.
- System-wide toll collection costs are allocated to each toll facility within the ODOT system, which for Scenario B is assumed to include the I-205 Toll Project commencing before IBR tolling in FY 2026.

Table A-3. Toll Traffic, Gross and Net Revenue Projections – Scenario C | Base Tolls | No Escalation

I-5 Interstate Bridge Replacement (IBR) Program | Taffic and Net Toll Revenue Projections | Scenario C
Annual Toll Trips, Gross Toll Revenue Potential, and Net Toll Revenues | FY 2026-67

Prepared 4/20/2023

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	Registered Account Trips			Unregistered LPT Toll Bill by Mail Trips				Toll Revenue Potential			Less:	Less:		Plus:		Less:	Less:	Less:	Less:	Less:	Less:	Less:		Uses of Net Toll Revenue	
Fiscal Year	Weighted Average Toll per PCE Trip[1]	Annual Toll Trips (millions)[2]	PCE Toll Trips (millions)[3]	Weighted Average Toll per PCE Trip[1]	Annual Toll Trips (millions)[2]	PCE Toll Trips (millions)[3]	**Total Toll Trips (millions)**	Registered Account Customers ($ millions)[4]	Unregistered Pay-by-Mail Customers ($ millions)[5]	**Total Gross Toll Revenue Potential ($ millions)**	Revenue Not Recognized ($ millions)[6]	Unpaid Toll Revenue ($ millions)[7]	**Subtotal: Adjusted Gross Toll Revenue Collected ($ millions)**	Pay-by-Mail Second Invoice Rebilling Fees ($ millions)[8]	**Subtotal: Adjusted Gross Toll Revenue & Fees ($ millions)**	Credit Card Fees ($ millions)[9]	Transponder Purchase and Inventory Costs ($ millions)[10]	State and Consultant Operations Costs ($ millions)[11]	Roadway Toll Systems (RTS) O&M Costs ($ millions)	CSC Back Office System (BOS) Vendor O&M Costs ($ millions)[11]	CSC Operations Vendor O&M Costs ($ millions)[11]	Routine Facility O&M Costs ($ millions)[12]	**Total Net Toll Revenue ($ millions)**	Periodic Toll Equipment R&R and Vendor Reprocurement Costs ($ millions)[13]	Periodic Facility R&R Costs ($ millions)[14]
2026	$2.86	3.38	4.00	$4.35	2.31	2.83	**5.69**	11.43	12.30	**23.73**	(1.64)	(2.85)	**19.23**	0.68	**20.91**	(0.50)	(1.00)	(1.73)	(2.02)	(0.11)	(1.87)	(0.86)	**12.83**	-	-
2027	$2.89	14.80	17.57	$4.37	9.67	11.76	**24.47**	50.85	51.41	**102.25**	(5.07)	(12.39)	**84.79**	2.95	**87.99**	(2.22)	(0.25)	(6.17)	(2.07)	(0.30)	(6.29)	(1.17)	**69.53**	-	-
2028	$2.90	16.37	19.45	$4.38	10.23	12.38	**26.60**	56.35	54.22	**110.57**	(5.37)	(13.13)	**92.08**	3.13	**95.49**	(2.41)	(0.28)	(6.59)	(2.12)	(0.31)	(6.82)	(1.20)	**75.76**	-	-
2029	$2.90	17.48	20.80	$4.39	10.49	12.63	**27.97**	60.27	55.45	**115.72**	(5.51)	(13.45)	**96.76**	3.22	**100.30**	(2.53)	(0.31)	(6.94)	(2.17)	(0.32)	(7.22)	(1.23)	**79.57**	-	-
2030	$2.90	18.59	22.13	$4.40	10.75	12.89	**29.35**	64.20	56.68	**120.88**	(5.65)	(13.78)	**101.44**	3.31	**105.10**	(2.65)	(0.34)	(7.30)	(2.22)	(0.34)	(7.72)	(1.26)	**83.26**	-	-
2031	$2.90	19.71	23.48	$4.41	11.01	13.14	**30.72**	68.12	57.91	**126.03**	(5.80)	(14.11)	**106.13**	3.40	**109.90**	(2.77)	(0.37)	(7.66)	(2.28)	(0.36)	(8.21)	(1.29)	**86.96**	-	-
2032	$2.90	20.82	24.82	$4.41	11.28	13.40	**32.09**	72.05	59.14	**131.19**	(5.94)	(14.44)	**110.81**	3.49	**114.71**	(2.89)	(0.40)	(8.04)	(2.34)	(0.37)	(8.68)	(1.32)	**90.66**	-	-
2033	$2.90	21.44	25.59	$4.41	11.27	13.44	**32.71**	74.31	59.26	**133.56**	(5.97)	(14.46)	**113.13**	3.50	**117.06**	(2.95)	(0.43)	(8.27)	(2.40)	(0.38)	(9.01)	(1.36)	**92.27**	-	-
2034	$2.86	24.68	29.33	$4.37	12.38	14.75	**37.05**	83.98	64.52	**148.50**	(6.52)	(15.87)	**126.12**	3.86	**130.48**	(3.29)	(0.50)	(9.24)	(2.46)	(0.42)	(10.31)	(1.39)	**102.88**	(13.27)	-
2035	$2.86	25.37	30.18	$4.37	12.37	14.79	**37.74**	86.44	64.62	**151.06**	(6.55)	(15.83)	**128.68**	3.87	**133.08**	(3.35)	(0.53)	(9.50)	(2.52)	(0.43)	(10.74)	(1.43)	**104.59**	(18.81)	-
2036	$2.86	26.07	31.03	$4.37	12.37	14.82	**38.44**	88.90	64.72	**153.62**	(6.58)	(15.88)	**131.16**	3.88	**135.60**	(3.42)	(0.56)	(9.76)	(2.58)	(0.44)	(11.17)	(1.46)	**106.20**	(5.30)	-
2037	$2.87	26.76	31.89	$4.36	12.37	14.85	**39.13**	91.36	64.81	**156.17**	(6.61)	(15.93)	**133.63**	3.89	**138.11**	(3.48)	(0.59)	(10.04)	(2.64)	(0.45)	(11.63)	(1.50)	**107.78**	-	(3.55)
2038	$2.87	27.46	32.74	$4.36	12.36	14.89	**39.82**	93.82	64.91	**158.73**	(6.63)	(15.99)	**136.11**	3.90	**140.63**	(3.54)	(0.62)	(10.32)	(2.71)	(0.47)	(12.12)	(1.54)	**109.31**	-	-
2039	$2.87	28.15	33.59	$4.36	12.36	14.92	**40.51**	96.28	65.01	**161.29**	(6.66)	(16.04)	**138.59**	3.91	**143.15**	(3.61)	(0.66)	(10.61)	(2.78)	(0.48)	(12.58)	(1.57)	**110.88**	-	-
2040	$2.87	28.85	34.45	$4.35	12.35	14.96	**41.20**	98.74	65.11	**163.84**	(6.69)	(16.09)	**141.07**	3.91	**145.67**	(3.67)	(0.69)	(10.90)	(2.85)	(0.49)	(13.14)	(1.61)	**112.32**	-	-
2041	$2.87	29.54	35.30	$4.35	12.35	14.99	**41.89**	101.19	65.21	**166.40**	(6.72)	(16.14)	**143.54**	3.92	**148.19**	(3.73)	(0.72)	(11.20)	(2.92)	(0.51)	(13.65)	(1.65)	**113.80**	-	-
2042	$2.87	30.24	36.15	$4.35	12.35	15.02	**42.58**	103.65	65.30	**168.96**	(6.75)	(16.19)	**146.02**	3.93	**150.71**	(3.79)	(0.76)	(11.51)	(2.99)	(0.52)	(14.11)	(1.70)	**115.33**	-	(4.02)
2043	$2.87	30.93	37.01	$4.34	12.34	15.06	**43.28**	106.11	65.40	**171.51**	(6.77)	(16.24)	**148.50**	3.94	**153.24**	(3.86)	(0.80)	(11.83)	(3.07)	(0.54)	(14.63)	(1.74)	**116.79**	-	-
2044	$2.87	31.63	37.86	$4.34	12.34	15.09	**43.97**	108.57	65.50	**174.07**	(6.80)	(16.29)	**150.98**	3.95	**155.76**	(3.92)	(0.84)	(12.16)	(3.14)	(0.55)	(15.33)	(1.78)	**118.05**	(17.52)	-
2045	$2.87	32.33	38.71	$4.34	12.33	15.12	**44.66**	111.03	65.60	**176.63**	(6.83)	(16.34)	**153.45**	3.96	**158.29**	(3.98)	(0.88)	(12.49)	(3.22)	(0.57)	(15.94)	(1.83)	**119.38**	(31.63)	-
2046	$2.87	33.02	39.57	$4.33	12.33	15.16	**45.35**	113.49	65.70	**179.18**	(6.86)	(16.39)	**155.93**	3.97	**160.82**	(4.05)	(0.92)	(12.85)	(3.30)	(0.58)	(16.65)	(1.87)	**120.59**	(13.97)	-
2047	$2.87	33.43	40.05	$4.33	12.28	15.12	**45.71**	114.77	65.41	**180.18**	(6.84)	(16.36)	**156.98**	3.96	**161.90**	(4.07)	(0.96)	(13.16)	(3.38)	(0.60)	(17.24)	(1.92)	**120.57**	-	(4.55)
2048	$2.87	33.81	40.49	$4.33	12.26	15.11	**46.08**	116.05	65.37	**181.42**	(6.85)	(16.36)	**158.21**	3.96	**163.17**	(4.10)	(0.99)	(13.50)	(3.47)	(0.61)	(17.79)	(1.97)	**120.74**	-	-
2049	$2.87	34.17	40.91	$4.32	12.28	15.14	**46.45**	117.25	65.47	**182.72**	(6.87)	(16.40)	**159.46**	3.97	**164.45**	(4.13)	(1.03)	(13.86)	(3.56)	(0.63)	(18.54)	(2.02)	**120.69**	-	-
2050	$2.87	34.51	41.31	$4.33	12.31	15.18	**46.82**	118.40	65.67	**184.06**	(6.89)	(16.46)	**160.71**	3.98	**165.76**	(4.17)	(1.07)	(14.25)	(3.65)	(0.65)	(19.13)	(2.07)	**120.79**	-	-
2051	$2.87	34.83	41.70	$4.32	12.36	15.25	**47.19**	119.50	65.95	**185.45**	(6.93)	(16.53)	**161.99**	4.00	**167.09**	(4.20)	(1.10)	(14.65)	(3.74)	(0.66)	(19.83)	(2.12)	**120.78**	-	-
2052	$2.87	35.04	41.94	$4.32	12.38	15.29	**47.43**	120.22	66.09	**186.31**	(6.95)	(16.58)	**162.79**	4.01	**167.93**	(4.22)	(1.14)	(15.04)	(3.83)	(0.68)	(20.43)	(2.17)	**120.42**	-	(41.57)
2053	$2.87	35.25	42.19	$4.32	12.42	15.33	**47.67**	120.91	66.29	**187.19**	(6.97)	(16.63)	**163.59**	4.02	**168.79**	(4.24)	(1.17)	(15.45)	(3.93)	(0.70)	(21.12)	(2.22)	**119.96**	-	-
2054	$2.87	35.45	42.42	$4.32	12.46	15.38	**47.90**	121.58	66.51	**188.09**	(7.00)	(16.69)	**164.40**	4.04	**169.65**	(4.26)	(1.21)	(15.87)	(4.02)	(0.71)	(21.76)	(2.28)	**119.54**	(22.69)	-
2055	$2.87	35.64	42.65	$4.32	12.51	15.45	**48.14**	122.24	66.76	**189.00**	(7.02)	(16.76)	**165.22**	4.05	**170.52**	(4.28)	(1.25)	(16.30)	(4.12)	(0.73)	(22.49)	(2.34)	**119.01**	(31.71)	-
2056	$2.87	35.83	42.88	$4.32	12.56	15.51	**48.38**	122.88	67.04	**189.92**	(7.05)	(16.83)	**166.04**	4.07	**171.40**	(4.30)	(1.28)	(16.76)	(4.23)	(0.75)	(23.28)	(2.40)	**118.40**	(8.68)	-
2057	$2.87	35.91	42.97	$4.32	12.57	15.53	**48.48**	123.16	67.13	**190.29**	(7.06)	(16.85)	**166.37**	4.08	**171.77**	(4.31)	(1.32)	(17.18)	(4.33)	(0.77)	(23.95)	(2.46)	**117.46**	-	(5.82)
2058	$2.87	35.99	43.06	$4.32	12.59	15.55	**48.58**	123.43	67.23	**190.66**	(7.07)	(16.88)	**166.70**	4.08	**172.14**	(4.32)	(1.35)	(17.61)	(4.44)	(0.78)	(24.72)	(2.52)	**116.40**	-	-
2059	$2.87	36.07	43.16	$4.32	12.61	15.58	**48.67**	123.69	67.34	**191.03**	(7.09)	(16.90)	**167.04**	4.09	**172.52**	(4.33)	(1.39)	(18.06)	(4.55)	(0.80)	(25.51)	(2.58)	**115.30**	-	-
2060	$2.87	36.14	43.25	$4.32	12.63	15.61	**48.77**	123.95	67.45	**191.40**	(7.10)	(16.93)	**167.37**	4.10	**172.90**	(4.34)	(1.43)	(18.52)	(4.67)	(0.82)	(26.24)	(2.64)	**114.24**	-	-
2061	$2.87	36.22	43.34	$4.32	12.65	15.63	**48.87**	124.21	67.57	**191.78**	(7.11)	(16.96)	**167.70**	4.10	**173.28**	(4.35)	(1.47)	(18.99)	(4.78)	(0.84)	(26.99)	(2.71)	**113.15**	-	-
2062	$2.87	36.29	43.43	$4.32	12.68	15.66	**48.97**	124.46	67.70	**192.16**	(7.13)	(17.00)	**168.04**	4.11	**173.66**	(4.36)	(1.51)	(19.47)	(4.90)	(0.86)	(27.86)	(2.78)	**111.92**	-	(6.59)
2063	$2.87	36.37	43.52	$4.32	12.70	15.69	**49.07**	124.72	67.83	**192.54**	(7.14)	(17.03)	**168.37**	4.12	**174.04**	(4.36)	(1.55)	(19.97)	(5.02)	(0.88)	(28.75)	(2.85)	**110.66**	-	-
2064	$2.87	36.44	43.61	$4.32	12.73	15.72	**49.16**	124.97	67.95	**192.92**	(7.15)	(17.06)	**168.71**	4.13	**174.43**	(4.37)	(1.59)	(20.48)	(5.15)	(0.90)	(29.57)	(2.92)	**109.44**	(28.52)	-
2065	$2.87	36.51	43.69	$4.32	12.75	15.75	**49.26**	125.22	68.09	**193.31**	(7.17)	(17.09)	**169.05**	4.14	**174.82**	(4.38)	(1.63)	(21.01)	(5.28)	(0.92)	(30.74)	(2.99)	**107.87**	(22.33)	-
2066	$2.87	36.59	43.78	$4.32	12.77	15.78	**49.36**	125.48	68.22	**193.70**	(7.18)	(17.13)	**169.39**	4.14	**175.21**	(4.39)	(1.68)	(21.54)	(5.41)	(0.94)	(31.73)	(3.07)	**106.45**	(22.89)	-
2067	$2.87	36.66	43.87	$4.32	12.80	15.81	**49.46**	125.73	68.35	**194.08**	(7.19)	(17.16)	**169.72**	4.15	**175.60**	(4.40)	(1.72)	(22.10)	(5.55)	(0.96)	(32.74)	(3.14)	**104.99**	-	(7.45)
Totals FY 2026-33	132.59	157.84		77.00	92.46	**209.59**	457.57	406.36	**863.93**	(40.94)	(98.61)	**724.38**	23.69	**751.46**	(18.93)	(3.39)	(52.69)	(17.61)	(2.49)	(55.82)	(9.69)	**590.85**	-	-
Totals FY 2034-67	1,122.16	1,342.01		423.87	519.48	**1,546.03**	3,846.35	2,251.81	**6,098.16**	(234.72)	(561.80)	**5,301.64**	136.21	**5,474.77**	(137.58)	(36.92)	(506.18)	(129.19)	(22.62)	(682.41)	(73.22)	**3,886.66**	(237.30)	(73.56)
Totals FY 2026-67	1,254.75	1,499.85		500.88	611.93	**1,755.63**	4,303.92	2,658.18	**6,962.09**	(275.67)	(660.41)	**6,026.02**	159.90	**6,226.23**	(156.50)	(40.3)	(558.9)	(146.79)	(25.10)	(738.23)	(82.9)	**4,477.51**	(237.3)	(73.6)

Footnotes

[1] Reflects the average revenue per passenger car equivalent (PCE) traffic volumes based on the time-of-day variable weekday and weekend toll schedules.

[2] Annual auto and truck customer one-way toll trips on the I-5 Interstate Bridge (tolls are charged in both travel directions).

[3] Converts trucks to their passenger car equivalent (PCE) traffic volumes based upon the toll multiples paid; medium trucks are counted as two cars (2x) and large trucks as four cars (4x).

[4] Gross toll revenue potential from registered account customers before any adjustments for uncollectible revenue, fees, and credits.

[5] Gross toll revenue potential from unregistered customers identified for a toll bill by mail from their license plate, before adjustments for uncollectible revenue/fees. The revenue from unregistered (non-account) customers assumes an additional toll increment of $2.00 per trip regardless of vehicle type to offset higher collection costs / leakage via payment by mail.

[6] Revenue not recognized can result from unreadable vehicle license plate images or the inability to identify the vehicle owner's name and address from a readable license plate image, resulting in unbillable revenue. License plate images are used identify unregistered customers as well as registered customers if their transponder pass is not correctly read or missing.

[7] Recognized but unpaid toll revenue after 80 days (two toll billing cycles) from date of travel.

[8] Late payment rebilling fee per invoice assessed to unregistered pay-by-mail customers who don't pay their first invoice within 30 days.

[9] Credit card fees estimated at 2.75% of applicable gross toll revenues collected via bank card; no additional factor currently assumed for any fees related to account balance refunds.

[10] Includes transponder purchase and inventory costs for distribution of sticker tag transponders by ODOT to registered account customers. Tags are assumed to be free-of-charge.

[11] System-wide components of toll collection costs are allocated on the basis of transactions across all assumed operational toll facilities.

[12] Includes annual facility operations and maintenance (O&M) costs that would be routinely incurred for the bridge and approaches, plus a contigency for unforeseen expenses.

[13] Includes periodic RTS/CSC/BOS vendor re-procurement costs, system testing and acceptance, as well as periodic RTS equipment repair and replacement (R&R) costs.

[14] Includes periodic bridge and approach facilities major maintenance, repair and replacement (R&R) costs .

Key Assumptions

- Toll traffic and gross toll revenue potential projections supporting financial planning for Scenario C prepared by Stantec, dated 2/16/2023.
- Overnight hours from 11 PM to 5 AM are assumed to be toll-free during pre-completion tolling of the existing bridge through FY 2033.
- The traffic and revenue forecasts include ramp-up reduction factors of 95% (-5%) in FY 2026 and 97% (-3%) in FY 2027 to allow time for some users to become accustomed to tolling, determine their best travel options and/or obtain a registered account.
- Tolls are assumed with no escalation.
- System-wide toll collection costs are allocated to each toll facility within the ODOT system, which for Scenario C is assumed to include the I-205 Toll Project commencing before IBR tolling in FY 2026.

Table A-4. Toll Traffic, Gross and Net Revenue Projections – Scenario D | Base Tolls | Escalation | RMPP

I-5 Interstate Bridge Replacement (IBR) Program | Taffic and Net Toll Revenue Projections | Scenario D
Annual Toll Trips, Gross Toll Revenue Potential, and Net Toll Revenues | FY 2026-67

Prepared 7/7/2023

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	Registered Account Trips			Unregistered LPT Toll Bill by Mail Trips				Toll Revenue Potential			Less:	Less:		Plus:		Less:	Less:	Less:	Less:	Less:	Less:	Less:		Uses of Net Toll Revenue	
Fiscal Year	Weighted Average Toll per PCE Trip[1]	Annual Toll Trips (millions)[2]	PCE Toll Trips (millions)[3]	Weighted Average Toll per PCE Trip[1]	Annual Toll Trips (millions)[2]	PCE Toll Trips (millions)[3]	**Total Toll Trips (millions)**	Registered Account Customers ($ millions)[4]	Unregistered Pay-by-Mail Customers ($ millions)[5]	**Total Gross Toll Revenue Potential ($ millions)**	Revenue Not Recognized ($ millions)[6]	Unpaid Toll Revenue ($ millions)[7]	**Subtotal: Adjusted Gross Toll Revenue Collected ($ millions)**	Pay-by-Mail Second Invoice Rebilling Fees ($ millions)[8]	**Subtotal: Adjusted Gross Toll Revenue & Fees ($ millions)**	Credit Card Fees ($ millions)[9]	Transponder Purchase and Inventory Costs ($ millions)[10]	State and Consultant Operations Costs ($ millions)[11]	Roadway Toll Systems (RTS) O&M Costs ($ millions)	CSC Back Office System (BOS) Vendor O&M Costs ($ millions)[11]	CSC Operations Vendor O&M Costs ($ millions)[11]	Routine Facility O&M Costs ($ millions)[12]	**Total Net Toll Revenue ($ millions)**	Periodic Toll Equipment R&R and Vendor Reprocurement Costs ($ millions)[13]	Periodic Facility R&R Costs ($ millions)[14]
2026	$2.86	3.38	4.00	$4.35	2.31	2.83	**5.69**	11.43	12.30	**23.73**	(1.64)	(2.85)	**19.23**	0.68	**20.91**	(0.50)	(1.00)	(1.73)	(2.02)	(0.11)	(1.87)	(0.86)	**12.83**	-	-
2027	$2.96	14.75	17.51	$4.43	9.63	11.71	**24.38**	51.75	51.93	**103.68**	(5.12)	(12.44)	**86.12**	2.94	**89.31**	(2.25)	(0.25)	(6.15)	(2.07)	(0.30)	(6.27)	(1.17)	**70.85**	-	-
2028	$3.04	14.74	17.80	$4.49	9.27	11.40	**24.01**	54.04	51.15	**105.19**	(5.07)	(12.23)	**87.89**	2.84	**90.98**	(2.30)	(0.26)	(5.59)	(2.12)	(0.46)	(3.84)	(1.20)	**75.23**	-	-
2029	$3.11	15.65	18.93	$4.56	9.45	11.57	**25.10**	58.93	52.76	**111.69**	(5.26)	(12.72)	**93.71**	2.90	**96.90**	(2.44)	(0.28)	(5.87)	(2.17)	(0.49)	(4.13)	(1.23)	**80.28**	-	-
2030	$3.18	16.56	20.06	$4.64	9.62	11.73	**26.18**	63.82	54.38	**118.19**	(5.45)	(13.15)	**99.60**	2.96	**102.87**	(2.59)	(0.30)	(6.16)	(2.22)	(0.52)	(4.45)	(1.26)	**85.35**	-	-
2031	$3.24	17.48	21.19	$4.71	9.79	11.89	**27.27**	68.70	55.99	**124.69**	(5.63)	(13.58)	**105.48**	3.03	**108.84**	(2.75)	(0.33)	(6.46)	(2.28)	(0.55)	(4.77)	(1.29)	**90.41**	-	-
2032	$3.30	18.39	22.32	$4.78	9.97	12.05	**28.36**	73.59	57.61	**131.19**	(5.82)	(14.01)	**111.37**	3.09	**114.81**	(2.90)	(0.36)	(6.77)	(2.34)	(0.57)	(5.08)	(1.32)	**95.47**	-	-
2033	$3.35	18.88	22.94	$4.84	9.95	12.06	**28.83**	76.90	58.40	**135.30**	(5.92)	(14.19)	**115.19**	3.09	**118.65**	(2.99)	(0.38)	(6.96)	(2.40)	(0.59)	(5.31)	(1.36)	**98.67**	-	-
2034	$3.46	21.96	26.50	$4.90	11.07	13.38	**33.03**	91.70	65.57	**157.27**	(6.69)	(16.05)	**134.53**	3.45	**138.43**	(3.49)	(0.45)	(7.96)	(2.46)	(0.68)	(6.20)	(1.39)	**115.81**	(4.42)	-
2035	$3.56	22.52	27.21	$4.98	11.05	13.39	**33.57**	96.84	66.62	**163.46**	(6.83)	(16.27)	**140.36**	3.45	**144.28**	(3.64)	(0.47)	(8.17)	(2.52)	(0.70)	(6.46)	(1.43)	**120.90**	(9.73)	-
2036	$3.65	23.08	27.91	$5.06	11.02	13.39	**34.10**	101.97	67.68	**169.65**	(6.97)	(16.57)	**146.11**	3.45	**150.06**	(3.78)	(0.50)	(8.40)	(2.58)	(0.72)	(6.74)	(1.46)	**125.87**	(5.30)	-
2037	$3.74	23.64	28.61	$5.13	10.99	13.39	**34.63**	107.10	68.74	**175.84**	(7.11)	(16.88)	**151.85**	3.45	**155.83**	(3.93)	(0.52)	(8.62)	(2.64)	(0.75)	(7.02)	(1.50)	**130.85**	-	(3.55)
2038	$3.83	24.21	29.31	$5.21	10.96	13.40	**35.17**	112.23	69.80	**182.02**	(7.25)	(17.18)	**157.60**	3.45	**161.60**	(4.07)	(0.55)	(8.86)	(2.71)	(0.77)	(7.34)	(1.54)	**135.76**	-	-
2039	$3.91	24.77	30.02	$5.29	10.93	13.40	**35.70**	117.36	70.85	**188.21**	(7.38)	(17.48)	**163.35**	3.45	**167.38**	(4.22)	(0.58)	(9.10)	(2.78)	(0.79)	(7.62)	(1.57)	**140.72**	-	-
2040	$3.99	25.33	30.72	$5.37	10.91	13.40	**36.24**	122.49	71.91	**194.40**	(7.52)	(17.78)	**169.10**	3.45	**173.16**	(4.37)	(0.61)	(9.34)	(2.85)	(0.82)	(7.96)	(1.61)	**145.61**	-	-
2041	$4.06	25.89	31.42	$5.44	10.88	13.41	**36.77**	127.62	72.97	**200.59**	(7.66)	(18.08)	**174.85**	3.45	**178.94**	(4.51)	(0.64)	(9.59)	(2.92)	(0.84)	(8.32)	(1.65)	**150.46**	-	-
2042	$4.13	26.45	32.13	$5.52	10.85	13.41	**37.31**	132.75	74.03	**206.78**	(7.80)	(18.39)	**180.59**	3.45	**184.72**	(4.66)	(0.67)	(9.85)	(2.99)	(0.87)	(8.70)	(1.70)	**155.29**	-	(4.02)
2043	$4.20	27.02	32.83	$5.60	10.82	13.41	**37.84**	137.88	75.09	**212.97**	(7.93)	(18.69)	**186.34**	3.45	**190.50**	(4.80)	(0.70)	(10.11)	(3.07)	(0.89)	(9.02)	(1.74)	**160.16**	-	-
2044	$4.26	27.58	33.53	$5.68	10.79	13.41	**38.37**	143.01	76.14	**219.16**	(8.07)	(18.99)	**192.09**	3.45	**196.28**	(4.95)	(0.73)	(10.38)	(3.14)	(0.92)	(9.43)	(1.78)	**164.94**	(5.98)	-
2045	$4.33	28.14	34.24	$5.75	10.77	13.42	**38.91**	148.14	77.20	**225.34**	(8.21)	(19.30)	**197.84**	3.45	**202.06**	(5.09)	(0.77)	(10.66)	(3.22)	(0.95)	(9.84)	(1.83)	**169.71**	(19.78)	-
2046	$4.39	28.70	34.94	$5.83	10.74	13.42	**39.44**	153.27	78.26	**231.53**	(8.34)	(19.60)	**203.59**	3.45	**207.85**	(5.24)	(0.80)	(10.96)	(3.30)	(0.98)	(10.26)	(1.87)	**174.44**	(13.97)	-
2047	$4.48	28.98	35.26	$5.92	10.66	13.34	**39.64**	157.99	78.95	**236.94**	(8.44)	(19.80)	**208.69**	3.44	**212.96**	(5.37)	(0.83)	(11.19)	(3.38)	(1.00)	(10.60)	(1.92)	**178.67**	-	(4.55)
2048	$4.58	29.22	35.55	$6.02	10.61	13.29	**39.83**	162.78	79.97	**242.75**	(8.57)	(20.08)	**214.09**	3.43	**218.38**	(5.50)	(0.86)	(11.45)	(3.47)	(1.03)	(10.97)	(1.97)	**183.13**	-	-
2049	$4.68	29.45	35.82	$6.12	10.59	13.27	**40.03**	167.54	81.15	**248.69**	(8.72)	(20.41)	**219.56**	3.42	**223.87**	(5.64)	(0.89)	(11.73)	(3.56)	(1.05)	(11.33)	(2.02)	**187.66**	-	-
2050	$4.78	29.65	36.06	$6.21	10.58	13.27	**40.23**	172.27	82.48	**254.74**	(8.88)	(20.77)	**225.10**	3.42	**229.44**	(5.78)	(0.92)	(12.03)	(3.65)	(1.08)	(11.72)	(2.07)	**192.20**	-	-
2051	$4.88	29.84	36.29	$6.31	10.59	13.29	**40.44**	176.99	83.91	**260.90**	(9.05)	(21.15)	**230.70**	3.43	**235.08**	(5.92)	(0.95)	(12.35)	(3.74)	(1.11)	(12.12)	(2.12)	**196.78**	-	-
2052	$4.98	30.03	36.51	$6.42	10.61	13.32	**40.64**	181.96	85.51	**267.48**	(9.24)	(21.56)	**236.68**	3.44	**241.09**	(6.07)	(0.98)	(12.68)	(3.83)	(1.14)	(12.57)	(2.17)	**201.66**	-	(41.57)
2053	$5.09	30.20	36.72	$6.53	10.64	13.36	**40.84**	186.96	87.19	**274.15**	(9.43)	(22.01)	**242.71**	3.45	**247.16**	(6.23)	(1.01)	(13.02)	(3.93)	(1.17)	(13.00)	(2.22)	**206.59**	-	-
2054	$5.20	30.37	36.92	$6.64	10.67	13.40	**41.05**	191.99	88.94	**280.93**	(9.63)	(22.47)	**248.83**	3.46	**253.33**	(6.38)	(1.04)	(13.38)	(4.02)	(1.20)	(13.43)	(2.28)	**211.60**	(7.78)	-
2055	$5.31	30.54	37.13	$6.74	10.71	13.45	**41.25**	197.07	90.74	**287.81**	(9.84)	(22.94)	**255.03**	3.47	**259.58**	(6.54)	(1.07)	(13.75)	(4.12)	(1.23)	(13.87)	(2.34)	**216.66**	(16.45)	-
2056	$5.42	30.70	37.32	$6.86	10.76	13.51	**41.46**	202.45	92.68	**295.12**	(10.06)	(23.43)	**261.64**	3.49	**266.23**	(6.71)	(1.10)	(14.14)	(4.23)	(1.26)	(14.34)	(2.40)	**222.06**	(8.68)	-
2057	$5.54	30.77	37.41	$6.98	10.77	13.53	**41.54**	207.27	94.38	**301.66**	(10.25)	(23.88)	**267.53**	3.49	**272.15**	(6.86)	(1.13)	(14.49)	(4.33)	(1.29)	(14.82)	(2.46)	**226.77**	-	(5.82)
2058	$5.66	30.84	37.49	$7.10	10.78	13.55	**41.62**	212.14	96.12	**308.26**	(10.45)	(24.33)	**273.48**	3.50	**278.14**	(7.01)	(1.16)	(14.86)	(4.44)	(1.32)	(15.27)	(2.52)	**231.57**	-	-
2059	$5.78	30.90	37.57	$7.22	10.80	13.57	**41.71**	217.29	97.97	**315.26**	(10.66)	(24.80)	**279.80**	3.50	**284.50**	(7.17)	(1.20)	(15.24)	(4.55)	(1.35)	(15.76)	(2.58)	**236.66**	-	-
2060	$5.91	30.97	37.65	$7.35	10.82	13.59	**41.79**	222.47	99.85	**322.32**	(10.87)	(25.29)	**286.15**	3.51	**290.89**	(7.33)	(1.23)	(15.62)	(4.67)	(1.38)	(16.23)	(2.64)	**241.79**	-	-
2061	$6.04	31.03	37.72	$7.47	10.84	13.62	**41.87**	227.70	101.75	**329.44**	(11.09)	(25.79)	**292.57**	3.52	**297.34**	(7.49)	(1.26)	(16.02)	(4.78)	(1.41)	(16.72)	(2.71)	**246.95**	-	-
2062	$6.16	31.10	37.80	$7.60	10.86	13.64	**41.96**	232.96	103.67	**336.62**	(11.31)	(26.29)	**299.02**	3.52	**303.84**	(7.65)	(1.30)	(16.43)	(4.90)	(1.44)	(17.26)	(2.78)	**252.08**	-	(6.59)
2063	$6.30	31.16	37.88	$7.73	10.88	13.67	**42.04**	238.51	105.69	**344.21**	(11.54)	(26.81)	**305.86**	3.53	**310.72**	(7.83)	(1.33)	(16.85)	(5.02)	(1.47)	(17.78)	(2.85)	**257.58**	-	-
2064	$6.43	31.23	37.96	$7.87	10.90	13.70	**42.13**	244.14	107.75	**351.89**	(11.77)	(27.34)	**312.77**	3.54	**317.68**	(8.00)	(1.37)	(17.29)	(5.15)	(1.51)	(18.31)	(2.92)	**263.13**	(9.81)	-
2065	$6.57	31.29	38.04	$8.00	10.92	13.72	**42.21**	249.79	109.83	**359.62**	(12.01)	(27.88)	**319.73**	3.54	**324.68**	(8.18)	(1.40)	(17.73)	(5.28)	(1.54)	(19.02)	(2.99)	**268.53**	(22.33)	-
2066	$6.71	31.35	38.11	$8.15	10.94	13.75	**42.29**	255.75	112.01	**367.76**	(12.26)	(28.44)	**327.07**	3.55	**332.06**	(8.36)	(1.44)	(18.19)	(5.41)	(1.58)	(19.63)	(3.07)	**274.38**	(22.89)	-
2067	$6.86	31.42	38.19	$8.29	10.96	13.77	**42.38**	261.78	114.22	**376.00**	(12.51)	(29.01)	**334.48**	3.56	**339.52**	(8.55)	(1.48)	(18.65)	(5.55)	(1.61)	(20.19)	(3.14)	**280.34**	-	(7.45)
Totals FY 2026-33	119.82	144.76		69.99	85.23	**189.81**	459.16	394.51	**853.67**	(39.92)	(95.16)	**718.59**	21.52	**743.27**	(18.72)	(3.16)	(45.68)	(17.61)	(3.59)	(35.73)	(9.69)	**609.09**	-	-
Totals FY 2034-67	970.33	1,178.73		367.68	457.83	**1,338.01**	5,960.14	2,929.60	**8,889.74**	(314.34)	(735.73)	**7,839.68**	118.10	**7,989.73**	(201.33)	(31.95)	(429.08)	(129.19)	(37.83)	(419.84)	(73.22)	**6,667.30**	(147.11)	(73.56)
Totals FY 2026-67	1,090.15	1,323.49		437.66	543.05	**1,527.82**	6,419.29	3,324.11	**9,743.41**	(354.25)	(830.89)	**8,558.27**	139.63	**8,733.00**	(220.06)	(35.1)	(474.8)	(146.79)	(41.42)	(455.57)	(82.9)	**7,276.39**	(147.1)	(73.6)

Footnotes

[1] Reflects the average revenue per passenger car equivalent (PCE) traffic volumes based on the time-of-day variable weekday and weekend toll schedules.

[2] Annual auto and truck customer one-way toll trips on the I-5 Interstate Bridge (tolls are charged in both travel directions).

[3] Converts trucks to their passenger car equivalent (PCE) traffic volumes based upon the toll multiples paid; medium trucks are counted as two cars (2x) and large trucks as four cars (4x).

[4] Gross toll revenue potential from registered account customers before any adjustments for uncollectible revenue, fees, and credits.

[5] Gross toll revenue potential from unregistered customers identified for a toll bill by mail from their license plate, before adjustments for uncollectible revenue/fees. The revenue from unregistered (non-account) customers assumes an additional toll increment of $2.00 per trip regardless of vehicle type to offset higher collection costs / leakage via payment by mail.

[6] Revenue not recognized can result from unreadable vehicle license plate images or the inability to identify the vehicle owner's name and address from a readable license plate image, resulting in unbillable revenue. License plate images are used identify unregistered customers as well as registered customers if their transponder pass is not correctly read or missing.

[7] Recognized but unpaid toll revenue after 80 days (two toll billing cycles) from date of travel.

[8] Late payment rebilling fee per invoice assessed to unregistered pay-by-mail customers who don't pay their first invoice within 30 days.

[9] Credit card fees estimated at 2.75% of applicable gross toll revenues collected via bank card; no additional factor currently assumed for any fees related to account balance refunds.

[10] Includes transponder purchase and inventory costs for distribution of sticker tag transponders by ODOT to registered account customers. Tags are assumed to be free-of-charge.

[11] System-wide components of toll collection costs are allocated on the basis of transactions across all assumed operational toll facilities.

[12] Includes annual facility operations and maintenance (O&M) costs that would be routinely incurred for the bridge and approaches, plus a contigency for unforeseen expenses.

[13] Includes periodic RTS/CSC/BOS vendor re-procurement costs, system testing and acceptance, as well as periodic RTS equipment repair and replacement (R&R) costs.

[14] Includes periodic bridge and approach facilities major maintenance, repair and replacement (R&R) costs .

Key Assumptions

- Toll traffic and gross toll revenue potential projections supporting financial planning for Scenario D prepared by Stantec, 6/8/2023.
- Overnight hours from 11 PM to 5 AM are assumed to be toll-free during pre-completion tolling of the existing bridge through FY 2033.
- The traffic and revenue forecasts include ramp-up reduction factors of 95% (-5%) in FY 2026 and 97% (-3%) in FY 2027 to allow time for some users to become accustomed to tolling, determine their best travel options and/or obtain a registered account.
- Tolls are assumed to escalate annually by 2.15% as a conservative assumption for general price inflation, which maintains constant real tolls.
- System-wide toll collection costs are allocated to each toll facility within the ODOT system, which for Scenario D is assumed to include the I-205 Toll Project commencing before IBR tolling in FY 2026 and the Regional Mobility Pricing Project (RMPP) starting in FY 2028.

Table A-5. Toll Traffic, Gross and Net Revenue Projections – Scenario E | Lower Tolls | Escalation | RMPP

I-5 Interstate Bridge Replacement (IBR) Program | Taffic and Net Toll Revenue Projections | Scenario E
Annual Toll Trips, Gross Toll Revenue Potential, and Net Toll Revenues | FY 2026-67

Prepared 7/7/2023

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	Registered Account Trips			Unregistered LPT Toll Bill by Mail Trips				Toll Revenue Potential			Less:	Less:		Plus:		Less:	Less:	Less:	Less:	Less:	Less:	Less:		Uses of Net Toll Revenue	
Fiscal Year	Weighted Average Toll per PCE Trip[1]	Annual Toll Trips (millions)[2]	PCE Toll Trips (millions)[3]	Weighted Average Toll per PCE Trip[1]	Annual Toll Trips (millions)[2]	PCE Toll Trips (millions)[3]	**Total Toll Trips (millions)**	Registered Account Customers ($ millions)[4]	Unregistered Pay-by-Mail Customers ($ millions)[5]	**Total Gross Toll Revenue Potential ($ millions)**	Revenue Not Recognized ($ millions)[6]	Unpaid Toll Revenue ($ millions)[7]	**Subtotal: Adjusted Gross Toll Revenue Collected ($ millions)**	Pay-by-Mail Second Invoice Rebilling Fees ($ millions)[8]	**Subtotal: Adjusted Gross Toll Revenue & Fees ($ millions)**	Credit Card Fees ($ millions)[9]	Transponder Purchase and Inventory Costs ($ millions)[10]	State and Consultant Operations Costs ($ millions)[11]	Roadway Toll Systems (RTS) O&M Costs ($ millions)	CSC Back Office System (BOS) Vendor O&M Costs ($ millions)[11]	CSC Operations Vendor O&M Costs ($ millions)[11]	Routine Facility O&M Costs ($ millions)[12]	**Total Net Toll Revenue ($ millions)**	Periodic Toll Equipment R&R and Vendor Reprocurement Costs ($ millions)[13]	Periodic Facility R&R Costs ($ millions)[14]
2026	$2.38	3.58	4.23	$3.87	2.47	3.00	**6.05**	10.04	11.60	**21.64**	(1.54)	(2.68)	**17.42**	0.72	**19.15**	(0.46)	(1.00)	(1.83)	(2.02)	(0.11)	(1.98)	(0.86)	**10.90**	-	-
2027	$2.46	15.63	18.47	$3.94	10.26	12.42	**25.89**	45.43	48.91	**94.34**	(4.79)	(11.68)	**77.87**	3.13	**81.25**	(2.05)	(0.25)	(6.48)	(2.07)	(0.31)	(6.56)	(1.17)	**62.36**	-	-
2028	$2.52	15.83	18.98	$3.98	10.03	12.24	**25.86**	47.90	48.70	**96.60**	(4.79)	(11.63)	**80.17**	3.07	**83.50**	(2.11)	(0.26)	(6.01)	(2.12)	(0.49)	(4.14)	(1.20)	**67.18**	-	-
2029	$2.59	16.79	20.16	$4.04	10.20	12.40	**26.99**	52.19	50.16	**102.35**	(4.96)	(12.05)	**85.34**	3.13	**88.75**	(2.24)	(0.28)	(6.31)	(2.17)	(0.52)	(4.47)	(1.23)	**71.54**	-	-
2030	$2.65	17.75	21.34	$4.11	10.38	12.56	**28.12**	56.49	51.62	**108.10**	(5.13)	(12.43)	**90.54**	3.20	**94.04**	(2.37)	(0.31)	(6.61)	(2.22)	(0.55)	(4.76)	(1.26)	**75.96**	-	-
2031	$2.70	18.70	22.52	$4.17	10.55	12.72	**29.26**	60.78	53.08	**113.86**	(5.30)	(12.82)	**95.74**	3.26	**99.33**	(2.50)	(0.33)	(6.92)	(2.28)	(0.58)	(5.08)	(1.29)	**80.34**	-	-
2032	$2.75	19.66	23.70	$4.24	10.73	12.88	**30.39**	65.07	54.54	**119.61**	(5.46)	(13.21)	**100.94**	3.32	**104.62**	(2.64)	(0.36)	(7.25)	(2.34)	(0.61)	(5.43)	(1.32)	**84.68**	-	-
2033	$2.79	20.15	24.33	$4.29	10.68	12.86	**30.83**	67.93	55.15	**123.09**	(5.54)	(13.35)	**104.19**	3.32	**107.88**	(2.72)	(0.38)	(7.43)	(2.40)	(0.63)	(5.66)	(1.36)	**87.31**	-	-
2034	$2.85	23.39	28.07	$4.31	11.84	14.23	**35.23**	80.11	61.36	**141.47**	(6.20)	(14.99)	**120.28**	3.69	**124.42**	(3.14)	(0.45)	(8.47)	(2.46)	(0.72)	(6.57)	(1.39)	**101.22**	(4.66)	-
2035	$2.94	23.95	28.77	$4.37	11.79	14.21	**35.74**	84.44	62.17	**146.61**	(6.31)	(15.12)	**125.17**	3.68	**129.33**	(3.26)	(0.48)	(8.69)	(2.52)	(0.74)	(6.85)	(1.43)	**105.38**	(9.97)	-
2036	$3.01	24.50	29.47	$4.44	11.74	14.20	**36.25**	88.77	62.98	**151.75**	(6.42)	(15.36)	**129.96**	3.68	**134.14**	(3.38)	(0.50)	(8.91)	(2.58)	(0.76)	(7.13)	(1.46)	**109.43**	(5.30)	-
2037	$3.09	25.06	30.17	$4.50	11.69	14.18	**36.75**	93.10	63.79	**156.89**	(6.53)	(15.60)	**134.76**	3.67	**138.96**	(3.50)	(0.52)	(9.13)	(2.64)	(0.78)	(7.45)	(1.50)	**113.42**	-	(3.55)
2038	$3.16	25.62	30.87	$4.56	11.65	14.16	**37.26**	97.43	64.60	**162.03**	(6.64)	(15.83)	**139.55**	3.67	**143.77**	(3.62)	(0.55)	(9.37)	(2.71)	(0.81)	(7.72)	(1.54)	**117.45**	-	-
2039	$3.22	26.17	31.57	$4.62	11.60	14.15	**37.77**	101.76	65.41	**167.17**	(6.75)	(16.07)	**144.35**	3.66	**148.59**	(3.74)	(0.58)	(9.61)	(2.78)	(0.83)	(8.06)	(1.57)	**121.42**	-	-
2040	$3.29	26.73	32.27	$4.69	11.55	14.13	**38.28**	106.09	66.22	**172.31**	(6.86)	(16.31)	**149.14**	3.66	**153.40**	(3.87)	(0.61)	(9.85)	(2.85)	(0.85)	(8.40)	(1.61)	**125.36**	-	-
2041	$3.35	27.28	32.97	$4.75	11.50	14.11	**38.79**	110.42	67.03	**177.45**	(6.97)	(16.54)	**153.94**	3.65	**158.22**	(3.99)	(0.63)	(10.10)	(2.92)	(0.88)	(8.79)	(1.65)	**129.26**	-	-
2042	$3.41	27.84	33.68	$4.81	11.46	14.10	**39.30**	114.74	67.84	**182.59**	(7.08)	(16.78)	**158.73**	3.65	**163.04**	(4.11)	(0.66)	(10.36)	(2.99)	(0.91)	(9.10)	(1.70)	**133.22**	-	(4.02)
2043	$3.46	28.40	34.38	$4.88	11.41	14.08	**39.80**	119.07	68.66	**187.73**	(7.19)	(17.01)	**163.53**	3.64	**167.86**	(4.23)	(0.69)	(10.62)	(3.07)	(0.93)	(9.51)	(1.74)	**137.07**	-	-
2044	$3.52	28.95	35.08	$4.94	11.36	14.06	**40.31**	123.40	69.47	**192.87**	(7.29)	(17.25)	**168.32**	3.63	**172.68**	(4.35)	(0.73)	(10.89)	(3.14)	(0.96)	(9.89)	(1.78)	**140.95**	(6.23)	-
2045	$3.57	29.51	35.78	$5.00	11.31	14.05	**40.82**	127.73	70.28	**198.01**	(7.40)	(17.49)	**173.12**	3.63	**177.51**	(4.47)	(0.76)	(11.16)	(3.22)	(0.99)	(10.30)	(1.83)	**144.78**	(20.03)	-
2046	$3.62	30.06	36.48	$5.07	11.26	14.03	**41.33**	132.06	71.09	**203.15**	(7.51)	(17.72)	**177.91**	3.62	**182.33**	(4.59)	(0.79)	(11.45)	(3.30)	(1.02)	(10.69)	(1.87)	**148.61**	(13.97)	-
2047	$3.69	30.36	36.82	$5.13	11.18	13.94	**41.53**	136.03	71.56	**207.59**	(7.59)	(17.88)	**182.12**	3.60	**186.55**	(4.70)	(0.82)	(11.70)	(3.38)	(1.04)	(11.08)	(1.92)	**151.90**	-	(4.55)
2048	$3.77	30.62	37.13	$5.21	11.12	13.89	**41.74**	140.14	72.39	**212.53**	(7.69)	(18.10)	**186.73**	3.59	**191.17**	(4.82)	(0.85)	(11.97)	(3.47)	(1.07)	(11.47)	(1.97)	**155.56**	-	-
2049	$3.85	30.85	37.41	$5.29	11.10	13.86	**41.95**	144.19	73.37	**217.56**	(7.82)	(18.38)	**191.36**	3.59	**195.83**	(4.93)	(0.88)	(12.26)	(3.56)	(1.10)	(11.84)	(2.02)	**159.24**	-	-
2050	$3.94	31.07	37.66	$5.37	11.09	13.86	**42.16**	148.23	74.48	**222.71**	(7.95)	(18.68)	**196.08**	3.59	**200.57**	(5.05)	(0.91)	(12.57)	(3.65)	(1.12)	(12.29)	(2.07)	**162.92**	-	-
2051	$4.02	31.27	37.90	$5.45	11.10	13.88	**42.37**	152.27	75.69	**227.96**	(8.09)	(19.00)	**200.86**	3.59	**205.39**	(5.17)	(0.94)	(12.90)	(3.74)	(1.15)	(12.72)	(2.12)	**166.65**	-	-
2052	$4.11	31.47	38.13	$5.54	11.12	13.91	**42.58**	156.56	77.08	**233.64**	(8.26)	(19.36)	**206.02**	3.60	**210.59**	(5.30)	(0.97)	(13.25)	(3.83)	(1.18)	(13.14)	(2.17)	**170.75**	-	(41.57)
2053	$4.19	31.65	38.35	$5.63	11.15	13.95	**42.80**	160.88	78.53	**239.41**	(8.42)	(19.74)	**211.24**	3.61	**215.85**	(5.44)	(1.00)	(13.61)	(3.93)	(1.21)	(13.54)	(2.22)	**174.91**	-	-
2054	$4.28	31.83	38.57	$5.72	11.18	14.00	**43.01**	165.22	80.04	**245.26**	(8.60)	(20.14)	**216.53**	3.63	**221.18**	(5.57)	(1.03)	(13.98)	(4.02)	(1.24)	(14.01)	(2.28)	**179.04**	(8.09)	-
2055	$4.37	32.00	38.77	$5.81	11.22	14.05	**43.22**	169.61	81.61	**251.22**	(8.77)	(20.55)	**221.90**	3.64	**226.60**	(5.71)	(1.06)	(14.37)	(4.12)	(1.28)	(14.52)	(2.34)	**183.20**	(16.77)	-
2056	$4.47	32.17	38.99	$5.91	11.27	14.11	**43.44**	174.30	83.31	**257.61**	(8.97)	(20.98)	**227.66**	3.65	**232.41**	(5.85)	(1.09)	(14.77)	(4.23)	(1.31)	(15.01)	(2.40)	**187.75**	(8.68)	-
2057	$4.57	32.25	39.07	$6.00	11.28	14.13	**43.53**	178.52	84.80	**263.32**	(9.14)	(21.37)	**232.81**	3.66	**237.59**	(5.98)	(1.12)	(15.14)	(4.33)	(1.34)	(15.50)	(2.46)	**191.72**	-	(5.82)
2058	$4.67	32.32	39.16	$6.10	11.30	14.15	**43.62**	182.76	86.31	**269.08**	(9.31)	(21.76)	**238.00**	3.66	**242.82**	(6.11)	(1.15)	(15.53)	(4.44)	(1.37)	(15.96)	(2.52)	**195.73**	-	-
2059	$4.77	32.39	39.24	$6.20	11.32	14.17	**43.70**	187.03	87.85	**274.88**	(9.49)	(22.17)	**243.23**	3.67	**248.08**	(6.25)	(1.18)	(15.92)	(4.55)	(1.40)	(16.44)	(2.58)	**199.76**	-	-
2060	$4.87	32.46	39.32	$6.30	11.33	14.19	**43.79**	191.32	89.41	**280.73**	(9.66)	(22.57)	**248.49**	3.68	**253.39**	(6.38)	(1.22)	(16.33)	(4.67)	(1.43)	(16.97)	(2.64)	**203.75**	-	-
2061	$4.97	32.52	39.40	$6.40	11.35	14.22	**43.88**	195.90	91.08	**286.98**	(9.85)	(23.00)	**254.13**	3.68	**259.06**	(6.52)	(1.25)	(16.75)	(4.78)	(1.47)	(17.48)	(2.71)	**208.11**	-	-
2062	$5.08	32.59	39.49	$6.51	11.37	14.25	**43.96**	200.53	92.77	**293.30**	(10.05)	(23.44)	**259.82**	3.69	**264.79**	(6.67)	(1.28)	(17.17)	(4.90)	(1.50)	(18.01)	(2.78)	**212.48**	-	(6.59)
2063	$5.19	32.66	39.57	$6.62	11.40	14.27	**44.05**	205.19	94.47	**299.67**	(10.24)	(23.88)	**265.55**	3.70	**270.56**	(6.81)	(1.32)	(17.61)	(5.02)	(1.53)	(18.71)	(2.85)	**216.71**	-	-
2064	$5.29	32.72	39.65	$6.73	11.42	14.30	**44.14**	209.90	96.20	**306.10**	(10.44)	(24.33)	**271.33**	3.70	**276.39**	(6.96)	(1.35)	(18.06)	(5.15)	(1.57)	(19.27)	(2.92)	**221.11**	(10.21)	-
2065	$5.41	32.79	39.73	$6.84	11.44	14.33	**44.23**	214.90	98.04	**312.94**	(10.64)	(24.80)	**277.50**	3.71	**282.60**	(7.11)	(1.39)	(18.53)	(5.28)	(1.60)	(19.82)	(2.99)	**225.87**	(22.33)	-
2066	$5.53	32.86	39.81	$6.96	11.46	14.36	**44.32**	219.95	99.89	**319.85**	(10.85)	(25.28)	**283.71**	3.72	**288.86**	(7.27)	(1.43)	(19.00)	(5.41)	(1.64)	(20.49)	(3.07)	**230.55**	(22.89)	-
2067	$5.64	32.92	39.89	$7.08	11.48	14.38	**44.41**	225.04	101.77	**326.81**	(11.07)	(25.77)	**289.97**	3.73	**295.17**	(7.43)	(1.47)	(19.49)	(5.55)	(1.68)	(21.14)	(3.14)	**235.27**	-	(7.45)
Totals FY 2026-33	128.09	153.73		75.30	91.07	**203.39**	405.83	373.75	**779.59**	(37.52)	(89.85)	**652.22**	23.15	**678.54**	(17.09)	(3.18)	(48.84)	(17.61)	(3.81)	(38.08)	(9.69)	**540.26**	-	-
Totals FY 2034-67	1,019.23	1,233.60		386.82	479.86	**1,406.05**	5,137.60	2,651.52	**7,789.12**	(282.07)	(663.25)	**6,843.81**	124.23	**6,999.70**	(176.29)	(31.67)	(449.51)	(129.19)	(39.41)	(439.86)	(73.22)	**5,660.56**	(149.12)	(73.56)
Totals FY 2026-67	1,147.32	1,387.32		462.12	570.94	**1,609.44**	5,543.43	3,025.27	**8,568.71**	(319.59)	(753.10)	**7,496.02**	147.37	**7,678.24**	(193.38)	(34.8)	(498.3)	(146.79)	(43.22)	(477.94)	(82.9)	**6,200.82**	(149.1)	(73.6)

Footnotes

[1] Reflects the average revenue per passenger car equivalent (PCE) traffic volumes based on the time-of-day variable weekday and weekend toll schedules.

[2] Annual auto and truck customer one-way toll trips on the I-5 Interstate Bridge (tolls are charged in both travel directions).

[3] Converts trucks to their passenger car equivalent (PCE) traffic volumes based upon the toll multiples paid; medium trucks are counted as two cars (2x) and large trucks as four cars (4x).

[4] Gross toll revenue potential from registered account customers before any adjustments for uncollectible revenue, fees, and credits.

[5] Gross toll revenue potential from unregistered customers identified for a toll bill by mail from their license plate, before adjustments for uncollectible revenue/fees. The revenue from unregistered (non-account) customers assumes an additional toll increment of $2.00 per trip regardless of vehicle type to offset higher collection costs / leakage via payment by mail.

[6] Revenue not recognized can result from unreadable vehicle license plate images or the inability to identify the vehicle owner's name and address from a readable license plate image, resulting in unbillable revenue. License plate images are used identify unregistered customers as well as registered customers if their transponder pass is not correctly read or missing.

[7] Recognized but unpaid toll revenue after 80 days (two toll billing cycles) from date of travel.

[8] Late payment rebilling fee per invoice assessed to unregistered pay-by-mail customers who don't pay their first invoice within 30 days.

[9] Credit card fees estimated at 2.75% of applicable gross toll revenues collected via bank card; no additional factor currently assumed for any fees related to account balance refunds.

[10] Includes transponder purchase and inventory costs for distribution of sticker tag transponders by ODOT to registered account customers. Tags are assumed to be free-of-charge.

[11] System-wide components of toll collection costs are allocated on the basis of transactions across all assumed operational toll facilities.

[12] Includes annual facility operations and maintenance (O&M) costs that would be routinely incurred for the bridge and approaches, plus a contigency for unforeseen expenses.

[13] Includes periodic RTS/CSC/BOS vendor re-procurement costs, system testing and acceptance, as well as periodic RTS equipment repair and replacement (R&R) costs.

[14] Includes periodic bridge and approach facilities major maintenance, repair and replacement (R&R) costs .

Key Assumptions

- Toll traffic and gross toll revenue potential projections supporting financial planning for Scenario E prepared by Stantec, dated 6/8/2023.
- Overnight hours from 11 PM to 5 AM are assumed to be toll-free during pre-completion tolling of the existing bridge through FY 2033.
- The traffic and revenue forecasts include ramp-up reduction factors of 95% (-5%) in FY 2026 and 97% (-3%) in FY 2027 to allow time for some users to become accustomed to tolling, determine their best travel options and/or obtain a registered account.
- Tolls are assumed to escalate annually by 2.15% as a conservative assumption for general price inflation, which maintains constant real tolls.
- System-wide toll collection costs are allocated to each toll facility within the ODOT system, which for Scenario E is assumed to include the I-205 Toll Project commencing before IBR tolling in FY 2026 and the Regional Mobility Pricing Project (RMPP) starting in FY 2028.

Table A-6. Toll Traffic, Gross and Net Revenue Projections – Scenario F | Base Tolls | Escalation | Higher Low-Income Discount

I-5 Interstate Bridge Replacement (IBR) Program | Taffic and Net Toll Revenue Projections | Scenario F
Annual Toll Trips, Gross Toll Revenue Potential, and Net Toll Revenues | FY 2026-67

Prepared 5/22/2023

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	Registered Account Trips			Unregistered LPT Toll Bill by Mail Trips				Toll Revenue Potential			Less:	Less:		Plus:		Less:	Less:	Less:	Less:	Less:	Less:	Less:		Uses of Net Toll Revenue	
Fiscal Year	Weighted Average Toll per PCE Trip[1]	Annual Toll Trips (millions)[2]	PCE Toll Trips (millions)[3]	Weighted Average Toll per PCE Trip[1]	Annual Toll Trips (millions)[2]	PCE Toll Trips (millions)[3]	**Total Toll Trips (millions)**	Registered Account Customers ($ millions)[4]	Unregistered Pay-by-Mail Customers ($ millions)[5]	**Total Gross Toll Revenue Potential ($ millions)**	Revenue Not Recognized ($ millions)[6]	Unpaid Toll Revenue ($ millions)[7]	**Subtotal: Adjusted Gross Toll Revenue Collected ($ millions)**	Pay-by-Mail Second Invoice Rebilling Fees ($ millions)[8]	**Subtotal: Adjusted Gross Toll Revenue & Fees ($ millions)**	Credit Card Fees ($ millions)[9]	Transponder Purchase and Inventory Costs ($ millions)[10]	State and Consultant Operations Costs ($ millions)[11]	Roadway Toll Systems (RTS) O&M Costs ($ millions)	CSC Back Office System (BOS) Vendor O&M Costs ($ millions)[11]	CSC Operations Vendor O&M Costs ($ millions)[11]	Routine Facility O&M Costs ($ millions)[12]	**Total Net Toll Revenue ($ millions)**	Periodic Toll Equipment R&R and Vendor Reprocurement Costs ($ millions)[13]	Periodic Facility R&R Costs ($ millions)[14]
2026	$2.77	3.40	4.03	$4.35	2.31	2.83	**5.71**	11.14	12.30	**23.44**	(1.64)	(2.85)	**18.96**	0.68	**20.63**	(0.50)	(1.00)	(1.73)	(2.02)	(0.11)	(1.88)	(0.86)	**12.55**	-	-
2027	$2.87	14.86	17.61	$4.43	9.63	11.71	**24.49**	50.48	51.93	**102.41**	(5.11)	(12.42)	**84.88**	2.94	**88.07**	(2.22)	(0.25)	(6.16)	(2.07)	(0.30)	(6.29)	(1.17)	**69.62**	-	-
2028	$2.95	16.31	19.37	$4.51	10.12	12.25	**26.42**	57.16	55.29	**112.45**	(5.47)	(13.27)	**93.71**	3.10	**97.10**	(2.45)	(0.28)	(6.54)	(2.12)	(0.31)	(6.79)	(1.20)	**77.41**	-	-
2029	$3.03	17.30	20.58	$4.59	10.31	12.43	**27.61**	62.28	57.04	**119.33**	(5.67)	(13.73)	**99.92**	3.17	**103.40**	(2.61)	(0.31)	(6.84)	(2.17)	(0.32)	(7.16)	(1.23)	**82.75**	-	-
2030	$3.09	18.29	21.79	$4.66	10.50	12.61	**28.79**	67.40	58.80	**126.20**	(5.87)	(14.20)	**106.13**	3.24	**109.70**	(2.77)	(0.33)	(7.16)	(2.22)	(0.34)	(7.61)	(1.26)	**88.01**	-	-
2031	$3.15	19.28	23.00	$4.74	10.69	12.78	**29.97**	72.52	60.56	**133.08**	(6.07)	(14.66)	**112.34**	3.30	**116.01**	(2.93)	(0.36)	(7.48)	(2.28)	(0.35)	(8.02)	(1.29)	**93.30**	-	-
2032	$3.21	20.27	24.21	$4.81	10.88	12.96	**31.15**	77.64	62.31	**139.95**	(6.27)	(15.13)	**118.55**	3.37	**122.31**	(3.08)	(0.39)	(7.81)	(2.34)	(0.36)	(8.50)	(1.32)	**98.50**	-	-
2033	$3.26	20.76	24.82	$4.87	10.83	12.94	**31.58**	80.96	63.00	**143.96**	(6.36)	(15.29)	**122.31**	3.36	**126.09**	(3.18)	(0.41)	(8.00)	(2.40)	(0.37)	(8.80)	(1.36)	**101.57**	-	-
2034	$3.37	23.74	28.28	$4.92	11.84	14.15	**35.58**	95.24	69.66	**164.90**	(7.09)	(17.01)	**140.81**	3.70	**144.99**	(3.66)	(0.48)	(8.91)	(2.46)	(0.41)	(10.00)	(1.39)	**117.69**	(12.97)	-
2035	$3.46	24.28	28.96	$5.00	11.79	14.13	**36.06**	100.28	70.61	**170.89**	(7.21)	(17.22)	**146.46**	3.69	**150.65**	(3.80)	(0.51)	(9.12)	(2.52)	(0.42)	(10.40)	(1.43)	**122.47**	(18.48)	-
2036	$3.55	24.82	29.64	$5.08	11.73	14.10	**36.54**	105.32	71.56	**176.88**	(7.34)	(17.49)	**152.04**	3.68	**156.25**	(3.94)	(0.53)	(9.34)	(2.58)	(0.43)	(10.75)	(1.46)	**127.22**	(5.30)	-
2037	$3.64	25.35	30.31	$5.15	11.67	14.07	**37.02**	110.36	72.51	**182.87**	(7.47)	(17.77)	**157.63**	3.67	**161.86**	(4.08)	(0.56)	(9.56)	(2.64)	(0.44)	(11.17)	(1.50)	**131.90**	-	(3.55)
2038	$3.72	25.89	30.99	$5.23	11.62	14.05	**37.50**	115.40	73.46	**188.85**	(7.60)	(18.05)	**163.21**	3.66	**167.46**	(4.22)	(0.59)	(9.79)	(2.71)	(0.45)	(11.56)	(1.54)	**136.59**	-	-
2039	$3.80	26.42	31.67	$5.31	11.56	14.02	**37.98**	120.44	74.40	**194.84**	(7.72)	(18.32)	**168.80**	3.65	**173.06**	(4.36)	(0.61)	(10.03)	(2.78)	(0.46)	(12.01)	(1.57)	**141.23**	-	-
2040	$3.88	26.96	32.35	$5.38	11.50	14.00	**38.46**	125.48	75.35	**200.83**	(7.85)	(18.60)	**174.38**	3.65	**178.67**	(4.50)	(0.64)	(10.27)	(2.85)	(0.48)	(12.39)	(1.61)	**145.93**	-	-
2041	$3.95	27.50	33.03	$5.46	11.45	13.97	**38.94**	130.52	76.30	**206.82**	(7.98)	(18.87)	**179.97**	3.64	**184.28**	(4.65)	(0.67)	(10.52)	(2.92)	(0.49)	(12.89)	(1.65)	**150.49**	-	-
2042	$4.02	28.03	33.70	$5.54	11.39	13.95	**39.42**	135.56	77.25	**212.80**	(8.10)	(19.15)	**185.55**	3.63	**189.88**	(4.79)	(0.70)	(10.77)	(2.99)	(0.50)	(13.39)	(1.70)	**155.05**	-	(4.02)
2043	$4.09	28.57	34.38	$5.62	11.33	13.92	**39.90**	140.60	78.20	**218.79**	(8.23)	(19.43)	**191.14**	3.62	**195.49**	(4.93)	(0.74)	(11.02)	(3.07)	(0.51)	(13.90)	(1.74)	**159.59**	-	-
2044	$4.15	29.10	35.06	$5.70	11.28	13.90	**40.38**	145.63	79.15	**224.78**	(8.36)	(19.70)	**196.72**	3.61	**201.10**	(5.07)	(0.77)	(11.29)	(3.14)	(0.53)	(14.38)	(1.78)	**164.15**	(16.73)	-
2045	$4.22	29.64	35.74	$5.77	11.22	13.87	**40.86**	150.67	80.09	**230.77**	(8.48)	(19.98)	**202.31**	3.60	**206.71**	(5.21)	(0.80)	(11.56)	(3.22)	(0.54)	(14.83)	(1.83)	**168.73**	(30.78)	-
2046	$4.28	30.18	36.42	$5.85	11.16	13.84	**41.34**	155.71	81.04	**236.76**	(8.61)	(20.25)	**207.90**	3.60	**212.33**	(5.35)	(0.84)	(11.84)	(3.30)	(0.55)	(15.41)	(1.87)	**173.16**	(13.97)	-
2047	$4.37	30.47	36.75	$5.94	11.08	13.75	**41.55**	160.54	81.74	**242.27**	(8.71)	(20.47)	**213.10**	3.58	**217.54**	(5.48)	(0.87)	(12.09)	(3.38)	(0.57)	(15.87)	(1.92)	**177.36**	-	(4.55)
2048	$4.46	30.73	37.06	$6.04	11.02	13.70	**41.75**	165.42	82.76	**248.17**	(8.84)	(20.75)	**218.59**	3.56	**223.05**	(5.62)	(0.90)	(12.37)	(3.47)	(0.58)	(16.47)	(1.97)	**181.68**	-	-
2049	$4.56	30.97	37.34	$6.14	11.00	13.68	**41.96**	170.24	83.96	**254.20**	(8.99)	(21.08)	**224.13**	3.56	**228.62**	(5.76)	(0.93)	(12.66)	(3.56)	(0.60)	(16.97)	(2.02)	**186.13**	-	-
2050	$4.66	31.18	37.59	$6.24	10.99	13.68	**42.17**	175.05	85.31	**260.36**	(9.15)	(21.45)	**229.76**	3.56	**234.28**	(5.90)	(0.96)	(12.98)	(3.65)	(0.61)	(17.66)	(2.07)	**190.46**	-	-
2051	$4.75	31.39	37.83	$6.34	11.00	13.70	**42.38**	179.84	86.77	**266.61**	(9.32)	(21.84)	**235.45**	3.57	**240.00**	(6.05)	(0.99)	(13.32)	(3.74)	(0.63)	(18.29)	(2.12)	**194.88**	-	-
2052	$4.86	31.58	38.06	$6.44	11.02	13.72	**42.60**	184.88	88.42	**273.30**	(9.52)	(22.26)	**241.52**	3.57	**246.12**	(6.20)	(1.02)	(13.67)	(3.83)	(0.64)	(18.84)	(2.17)	**199.74**	-	(41.57)
2053	$4.96	31.76	38.28	$6.55	11.04	13.76	**42.81**	189.95	90.14	**280.09**	(9.71)	(22.71)	**247.66**	3.58	**252.30**	(6.36)	(1.05)	(14.03)	(3.93)	(0.66)	(19.55)	(2.22)	**204.51**	-	-
2054	$5.07	31.94	38.50	$6.66	11.08	13.81	**43.02**	195.06	91.94	**286.99**	(9.92)	(23.19)	**253.89**	3.60	**258.57**	(6.51)	(1.08)	(14.41)	(4.02)	(0.67)	(20.14)	(2.28)	**209.44**	(21.41)	-
2055	$5.17	32.12	38.71	$6.77	11.12	13.86	**43.24**	200.20	93.79	**293.99**	(10.13)	(23.67)	**260.19**	3.61	**264.92**	(6.67)	(1.12)	(14.81)	(4.12)	(0.69)	(20.81)	(2.34)	**214.36**	(30.40)	-
2056	$5.29	32.29	38.91	$6.88	11.16	13.92	**43.45**	205.67	95.78	**301.45**	(10.36)	(24.18)	**266.92**	3.63	**271.70**	(6.84)	(1.15)	(15.21)	(4.23)	(0.71)	(21.48)	(2.40)	**219.68**	(8.68)	-
2057	$5.40	32.36	39.00	$7.00	11.18	13.94	**43.54**	210.55	97.54	**308.09**	(10.56)	(24.64)	**272.90**	3.63	**277.71**	(7.00)	(1.18)	(15.60)	(4.33)	(0.72)	(22.17)	(2.46)	**224.26**	-	(5.82)
2058	$5.51	32.44	39.09	$7.12	11.19	13.95	**43.63**	215.49	99.33	**314.82**	(10.76)	(25.10)	**278.96**	3.64	**283.81**	(7.15)	(1.22)	(15.99)	(4.44)	(0.74)	(22.95)	(2.52)	**228.81**	-	-
2059	$5.64	32.50	39.17	$7.24	11.21	13.98	**43.72**	220.72	101.23	**321.95**	(10.98)	(25.59)	**285.38**	3.64	**290.28**	(7.31)	(1.25)	(16.39)	(4.55)	(0.76)	(23.61)	(2.58)	**233.83**	-	-
2060	$5.76	32.57	39.25	$7.37	11.23	14.00	**43.80**	225.97	103.16	**329.13**	(11.20)	(26.09)	**291.85**	3.65	**296.78**	(7.48)	(1.28)	(16.81)	(4.67)	(0.77)	(24.28)	(2.64)	**238.85**	-	-
2061	$5.88	32.64	39.33	$7.50	11.25	14.03	**43.89**	231.27	105.12	**336.39**	(11.42)	(26.60)	**298.37**	3.66	**303.34**	(7.64)	(1.32)	(17.23)	(4.78)	(0.79)	(25.05)	(2.71)	**243.82**	-	-
2062	$6.00	32.71	39.41	$7.62	11.27	14.05	**43.98**	236.60	107.10	**343.69**	(11.64)	(27.11)	**304.94**	3.66	**309.95**	(7.81)	(1.35)	(17.67)	(4.90)	(0.81)	(25.77)	(2.78)	**248.86**	-	(6.59)
2063	$6.13	32.78	39.50	$7.75	11.29	14.08	**44.07**	242.22	109.19	**351.40**	(11.88)	(27.65)	**311.88**	3.67	**316.94**	(7.98)	(1.39)	(18.12)	(5.02)	(0.83)	(26.51)	(2.85)	**254.24**	-	-
2064	$6.27	32.84	39.57	$7.89	11.31	14.11	**44.15**	247.93	111.31	**359.23**	(12.12)	(28.19)	**318.92**	3.68	**324.03**	(8.16)	(1.43)	(18.58)	(5.15)	(0.85)	(27.35)	(2.92)	**259.58**	(26.89)	-
2065	$6.40	32.91	39.66	$8.03	11.33	14.13	**44.24**	253.65	113.44	**367.09**	(12.36)	(28.75)	**325.98**	3.68	**331.13**	(8.34)	(1.47)	(19.06)	(5.28)	(0.86)	(28.14)	(2.99)	**264.99**	(22.33)	-
2066	$6.54	32.98	39.73	$8.17	11.36	14.16	**44.33**	259.69	115.69	**375.38**	(12.61)	(29.32)	**333.45**	3.69	**338.65**	(8.53)	(1.51)	(19.54)	(5.41)	(0.88)	(29.13)	(3.07)	**270.57**	(22.89)	-
2067	$6.68	33.04	39.82	$8.31	11.38	14.19	**44.42**	265.81	117.97	**383.77**	(12.87)	(29.91)	**340.99**	3.70	**346.24**	(8.72)	(1.55)	(20.04)	(5.55)	(0.90)	(30.07)	(3.14)	**276.26**	-	(7.45)
Totals FY 2026-33	130.47	155.40		75.25	90.49		**205.72**	479.59	421.23	**900.82**	(42.47)	(101.55)	**756.80**	23.17	**783.31**	(19.73)	(3.34)	(51.72)	(17.61)	(2.46)	(55.05)	(9.69)	**623.71**	-	-
Totals FY 2034-67	1,024.66	1,233.07		384.03	474.17		**1,408.69**	6,067.92	3,041.25	**9,109.17**	(325.07)	(762.38)	**8,021.73**	123.52	**8,178.70**	(206.07)	(33.46)	(464.59)	(129.19)	(21.47)	(634.20)	(73.22)	**6,616.51**	(230.82)	(73.56)
Totals FY 2026-67	1,155.13	1,388.47		459.28	564.66		**1,614.41**	6,547.51	3,462.48	**10,009.99**	(367.54)	(863.92)	**8,778.53**	146.68	**8,962.01**	(225.81)	(36.8)	(516.3)	(146.79)	(23.93)	(689.25)	(82.9)	**7,240.21**	(230.8)	(73.6)

Footnotes

[1] Reflects the average revenue per passenger car equivalent (PCE) traffic volumes based on the time-of-day variable weekday and weekend toll schedules.

[2] Annual auto and truck customer one-way toll trips on the I-5 Interstate Bridge (tolls are charged in both travel directions).

[3] Converts trucks to their passenger car equivalent (PCE) traffic volumes based upon the toll multiples paid; medium trucks are counted as two cars (2x) and large trucks as four cars (4x).

[4] Gross toll revenue potential from registered account customers before any adjustments for uncollectible revenue, fees, and credits.

[5] Gross toll revenue potential from unregistered customers identified for a toll bill by mail from their license plate, before adjustments for uncollectible revenue/fees. The revenue from unregistered (non-account) customers assumes an additional toll increment of $2.00 per trip regardless of vehicle type to offset higher collection costs / leakage via payment by mail.

[6] Revenue not recognized can result from unreadable vehicle license plate images or the inability to identify the vehicle owner's name and address from a readable license plate image, resulting in unbillable revenue. License plate images are used identify unregistered customers as well as registered customers if their transponder pass is not correctly read or missing.

[7] Recognized but unpaid toll revenue after 80 days (two toll billing cycles) from date of travel.

[8] Late payment rebilling fee per invoice assessed to unregistered pay-by-mail customers who don't pay their first invoice within 30 days.

[9] Credit card fees estimated at 2.75% of applicable gross toll revenues collected via bank card; no additional factor currently assumed for any fees related to account balance refunds.

[10] Includes transponder purchase and inventory costs for distribution of sticker tag transponders by ODOT to registered account customers. Tags are assumed to be free-of-charge.

[11] System-wide components of toll collection costs are allocated on the basis of transactions across all assumed operational toll facilities.

[12] Includes annual facility operations and maintenance (O&M) costs that would be routinely incurred for the bridge and approaches, plus a contigency for unforeseen expenses.

[13] Includes periodic RTS/CSC/BOS vendor re-procurement costs, system testing and acceptance, as well as periodic RTS equipment repair and replacement (R&R) costs.

[14] Includes periodic bridge and approach facilities major maintenance, repair and replacement (R&R) costs .

Key Assumptions

- Toll traffic and gross toll revenue potential projections supporting financial planning for Scenario F prepared by Stantec, dated 5/9/2023.
- Overnight hours from 11 PM to 5 AM are assumed to be toll-free during pre-completion tolling of the existing bridge through FY 2033.
- The traffic and revenue forecasts include ramp-up reduction factors of 95% (-5%) in FY 2026 and 97% (-3%) in FY 2027 to allow time for some users to become accustomed to tolling, determine their best travel options and/or obtain a registered account.
- Tolls are assumed to escalate annually by 2.15% as a conservative assumption for general price inflation, which maintains constant real tolls.
- System-wide toll collection costs are allocated to each toll facility within the ODOT system, which for Scenario F is assumed to include the I-205 Toll Project commencing before IBR tolling in FY 2026.

Table A-7. Toll Traffic, Gross and Net Revenue Projections – Scenario G | Base Tolls | Escalation | Lower Low-Income Discount

I-5 Interstate Bridge Replacement (IBR) Program | Taffic and Net Toll Revenue Projections | Scenario G
Annual Toll Trips, Gross Toll Revenue Potential, and Net Toll Revenues | FY 2026-67

Prepared 5/22/2023

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	Registered Account Trips			Unregistered LPT Toll Bill by Mail Trips				Toll Revenue Potential			Less:	Less:		Plus:		Less:	Less:	Less:	Less:	Less:	Less:	Less:		Uses of Net Toll Revenue	
Fiscal Year	Weighted Average Toll per PCE Trip[1]	Annual Toll Trips (millions)[2]	PCE Toll Trips (millions)[3]	Weighted Average Toll per PCE Trip[1]	Annual Toll Trips (millions)[2]	PCE Toll Trips (millions)[3]	**Total Toll Trips (millions)**	Registered Account Customers ($ millions)[4]	Unregistered Pay-by-Mail Customers ($ millions)[5]	**Total Gross Toll Revenue Potential ($ millions)**	Revenue Not Recognized ($ millions)[6]	Unpaid Toll Revenue ($ millions)[7]	**Subtotal: Adjusted Gross Toll Revenue Collected ($ millions)**	Pay-by-Mail Second Invoice Rebilling Fees ($ millions)[8]	**Subtotal: Adjusted Gross Toll Revenue & Fees ($ millions)**	Credit Card Fees ($ millions)[9]	Transponder Purchase and Inventory Costs ($ millions)[10]	State and Consultant Operations Costs ($ millions)[11]	Roadway Toll Systems (RTS) O&M Costs ($ millions)	CSC Back Office System (BOS) Vendor O&M Costs ($ millions)[11]	CSC Operations Vendor O&M Costs ($ millions)[11]	Routine Facility O&M Costs ($ millions)[12]	**Total Net Toll Revenue ($ millions)**	Periodic Toll Equipment R&R and Vendor Reprocurement Costs ($ millions)[13]	Periodic Facility R&R Costs ($ millions)[14]
2026	$2.84	3.38	4.01	$4.35	2.31	2.83	**5.70**	11.36	12.30	**23.66**	(1.64)	(2.85)	**19.17**	0.68	**20.85**	(0.50)	(1.00)	(1.73)	(2.02)	(0.11)	(1.88)	(0.86)	**12.77**	-	-
2027	$2.93	14.78	17.54	$4.43	9.63	11.71	**24.41**	51.45	51.93	**103.38**	(5.12)	(12.43)	**85.83**	2.94	**89.02**	(2.25)	(0.25)	(6.15)	(2.07)	(0.30)	(6.28)	(1.17)	**70.56**	-	-
2028	$3.02	16.23	19.29	$4.51	10.12	12.25	**26.34**	58.25	55.29	**113.54**	(5.48)	(13.28)	**94.78**	3.10	**98.16**	(2.48)	(0.28)	(6.53)	(2.12)	(0.31)	(6.78)	(1.20)	**78.47**	-	-
2029	$3.10	17.21	20.49	$4.59	10.31	12.43	**27.52**	63.46	57.04	**120.50**	(5.68)	(13.75)	**101.07**	3.17	**104.55**	(2.64)	(0.31)	(6.84)	(2.17)	(0.32)	(7.12)	(1.23)	**83.92**	-	-
2030	$3.16	18.20	21.70	$4.66	10.50	12.61	**28.70**	68.67	58.80	**127.47**	(5.89)	(14.21)	**107.37**	3.24	**110.94**	(2.80)	(0.33)	(7.15)	(2.22)	(0.34)	(7.59)	(1.26)	**89.24**	-	-
2031	$3.22	19.19	22.91	$4.74	10.69	12.78	**29.88**	73.87	60.56	**134.43**	(6.09)	(14.68)	**113.66**	3.30	**117.33**	(2.96)	(0.36)	(7.47)	(2.28)	(0.35)	(8.01)	(1.29)	**94.60**	-	-
2032	$3.28	20.18	24.12	$4.81	10.88	12.96	**31.06**	79.08	62.31	**141.39**	(6.29)	(15.14)	**119.96**	3.37	**123.72**	(3.12)	(0.39)	(7.81)	(2.34)	(0.36)	(8.48)	(1.32)	**99.89**	-	-
2033	$3.33	20.66	24.73	$4.87	10.83	12.94	**31.49**	82.44	63.00	**145.44**	(6.38)	(15.31)	**123.76**	3.36	**127.53**	(3.22)	(0.41)	(7.99)	(2.40)	(0.37)	(8.78)	(1.36)	**103.00**	-	-
2034	$3.44	23.64	28.18	$4.92	11.84	14.15	**35.48**	97.00	69.66	**166.66**	(7.10)	(17.03)	**142.53**	3.69	**146.71**	(3.70)	(0.48)	(8.90)	(2.46)	(0.41)	(9.98)	(1.39)	**119.39**	(12.95)	-
2035	$3.54	24.17	28.85	$5.00	11.79	14.13	**35.96**	102.13	70.61	**172.74**	(7.23)	(17.24)	**148.27**	3.69	**152.46**	(3.84)	(0.51)	(9.11)	(2.52)	(0.42)	(10.38)	(1.43)	**124.26**	(18.45)	-
2036	$3.63	24.71	29.53	$5.08	11.73	14.10	**36.43**	107.26	71.56	**178.82**	(7.36)	(17.52)	**153.94**	3.68	**158.15**	(3.99)	(0.53)	(9.33)	(2.58)	(0.43)	(10.73)	(1.46)	**129.10**	(5.30)	-
2037	$3.72	25.24	30.20	$5.15	11.67	14.07	**36.91**	112.39	72.51	**184.90**	(7.49)	(17.79)	**159.62**	3.67	**163.85**	(4.13)	(0.56)	(9.56)	(2.64)	(0.44)	(11.15)	(1.50)	**133.86**	-	(3.55)
2038	$3.81	25.78	30.88	$5.23	11.62	14.05	**37.39**	117.52	73.46	**190.98**	(7.62)	(18.07)	**165.29**	3.66	**169.54**	(4.27)	(0.59)	(9.79)	(2.71)	(0.45)	(11.54)	(1.54)	**138.65**	-	-
2039	$3.89	26.31	31.56	$5.31	11.56	14.02	**37.87**	122.65	74.40	**197.06**	(7.75)	(18.35)	**170.96**	3.65	**175.23**	(4.42)	(0.61)	(10.02)	(2.78)	(0.46)	(11.99)	(1.57)	**143.37**	-	-
2040	$3.96	26.85	32.23	$5.38	11.50	14.00	**38.35**	127.78	75.35	**203.14**	(7.87)	(18.63)	**176.64**	3.64	**180.92**	(4.56)	(0.64)	(10.26)	(2.85)	(0.47)	(12.37)	(1.61)	**148.16**	-	-
2041	$4.04	27.38	32.91	$5.46	11.45	13.97	**38.83**	132.92	76.30	**209.22**	(8.00)	(18.90)	**182.31**	3.64	**186.62**	(4.70)	(0.67)	(10.51)	(2.92)	(0.49)	(12.87)	(1.65)	**152.81**	-	-
2042	$4.11	27.92	33.59	$5.54	11.39	13.95	**39.31**	138.05	77.25	**215.30**	(8.13)	(19.18)	**187.99**	3.63	**192.32**	(4.85)	(0.70)	(10.76)	(2.99)	(0.50)	(13.32)	(1.70)	**157.50**	-	(4.02)
2043	$4.18	28.45	34.27	$5.62	11.33	13.92	**39.78**	143.18	78.20	**221.37**	(8.26)	(19.46)	**193.66**	3.62	**198.02**	(4.99)	(0.74)	(11.01)	(3.07)	(0.51)	(13.88)	(1.74)	**162.08**	-	-
2044	$4.24	28.99	34.94	$5.70	11.28	13.90	**40.26**	148.31	79.15	**227.45**	(8.38)	(19.73)	**199.34**	3.61	**203.72**	(5.13)	(0.77)	(11.28)	(3.14)	(0.53)	(14.36)	(1.78)	**166.73**	(16.70)	-
2045	$4.31	29.52	35.62	$5.77	11.22	13.87	**40.74**	153.44	80.09	**233.53**	(8.51)	(20.01)	**205.01**	3.60	**209.42**	(5.28)	(0.80)	(11.54)	(3.22)	(0.54)	(14.80)	(1.83)	**171.40**	(30.75)	-
2046	$4.37	30.06	36.30	$5.85	11.16	13.84	**41.22**	158.57	81.04	**239.61**	(8.64)	(20.29)	**210.69**	3.59	**215.12**	(5.42)	(0.84)	(11.83)	(3.30)	(0.55)	(15.38)	(1.87)	**175.92**	(13.97)	-
2047	$4.46	30.35	36.63	$5.94	11.08	13.75	**41.43**	163.50	81.74	**245.23**	(8.74)	(20.50)	**215.99**	3.57	**220.44**	(5.56)	(0.87)	(12.08)	(3.38)	(0.57)	(15.85)	(1.92)	**180.22**	-	(4.55)
2048	$4.56	30.61	36.94	$6.04	11.02	13.70	**41.63**	168.46	82.76	**251.21**	(8.87)	(20.78)	**221.56**	3.56	**226.02**	(5.70)	(0.90)	(12.35)	(3.47)	(0.58)	(16.44)	(1.97)	**184.61**	-	-
2049	$4.66	30.85	37.22	$6.14	11.00	13.68	**41.84**	173.39	83.96	**257.35**	(9.02)	(21.12)	**227.21**	3.56	**231.70**	(5.84)	(0.93)	(12.65)	(3.56)	(0.60)	(16.94)	(2.02)	**189.17**	-	-
2050	$4.76	31.06	37.47	$6.24	10.99	13.68	**42.05**	178.28	85.31	**263.58**	(9.18)	(21.48)	**232.92**	3.56	**237.44**	(5.98)	(0.96)	(12.97)	(3.65)	(0.61)	(17.58)	(2.07)	**193.63**	-	-
2051	$4.86	31.26	37.71	$6.34	11.00	13.70	**42.26**	183.16	86.77	**269.93**	(9.36)	(21.88)	**238.70**	3.56	**243.25**	(6.13)	(0.99)	(13.30)	(3.74)	(0.62)	(18.20)	(2.12)	**198.16**	-	-
2052	$4.96	31.46	37.94	$6.44	11.02	13.72	**42.47**	188.30	88.42	**276.71**	(9.55)	(22.30)	**244.87**	3.57	**249.46**	(6.29)	(1.02)	(13.65)	(3.83)	(0.64)	(18.81)	(2.17)	**203.04**	-	(41.57)
2053	$5.07	31.64	38.16	$6.55	11.04	13.76	**42.68**	193.46	90.14	**283.60**	(9.75)	(22.75)	**251.10**	3.58	**255.73**	(6.44)	(1.05)	(14.02)	(3.93)	(0.66)	(19.45)	(2.22)	**207.96**	-	-
2054	$5.18	31.82	38.37	$6.66	11.08	13.81	**42.90**	198.66	91.94	**290.60**	(9.95)	(23.23)	**257.42**	3.60	**262.10**	(6.60)	(1.09)	(14.40)	(4.02)	(0.67)	(20.11)	(2.28)	**212.93**	(21.37)	-
2055	$5.28	31.99	38.58	$6.77	11.12	13.86	**43.11**	203.90	93.79	**297.69**	(10.17)	(23.71)	**263.81**	3.61	**268.54**	(6.77)	(1.12)	(14.79)	(4.12)	(0.69)	(20.78)	(2.34)	**217.94**	(30.37)	-
2056	$5.40	32.16	38.78	$6.88	11.16	13.92	**43.33**	209.46	95.78	**305.25**	(10.39)	(24.22)	**270.63**	3.62	**275.41**	(6.94)	(1.15)	(15.20)	(4.23)	(0.71)	(21.44)	(2.40)	**223.35**	(8.68)	-
2057	$5.52	32.24	38.87	$7.00	11.18	13.94	**43.42**	214.44	97.54	**311.98**	(10.59)	(24.68)	**276.70**	3.63	**281.52**	(7.09)	(1.19)	(15.58)	(4.33)	(0.72)	(22.13)	(2.46)	**228.02**	-	(5.82)
2058	$5.63	32.31	38.96	$7.12	11.19	13.95	**43.50**	219.46	99.33	**318.79**	(10.80)	(25.15)	**282.84**	3.63	**287.70**	(7.25)	(1.22)	(15.97)	(4.44)	(0.74)	(22.91)	(2.52)	**232.65**	-	-
2059	$5.76	32.38	39.04	$7.24	11.21	13.98	**43.59**	224.79	101.23	**326.02**	(11.02)	(25.63)	**289.37**	3.64	**294.26**	(7.41)	(1.25)	(16.38)	(4.55)	(0.75)	(23.57)	(2.58)	**237.77**	-	-
2060	$5.88	32.45	39.12	$7.37	11.23	14.00	**43.68**	230.13	103.16	**333.30**	(11.24)	(26.14)	**295.93**	3.65	**300.86**	(7.58)	(1.29)	(16.79)	(4.67)	(0.77)	(24.24)	(2.64)	**242.88**	-	-
2061	$6.01	32.51	39.20	$7.50	11.25	14.03	**43.76**	235.53	105.12	**340.65**	(11.46)	(26.65)	**302.55**	3.65	**307.52**	(7.75)	(1.32)	(17.22)	(4.78)	(0.79)	(24.94)	(2.71)	**248.02**	-	-
2062	$6.13	32.58	39.29	$7.62	11.27	14.05	**43.85**	240.96	107.10	**348.05**	(11.68)	(27.16)	**309.21**	3.66	**314.22**	(7.92)	(1.36)	(17.65)	(4.90)	(0.81)	(25.73)	(2.78)	**253.08**	-	(6.59)
2063	$6.27	32.65	39.37	$7.75	11.29	14.08	**43.94**	246.70	109.19	**355.89**	(11.92)	(27.70)	**316.27**	3.67	**321.33**	(8.09)	(1.39)	(18.11)	(5.02)	(0.83)	(26.47)	(2.85)	**258.57**	-	-
2064	$6.40	32.72	39.45	$7.89	11.31	14.11	**44.03**	252.50	111.31	**363.81**	(12.16)	(28.25)	**323.40**	3.67	**328.50**	(8.27)	(1.43)	(18.57)	(5.15)	(0.84)	(27.31)	(2.92)	**264.01**	(26.85)	-
2065	$6.54	32.78	39.53	$8.03	11.33	14.13	**44.12**	258.34	113.44	**371.78**	(12.40)	(28.80)	**330.57**	3.68	**335.72**	(8.46)	(1.47)	(19.04)	(5.28)	(0.86)	(28.09)	(2.99)	**269.53**	(22.33)	-
2066	$6.68	32.85	39.61	$8.17	11.36	14.16	**44.20**	264.49	115.69	**380.18**	(12.66)	(29.38)	**338.15**	3.69	**343.35**	(8.65)	(1.51)	(19.53)	(5.41)	(0.88)	(29.09)	(3.07)	**275.22**	(22.89)	-
2067	$6.82	32.91	39.69	$8.31	11.38	14.19	**44.29**	270.72	117.97	**388.69**	(12.92)	(29.97)	**345.80**	3.70	**351.04**	(8.84)	(1.55)	(20.02)	(5.55)	(0.90)	(29.92)	(3.14)	**281.11**	-	(7.45)
Totals FY 2026-33	129.84	154.77		75.25	90.49	**205.09**	488.58	421.23	**909.81**	(42.57)	(101.65)	**765.59**	23.16	**792.09**	(19.96)	(3.34)	(51.67)	(17.61)	(2.46)	(54.92)	(9.69)	**632.45**	-	-
Totals FY 2034-67	1,020.57	1,228.98		384.03	474.17	**1,404.60**	6,179.81	3,041.25	**9,221.07**	(326.17)	(763.65)	**8,131.25**	123.46	**8,288.21**	(208.84)	(33.51)	(464.16)	(129.19)	(21.43)	(632.77)	(73.22)	**6,725.09**	(230.61)	(73.56)
Totals FY 2026-67	1,150.41	1,383.75		459.28	564.66	**1,609.69**	6,668.40	3,462.48	**10,130.88**	(368.74)	(865.30)	**8,896.84**	146.62	**9,080.31**	(228.80)	(36.8)	(515.8)	(146.79)	(23.89)	(687.69)	(82.9)	**7,357.54**	(230.6)	(73.6)

Footnotes

[1] Reflects the average revenue per passenger car equivalent (PCE) traffic volumes based on the time-of-day variable weekday and weekend toll schedules.

[2] Annual auto and truck customer one-way toll trips on the I-5 Interstate Bridge (tolls are charged in both travel directions).

[3] Converts trucks to their passenger car equivalent (PCE) traffic volumes based upon the toll multiples paid; medium trucks are counted as two cars (2x) and large trucks as four cars (4x).

[4] Gross toll revenue potential from registered account customers before any adjustments for uncollectible revenue, fees, and credits.

[5] Gross toll revenue potential from unregistered customers identified for a toll bill by mail from their license plate, before adjustments for uncollectible revenue/fees. The revenue from unregistered (non-account) customers assumes an additional toll increment of $2.00 per trip regardless of vehicle type to offset higher collection costs / leakage via payment by mail.

[6] Revenue not recognized can result from unreadable vehicle license plate images or the inability to identify the vehicle owner's name and address from a readable license plate image, resulting in unbillable revenue. License plate images are used identify unregistered customers as well as registered customers if their transponder pass is not correctly read or missing.

[7] Recognized but unpaid toll revenue after 80 days (two toll billing cycles) from date of travel.

[8] Late payment rebilling fee per invoice assessed to unregistered pay-by-mail customers who don't pay their first invoice within 30 days.

[9] Credit card fees estimated at 2.75% of applicable gross toll revenues collected via bank card; no additional factor currently assumed for any fees related to account balance refunds.

[10] Includes transponder purchase and inventory costs for distribution of sticker tag transponders by ODOT to registered account customers. Tags are assumed to be free-of-charge.

[11] System-wide components of toll collection costs are allocated on the basis of transactions across all assumed operational toll facilities.

[12] Includes annual facility operations and maintenance (O&M) costs that would be routinely incurred for the bridge and approaches, plus a contigency for unforeseen expenses.

[13] Includes periodic RTS/CSC/BOS vendor re-procurement costs, system testing and acceptance, as well as periodic RTS equipment repair and replacement (R&R) costs.

[14] Includes periodic bridge and approach facilities major maintenance, repair and replacement (R&R) costs .

Key Assumptions

- Toll traffic and gross toll revenue potential projections supporting financial planning for Scenario G prepared by Stantec, dated 5/6/2023.
- Overnight hours from 11 PM to 5 AM are assumed to be toll-free during pre-completion tolling of the existing bridge through FY 2033.
- The traffic and revenue forecasts include ramp-up reduction factors of 95% (-5%) in FY 2026 and 97% (-3%) in FY 2027 to allow time for some users to become accustomed to tolling, determine their best travel options and/or obtain a registered account.
- Tolls are assumed to escalate annually by 2.15% as a conservative assumption for general price inflation, which maintains constant real tolls.
- System-wide toll collection costs are allocated to each toll facility within the ODOT system, which for Scenario G is assumed to include the I-205 Toll Project commencing before IBR tolling in FY 2026.