



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 65 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 8.4 billion vehicle-miles on the highway in 2018, averaging 23.1 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.

Over the last several years, though the economy has improved the Authority has been faced with relatively low growth in revenues and higher costs (relative to health insurance costs and winter storm events). Even after more than ten years without a rate adjustment the Authority has been able 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, and has received State stabilization funds to support the New NY Bridge project and Authority's capital needs. It is important to note that prior toll adjustments were originally designed to only provide sufficient revenues to finance the 2005-2011 Capital Program.

With the impending full completion of the New NY Bridge Project and the opening of the Governor Mario M Cuomo Bridge in 2018, the Authority is undertaking a new Capital Plan that includes the system wide implementation of cashless tolling. With revenue needs projected to be above those generated by the existing toll rates beginning in 2022, 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 recommend a schedule of toll rates that will allow the Authority to sustain healthy financial metrics through the end of 2024.

Based on this strategy, Stantec recommends that the Authority implement proposed toll increases which are summarized in Table 1.

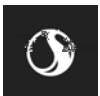
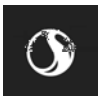


Table 1: Proposed Toll Modifications

GOVERNOR MARIO M. CUOMO BRIDGE RATES	
Toll Modification Element	Description
Increase NY E-ZPass by \$0.50 per year in 2021 and 2022	On January 1, 2021 the NY E-ZPass toll rates on the Bridge will be increased by the amount of 50 cents to \$5.25. On January 1, 2022 the NY E-ZPass toll rates on the Bridge will be increased another 50 cents to \$5.75.
40% Commuter Discount Program*	Beginning on January 1, 2021, the commuter discounted rate will be 40 percent off the NY E-ZPass rate for passenger vehicles that opt in to 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*	A new resident E-ZPass Plan will be offered for Westchester and Rockland residents that will keep their rate frozen at the current \$4.75 rate. This program is offered only to class 2L vehicles with a New York E-ZPass who opt in to the plan and provide proof of residency (e.g., having a vehicle registered in one of these counties).
Commercial Rates	Class 2H through 4H and S class tolls will be increased proportionate to the car toll increases for each payment type. Class 5H through 7H truck tolls will be increased 20% more than the car toll increases for each payment type
CHANGES TO SUPPORT SYSTEM-WIDE CONVERSION TO CASHLESS TOLLING	
Incentivize NY E-ZPass Usage	Establish that with the conversion to system-wide cashless tolling in 2020, NY E-ZPass toll rates would be based on the current toll rates first established in 2010, and beginning on January 1, 2021 a 30 percent rate differential (a toll rate 30 percent above the NY E-ZPass rate) would be established for Tolls By Mail toll rates.
Non-NY E-ZPass Rates	Beginning on January 1, 2021, establish a 15 percent rate differential (a toll rate 15 percent above the NY E-ZPass rate for Non-NY E-ZPass tolls).
Image Tolls Policy	Clarify Board Policy that beginning on January 1, 2021, all transactions that are processed as image tolls will pay the Tolls By Mail toll rate. This clarification would apply to customers who have an E-ZPass account yet their toll transaction must be processed via the Tolls by Mail process (e.g., due to failure to mount the E-ZPass transponder properly and a toll transaction is processed through a license plate image review).
Impose a \$2 Administrative Surcharge on Tolls by Mail Bills	Beginning on January 1, 2021, implement a \$2 administrative surcharge per billing statement for non-E-ZPass 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.

**It should be noted that 89 percent of passenger trips will pay a discounted rate compared to the Tolls by Mail rate and that 45 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 266.4 million toll transactions occurred on the Thruway in 2018, generating about \$736.5 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.

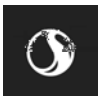
The Thruway is comprised of two types of toll systems – a controlled (ticket) system and a barrier system, as shown in Figure 1. The controlled system (approximately 481 miles) makes up the largest portion of the Thruway, running from Woodbury (in the southeast corner of the State) north along I-87 to 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 recently completed conversion of all its toll collection barriers to cashless tolling. 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 will be converted to cashless tolling in October 2020.

¹ \$764.5 million in gross toll revenues minus \$28.0 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

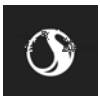
Thruway pavements are typically nine inches of reinforced Portland cement concrete placed on 12 inches of granular sub-base. Shoulders are made up of treated granular material with asphaltic wearing surface. A large portion of the roadway's base dates back to its original construction, highlighting the 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 814 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. When the project is fully completed, the north span will have a shared-use bike and pedestrian path. 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 towards those that are critical to maintain safety and good structural conditions.

2.4 SERVICE AREAS AND BUILDINGS

The Authority currently owns 603 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:

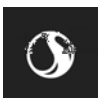
- 234 section maintenance and storage buildings
- 66 salt sheds
- 83 toll and toll storage buildings
- 161 service area buildings (including water and waste water buildings)
- 3 New York State Welcome Centers, one with an additional storage building
- Port Byron Old Erie Canal Heritage Park Visitors Center
- 21 State Police barracks and storage buildings
- 33 radio shelter buildings

Note that this list does not include buildings that are being 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.

Service areas providing fuel, restaurants and other amenities for the 27 service areas owned by the Authority are operated through concessionaire agreements. The buildings, parking areas, and wastewater treatment plants are maintained by Thruway staff. These service areas are located at intervals along the Thruway System and are currently operated by three



food service concessionaires: HMS Host Family Restaurants, Inc. (12 plazas), McDonald's Corporation (11 plazas) and Delaware North Companies Travel Hospitality Services, Inc. (4 plazas), and Taste NY (at the Mohawk Valley Welcome Center which opened in June 2017, the Western New York Welcome Center that opened August 31, 2018, and the Capital Region Welcome Center that opened November 23, 2018). In addition, there are two fuel service operators, Dunne Manning (12 plazas) and Sunoco, Inc. (R&M) (15 plazas). The Authority collected \$14.88 million in concession payments from these vendors in 2018.

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 also 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, fax machines, sell *E-ZPass* On-the-Go (retail *E-ZPass* transponders) and staff a number of Tourist Information Centers. The Mohawk Valley Welcome Center opened in 2017 and showcases the rich heritage of New York State's historical past, a Walk of Fame highlighting influential individuals from the Mohawk Valley, an ADA compliant playground, covered porch overlooking the scenic Erie Canal, three electric vehicle charging stations, and pet comfort areas. The new Western New York Welcome Center, located in the Town of Grand Island, is inspired by the architectural designs of Frank Lloyd Wright and features a Walk of Fame highlighting influential figures in Western New York State, a Great Lakes shipwreck-themed children's play area, an "I LOVE NY" sculpture, electric vehicle charging stations, a motorcycle shelter, pet comfort area, and parking spaces for cars, buses/RVs, and trucks. The new Capital Region Welcome Center features a historic Dutch-style building façade, and has a music-themed children's playground, an artifact wall, "I LOVE NY" interactive kiosks, and Electric Vehicle charging stations.

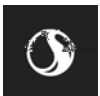
The Authority and its concessionaires continue to make various improvements at the service areas, including updating food concepts and the overall appearance of the interiors and exteriors of the buildings, renovating gas stations, and adding trucker's lounges and increased tractor trailer parking. The Authority is currently preparing to utilize design-build contracting procurement to substantially re-build and modernize the travel plaza elements of each of the 27 service areas. The contract is currently subject to the procurement process and is expected to be awarded by the end of 2019.

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 an Advanced Traffic Management System that integrates and controls all current and future ITS devices and systems. Such devices include 80 Permanent Variable Message Signs, 166 Closed Circuit Television cameras, 13 Highway Advisory Radio stations, 125 real-time vehicle detector sites, and 90 Portable Variable Message Signs. The Authority has started to integrate the following ITS devices located on the Governor Mario M. Cuomo Bridge: 2 Permanent Message Signs, 27 Closed Circuit Television Cameras, 8 real-time vehicle detector sites, 119 Lane Indicator Signs, 4 Weather Stations, 17 Message Signs on the Shared-Use Path, 8 Weigh-In-Motion sensors and 20 Variable Speed Limit Signs.

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 contributed to a very low accident fatality rate in 2017. The fatality rate on the Thruway is among the lowest in the nation at 0.22 fatalities per 100 million miles traveled. This compares to an index of 1.16 nationwide in 2017² and 0.77 for all of New York State³ in 2017.

2.6 ANNUAL ROUTINE MAINTENANCE ACTIVITIES

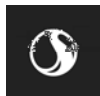
Over the years, the Authority has developed comprehensive plans for the maintenance of its facilities. Formal pavement and bridge management systems have been developed to address maintenance issues and provide input into the development of long-term infrastructure management programs. Routine maintenance 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. Examples of these types of enhancements by the Authority are 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 vehicles.

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. In 1991, it became the Authority's responsibility for maintenance and operational expenditures only. Capital improvements have remained the responsibility of NYSDOT.

² "2017 Fatal Motor Vehicle Crashes: Overview." National Highway Traffic Safety Administration, Oct. 2018, <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812603>.

³ "General Statistics." Insurance Institute for Highway Safety Highway Loss Data Institute, Dec. 2018, www.iihs.org/iihs/topics/t/general-statistics/fatalityfacts/state-by-state-overview.



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 2008 through 2018. 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 past years 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, 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 2008-2018 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.

On April 23, 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, and Spring Valley and New Rochelle Barriers in December 2018. Actual costs for account management of the Tolls by Mail program were included in the budgets and actual costs for 2016 through 2018.

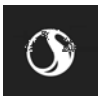


Table 3: The Thruway System's Actual Operating and Maintenance Expenses, 2008 – 2018 (millions)

Year	Thruway Operations	Reserves ⁽¹⁾	Total Operating Expenses ⁽²⁾
2008	\$334.8	\$2.5	\$337.3
2009	339.4	7.3	346.7
2010 ⁽³⁾	358.2	6.0	364.2
2011	365.4	4.6	370.0
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 ⁽⁴⁾	311.6	1.8	313.3
2017	329.7	2.7	332.4
2018 ⁽⁵⁾	339.9	5.0	345.0

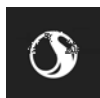
(1) Includes provisions for legal claims and indemnities and reserves for environmental remediation.

(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) In 2010, operating expenses include \$13.3 million for the special early retirement surcharge (\$11.4 million for the Thruway and \$1.9 million for the Canal) and \$5.6 million in Federal Enhancement funds was received for Canal operations.

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

(5) 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.



3.2 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 2008 through 2018 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, and the transfer of jurisdiction for the Canal System from the Authority to the NYPA in January 2017.

Table 4: Actual Capital Expenditures, 2008-2018 (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
2008	288.7	36.2	30.3	355.2		355.2
2009	259.6	35.4	26.1	321.1		321.1
2010	311.0	39.9	26.8	377.7		377.7
2011	367.6	49.5	27.4	444.5		444.5
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

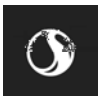
Note: Numbers may not add due to rounding.

⁽¹⁾ Includes capital costs for system-wide 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. Federal aid allocated by the NYSDOT to the Authority declined from \$30.9 million in 2007 to \$0 in 2011, predominately the result of an agreement with NYSDOT expiring in 2005 which had previously authorized aid to the Authority to support its capital and operational needs. This declining federal aid plus relatively low toll revenue growth led to a reduction in the level of pay-as-you-go financing for the 2005-2011 Capital Program. 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 2019-2024 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 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.

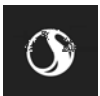
Additionally, in 2015 New York State had appropriated grant money in the amount of \$1.285 billion to fund Thruway capital projects, including \$750 million for the New NY Bridge Project and \$535 million for Thruway System-wide projects. The State's 2016-2017 Enacted Budget included an additional appropriation 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: 2008-2018 Actual Funding Sources, Thruway Authority (millions)

Year	Funding Sources						
	Federal Aid	State Stabilization ⁽¹⁾	Other	Bond / Note Proceeds	Subtotal Exclusive of Thruway Revenues on Pay-As-You-Go Basis	Revenues Required from Tolls, etc.	Pay-As-You-Go %
2008	\$17.6		\$1.3	\$299.5	\$318.4	\$36.8	15.7%
2009	10.0		2.7	258.4	271.1	50.1	19.6%
2010	8.7		4.9	305.8	319.4	58.3	19.0%
2011	0.0		6.4	366.0	372.4	72.1	17.7%
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	\$387.4	9.2	491.8	939.5	97.7	52.6%
2016	5.8	509.6	27.3	415.9	958.6	99.0	60.7%
2017	0.1	181.2	0.4	464.2	645.9	62.8	34.5%
2018	0.0	448.0	56.1	3.0	507.0	84.8	99.5%

Note: Numbers may not add due to rounding.

⁽¹⁾ Incorporates portions of State grant assistance of \$1.285 billion from the 2015-2016 State Budget and \$700 million from the 2016-2017 State Budget. The remaining State grant funds have been or are expected to be drawn down in the period from 2017-2020.



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 \$163.5 million in 2008 to \$299.5 million in 2018.

Table 6: Actual Debt Service, Thruway System, 2008-2018 (millions)

Year	Senior Debt Service	Debt Defeasance	Bond Anticipation Note (BAN) or Line of Credit Interest	Junior Debt Service	Total Debt Service
2008	\$163.5	-	\$0.0	-	\$163.5
2009	166.3	-	10.6	-	176.9
2010	167.3	-	23.8	-	191.2
2011	167.4	-	14.4	-	181.8
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

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. Historically, slow traffic growth and traffic losses have been associated with economic downturns, toll increases, high fuel costs, harsh weather conditions and/or traffic shifts due to construction. 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.

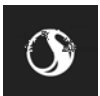
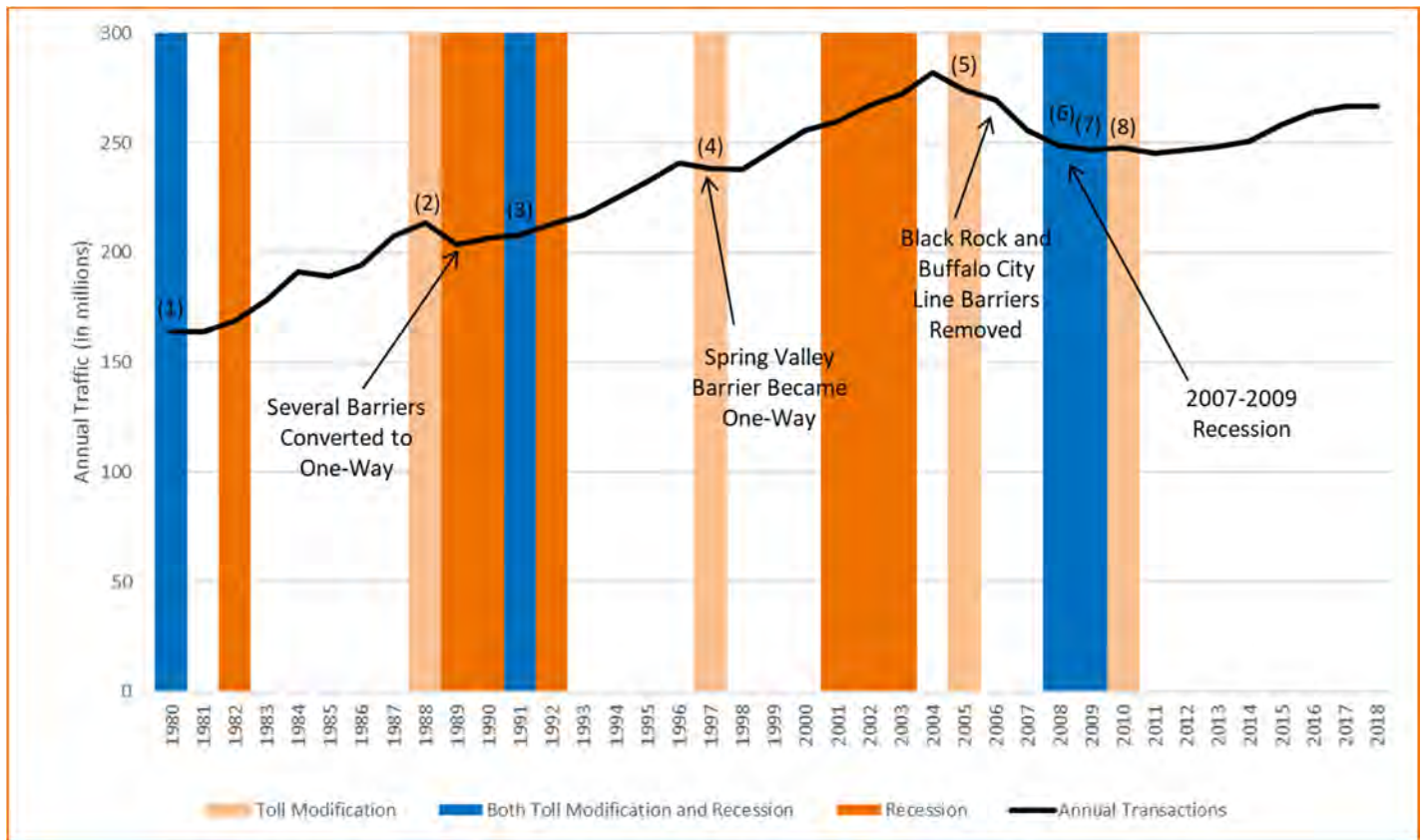


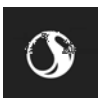
Figure 2: Historical Thruway Traffic Volumes



- (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)

Table 7 presents a recent history of tolled traffic on the various elements of the Thruway System. “Other Barriers” includes the barrier toll locations in Yonkers, New Rochelle, Spring Valley (trucks only), Harriman, and the Grand Island Bridges. The system experienced traffic losses throughout the 2007-2009 recession, followed by several years of nearly flat growth. At the George Washington Bridge, tolls increased four times between December 2012 and December 2015 and construction closures occurred, leading to considerable truck traffic growth on The Governor Mario M. Cuomo Bridge, its biggest competitor. From 2014 through 2016 there has been moderate growth, with traffic volumes exceeding the pre-recession 2007 volumes. Since 2016, traffic has remained relatively flat; this follows the nationwide trend in vehicle miles traveled.

The biggest change during this timeframe was the construction of The Governor Mario M. Cuomo Bridge which began in 2013. Cashless tolling began on the bridge in April 2016. The northern span of The Governor Mario M. Cuomo Bridge opened to northbound traffic in late August 2017, and in early October 2017 southbound traffic also shifted from the old Tappan Zee Bridge to the north span of the new bridge, operating with four lanes of traffic per direction. In September 2018, the south



span of The Governor Mario M. Cuomo Bridge opened, and the four lanes of southbound traffic were shifted from the north to the south span. In addition, by the end of 2018 all remaining toll barriers were converted to cashless tolling.

Table 7: The Thruway System’s Actual 2008-2018 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		
2008 ⁽¹⁾	125.5	22.9	73.5	16.9	1.4	8.3	248.5	
2009 ⁽¹⁾	128.2	22.7	71.5	15.4	1.3	7.5	246.7	-0.7%
2010 ⁽¹⁾	129.0	23.1	70.7	15.7	1.4	7.7	247.6	0.4%
2011	126.6	22.6	70.9	15.8	1.4	7.9	245.2	-1.0%
2012	127.3	22.9	71.1	15.9	1.5	7.9	246.5	0.5%
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 ⁽²⁾	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 ⁽³⁾	139.5	24.8	72.5	18.0	2.4	9.3	266.4	-0.1%

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

⁽¹⁾ Toll Adjustments were implemented in 2008, 2009, and 2010.

⁽²⁾ Cashless tolling began at The Governor Mario M. Cuomo Bridge (formerly Tappan Zee Bridge barrier) April 23, 2016.

⁽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.

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 bad or missing license plate images, invalid DMV records, invalid addresses, nonpayment of toll invoices, or dismissals. Additionally, there was a \$6.2M adjustment to cash basis which relates to the lag in invoicing and collection of Tolls by Mail revenues (i.e., some Tolls by Mail tolls for trips made in 2016 were not collected until 2017). 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 system-wide toll revenue growth over 2017.

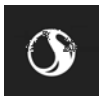


Table 8: The Thruway System's Actual 2008-2018 Toll Revenues (millions)

Year	Passenger Cars			Commercial Vehicles				Total	Growth	Adj. to Cash Basis for Tolls by Mail
	Controlled System	TZB/Cuomo Br.	Other Barriers	Controlled System	TZB/Cuomo Br.	Other Barriers	CV Disc			
2008 ⁽¹⁾	\$193.8	\$85.4	\$67.9	\$187.0	\$21.2	\$29.1	\$(21.7)	\$562.7	4.1%	
2009 ⁽¹⁾	215.0	103.5	82.4	180.7	21.3	30.0	(21.2)	611.6	8.7%	
2010 ⁽¹⁾	226.6	104.7	81.8	194.9	24.6	31.4	(22.8)	641.2	4.8%	
2011	220.2	102.4	81.3	196.3	24.1	32.4	(22.7)	634.1	-1.1%	
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 ⁽²⁾	245.2	103.4	84.0	227.6	38.2	36.4	(26.6)	708.3	2.4%	\$(6.2)
2017 ⁽³⁾	251.6	103.4	84.1	233.3	47.8	38.7	(27.4)	731.5	3.3%	
2018 ⁽⁴⁾	250.3	104.2	81.3	242.0	47.8	39.1	(28.0)	736.5	0.7%	(\$0.7)

Notes: Totals may not add due to rounding.

⁽¹⁾ Toll Adjustments were implemented in 2008, 2009, and 2010.

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

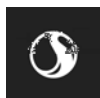
⁽³⁾ Removal of discounts for vehicles with non-NY E-ZPass began on 1/1/17.

⁽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.

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 *per transaction*. 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 system-wide *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.

In 2016, the first year with cashless tolling, \$5.3 million was collected in *E-ZPass* violation fees, which was about \$1.5 million more than the amount collected in 2015. 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 (i.e., 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.

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 are 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 is 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 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 fees from Tolls by Mail customers: the Authority collected \$0.9 million in second bill late fees plus \$10.6 million in violations.

Historical gross total revenues, including both toll revenues and other revenues between 2008 and 2018, are summarized in Table 9.

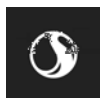


Table 9: Summary of 2008 – 2018 Actual Thruway System Gross Total Revenues (millions)

Year	Toll Revenues	Other Revenues	Total Revenues
2008 ⁽¹⁾	\$562.7	\$33.5	\$596.2
2009 ⁽¹⁾	611.6	26.7	638.3
2010 ⁽¹⁾	641.2	31.3	672.5
2011	634.1	31.4	665.5
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 ⁽³⁾	749.4
2017 ⁽⁴⁾	731.5	60.6 ⁽³⁾	792.1
2018 ⁽⁵⁾	736.5	62.3 ⁽³⁾	798.8

Note: Totals may not add due to rounding

⁽¹⁾ Toll Adjustments were implemented in 2005, 2008, 2009, and 2010.

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

⁽³⁾ Includes fines and late fees collected from Tolls by Mail customers who do not pay their toll bills on time.

⁽⁴⁾ E-ZPass discount discontinued for vehicles with non-NY E-ZPass accounts.

⁽⁵⁾ 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.

3.5 HISTORICAL FLOW OF FUNDS ANALYSIS

Table 10 presents total revenue and expenses for 2010 through 2018 in a format that is consistent with the flow of funds required by the Authority's Bond Resolution. As noted in this table, from 2010 through 2018 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.

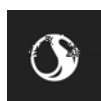
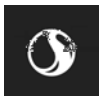


Table 10: Historical Thruway Flow of Funds and Debt Service Coverage (millions)

	ACTUAL								
	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total Revenues	\$ 672.5	\$ 665.5	\$ 669.2	\$ 680.7	\$ 696.4	\$ 726.3	\$ 749.4	\$ 792.1	\$ 798.8
Less:									
Operating Expenses	358.2	365.4	357.0	279.6	286.1	287.4	311.6	329.7	339.9
Operating Reserves	6.0	4.6	2.0	3.5	5.9	1.8	1.8	2.7	5.0
Total	364.2	370.0	359.0	283.1	292.0	289.2	313.3	332.4	345.0
Net Revenues	308.3	295.5	310.2	397.6	404.40	437.1	436.0	459.7	453.8
Less: Sr. Debt Service	167.3	167.4	198.5	239.8	250.9	235.4	227.3	234.6	220.3
Net Revenues After Debt Service	141.0	128.1	111.7	157.8	153.5	201.7	208.7	225.1	233.5
Less: Reserve Maintenance Provisions	31.0	10.0	36.2	79.8	35.7	97.1	68.8	103.2	74.1
Less: Junior Bond Debt Service							29.2	43.7	79.2
Less: Retained for Operating Reserves/AETC Lag/ Working Capital provision	(18.8)	(4.3)	(5.3)	10.8	(15.2)	(18.1)	(8.5)	(19.3)	(24.6)
Less: Facil Cap Imp Fund	-	-	8.0	25.0	10.0	20.5	14.0	5.0	12.0
Other Authority Projects	46.0	51.3	51.9	47.7	46.8	52.0	13.8	-	-
General Reserve Fund	45.1	62.6	10.1	16.1	45.6	14.0	74.0	54.0	43.6
Adj to cash basis	0.1	(0.1)	0.2		0.2		0.4	-	-
Balance After Reserve Maintenance Provisions, Other Authority Projects	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Senior Debt Service Coverage	1.84	1.77	1.56	1.66	1.61	1.86	1.92	1.96	2.06
Junior & Senior Coverage	1.84	1.77	1.56	1.66	1.61	1.86	1.70	1.65	1.52

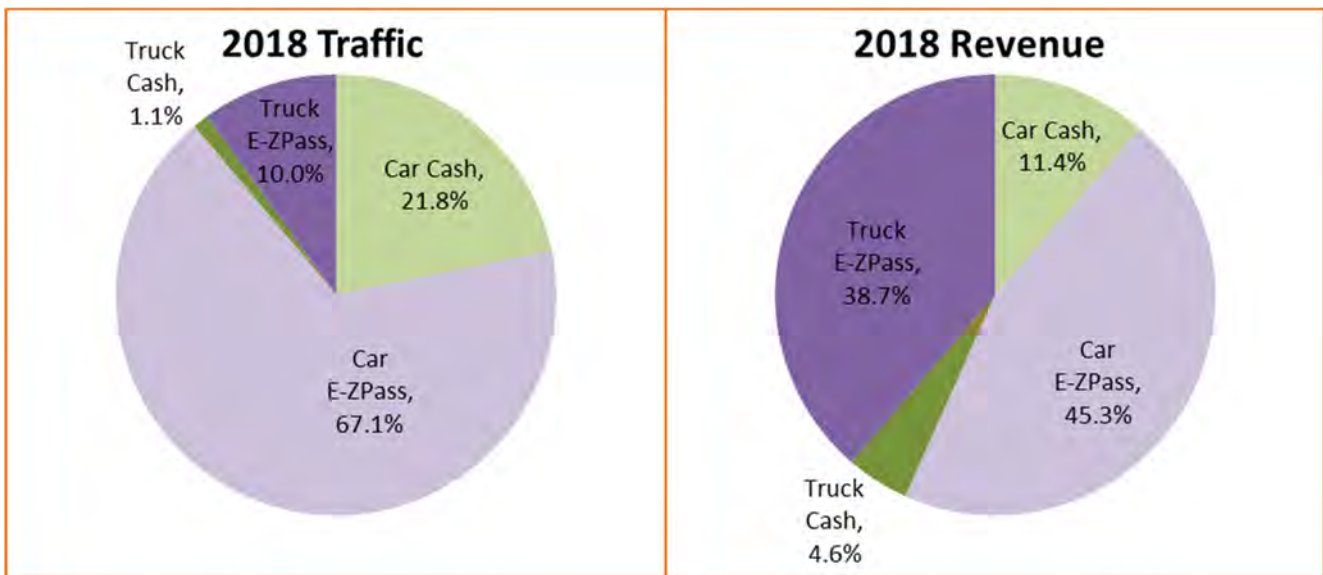
Note: Totals may not add due to rounding.



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 2018 roughly 89 percent of traffic on the Thruway System was composed of passenger cars, with the remaining 11 percent of traffic coming from variety of commercial vehicle types. In 2018, more than 77 percent of total vehicles paid tolls with an *E-ZPass* transponder (approximately 76 percent of passenger vehicles and 90 percent of commercial vehicles). It should be noted that while commercial vehicle traffic made up only 11 percent of system-wide traffic, it accounted for about 43 percent of all Thruway toll revenues.

Figure 3: 2018 System Wide Traffic and Revenue Distribution



Note: "Cash" also includes Tolls by Mail Traffic and Revenue at the barrier locations after they were converted to cashless tolling.

The distributions of vehicle class and payment types vary by facility, as shown in Figure 17. The highest passenger car participation in *E-ZPass* is seen at the Yonkers Barrier and Governor Mario M. Cuomo Bridge, while the highest truck participation rate in *E-ZPass* payment is seen at the Harriman and Spring Valley Barriers. It should be noted that although *E-ZPass* transactions account for about 77 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*.

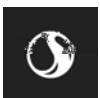
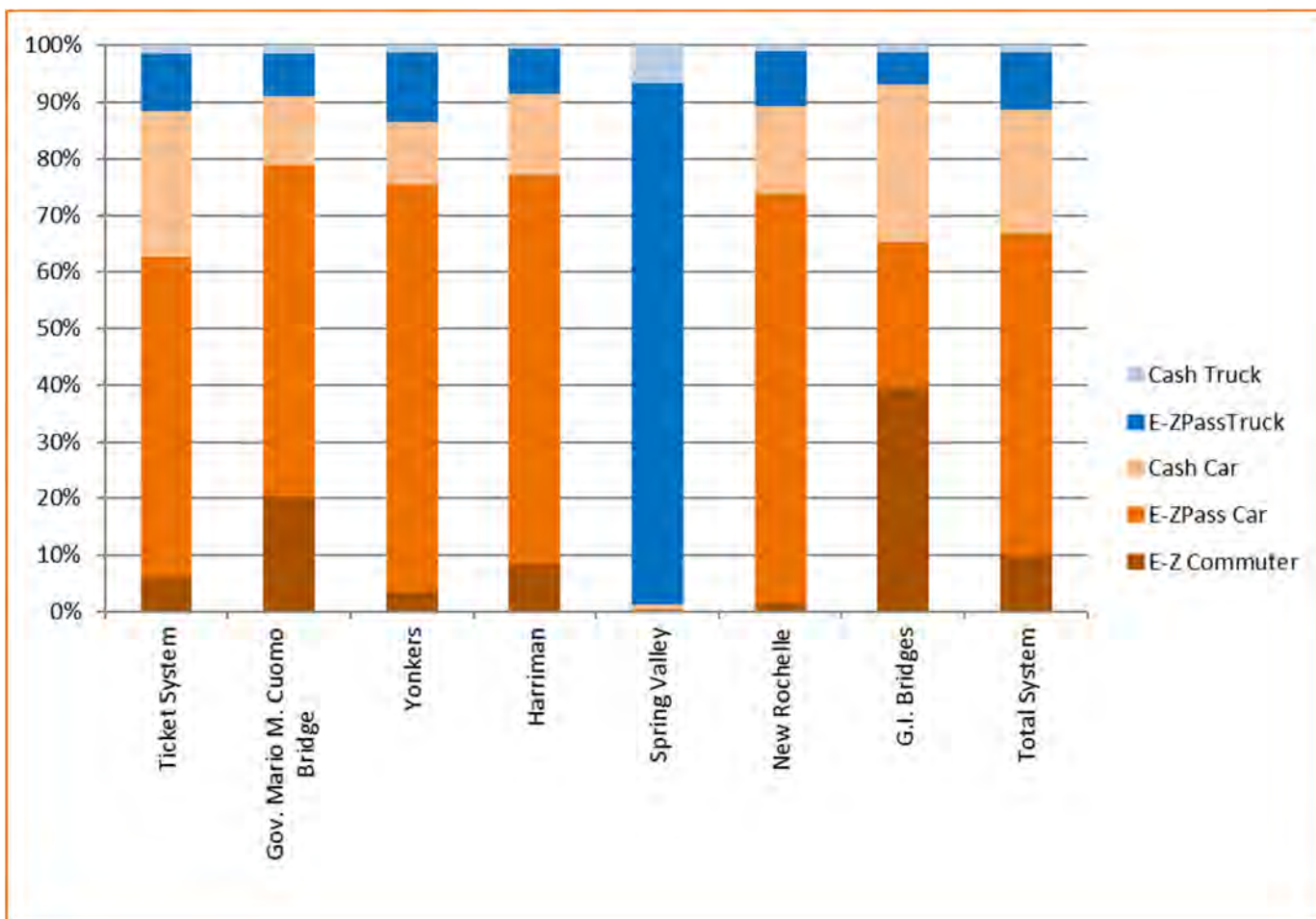


Figure 4: 2018 Passenger Car and Commercial Vehicle Traffic Distribution by Facility



Note: "Cash" traffic at the barrier locations also includes Tolls by Mail after conversion to cashless tolling

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 2018, the controlled system generated a total of \$492.3 million or about 64 percent of all Thruway toll revenues and The Governor Mario M. Cuomo Bridge generated \$151.9 million or about 20 percent of total toll revenues. The New York City metropolitan area barrier tolls generated about \$102.5 million or a combined 13 percent of 2018 revenues, while the Grand Island Bridges generated about \$17.8 million or some 2 percent of revenues. 2018 total toll revenues were \$764.5 million collected in toll transactions minus \$28.0 million in commercial vehicle volume discounts (discussed on page 35), for a net amount of \$736.5 million.

Specific regions within the controlled (ticket) system that see the most traffic volume include the Albany area, the Buffalo mainline plazas, and the Woodbury mainline plaza. The top six plaza volumes for the controlled system in 2018 are shown in Table 11.

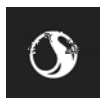


Figure 5: Distribution of 2018 Toll Revenues by Thruway Facility

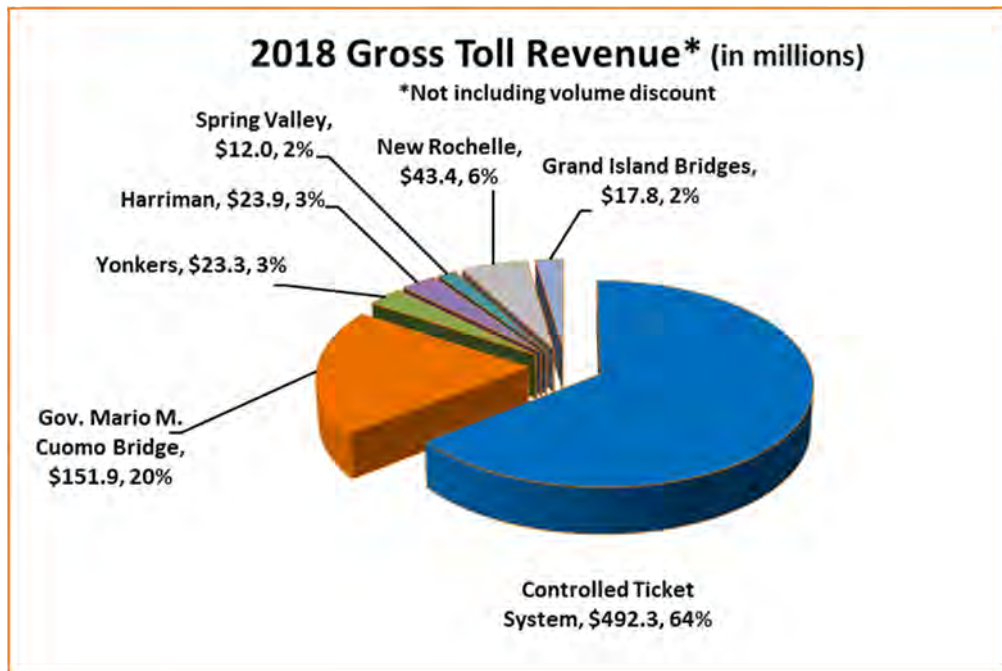
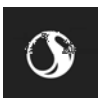


Table 11: Controlled System Toll Plazas with the Highest Volumes, 2018

Plaza / Interchange	Millions of Transactions
Exit 24: Albany, Montreal, I-90 East, I-87 North	14.1
Exit 50: Williamsville (Buffalo)	10.2
Exit 55: Lackawanna (Buffalo)	9.3
Exit 15: Woodbury	7.9
Exit 25: Schenectady, I-890, NY Routes 7 & 146	7.3
Exit 45: Rochester, Victor, I-490	6.9

Finally, in 2018, 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 77 percent of total *E-ZPass* toll revenues. As a result, 23 percent of *E-ZPass* toll revenues 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

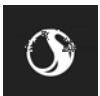
In order to better understand the Authority's current and future financial condition, consideration must be given to the size, complexity and capital needs of its highway and bridge infrastructure. The Authority's Thruway System is extensive and aging and requires considerable investments to remain reliable. This section summarizes the Authority's 2019-2024 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 26 summarize the actual annual capital expenditures from 2008 through 2018, and planned expenditures through 2024. 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 2019-2024 CAPITAL PROGRAM DETAILS

The Authority's 2019-2024 Capital Program will provide about \$2.78 billion for Authority capital projects. This includes approximately \$537.4 million for the remaining elements of the New NY Bridge Project, and \$497.5 million for the implementation of system-wide cashless tolling. The Capital Program includes reconstruction and rehabilitation of roadway, bridges, facilities, equipment and support systems. From 2019 through 2024, 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 and to accomplish full completion of the New NY Bridge Project and Thruway System-wide cashless tolling.

The New NY Bridge Project / Governor Mario M. Cuomo Bridge is discussed in Section 5.2. Other than the New NY Bridge Project and Thruway System-wide cashless tolling conversion, major Thruway projects included in the 2019-2024 program include:

- Pavement Replacement from Electronics Parkway (Exit 37, MP 284.1) to I-690 (Exit 39, MP 289.3) and Replacement of the (MP 288.13) Thruway Bridge over CSX Railroad (Geddes) and Rehabilitation of (MP 287.11) Bridge over Onondaga Pkwy and (MP 287.25) Bridge over Onondaga Lake Outlet (2021 letting)
- I-95, New England Thruway north of Exit 17 to north of Exit 18B Northbound Only and north of Exit 19 to north of Exit 21: Pavement Resurfacing (2021 letting)
- Castleton Bridge (MP 801.08): Rehabilitation (2020 letting)
- I-287/Route 17S (Exit 15, MP 29.4) to north of Suffern (MP 38.7): Pavement Resurfacing (2021 letting)
- Major Deegan Expressway (MP 0.00) to Cross Westchester Expressway (Exit 8, MP 11.3): Pavement Resurfacing (2021 letting)
- North and South Grand Island Bridges: Retrofit / Repair Roller Bearings, Pins and Hangers and North Grand Island Bridges: Steel Repairs (2020 letting)
- East of Westfield (MP 483.0) to Pennsylvania State Line (MP 496.0) Eastbound: Pavement Resurfacing (2020 letting)
- North Avenue Bridge over I-95 (New England Thruway MP NE5.76): Replacement (2021 letting)
- South of Nyack (MP 16.2) to south of Spring Valley Toll Barrier: Pavement Resurfacing (2021 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 THE NEW NY BRIDGE PROJECT / GOVERNOR MARIO M. CUOMO BRIDGE

The Authority is nearing completion of a massive transportation project: the replacement of the Tappan Zee Bridge with the new Governor Mario M. Cuomo Bridge. In December 2012, the Authority selected Tappan Zee Constructors (TZC) as the winning team for the project with a bid of \$3.142 billion. The major TZC team members include Fluor Enterprises, Inc.; Granite Construction Northeast, Inc.; American Bridge Company and Traylor Brothers, Inc. TZC members both individually and together as a team have a proven track record of successfully delivering complex, high profile mega projects. Construction on the new bridge began in 2013.

The major features and design elements for The Governor Mario M. Cuomo Bridge consist of: twin bridge spans approximately three miles in total length with a 100-year design life; multi steel girder/composite deck approach spans at each end, with cable-stayed spans over the main Hudson River shipping channels and chamfered towers supporting the cables; four lanes of vehicle traffic per direction with cashless tolling on the south span, continuing to collect tolls from southbound traffic only; bus rapid transit lanes; and a shared-use bike and pedestrian path with viewing areas on the north span.

Cashless tolling began on the Tappan Zee Bridge on April 23, 2016 and continues today on The Governor Mario M. Cuomo Bridge. Implementing this tolling technology has offered motorists many advantages, including reduced travel times, enhanced safety and improved traffic flow, and provides environmental benefits by limiting idling and reducing delays, as vehicles no longer have to stop at a toll plaza. Cashless tolling utilizes overhead gantries with readers to detect *E-ZPass* transponders and cameras to read license plates of non-*E-ZPass* customers who are later billed by mail. The implementation of cashless tolling ensured uninterrupted toll collection during construction and through the completion of The Governor Mario M. Cuomo Bridge.

The north span of the new Governor Mario M. Cuomo Bridge opened in late August 2017, at which point all northbound/westbound traffic was moved off of the old Tappan Zee Bridge and onto the new span. Southbound/eastbound traffic was temporarily moved to the north span in early October 2017. The south span of the new bridge opened in September 2018, at which point the southbound/eastbound traffic was shifted to this span. Toll collection was uninterrupted throughout the entire construction period. The new bridge has a larger deck capacity than the old Tappan Zee Bridge, so full traffic-carrying capacity has been assured.

The total budget for the New NY Bridge Project is nearly \$4.0 billion, financed through (i) toll revenue bonds constituting Junior Indebtedness Obligations, as well as with (ii) pay-as-you-go funding, and (iii) proceeds of State Infrastructure Grant Contributions. As of July 2019, the project cost paid out to TZC was \$3.357 billion or 97.7 percent of the \$3.435 billion contract value. Remaining elements of the project include the completion of demolition activities on the old bridge, and the completion of a bicycle/pedestrian pathway with viewing areas.

Figure 6 is a photograph depicting the status of the bridge project as of early July 2019, showing that both spans of The Governor Mario M. Cuomo bridge are open to traffic, with a bicycle and pedestrian path currently under construction on the northbound span. Demolition activities continue on the old Tappan Zee Bridge foundations.

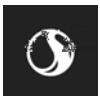


Figure 6: New NY Bridge Project



Source: <http://www.newnybridge.com>

Additional information on the project can be found at: <http://www.newnybridge.com>.

5.3 PLANNED CAPITAL EXPENDITURES

Table 12 presents the 2019-2024 planned expenditures. Capital costs for system-wide cashless tolling conversion are included in these numbers. 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.

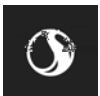


Table 12: Projected 2019-2024 Total Capital Expenditures (millions)

Year	Thruway Highway and Bridges Capital Expenditures	Equipment Replacement and Other Facility Capital Needs ⁽¹⁾	Canal System and Other Authority Projects	Subtotal Capital Program Expenditures	New NY Bridge Project Capital Costs	Total Capital Program Expenditures
2019	\$222.1	\$187.6	\$0.0	\$409.7	\$220.0	\$629.7
2020	219.7	314.0	0.0	533.7	72.4	606.1
2021	231.1	129.4	0.0	360.5	245.0	605.5
2022	243.9	64.9	0.0	308.9	0.0	308.9
2023	259.7	50.3	0.0	310.0	0.0	310.0
2024	265.7	50.5	0.0	316.2	0.0	316.2
Total 2019-2024	\$1,442.3	\$796.7	\$0.0	\$2,239.0	\$537.4	\$2,776.4

Note: Numbers may not add due to rounding.

⁽¹⁾ Includes capital costs for system-wide cashless tolling conversion

Table 13 summarizes planned funding sources for the 2019-2024 Capital Program.

Table 13: Projected 2019-2024 Funding Sources, Thruway Authority (millions)

Year	Funding Sources						
	Federal Aid	State Stabilization ⁽¹⁾	Other	Bond / Note Proceeds	Subtotal Exclusive of Thruway Revenues on Pay-As-You-Go Basis	Revenues Required from Tolls, etc.	Pay-As-You-Go %
2019	\$0.0	\$397.6	\$10.3	\$0.0	\$407.9	\$221.8	100.0%
2020	-	61.2	1.3	481.1	543.6	62.4	20.6%
2021	-	-	2.4	535.4	537.8	67.8	11.6%
2022	-	-	0.8	257.8	258.6	50.3	16.5%
2023	-	-	0.2	238.0	238.2	71.8	23.2%
2024	-	-	0.2	239.0	239.3	76.9	24.4%
Total 2019-2024	\$0.0	\$458.8	\$15.2	\$1,751.3	\$2,225.2	\$551.1	36.9%

Note: Numbers may not add due to rounding.

⁽¹⁾ The remaining State grant funds have been or are expected to be drawn down in the period from 2019-2020.

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 2005 and the projected ratings as a result of the current capital program. During the life of the current capital program, it is projected that the pavement ratings for the Thruway facilities will range from "fair" to "good", slightly better than recent years.

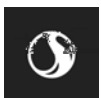
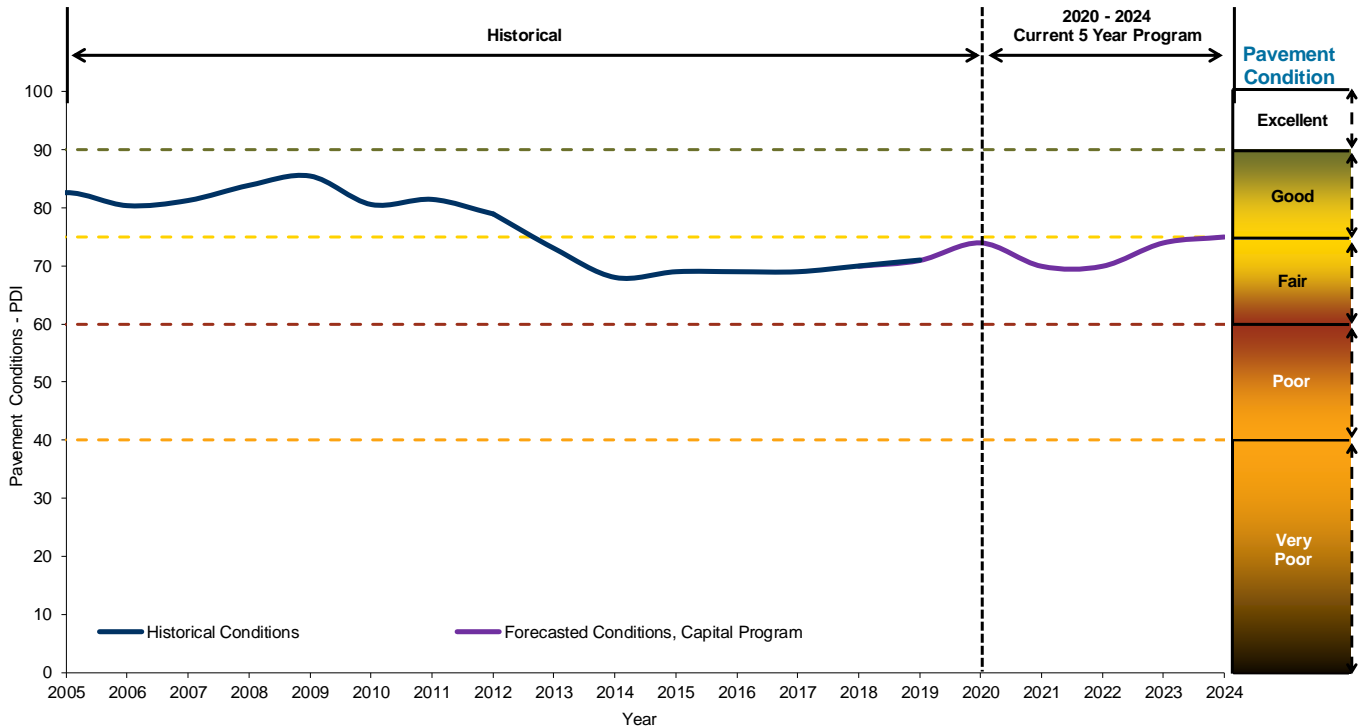


Figure 7: Historical and Forecasted Thruway Pavement Distress Indices (PDI), 2005-2024

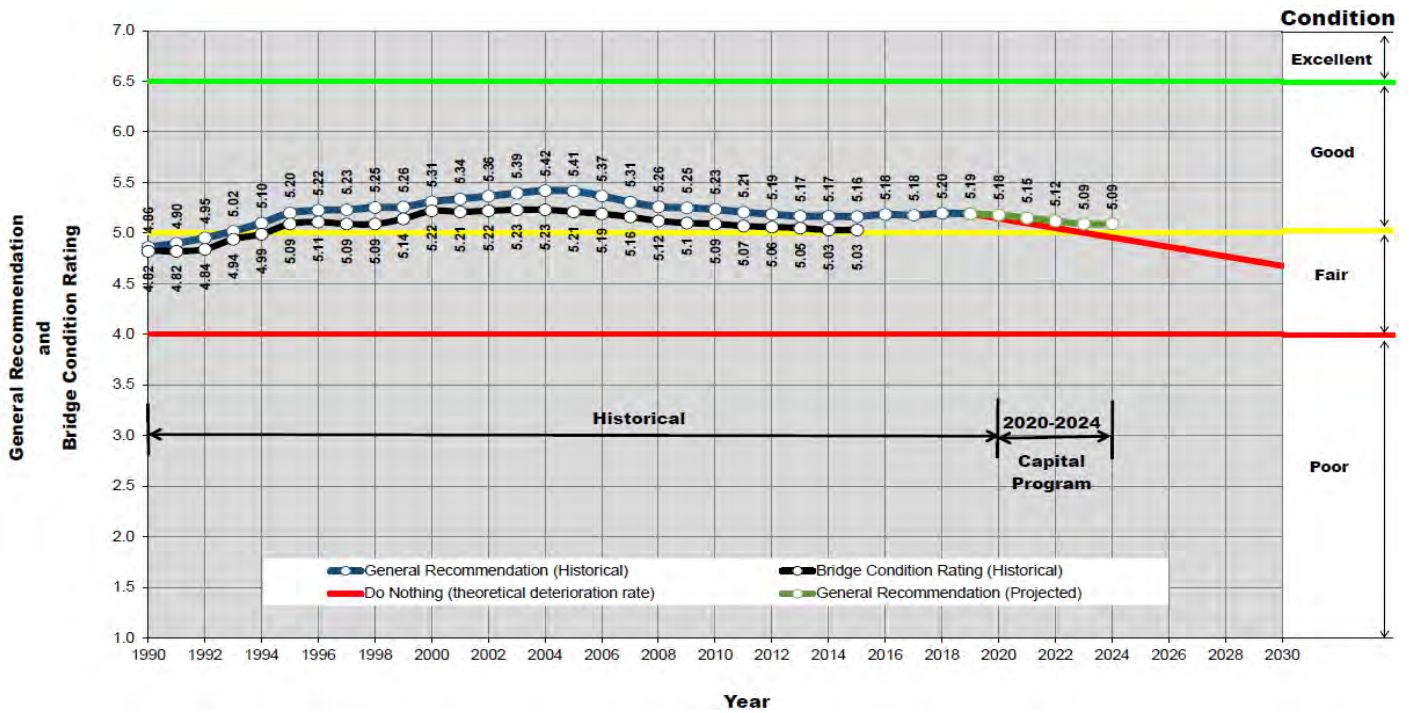


Similarly, the Authority maintains ratings for the 814 bridge structures for which it has maintenance responsibility. The Authority strictly complies with all State and federal bridge inspection requirements and the assessments in this report reflect the outcomes of such inspections. Figure 8 shows actual and projected bridge condition ratings from 1990 through 2024 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. For a multi-span structure, the lowest rated pier, deck span, bearing, etc., are used to calculate the condition rating. For example, if a bridge has eight bearings, seven of which are rated “good” and one of which is rated “fair,” the rating of “fair” would be applied as the rating for bearings in the calculation of the overall bridge condition. The new inspection methodology 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, 1990-2024



Note: Due to changes in the New York State Bridge Inspection System in 2016, the Bridge Condition Rating in 2016 through 2024 was projected based upon the 2015 data.

Table 14 presents a summary of the general recommendation rating for bridges on the Thruway as of December 2018 compared to 2017. 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). There was overall a slight improvement in the Authority’s bridge rating between December 2017 and December 2018. Three of the nine bridges with a recommendation of 3 are currently being replaced. An additional four bridges with a general recommendation of 3 will be replaced in the 2019-2024 Capital Program.

Table 14: Bridge Conditions, December 2018 and December 2017

BRIDGE RATINGS		
CONDITION	NO. OF BRIDGES	
	Dec. 2017	Dec. 2018 ¹
GENERAL RECOMMENDATION 5-7 Bridges in generally good condition with only minor to moderate repairs required.	679	689
GENERAL RECOMMENDATION 4 Bridges in good to fair condition requiring reconditioning of some structural elements.	122	115
GENERAL RECOMMENDATION 2-3 Bridges in poor condition requiring major repairs or replacement.	8	9

¹In December 2018, the Authority had maintenance and inspection responsibility for 813 bridges. One new bridge was added in 2019 - the south span of The Gov. Mario M. Cuomo Bridge.



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 2019-2024 Capital Program and projected operating expenses.

6.1 PROJECTED OPERATING AND MAINTENANCE EXPENSES

Table 15 shows the 2019 through 2024 projected O&M costs. The cost impacts (new costs related to the Tolls by Mail program, plus reductions in toll plaza staffing and plaza maintenance costs) have been included as facilities are converted to cashless tolling.

Table 15: The Thruway System's Projected 2019-2024 Operating and Maintenance Expenses (millions)

Year	Thruway Operations	Reserves ⁽¹⁾	Total Operating Expenses, 2019 Budget Forecast
2019	\$358.3	\$4.6	\$ 362.9
2020 ⁽²⁾	370.7	1.0	371.7
2021	374.8	1.0	375.8
2022	380.4	1.0	381.4
2023	386.1	1.0	387.1
2024	391.9	1.0	392.9
Total 2019-2024	\$2,262.2	\$9.6	\$2,271.8

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

⁽²⁾ It is assumed that cashless tolling will begin on the entire controlled system in October 2020.

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 \$425.5 million in 2024.

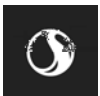


Table 16: Projected 2019-2024 Debt Service with Current Toll Schedule, Thruway System (millions)

Year	Senior Debt Service	Bond Anticipation Note (BAN) or Line of Credit Interest	Junior Debt Service	Total Debt Service
2019	\$229.5	\$13.3	\$53.4	\$296.3
2020	233.6	0.0	47.0	280.6
2021	229.5	0.0	49.1	278.6
2022	265.6	0.0	75.9	341.5
2023	286.1	0.0	120.7	406.8
2024	303.1	0.0	122.5	425.5
Total 2019-2024	\$1,547.3	\$13.3	\$468.6	\$2,029.2

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 2024 with the current toll schedule. As in previous forecasts, moderate traffic growth is projected.

Table 17: Projected 2019-2024 Tolled Traffic with Current Toll Schedule (millions of trips)

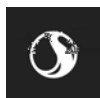
Year	Passenger Cars			Commercial Vehicles			Total	Growth
	Controlled System	Gov. Mario M. Cuomo Br.	Other Barriers	Controlled System	Gov. Mario M. Cuomo Br.	Other Barriers		
2019	140.2	25.6	71.5	18.2	2.4	9.4	267.2	0.3%
2020 ⁽¹⁾	141.6	25.9	71.8	18.3	2.5	9.5	269.6	0.9%
2021	143.0	26.3	72.4	18.4	2.5	9.6	272.2	1.0%
2022	144.4	26.7	73.2	18.5	2.5	9.7	275.0	1.0%
2023	145.8	27.0	73.6	18.6	2.6	9.8	277.4	0.8%
2024	147.1	27.4	74.0	18.7	2.6	9.8	279.6	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.

⁽¹⁾ Cashless tolling assumed to begin on the entire controlled system in October 2020.

6.3.2 Projected Toll Revenue with Current Toll Schedule

Table 18 presents the gross toll revenue forecasts for the Thruway System through 2024 with the current toll schedule. Implementation of cashless tolling is assumed to begin on the entire controlled system in October 2020. In the forecasts, Tolls by Mail revenue collectability and lag adjustments similar to what has been experienced on The Governor Mario M. Cuomo Bridge and the other barriers were applied to the Controlled System as it is converted to cashless tolling. In general, moderate



growth in toll revenue is expected, with some small losses in toll revenue estimated when cashless tolling begins on the controlled system, due to uncollectable tolls from some Tolls by Mail customers.

Table 18: Projected 2019-2024 Toll Revenues with Current Toll Schedule (millions)

Year	Passenger Cars			Commercial Vehicles				Total	Growth	Adj. to Cash Basis for Tolls by Mail
	Controlled System	Gov. Mario M. Cuomo Br.	Other Barriers	Controlled System	Gov. Mario M. Cuomo Br.	Other Barriers	CV Disc			
2019	\$251.8	\$108.8	\$75.7	\$244.5	\$49.1	\$38.4	\$(28.6)	\$739.6		\$(1.1)
2020 ⁽¹⁾	246.2	110.8	75.5	243.6	49.8	38.9	(29.0)	735.8	-0.5%	(12.7)
2021	225.9	113.0	76.6	238.0	50.4	39.3	(29.3)	713.8	-3.0%	
2022	229.2	115.0	77.9	239.9	51.0	39.6	(29.6)	722.9	1.3%	
2023	232.1	116.7	78.4	241.6	51.5	39.9	(29.9)	730.4	1.0%	
2024	234.8	118.3	78.9	243.2	51.9	40.2	(30.2)	737.1	0.9%	

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

⁽¹⁾ Cashless tolling assumed to begin on the entire controlled system in October 2020.

6.3.3 Other Revenues/Total Revenues with Current Toll Schedule

Table 19 presents the forecasts of 2019-2024 total gross revenues with the current toll schedule. An estimated three-month lag in collection of the \$5 per bill late fees and five-month lag in collection of violation fees has been built into the forecasts, as it takes time after a trip is made to bill and collect any fees that are charged. The current Tolls by Mail violation fee of \$50 has been assumed at all facilities throughout the forecast period. As the cashless tolling implementation progresses on the Thruway System, these schedules of fees and penalties, as well as enforcement capabilities may change, which could have an impact on the currently projected levels of “other revenues”. Note that there is the need for additional revenues starting in 2022.

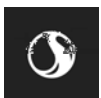
Table 19: Projected 2019-2024 Thruway System Total Gross Revenues with Current Toll Schedule (millions)

Year	Toll Revenues	Other Revenues ⁽¹⁾	Additional Revenue Need	Total Revenues
2019	\$739.6	\$61.3		\$800.9
2020 ⁽²⁾	735.8	58.2		793.9
2021	713.8	76.2		790.0
2022	722.9	91.8	\$27.7	842.4
2023	730.4	88.1	117.8	936.3
2024	737.1	88.3	142.0	967.4

Note: Totals may not add due to rounding. No 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⁾ Cashless tolling assumed to begin on the entire controlled system in October 2020.



6.4 FLOW OF FUNDS

The Authority and its independent financial advisors determined that there will be additional revenues needed for the Authority to successfully complete the New NY Bridge project and fulfill its system-wide operating, debt service, and capital needs through the forecast period. Future funding needs through 2024 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 2024. 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 2021; to meet minimum coverage requirements in 2022, 2023, and 2024, an additional \$27.7 million, \$117.8 million, and \$142.0 million, respectively, are needed. 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.

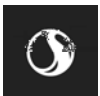


Table 20: Historical and Projected Thruway Flow of Funds and Debt Service Coverage with Current Toll Schedule (millions)

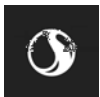
	ACTUAL			FORECAST						2019-2024
	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total
Total Revenues	\$749.4	\$792.1	\$798.8	\$800.9	\$793.9	\$790.0	\$814.7	\$818.5	\$825.4	\$4,843.4
Gap Closing Revenues ⁽¹⁾	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>27.7</u>	<u>117.8</u>	<u>142.0</u>	<u>287.5</u>
Available Revenues	749.4	792.1	798.8	800.9	793.9	790.0	842.4	936.3	967.4	5,130.9
Less:										
Operating Expenses	311.6	329.7	339.9	358.3	370.7	374.8	380.4	386.1	391.9	2,262.3
Operating Reserves	<u>1.8</u>	<u>2.7</u>	<u>5.0</u>	<u>4.6</u>	<u>1.0</u>	<u>1.0</u>	<u>1.0</u>	<u>1.0</u>	<u>1.0</u>	<u>9.6</u>
Total	313.3	332.4	345.0	362.9	371.7	375.8	381.4	387.1	392.9	2,271.9
Net Revenues	436.0	459.7	453.8	437.9	422.3	414.1	461.0	549.2	574.5	2,859.0
Less: Sr. Debt Service	<u>227.3</u>	<u>234.6</u>	<u>220.3</u>	<u>229.5</u>	<u>233.6</u>	<u>229.5</u>	<u>265.6</u>	<u>286.1</u>	<u>303.1</u>	<u>1,547.3</u>
Net Revenues After Debt Service	208.7	225.1	233.5	208.4	188.7	184.7	195.4	263.1	271.4	1,311.7
Less: Retained for Operating Reserves/AETC Lag/ Working Capital provision	-8.5	-19.3	-24.6	12.2	-12.7	0.0	0.0	0.0	0.0	-0.5
Remaining Revenues	200.2	205.9	209.0	220.7	176.0	184.7	195.4	263.1	271.4	1,311.2
Less: Reserve Maintenance Provisions	68.8	103.2	74.1	103.7	62.4	67.8	50.3	71.8	76.9	433.0
Less: Junior Bond Debt Service	29.2	43.7	79.2	53.4	47.0	49.1	75.9	120.7	122.5	468.6
Less: Facil Cap Imp Fund	14.0	5.0	12.0	8.0						8.0
Other Authority Projects	13.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
General Reserve Fund ⁽²⁾	74.0	54.0	43.6	42.2	66.5	67.8	69.2	70.6	72.0	388.3
Gen Res Fund - JIAN	0.4	0.0	0.0	13.3	0.0	0.0	0.0	0.0	0.0	13.3
Balance After Reserve Maintenance Provisions, Other Authority Projects	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Senior Debt Service Coverage	1.92	1.96	2.06	1.91	1.81	1.80	1.74	1.92	1.90	
Junior & Senior Coverage	1.70	1.65	1.52	1.55	1.50	1.49	1.35	1.35	1.35	
Pay go % ROS Capital	60.7%	34.5%	99.5%	100.0%	20.6%	11.6%	16.5%	23.2%	24.4%	

Notes: Totals may not add due to rounding.

Numbers incorporate a total of \$1.985 billion in State capital assistance provided in the 2015-2016 and 2016-2017 Enacted State Budgets. No toll rate adjustments are assumed in these forecasts. Total Revenues include Tolls by Mail revenues that are earned in a fiscal year but not collected until later fiscal years. The amounts earned but not collected until later years are projected to be \$1.1 million in 2019 and \$12.7 million in 2020. The 2018 Retained for Operating Reserves/cashless tolling Lag figure of (\$24.6 million) is comprised of the following: (\$683,167) associated with an Adjustment to Cash Basis due to Tolls by Mail revenues that are earned in 2018 but not collected until later fiscal years; \$20.5 million in revenues retained from 2017; (\$15 million) retained for Working Capital; and (\$29.4 million) retained for 2019 Operating Reserves.

⁽¹⁾ In 2022 through 2024 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 from April 2016 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 scheduled 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 2024.

With the exception of a small amount of federal aid and 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 2005, a two-stage toll adjustment was implemented by the Authority that generally increased toll rates by 25 percent for all passenger vehicles and 35 percent for all commercial vehicles, and increased cash tolls in 2008 for both passenger and commercial vehicles by 10 percent. Additionally, in 2005 the Authority also implemented a new vehicle classification system (reducing the number of classifications from 43 to 9), created a new *E-ZPass* discount program, continued a graduated volume discount program for commercial customers and expanded the availability of commuter plans to bridges and barriers 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 another series of staged, smaller 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. There have been no changes to toll rates on the Thruway System in the past nine years, with the exception of the recent discontinuation of discounts for vehicles with non-NY *E-ZPass*: both the 5 percent system-wide 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 ceased as of January 1, 2017.

7.2 CURRENT TOLL RATES ON THE THRUWAY SYSTEM

The Authority's current toll rate structure, in effect since 2010, is presented in Table 21.

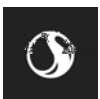


Table 21: Current Thruway Toll Structure (\$)

Vehicle Class ⁽¹⁾	Controlled (Cents/Mile)		Yonkers		Harriman		Spring Valley		New Rochelle		Gov. Mario M. Cuomo Bridge		Grand Island Bridges	
	Cash	E-Z Pass	TBM ⁽²⁾	E-Z Pass	TBM ⁽²⁾	E-Z Pass	TBM ⁽²⁾	E-Z Pass ⁽³⁾	TBM ⁽²⁾	E-Z Pass	TBM ⁽²⁾	E-Z Pass ⁽³⁾	TBM ⁽²⁾	E-Z Pass
Commuter	-	(4)	-	0.55	-	0.55	-	-	-	1.10	-	3.00	-	0.28
Motor-Cycle	-	0.0235	-	0.63	-	0.63	-	-	-	0.88	-	2.50	-	0.50
2L	0.0470	0.0447	1.25	1.19	1.25	1.19	-	-	1.75	1.66	5.00	4.75 / 4.75	1.00	0.95
3L	0.0728	0.0691	1.50	1.43	1.50	1.43	3.00	3.00 / 1.50	2.50	2.38	11.50	11.50 / 5.75	1.50	1.43
4L	0.0864	0.0821	1.75	1.66	1.75	1.66	4.50	4.50 / 2.25	3.00	2.85	13.75	13.75 / 6.88	1.75	1.66
2H	0.0933	0.0886	2.00	1.90	2.00	1.90	5.25	5.25 / 2.63	3.50	3.33	14.75	14.75 / 7.38	2.00	1.90
3H	0.1604	0.1524	2.25	2.14	2.75	2.61	8.25	8.25 / 4.13	4.25	4.04	20.75	20.75 / 10.38	2.25	2.14
4H	0.1768	0.1680	2.75	2.61	3.00	2.85	8.25	8.25 / 4.13	5.00	4.75	24.75	24.75 / 12.38	2.75	2.61
5H	0.2390	0.2271	4.25	4.04	4.25	4.04	13.50	13.50 / 6.75	8.00	7.60	32.75	32.75 / 16.38	4.25	4.04
6H	0.2963	0.2815	4.50	4.28	5.00	4.75	14.75	14.75 / 7.38	8.75	8.31	41.00	41.00 / 20.50	4.50	4.28
7H	0.3536	0.3359	5.00	4.75	5.75	5.46	16.50	16.50 / 8.25	9.75	9.26	49.25	49.25 / 24.63	5.00	4.75

⁽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. Customers in the commuter program pay \$60 a month, covering up to 20 passenger car trips, and \$3.00 for each additional trip.

⁽²⁾ TBM=Tolls by Mail, a payment type offered at cashless facilities only

⁽³⁾ Peak/off peak E-ZPass rates

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

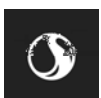
NOTE: E-ZPass customers with a non-NY Customer Service Center E-ZPass charged the cash rate starting January 1, 2017.

In order to receive *E-ZPass* discounts, 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 standard 5 percent discount 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, and a system-wide 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 RATES	
Toll Modification Element	Description
Increase NY E-ZPass by \$0.50 per year in 2021 and 2022	On January 1, 2021 the NY E-ZPass toll rates on the Bridge will be increased by the amount of 50 cents to \$5.25. On January 1, 2022 the NY E-ZPass toll rates on the Bridge will be increased another 50 cents to \$5.75.
40% Commuter Discount Program*	Beginning on January 1, 2021, the commuter discounted rate will be 40 percent off the NY E-ZPass rate for passenger vehicles that opt in to 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*	A new resident E-ZPass Plan will be offered for Westchester and Rockland residents that will keep their rate frozen at the current \$4.75 rate. This program is offered only to class 2L vehicles with a New York E-ZPass who opt in to the plan and provide proof of residency (e.g., having a vehicle registered in one of these counties).
Commercial Rates	Class 2H through 4H and S class tolls will be increased proportionate to the car toll increases for each payment type. Class 5H through 7H truck tolls will be increased 20% more than the car toll increases for each payment type
CHANGES TO SUPPORT SYSTEM-WIDE CONVERSION TO CASHLESS TOLLING	
Incentivize NY E-ZPass Usage	Establish that with the conversion to system-wide cashless tolling in 2020, NY E-ZPass toll rates would be based on the current toll rates first established in 2010, and beginning on January 1, 2021 a 30 percent rate differential (a toll rate 30 percent above the NY E-ZPass rate) would be established for Tolls By Mail toll rates.
Non-NY E-ZPass Rates	Beginning on January 1, 2021, establish a 15 percent rate differential (a toll rate 15 percent above the NY E-ZPass rate for Non-NY E-ZPass tolls).
Image Tolls Policy	Clarify Board Policy that beginning on January 1, 2021, all transactions that are processed as image tolls will pay the Tolls By Mail toll rate. This clarification would apply to customers who have an E-ZPass account yet their toll transaction must be processed via the Tolls by Mail process (e.g., due to failure to mount the E-ZPass transponder properly and a toll transaction is processed through a license plate image review).
Impose a \$2 Administrative Surcharge on Tolls by Mail Bills	Beginning on January 1, 2021, implement a \$2 administrative surcharge per billing statement for non-E-ZPass 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.

**It should be noted that 89 percent of passenger trips will pay a discounted rate compared to the Tolls by Mail rate and that 45 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 2024 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.

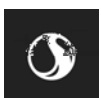


Table 23: Proposed Toll Schedule for Passenger Cars and 5-Axle Trucks

Governor Mario M. Cuomo Bridge Class 2L Car Tolls

	Commuter E-ZPass	Resident E-ZPass*	Std. NY E-ZPass	Out of State E-ZPass	Tolls by Mail
Current	\$ 3.00	\$ 4.75	\$ 4.75	\$ 5.00	\$ 5.00
2021	\$ 3.15	\$ 4.75	\$ 5.25	\$ 6.04	\$ 6.83
2022	\$ 3.45	\$ 4.75	\$ 5.75	\$ 6.61	\$ 7.48
2023	\$ 3.45	\$ 4.75	\$ 5.75	\$ 6.61	\$ 7.48
2024	\$ 3.45	\$ 4.75	\$ 5.75	\$ 6.61	\$ 7.48

Governor Mario M. Cuomo Bridge Class 5H Truck Tolls

	HOME EZ (PK)	HOME EZ (OP)	AWAY EZ	Cash/TBM
Current	\$ 32.75	\$ 16.38	\$ 32.75	\$ 32.75
2021	\$ 42.90	\$ 21.45	\$ 49.34	\$ 55.77
2022	\$ 55.77	\$ 27.89	\$ 64.14	\$ 72.51
2023	\$ 55.77	\$ 27.89	\$ 64.14	\$ 72.51
2024	\$ 55.77	\$ 27.89	\$ 64.14	\$ 72.51

*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	Out of State E-ZPass	Cash/Tolls by Mail	GIB Resident E-ZPass	Commuter E-ZPass	Std. NY E-ZPass	Out of State E-ZPass	Tolls by Mail	Commuter E-ZPass	Std. NY E-ZPass	Out of State E-ZPass	Tolls by Mail	Commuter E-ZPass	Std. NY E-ZPass	Out of State E-ZPass	Tolls by Mail	Commuter E-ZPass	Std. NY E-ZPass	Out of State E-ZPass	Tolls by Mail				
Current	\$ 0.0447	\$ 0.0470	\$ 0.0470	\$ 0.09	\$ 0.28	\$ 0.95	\$ 1.00	\$ 1.00	\$ 0.55	\$ 1.19	\$ 1.25	\$ 1.25	\$ 0.55	\$ 1.19	\$ 1.25	\$ 1.25	\$ 0.55	\$ 1.19	\$ 1.25	\$ 1.25	\$ 1.10	\$ 1.66	\$ 1.75	\$ 1.75
2021	\$ 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	\$ 0.55	\$ 1.19	\$ 1.37	\$ 1.54	\$ 1.10	\$ 1.66	\$ 1.91	\$ 2.16
2022	\$ 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	\$ 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	\$ 0.55	\$ 1.19	\$ 1.37	\$ 1.54	\$ 1.10	\$ 1.66	\$ 1.91	\$ 2.16
2024	\$ 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	\$ 0.55	\$ 1.19	\$ 1.37	\$ 1.54	\$ 1.10	\$ 1.66	\$ 1.91	\$ 2.16

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	Out of State E-ZPass	Cash/Tolls by Mail	Std. NY E-ZPass	Out of State E-ZPass	Tolls by Mail	Std. NY E-ZPass	Out of State E-ZPass	Tolls by Mail	Std. NY E-ZPass	Out of State E-ZPass	Tolls by Mail	Std. NY E-ZPass	Out of State E-ZPass	Tolls by Mail	HOME EZ (PK)	HOME EZ (OP)	AWAY EZ	Tolls by Mail	
Current	\$ 0.2271	\$ 0.2390	\$ 0.2390	\$ 4.04	\$ 4.25	\$ 4.25	\$ 4.04	\$ 4.25	\$ 4.25	\$ 4.04	\$ 4.25	\$ 4.25	\$ 4.04	\$ 8.00	\$ 8.00	\$ 8.00	\$ 13.50	\$ 6.75	\$ 13.50	\$ 13.50
2021	\$ 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	
2022	\$ 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	\$ 0.2271	\$ 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	

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

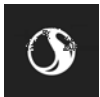


Table 24: Proposed Annual Toll Increase Amounts for Passenger Cars and 5-Axle Trucks

Governor Mario M. Cuomo Bridge Class 2L Car Tolls

	Commuter E-ZPass	Resident E-ZPass*	Std. NY E-ZPass	Out of State E-ZPass	Tolls by Mail
Current					
2021	\$ 0.15		\$ 0.50	\$ 1.04	\$ 1.83
2022	\$ 0.30		\$ 0.50	\$ 0.58	\$ 0.65
2023					
2024					

Governor Mario M. Cuomo Bridge Class 5H Truck Tolls

	HOME EZ (PK)	HOME EZ (OP)	AWAY EZ	Cash/TBM
Current				
2021	\$ 10.15	\$ 5.08	\$ 16.59	\$ 23.02
2022	\$ 12.87	\$ 6.44	\$ 14.80	\$ 16.73
2023				
2024				

*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	Out of State E-ZPass	Cash/Tolls by Mail	GIB Resident E-ZPass	Commuter E-ZPass	Std. NY E-ZPass	Out of State E-ZPass	Tolls by Mail	Commuter E-ZPass	Std. NY E-ZPass	Out of State E-ZPass	Tolls by Mail	Commuter E-ZPass	Std. NY E-ZPass	Out of State E-ZPass	Tolls by Mail	Commuter E-ZPass	Std. NY E-ZPass	Out of State E-ZPass	Tolls by Mail
Current																				
2021		\$ 0.0044	\$ 0.0111				\$ 0.09	\$ 0.24			\$ 0.12	\$ 0.29			\$ 0.12	\$ 0.29			\$ 0.16	\$ 0.41
2022																				
2023																				
2024																				

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	Out of State E-ZPass	Cash/Tolls by Mail	Std. NY E-ZPass	Out of State E-ZPass	Tolls by Mail	Std. NY E-ZPass	Out of State E-ZPass	Tolls by Mail	Std. NY E-ZPass	Out of State E-ZPass	Tolls by Mail	Std. NY E-ZPass	Out of State E-ZPass	Tolls by Mail	HOME EZ (PK)	HOME EZ (OP)	AWAY EZ	Tolls by Mail
Current																			
2021		\$ 0.0222	\$ 0.0562		\$ 0.39	\$ 1.00		\$ 0.39	\$ 1.00		\$ 0.39	\$ 1.00		\$ 0.74	\$ 1.88			\$ 2.03	\$ 4.05
2022																			
2023																			
2024																			

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

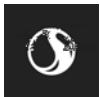
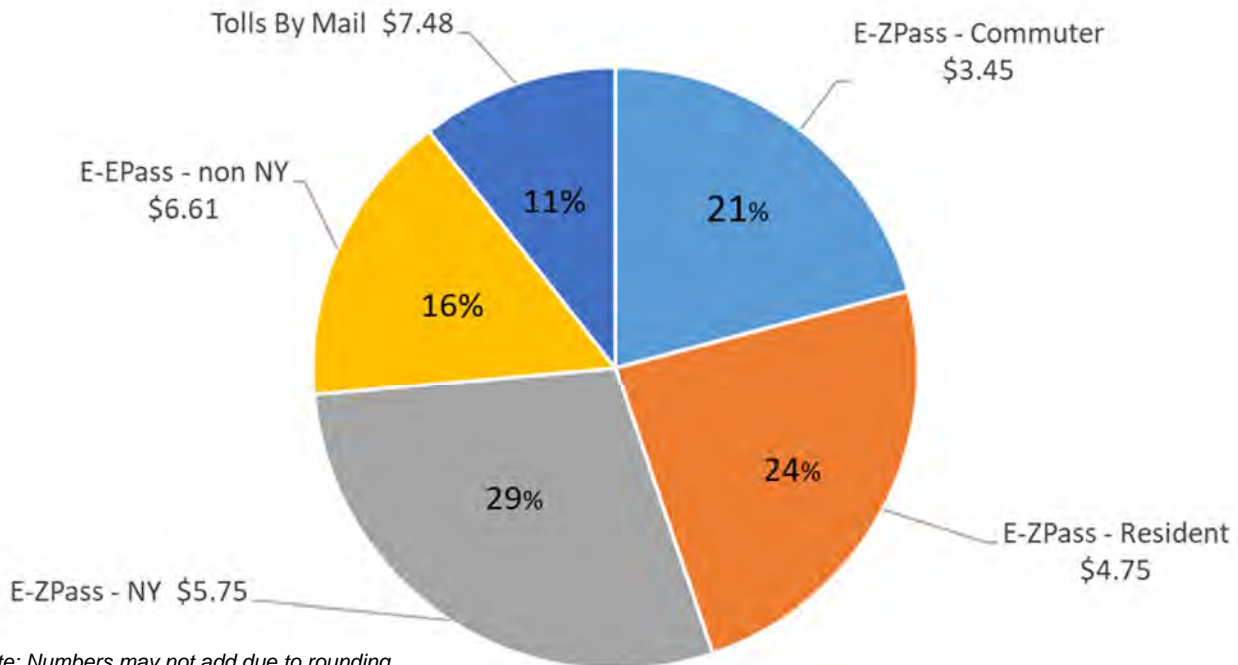


Figure 9 provides additional information on the Governor Mario M. Cuomo Bridge, in terms of the split of passenger car traffic paying the various proposed 2022 toll rates. 89 percent of car traffic will be discounted compared to the Tolls by Mail Rate, and about 45 percent of car traffic will pay less than the \$5.75 proposed NY E-ZPass rate.

Figure 9: Governor Mario M. Cuomo Bridge Proposed 2022 Passenger Car Toll Rates and Share of Traffic in Each Category



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. Of note is that The Governor Mario M. Cuomo Bridge current and proposed 2021 and 2022 car tolls are below current rates on other metro New York crossings and reasonable when compared to other major crossings on the interstate highway system, as shown in Figure 10. Similar to the controlled system, the current and proposed 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 some locations shown will likely see a toll increase in the next several years; the Port Authority crossings (NY/NJ) already have a toll increase planned for January 2020.

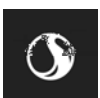


Figure 10: Round Trip Toll Rates on Major Toll Crossings in the Northeast, Passenger Cars

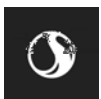
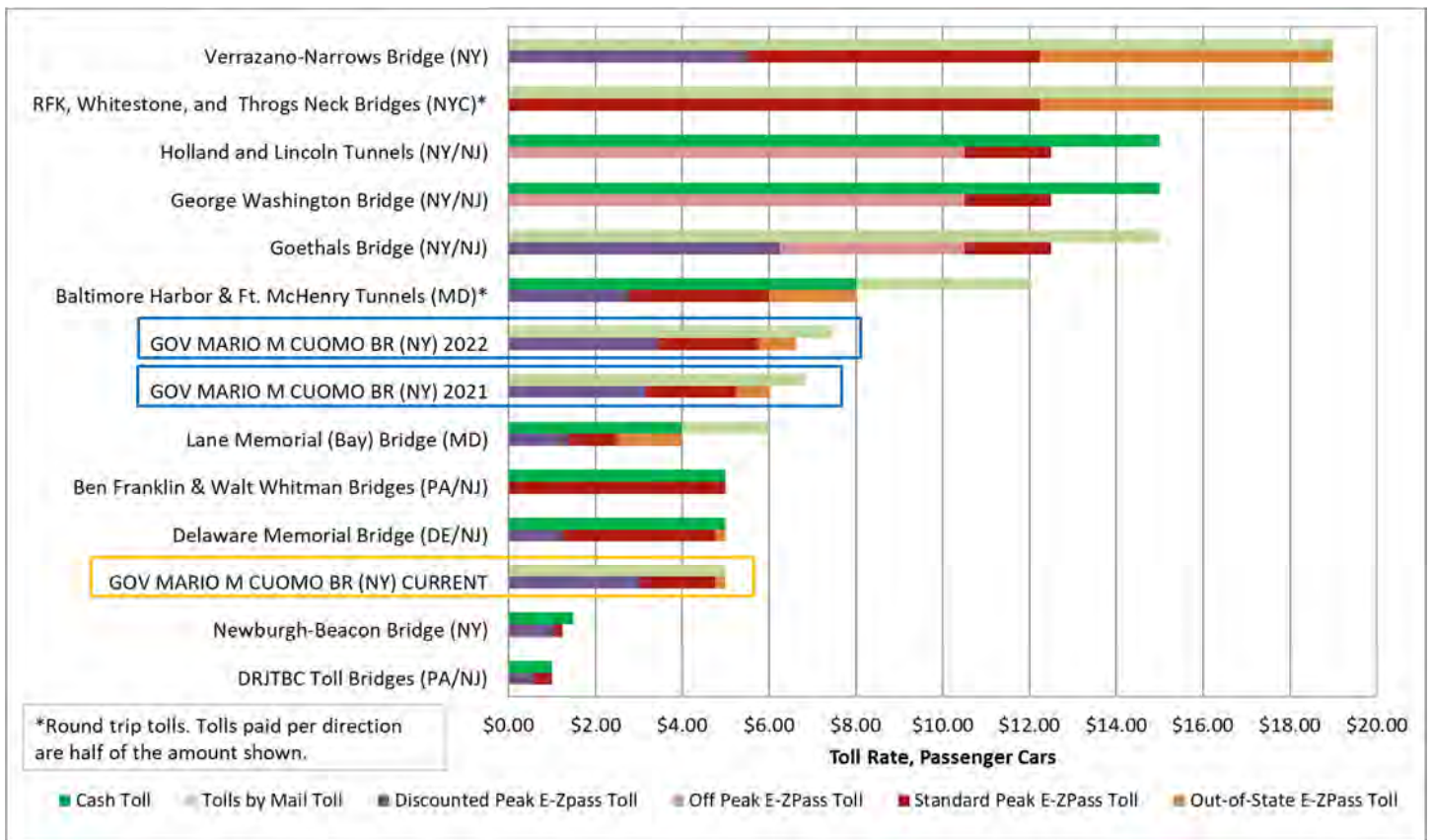


Figure 11: Round Trip Toll Rates on Major Toll Crossings in the Northeast, 5-Axle Trucks

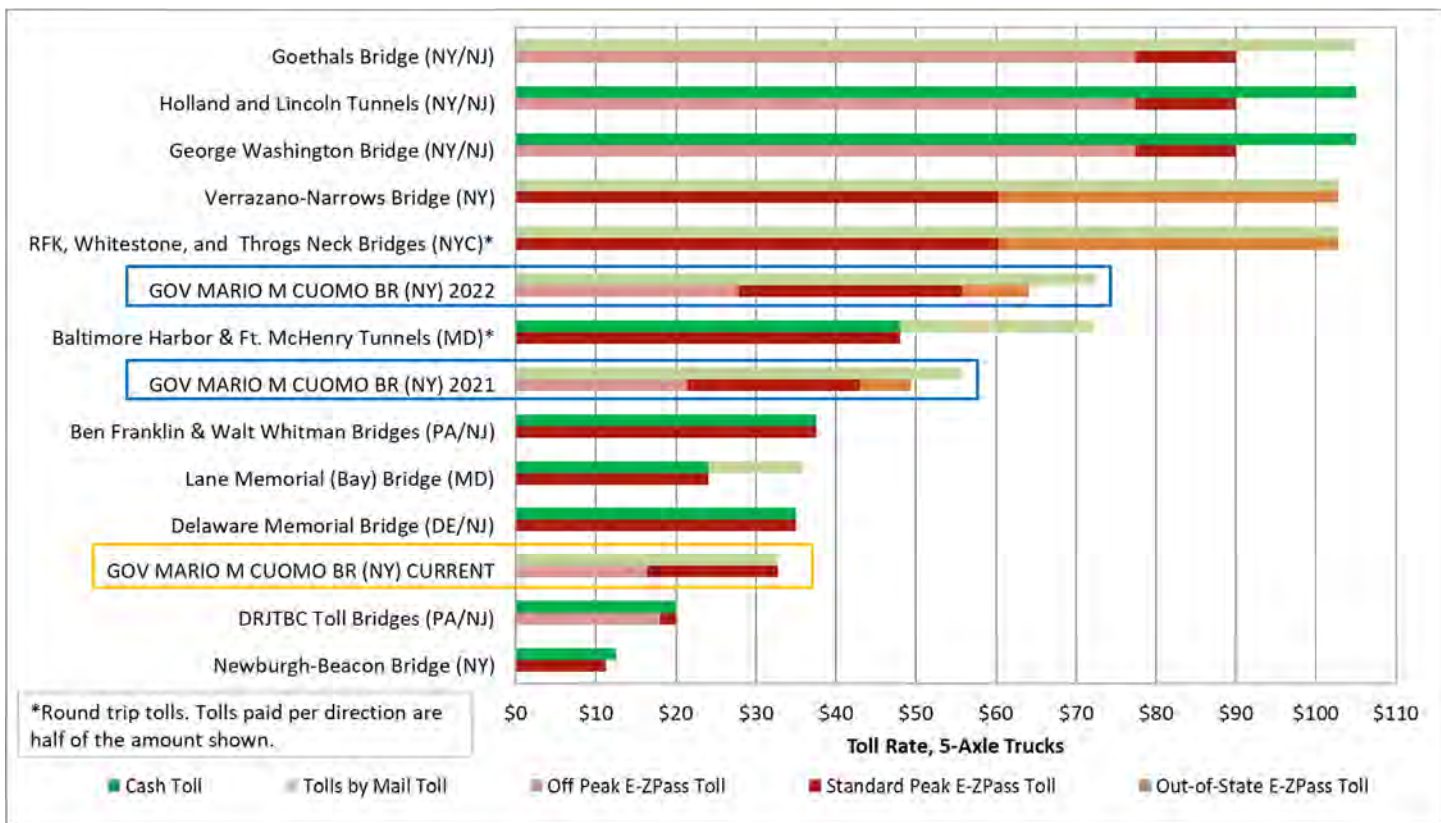


Figure 12 and Figure 13 compare the current and proposed 2021 Thruway toll rates per mile to current rates on a number of major toll roads in the northeastern quadrant of the United States. Rates for cash (or Tolls by Mail), standard *E-ZPass* (including any discounts for drivers with a New York State 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.

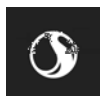


Figure 12: Peak Toll Rates Per-Mile on Toll Roads in the Northeastern Quadrant of U.S., Passenger Cars

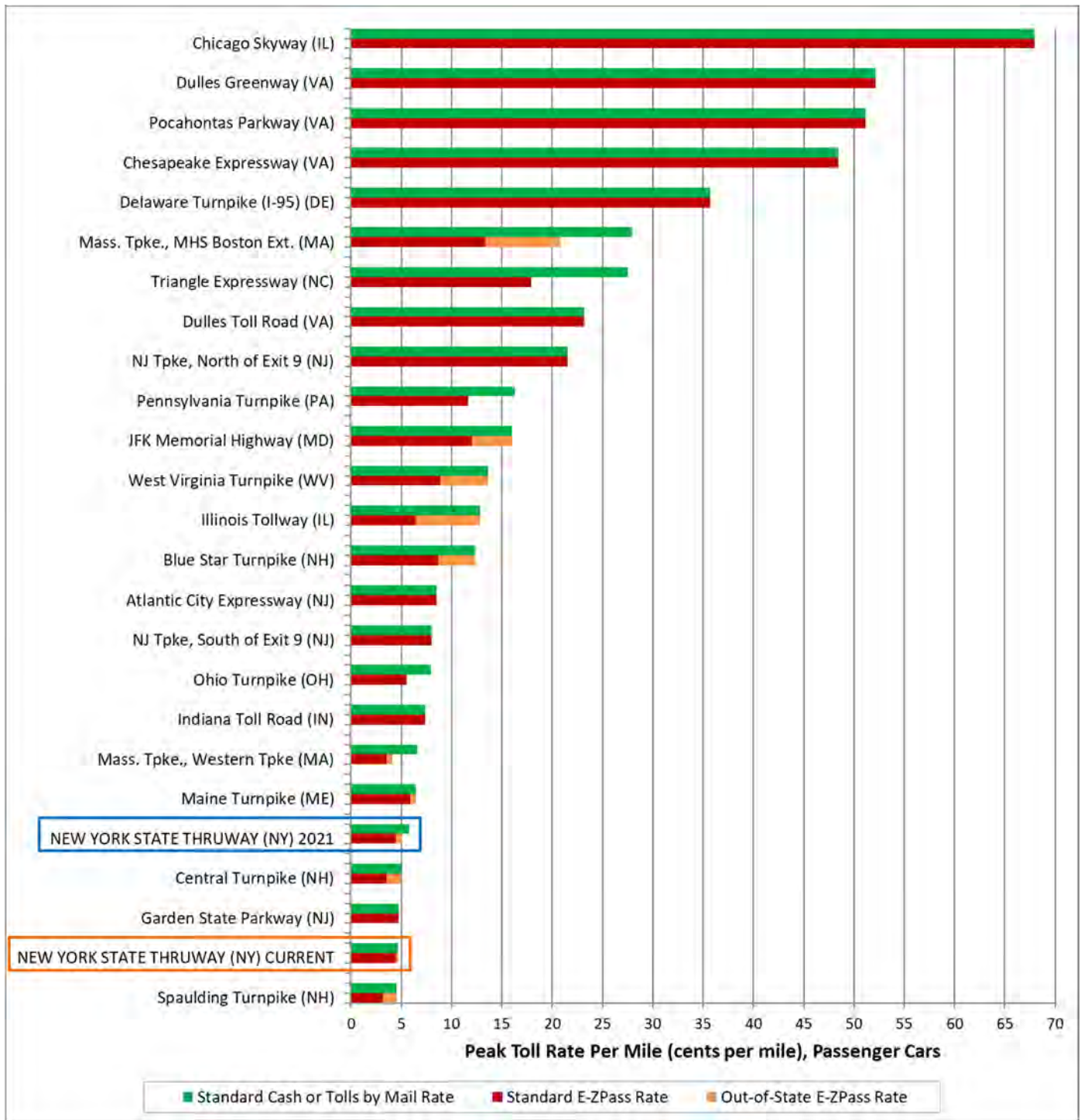
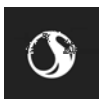
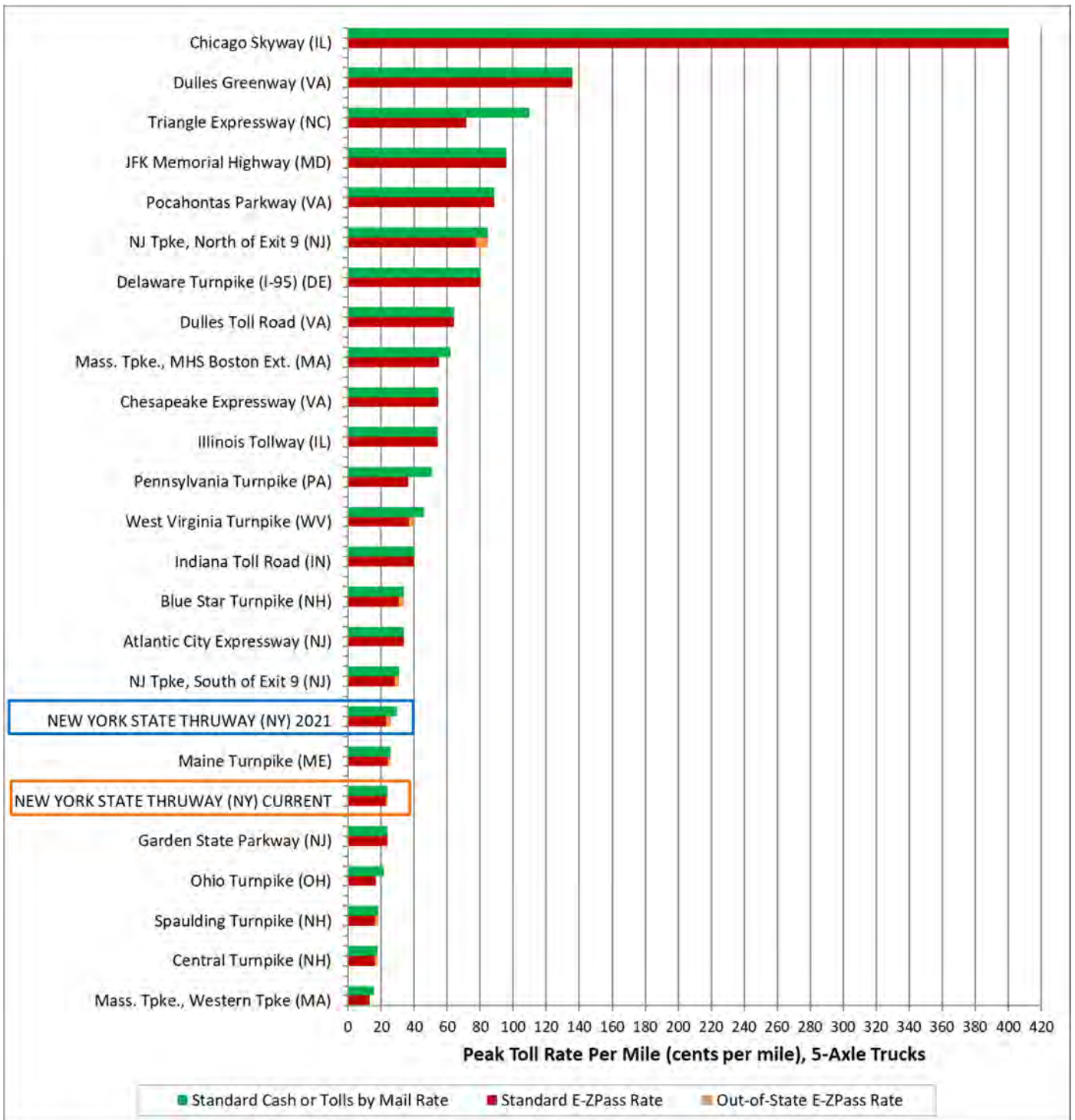


Figure 13: Peak Toll Rates Per-Mile on Toll Roads in the Northeastern Quadrant of U.S, 5-Axle Trucks



7.4.2 Comparison of Tolls by Mail Charges

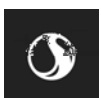
Table 25 compares premiums charged for Tolls by Mail among cashless tolling facilities nationwide. Current and proposed charges to Thruway facilities are shown. The Authority is currently the only agency that does not charge a premium for Tolls by Mail; a 30% premium on top of the standard NY E-ZPass rate is proposed for TBM customers at Authority facilities, which is still at the lower end 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		
Gov. Mario M. Cuomo Br. - Current	0%	\$0.00
Golden Gate Br.	14%	\$1.00
Gov. Mario M. Cuomo Br. - Recommended starting 2021	30%	\$1.58-1.73
MassDOT Crossings (MA)	37%/24%	\$0.30
Tacoma Narrows Br. (WA)	40%	\$2.00
MTA Verrazzano-Narrows Br (1-way tolls)	55%	\$6.76
Other MTA Major Bridges & Tunnels (NY)	55%	\$3.38
DRJTBC's Scudder Falls Bridge (PA/NJ)	108%	\$1.35
South Norfolk Jordan Br. (VA)	108%	\$2.65
MdTA crossings	100-140%	\$3.00-\$6.00
MTA Henry Hudson Br. (NY)	150%	\$4.20
SR 520 Br. (WA)	47%-160%	\$2.00
Elizabeth Rvr Tun (VA)	199%/162%	\$3.56/\$3.56
CASHLESS TOLL ROADS		
NYS THRUWAY Mainline (full length) - Current	0%	\$0.00
Tampa-Hillsborough Expwy Auth (FL) (full length)	17%	\$0.50
Northwest Parkway(CO) (mainline)	24%	\$1.00
Florida Turnpike - cashless facilities	25-30%	
NYS THRUWAY Mainline (full length) - Recommended starting 2021	30%	varies
Central Texas Turnpike System Facilities (TX)	33%	
Transportation Corridor Agencies (CA)	0-36%	\$0-\$2.31 per gantry
Pennsylvania Tpke (PA)	36%	\$1.90
Central TX Regional Mobility Auth (TX)	~50%	\$0.22-\$0.77 per gantry
Intercounty Connector (MD) (full length)	50%	\$1.92 (peak)
North TX Toll Authority NTTA (TX)	50-93%	\$.27-\$1.12 per gantry
Triangle Expy (NC) (full length)	53%	\$1.80
E-470 (CO) (full length)	58%	\$8.30
Western Turnpike (MA) (full length)	87%	\$3.00 (\$0.30 per gantry)
Miami-Dade Expressway	100%	\$0.23-\$0.66 per gantry
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 2019-2024 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		
2019	140.2	25.5	71.5	18.2	2.4	9.4	267.2	0.3%
2020 ⁽¹⁾	141.6	25.9	71.8	18.3	2.5	9.5	269.6	0.9%
2021	139.9	26.1	71.1	18.3	2.5	9.5	267.4	-0.8%
2022	141.4	26.4	72.0	18.4	2.5	9.6	270.2	1.1%
2023	142.8	26.7	72.3	18.5	2.5	9.7	272.6	0.9%
2024	144.2	27.1	72.7	18.6	2.5	9.8	274.9	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.

⁽¹⁾ Cashless tolling assumed to begin on the entire controlled system in October 2020.

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 has historically been 20 percent of total Thruway System toll revenue, is forecasted to gradually grow to nearly 26 percent of total System toll revenue by 2022 with the proposed toll modifications.

Table 27: Projected 2019-2024 Revenues with Proposed Toll Schedule (millions)

Year	Passenger Cars			Commercial Vehicles				Total	Growth	Adj. to Cash Basis for Tolls by Mail
	Controlled System	Gov. Mario M. Cuomo Br.	Other Barriers	Controlled System	Gov. Mario M. Cuomo Br.	Other Barriers	CV Disc			
2019	\$251.8	\$108.8	\$75.7	\$244.5	\$49.1	\$38.4	\$(28.6)	\$739.6		\$(1.1)
2020 ⁽¹⁾	246.2	110.8	75.5	243.6	49.8	38.9	(29.0)	735.8	-0.5%	(12.7)
2021	237.2	124.8	80.2	248.0	69.2	41.3	(29.9)	770.7	4.8%	
2022	240.5	135.8	81.5	249.9	85.5	41.7	(30.9)	804.0	4.3%	
2023	243.5	137.8	82.0	251.7	86.3	42.0	(31.2)	812.1	1.0%	
2024	246.1	139.7	82.5	253.3	87.1	42.3	(31.5)	819.6	0.9%	

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

⁽¹⁾ Cashless tolling assumed to begin on the entire controlled system in October 2020.

Table 28 shows projected total gross revenues including the proposed \$2.00 administrative surcharge for Tolls by Mail invoices.

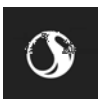


Table 28: Projected 2019-2024 Total Gross Revenues with Proposed Toll Schedule (millions)

Year	Toll Revenues	Other Revenues ⁽¹⁾	Total Revenues
2019	\$739.6	\$61.3	\$800.9
2020 ⁽²⁾	735.8	58.2	793.9
2021	770.7	93.2	863.9
2022	804.0	106.2	910.2
2023	812.1	99.7	911.9
2024	819.6	99.8	919.4

Note: Totals may not add due to rounding. No 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. Also includes revenues collected from invoice processing fees charged to Tolls by Mail customers.

⁽²⁾ Cashless tolling assumed to begin on the entire controlled system in October 2020.

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 2019-2024 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
2019	\$229.5	\$13.3	\$53.4	\$296.3
2020	233.6	0.0	46.4	279.9
2021	246.2	0.0	48.4	294.6
2022	281.3	0.0	75.6	356.9
2023	250.5	0.0	120.7	371.2
2024	255.3	0.0	122.5	377.7
Total 2019-2024	\$1,496.4	\$13.3	\$467.0	\$1,976.7

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
2019	\$629.7	\$362.9	\$296.3	\$1,288.9
2020	606.1	371.7	279.9	1,257.7
2021	605.5	375.8	294.6	1,275.9
2022	308.9	381.4	356.9	1,047.2
2023	310.0	387.1	371.2	1,068.3
2024	316.2	392.9	377.7	1,086.9
Total 2019-2024	\$2,776.4	\$2,271.8	\$1,976.7	\$7,024.9

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

Year	Funding Sources						
	Federal Aid	State Stabilization (1)	Other	Bond / Note Proceeds	Subtotal Exclusive of Thruway Revenues on Pay-As-You-Go Basis	Revenues Required from Tolls, etc.	Pay-As-You-Go %
2019	\$0.0	\$397.6	\$10.3	\$0.0	\$407.9	\$221.8	100.0%
2020	-	61.2	\$1.3	\$480.5	\$543.0	\$63.1	20.7%
2021	-		\$2.4	\$477.6	\$479.9	\$125.6	21.1%
2022	-		\$0.8	\$205.4	\$206.2	\$102.7	33.5%
2023	-		\$0.2	\$226.8	\$227.0	\$82.9	26.8%
2024	-		\$0.2	\$239.2	\$239.4	\$76.7	24.3%
Total 2019-2024	\$0.0	\$458.8	\$15.2	\$1,629.5	\$2,103.4	\$672.9	41.3%

⁽¹⁾ The remaining State grant funds have been or are expected to be drawn down in the period from 2019-2020.

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 2024.

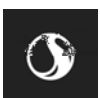


Table 32: Historical and Projected Thruway Flow of Funds and Debt Service Coverage with Proposed Toll Schedule (millions)

	ACTUAL			FORECAST						2019-2024
	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total
Total Revenues	\$749.4	\$792.1	\$798.8	\$800.9	\$793.9	\$863.9	\$910.2	\$911.9	\$919.4	\$5,200.2
Gap Closing Revenues ⁽¹⁾	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Available Revenues	749.4	792.1	798.8	800.9	793.9	863.9	910.2	911.9	919.4	5,200.2
Less:										
Operating Expenses	311.6	329.7	339.9	358.3	370.7	374.8	380.4	386.1	391.9	2,262.3
Operating Reserves	1.8	2.7	5.0	4.6	1.0	1.0	1.0	1.0	1.0	9.6
Total	313.3	332.4	345.0	362.9	371.7	375.8	381.4	387.1	392.9	2,271.9
Net Revenues	436.0	459.7	453.8	437.9	422.3	488.1	528.8	524.8	526.5	2,928.3
Less: Sr. Debt Service	227.3	234.6	220.3	229.5	233.6	246.2	281.3	250.5	255.3	1,496.4
Net Revenues After Debt Service	208.7	225.1	233.5	208.4	188.7	241.9	247.5	274.2	271.2	1,431.9
Less: Retained for Operating Reserves/AETC Lag/ Working Capital provision	-8.5	-19.3	-24.6	12.2	-12.7	0.0	0.0	0.0	0.0	-0.5
Remaining Revenues	200.2	205.9	209.0	220.7	176.0	241.9	247.5	274.2	271.2	1,431.4
Less: Reserve Maintenance Provisions	68.8	103.2	74.1	103.7	63.1	125.6	102.7	82.9	76.7	554.8
Less: Junior Bond Debt Service	29.2	43.7	79.2	53.4	46.4	48.4	75.6	120.7	122.5	467.0
Less: Facil Cap Imp Fund	14.0	5.0	12.0	8.0						8.0
Other Authority Projects	13.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
General Reserve Fund ⁽²⁾	74.0	54.0	43.6	42.2	66.5	67.8	69.2	70.6	72.0	388.3
Gen Res Fund - JIAN	0.4	0.0	0.0	13.3	0.0	0.0	0.0	0.0	0.0	13.3
Balance After Reserve Maintenance Provisions, Other Authority Projects	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Senior Debt Service Coverage	1.92	1.96	2.06	1.91	1.81	1.98	1.88	2.09	2.06	
Junior & Senior Coverage	1.70	1.65	1.52	1.55	1.51	1.66	1.48	1.41	1.39	
Pay go % ROS Capital	60.7%	34.5%	99.5%	100.0%	20.7%	21.1%	33.5%	26.8%	24.3%	

Notes: Totals may not add due to rounding. Numbers incorporate a total of \$1.985 billion in State capital assistance provided in the 2015-2016 and 2016-2017 Enacted State Budgets. Total Revenues include Tolls by Mail revenues that are earned in a fiscal year but not collected until later fiscal years. The amounts earned but not collected until later years are projected to be \$1.1 million in 2019 and \$12.7 million in 2020. The 2018 Retained for Operating Reserves/cashless tolling Lag figure of (\$24.6 million) is comprised of the following: (\$683,167) associated with an Adjustment to Cash Basis due to Tolls by Mail revenues that are earned in 2018 but not collected until later years; \$20.5 million in revenues retained from 2017; (\$15 million) retained for Working Capital; and (\$29.4 million) retained for 2019 Operating Reserves.

⁽¹⁾ Through the year 2024, 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 from April 2016 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.

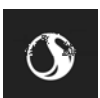


9.0 LIMITS AND DISCLAIMERS

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 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.



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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.

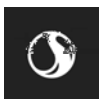
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We would like to thank the Authority staff for their assistance in the preparation of this report.

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 Rates 1/3/10				
	NY E-ZPass Peak	NY E-ZPass OFF PEAK	Non-NY E-ZPass	Toll By Mail
Commuter	\$3.00			
2L	\$4.75	\$4.75	\$5.00	\$5.00
3L	\$11.50	\$5.75	\$11.50	\$11.50
4L	\$13.75	\$6.88	\$13.75	\$13.75
2H	\$14.75	\$7.38	\$14.75	\$14.75
3H	\$20.75	\$10.38	\$20.75	\$20.75
4H	\$24.75	\$12.38	\$24.75	\$24.75
5H	\$32.75	\$16.38	\$32.75	\$32.75
6H	\$41.00	\$20.50	\$41.00	\$41.00
7H	\$49.25	\$24.63	\$49.25	\$49.25
Proposed Toll Rates 2021				
	NY E-ZPass Peak	NY E-ZPass OFF PEAK	Non-NY E-ZPass	Toll By Mail
Commuter	\$3.15	\$3.15		
Resident	\$4.75	\$4.75		
2L	\$5.25	\$5.25	\$6.04	\$6.83
3L	\$12.71	\$6.36	\$14.62	\$16.52
4L	\$15.20	\$7.60	\$17.48	\$19.76
2H	\$16.30	\$8.15	\$18.75	\$21.19
3H	\$22.93	\$11.47	\$26.38	\$29.82
4H	\$27.36	\$13.68	\$31.46	\$35.56
5H	\$42.90	\$21.45	\$49.34	\$55.77
6H	\$53.71	\$26.86	\$61.77	\$69.82
7H	\$64.52	\$32.26	\$74.20	\$83.87
Proposed Toll Rates 2022				
	NY E-ZPass Peak	NY E-ZPass OFF PEAK	Non-NY E-ZPass	Toll 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

CURRENT AND PROPOSED RATES, REMAINDER OF SYSTEM

Current Cash/Non-NY E-ZPass Rates

	MAINLINE (PER MILE)	Castleton Bridge Surcharge	GRAND ISLAND BRIDGES	HARRIMAN	YONKERS	NEW ROCHELLE	SPRING VALLEY
2L	\$0.0470	\$0.65	\$1.00	\$1.25	\$1.25	\$1.75	\$0.00
3L	\$0.0728	\$0.90	\$1.50	\$1.50	\$1.50	\$2.50	\$3.00
4L	\$0.0864	\$1.05	\$1.75	\$1.75	\$1.75	\$3.00	\$4.50
2H	\$0.0933	\$1.10	\$2.00	\$2.00	\$2.00	\$3.50	\$5.25
3H	\$0.1604	\$1.55	\$2.25	\$2.75	\$2.25	\$4.25	\$8.25
4H	\$0.1768	\$2.00	\$2.75	\$3.00	\$2.75	\$5.00	\$8.25
5H	\$0.2390	\$2.70	\$4.25	\$4.25	\$4.25	\$8.00	\$13.50
6H	\$0.2963	\$3.25	\$4.50	\$5.00	\$4.50	\$8.75	\$14.75
7H	\$0.3536	\$3.85	\$5.00	\$5.75	\$5.00	\$9.75	\$16.50

Current rates New York E-ZPass customers

	MAINLINE (PER MILE)	Castleton Bridge	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

New: Non New York E-ZPass customers - Rates January 2021

	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

New Toll By Mail customers - Rates January 2021

	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