



New York State Thruway Financial Requirements and Proposed Toll Adjustments

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Prepared for:



New York State Thruway Authority

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1.0 INTRODUCTION AND EXECUTIVE SUMMARY

Since its opening 68 years ago, the Thruway has served as an essential and central artery of the State's transportation system, providing a vital link between its major cities from the Atlantic Ocean to Canada and the Great Lakes. Over the years, the Authority has taken actions that have allowed for safe and efficient travel for millions of passenger and commercial customers.

The Thruway serves travelers with a variety of essential needs and purposes, including commuters, business travelers, recreational travelers, and commercial vehicle traffic that transports goods and services throughout the State. The Thruway has provided a dependable roadway system for these travelers, sustaining and encouraging economic growth, fostering job creation and generating tax revenues for the State and its local governments. Underscoring its importance to the State, region and nation, Thruway customers traveled approximately 7.5 billion vehicle-miles on the highway in 2021, averaging 20.5 million vehicle-miles per day.

Significant capital improvements and maintenance work is undertaken each year to keep its highways and bridges in a state of good repair, ensuring safe and efficient travel for the heavy traffic demands of today's world. In addition to on-going capital and maintenance tasks, the Thruway is also continually evolving to better serve its patrons, improving customer service with advances in technology and adding new capacity to highways and bridges in the corridors with high travel demand.

Beginning in March of 2020, the COVID-19 pandemic had a devastating impact on Authority toll traffic and revenues. While significant recovery has been seen in 2021 and 2022, revenue is not yet reaching previously forecasted levels. Throughout this ordeal, the Authority has continued to maintain its financial strength while financing the capital needs of the aging Thruway System, making tough decisions to downsize, prioritize and adjust Capital Program projects to continue funding the annual operating and capital program budgets. It is important to note that prior toll adjustments were originally designed to only provide sufficient revenues to finance the 2019-2024 Capital Program.

The Authority is undertaking a new Capital Plan for 2023 through 2027. With revenue needs projected to be above those generated by the existing toll rates beginning in 2024, additional revenues are needed to successfully meet its future growing capital needs, fund outstanding debt and provide reliable service to its patrons.

It is only with these additional revenue actions that the Authority will be able to continue to maintain its highway and bridges in a state of good repair, fulfill its critical role in supporting the State's recovering economy and meet bondholder covenants established under its General Revenue Bond Resolution ("Bond Resolution").

Accordingly, in accordance with Section 609(1)(b) of the Bond Resolution, Stantec has been retained to produce this study and in consultation with the Authority staff develop a schedule of toll rates that will allow the Authority to sustain healthy financial metrics through the end of 2031. The proposed toll modifications are summarized in Table 1.



Table 1: Proposed Toll Modifications

GOVERNOR MARIO M. CUOMO BRIDGE TOLL RATE ADJUSTMENTS	
Toll Modification Element	Description
Gov. Mario M. Cuomo (GMMC) Bridge: Increase Base NY E-ZPass to a rate of \$7.75 by 2027	Beginning on January 1, 2024, provide 50-cent annual increases to the base NY E-ZPass passenger toll rates on the GMMC Bridge during the period 2024-2027. This would result in a base NY E-ZPass rate for passenger vehicles increasing to \$7.75 by 2027 (current rate is \$5.75). Commercial rate increases would be proportionate to the passenger rate increases.
40% Commuter Discount Program*	Maintain the commuter discounted rate of 40 percent off the NY E-ZPass rate for passenger vehicles that opt into the program. Similar to today, the rates assume that a minimum of 20 trips are made in that month; if fewer than 20 trips are taken per month, customers are charged for each trip not taken. This program is offered to class 2L vehicles only, with a New York E-ZPass.
Resident Discount Program*	Increase the resident discount E-ZPass Plan for qualified Westchester and Rockland residents from its current 17 percent discount to a 20 percent discount off the NY E-ZPass rate. This program is only offered to class 2L passenger vehicles with a NY E-ZPass who opt into the plan and provide proof of residency.
SYSTEM-WIDE TOLL RATE ADJUSTMENTS	
Incentivize NY E-ZPass Usage	Beginning on January 1, 2024, increase the current 30 percent Tolls by Mail rate differential (a toll rate 30 percent above the NY E-ZPass rate) to a 75 percent differential. With this change, NY E-ZPass customers will receive a 75% discount from the Tolls by Mail and Non-NY E-ZPass toll rates
Non-NY E-ZPass Rates	Beginning on January 1, 2024, increase the current Non-NY E-ZPass toll rate differential from a 15 percent rate differential (a toll rate 15 percent above the NY E-ZPass rate for Non-NY E-ZPass tolls) to a 75 percent differential. With this change, NY E-ZPass customers will receive a 75% discount from the Tolls by Mail and Non-NY E-ZPass toll rates.
NY E-ZPass Rates	On January 1, 2024 and January 1, 2027 Increase the base NY E-ZPass rates by 5% from their prior levels.

**It should be noted that approximately 73.6 percent of passenger trips will pay a discounted rate compared to the Tolls by Mail rate and that roughly 30.9 percent of this traffic will be paying the discounted rates for the commuter and resident plans.*

Additional detail can be found in Section 7.3, Table 23, and the Appendix. The impact of the proposed toll action on the Authority's revenues and long-term financial plan is described in more detail herein.



2.0 THE NEW YORK STATE THRUWAY SYSTEM

2.1 BACKGROUND

At 570 miles in length, the New York State Thruway is one of the largest tolled highway systems in the United States and is a critical component in the national interstate network. There are few alternatives to the Thruway as it connects the principal cities of the State from New York City to Albany, and on to Utica, Syracuse and Rochester through to Buffalo and the Pennsylvania state line. The Thruway corridor serves 37 of the State's 62 counties and the majority of the State's population. Approximately 361.0 million toll transactions occurred on the Thruway in 2021, generating about \$760.3 million in toll revenues¹.

The Thruway is an important interstate connector, joining with the Massachusetts Turnpike (I-90), Connecticut Turnpike (I-95), New Jersey's Garden State Parkway, as well as several other Interstate routes such as I-287 from New Jersey; I-90 in Pennsylvania; I-290 around the north side of Buffalo; I-390 and I-490 serving Rochester; I-81, I-481 and I-690 at Syracuse; I-790 in Utica; I-87 (the Northway), I-88, I-90, I-787, and I-890 at Albany; and I-84 at Newburgh. It also makes direct connections with numerous major State highways.

The Thruway is comprised of two types of toll systems – a controlled (ticket) system and a barrier system, as shown in Figure 1. The controlled system (approximately 481 miles) makes up the largest portion of the Thruway, running from Woodbury (in the southeast corner of the State) north along I-87 to Albany, then west on I-90 to Buffalo and south of Lake Erie to the Pennsylvania border. In addition to this main stretch of the controlled system, there is a small branch south and east of Albany providing a connection to the Massachusetts border and the I-90 Massachusetts Turnpike. The barrier systems - located in the southeast corner of the State and the northwest corner of the State - are comprised of the Governor Mario M. Cuomo Bridge (formerly Tappan Zee Bridge barrier), Yonkers Barrier, New Rochelle Barrier, Spring Valley Barrier (where passenger cars only are toll-free), Harriman Barrier, and the Grand Island Bridges. All barriers currently operate with cashless tolling.

Under the existing policy, toll rates across the Thruway System are based on vehicle classification, related to the number of axles per vehicle and the height of the vehicle over the first two axles. On the controlled system, tolls are charged based on the actual distance traveled by the customer. Meanwhile, barrier toll plazas have a fixed toll rate for each vehicle class and payment type (e.g., Tolls by Mail, non-NY and New York *E-ZPass*, as well as Commuter and other *E-ZPass* Discounts).

Portions of the roadways under the Thruway jurisdiction are currently toll-free. These include a nine-mile section in the Buffalo area between the controlled sections; I-190 between Buffalo and Grand Island; I-90 between Albany (Interchange 24) and I-88 (Interchange 25A); and the Cross Westchester Expressway (I-287). In addition, there are stretches of roadway on the sections with fixed-toll barriers where short trips can be made without passing through a toll barrier.

The Authority completed conversion of its entire system to cashless tolling in recent years. At the Governor Mario M. Cuomo Bridge (formerly Tappan Zee Bridge barrier), cashless tolling was implemented on April 23, 2016. Cashless tolling began at both of the Grand Island Bridges on March 30, 2018, at the Harriman Barrier on September 28, 2018, and at the Yonkers Barrier on November 19, 2018. The Spring Valley Barrier and New Rochelle Barrier were converted to cashless tolling on December 20, 2018. The ticket controlled system was the final part of the system to be converted to cashless tolling in November 2020.

¹ \$790.1 million in gross toll revenues minus \$29.8 million in commercial volume discounts



The Thruway System is currently about 570 total miles in length and has 134 interchanges. The various sections of the roadway currently maintained by the Authority are listed in Table 2.

Table 2: The Thruway System

Section	Controlled Section	Barrier Section	Length (miles)
The Mainline (New York City – Buffalo)	X	X	426
Erie Section (Buffalo – Pennsylvania Line)	X		70
Niagara Section I-90 (Buffalo – Niagara Falls)		X	21
Berkshire Section (Selkirk – Massachusetts Line)	X		24
New England Section (I-95) (Bronx – Connecticut Line)		X	15
Garden State Parkway Connection (Spring Valley – New Jersey)			3
Cross-Westchester Expressway (I-287) (Mainline I-87 in Tarrytown – I-95 in Rye)			11
Total			570

X= tolled section of the Thruway

Thruway pavements are typically nine inches of reinforced Portland cement concrete placed on 12 inches of granular sub-base. Shoulders are made up of treated granular material with asphaltic wearing surface. A large portion of the roadway's base dates back to its original construction, highlighting the need for heavy maintenance, reconstruction and rehabilitation activities to retain the riding surface in a state of good repair.

The Authority has an established process under which it selects highway projects for its capital program, which relies strongly on information and analytical tools embodied within the Authority's Asset Management Systems, and coordination with the Department of Maintenance and the Authority's four geographic divisions. Projects are prioritized based on safety, riding surface condition, and the impact on asset useful life and capacity. This process has historically allowed the Authority to maintain good overall surface and riding conditions of its highway pavement.

2.3 BRIDGES

The Authority has maintenance and inspection responsibility for 816 bridges that carry Thruway traffic as well as local roads and State highways over the Thruway System. The structural characteristics of these bridges vary: about 15 percent are concrete structures, either pre-stressed girder, arch, rigid frame or box culverts. The remaining 85 percent of the bridges are steel structures with asphalt overlaid, reinforced concrete decks. As with the roadway, an overwhelming majority of the structures date back to the original opening of the Thruway System in the 1950s and require continual and significant repair, rehabilitation and reconstruction investments to prevent deteriorating conditions.

The largest bridge on the Thruway System is the twin-span Governor Mario M. Cuomo Bridge over the Hudson River, which is located approximately 20 miles north of New York City and replaced the 61-year old Tappan Zee Bridge. The new bridge consists of multi steel girder/composite deck approach spans at each end with cable-stayed spans over the main Hudson River shipping channels. Each of the twin bridge spans is approximately three miles in total length, with chamfered towers supporting the cables. Construction on the bridge project began in 2013. The north span of the Governor Mario M. Cuomo Bridge was opened to northbound (westbound) traffic on August 26, 2017 and to southbound (eastbound) traffic on October 6,



2017. Southbound traffic was shifted to the south span when it was opened to traffic in September 2018. Each span operates with four lanes of vehicle traffic per direction, with cashless tolling, continuing to collect tolls from southbound traffic only. The project was fully completed in 2020, with the addition of a shared-use bike and pedestrian path on the north span. More details on the project can be found on the project website <http://www.newnybridge.com>.

In addition to the Governor Mario M. Cuomo Bridge, the Thruway System includes other large and unique bridge structures: the Castleton-on-Hudson Bridge across the Hudson River on the Berkshire Section; the four Grand Island Bridges spanning branches of the Niagara River north of Buffalo; and the three bridges crossing Catskill, Kaaterskill, and Normanskill Creeks in the Catskill Region.

As with its highways, the Authority pursues a similar established process under which it selects bridge projects for rehabilitation or replacement. Potential bridge capital projects are identified by Authority field engineering staff and are vetted through the Authority's Asset Management Systems. This process has allowed the Authority to target bridge projects that are critical to maintain safety and good structural conditions.

2.4 SERVICE AREAS AND BUILDINGS

The Authority currently owns 645 buildings of various types. These include large maintenance and administrative facilities as well as storage sheds, utility buildings, and other minor facilities. The buildings include:

- 234 section maintenance and storage buildings
- 66 salt sheds
- 125 toll and toll storage buildings (note that buildings were added at toll gantry sites as part of the cashless tolling initiative)
- 161 service area buildings (including water and wastewater buildings)
- 3 New York State Welcome Centers, one with an additional storage building
- Port Byron Old Erie Canal Heritage Park Visitors Center
- 21 State Police barracks and storage buildings
- 33 radio shelter buildings

Note that this list does not include buildings constructed to support the Governor Mario M. Cuomo Bridge.

The Authority's Administrative Headquarters is located just off Interchange 23 at 200 Southern Boulevard in Albany, overlooking the Thruway mainline and the Albany Division maintenance complex. This building has been the Authority's Headquarters since it was constructed in 1972.

The Thruway's maintenance responsibility is divided into four divisions, with each division having its own headquarters facility. These Division headquarters are located in Suffern, Albany, Syracuse, and Buffalo. The Division headquarters serve several functions that include housing the administrative staff for the maintenance program, as well as providing offices for State police and toll collection, traffic and customer service personnel.

Twenty-seven service areas provide fuel, restaurants and other amenities to Thruway customers. These are owned by the Authority and are operated through concessionaire agreements. Thruway staff maintains the service area fuel station buildings



and wastewater treatment plants and conducts winter plowing and maintenance of the parking areas. The service areas are located at intervals along the Thruway System and are currently operated by two food service concessionaires: Empire State Thruway Partners currently operates 17 plazas, and McDonald's Corporation currently operates 10 plazas that will be taken over by Empire State Thruway Partners on December 31, 2022. In addition, there are two fuel service operators, Dunne Manning (13 facilities) and Sunoco, Inc. (R&M) (16 facilities). The Authority collected \$5.74 million in concession payments from service area vendors in 2021.

Apart from closures for scheduled remodeling and modernization, all food and fuel centers are open 24 hours daily, seven days a week and offer parking, fuel, public restrooms (including family assist restrooms equipped for persons with disabilities), ATMs, and free wireless internet service. There is a brand name food vendor at each service area open to the public 24 hours a day, seven days a week. Furthermore, many service areas have seasonal farm markets, gift shops, electronic vehicle charging stations, sell *E-ZPass On-the-Go* (retail *E-ZPass* transponders) and staff a number of Tourist Information Centers.

In July of 2021 the Thruway Authority announced a plan to redevelop all 27 Service areas on its system. This \$450 million project is currently underway. The service areas were originally built in the 1950s, with the last significant redevelopment taking place in the 1990s. Twenty-three of the 27 service area restaurant buildings will be completely reconstructed, with significant renovations and upgrades to the remaining four. On July 29, 2021 ten service areas closed for work to begin on the first phase of the project. The remaining 17 service areas are scheduled for reconstruction over the next three years. Fuel services will remain available at all locations during construction, and signage will alert motorists of the construction at the service areas and the location of the next open service area on the Thruway.

Three newly constructed service area buildings have re-opened. Most buildings at the new service areas will be configured to provide entrances from both the parking lot and fuel station facilities. New amenities and services at select service areas will also include exterior seating with access to Taste NY farm markets, picnic areas, play areas, pet walking areas with comfort stations, EV charging stations, and commercial driver services including increased truck parking, showers, laundry facilities and fitness centers. New food concepts will be available to customers as part of the redevelopment project. Customers will have diverse food options at all 27 service areas, offering a range of healthy products and meals from nationally recognized restaurants.

2.5 SAFETY, INCIDENT RESPONSE AND TRAVELER INFORMATION SYSTEMS

The Thruway Statewide Operations Center (TSOC), housed at the Authority's Administrative Headquarters in Albany, is the central location for the coordination of all traffic incident response, emergency management, and dissemination of traveler information along the entire Thruway. The TSOC operates 24 hours a day, seven days a week, 365 days a year. The Authority exchanges traffic and Intelligent Transportation Systems (ITS) data with NYSDOT through the Regional Traffic Operation Centers and uses the traveler's resource website 511ny.org to provide drivers with a view of traffic operations across the State so they may make more informed travel choices.

The TSOC controls all dispatch and emergency communications via a dedicated radio system for State police Troop T and Thruway Maintenance forces and an advanced Traffic Management System that integrates and controls all current and future ITS devices and systems including: 122 Permanent Mount Variable Message Signs, 231 Closed Circuit Television cameras, 119 real-time vehicle detector sites (Transmit), 150 Portable Variable Message Signs, 66 weather stations (24 high function 42 limited function seasonal sites), 8 vehicle weigh in motion sites and a revenue collection monitoring system that alerts TSOC staff to interruptions in revenue collection at tolling gantry locations. The Authority also offers an email alert service (TRANSalert) to its customers to inform them of major unscheduled incidents that may affect their travel plans and the Thruway website (www.thruway.ny.gov) offers a centralized location to access a multitude of traveler information. In addition,



an iPhone and Android app was released in November 2017 with live traveler information, interactive feedback and a Thruway travel planner.

Finally, a troop of New York State Police (Troop T) is entirely dedicated to policing on the Thruway System. The principal mission for Troop T is to increase safety on the roadway and reduce fatal and personal injury auto accidents. They achieve this through enforcement and education. Through the years, Troop T has participated in traffic enforcement initiatives directed at drivers who engage in behavior known to cause fatalities or exacerbate the fatality rate, such as speed, failure to use seatbelts and drunk and/or drugged driving. Since 2016, Troop T has participated in an annual campaign to raise awareness of New York's Move Over Law, which requires motorists to drive with care, slow down, and safely move over when approaching emergency vehicles, tow trucks, construction and maintenance vehicles that are stopped along the side of the road. Additionally, in April 2018, Troop T boosted patrols along the Thruway during 'Operation Work Brake'; this campaign cracked down on speeding motorists and aggressive driving before, in, and around construction zones. However, the greatest proven method to reduce fatalities is the day-to-day visible enforcement of traffic laws by the patrol troopers on the highway.

Good overall highway conditions, traveler access to online and radio information services, good incident and weather response and the efforts of Troop T have contributed to a very low accident fatality rate. In 2021 the Thruway-wide fatality rate was 0.21 fatalities per 100 million vehicle miles traveled. This compares to an index of 1.33 nationwide in 2021 and 1.02 for all of New York State² in 2020.

2.6 ANNUAL ROUTINE MAINTENANCE ACTIVITIES

Over the years, the Authority has developed comprehensive plans for the maintenance of its facilities. Formal pavement and bridge management systems have been developed to address maintenance issues and provide input into the development of long-term infrastructure management programs. Routine maintenance activities are performed by Authority staff from 21 maintenance locations grouped into four divisions. Additional oversight of maintenance activities is provided by the four division highway and bridge maintenance headquarters and by the Governor Mario M. Cuomo Bridge maintenance team. Responsibilities include snow and ice removal, pavement and bridge repair and maintenance, guiderail and safety work, responding to incidents and accident damage, and right-of-way maintenance. Maintenance activities also include innovative preventative maintenance operations to preserve the highway system and minimize added capital improvement costs.

Environmental stewardship has become an important factor in ongoing maintenance decisions. In addition to the conversion to cashless tolling, which reduces pollution, other examples of environmental enhancements by the Authority include the use of solar-powered ITS elements, the planting of living snow fencing, the use of beet juice as an additive to road salt to promote adhesion and snow melting, and the purchase of flex fuel and electric vehicles and expansion of charging stations.

In addition to the original mandate of the Authority to operate and maintain the controlled and barrier systems along the Thruway, the Authority was given responsibility over the Cross-Westchester Expressway (I-287) in 1991. This highway starts at I-87 near Tarrytown and travels east for 11 miles to the Thruway's New England Section (I-95) in Rye. Capital improvements have remained the responsibility of NYSDOT.

² "Fatality Facts 2020 State by State." Insurance Institute for Highway Safety Highway Loss Data Institute, May 2022, <https://www.iihs.org/topics/fatality-statistics/detail/state-by-state>



3.0 HISTORICAL REVIEW OF THE AUTHORITY'S FINANCES

The following section provides an overview of the Authority's operating, capital and debt service costs and revenue trends from 2012 through 2021. The section concludes with an overall view of the financial health of the Authority during this period.

3.1 HISTORICAL OPERATING AND MAINTENANCE EXPENSES

The Authority's operating and maintenance (O&M) expenses include non-capitalized costs for the maintenance of highway and building facilities; equipment purchases; snow and ice removal; Thruway toll collection; administrative costs and fringe benefits; Thruway traffic operations; and provisions for funding environmental and other liability reserves. In the past the Authority was also responsible for the O&M for the New York State Canal System, however, effective January 1, 2017, the New York State Canal Corporation (NYSCC) became a subsidiary of the New York Power Authority (NYPA), and the Authority was relieved of all responsibilities related to the Canal System.

In recent years the Authority was able to limit the level of growth in O&M costs primarily through staffing reductions and a stronger workforce management program. During this period, the Authority reduced its workforce by approximately 10 percent. In addition, the Authority reduced or eliminated expenditures for equipment and projects, cancelled or deferred scheduled salary increases and other employee benefits, relied more heavily upon part-time and seasonal workforces, reduced toll lane staffing hours, enhanced energy efficiency measures, reduced overtime and discretionary expenses, and a number of other actions. Combined with new actions planned to further modernize the management and streamline operations, these ongoing initiatives will generate recurring savings and aid the Authority in maintaining fiscal balance in the future.

Table 3 summarizes the Authority's actual 2012-2021 operating and maintenance expenses. A significant reduction in O&M costs is shown beginning in 2013, where as part of a State-supported initiative to reduce the Authority's operating expenses, New York State relieved the Authority of \$85 million for certain fiscal responsibilities, including about \$56 million to fund the operations of New York State Police (Troop T) whose 320 members patrol the Thruway System.

At the Governor's initiative, the State's 2016-2017 Enacted Budget included the transfer of the NYSCC to the NYPA. This transfer of the NYSCC, and its related expenses and revenues, is offset by Thruway Authority reimbursement to the State for the State Police costs associated with Troop T expenses of the State. As noted previously, Troop T provides State Police patrol on the Thruway. This reimbursement is provided for from the General Reserve Fund (after supporting operating and debt service costs) and is not included under operations and maintenance related expenses of the Authority.

In April 2016 cashless tolling was implemented at the Governor Mario M. Cuomo Bridge (formerly Tappan Zee Bridge Barrier). Cashless tolling began on Grand Island Bridges in March 2018, at the Harriman Barrier in September 2018, Yonkers Barrier in November 2018, Spring Valley and New Rochelle Barriers in December 2018, and the remainder of the Thruway System in November 2020. Costs for account management of the Tolls by Mail program were included in 2016 through 2021 expenses and budgeted future expenses.



Table 3: The Thruway System's Actual Operating and Maintenance Expenses, 2012 – 2021 (millions)

Year	Thruway Operations	Reserves ⁽¹⁾	Total Operating Expenses ⁽²⁾
2012	\$357.0	\$2.0	\$359.0
2013	279.6	3.5	283.1
2014	286.1	5.9	292.0
2015	287.4	1.8	289.1
2016 ⁽³⁾	311.6	1.8	313.3
2017	329.7	2.7	332.4
2018 ⁽⁴⁾	339.9	5.0	345.0
2019	350.9	6.0	356.8
2020 ⁽⁵⁾⁽⁶⁾	316.6	2.0	318.6
2021	339.8	6.5	346.3

⁽¹⁾ Includes provisions for legal claims and indemnities and reserves for environmental remediation.

⁽²⁾ Prior to 2017, the Authority was also responsible for the O&M for the New York State Canal System, however, effective January 1, 2017, the NYSCC became a subsidiary of the New York Power Authority, and the Authority was relieved of all responsibilities related to the Canal System. Canal O&M expenses are not included in this table.

⁽³⁾ Cashless tolling began at the Governor Mario M. Cuomo Bridge (formerly Tappan Zee Bridge barrier) on April 23, 2016.

⁽⁴⁾ Cashless tolling began on Grand Island Bridges in March 2018, at the Harriman Barrier in September 2018, Yonkers Barrier in November 2018, and Spring Valley and New Rochelle Barriers in December 2018.

⁽⁵⁾ Cashless tolling began at all controlled system toll locations on November 14, 2020

⁽⁶⁾ COVID-19 impacts began in March 2020



3.2 HISTORICAL CAPITAL EXPENDITURES

Given the age of the Thruway System and the high percentage of its infrastructure that dates back to original construction, significant capital investments have been necessary to complement maintenance activities for the system to remain reliable and in a state of good repair. Actual capital expenditures for 2012 through 2021 are shown in Table 4. The most notable changes during this time period were the New NY Bridge Project (construction of the Governor Mario M. Cuomo Bridge) which began in 2013, the transfer of jurisdiction for the Canal System from the Authority to the NYPA in January 2017, and the cashless tolling conversion of the controlled system which occurred in 2020 and was completed in 2021.

Table 4: Actual Capital Expenditures, 2012-2021 (millions)

Year	Thruway Highway and Bridges Capital Expenditures	Equipment Replacement and Other Facility Capital Needs ⁽¹⁾	Canal System and Other Authority Projects ⁽²⁾	Subtotal Capital Program Expenditures	New NY Bridge Project Capital Costs	Total Capital Program Expenditures
2012	\$322.4	\$22.9	\$45.7	\$390.9		\$390.9
2013	183.7	30.7	37.5	251.9	\$613.4	865.3
2014	170.7	33.7	76.7	281.0	594.2	875.3
2015	251.3	35.2	48.8	335.3	702.0	1,037.3
2016	200.1	36.5	30.3	266.9	790.7	1,057.7
2017	184.7	44.8	0.0	229.5	479.1	708.6
2018	222.9	104.7	0.0	327.7	264.1	591.8
2019	222.1	170.7	0.0	392.9	171.6	564.5
2020	166.2	282.9	0.0	449.2	88.9	538.0
2021	120.6	162.4	0.1	283.1	20.8	303.9

Note: Numbers may not add due to rounding.

⁽¹⁾ Includes capital costs for systemwide cashless tolling conversion

⁽²⁾ These costs were payable only after Thruway operating and maintenance and debt service costs, and, as noted herein, jurisdiction for the Canal System was transferred to the NYPA effective January 2017.

Table 5 summarizes actual funding sources for the previous Capital Programs. An additional \$100 million of federal aid was allocated to the Authority's Capital Program in 2012-2016. In 2012, there was an increase of other funding sources for the Capital Program, including some Canal storm-related repairs reimbursed by FEMA and to account for NYSDOT and MTA shares of the pre-design/environmental costs of the New NY Bridge Project. At this time no additional federal authorizations are assumed for the 2022-2027 Capital Program.

The Authority issued its Series 2013A Junior Indebtedness Obligations on December 18, 2013 in the principal amount of \$1.6 billion to finance a portion of the New NY Bridge Project capital costs. The Authority entered into a TIFIA Loan Agreement on December 19, 2013 with the United States Department of Transportation authorizing a loan for an amount up to \$1.6 billion which is secured by the Authority's issuance of the Series 2013B Junior Indebtedness Obligations. The Authority paid the Series 2013A Junior Indebtedness Obligations with the proceeds of the Series 2019A Junior Indebtedness Obligation (JIO) Notes and available cash resources of the Authority. The Authority paid the principal of the Series 2019A JIO Notes from a draw of the full \$1.6 billion amount under the TIFIA Loan and fully paid the TIFIA loan using proceeds from the Junior Indebtedness Obligation (Series 2019B) issuance that was completed in October 2019. In May 2016, the Authority had issued



an additional series of Junior Indebtedness Obligations (Series 2016A) in the amount of \$850 million to finance a portion of costs of the New NY Bridge Project.

Additionally, in 2015 New York State had appropriated grant money in the amount of \$1.285 billion to fund Thruway capital projects, including \$750 million for the New NY Bridge Project and \$535 million for Thruway systemwide projects. The State's 2016-2017 Enacted Budget included an additional appropriation of \$700 million for capital assistance to the Authority. The State gave a total of \$1.2 billion in grants to the Authority for the New NY Bridge Project.

Table 5: 2012-2021 Actual Funding Sources, Thruway Authority (millions)

Year	Funding Sources					
	Federal Aid	Other	Bond / Note Proceeds	Subtotal Exclusive of Thruway Revenues on Pay-As-You-Go Basis	Revenues Required from Tolls, etc.	Pay-As-You-Go %
2012	\$11.2	\$54.2	\$268.7	\$334.1	\$56.8	31.3%
2013	22.8	24.1	725.4	772.2	93.1	16.2%
2014	51.3	9.9	721.6	782.8	92.7	17.6%
2015	51.2	396.6	491.8	939.5	97.7	52.6%
2016	5.8	536.9	415.9	958.6	99.0	60.7%
2017	0.1	181.6	464.2	645.9	62.8	34.5%
2018	0.0	504.1	3.0	507.0	84.8	99.5%
2019	0.0	367.8	0.0	367.8	196.7	100.0%
2020	0.0	61.1	473.2	534.3	3.7	12.0%
2021	0.0	2.1	196.8	198.8	105.1	35.3%

Note: Numbers may not add due to rounding.



3.3 HISTORICAL DEBT SERVICE EXPENSES

As a result of a higher level of capital investment and the reduced pay-as-you-go financing in recent years the Authority utilized additional bond/note proceeds to finance commitments made in the multi-year Capital Programs. As summarized in Table 6, the greater reliance on bonds and the issuance of short-term notes to finance programmed capital improvements resulted in annual debt service payments increasing from \$200.5 million in 2012 to \$339.6 million in 2021.

Table 6: Actual Debt Service, Thruway System, 2012-2021 (millions)

Year	Senior Debt Service	Bond Anticipation Note (BAN) or Line of Credit Interest	Junior Debt Service	Total Debt Service
2012	\$198.5	\$2.0	-	\$200.5
2013	239.8	0.3	-	240.1
2014	250.9	0.4	-	251.3
2015	235.4	0.4	-	235.7
2016	227.3	0.4	\$29.2	256.9
2017	234.6	0.0	43.7	278.2
2018	220.3	0.0	79.2	299.5
2019	226.8	27.0	47.4	301.2
2020	166.8	1.1	23.1	191.0
2021	241.3	51.6	46.7	339.6

Note: Numbers may not add due to rounding.

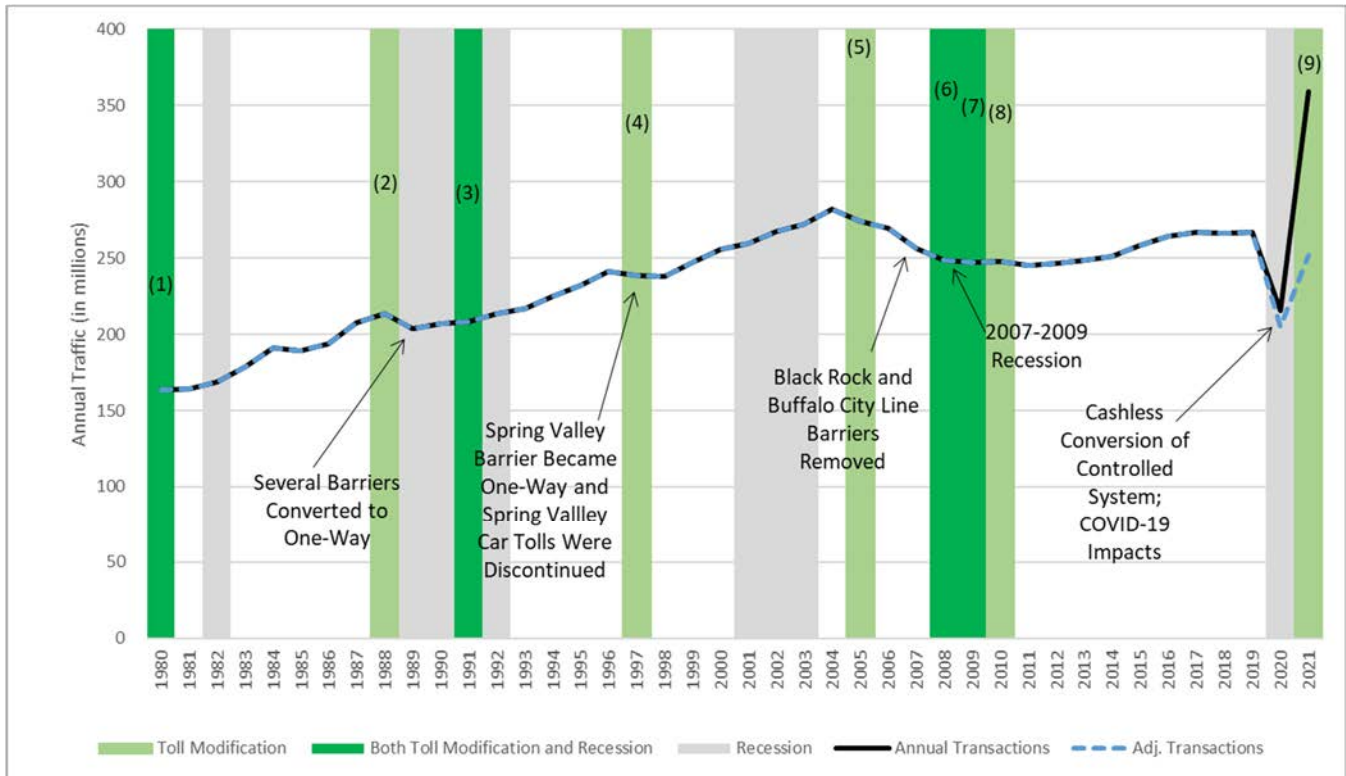
3.4 HISTORICAL TRAFFIC AND REVENUES

3.4.1 Traffic

Figure 2 presents historical total traffic on the Thruway since 1980. It is important to note that the volumes shown are not adjusted for the various toll collection changes that occurred on the Thruway. For example, the 2005 toll modification resulted in the elimination of several commercial vehicle classes that were based on a single vehicle receiving two toll tickets/transactions, resulting in an apparent decrease in commercial traffic counts. This was a one-time occurrence that did not represent a decrease in actual number of vehicle trips made on the Thruway. Similarly, in October 2006, tolls were removed from the Buffalo City Line and Black Rock toll Barriers which reduced total toll transactions on the Thruway by approximately 17 million annually. In addition, with the controlled system's conversion to cashless in mid-November 2020 the toll locations on the system were reconfigured and there may now be multiple transactions per trip. The figure, therefore, also shows an adjusted transaction number (dashed blue line) that removes this impact, essentially converting controlled system transactions to trips. This provides a better indicator of the true impact of COVID-19 on Thruway System annual traffic. In 2021, total traffic (when adjusted to the old measure of controlled system trips) recovered to within 6 percent of 2019.



Figure 2: Historical Thruway Traffic Volumes



- (1) 1980 - Average Toll Increase of 25% Passenger Cars, 30% Commercial
- (2) 1988 - Average Toll Increase of 32% Passenger Cars, 38% Commercial
- (3) 1991 - Spring Valley Toll Adjustment, Passenger Cars Only
- (4) 1997 - Tappan Zee Corridor Relief (Congestion Pricing)
- (5) 2005 - System Reclassification, Average Toll Increase of 25% Passenger Cars, 35% Commercial
- (6) 2008 - Average Toll Increase of 10% for All Vehicles, Plus Reduction of E-ZPass Discount in July
- (7) 2009 - Average Toll Increase of 5% for All Vehicles
- (8) 2010 - Average Toll Increase of 5% for All Vehicles (not apparent in all toll schedules, due to rounding)
- (9) 2021 – Toll Increases of 9% and 24% for non-NY E-ZPass and Tolls by Mail vehicles, respectively, on all facilities other than the Governor Mario M. Cuomo Bridge. The Governor Mario M. Cuomo Bridge had toll increases of 5% for commuters, 11% for non-Resident Plan E-ZPass cars, 21% for non-NY E-ZPass cars and 37% for Tolls by Mail cars. Trucks on the Governor Mario M. Cuomo Bridge had toll increases ranging from 11% to 60% based on class and payment type.

Table 7 shows the history of tolled transactions on the various elements of the Thruway System going back to 2012. “Other Barriers” includes the barrier toll locations in Yonkers, New Rochelle, Spring Valley (trucks only), Harriman, and the Grand Island Bridges. The system experienced several years of very low growth from 2012 through 2014. From 2014 through 2016 there was moderate growth, with toll transactions exceeding the pre-2007 recession volumes. In 2017 through 2019 overall transactions had remained relatively flat, following nationwide trends. COVID-19 impacts traffic began in March 2020, leading to a significant decline in toll transactions that year. Note that commercial traffic was impacted much less than passenger car traffic. In 2021 there was a systemwide toll increase and passenger car traffic continued its recovery from COVID-19 impacts, reaching closer to pre-COVID levels, while commercial traffic exceeded pre-COVID levels. This increase was mainly due to the sharp increase in e-commerce and disruptions to supply chains that resulted from the pandemic. It is important to note that due to the November 2020 cashless conversion, traffic appears to have nearly doubled on the controlled system in 2021. In reality, this is not the case. With the conversion to cashless, the controlled system now records trips by segment (one segment-trip is one toll transaction), and there are a total of fourteen tolling segments. Previously, one trip was recorded as one toll transaction, and with the conversion there may now be multiple toll transactions per controlled system trip.



Table 7: The Thruway System’s Actual 2012-2021 Tolloed Traffic (millions of trips)

Year	Passenger Cars			Commercial Vehicles			Total	Growth
	Controlled System	TZB/ Cuomo Br.	Other Barriers	Controlled System	TZB/ Cuomo Br.	Other Barriers		
2012	127.3	22.9	71.1	15.9	1.5	7.9	246.5	
2013	128.2	23.3	71.1	16.0	1.7	8.1	248.4	0.7%
2014	129.5	23.4	71.4	16.5	1.9	8.3	250.8	1.0%
2015	134.2	23.6	72.7	17.0	2.0	8.8	258.2	3.0%
2016 ⁽¹⁾	137.8	24.4	73.5	17.4	2.2	9.0	264.2	2.3%
2017	139.6	24.6	73.3	17.6	2.4	9.1	266.6	0.9%
2018 ⁽²⁾	139.5	24.8	72.5	18.0	2.4	9.3	266.4	-0.1%
2019	139.6	25.5	72.1	18.0	2.5	9.3	267.0	0.2%
2020 ⁽³⁾⁽⁴⁾	108.7	19.2	56.0	20.5	2.4	8.6	215.5	-19.3%
2021 ⁽⁵⁾⁽⁶⁾	208.2 ⁽⁶⁾	24.0	67.3	47.1 ⁽⁶⁾	2.7	9.9	359.2 ⁽⁶⁾	66.7% ⁽⁶⁾

Notes: Totals may not add due to rounding. Traffic classified as non-revenue is not included.

⁽¹⁾ Cashless tolling began at the Governor Mario M. Cuomo Bridge (formerly Tappan Zee Bridge barrier) April 23, 2016.

⁽²⁾ Cashless tolling began on Grand Island Bridges in March 2018, at the Harriman Barrier in September 2018, Yonkers Barrier in November 2018, and Spring Valley and New Rochelle Barriers in December 2018.

⁽³⁾ Cashless tolling began at all controlled system toll locations on November 14, 2020

⁽⁴⁾ COVID-19 impacts began in March 2020

⁽⁵⁾ Systemwide Toll Increase; first full year of systemwide cashless tolling

⁽⁶⁾ Higher transactions in 2021 are not representative of growth; controlled system transactions were counted differently after conversion to cashless. Before the conversion, one trip equaled one transaction. With the November 2020 conversion, the Woodbury-Williamsville portion of the controlled system was split into 13 segments, with a transaction equal to one segment trip. A vehicle may travel on multiple segments (and therefore have several transactions) for one trip.

3.4.2 Toll Revenues

Table 8 presents a recent history of toll revenue on the Thruway System. Revenue from cars and trucks are shown separately for the controlled system, the Governor Mario M. Cuomo Bridge, and the remaining toll barriers. Adjustments for commercial vehicle volume discounts are also included. There is a slight reduction in revenue at the Governor Mario M. Cuomo Bridge in 2016; this is due to its conversion to cashless tolling and the inability to bill or collect revenue from some Tolls by Mail customers, due to factors such as bad or missing license plate images, invalid DMV records, invalid addresses, nonpayment of toll invoices, or dismissals. Note that in January 2017 the *E-ZPass* discount for customers with non-NY *E-ZPass* was discontinued, which is why the revenue growth for 2017 (3.3 percent) was noticeably higher than the traffic growth (0.9 percent) shown previously in Table 7. All of the remaining toll barriers were converted to cashless tolling in 2018: Grand Island Bridges in March 2018, Harriman Barrier in September 2018, Yonkers Barrier in November 2018, and Spring Valley and New Rochelle Barriers in December 2018, which, due to some uncollectable Tolls by Mail revenue, led to a small reduction in revenue at these barriers in 2018. Even with the conversion, 2018 saw positive systemwide toll revenue growth over 2017. Toll revenues in 2018 and 2019 grew by less than one percent. In 2020, toll revenues dropped by 16.8 percent primarily due to COVID-19. Because truck traffic has not been as affected by the pandemic as car traffic, and trucks pay higher tolls, the revenue loss was not as deep as the traffic loss. With the conversion of the controlled system to cashless in mid-November 2020, there were additional losses due to some uncollectable Tolls by Mail revenues along with the lag between the time a trip is made and the toll is collected. These impacts continued into 2021, the first full year of cashless tolling on the controlled



system. With the January 2021 systemwide toll increase and traffic growth related to COVID recovery, however, the 2021 forecasted toll revenue reached \$760.3 million - more than \$20 million higher than the pre-COVID 2019 annual toll revenue.

Table 8: The Thruway System’s Actual 2012-2021 Toll Revenues (millions)

Year	Passenger Cars			Commercial Vehicles				Total	Growth
	Controlled System	TZB/ Cuomo Br.	Other Barriers	Controlled System	TZB/ Cuomo Br.	Other Barriers	CV Disc		
2012	\$220.7	\$103.4	\$81.2	\$196.9	\$26.2	\$32.1	\$(22.8)	\$637.7	0.6%
2013	225.6	105.1	81.3	199.1	28.8	32.8	(23.8)	648.9	1.8%
2014	226.5	105.1	81.6	209.6	32.2	33.6	(24.6)	664.1	2.3%
2015	237.8	106.5	83.5	219.3	34.4	35.6	(25.5)	691.7	4.2%
2016 ⁽¹⁾	245.2	103.4	84.0	227.6	38.2	36.4	(26.6)	708.3	2.4%
2017 ⁽²⁾	251.6	103.4	84.1	233.3	47.8	38.7	(27.4)	731.5	3.3%
2018 ⁽³⁾	250.3	104.2	81.3	242.0	47.8	39.1	(28.0)	736.5	0.7%
2019	253.0	105.1	77.7	243.1	50.2	38.8	(28.0)	739.9	0.5%
2020 ⁽⁴⁾⁽⁵⁾	177.2	80.6	59.9	240.8	48.2	37.7	(29.0)	615.3	-16.8%
2021 ⁽⁶⁾	215.7	112.8	76.0	261.9	77.2	46.5	(29.9)	760.3	23.6%

Notes: Totals may not add due to rounding.

⁽¹⁾ Cashless tolling began at the Governor Mario M. Cuomo Bridge April 23, 2016.

⁽²⁾ Removal of discounts for vehicles with non-NY E-ZPass began on January 1, 2017.

⁽³⁾ Cashless tolling began on Grand Island Bridges in March 2018, at the Harriman Barrier in September 2018, Yonkers Barrier in November 2018, and Spring Valley and New Rochelle Barriers in December 2018.

⁽⁴⁾ Cashless tolling began at all controlled system toll locations on November 14, 2020

⁽⁵⁾ COVID-19 impacts began in March 2020

⁽⁶⁾ Systemwide Toll Increase; first full year of systemwide cashless tolling.

3.4.3 Other Revenues

In addition to toll revenues, the Authority collects a variety of non-toll revenues derived from payments received from concessionaires at the Thruway service areas’ restaurant and gasoline stations, sales of surplus property, revenues from special hauling permits, E-ZPass violations and other E-ZPass fees, fiber optic agreements, interest on various invested funds, and other miscellaneous sources. In addition, after the start of cashless tolling at the Governor Mario M. Cuomo Bridge in April 2016, “other revenues” also include fines and late fees collected from Tolls by Mail customers who do not pay their toll bills on time. One of these fees is a \$5 per bill late fee which is charged on the second bill sent to Tolls by Mail customers if payment has not been received for the first toll bill. This fee is split among all the New York E-ZPass agencies whose transactions appear on a single late toll bill. In addition, on the third bill – a violation notice – a fine is charged. Violations also continue to be charged to E-ZPass customers who travel through a toll location without sufficient funds in their accounts, and cash customers who evade the toll. Some changes were made in recent years to violation fees charged on the Thruway System:

- On January 20, 2016, an enforcement measure was enacted whereby drivers of New York State registered vehicles with toll violations on five days over an 18-month period would have their registration suspended. In 2017 this was changed to three violations over a five-year period. This enforcement measure was applied to all past unpaid tolls and violations from prior years.



- Starting January 1, 2017, violations for systemwide *E-ZPass* vehicles and Governor Mario M. Cuomo Bridge Tolls by Mail customers that did not pay their toll bills increased from \$25 to \$50.
- On January 17, 2017, this Tolls by Mail violation fee increased again to \$100 at the Governor Mario M. Cuomo Bridge.
- On January 9, 2018, the Authority announced a short-term amnesty program that allowed Tolls by Mail customers with open toll violations to pay their outstanding tolls and have all violations and late fees waved. This program ran from January 22, 2018 through February 26, 2018 and resulted in \$1.1 million in additional toll revenue for the Governor Mario M. Cuomo Bridge.
- Starting May 15, 2018, the Tolls by Mail violation fee was reduced to \$50 per transaction at the Gov. Mario M. Cuomo Bridge. This Tolls by Mail \$50 violation fee applies to all the other barriers that have converted to cashless tolling.
- Starting in 2021, a \$2 billing fee was added to Tolls by Mail invoices, and the Tolls by Mail violation fee was changed from \$50 per transaction to \$50 per violation notice systemwide.
- During the period of transitioning to a new collection agent in the fall of 2020, the Authority temporarily suspended sending violations to collections. While this resumed later in 2021, it only included violations incurred in 2021.
- As part of the conversion to systemwide cashless tolling, the Authority temporarily suspended mailing of violation notices beginning February 2021; mailing of violation notices resumed in the summer of 2021.

In 2016, the first year with cashless tolling on the Governor Mario M. Cuomo Bridge, \$5.3 million was collected in *E-ZPass* violation fees. This grew to \$7.7 million in 2017 and \$10.6 million in 2018. The increases can be attributed to enforcement measures and included a significant amount of delayed violation payments (violations from trips made in prior years). In addition, all *E-ZPass* violation trips made in 2017 and after were charged the increased *E-ZPass* violation fee of \$50. In 2019 and 2020, collected *E-ZPass* violation fees dropped to \$9.6 million and \$8.3 million, respectively. This decline was expected because *E-ZPass* violation fees also included non-*E-ZPass* customers at facilities where cash was collected, and by the end of 2018 all barriers had been converted to cashless toll collection.

Also in 2016, \$0.3 million was collected in \$5 per bill late fee charges which appear on the second bill sent to Tolls by Mail customers, and \$2.2 million was collected in Tolls by Mail violation fees which were charged per transaction on the third bill sent to Tolls by Mail customers. These collected revenues grew significantly to \$1.0 million and \$14.6 million in Tolls by Mail late fees and violations, respectively, in 2017. This growth occurred because 2017 was the first full year with Tolls by Mail at the Governor Mario M. Cuomo Bridge, and because the Tolls by Mail violation fee increased from \$25 to \$50 and then to \$100. In 2018, the amnesty program and the reduction in Tolls by Mail violation fees to \$50 at the Bridge resulted in a reduction of late fee revenue from Tolls by Mail customers; the Authority collected \$0.9 million in second bill late fees plus \$10.6 million in Tolls by Mail violations during this year. These revenues grew to \$1.4 million in late fees plus \$14.2 million in Tolls by Mail violations in 2019, the first full year with cashless tolling at all barriers. COVID-19 impacts slightly reduced the growth of fees and violation revenue in 2020, with \$1.1 million collected in late fees plus \$14.3 million collected in Tolls by Mail violations. The Authority also began to charge Tolls by Mail billing fees in April 2021 after the entire system was converted to cashless and collected \$6.2 million in billing fees that year. Tolls by Mail late fees and violations increased to \$2.6 million and \$23.3 million, respectively, in 2021. The actual numbers show a decline in systemwide *E-ZPass* violation revenues (to \$1.9 million in 2021) as more facilities were converted to cashless tolling. This is because these revenues include both *E-ZPass* and cash customer violations, and by 2021 there were no longer any cash customers on the system; most of this 2021 *E-ZPass* violation revenue collected was from cash customers traveling on the system in 2020, pre-conversion.



Historical gross total revenues, including both toll revenues and other revenues between 2012 and 2021, are summarized in Table 9.

Table 9: Summary of 2012 – 2021 Actual Thruway System Gross Total Revenues (millions)

Year	Toll Revenues	Other Revenues ⁽¹⁾	Total Revenues
2012	\$637.7	\$31.5	\$669.2
2013	648.9	31.8	680.7
2014	664.1	32.4	696.4
2015	691.7	34.6	726.3
2016 ⁽²⁾	708.3	41.0	749.4
2017 ⁽³⁾	731.5	60.6	792.1
2018 ⁽⁴⁾	736.5	62.3	798.8
2019	739.9	72.2	812.1
2020 ⁽⁵⁾⁽⁶⁾	615.3	53.2	668.5
2021 ⁽⁷⁾	760.3	66.3	826.5

Note: Totals may not add due to rounding

⁽¹⁾ Includes fines and late fees collected from Tolls by Mail customers who do not pay their toll bills on time.

⁽²⁾ Cashless tolling began at the Governor Mario M. Cuomo Bridge April 23, 2016.

⁽³⁾ E-ZPass discount discontinued for vehicles with non-NY E-ZPass accounts.

⁽⁴⁾ Cashless tolling began on Grand Island Bridges in March 2018, at the Harriman Barrier in September 2018, Yonkers Barrier in November 2018, and Spring Valley and New Rochelle Barriers in December 2018.

⁽⁵⁾ COVID-19 impacts began in March 2020

⁽⁶⁾ The controlled system began operating with cashless tolling in mid-November 2020.

⁽⁷⁾ Toll modification on January 1, 2021 (systemwide); first full year of systemwide cashless tolling.

3.5 HISTORICAL FLOW OF FUNDS ANALYSIS

Table 10 presents total revenue and expenses for 2012 through 2021 in a format that is consistent with the flow of funds required by the Authority’s Bond Resolution. As noted in this table, from 2012 through 2021 the Authority was able to maintain fiscal stability and a debt service coverage ratio that warranted its current favorable credit investment grade credit rating. This was accomplished by the capital program reductions, operational cost containment efforts and toll rate adjustments. However, these actions were insufficient to fully maintain net revenues at a level that would result in good coverage and fiscal balance. As a result, the Authority relied on the issuance of short-term notes to bridge financing gaps in lieu of taking other actions. The combination of these measures allowed the Authority to maintain a balanced flow of funds and achieve budget surpluses that were used to enhance its working capital reserves.



Table 10: Historical Thruway Flow of Funds and Debt Service Coverage (millions)

	ACTUAL									
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total Revenues	\$ 669.2	\$ 680.7	\$ 696.4	\$ 726.3	\$ 749.4	\$ 792.1	\$ 798.8	\$ 812.1	\$ 668.5	\$ 826.5
Gap Closing Revenues	-	-	-	-	-	-	-	-	-	-
Available Revenues	669.2	680.7	696.4	726.3	749.4	792.1	798.8	812.1	668.5	826.5
Less:										
Operating Expenses	357.0	279.6	286.1	287.4	311.6	329.7	339.9	350.9	316.6	339.8
Operating Reserves	2.0	3.5	5.9	1.8	1.8	2.7	5.0	6.0	2.0	6.5
Total Operating Costs	359.0	283.1	292.0	289.2	313.3	332.4	345.0	356.8	318.6	346.3
Net Revenues	310.2	397.6	404.4	437.1	436.0	459.7	453.8	455.2	349.9	480.2
Less: Gen. Rev. Bonds Debt Service	198.5	239.8	250.9	235.4	227.3	234.6	220.3	226.8	166.8	241.3
Net Revenues After Gen. Rev. Debt Service	111.7	157.8	153.5	201.7	208.7	225.1	233.5	228.5	183.1	238.9
Less Reserve Maintenance Provisions	36.2	79.8	35.7	97.1	68.8	103.2	74.1	131.4	97.3	100.3
Less Junior Indebtedness Debt Service	-	-	-	-	29.2	43.7	79.2	47.4	23.1	46.7
Net Revenues After Jun. Ind. Debt Service	75.5	78.0	117.8	104.6	110.7	78.3	80.2	49.6	62.6	91.9
+/- Operating Reserves Adjustment/AETC Lag/Working Capital Provision	(5.3)	10.8	(15.2)	(18.1)	(8.5)	(19.3)	(24.6)	13.6	(2.5)	24.2
Other Authority Projects	51.9	47.7	46.8	52.0	13.8					
Less: Facil Cap Imp Fund	8.0	25.0	10.0	20.5	14.0	5.0	12.0	8.0	-	-
Less: General Reserve Fund	10.1	16.1	45.6	14.0	74.0	54.0	43.6	41.9	59.1	64.6
Less: Gen Res Fund - Subordinate Debt	-	-	-	-	-	-	-	13.3	1.1	51.6
Adj to Cash Basis	0.2		0.2		0.4					
Balance After Reserve Maintenance Provisions, Other Authority Projects	-	-	-	-	-	-	-	-	-	-
Senior Debt Service Coverage	1.56	1.66	1.61	1.86	1.92	1.96	2.06	2.01	2.10	1.99
Junior & Senior Coverage	1.56	1.66	1.61	1.86	1.70	1.65	1.52	1.66	1.84	1.67

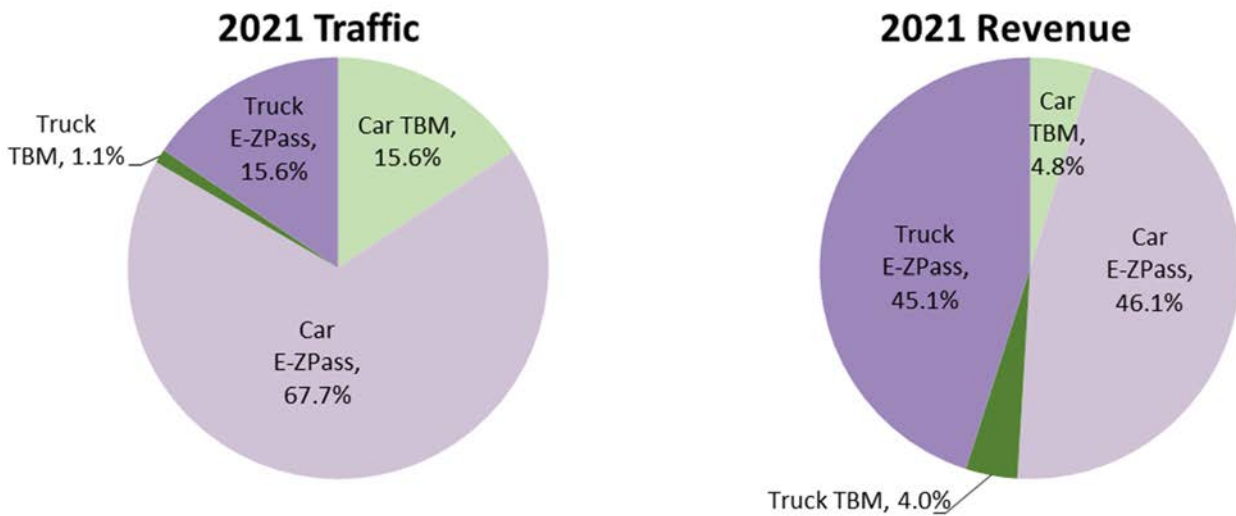
Note: Totals may not add due to rounding.



4.0 THRUWAY TRIPS AND CUSTOMERS

To better understand Thruway revenue trends and the impact toll policy may have on its patrons, it is important to appreciate the traffic make-up on the Thruway System and its customer base. As shown in Figure 3, in 2021 roughly 83 percent of traffic on the Thruway System was composed of passenger cars, with the remaining 17 percent of traffic coming from a variety of commercial vehicle types. In 2021, more than 83 percent of total vehicles paid tolls with an *E-ZPass* transponder (approximately 81 percent of passenger vehicles and 94 percent of commercial vehicles). It should be noted that while commercial vehicle traffic made up only 17 percent of systemwide traffic, it accounted for about 49 percent of all Thruway toll revenues.

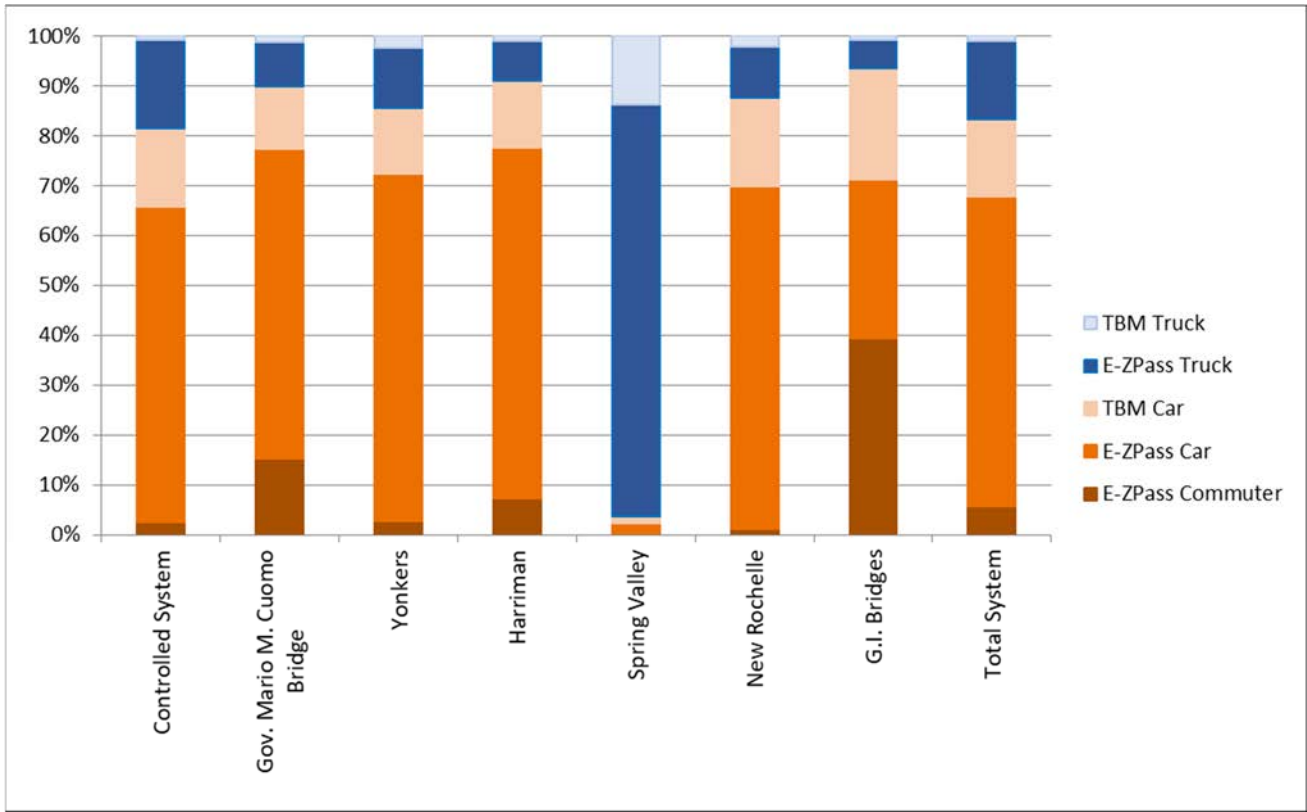
Figure 3: 2021 Systemwide Traffic and Revenue Distribution



The distributions of vehicle class and payment types vary by facility, as shown in Figure 4. The highest passenger car participation in *E-ZPass* is seen at the Yonkers and Harriman Barriers and the Governor Mario M. Cuomo Bridge, while the highest truck participation rate in *E-ZPass* payment is seen at the Harriman Barrier and controlled system. It should be noted that although *E-ZPass* transactions account for about 83 percent of annual transactions on the Thruway, the majority of actual individual customers using the Thruway over the course of a year travel infrequently and do not have *E-ZPass*.



Figure 4: 2021 Passenger Car and Commercial Vehicle Traffic Distribution by Facility



As noted in Figure 5, the controlled system and the Governor Mario M. Cuomo Bridge generate the most significant portions of the Thruway’s traffic and revenue. In 2021, the controlled system generated a total of \$477.6 million or about 61 percent of all Thruway toll revenues and the Governor Mario M. Cuomo Bridge generated \$190.0 million or about 24 percent of total toll revenues. The New York City metropolitan area barrier tolls generated about \$105.3 million or a combined 13 percent of 2021 revenues, while the Grand Island Bridges generated about \$17.2 million or some 2 percent of revenues. 2021 total toll revenues were \$790.1 million collected in toll transactions minus \$29.8 million in commercial vehicle volume discounts (discussed on page 36), for a net amount of \$760.3 million.

Specific regions within the controlled system that see the most traffic volume include the Albany area, the Buffalo mainline plazas, and the Woodbury mainline plaza. While traffic after the cashless tolling conversion is no longer counted at every ramp, 2019 (pre-conversion) volumes provide a good indicator of the most heavily used parts of the system. The controlled system exit points with the highest volumes in 2019 are shown in Table 11.



Figure 5: Distribution of 2021 Toll Revenues by Thruway Facility

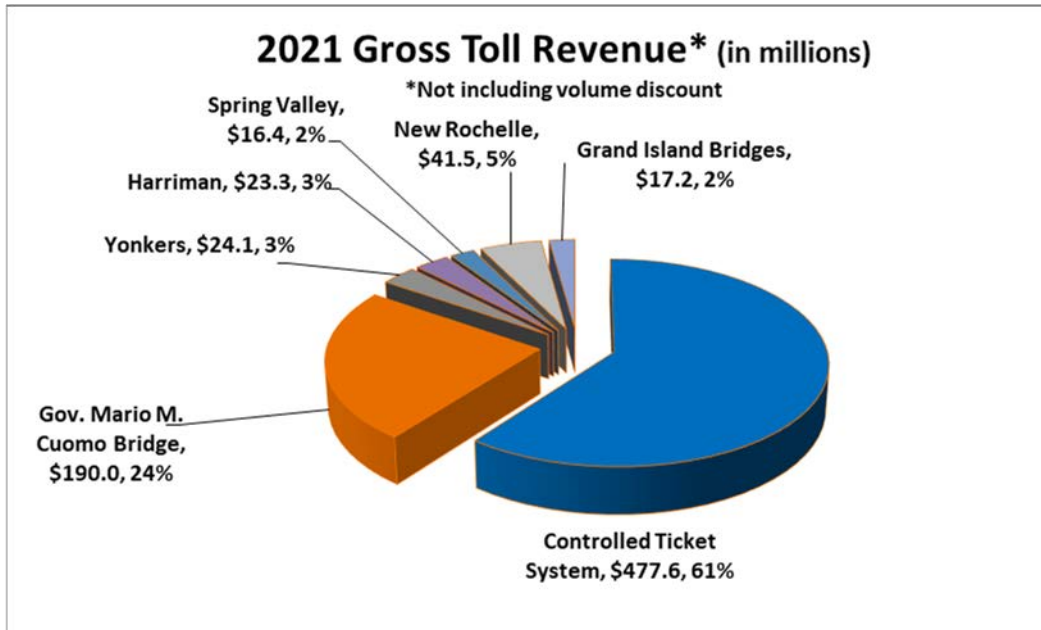


Table 11: Controlled System Exit Locations with the Highest Volumes, 2019

Plaza / Interchange	Millions of Annual Vehicles
Exit 24: Albany, Montreal, I-90 East, I-87 North	14.1
Exit 50: Williamsville (Buffalo)	10.1
Exit 55: Lackawanna (Buffalo)	9.4
Exit 15: Woodbury	7.9
Exit 25: Schenectady, I-890, NY Routes 7 & 146	7.3
Exit 45: Rochester, Victor, I-490	6.9

Customers that had a transponder issued by a New York State toll agency (the Thruway Authority, Port Authority of NY & NJ or the Metropolitan Transportation Authority) accounted for about 60 percent of total *E-ZPass* toll revenues in 2020. As a result, 40 percent of *E-ZPass* toll revenues in 2020 were collected from customers that had a non-New York issued transponder, underscoring the importance of the Thruway System in the regional and national economy.



5.0 CAPITAL PROGRAM

In order to better understand the Authority's current and future financial condition, consideration must be given to the size, complexity and capital needs of its highway and bridge infrastructure. The Authority's Thruway System is extensive and aging and requires considerable investments to remain reliable. This section summarizes the Authority's 2023-2027 Capital Program, the infrastructure investments and program changes that are to be made therein, and the impact that these investments will likely have on facility condition ratings. Table 4 on page 11 and Table 12 on page 25 summarize the actual annual capital expenditures from 2012 through 2021, and planned expenditures through 2031. These are followed by Table 5 and Table 13 which provide detail on the funding sources for the recent capital program and projections for future capital programs.

5.1 2023-2027 CAPITAL PROGRAM DETAILS

The Authority's 2023-2027 Capital Program will provide about \$1.9 billion for Authority capital projects. The Capital Program includes reconstruction and rehabilitation of roadway, bridges, facilities, equipment, and support systems. From 2023 through 2027, the Authority believes that the planned investments made in this program will preserve overall highway and bridge conditions in the "good" category, allowing for the continued reliability of the Thruway System.

The Cashless Tolling Project is discussed in Section 5.2. Other major Thruway projects included in the 2023-2027 program include:

- East of Fulton (Exit 39, MP 289.3) to west of Weedsport (Exit 40, MP 304.5): Concrete Pavement Restoration (2025 letting)
- MP 72.5 to 76.5 Pavement Reconstruction 2027-2028 (2026 letting)
- MP 16.2 to 24.0: Pavement Reconstruction, NY Division (2027 letting)
- I-190, MP 900.7 - MP 904.2 (South end of Viaduct): Pavement Rehabilitation (2023 letting)
- East of Williamsville Toll Barrier (MP 419.4) to west of Buffalo-Williams Street (Exit 52A, MP 425.9): Pavement Resurfacing (2027 letting)
- I-95, New England Thruway MP 604.0 to MP 608.8: Highway Rehabilitation 2024-2025 (2024 letting)
- Major Deegan Expressway (MP 0.00) to Cross Westchester Expressway (Exit 8, MP 11.3): Pavement Resurfacing (2026 letting)
- I-95, New England Thruway, North of Larchmont (Exit 17) to north of White Plains (Exit 18B) Southbound and north of White Plains (Exit 18B) to Rye (Exit 20): Pavement Resurfacing (MP 608.80) (2025 letting)
- MP 801.08: Castleton Bridge: Rehabilitation (2025 letting)
- North of Harriman Toll Barrier to Newburgh (Exit 17): Pavement Resurfacing (MP 46.00) (2024 letting)
- Canandaigua (Exit 44, MP 347.1) to Rochester (Exit 45, MP 351.4): Pavement Rehabilitation (2024 letting)
- MP 467.0 to 483.0: Pavement Rehabilitation (2027 letting)



- West of Schenectady / I-890 (Exit 25, MP 154.30) to west of Schenectady / Scotia (Exit 26, MP 161.3): Pavement Resurfacing (2024 letting)
- MP 914.99 and 914.35: Steel Repairs and Seismic Upgrades of the South Grand Island Bridges (2025 letting)

The Authority adopts its Capital Program on a rolling 5-year basis, amending it each year to include the next year. As the Authority progresses through the current Capital Program, it will continue to modernize and enhance its asset management and capital program management systems to ensure that changes to the program maintain the proper project mix, maximize investment value, and maintain good condition ratings as the economy and pricing environments change.

5.2 CASHLESS TOLLING PROJECT

The Thruway Authority has modernized its 570-mile transportation system by converting to cashless tolling. Cashless tolling reduces congestion, improves traffic flow, is better for the environment, and allows for non-stop travel. The seven toll barriers had been converted to cashless tolling between 2016 and 2018. For the controlled system, the formerly ticketed portion of the Thruway, Cashless Tolling Constructors, LLC was awarded the Design-Build contract for cashless toll conversion at a cost of \$355.3 million. Work began in fall 2019. Phase one included the installation of steel gantries over the highway and exit/entrance ramps and equipment (see example in Figure 6) to scan *E-ZPass* tags and capture license plate information. The system was fully operational as cashless beginning November 14, 2020. The second phase of the project began immediately after the November 2020 conversion and included the removal of the toll plazas at 52 interchanges and realignment and repaving of the ramps, which allows for travel through tolling points without reducing speed. The project was completed in 2021.

Figure 6: Example of Thruway Cashless Tolling Gantry Before Toll Plaza Removal



5.3 PLANNED CAPITAL EXPENDITURES

Table 12 presents the 2022-2031 planned expenditures. With these planned capital expenditures, the Authority can continue to provide good service to its customers, meet the demands of future traffic growth, and ensure that the system is not adversely affected by deteriorating bridge and pavement conditions.

Table 12: Projected 2022-2031 Total Capital Expenditures (millions)

Year	Thruway Highway and Bridges Capital Expenditures	Equipment Replacement and Other Facility Capital Needs	Canal System and Other Authority Projects	Subtotal Capital Program Expenditures	New NY Bridge Project Capital Costs	Total Capital Program Expenditures
2022	\$236.0	\$71.7	\$0.0	\$307.8	\$20.0	\$327.8
2023	302.7	64.9	0.2	367.8	45.0	412.8
2024	290.5	49.0	0.0	339.5	189.1	528.6
2025	292.7	44.3	0.0	336.9	0.0	336.9
2026	279.0	48.7	0.0	327.7	0.0	327.7
2027	271.5	55.0	0.0	326.5	0.0	326.5
2028	277.0	56.1	0.0	333.0	0.0	333.0
2029	282.5	57.2	0.0	339.7	0.0	339.7
2030	288.1	58.3	0.0	346.5	0.0	346.5
2031	293.9	59.5	0.0	353.4	0.0	353.4
Total 2022-2031	\$2,813.8	\$564.7	\$0.2	\$3,378.7	\$254.1	\$3,632.9

Note: Numbers may not add due to rounding.

Table 13 summarizes planned funding sources for 2022 through 2031 including the 2023-2027 Capital Program.

Table 13: Projected 2022-2031 Funding Sources, Thruway Authority (millions)

Year	Funding Sources					
	Federal Aid	Other	Bond / Note Proceeds	Subtotal Exclusive of Thruway Revenues on Pay-As-You-Go Basis	Revenues Required from Tolls, etc.	Pay-As-You-Go %
2022	\$-	\$1.0	\$139.0	\$140.0	\$187.7	57.6%
2023	-	1.3	319.3	320.6	92.2	22.6%
2024	-	2.2	469.0	471.2	57.4	11.3%
2025	-	2.8	255.0	257.8	79.1	24.3%
2026	-	1.9	240.1	242.0	85.7	26.7%
2027	-	0.0	236.6	236.6	89.9	27.5%
2028	-	0.0	245.0	245.0	88.0	26.4%
2029	-	0.0	249.2	249.2	90.4	26.6%
2030	-	0.0	250.8	250.8	95.7	27.6%
2031	-	0.0	252.6	252.6	100.8	28.5%
Total 2022-2031	\$0.0	\$9.3	\$2,656.8	\$2,666.0	\$966.8	26.9%

Note: Numbers may not add due to rounding.

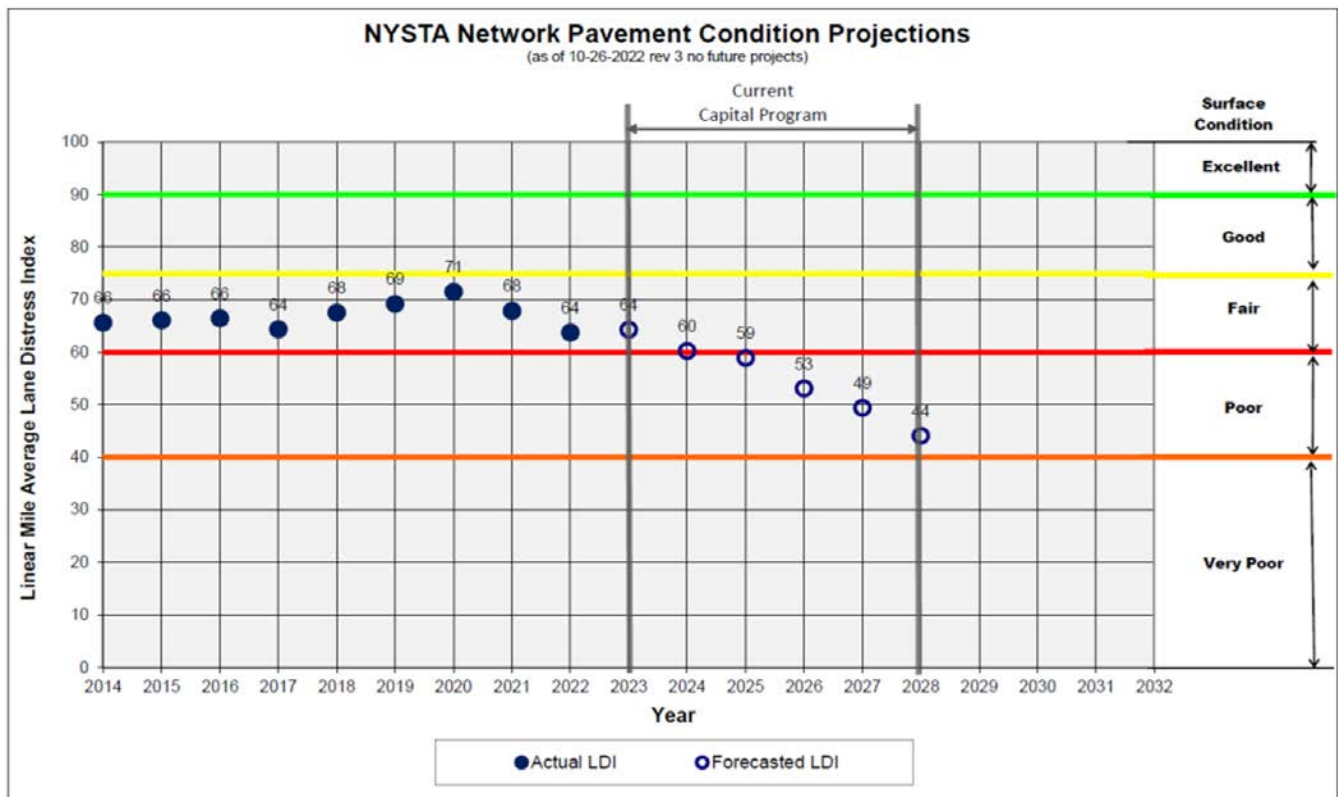


5.4 THE IMPACT OF THE CAPITAL PROGRAM ON CONDITIONS

As previously noted, the main goals of the Authority’s capital and maintenance program are to preserve a high level of patron safety and service, maintain facilities in a state of good repair and ensure the overall reliability of the highway system. One measure of the effectiveness of these maintenance and capital programs is the condition ratings of highway and bridge facilities.

Figure 7 displays the historic average rating of Thruway pavement surface conditions since 2014 and the projected ratings as a result of the current capital program. It is projected that the pavement ratings for the Thruway facilities will range from “fair” to “good” through 2024, deteriorating into the “poor” category in the following years, highlighting the need for additional funding.

Figure 7: Historical and Forecasted Thruway Pavement Conditions

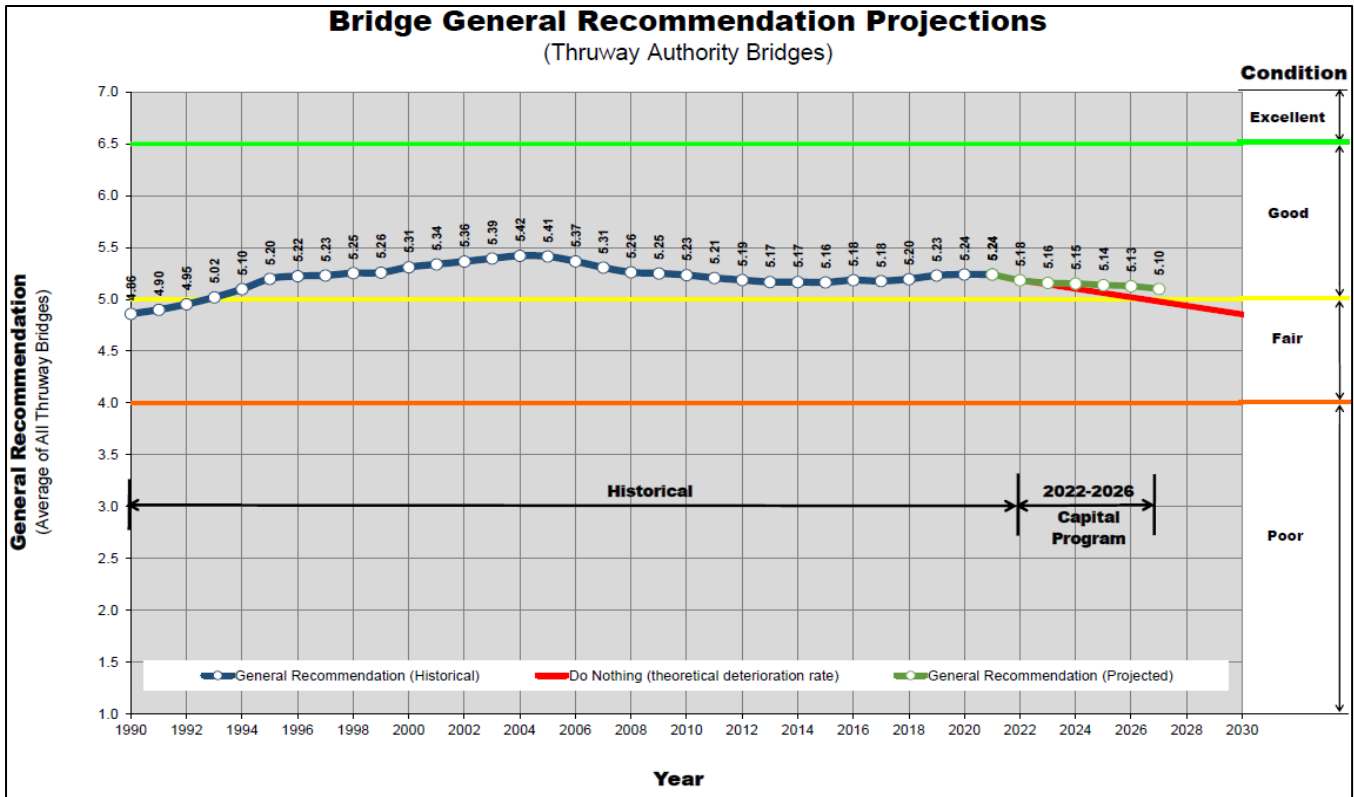


Similarly, the Authority maintains ratings for the 816 bridge structures for which it has maintenance responsibility. The Authority strictly complies with all State and federal bridge inspection requirements and the assessments in this report reflect the outcomes of such inspections. Figure 8 shows actual and projected bridge condition ratings from 1990 through 2027 and include a change in the bridge inspection methodology in 2016, which was mandated by the Federal Highway Administration (FHWA). As noted, the current capital program will maintain the average rating of all bridges in the “good” category.

Prior to 2016, the bridge condition rating was calculated by a specific formula containing separate components for each of the bridge elements. The current inspection methodology (since 2016) represents the condition of each element in terms of how much of the element is in a specific condition, called “condition state.”



Figure 8: Historical and Forecasted Thruway Bridge Condition Ratings



Note: Due to changes in the New York State Bridge Inspection System in 2016, the Bridge Condition Rating in 2016 through 2027 was projected based upon the 2015 data.

Table 14 presents a summary of the general recommendation rating for bridges on the Thruway based on bridge inspections through September of 2022. The general recommendation is the inspector’s assessment of the overall bridge condition. This rating was not affected by the inspection methodology change. The general recommendation ranges from 7 (bridge is in new condition) to 1 (bridge deterioration is so extensive that partial or total collapse is imminent). The lowest general recommendation for a Thruway bridge is 3 (considerable deterioration of some or all bridge components). Compared to the previous conditions recorded in January 2021, a number of bridges have been improved.

Table 14: Bridge Conditions, January 2021 and September 2022

BRIDGE RATINGS		
CONDITION	NO. OF BRIDGES	
	January 2021	September 2022
GENERAL RECOMMENDATION 5-7 Bridges in generally good condition with only minor to moderate repairs required.	698	706
GENERAL RECOMMENDATION 4 Bridges in good to fair condition requiring reconditioning of some structural elements.	108	100
GENERAL RECOMMENDATION 2-3 Bridges in poor condition requiring major repairs or replacement.	10	10



6.0 EXPENSES AND REVENUES WITH THE CURRENT TOLL SCHEDULE

The following section summarizes the important components of the Authority’s current long-term financial plan based on the current toll structure, the 2023-2027 Capital Program and projected operating expenses.

6.1 PROJECTED OPERATING AND MAINTENANCE EXPENSES

Table 15 shows the 2022 through 2031 projected O&M costs.

Table 15: The Thruway System’s Projected 2022-2031 Operating and Maintenance Expenses (millions)

Year	Thruway Operations	Reserves ⁽¹⁾	Total Operating Expenses, 2019 Budget Forecast
2022	\$379.4	\$1.0	\$380.4
2023	396.5	1.0	397.5
2024	404.4	1.0	405.4
2025	412.5	1.0	413.5
2026	420.8	1.0	421.8
2027	429.2	1.0	430.2
2028	437.8	1.0	438.8
2029	446.6	1.0	447.6
2030	455.5	1.0	456.5
2031	464.6	1.0	465.6
Total 2022-2031	\$4,247.3	\$10.0	\$4,257.3

⁽¹⁾ Includes provisions for legal claims and indemnities and reserves for environmental remediation.

6.2 PROJECTED DEBT SERVICE EXPENSES

Table 16 shows debt service expenses on general revenue bonds and notes issued under the Bond Resolution to support the Authority’s current and future capital needs, as manifested in the Capital Program, and based on the current toll schedule. As noted, debt service expenses are expected to increase as the Authority issues additional bonds to refinance outstanding notes and finance the future infrastructure needs of the Thruway System. Debt service expenses are projected to reach a maximum of \$543.3 million in 2031.



Table 16: Projected 2022-2031 Debt Service with Current Toll Schedule, Thruway System (millions)

Year	Senior Debt Service	Bond Anticipation Note (BAN) or Line of Credit Interest	Junior Debt Service	Total Debt Service
2022	\$242.3	\$0.6	\$63.0	\$305.8
2023	248.6	0.0	107.5	356.0
2024	256.7	0.0	108.7	365.4
2025	307.8	0.0	123.5	431.4
2026	324.7	0.0	129.6	454.4
2027	339.2	0.0	131.3	470.5
2028	319.0	0.0	168.2	487.2
2029	332.9	0.0	170.7	503.6
2030	391.3	0.0	132.2	523.5
2031	407.4	0.0	135.9	543.3
Total 2022-2031	\$3,169.9	\$0.6	\$1,270.5	\$4,441.0

Note: Numbers may not add due to rounding. Projected debt service numbers are net of Debt Service Reserve Fund interest.

6.3 PROJECTED TRAFFIC AND REVENUES

6.3.1 Projected Traffic with Current Toll Schedule

Table 17 shows Stantec's forecast of traffic through 2031 with the current toll schedule. A slight economic downturn in 2023 and the return of truck traffic to lower pre-COVID levels over the next two years have been assumed in the forecast, with recovery and moderate growth projected in the years that follow.



Table 17: Projected 2022-2031 Tolled Traffic with Current Toll Schedule (millions of trips)

Year	Passenger Cars			Commercial Vehicles			Total	Growth
	Controlled System	Gov. Mario M. Cuomo Br.	Other Barriers	Controlled System	Gov. Mario M. Cuomo Br.	Other Barriers		
2022	214.9	25.1	69.2	46.9	2.7	10.4	369.2	2.8%
2023	214.9	25.1	69.2	44.2	2.6	9.8	365.9	-0.9%
2024	224.6	25.8	70.7	42.6	2.6	9.6	375.8	2.7%
2025	230.7	26.3	71.7	42.7	2.6	9.6	383.7	2.1%
2026	232.9	26.6	72.1	42.9	2.7	9.7	386.8	0.8%
2027	235.1	27.0	72.4	43.1	2.7	9.8	390.1	0.8%
2028	237.3	27.3	72.8	43.3	2.7	9.8	393.2	0.8%
2029	239.5	27.7	73.1	43.5	2.7	9.9	396.4	0.8%
2030	241.7	28.0	73.5	43.8	2.7	10.0	399.7	0.8%
2031	244.0	28.4	73.8	44.0	2.8	10.1	403.0	0.8%

Notes: Totals may not add due to rounding. Traffic classified as non-revenue is not included. No future toll rate adjustments are assumed in the forecasts.

6.3.2 Projected Toll Revenue with Current Toll Schedule

Table 18 presents the gross toll revenue forecasts for the Thruway System through 2031 with the current toll schedule. After a year of assumed economic downturn and projected lower truck levels reducing toll revenue in 2023, moderate growth in annual toll revenue is expected.

Table 18: Projected 2022-2031 Toll Revenues with Current Toll Schedule (millions)

Year	Passenger Cars			Commercial Vehicles				Total	Growth
	Controlled System	Gov. Mario M. Cuomo Br.	Other Barriers	Controlled System	Gov. Mario M. Cuomo Br.	Other Barriers	CV Disc		
2022 ⁽¹⁾	\$228.0	\$127.4	\$79.7	\$264.5	\$95.5	\$47.5	\$(32.0)	\$810.8	6.6%
2023	228.1	128.1	80.0	259.0	91.7	44.8	(30.9)	800.7	-1.2%
2024	238.8	130.9	82.4	257.1	89.6	43.4	(30.5)	811.7	1.4%
2025	245.4	134.0	84.1	258.8	90.3	43.8	(30.7)	825.6	1.7%
2026	247.7	136.3	84.7	260.2	90.8	44.2	(31.0)	832.9	0.9%
2027	250.1	138.6	85.2	261.6	91.3	44.5	(31.2)	840.3	0.9%
2028	252.4	140.4	85.6	263.0	92.0	44.8	(31.3)	846.9	0.8%
2029	254.8	142.1	86.0	264.3	92.7	45.1	(31.5)	853.6	0.8%
2030	257.2	143.9	86.5	265.7	93.4	45.4	(31.7)	860.3	0.8%
2031	259.6	145.7	86.9	267.1	94.1	45.7	(31.9)	867.1	0.8%

Notes: Totals may not add due to rounding. No future toll rate adjustments are included in the forecasts.

⁽¹⁾ Tolls increased (on Governor Mario M. Cuomo Bridge only) to current toll schedule.



6.3.3 Other Revenues/Total Revenues with Current Toll Schedule

Table 19 presents the forecasts of 2022-2031 total gross revenues with the current toll schedule. The current Tolls by Mail violation fee of \$50 per bill has been assumed at all facilities throughout the forecast period, with the current level of enforcement. Note that there is the need for additional revenues starting in 2024. This additional need is discussed in Section 6.4.

Table 19: Projected 2022-2031 Thruway System Total Gross Revenues with Current Toll Schedule (millions)

Year	Toll Revenues	Other Revenues ⁽¹⁾	Additional Revenue Need	Total Revenues
2022 ⁽²⁾	\$810.8	\$87.2		\$898.0
2023	800.7	88.9		889.6
2024	811.7	84.2	\$2.8	898.7
2025	825.6	84.6	85.6	995.9
2026	832.9	84.5	117.7	1,035.1
2027	840.3	83.5	141.6	1,065.3
2028	846.9	83.9	165.7	1,096.5
2029	853.6	84.6	189.2	1,127.4
2030	860.3	85.2	217.7	1,163.2
2031	867.1	85.9	246.1	1,199.1

Note: Totals may not add due to rounding. No future toll rate adjustments are assumed in the forecasts.

⁽¹⁾ Includes fines and late fees collected from Tolls by Mail customers who do not pay their toll bills on time.

⁽²⁾ Tolls increased (on Governor Mario M. Cuomo Bridge only) to current toll schedule on January 1, 2022.

6.4 FLOW OF FUNDS

The Authority and its independent financial advisors determined that there will be additional revenues needed for the Authority to fulfill its systemwide operating, debt service, and capital needs through the forecast period. Future funding needs through 2031 were established by the Authority at amounts necessary to continue its high levels of safety and service, maintain good infrastructure conditions, support Thruway operations, and maintain debt service coverage levels appropriate for its current high “A” credit rating.

The projected flow of funds included in Table 20 shows the future revenue needs and debt service coverage ratios through 2031. The funding for the Capital Program and estimated debt to be refunded are also displayed in the table. In determining future funding needs, it is important to note that the Authority has a management commitment to a future minimum debt service coverage ratio of 1.55x for the Senior Lien, above the Board-adopted guideline of 1.50x. Additionally, the Authority has a management commitment to a minimum debt service coverage ratio for combined Senior Bonds and Junior Indebtedness Obligations of 1.35x, higher than the Junior Indebtedness Resolution requirement of 1.2x coverage for the combined annual Senior Bond debt service and annual Junior Indebtedness Obligation debt service. These Board-adopted



minimum coverage ratio guidelines are met or exceeded every year of the forecast through 2031; to meet minimum coverage requirements, the following additional annual revenues are needed starting in 2024:

- \$2.8 million in 2024
- \$85.6 million in 2025
- \$117.7 million in 2026
- \$141.6 million in 2027
- \$165.7 million in 2028
- \$189.2 million in 2029
- \$217.7 million in 2030
- \$246.1 million in 2031

In the absence of any proposed additional funding amounts, the Authority has the power, without approval by the Legislature or the Governor, to increase toll rates to maintain its high level of operating safety and services on the Thruway System, to maintain and rehabilitate the Thruway System, to pay debt service, to meet toll covenants and to maintain the balance of revenues and expenses. Based on our experience and knowledge of the Thruway System, it is our opinion that the essentiality of the Thruway System, its currently low relative toll rates, and the size of future rate adjustments that may be needed to produce these additional revenues can be achieved. Those adjustments would likely result in only small adverse changes to traffic patterns.



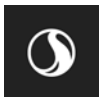
Table 20: Historical and Projected Thruway Flow of Funds and Debt Service Coverage with Current Toll Schedule (millions)

	ACTUAL			FORECAST										2022-2031 Total
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Total Revenues	\$ 812.1	\$ 668.5	\$ 826.5	\$ 898.0	\$ 889.6	\$ 895.8	\$ 910.3	\$ 917.4	\$ 923.7	\$ 930.8	\$ 938.2	\$ 945.6	\$ 953.0	\$ 9,202.5
Gap Closing Revenues ⁽¹⁾	-	-	-	-	-	2.8	85.6	117.7	141.6	165.7	189.2	217.7	246.1	1,166.3
Available Revenues	812.1	668.5	826.5	898.0	889.6	898.7	995.9	1,035.1	1,065.3	1,096.5	1,127.4	1,163.2	1,199.1	10,368.8
Less:														
Operating Expenses	350.9	316.6	339.8	379.4	396.5	404.4	412.5	420.8	429.2	437.8	446.6	455.5	464.6	4,247.3
Operating Reserves	6.0	2.0	6.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	10.0
Total Operating Costs	356.8	318.6	346.3	380.4	397.5	405.4	413.5	421.8	430.2	438.8	447.6	456.5	465.6	4,257.3
Net Revenues	455.2	349.9	480.2	517.6	492.1	493.2	582.4	613.4	635.2	657.7	679.8	706.7	733.5	6,111.5
Less: Gen. Rev. Bonds Debt Service	226.8	166.8	241.3	242.3	248.6	256.7	307.8	324.7	339.2	319.0	332.9	391.3	407.4	3,169.9
Net Revenues After Gen. Rev. Debt Service	228.5	183.1	238.9	275.3	243.6	236.6	274.5	288.6	296.0	338.7	346.9	315.4	326.1	2,941.7
Less Reserve Maintenance Provisions	131.4	97.3	100.3	167.7	67.0	57.4	79.1	85.7	89.9	88.0	90.4	95.7	100.8	921.6
Less Junior Indebtedness Debt Service	47.4	23.1	46.7	63.0	107.5	108.7	123.5	129.6	131.3	168.2	170.7	132.2	135.9	1,270.5
Net Revenues After Jun. Ind. Debt Service	49.6	62.6	91.9	44.6	69.1	70.5	71.9	73.3	74.8	82.5	85.8	87.6	89.4	749.5
+/- Operating Reserves Adjustment/AETC Lag/Working Capital Provision	13.6	(2.5)	24.2	30.0	-	-	-	-	-	-	-	-	-	30.0
Less: Facil Cap Imp Fund	8.0	-	-	7.5	-	-	-	-	-	6.3	8.0	8.2	8.4	38.4
Less: General Reserve Fund ⁽²⁾	41.9	59.1	64.6	66.6	69.1	70.5	71.9	73.3	74.8	76.3	77.8	79.4	81.0	740.6
Less: Gen Res Fund - Subordinate Debt	13.3	1.1	51.6	0.6	-	-	-	-	-	-	-	-	-	0.6
Balance After Reserve Maintenance Provisions, Other Authority Projects	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Senior Debt Service Coverage	2.01	2.10	1.99	2.14	1.98	1.92	1.89	1.89	1.87	2.06	2.04	1.81	1.80	
Junior & Senior Coverage	1.66	1.84	1.67	1.70	1.38	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	
Pay go % ROS Capital	100.0%	12.0%	35.3%	57.6%	22.6%	11.3%	24.3%	26.7%	27.5%	26.4%	26.6%	27.6%	28.5%	

Note: Totals may not add due to rounding. No toll rate adjustments are assumed in these forecasts.

⁽¹⁾ In 2024 through 2031 additional revenues are needed to meet the minimum coverage requirements for both the Senior Lien and combined Senior Bonds and Junior Indebtedness Obligations. The Authority has a management commitment to a future minimum debt service coverage ratio of 1.55x for the Senior Lien, above the Board-adopted guideline of 1.50x. The Authority has a management commitment to a minimum debt service coverage ratio for combined Senior Bonds and Junior Indebtedness Obligations of 1.35x, higher than the Junior Indebtedness Resolution requirement of 1.2x coverage for the combined annual Senior Bond debt service and annual Junior Indebtedness Obligation debt service.

⁽²⁾ The General Reserve Fund figures through 2024 reflect Thruway revenues required to reimburse the State of New York for costs associated with the New York State Police Troop T patrolling of the Thruway system.



7.0 PROPOSED MODIFICATIONS TO CURRENT TOLL RATES AND THE IMPACT TO THE AUTHORITY'S FINANCIALS

As concluded in the previous section of this report, funding shortages, inadequate debt service coverage ratios and low Pay-As-You-Go financing generated from the current toll schedule will require the Authority to pursue new revenue sources to complement its program of enhancing operational efficiency. This section proposes a specific toll adjustment that will provide fiscal stability and healthy financial metrics through the year 2031.

With the exception of a small amount of other funds, tolls collected on the controlled system and through toll barriers support an overwhelming majority of the Authority's budget. The following provides a brief history of toll adjustments on the Thruway System and compares Thruway toll rates – both current and proposed – to those on other facilities in the northeast.

7.1 RECENT HISTORY OF TOLL ADJUSTMENTS ON THE THRUWAY SYSTEM

In response to the financial pressures brought on by high and volatile fuel prices and the state of the national economy, the Authority implemented a series of staged, small adjustments to toll rates in 2008. These adjustments were designed to provide additional funding to assist the Authority in financing operational, maintenance and capital commitments made in the 2005-2011 Capital Program period. The 2008 toll adjustments maintained a 5 percent *E-ZPass* discount for all patrons, but added two five-percent across-the-board increases, which took effect in 2009 and 2010. On January 1, 2017, discounts were discontinued for vehicles with non-NY *E-ZPass*: both the 5 percent systemwide discount and the discounts for non-peak commercial vehicles (of up to 50 percent) at the Spring Valley Barrier and the Governor Mario M. Cuomo Bridge.

In order to support systemwide conversion to cashless tolling, on January 1, 2021 a number of adjustments were made to systemwide toll charges. A 30 percent rate differential (a toll rate 30 percent above the NY *E-ZPass* rate) was established for Tolls by Mail, and a 15 percent rate differential was implemented for Non-NY *E-ZPass* tolls. In addition, all *E-ZPass* transactions processed as image tolls (due to improper mounting of the *E-ZPass* transponder) would now be charged the Tolls by Mail rate. A \$2 administrative surcharge per billing statement was implemented for Tolls by Mail statements to support the administrative costs associated with processing transactions through the Tolls by Mail program and to incentivize more customers to sign up for an *E-ZPass* account.

In addition to the 2021 systemwide adjustments, additional modifications were made to tolls on the Governor Mario M. Cuomo Bridge in 2021 and 2022. On the Bridge, NY *E-ZPass* toll rates were increased by 50 cents to \$5.25 beginning January 1, 2021. The following year, on January 1, 2022, the NY *E-ZPass* toll rates on the Bridge were increased another 50 cents to \$5.75. Also beginning January 1, 2021, on the Governor Mario M. Cuomo Bridge, the commuter discounted rate included a 40 percent reduction off the NY *E-ZPass* rate for passenger vehicles that opt into the program (similar to previous years, the rate requires a minimum of 20 trips a month; if fewer than 20 trips are taken per month, customers are charged for each trip not taken). Additionally, a Resident *E-ZPass* Plan was introduced on the Bridge offering Westchester and Rockland County residents with proof of residency a frozen rate of \$4.75, the rate prior to 2021. For both the 2021 and 2022 toll adjustments on the Governor Mario M. Cuomo Bridge, Class 2H through 4H and S class tolls were increased proportionate to the car toll increases for each payment type. Class 5H through 7H truck tolls were increased 20 percent more than the car toll increases for each payment type.

7.2 CURRENT TOLL RATES ON THE THRUWAY SYSTEM

The Authority's current toll rate structure, as of January 1, 2022, is presented in Table 21.



Table 21: Current Thruway Toll Structure (\$)

Vehicle Class ⁽¹⁾	Controlled System (Cents/Mile)			Yonkers			Harriman			Spring Valley			
	NY E-ZPass	Non-NY E-ZPass	TBM ⁽²⁾	NY E-ZPass	Non-NY E-ZPass	TBM ⁽²⁾	NY E-ZPass	Non-NY E-ZPass	TBM ⁽²⁾	NY E-ZPass		Non-NY E-ZPass	TBM ⁽²⁾
										Off-Peak	Peak		
Commuter ⁽³⁾	(4)	-	-	0.55	-	-	0.55	-	-	-	-	-	-
Resident		-	-	-	-	-	-	-	-	-	-	-	-
Motorcycle	0.0224	-	-	0.60	-	-	0.60	-	-	-	-	-	-
2L	0.0447	0.0514	0.0581	1.19	1.37	1.54	1.19	1.37	1.54	-	-	-	-
3L	0.0692	0.0796	0.0900	1.43	1.64	1.85	1.43	1.64	1.85	1.50	3.00	3.45	3.90
4L	0.0821	0.0944	0.1067	1.66	1.91	2.16	1.66	1.91	2.16	2.25	4.50	5.18	5.85
2H	0.0886	0.1019	0.1152	1.90	2.19	2.47	1.90	2.19	2.47	2.63	5.25	6.04	6.83
3H	0.1524	0.1753	0.1981	2.14	2.46	2.78	2.61	3.00	3.40	4.13	8.25	9.49	10.73
4H	0.1680	0.1932	0.2184	2.61	3.00	3.40	2.85	3.28	3.71	4.13	8.25	9.49	10.73
5H	0.2271	0.2612	0.2952	4.04	4.64	5.25	4.04	4.64	5.25	6.75	13.50	15.53	17.55
6H	0.2815	0.3237	0.3660	4.28	4.92	5.56	4.75	5.46	6.18	7.38	14.75	16.96	19.18
7H	0.3359	0.3863	0.4367	4.75	5.46	6.18	5.46	6.28	7.10	8.25	16.50	18.98	21.45

Vehicle Class ⁽¹⁾	New Rochelle			Gov. Mario M. Cuomo Bridge				Grand Island Bridges		
	NY E-ZPass	Non-NY E-ZPass	TBM ⁽²⁾	NY E-ZPass		Non-NY E-ZPass	TBM ⁽²⁾	NY E-ZPass	Non-NY E-ZPass	TBM ⁽²⁾
				Off-Peak	Peak					
Commuter ⁽³⁾	1.10	-	-	3.45	3.45	-	-	0.28	-	-
Resident	-	-	-	4.75	4.75	-	-	0.09	-	-
Motorcycle	0.83	-	-	2.88	2.88	-	-	0.48	-	-
2L	1.66	1.91	2.16	5.75	5.75	6.61	7.48	0.95	1.09	1.24
3L	2.38	2.73	3.09	6.96	13.92	16.01	18.10	1.43	1.64	1.85
4L	2.85	3.28	3.71	8.32	16.64	19.14	21.64	1.66	1.91	2.16
2H	3.33	3.82	4.32	8.93	17.86	20.53	23.21	1.90	2.19	2.47
3H	4.04	4.64	5.25	12.56	25.12	28.89	32.65	2.14	2.46	2.78
4H	4.75	5.46	6.18	14.98	29.96	34.45	38.95	2.61	3.00	3.40
5H	7.60	8.74	9.88	27.89	55.77	64.14	72.51	4.04	4.64	5.25
6H	8.31	9.56	10.81	34.91	69.82	80.30	90.77	4.28	4.92	5.56
7H	9.26	10.65	12.04	41.94	83.87	96.45	109.03	4.75	5.46	6.18

⁽¹⁾ Classes are generally denoted by the number of axles (2 through 7) and the vehicle height. "L" represents vehicles under 7.5' and "H" represents vehicles over 7.5' in height.

⁽²⁾ TBM=Tolls by Mail.

⁽³⁾ Commuter program toll per trip if plan participants make a minimum of 20 trips/month at one-way toll barriers or a minimum of 35 trips per month at two-way toll barriers. Plan participants are also charged this amount for trips not taken below the minimum trips per month.

⁽⁴⁾ Controlled system permit plan customers pay \$88/year which covers the toll for the first 30 miles of a passenger car trip.



In order to receive the NY *E-ZPass* rate, a driver must have a transponder issued by a New York State toll agency (the Thruway Authority, Port Authority of NY & NJ or the Metropolitan Transportation Authority). In addition to the lower tolls offered with a NY-issued *E-ZPass*, the Authority offers several specialized *E-ZPass* discount programs. Among these are a series of commuter plans designed specifically for frequent users of the Thruway that use one or more of the barrier toll stations. *E-ZPass* customers can pre-pay a monthly minimum for each facility that they choose and then receive discounted travel for each trip taken in excess of the minimum charge. In addition to the barrier commuter discounts, the controlled system offers an annual permit that when purchased allows for the first 30 miles of each trip to be free of tolls.

Other specialized passenger car plans include a special resident discount for residents of Grand Island when crossing through either of the Grand Island toll barriers, a new resident discount plan offered to Westchester/Rockland County residents when crossing the Gov. Mario M. Cuomo Bridge (implemented in 2021), and a systemwide green discount that is available to certain high mileage vehicles that both achieve MPG ratings greater than 45 MPG and meet certain emission standards. Motorcycles, motor homes and “5th wheel” or “gooseneck” vehicles or vehicle combinations are also eligible for discounts. These discounts are administered through the *E-ZPass* program and proof of residency or registration for the various plans and vehicle combinations must also be provided.

For commercial vehicles, there are currently two types of discount programs offered. The S-Discount is for non-tandem commercial vehicles less than or equal to 48 feet in length and requires an *E-ZPass* transponder issued by a New York Customer Service Center. The second discount program is a commercial volume discount for Thruway Charge Account customers that offers progressively higher discounts based on the monthly toll charges on an account basis:

- \$1,001 to \$2,000 - 10%
- \$2,001 to \$3,000 - 15%
- Over \$3,000 - 20%

7.3 PROPOSED TOLL MODIFICATIONS

The proposed toll modifications are described in Table 22.



Table 22: Proposed Toll Modifications

GOVERNOR MARIO M. CUOMO BRIDGE TOLL RATE ADJUSTMENTS	
Toll Modification Element	Description
Gov. Mario M. Cuomo (GMMC) Bridge: Increase Base NY E-ZPass to a rate of \$7.75 by 2027	Beginning on January 1, 2024, provide 50-cent annual increases to the base NY E-ZPass passenger toll rates on the GMMC Bridge during the period 2024-2027. This would result in a base NY E-ZPass rate for passenger vehicles increasing to \$7.75 by 2027 (current rate is \$5.75). Commercial rate increases would be proportionate to the passenger rate increases.
40% Commuter Discount Program*	Maintain the commuter discounted rate of 40 percent off the NY E-ZPass rate for passenger vehicles that opt into the program. Similar to today, the rates assume that a minimum of 20 trips are made in that month; if fewer than 20 trips are taken per month, customers are charged for each trip not taken. This program is offered to class 2L vehicles only, with a New York E-ZPass.
Resident Discount Program*	Increase the resident discount E-ZPass Plan for qualified Westchester and Rockland residents from its current 17 percent discount to a 20 percent discount off the NY E-ZPass rate. This program is only offered to class 2L passenger vehicles with a NY E-ZPass who opt into the plan and provide proof of residency.
SYSTEM-WIDE TOLL RATE ADJUSTMENTS	
Incentivize NY E-ZPass Usage	Beginning on January 1, 2024, increase the current 30 percent Tolls by Mail rate differential (a toll rate 30 percent above the NY E-ZPass rate) to a 75 percent differential. With this change, NY E-ZPass customers will receive a 75% discount from the Tolls by Mail and Non-NY E-ZPass toll rates
Non-NY E-ZPass Rates	Beginning on January 1, 2024, increase the current Non-NY E-ZPass toll rate differential from a 15 percent rate differential (a toll rate 15 percent above the NY E-ZPass rate for Non-NY E-ZPass tolls) to a 75 percent differential. With this change, NY E-ZPass customers will receive a 75% discount from the Tolls by Mail and Non-NY E-ZPass toll rates.
NY E-ZPass Rates	On January 1, 2024 and January 1, 2027 Increase the base NY E-ZPass rates by 5% from their prior levels.

**It should be noted that approximately 73.6 percent of passenger trips will pay a discounted rate compared to the Tolls by Mail rate and that roughly 30.9 percent of this traffic will be paying the discounted rates for the commuter and resident plans.*

Table 23 presents the proposed toll schedule between now and 2031 for passenger cars (Class 2L) and five-axle trucks (Class 5H). The full proposed toll schedule is included in the Appendix. Table 24 presents the proposed year-over-year toll increase amounts.



Table 23: Proposed Toll Schedule for Passenger Cars and 5-Axle Trucks

Governor Mario M. Cuomo Bridge Class 2L Car Tolls

	Commuter E-ZPass	Resident E-ZPass*	Std. NY E-ZPass	Non-NY E-ZPass	Tolls by Mail
Current	\$ 3.45	\$ 4.75	\$ 5.75	\$ 6.61	\$ 7.48
2023	\$ 3.45	\$ 4.75	\$ 5.75	\$ 6.61	\$ 7.48
2024	\$ 3.75	\$ 5.00	\$ 6.25	\$ 10.94	\$ 10.94
2025	\$ 4.05	\$ 5.40	\$ 6.75	\$ 11.81	\$ 11.81
2026	\$ 4.35	\$ 5.80	\$ 7.25	\$ 12.69	\$ 12.69
2027	\$ 4.65	\$ 6.20	\$ 7.75	\$ 13.56	\$ 13.56
2028	\$ 4.65	\$ 6.20	\$ 7.75	\$ 13.56	\$ 13.56
2029	\$ 4.65	\$ 6.20	\$ 7.75	\$ 13.56	\$ 13.56
2030	\$ 4.65	\$ 6.20	\$ 7.75	\$ 13.56	\$ 13.56
2031	\$ 4.65	\$ 6.20	\$ 7.75	\$ 13.56	\$ 13.56

Governor Mario M. Cuomo Bridge Class 5H Truck Tolls

	HOME EZ (PK)	HOME EZ (OP)	Non-NY E-ZPass	Tolls by Mail
Current	\$ 55.77	\$ 27.89	\$ 64.14	\$ 72.51
2023	\$ 55.77	\$ 27.89	\$ 64.14	\$ 72.51
2024	\$ 60.62	\$ 30.31	\$ 106.09	\$ 106.09
2025	\$ 65.47	\$ 32.74	\$ 114.57	\$ 114.57
2026	\$ 70.32	\$ 35.16	\$ 123.06	\$ 123.06
2027	\$ 75.17	\$ 37.59	\$ 131.55	\$ 131.55
2028	\$ 75.17	\$ 37.59	\$ 131.55	\$ 131.55
2029	\$ 75.17	\$ 37.59	\$ 131.55	\$ 131.55
2030	\$ 75.17	\$ 37.59	\$ 131.55	\$ 131.55
2031	\$ 75.17	\$ 37.59	\$ 131.55	\$ 131.55

*Westchester/Rockland Co. Residents who apply for the plan and provide proof of residency

Rest of System Class 2L Car Tolls

	Mainline (per mi)			Grand Island Bridges					Yonkers Barrier				Harriman Barrier				New Rochelle Barrier			
	Std. NY E-ZPass	Non-NY E-ZPass	Tolls by Mail	Resident E-ZPass	Commuter E-ZPass	Std. NY E-ZPass	Non-NY E-ZPass	Tolls by Mail	Commuter E-ZPass	Std. NY E-ZPass	Non-NY E-ZPass	Tolls by Mail	Commuter E-ZPass	Std. NY E-ZPass	Non-NY E-ZPass	Tolls by Mail	Commuter E-ZPass	Std. NY E-ZPass	Non-NY E-ZPass	Tolls by Mail
Current	\$ 0.0447	\$ 0.0514	\$ 0.0581	\$ 0.09	\$ 0.28	\$ 0.95	\$ 1.09	\$ 1.24	\$ 0.55	\$ 1.19	\$ 1.37	\$ 1.54	\$ 0.55	\$ 1.19	\$ 1.37	\$ 1.54	\$ 1.10	\$ 1.66	\$ 1.91	\$ 2.16
2023	\$ 0.0447	\$ 0.0514	\$ 0.0581	\$ 0.09	\$ 0.28	\$ 0.95	\$ 1.09	\$ 1.24	\$ 0.55	\$ 1.19	\$ 1.37	\$ 1.54	\$ 0.55	\$ 1.19	\$ 1.37	\$ 1.54	\$ 1.10	\$ 1.66	\$ 1.91	\$ 2.16
2024	\$ 0.0469	\$ 0.0821	\$ 0.0821	\$ 0.09	\$ 0.29	\$ 1.00	\$ 1.75	\$ 1.75	\$ 0.58	\$ 1.25	\$ 2.19	\$ 2.19	\$ 0.58	\$ 1.25	\$ 2.19	\$ 2.19	\$ 1.16	\$ 1.74	\$ 3.05	\$ 3.05
2025	\$ 0.0469	\$ 0.0821	\$ 0.0821	\$ 0.09	\$ 0.29	\$ 1.00	\$ 1.75	\$ 1.75	\$ 0.58	\$ 1.25	\$ 2.19	\$ 2.19	\$ 0.58	\$ 1.25	\$ 2.19	\$ 2.19	\$ 1.16	\$ 1.74	\$ 3.05	\$ 3.05
2026	\$ 0.0469	\$ 0.0821	\$ 0.0821	\$ 0.09	\$ 0.29	\$ 1.00	\$ 1.75	\$ 1.75	\$ 0.58	\$ 1.25	\$ 2.19	\$ 2.19	\$ 0.58	\$ 1.25	\$ 2.19	\$ 2.19	\$ 1.16	\$ 1.74	\$ 3.05	\$ 3.05
2027	\$ 0.0492	\$ 0.0861	\$ 0.0861	\$ 0.10	\$ 0.31	\$ 1.05	\$ 1.84	\$ 1.84	\$ 0.61	\$ 1.31	\$ 2.29	\$ 2.29	\$ 0.61	\$ 1.31	\$ 2.29	\$ 2.29	\$ 1.21	\$ 1.83	\$ 3.20	\$ 3.20
2028	\$ 0.0492	\$ 0.0861	\$ 0.0861	\$ 0.10	\$ 0.31	\$ 1.05	\$ 1.84	\$ 1.84	\$ 0.61	\$ 1.31	\$ 2.29	\$ 2.29	\$ 0.61	\$ 1.31	\$ 2.29	\$ 2.29	\$ 1.21	\$ 1.83	\$ 3.20	\$ 3.20
2029	\$ 0.0492	\$ 0.0861	\$ 0.0861	\$ 0.10	\$ 0.31	\$ 1.05	\$ 1.84	\$ 1.84	\$ 0.61	\$ 1.31	\$ 2.29	\$ 2.29	\$ 0.61	\$ 1.31	\$ 2.29	\$ 2.29	\$ 1.21	\$ 1.83	\$ 3.20	\$ 3.20
2030	\$ 0.0492	\$ 0.0861	\$ 0.0861	\$ 0.10	\$ 0.31	\$ 1.05	\$ 1.84	\$ 1.84	\$ 0.61	\$ 1.31	\$ 2.29	\$ 2.29	\$ 0.61	\$ 1.31	\$ 2.29	\$ 2.29	\$ 1.21	\$ 1.83	\$ 3.20	\$ 3.20
2031	\$ 0.0492	\$ 0.0861	\$ 0.0861	\$ 0.10	\$ 0.31	\$ 1.05	\$ 1.84	\$ 1.84	\$ 0.61	\$ 1.31	\$ 2.29	\$ 2.29	\$ 0.61	\$ 1.31	\$ 2.29	\$ 2.29	\$ 1.21	\$ 1.83	\$ 3.20	\$ 3.20

Rest of System Class 5H Truck Tolls

	Mainline (per mi)			Grand Island Bridges			Yonkers Barrier			Harriman Barrier			New Rochelle Barrier			Spring Valley Barrier			
	Std. NY E-ZPass	Non-NY E-ZPass	Tolls by Mail	Std. NY E-ZPass	Non-NY E-ZPass	Tolls by Mail	Std. NY E-ZPass	Non-NY E-ZPass	Tolls by Mail	Std. NY E-ZPass	Non-NY E-ZPass	Tolls by Mail	Std. NY E-ZPass	Non-NY E-ZPass	Tolls by Mail	HOME EZ (PK)	HOME EZ (OP)	Non-NY E-ZPass	Tolls by Mail
Current	\$ 0.2271	\$ 0.2612	\$ 0.2952	\$ 4.04	\$ 4.64	\$ 5.25	\$ 4.04	\$ 4.64	\$ 5.25	\$ 4.04	\$ 4.64	\$ 5.25	\$ 7.60	\$ 8.74	\$ 9.88	\$ 13.50	\$ 6.75	\$ 15.53	\$ 17.55
2023	\$ 0.2271	\$ 0.2612	\$ 0.2952	\$ 4.04	\$ 4.64	\$ 5.25	\$ 4.04	\$ 4.64	\$ 5.25	\$ 4.04	\$ 4.64	\$ 5.25	\$ 7.60	\$ 8.74	\$ 9.88	\$ 13.50	\$ 6.75	\$ 15.53	\$ 17.55
2024	\$ 0.2385	\$ 0.4174	\$ 0.4174	\$ 4.24	\$ 7.42	\$ 7.42	\$ 4.24	\$ 7.42	\$ 7.42	\$ 4.24	\$ 7.42	\$ 7.42	\$ 7.98	\$ 13.97	\$ 13.97	\$ 14.18	\$ 7.09	\$ 24.82	\$ 24.82
2025	\$ 0.2385	\$ 0.4174	\$ 0.4174	\$ 4.24	\$ 7.42	\$ 7.42	\$ 4.24	\$ 7.42	\$ 7.42	\$ 4.24	\$ 7.42	\$ 7.42	\$ 7.98	\$ 13.97	\$ 13.97	\$ 14.18	\$ 7.09	\$ 24.82	\$ 24.82
2026	\$ 0.2385	\$ 0.4174	\$ 0.4174	\$ 4.24	\$ 7.42	\$ 7.42	\$ 4.24	\$ 7.42	\$ 7.42	\$ 4.24	\$ 7.42	\$ 7.42	\$ 7.98	\$ 13.97	\$ 13.97	\$ 14.18	\$ 7.09	\$ 24.82	\$ 24.82
2027	\$ 0.2504	\$ 0.4382	\$ 0.4382	\$ 4.45	\$ 7.79	\$ 7.79	\$ 4.45	\$ 7.79	\$ 7.79	\$ 4.45	\$ 7.79	\$ 7.79	\$ 8.38	\$ 14.67	\$ 14.67	\$ 14.89	\$ 7.45	\$ 26.06	\$ 26.06
2028	\$ 0.2504	\$ 0.4382	\$ 0.4382	\$ 4.45	\$ 7.79	\$ 7.79	\$ 4.45	\$ 7.79	\$ 7.79	\$ 4.45	\$ 7.79	\$ 7.79	\$ 8.38	\$ 14.67	\$ 14.67	\$ 14.89	\$ 7.45	\$ 26.06	\$ 26.06
2029	\$ 0.2504	\$ 0.4382	\$ 0.4382	\$ 4.45	\$ 7.79	\$ 7.79	\$ 4.45	\$ 7.79	\$ 7.79	\$ 4.45	\$ 7.79	\$ 7.79	\$ 8.38	\$ 14.67	\$ 14.67	\$ 14.89	\$ 7.45	\$ 26.06	\$ 26.06
2030	\$ 0.2504	\$ 0.4382	\$ 0.4382	\$ 4.45	\$ 7.79	\$ 7.79	\$ 4.45	\$ 7.79	\$ 7.79	\$ 4.45	\$ 7.79	\$ 7.79	\$ 8.38	\$ 14.67	\$ 14.67	\$ 14.89	\$ 7.45	\$ 26.06	\$ 26.06
2031	\$ 0.2504	\$ 0.4382	\$ 0.4382	\$ 4.45	\$ 7.79	\$ 7.79	\$ 4.45	\$ 7.79	\$ 7.79	\$ 4.45	\$ 7.79	\$ 7.79	\$ 8.38	\$ 14.67	\$ 14.67	\$ 14.89	\$ 7.45	\$ 26.06	\$ 26.06

Note: Full toll schedule for all classes is included in the Appendix

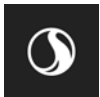


Table 24: Proposed Annual Toll Increase Amounts for Passenger Cars and 5-Axle Trucks

Governor Mario M. Cuomo Bridge Class 2L Car Tolls

	Commuter E-ZPass	Resident E-ZPass*	Std. NY E-ZPass	Non-NY E-ZPass	Tolls by Mail
2023					
2024	\$ 0.30	\$ 0.25	\$ 0.50	\$ 4.33	\$ 3.46
2025	\$ 0.30	\$ 0.40	\$ 0.50	\$ 0.88	\$ 0.88
2026	\$ 0.30	\$ 0.40	\$ 0.50	\$ 0.87	\$ 0.87
2027	\$ 0.30	\$ 0.40	\$ 0.50	\$ 0.87	\$ 0.88
2028					
2029					
2030					
2031					

Governor Mario M. Cuomo Bridge Class 5H Truck Tolls

	HOME EZ (PK)	HOME EZ (OP)	Non-NY E-ZPass	Tolls by Mail
2023				
2024	\$ 4.85	\$ 2.42	\$ 41.95	\$ 33.59
2025	\$ 4.85	\$ 2.42	\$ 8.48	\$ 8.48
2026	\$ 4.85	\$ 2.42	\$ 8.49	\$ 8.49
2027	\$ 4.85	\$ 2.42	\$ 8.49	\$ 8.49
2028				
2029				
2030				
2031				

*Westchester/Rockland Co. Residents who apply for the plan and provide proof of residency

Rest of System Class 2L Car Tolls

	Mainline (per mi)			Grand Island Bridges					Yonkers Barrier				Harriman Barrier				New Rochelle Barrier			
	Std. NY E-ZPass	Non-NY E-ZPass	Tolls by Mail	GIB Resident E-ZPass	Commuter E-ZPass	Std. NY E-ZPass	Non-NY E-ZPass	Tolls by Mail	Commuter E-ZPass	Std. NY E-ZPass	Non-NY E-ZPass	Tolls by Mail	Commuter E-ZPass	Std. NY E-ZPass	Non-NY E-ZPass	Tolls by Mail	Commuter E-ZPass	Std. NY E-ZPass	Non-NY E-ZPass	Tolls by Mail
2023																				
2024	\$ 0.002	\$ 0.031	\$ 0.024	\$ 0.00	\$ 0.01	\$ 0.05	\$ 0.66	\$ 0.51	\$ 0.03	\$ 0.06	\$ 0.82	\$ 0.65	\$ 0.03	\$ 0.06	\$ 0.82	\$ 0.65	\$ 0.06	\$ 0.08	\$ 1.14	\$ 0.89
2025																				
2026																				
2027	\$ 0.002	\$ 0.004	\$ 0.004	\$ 0.00	\$ 0.01	\$ 0.05	\$ 0.09	\$ 0.09	\$ 0.03	\$ 0.06	\$ 0.10	\$ 0.10	\$ 0.03	\$ 0.06	\$ 0.10	\$ 0.10	\$ 0.06	\$ 0.09	\$ 0.15	\$ 0.15
2028																				
2029																				
2030																				
2031																				

Rest of System Class 5H Truck Tolls

	Mainline (per mi)			Grand Island Bridges			Yonkers Barrier			Harriman Barrier			New Rochelle Barrier			Spring Valley Barrier			
	Std. NY E-ZPass	Non-NY E-ZPass	Tolls by Mail	Std. NY E-ZPass	Non-NY E-ZPass	Tolls by Mail	Std. NY E-ZPass	Non-NY E-ZPass	Tolls by Mail	Std. NY E-ZPass	Non-NY E-ZPass	Tolls by Mail	Std. NY E-ZPass	Non-NY E-ZPass	Tolls by Mail	HOME EZ (PK)	HOME EZ (OP)	Non-NY E-ZPass	Tolls by Mail
2023																			
2024	\$ 0.011	\$ 0.156	\$ 0.122	\$ 0.20	\$ 2.78	\$ 2.17	\$ 0.20	\$ 2.78	\$ 2.17	\$ 0.20	\$ 2.78	\$ 2.17	\$ 0.38	\$ 5.23	\$ 4.09	\$ 0.68	\$ 0.34	\$ 9.30	\$ 7.27
2025																			
2026																			
2027	\$ 0.012	\$ 0.021	\$ 0.021	\$ 0.21	\$ 0.37	\$ 0.37	\$ 0.21	\$ 0.37	\$ 0.37	\$ 0.21	\$ 0.37	\$ 0.37	\$ 0.40	\$ 0.70	\$ 0.70	\$ 0.72	\$ 0.36	\$ 1.24	\$ 1.24
2028																			
2029																			
2030																			
2031																			

Note: Full toll schedule for all classes is included in the Appendix

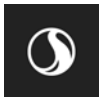
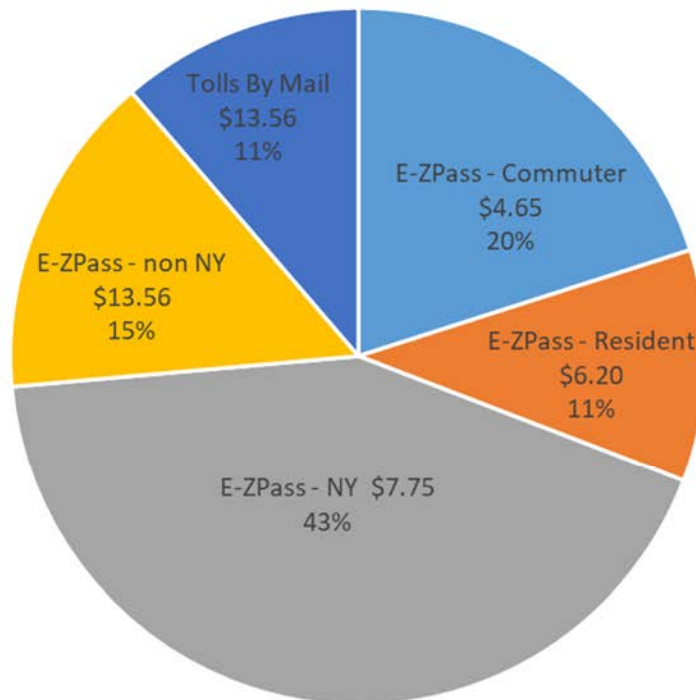


Figure 9 provides additional information on the Governor Mario M. Cuomo Bridge, in terms of the split of passenger car traffic paying the various proposed 2027 toll rates. Approximately 73.6 percent of car traffic will be discounted compared to the Tolls by Mail Rate, and about 30.9 percent of car traffic will pay less than the \$7.75 proposed NY *E-ZPass* rate.

Figure 9: Governor Mario M. Cuomo Bridge Proposed 2027 Passenger Car Toll Rates and Share of Traffic in Each Category



Note: Numbers may not add due to rounding

7.4 COMPARISON OF PROPOSED THRUWAY TOLL RATES TO OTHER REGIONAL TOLL FACILITIES

7.4.1 Toll Rate Comparison

Figure 10 and Figure 11 compare toll rates on a number of major toll crossings in the northeast. A series of annual toll increases is proposed on the Governor Mario M. Cuomo Bridge from 2024 through 2027; both current and proposed 2024 rates are shown for the Bridge. As shown in Figure 10 the current and proposed 2024 Governor Mario M. Cuomo Bridge car tolls are below the rates on other metro New York crossings. The current and proposed 2024 peak 5-axle truck rates are also comparable to that of other regional facilities. A majority of the Governor Mario M. Cuomo Bridge commercial vehicles with a New York *E-ZPass* travel during off-peak periods, paying a reduced rate as low as half of the standard rate. In addition to the lower off-peak rates, many vehicles further reduce the average toll rate paid through participation in the commercial volume discount program. These reductions in the effective rate make the current and proposed Governor Mario M. Cuomo Bridge commercial toll rates considerably lower than those on other metro New York tolled crossings. It is also important to note that many of the locations shown will likely see a toll increase in the next several years; the MTA's NYC crossings, the Delaware



River Joint Toll Bridge Commission toll bridges, and the Newburgh-Beacon Bridge all have toll increases scheduled for 2023 or 2024.

Figure 10: Round Trip Toll Rates on Major Toll Crossings in the Northeast, Passenger Cars

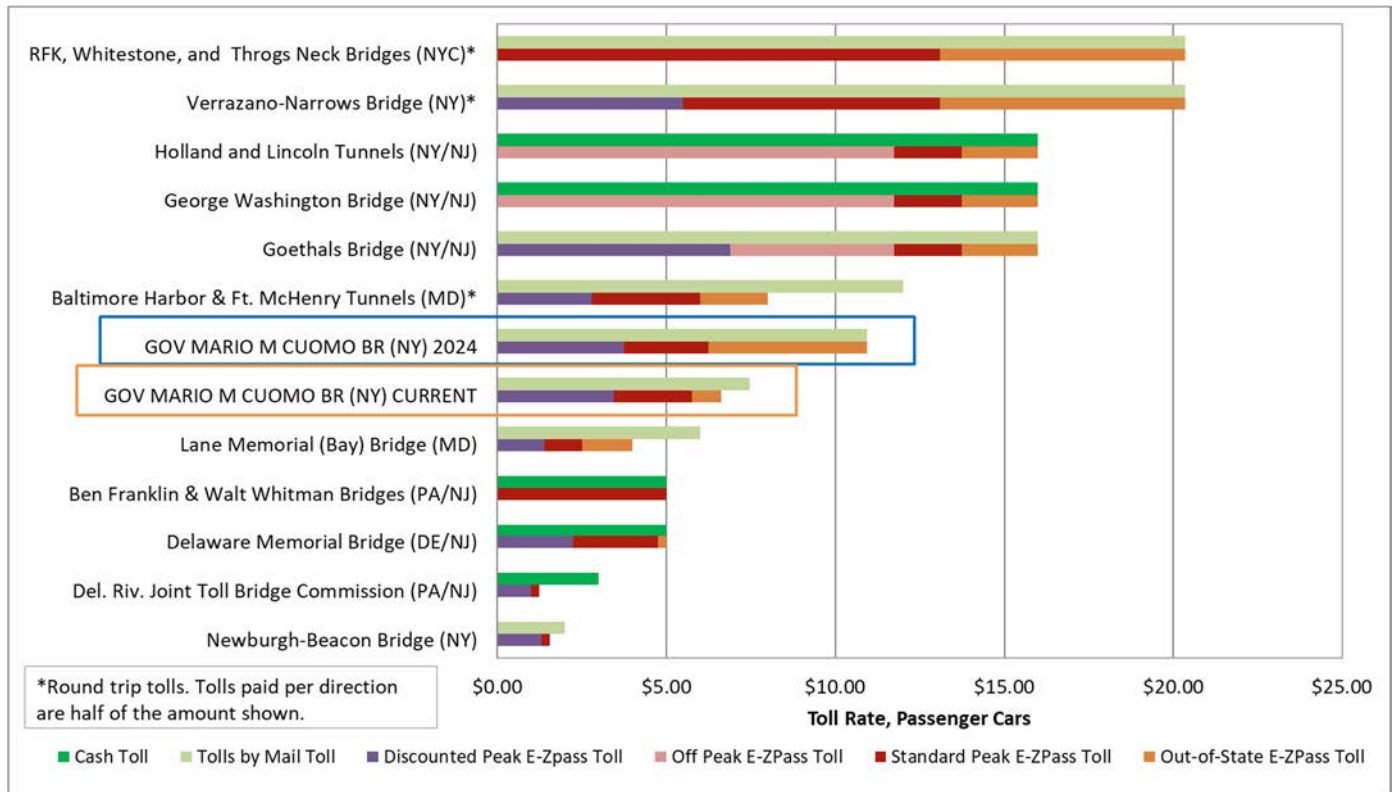


Figure 11: Round Trip Toll Rates on Major Toll Crossings in the Northeast, 5-Axle Trucks

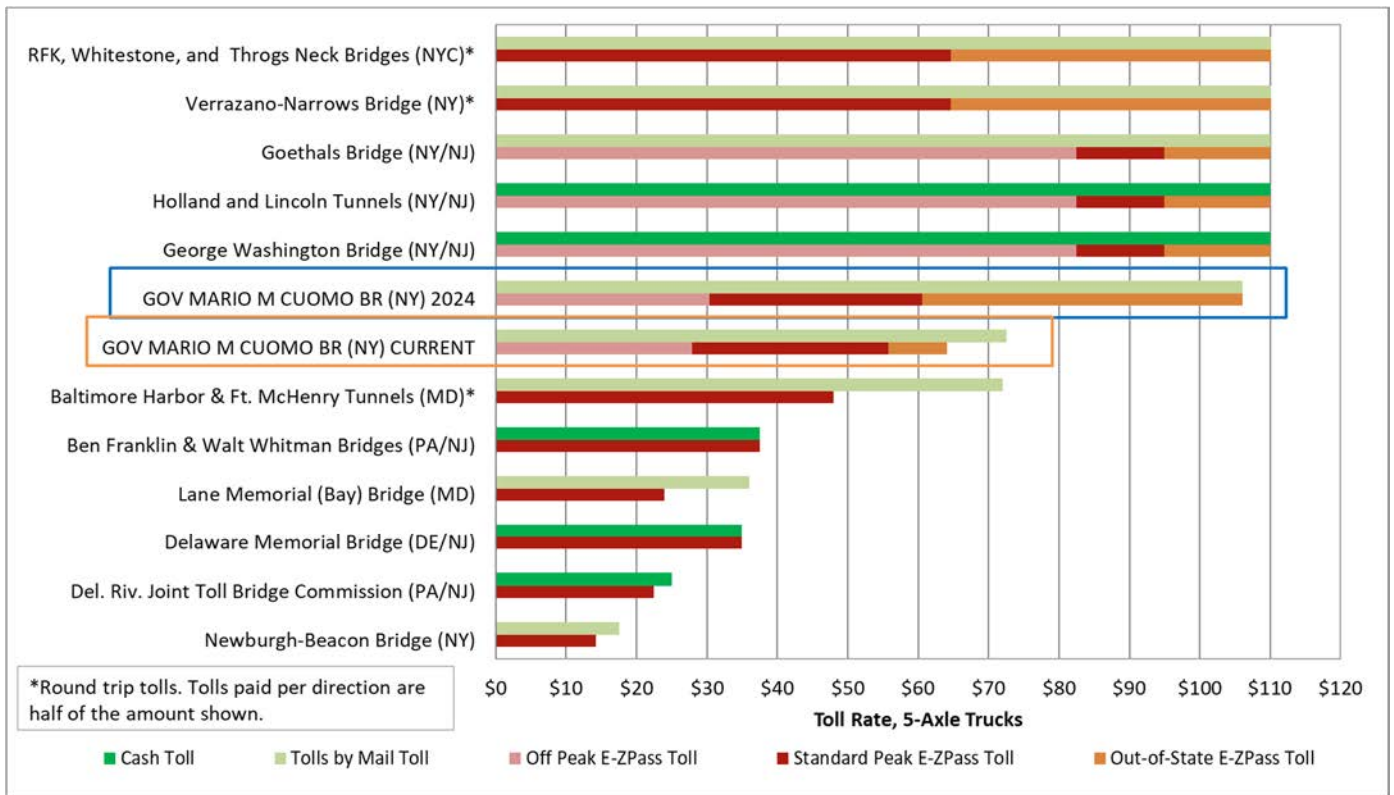


Figure 12 and Figure 13 compare the current and proposed 2024 Thruway toll rates per mile to current rates on a number of major toll roads in the northeastern quadrant of the United States. Rates for cash (or Tolls by Mail), standard *E-ZPass* (including any discounts for drivers with a New York State account), and Non-NY *E-ZPass* are shown. Of note is the comparatively low per-mile passenger car toll rates proposed for the Thruway’s controlled system when compared to other toll facilities, as shown in Figure 12.

The current and proposed 5-axle truck rates, as seen in Figure 13, are also comparatively low on the Thruway relative to current rates on other regional facilities and will be effectively lower than the rate shown due to the commercial volume discount program.



Figure 12: Peak Toll Rates Per-Mile on Toll Roads in the Northeastern Quadrant of U.S., Passenger Cars

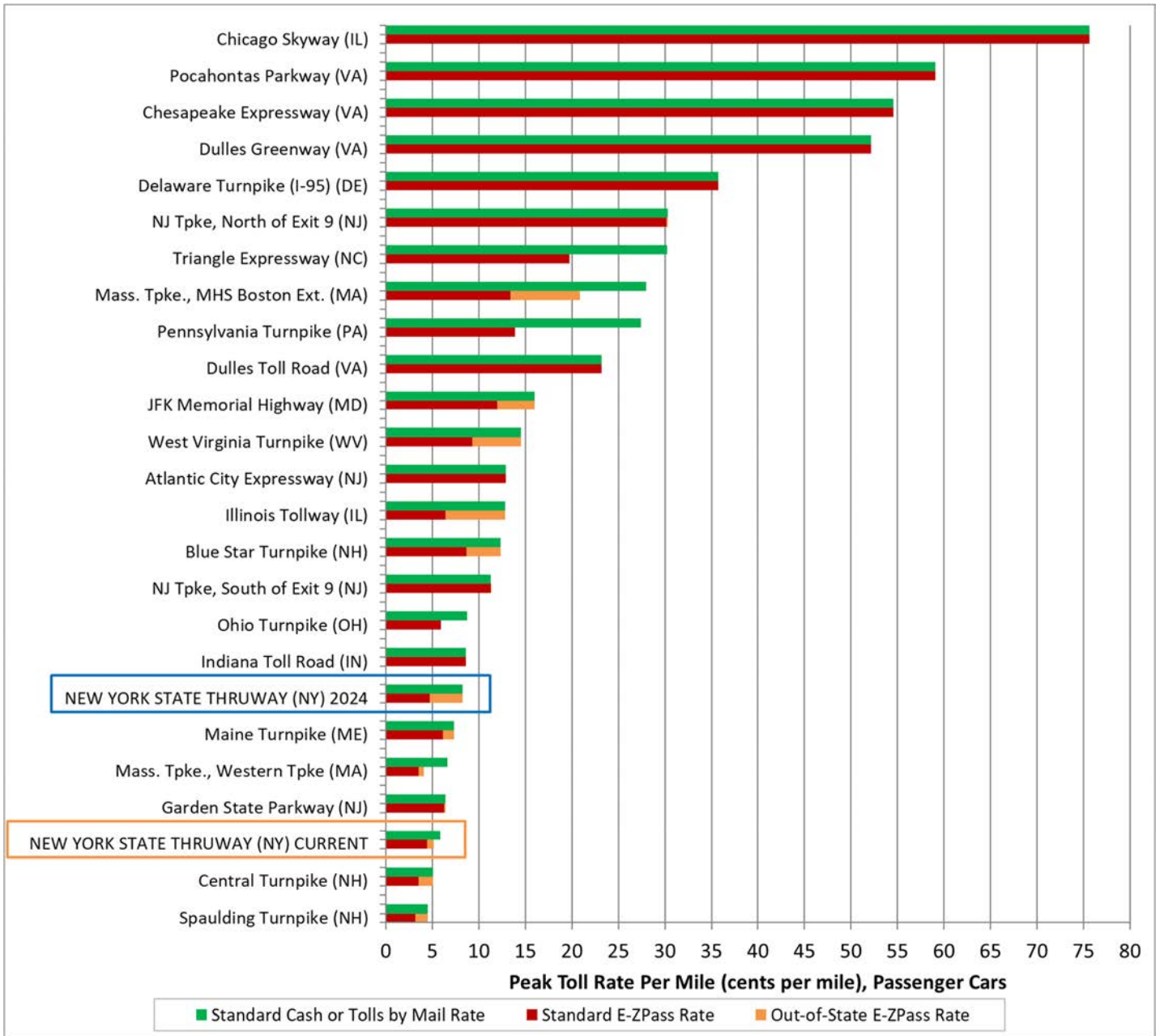
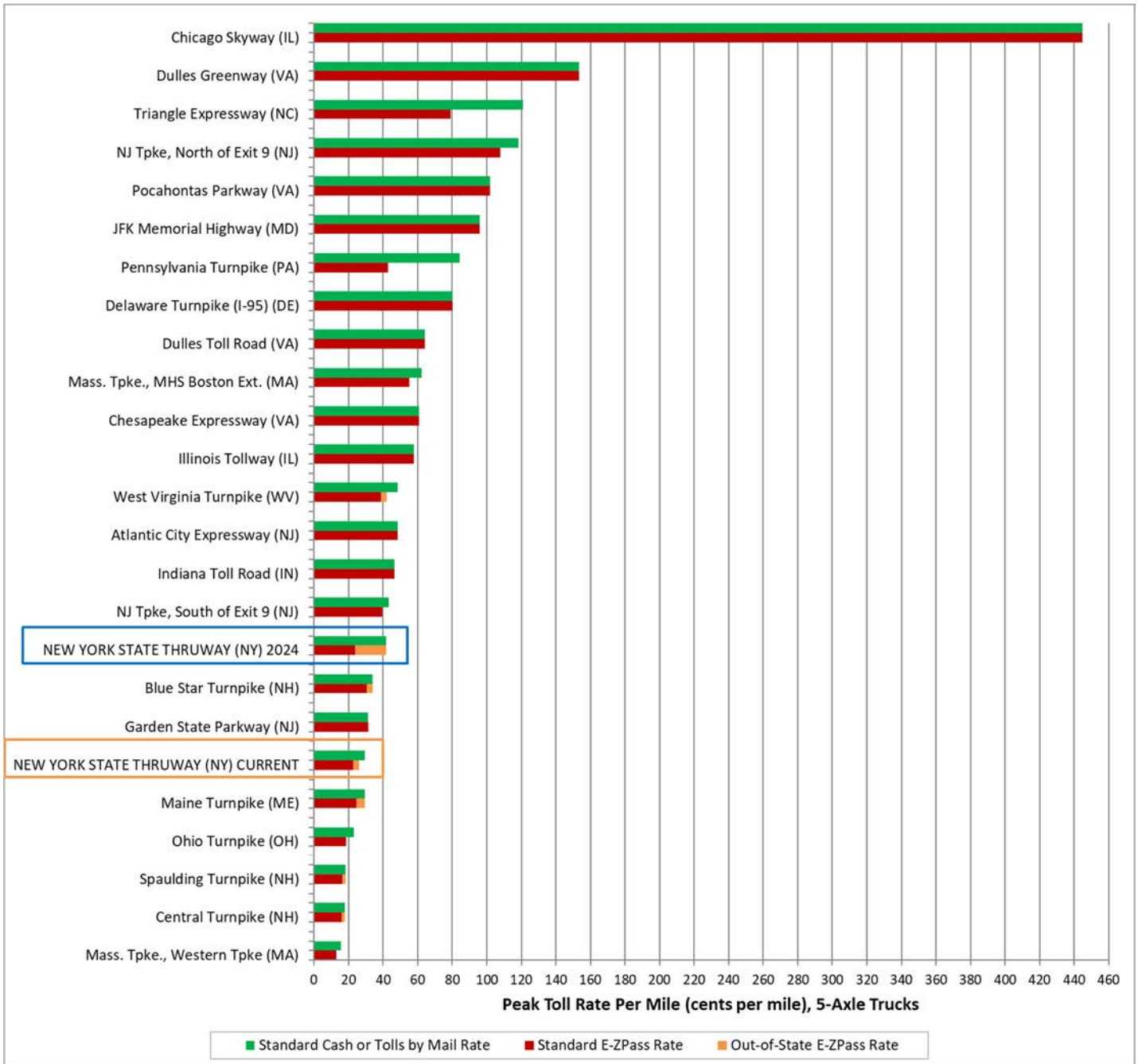


Figure 13: Peak Toll Rates Per-Mile on Toll Roads in the Northeastern Quadrant of U.S, 5-Axle Trucks



7.4.2 Comparison of Tolls by Mail Charges

Table 25 compares premiums charged for Tolls by Mail among cashless tolling facilities nationwide. Current and proposed charges for Thruway facilities are shown. The Authority currently charges a 30 percent premium for Tolls by Mail on top of the standard NY *E-ZPass* rate, which is at the lower end of what other cashless toll facilities charge. A premium of 75 percent is proposed for Tolls by Mail customers at Authority facilities, which is still within the range of what cashless toll facilities nationwide charge.



Table 25: Comparison of Tolls by Mail Charges on Cashless Tolling Facilities Nationwide

Facility or Agency	TBM Toll Rate Premium (% and \$ amount)	
CASHLESS TOLL CROSSINGS		
Bay Area Tolling Authority (CA)-	0%	\$0.00
Golden Gate Br. (CA)	12%	\$1.00
Port Authority of NY&NJ Crossings	16%	\$2.25
NYSBA Bridges (NY)	29%	\$0.45
Gov. Mario M. Cuomo Br. - Current	30%	\$1.73
MassDOT Crossings (MA)	37%/24%	\$0.30
Tacoma Narrows Br. (WA)	44%	\$2.00
RITBA's Newport Pell Bridge (RI)	50%	\$2.00
Sanibel Causeway (Lee County,FL)	50%	\$3.00
MTA Major Bridges & Tunnels (NY)	55%	\$3.62
Gov. Mario M. Cuomo Br. - Recommended 2024 Rate	75%	\$4.69
RiverLink crossings (KY/IN)	100%	\$2.40
MTA Cross Bay and Marine Parkway Bridges (NY)	108%	\$2.64
South Norfolk Jordan Br. (VA)	120%	\$3.30
MDTA crossings	100%-140%	\$3.50-\$6.00
DRJTBC's Scudder Falls Bridge (PA/NJ)	140%	\$1.75
Midpoint and Cape Coral Bridges (Lee County,FL)	150%	\$3.00
MTA Henry Hudson Br. (NY)	150%	\$4.50
SR 520 Br. (WA)	47%-160%	\$2.00
Elizabeth River Tunnel (VA)	199%/155%	\$3.87
CASHLESS TOLL ROADS		
Northwest Parkway (CO) (mainline)	21%	\$1.00
Florida Turnpike - cashless facilities	Average of 25%	\$0.00
NYS THRUWAY Mainline (full length) - Current	30%	\$6.14
Tampa-Hillsborough Expwy Auth (FL) (full length)	31%	\$1.50
Central Texas Turnpike System Facilities (TX)	33%	\$0.00
Transportation Corridor Agencies (CA)	0-36%	\$0-\$2.40 per gantry
U.S. Route 301 (DE) (full length)	40%	\$1.60
Intercounty Connector (MD) (full length)	50%	\$1.92 (peak)
Central TX Regional Mobility Auth (TX)	50%	\$0.18-\$0.80 per gantry
Triangle Expy (NC) (full length)	53%	\$1.97
E-470 (CO) (full length)	59%	\$8.30
I-95 Express Toll Lanes (MD)	65%	\$1.00
NYS THRUWAY Mainline (full length) - Recommended 2024 Rate	75%	\$16.07
Western Turnpike (MA) (full length)	87%	\$3.00 (\$0.30 per gantry)
North TX Toll Authority NTTA (TX)	50-90%	Varies
Pennsylvania Tpke Mainline (full length) (PA)	98%	\$48.30
Illinois Tollway I-88 (full length)	100%	\$10.20
Miami-Dade Expressway (FL)	100%	\$0.23-\$0.66 per gantry
Kilpatrick Turnpike (OK) (full length)	108%	\$2.75
Boston Extension (MA) (full length)	109%	\$0.90 (\$0.30 per gantry)



7.5 TRAFFIC AND REVENUE WITH PROPOSED TOLL MODIFICATIONS

Table 26 presents the projected toll traffic based on the proposed toll modifications. Traffic data from previous toll increases indicates that Thruway traffic is relatively insensitive to increases in the toll rates. This is due in part to the fact that there are few effective competitive routes, and that the physical condition of the Thruway is generally better than that of alternative routes. The safety and security related services, such as snow plowing and police patrols, are better on the Thruway than on alternative routes. Additionally, travel plazas along the length of the Thruway provide 24-hour fuel, rest stop, and food services without the need to exit the system. As a result of any toll increase, slight declines in traffic volumes are expected. The decline in volumes includes drivers that choose an alternative route, combine trips or choose not to travel at all. The amount of diverted traffic is not expected to be significant as a result of the proposed toll modifications.

Table 26: Projected 2022-2031 Traffic with Proposed Toll Schedule (millions of trips)

Year	Passenger Cars			Commercial Vehicles			Total	Growth
	Controlled System	Gov. Mario M. Cuomo Br.	Other Barriers	Controlled System	Gov. Mario M. Cuomo Br.	Other Barriers		
2022 ⁽¹⁾	214.9	25.1	69.2	46.9	2.7	10.4	369.2	
2023	214.9	25.1	69.2	44.2	2.6	9.8	365.9	-0.9%
2024 ⁽²⁾⁽³⁾	218.8	25.4	68.7	41.7	2.6	9.3	366.5	0.2%
2025 ⁽²⁾	224.8	25.9	69.8	41.8	2.6	9.4	374.2	2.1%
2026 ⁽²⁾	226.9	26.2	70.1	42.0	2.6	9.4	377.3	0.8%
2027 ⁽²⁾⁽³⁾	227.2	26.5	69.9	41.9	2.6	9.5	377.5	0.1%
2028	229.3	26.8	70.3	42.1	2.6	9.5	380.6	0.8%
2029	231.5	27.1	70.6	42.3	2.6	9.6	383.7	0.8%
2030	233.6	27.5	70.9	42.5	2.7	9.6	386.9	0.8%
2031	235.8	27.8	71.3	42.7	2.7	9.7	390.0	0.8%

Notes: Totals may not add due to rounding. Traffic classified as non-revenue is not included.

⁽¹⁾ Tolls increased (on Governor Mario M. Cuomo Bridge only) to current toll schedule.

⁽²⁾ Proposed toll increase on Governor Mario M. Cuomo Bridge

⁽³⁾ Proposed toll increase on remainder of Thruway System

Table 27 presents the projected toll revenues based on the proposed toll modifications. Note that the share of toll revenue from the Governor Mario M. Cuomo Bridge, which historically was about 20 percent of total Thruway System toll revenue before the 2021 and 2022 toll adjustments, is now 26 percent of total System toll revenue, and is forecasted to gradually grow to about 31 percent of total System toll revenue by 2027 with the proposed toll modifications.



Table 27: Projected 2022-2031 Revenues with Proposed Toll Schedule (millions)

Year	Passenger Cars			Commercial Vehicles				Total	Growth
	Controlled System	Gov. Mario M. Cuomo Br.	Other Barriers	Controlled System	Gov. Mario M. Cuomo Br.	Other Barriers	CV Disc		
2022 ⁽¹⁾	\$228.0	\$127.4	\$79.7	\$264.5	\$95.5	\$47.5	\$(32.0)	\$810.8	
2023	228.1	128.1	80.0	259.0	91.7	44.8	(30.9)	800.7	-1.2%
2024 ⁽²⁾⁽³⁾	279.5	158.2	93.6	304.1	119.5	52.0	(34.5)	972.5	21.4%
2025 ⁽²⁾	289.3	174.5	96.1	306.6	130.8	52.7	(35.4)	1,014.5	4.3%
2026 ⁽²⁾	291.9	190.0	96.7	308.1	140.9	53.1	(36.1)	1,044.6	3.0%
2027 ⁽²⁾⁽³⁾	306.3	206.0	101.2	322.6	151.2	55.8	(38.1)	1,104.9	5.8%
2028	309.5	208.6	101.8	324.4	152.7	56.2	(38.4)	1,114.8	0.9%
2029	312.4	211.2	102.2	326.1	153.8	56.6	(38.6)	1,123.8	0.8%
2030	315.3	213.9	102.7	327.8	155.0	57.0	(38.8)	1,132.8	0.8%
2031	318.3	216.6	103.2	329.5	156.2	57.4	(39.1)	1,141.9	0.8%

Notes: Totals may not add due to rounding.

⁽¹⁾ Tolls increased (on Governor Mario M. Cuomo Bridge only) to current toll schedule.

⁽²⁾ Proposed toll increase on Governor Mario M. Cuomo Bridge

⁽³⁾ Proposed toll increase on remainder of Thruway System

Table 28 shows projected total gross revenues with the proposed toll schedule.

Table 28: Projected 2022-2031 Total Gross Revenues with Proposed Toll Schedule (millions)

Year	Toll Revenues	Other Revenues ⁽¹⁾	Total Revenues
2022 ⁽²⁾	\$810.8	\$87.2	\$898.0
2023	800.7	88.9	889.6
2024 ⁽³⁾⁽⁴⁾	972.5	80.2	1,052.7
2025 ⁽³⁾	1,014.5	80.8	1,095.3
2026 ⁽³⁾	1,044.6	80.6	1,125.2
2027 ⁽³⁾⁽⁴⁾	1,104.9	79.2	1,184.1
2028	1,114.8	79.6	1,194.4
2029	1,123.8	80.2	1,204.0
2030	1,132.8	80.8	1,213.7
2031	1,141.9	81.5	1,223.4

Note: Totals may not add due to rounding.

⁽¹⁾ Includes fines and late fees collected from Tolls by Mail customers who do not pay their toll bills on time. Also includes revenues collected from invoice processing fees charged to Tolls by Mail customers.

⁽²⁾ Tolls increased (on Governor Mario M. Cuomo Bridge only) to current toll schedule.

⁽³⁾ Proposed toll increase on Governor Mario M. Cuomo Bridge

⁽⁴⁾ Proposed toll increase on remainder of Thruway System



7.6 FUNDING REQUIREMENT AND SOURCES

Table 29 through Table 31 show the estimated projected expenses and revenues for the Authority, based on the proposed toll adjustments. The proposed toll adjustments will provide the revenues required to meet expenses and meet the requirements of the Bond Resolution, as summarized in the following section of this report.

Table 29: Projected 2022-2031 Debt Service with Proposed Toll Schedule, Thruway System (millions)

Year	Senior Debt Service	Bond Anticipation Note (BAN) or Line of Credit Interest or Note Int.	Junior Debt Service	Total Debt Service
2022	\$242.3	\$0.6	\$63.0	\$305.8
2023	248.6	0.0	107.5	356.0
2024	256.7	0.0	108.7	365.4
2025	298.7	0.0	123.5	422.2
2026	305.9	0.0	129.6	435.6
2027	312.0	0.0	131.3	443.3
2028	284.3	0.0	168.2	452.4
2029	291.4	0.0	170.7	462.0
2030	344.1	0.0	132.2	476.2
2031	355.6	0.0	135.9	491.6
Total 2022-2031	\$2,939.5	\$0.6	\$1,270.5	\$4,210.6

Note: Numbers may not add due to rounding. Projected debt service numbers are net of Debt Service Reserve Fund interest.



Table 30: Total Projected Annual Requirements with Proposed Toll Schedule (millions)

Year	Capital Program	Operating and Maintenance	Debt Service	Total Requirements
2022	\$327.8	\$380.4	\$305.8	\$1,014.0
2023	412.8	397.5	356.0	1,166.3
2024	528.6	405.4	365.4	1,299.4
2025	336.9	413.5	422.2	1,172.7
2026	327.7	421.8	435.6	1,185.1
2027	326.5	430.2	443.3	1,200.0
2028	333.0	438.8	452.4	1,224.3
2029	339.7	447.6	462.0	1,249.3
2030	346.5	456.5	476.2	1,279.2
2031	353.4	465.6	491.6	1,310.6
Total 2022-2031	\$3,632.9	\$4,257.3	\$4,210.6	\$12,100.8

Table 31: Projected Funding Sources with Proposed Toll Schedule (millions)

Year	Funding Sources					
	Federal Aid	Other	Bond / Note Proceeds	Subtotal Exclusive of Thruway Revenues on Pay-As-You-Go Basis	Revenues Required from Tolls, etc.	Pay-As-You-Go %
2022	\$-	\$1.0	\$139.0	\$140.0	\$187.7	57.6%
2023	-	1.3	319.3	320.6	92.2	22.6%
2024	-	2.2	315.0	317.2	211.4	40.4%
2025	-	2.8	146.4	149.3	187.7	56.5%
2026	-	1.9	131.2	133.1	194.6	60.0%
2027	-	0.0	90.7	90.7	235.8	72.2%
2028	-	0.0	112.4	112.4	220.6	66.3%
2029	-	0.0	131.1	131.1	208.6	61.4%
2030	-	0.0	153.1	153.1	193.3	55.8%
2031	-	0.0	176.6	176.6	176.8	50.0%
Total 2022-2031	\$0.0	\$9.3	\$1,714.8	\$1,724.1	\$1,908.8	52.8%



8.0 SUMMARY OF FINDINGS

Table 32 shows the projected Flow of Funds, as defined by the Authority's Bond Resolution, inclusive of the proposed toll adjustments. In determining future funding needs, the Authority has a management commitment to a future minimum debt service coverage ratio of 1.55x for the Senior Lien, above the Board-adopted guideline of 1.50x, which is met for all years of the forecast with the proposed toll increase.

Additionally, the Authority has a management commitment to a minimum debt service coverage ratio for combined Senior Bonds and Junior Indebtedness Obligations of 1.35x, higher than the Junior Indebtedness Resolution requirement of 1.2x coverage for the combined annual Senior Bond debt service and annual Junior Indebtedness Obligation debt service. With the proposed toll adjustments these Board-adopted minimum coverage ratio guidelines are met or exceeded every year of the forecast through 2031.



Table 32: Historical and Projected Thruway Flow of Funds and Debt Service Coverage with Proposed Toll Schedule (millions)

	ACTUAL			FORECAST										2022-2031
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Total Revenues	\$ 812.1	\$ 668.5	\$ 826.5	\$ 898.0	\$ 889.6	\$ 1,052.7	\$ 1,095.3	\$ 1,125.2	\$ 1,184.1	\$ 1,194.4	\$ 1,204.0	\$ 1,213.7	\$ 1,223.4	\$ 11,080.4
Gap Closing Revenues ⁽¹⁾	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Available Revenues	812.1	668.5	826.5	898.0	889.6	1,052.7	1,095.3	1,125.2	1,184.1	1,194.4	1,204.0	1,213.7	1,223.4	11,080.4
Less:														
Operating Expenses	350.9	316.6	339.8	379.4	396.5	404.4	412.5	420.8	429.2	437.8	446.6	455.5	464.6	4,247.3
Operating Reserves	6.0	2.0	6.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	10.0
Total Operating Costs	356.8	318.6	346.3	380.4	397.5	405.4	413.5	421.8	430.2	438.8	447.6	456.5	465.6	4,257.3
Net Revenues	455.2	349.9	480.2	517.6	492.1	647.3	681.8	703.5	753.9	755.6	756.4	757.2	757.8	6,823.1
Less: Gen. Rev. Bonds Debt Service	226.8	166.8	241.3	242.3	248.6	256.7	298.7	305.9	312.0	284.3	291.4	344.1	355.6	2,939.5
Net Revenues After Gen. Rev. Debt Service	228.5	183.1	238.9	275.3	243.6	390.6	383.1	397.6	441.9	471.3	465.0	413.1	402.1	3,883.6
Less Reserve Maintenance Provisions	131.4	97.3	100.3	167.7	67.0	211.4	187.7	194.6	235.8	220.6	208.6	193.3	176.8	1,863.5
Less Junior Indebtedness Debt Service	47.4	23.1	46.7	63.0	107.5	108.7	123.5	129.6	131.3	168.2	170.7	132.2	135.9	1,270.5
Net Revenues After Jun. Ind. Debt Service	49.6	62.6	91.9	44.6	69.1	70.5	71.9	73.3	74.8	82.5	85.8	87.6	89.4	749.6
+/- Operating Reserves Adjustment/AETC Lag/Working Capital Provision	13.6	(2.5)	24.2	30.0	-	-	-	-	-	-	-	-	-	30.0
Less: Facil Cap Imp Fund	8.0	-	-	7.5	-	-	-	-	-	6.3	8.0	8.2	8.4	38.4
Less: General Reserve Fund ⁽²⁾	41.9	59.1	64.6	66.6	69.1	70.5	71.9	73.3	74.8	76.3	77.8	79.4	81.0	740.6
Less: Gen Res Fund - Subordinate Debt	13.3	1.1	51.6	0.6	-	-	-	-	-	-	-	-	-	0.6
Balance After Reserve Maintenance Provisions, Other Authority Projects	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Senior Debt Service Coverage	2.01	2.10	1.99	2.14	1.98	2.52	2.28	2.30	2.42	2.66	2.60	2.20	2.13	
Junior & Senior Coverage	1.66	1.84	1.67	1.70	1.38	1.77	1.61	1.62	1.70	1.67	1.64	1.59	1.54	
Pay go % ROS Capital	100.0%	12.0%	35.3%	57.6%	22.6%	40.4%	56.5%	60.0%	72.2%	66.3%	61.4%	55.8%	50.0%	

Notes: Totals may not add due to rounding.

⁽¹⁾ Through the year 2031, revenues generated with the toll adjustment will be sufficient to meet the minimum coverage requirements for both the Senior Lien and combined Senior Bonds and Junior Indebtedness Obligations. The Authority has a management commitment to a future minimum debt service coverage ratio of 1.55x for the Senior Lien, above the Board-adopted guideline of 1.50x. The Authority has a management commitment to a minimum debt service coverage ratio for combined Senior Bonds and Junior Indebtedness Obligations of 1.35x, higher than the Junior Indebtedness Resolution requirement of 1.2x coverage for the combined annual Senior Bond debt service and annual Junior Indebtedness Obligation debt service.

⁽²⁾ The General Reserve Fund figures through 2024 reflect Thruway revenues required to reimburse the State of New York for costs associated with the New York State Police Troop T patrol.



9.0 LIMITS AND DISCLAIMERS

It is Stantec's opinion that the traffic and toll revenue estimates provided herein represent reasonable and achievable levels of traffic and toll revenues that can be expected to accrue at the Authority's toll facilities over the forecast period and that they have been prepared in accordance with accepted industry-wide practice. However, as should be expected with any forecast, and given the uncertainties within the current economic climate, it is important to note the following assumptions which, in our opinion, are reasonable:

- This limited synopsis presents the highlighted results of Stantec's consideration of the information available as of the date hereof and the application of our experience and professional judgment to that information. It is not a guarantee of any future events or trends.
- The traffic and toll revenue estimates will be subject to future economic and social conditions, demographic developments and regional transportation construction activities that cannot be predicted with certainty.
- The estimates contained in this document, while presented with numeric specificity, are based on a number of estimates and assumptions which, though considered reasonable to us, are inherently subject to economic and competitive uncertainties and contingencies, most of which are beyond the control of the Authority 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 standards of operation and maintenance on all of the Thruway System will be maintained as planned within the business rules and practices.
- The general configuration and location of the Thruway System and its interchanges will remain as discussed in the report.
- Access to and from the Thruway System will remain as discussed in the report.
- No other new competing highway projects are assumed to be constructed or significantly improved in the project corridor during the project period, except those identified within the report.
- Major highway improvements that are currently underway or fully funded will be completed as planned.
- The Thruway System 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.
- There will be no future serious protracted recession during the forecast period.
- There will be no protracted fuel shortage during the forecast period.
- No local, regional, or national emergency will arise that will abnormally deter or restrict the use of motor vehicles.

In Stantec's opinion, the assumptions underlying the study provide a reasonable basis for the analysis. However, any financial projection is subject to uncertainties. Inevitably, some assumptions used to develop the projections will not be realized, and unanticipated events and circumstances may occur. There are likely to be differences between the projections and actual results, and those differences may be material. Because of these uncertainties, Stantec makes no guaranty or warranty with respect to the projections in this study.



This document, 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 Consulting Services Inc. (and its 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 Consulting Services Inc. in connection with the study and the services provided to our client 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 Consulting Services Inc.

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We would like to thank the Authority staff for their assistance in the preparation of this report.

Sincerely,



Richard J. Gobeille, P.E.
Senior Principal
Stantec Consulting, Inc.



APPENDIX: PROPOSED TOLL RATE SCHEDULES

CURRENT AND PROPOSED RATES, GOVERNOR MARIO M. CUOMO BRIDGE

Current 2022 Toll Rate Governor Mario M. Cuomo Bridge

	NY E-Zpass Peak	NY E-ZPass Off Peak	Non-NY E-ZPass	Tolls By Mail
Commuter	\$3.45	\$3.45		
Resident	\$4.75	\$4.75		
2L	\$5.75	\$5.75	\$6.61	\$7.48
3L	\$13.92	\$6.96	\$16.01	\$18.10
4L	\$16.64	\$8.32	\$19.14	\$21.64
2H	\$17.86	\$8.93	\$20.53	\$23.21
3H	\$25.12	\$12.56	\$28.89	\$32.65
4H	\$29.96	\$14.98	\$34.45	\$38.95
5H	\$55.77	\$27.89	\$64.14	\$72.51
6H	\$69.82	\$34.91	\$80.30	\$90.77
7H	\$83.87	\$41.94	\$96.45	\$109.03

Effective January 1, 2024 Toll Rate Governor Mario M. Cuomo Bridge

	NY E-ZPass Peak	NY E-ZPass OFF PEAK	Non-NY E-ZPass	Tolls By Mail
Commuter	\$3.75	\$3.75		
Resident	\$5.00	\$5.00		
2L	\$6.25	\$6.25	\$10.94	\$10.94
3L	\$15.13	\$7.57	\$26.48	\$26.48
4L	\$18.09	\$9.05	\$31.66	\$31.66
2H	\$19.41	\$9.71	\$33.97	\$33.97
3H	\$27.30	\$13.65	\$47.78	\$47.78
4H	\$32.57	\$16.29	\$57.00	\$57.00
5H	\$60.62	\$30.31	\$106.09	\$106.09
6H	\$75.89	\$37.95	\$132.81	\$132.81
7H	\$91.16	\$45.58	\$159.53	\$159.53

Effective January 1, 2025 Toll Rate Governor Mario M. Cuomo Bridge

	NY E-ZPass Peak	NY E-ZPass OFF PEAK	Non-NY E-ZPass	Tolls By Mail
Commuter	\$4.05	\$4.05		
Resident	\$5.40	\$5.40		
2L	\$6.75	\$6.75	\$11.81	\$11.81
3L	\$16.34	\$8.17	\$28.60	\$28.60
4L	\$19.54	\$9.77	\$34.20	\$34.20
2H	\$20.96	\$10.48	\$36.68	\$36.68
3H	\$29.48	\$14.74	\$51.59	\$51.59
4H	\$35.18	\$17.59	\$61.57	\$61.57
5H	\$65.47	\$32.74	\$114.57	\$114.57
6H	\$81.96	\$40.98	\$143.43	\$143.43
7H	\$98.45	\$49.23	\$172.29	\$172.29

CURRENT AND PROPOSED RATES, GOVERNOR MARIO M. CUOMO BRIDGE

Effective January 1, 2026 Toll Rate Governor Mario M. Cuomo Bridge

	NY E-ZPass Peak	NY E-ZPass OFF PEAK	Non-NY E-ZPass	Tolls By Mail
Commuter	\$4.35	\$4.35		
Resident	\$5.80	\$5.80		
2L	\$7.25	\$7.25	\$12.69	\$12.69
3L	\$17.55	\$8.78	\$30.71	\$30.71
4L	\$20.99	\$10.50	\$36.73	\$36.73
2H	\$22.51	\$11.26	\$39.39	\$39.39
3H	\$31.66	\$15.83	\$55.41	\$55.41
4H	\$37.79	\$18.90	\$66.13	\$66.13
5H	\$70.32	\$35.16	\$123.06	\$123.06
6H	\$88.03	\$44.02	\$154.05	\$154.05
7H	\$105.74	\$52.87	\$185.05	\$185.05

Effective January 1, 2027 Toll Rate Governor Mario M. Cuomo Bridge

	NY E-ZPass Peak	NY E-ZPass OFF PEAK	Non-NY E-ZPass	Tolls By Mail
Commuter	\$4.65	\$4.65		
Resident	\$6.20	\$6.20		
2L	\$7.75	\$7.75	\$13.56	\$13.56
3L	\$18.76	\$9.38	\$32.83	\$32.83
4L	\$22.44	\$11.22	\$39.27	\$39.27
2H	\$24.06	\$12.03	\$42.11	\$42.11
3H	\$33.84	\$16.92	\$59.22	\$59.22
4H	\$40.40	\$20.20	\$70.70	\$70.70
5H	\$75.17	\$37.59	\$131.55	\$131.55
6H	\$94.10	\$47.05	\$164.68	\$164.68
7H	\$113.03	\$56.52	\$197.80	\$197.80

CURRENT AND PROPOSED RATES, REMAINDER OF SYSTEM

Current rates New York E-ZPass customers

	MAINLINE (PER MILE)	Castleton Bridge Surcharge	GRAND ISLAND BRIDGES	HARRIMAN	YONKERS	NEW ROCHELLE	SPRING VALLEY	
							PEAK	OFF PEAK
2L	\$0.0447	\$0.62	\$0.95	\$1.19	\$1.19	\$1.66	\$0.00	\$0.00
3L	\$0.0692	\$0.86	\$1.43	\$1.43	\$1.43	\$2.38	\$3.00	\$1.50
4L	\$0.0821	\$1.00	\$1.66	\$1.66	\$1.66	\$2.85	\$4.50	\$2.25
2H	\$0.0886	\$1.05	\$1.90	\$1.90	\$1.90	\$3.33	\$5.25	\$2.63
3H	\$0.1524	\$1.47	\$2.14	\$2.61	\$2.14	\$4.04	\$8.25	\$4.13
4H	\$0.1680	\$1.90	\$2.61	\$2.85	\$2.61	\$4.75	\$8.25	\$4.13
5H	\$0.2271	\$2.57	\$4.04	\$4.04	\$4.04	\$7.60	\$13.50	\$6.75
6H	\$0.2815	\$3.09	\$4.28	\$4.75	\$4.28	\$8.31	\$14.75	\$7.38
7H	\$0.3359	\$3.66	\$4.75	\$5.46	\$4.75	\$9.26	\$16.50	\$8.25

Current rates Non New York E-ZPass customers

	MAINLINE (PER MILE)	Castleton Bridge Surcharge	GRAND ISLAND BRIDGES	HARRIMAN	YONKERS	NEW ROCHELLE	SPRING VALLEY
2L	\$0.0514	\$0.71	\$1.09	\$1.37	\$1.37	\$1.91	\$0.00
3L	\$0.0796	\$0.99	\$1.64	\$1.64	\$1.64	\$2.73	\$3.45
4L	\$0.0944	\$1.15	\$1.91	\$1.91	\$1.91	\$3.28	\$5.18
2H	\$0.1019	\$1.21	\$2.19	\$2.19	\$2.19	\$3.82	\$6.04
3H	\$0.1753	\$1.69	\$2.46	\$3.00	\$2.46	\$4.64	\$9.49
4H	\$0.1932	\$2.19	\$3.00	\$3.28	\$3.00	\$5.46	\$9.49
5H	\$0.2612	\$2.96	\$4.64	\$4.64	\$4.64	\$8.74	\$15.53
6H	\$0.3237	\$3.55	\$4.92	\$5.46	\$4.92	\$9.56	\$16.96
7H	\$0.3863	\$4.21	\$5.46	\$6.28	\$5.46	\$10.65	\$18.98

Current rates Toll By Mail customers

	MAINLINE (PER MILE)	Castleton Bridge Surcharge	GRAND ISLAND BRIDGES	HARRIMAN	YONKERS	NEW ROCHELLE	SPRING VALLEY
2L	\$0.0581	\$0.81	\$1.24	\$1.54	\$1.54	\$2.16	\$0.00
3L	\$0.0900	\$1.12	\$1.85	\$1.85	\$1.85	\$3.09	\$3.90
4L	\$0.1067	\$1.30	\$2.16	\$2.16	\$2.16	\$3.71	\$5.85
2H	\$0.1152	\$1.37	\$2.47	\$2.47	\$2.47	\$4.32	\$6.83
3H	\$0.1981	\$1.91	\$2.78	\$3.40	\$2.78	\$5.25	\$10.73
4H	\$0.2184	\$2.47	\$3.40	\$3.71	\$3.40	\$6.18	\$10.73
5H	\$0.2952	\$3.34	\$5.25	\$5.25	\$5.25	\$9.88	\$17.55
6H	\$0.3660	\$4.02	\$5.56	\$6.18	\$5.56	\$10.81	\$19.18
7H	\$0.4367	\$4.76	\$6.18	\$7.10	\$6.18	\$12.04	\$21.45

CURRENT AND PROPOSED RATES, REMAINDER OF SYSTEM

Proposed rates New York E-ZPass customers 1/1/24

	MAINLINE (PER MILE)	Castleton Bridge Surcharge	GRAND ISLAND BRIDGES	HARRIMAN	YONKERS	NEW ROCHELLE	SPRING VALLEY	
							PEAK	OFF PEAK
2L	\$0.0469	\$0.65	\$1.00	\$1.25	\$1.25	\$1.74	\$0.00	\$0.00
3L	\$0.0727	\$0.90	\$1.50	\$1.50	\$1.50	\$2.50	\$3.15	\$1.58
4L	\$0.0862	\$1.05	\$1.74	\$1.74	\$1.74	\$2.99	\$4.73	\$2.37
2H	\$0.0930	\$1.10	\$2.00	\$2.00	\$2.00	\$3.50	\$5.51	\$2.76
3H	\$0.1600	\$1.54	\$2.25	\$2.74	\$2.25	\$4.24	\$8.66	\$4.33
4H	\$0.1764	\$2.00	\$2.74	\$2.99	\$2.74	\$4.99	\$8.66	\$4.33
5H	\$0.2385	\$2.70	\$4.24	\$4.24	\$4.24	\$7.98	\$14.18	\$7.09
6H	\$0.2956	\$3.24	\$4.49	\$4.99	\$4.49	\$8.73	\$15.49	\$7.75
7H	\$0.3527	\$3.84	\$4.99	\$5.73	\$4.99	\$9.72	\$17.33	\$8.67

Proposed rates Non New York E-ZPass customers 1/1/24

	MAINLINE (PER MILE)	Castleton Bridge Surcharge	GRAND ISLAND BRIDGES	HARRIMAN	YONKERS	NEW ROCHELLE	SPRING VALLEY
2L	\$0.0821	\$1.14	\$1.75	\$2.19	\$2.19	\$3.05	\$0.00
3L	\$0.1272	\$1.58	\$2.63	\$2.63	\$2.63	\$4.38	\$5.51
4L	\$0.1509	\$1.84	\$3.05	\$3.05	\$3.05	\$5.23	\$8.28
2H	\$0.1628	\$1.93	\$3.50	\$3.50	\$3.50	\$6.13	\$9.64
3H	\$0.2800	\$2.70	\$3.94	\$4.80	\$3.94	\$7.42	\$15.16
4H	\$0.3087	\$3.50	\$4.80	\$5.23	\$4.80	\$8.73	\$15.16
5H	\$0.4174	\$4.73	\$7.42	\$7.42	\$7.42	\$13.97	\$24.82
6H	\$0.5173	\$5.67	\$7.86	\$8.73	\$7.86	\$15.28	\$27.11
7H	\$0.6172	\$6.72	\$8.73	\$10.03	\$8.73	\$17.01	\$30.33

Proposed rates Toll By Mail customers 1/1/24

	MAINLINE (PER MILE)	Castleton Bridge Surcharge	GRAND ISLAND BRIDGES	HARRIMAN	YONKERS	NEW ROCHELLE	SPRING VALLEY
2L	\$0.0821	\$1.14	\$1.75	\$2.19	\$2.19	\$3.05	\$0.00
3L	\$0.1272	\$1.58	\$2.63	\$2.63	\$2.63	\$4.38	\$5.51
4L	\$0.1509	\$1.84	\$3.05	\$3.05	\$3.05	\$5.23	\$8.28
2H	\$0.1628	\$1.93	\$3.49	\$3.49	\$3.50	\$6.13	\$9.64
3H	\$0.2800	\$2.70	\$3.93	\$4.80	\$3.94	\$7.42	\$15.16
4H	\$0.3087	\$3.50	\$4.80	\$5.24	\$4.80	\$8.73	\$15.16
5H	\$0.4174	\$4.73	\$7.42	\$7.42	\$7.42	\$13.97	\$24.82
6H	\$0.5173	\$5.67	\$7.86	\$8.73	\$7.86	\$15.28	\$27.11
7H	\$0.6172	\$6.72	\$8.73	\$10.03	\$8.73	\$17.01	\$30.33

CURRENT AND PROPOSED RATES, REMAINDER OF SYSTEM

Proposed rates New York E-ZPass customers 1/1/27

	MAINLINE (PER MILE)	Castleton Bridge Surcharge	GRAND ISLAND BRIDGES	HARRIMAN	YONKERS	NEW ROCHELLE	SPRING VALLEY	
							PEAK	OFF PEAK
2L	\$0.0492	\$0.68	\$1.05	\$1.31	\$1.31	\$1.83	\$0.00	\$0.00
3L	\$0.0763	\$0.95	\$1.58	\$1.58	\$1.58	\$2.63	\$3.31	\$1.66
4L	\$0.0905	\$1.10	\$1.83	\$1.83	\$1.83	\$3.14	\$4.97	\$2.49
2H	\$0.0977	\$1.16	\$2.10	\$2.10	\$2.10	\$3.68	\$5.79	\$2.90
3H	\$0.1680	\$1.62	\$2.36	\$2.88	\$2.36	\$4.45	\$9.09	\$4.55
4H	\$0.1852	\$2.10	\$2.88	\$3.14	\$2.88	\$5.24	\$9.09	\$4.55
5H	\$0.2504	\$2.84	\$4.45	\$4.45	\$4.45	\$8.38	\$14.89	\$7.45
6H	\$0.3104	\$3.40	\$4.71	\$5.24	\$4.71	\$9.17	\$16.26	\$8.13
7H	\$0.3703	\$4.03	\$5.24	\$6.02	\$5.24	\$10.21	\$18.20	\$9.10

Proposed rates Non New York E-ZPass customers 1/1/27

	MAINLINE (PER MILE)	Castleton Bridge Surcharge	GRAND ISLAND BRIDGES	HARRIMAN	YONKERS	NEW ROCHELLE	SPRING VALLEY
2L	\$0.0861	\$1.19	\$1.84	\$2.29	\$2.29	\$3.20	\$0.00
3L	\$0.1335	\$1.66	\$2.77	\$2.77	\$2.77	\$4.60	\$5.79
4L	\$0.1584	\$1.93	\$3.20	\$3.20	\$3.20	\$5.50	\$8.70
2H	\$0.1710	\$2.03	\$3.66	\$3.66	\$3.68	\$6.44	\$10.13
3H	\$0.2940	\$2.84	\$4.13	\$5.04	\$4.13	\$7.79	\$15.91
4H	\$0.3241	\$3.68	\$5.04	\$5.50	\$5.04	\$9.17	\$15.91
5H	\$0.4382	\$4.97	\$7.79	\$7.79	\$7.79	\$14.67	\$26.06
6H	\$0.5432	\$5.95	\$8.26	\$9.17	\$8.24	\$16.05	\$28.46
7H	\$0.6480	\$7.05	\$9.17	\$10.54	\$9.17	\$17.87	\$31.85

Proposed rates Toll By Mail customers 1/1/27

	MAINLINE (PER MILE)	Castleton Bridge Surcharge	GRAND ISLAND BRIDGES	HARRIMAN	YONKERS	NEW ROCHELLE	SPRING VALLEY
2L	\$0.0861	\$1.19	\$1.84	\$2.29	\$2.29	\$3.20	\$0.00
3L	\$0.1335	\$1.66	\$2.77	\$2.77	\$2.77	\$4.60	\$5.79
4L	\$0.1584	\$1.93	\$3.20	\$3.20	\$3.20	\$5.50	\$8.70
2H	\$0.1710	\$2.03	\$3.68	\$3.68	\$3.68	\$6.44	\$10.13
3H	\$0.2940	\$2.84	\$4.13	\$5.04	\$4.13	\$7.79	\$15.91
4H	\$0.3241	\$3.68	\$5.04	\$5.50	\$5.04	\$9.17	\$15.91
5H	\$0.4382	\$4.97	\$7.79	\$7.79	\$7.79	\$14.67	\$26.06
6H	\$0.5432	\$5.95	\$8.24	\$9.17	\$8.24	\$16.05	\$28.46
7H	\$0.6480	\$7.05	\$9.17	\$10.54	\$9.17	\$17.87	\$31.85