

NEW YORK STATE BRIDGE AUTHORITY
General Revenue Bonds, Series 2021A
General Revenue Refunding Bonds, Series 2021B
Continuing Disclosure Statement
For the Year Ended December 31, 2024

(1)

CURRENT TOLL RATES

Current Toll Rates

References herein to the Series 2021 Official Statement mean the Official Statement date July 14, 2021 as supplemented by the Forward Delivery Supplement dated September 22, 2021.

Current adopted toll rate regulations can be found in the Attachment 3 herein

(2)

TOLL PAYING TRAFFIC ON AUTHORITY BRIDGES
(Refer to Table 1 of the Series 2021 Official Statement)
(000's)

Year	Rip Van Winkle Bridge	Kingston-Rhinecliff Bridge	Mid-Hudson Bridge	Newburgh-Beacon Bridge	Bear Mountain Bridge	Total
2010	2,640	3,931	6,986	12,556	3,289	29,402
2011	2,604	3,878	6,872	12,364	3,303	29,021
2012	2,654	3,856	6,893	12,341	3,438	29,181
2013	2,671	3,841	6,883	12,380	3,425	29,199
2014	2,737	3,866	6,908	12,354	3,494	29,359
2015	2,829	3,951	7,121	12,519	3,718	30,138
2016	2,924	4,053	7,253	13,234	3,953	31,417
2017	2,971	4,099	7,247	13,360	3,924	31,601
2018	2,984	4,111	7,293	13,461	3,914	31,763
2019	2,979	4,142	7,382	13,466	3,939	31,908
2020	2,555	3,381	5,907	10,654	3,202	25,700
2021	2,892	3,820	6,683	12,204	3,624	29,223
2022	2,950	3,866	6,827	12,675	3,783	30,100
2023	3,073	3,991	7,023	13,673	3,664	31,424
2024	3,177	4,091	7,108	14,248	3,610	32,234

FN1: Includes toll paying eastbound traffic. Westbound traffic is not tolled.

(3)

TOLL REVENUES FROM AUTHORITY BRIDGES
(Refer to Table 4 of the Series 2021 Official Statement)
(\$000's)

Year	Rip Van Winkle Bridge	Kingston-Rhinecliff Bridge	Mid-Hudson Bridge	Newburgh-Beacon Bridge	Bear Mountain Bridge	Total
2010	2,970	4,058	6,945	20,302	3,394	37,669
2011	2,957	4,050	6,881	19,899	3,454	37,242
2012	4,330	5,712	10,061	28,783	4,936	53,822
2013	4,424	5,819	10,301	29,341	5,004	54,889
2014	4,560	5,889	10,384	29,338	5,066	55,237
2015	4,748	6,035	10,737	29,752	5,393	56,665
2016	4,862	6,176	10,982	31,161	5,809	58,990
2017	4,926	6,250	10,984	30,966	5,698	58,824
2018	4,933	6,279	11,115	31,017	5,676	59,020
2019	4,921	6,311	11,220	30,824	5,693	58,969
2020	4,685	5,698	9,961	29,147	5,100	54,591
2021	5,546	6,809	11,928	34,144	6,043	64,470
2022	6,135	7,474	12,835	38,854	6,991	72,289
2023	6,441	7,976	13,388	41,615	6,902	76,322
2024	6,984	8,547	14,306	45,585	7,088	82,490

NEW YORK STATE BRIDGE AUTHORITY
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Continuing Disclosure Statement
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(4)

HISTORY OF TRAFFIC, TOLL REVENUES AND OPERATING EXPENSES
(Refer to Table 5 of the Series 2021 Official Statement)

Year	Toll Paying Vehicles (000's)	Toll Revenues (\$000's)	Average Toll Per Vehicle (\$)	Operating Expenses FN1 FN2	Average Operating Expense Per Tolloed Vehicle (\$)
Authority Operating Statistics (Totals For All Bridge)					
2010	29,402	37,669	1.28	23,177	0.79
2011	29,022	37,242	1.28	22,426	0.77
2012	29,181	53,822	1.84	23,207	0.80
2013	29,199	54,889	1.88	24,739	0.85
2014	29,359	55,237	1.88	25,089	0.85
2015	30,138	56,665	1.88	24,557	(2) 0.81
2016	31,417	58,990	1.88	24,948	0.79
2017	31,601	58,824	1.86	25,900	0.82
2018	31,763	59,020	1.86	27,007	(2) 0.85
2019	31,908	58,969	1.85	27,551	0.86
2020	25,700	54,591	2.12	27,890	1.09
2021	29,223	64,470	2.21	29,159	(3) 1.00
2022	30,100	72,289	2.40	31,921	1.06
2023	31,424	76,322	2.43	34,102	1.09
2024	32,234	82,490	2.56	35,455	1.10

(5)

Percent Growth Versus Previous Year

Year	Toll Paying Vehicles	Toll Revenues	Average Toll Per Vehicle (\$)	Operating Expenses FN1	Average Operating Expense Per Tolloed Vehicle
2010	1.34%	1.58%	0.23%	8.67%	7.23%
2011	-1.29%	-1.13%	0.16%	-3.24%	-1.98%
2012	0.55%	44.52%	43.76%	3.48%	2.92%
2013	0.06%	1.98%	1.92%	6.60%	6.54%
2014	0.55%	0.63%	0.09%	1.41%	0.86%
2015	2.65%	2.59%	-0.07%	-2.12%	-4.65%
2016	4.24%	4.10%	-0.14%	1.59%	-2.54%
2017	0.59%	-0.28%	-0.86%	3.82%	3.21%
2018	0.51%	0.33%	-0.18%	4.27%	3.74%
2019	0.45%	-0.09%	-0.54%	2.01%	1.55%
2020	-19.46%	-7.42%	14.94%	1.23%	25.68%
2021	13.71%	18.10%	3.86%	4.55%	-8.05%
2022	3.00%	12.13%	8.86%	9.47%	6.28%
2023	4.40%	5.58%	1.13%	6.83%	2.33%
2024	2.58%	8.08%	5.36%	3.97%	1.35%

FN1: Excluding depreciation on equipment, and excluding net loss on sale of equipment and excluding other post-employment benefits. Maintenance Reserve expenditures are reflected in the Authority's capital budget. See Table 8

FN2: In 2015 the Authority implemented GASB 68, similar to GASB 45, the Authority includes only physical disbursements to the NYS & Local Retirement System for each year to compute operating expenditures under the resolution. Gains or losses on the value of the funds assets are excluded. In 2018 the Authority implemented GASB 75, an update of GASB 45, and excluded those non-cash related expenses as well.

FN3: Corrected from original reporting of 2021, originally reported as \$29,200 thousand

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HISTORICAL NET REVENUES
(Refer to Table 6 of the Series 2021 Official Statement)
(\$000's)

Year	Toll Revenues FN1	Operating Expenses FN2	Net Operating Revenues	Other Revenues FN3	Net Revenues	
2010	37,669	23,177	14,492	925	15,417	FN4
2011	37,242	22,426	14,816	3,259	18,075	FN4
2012	53,822	23,207	30,615	2,119	32,734	
2013	54,889	24,739	30,150	1,104	31,254	
2014	55,237	25,089	30,148	1,423	31,571	
2015	56,665	24,557	32,108	1,148	33,256	
2016	58,990	24,948	34,042	1,292	35,334	
2017	58,824	25,900	32,924	1,696	34,620	
2018	59,020	27,007	32,013	2,618	34,631	
2019	58,969	27,551	31,418	4,142	35,560	
2020	54,591	27,890	26,701	1,938	28,639	
2021	64,470	29,159	35,311	1,280	36,591	
2022	72,289	31,921	40,368	2,289	42,657	
2023	72,289	31,921	40,368	5,546	45,914	
2024	76,322	34,102	42,220	7,458	49,678	

FN1: All Toll Revenue data are actual for the periods specified

FN2: Excluding depreciation on equipment and excluding net loss on sale of equipment

FN3: Investment and other income, excluding Construction Fund and General Fund Interest and net gain on sale of equipment. For 2011, Other Revenues includes federal grants of \$2.5 million. For 2018, Other Revenues included state grants of \$460,000 associated with installation of pedestrian facilities on the Rip Van Winkle Bridge in connection with the Skywalk Project. For 2019, Other Revenues included state grants of \$1.5 million for pedestrian facilities at the Kingston-Rhinecliff Bridge associated with the Empire State Trail.

FN4: Restated as this line incorrectly excluded interest income in the Series 2012 Official Statement.

(6)

HISTORICAL DEBT SERVICE COVERAGE
(Refer to Table 7 of the Series 2021 Official Statement)

Year	Net Operating Revenues (\$000's) FN1 FN5	Net Revenues (\$000's) FN5	Debt Service (\$000's)	Net Revenues After Debt Service (\$000's)	Net Operating Revenue Coverage of Debt Service	Net Revenue Coverage of Debt Service
2010	14,492	15,417	8,191	7,226	1.77	1.88
2011	14,816	18,075	8,191	9,884	1.81	2.21
2012	30,615	32,734	9,911	22,823	3.09	3.30
2013	30,150	31,254	11,278	19,977	2.67	2.77
2014	30,148	31,571	11,277	20,294	2.67	2.80
2015	32,108	33,256	11,281	21,976	2.85	2.95
2016	34,042	35,334	11,278	24,056	3.02	3.13
2017	32,924	34,620	11,240	23,380	2.93	3.08
2018	32,013	34,631	11,237	23,394	2.85	3.08
2019	31,418	35,560	11,237	24,323	2.80	3.16
2020	26,701	28,639	11,240	17,399	2.38	2.55
2021	35,311	36,591	12,469	24,122	2.83	2.93
2022	40,368	42,657	7,151	35,506	5.65	5.97
2023	40,368	45,914	7,151	38,763	5.65	6.42
2024	42,220	49,678	7,151	42,527	5.90	6.95

FN5 Refer to table "Net Revenues and Operating Expenses" above

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(7) The information in the Official Statement under the sub-caption entitled "All Electronic tolling/Tolls by Mail" under the sub-caption "History of Traffic, Toll Revenues and Expenses, 2010-2020" under the caption SUMMARY OF PAST OPERATIONS is supplemented as follows:

The Authority's vehicular bridges were converted to all electronic tolling ("AET") on the following schedule:
 Newburgh-Beacon Bridge: July 2021
 Bear Mountain Bridge: October 2021
 Rip Van Winkle Bridge: November 2021
 Kingston Rhinecliff Bridge: December 2021
 Mid-Hudson Bridge: March 2022

(8) The Authority's audited financial statements for 2024 include notes regarding the OPEB liability. OPEB related expenses are not included in the computation of Net Revenues as indicated in Table 5 FN2

(9)

CAPITAL PROGRAM EXPENDITURES
(Refer to Table 8 of the Series 2021 Official Statement)
(\$000's)

Year	Expenditures
2010	13,143,000
2011	15,657,000
2012	20,854,000
2013	34,579,000
2014	56,309,000
2015	36,767,000
2016	7,897,000
2017	20,494,000
2018	24,329,000
2019	18,670,000
2020	23,599,000
2021	69,588,000
2022	46,239,271
2023	16,483,989
2024	27,168,214

CONSULTANT ENGINEER'S REPORT ON PHYSICAL CONDITION OF BRIDGES

Summaries of the 2024 Maintenance Inspection Reports prepared by the Consulting Engineer are attached (Attachment #1 herein).

(10)

CAPITAL PLANNING PROCESS

The 5-year Capital Improvement Program adopted by the Authority in September 2024 is attached (Attachment #2 herein). Staff review of capital needs and project scheduling for 2025 is ongoing.

NEW YORK STATE BRIDGE AUTHORITY
General Revenue Bonds, Series 2021A
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2024 Maintenance Inspections

Submitted to:



**Bridge
Authority**

BIN 5503400

BEAR MOUNTAIN BRIDGE

2024 BIENNIAL INSPECTION REPORT

Submitted by:



INTRODUCTION

This report presents the findings, conclusions and maintenance recommendations resulting from the 2024 Biennial Inspection of the Bear Mountain Bridge. The bridge carries New York State Route 6 over the Hudson River and spans over AMTRAK and CSX rail lines on the east and west side of the river, respectively (see Photograph 1). The bridge is operated and maintained by the New York State Bridge Authority (Authority).

The 2024 Biennial Inspection was completed in accordance with the policies of the New York State Department of Transportation (NYSDOT) and the guidelines of the National Bridge Inspection Standards (NBIS) of the Federal Highway Administration (FHWA). The inspection was performed for the New York State Bridge Authority (Authority) by Dongpei Liu, PE (Team Leader), Eric Abo, and Mitesh Patel, PE of ATANE Engineering (ATANE) in conjunction with Mohammed Sadliq, PE of American Structural Engineers (ASE) and Tamir Awad of Hayduk Engineers during the period of March 18, 2024, through May 23, 2024.

The William J. Moreau Popolopen Creek Footbridge built in 2002 was also inspected as part of the 2024 Biennial Inspection (see Photograph 4). This single span pedestrian suspension bridge provides a pedestrian crossing over Popolopen Creek, a Hudson River tributary entering the Hudson at its west side, and just north of the Bear Mountain Bridge, connecting the Fort Montgomery Area to the southern end of Bear Mountain State Park.

General and specific findings from the 2024 Biennial Inspection are presented throughout the report text and are supplemented with Photographs, and deficiency tables found in Appendix B. Items in the Appendix B deficiency tables listed in bold text are either new deficiencies or changes to a pre-existing condition since the previous inspection. Non-redundant steel tension components are identified and discussed in the section of the report titled "Details or Situations Requiring Special Attention during Inspection." At the end of the text portion of this report, there are routine maintenance, repair and monitoring recommendations based on the inspection findings. Appendix A contains inspection drawings, sketches, crack monitor readings and updated expansion movement tables. Throughout the report, reference points and stringer designations are used to define locations on the bridge. These reference points are illustrated in Drawing No. 1 in Appendix A.

The following descriptions are used throughout the report to rate the condition of various bridge elements and the general category of maintenance or repair required:

RATING	DESCRIPTION	MAINTENANCE/REPAIR CATEGORY
Very Good	No noteworthy deficiencies	No maintenance required
Good	Some minor deficiencies	Minor maintenance required
Satisfactory	Structural elements have minor deterioration	Maintenance required
Fair	Primary structural elements are sound, but may have moderate deterioration, section loss, cracking or spalling	Major maintenance/repair required

Poor	Advanced deterioration, section loss, cracking or spalling	Major repair/rehabilitation required in the near future
Serious	Deterioration has seriously affected primary structural components	Repair or rehabilitation required immediately

LEVELS OF STEEL SURFACE CORROSION	
Minor	Lack of paint and a fine layer of corrosion that can be removed by rubbing with a cloth
Moderate	Lack of paint and a layer of corrosion that can be removed by light wire brushing
Significant	Lack of paint and a layer of corrosion that shows separation from the metal surface, but no appreciable section loss
Severe	Lack of paint and a layer of corrosion that shows separation from the surface, and loss of section are evident

Other descriptive terms are used throughout the report. Bolt deficiencies are described in the report as either "loose" (the bolt or nut can be moved by hand), "untight" (the bolt head or nut is not bearing on the steel of the connection, but the shank is tight in the hole) or "short" (the shank of the bolt is too short to fully engage all of the treads within the nut). Concrete is defined as unsound or delaminated when it is hollow sounding when struck with a hammer and is generally characterized by cracking or voids in the underlying concrete down to the level of the reinforcing steel.

Details & Situations Which Require Special Attention

In accordance with the NYSDOT's General Bridge Inspection Policy, all load-path non-redundant superstructure members and fracture-critical members (FCMs) shall receive a 100% "hands-on" visual inspection during each Biennial Inspection. For bridge inspection purposes, superstructures consisting of both two and three girders or trusses are considered load-path non-redundant. In addition, when floorbeams are spaced greater than 12' on center in spans of two and three girders or trusses, the floorbeams and their end connections are required to receive a 100% "hands-on" visual inspection.

Special emphasis is placed on the examination and recording of situations or details associated with non-redundant/FCMs that may affect the integrity of the structure. FCMs are defined as tension members or components of members in tension, whose failure could be expected to result in partial or total collapse of the structure. Special emphasis is also placed on the examination of stringer ends with unstiffened webs that bear on floorbeams.

Details or situations that can be detrimental to non-redundant/FCMs are tack welds, remaining weld erection aids, remaining original groove weld back-up bars, punched holes, plug welded holes and other existing weld details not part of the original design. In addition, AASHTO Fatigue Categories D, E or E'-type welds are potentially detrimental to the members. No problems were noted with the tack welds on the Bear Mountain Bridge.

The primary FCMs of the Bear Mountain Bridge are the main cables. In addition, members of the riveted deck trusses of Spans 3, 4 and 6, and the built-up riveted girders of Spans 1 and 2 are classified as fracture-critical. Drawing No. 2 in Appendix A illustrates the FCMs of the structure. Although main span truss hangers support only the dead load of the attached bottom chord, the hangers are in tension and are included as FCMs for bridge inspection purposes.

The only details or situations noted on the Bear Mountain Bridge that could be detrimental to non-redundant/FCMs are welds used to attach strengthening plates and angles to existing members. Strengthening of the existing members was part of a 1976-1977 contract for concrete deck and wearing surface replacement. As a part of that contract, the girders in Spans 1 and 2, the floor system metalwork of all the spans, the transverse struts of the main suspension span, and the bracing of the truss spans and suspended span were reinforced with cover plates to provide additional capacities for HS 20-44 live loads. A detailed listing of all the locations where welding was performed can be found in the 1988 Biennial Inspection Report.

Cover plates welded to the floorbeam and transverse struts bottom flanges during the deck replacement and bridge strengthening contract have resulted in Fatigue Category B welds along the length of the cover plates and Fatigue Category E welds at the cover plate end welds. The Category E welds are of poor quality and many are lacking full penetration and fusion. During previous inspections, several cracks were found in the Fatigue Category E end welds; however, the Authority has systematically retrofit the noted cracked end weld locations with a bolted retrofit at locations with bottom flange cover plates. In addition to installing the bolted retrofit connection, the end welds were to be ground out; however, there are several locations where the end weld has either not been removed or is only partially removed. In some locations, weld removal activities unintentionally resulted in a shallow groove being ground in to the bottom flange of members being reinforced. None of the previously noted crack locations were noted to have propagated into the base metal of the floorbeams or transverse struts; however, these locations should be closely monitored during each Biennial Inspection. A list of the more significant cover plate end weld deficiencies are listed in Table 10 of Appendix B.

Inspector Qualifications

The training and qualifications of the ATANE and ASE Inspectors who performed the 2024 Biennial Inspection of the Bear Mountain Bridge are presented in the following table.

<p>Mahmood Mohammed, P.E. <i>Project Manager (ATANE)</i></p>	<ul style="list-style-type: none"> •NYS PE #095319 •PE Expiration Date: 11/30/2026 •Comprehensive Bridge Inspection Training: 4/23/2004 •Last Refresher Date: 11/2/2022
<p>Ikram Mohl, P.E. <i>QC Engineer (ATANE)</i></p>	<ul style="list-style-type: none"> •NYS PE #065498 •PE Expiration Date: 6/30/2027 •Comprehensive Bridge Inspection Training: 2/17/2017 •Last Refresher Date: 2/24/2022
<p>Taylor Losche, P.E. <i>Assistant Project Manager (ATANE)</i></p>	<ul style="list-style-type: none"> •NYS PE #107568 •PE Expiration Date: 3/31/2026 •Comprehensive Bridge Inspection Training: 2/17/2017 •Last Refresher Date: 2/10/2022
<p>Dongpei (David) Liu, P.E. <i>Lead Team Leader (ATANE)</i></p>	<ul style="list-style-type: none"> •NYS PE #085609 •PE Expiration Date: 2/28/25 •Comprehensive Bridge Inspection Training: 1/31/2012 •Last Refresher Date: 3/1/2021
<p>Mitesh Patel, P.E. <i>Team Leader (ATANE)</i></p>	<ul style="list-style-type: none"> •NYS PE #086713 •PE Expiration Date: 5/31/2026 •Comprehensive Bridge Inspection Training: 3/8/2013 •Last Refresher Date: 4/13/2023
<p>Deron Barnes, P.E. <i>Team Leader (ATANE)</i></p>	<ul style="list-style-type: none"> •NYS PE #097716 •PE Expiration Date: 2/28/2026 •Comprehensive Bridge Inspection Training: 2/24/2011 •Last Refresher Date: 3/1/2020
<p>Eric Abo <i>Assistant Team Leader (ATANE)</i></p>	<ul style="list-style-type: none"> •NYS PE: N/A •Comprehensive Bridge Inspection Training: 6/27/2014 •Last Refresher Date: 1/31/2024

Mohammed Sadiq, P.E.
Team Leader (ASE)

- NYS PE #101367
- PE Expiration Date: 9/30/2027
- Comprehensive Bridge Inspection Training: 10/31/2019
- Last Refresher Date: N/A

Tamir Akrop
Assistant Team Leader (ASE)

- NYS PE: N/A
- Comprehensive Bridge Inspection Training: N/A
- Last Refresher Date: N/A

Inspection Access

The bridge substructure components, which include the east and west abutments, Piers 1 through 3, and the exposed portions of the east and west tower foundations, were accessed by walking at their bases.

The floor system and deck underside of Girder Spans 1 and 2, as well as the west abutment backwall, were accessed from the roof of the maintenance garage.

An Underbridge Inspection Unit (UBIU), Model Aspen A-62 was utilized to inspect the floor system, deck underside and truss metalwork of Spans 3 through 6. The UBIU and traffic control was provided by the Authority.

The lower portions of the superstructure metalwork and secondary bracing members were accessed by walking the bottom chords and by utilizing the transverse access platforms of Spans 3 through 6.

The inspection of the main suspension cables and suspender ropes was performed primarily by walking the main cables and bottom chords of the stiffening trusses (see Photograph 2).

The wearing surface, approach roadways, sidewalk top surface, steel bridge railings, and concrete parapets were inspected by walking.

The light standards located along the length of the bridge and east and west approaches were inspected using a 35' bucket truck with traffic control provided by Authority personnel (see Photograph 3).

The suspension cables, plastic composite deck, stiffening truss, anchorages, deck underside, floor system, and lateral bracing of the William J. Moreau Popolopen Creek Footbridge were accessed by walking the top side of the deck and the north and south shores of Popolopen Creek.

Submitted to: New York State Bridge Authority
P. O. Box 1010
Highland, NY 12528-0010

Submitted by:
Modjeski and Masters, Inc.
301 Manchester Road, Suite 102, Poughkeepsie, NY



2024 MAINTENANCE INSPECTION REPORT
NEWBURGH BEACON BRIDGE (SOUTH SPAN)
OVER THE HUDSON RIVER

Newburgh | New York
Beacon | New York

AUGUST 2024



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9/9/2024

Dr. Minosca Alcantara, Executive Director
New York State Bridge Authority
P. O. Box 1010
Highland, New York 12528-0010

RE: PN4741.24
THE HAMILTON FISH NEWBURGH-BEACON BRIDGE (SOUTH SPAN)
2024 Maintenance Inspection

Dear Dr. Alcantara:

Transmitted herewith is one electronic (pdf) copy of our report covering the 2024 Maintenance Inspection of the Newburgh-Beacon Bridge (South Span) and the associated portions of the approach roadways and signal structures. The inspection was performed in accordance with our Engineering Services Agreement BA 2023-OE-103-ES.

The bridge remains in overall satisfactory condition (General Recommendation = 5). Items of maintenance and repair that have been performed by the Authority maintenance forces and/or contract forces since the 2023 Biennial Inspection are listed in the report.

The primary concern for the Newburgh-Beacon (South Span) remains the numerous locations exhibiting abnormal corrosion of the ASTM A588 weathering steel of the superstructure. Moderate to severe section loss and crevice corrosion are present throughout the bridge where moisture leakage and accumulations of debris do not allow the weathering steel to receive normal drying cycles. In addition, there remain locations along the bottom chords where gaps at truss splice locations allow moisture to enter the interior of the chords, accelerating the abnormal corrosion on the interiors of some chord members. There also are an increasing number of areas where painted sections of the weathering steel have failing paint systems that are now trapping small pockets of moisture against the weathering steel. Locations of abnormal corrosion typically occur below the existing deck expansion joints, below scupper downspout locations, and at bottom chord locations where moisture can enter the box chord members.

The previously noted fatigue cracks in the crossframe connection angles in the girder spans continue to remain stable. The arrested and non-arrested fatigue cracks found in the webs of the stringers in the through truss spans also remain stable. These areas of cracking should continue to be monitored during future inspections for any signs of further propagation and the need for repair or mitigation procedures.

The pedestrian walkway throughout the length of the main bridge continues to exhibit isolated locations with severe abnormal corrosion of the ASTM A588 weathering steel, section loss and/or corrosion holes in the tread plates and supporting deck ribs. A number of these locations require repairs to the severely corroded tread plates and supporting deck ribs.

The pedestrian walkway joist connection plates throughout the structure exhibit small cracks; however, the vast majority of these locations have been retrofit with arrest holes and compression sleeves that appear to have successfully prevented further cracking. There remain a number of locations with cracking greater than 1/2" in the joist connection plates that have not been arrested.

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Dr. Minosca Alcantara

- 2 -

9/9/2024

Although the cracked connection plates do not appear to pose an immediate concern, the Authority should address the locations with un-arrested areas of cracking and continue to monitor the repaired locations.

The paint system applied on certain portions of the structure continues to deteriorate and areas exhibiting paint failure continue to become larger and more widespread. In addition, there are some unpainted areas, mainly found below the roadway joints, where abnormal/excessive corrosion of the weathering steel continue to worsen. Areas of abnormal/excessive corrosion, including the interior of some box members, should be cleaned and painted to prevent accelerated deterioration of the truss and floor system members. In addition, the open gaps at all bottom chord splice locations should be sealed to prevent moisture intrusion into the box members. It is highly recommended that the Authority prioritize and develop an inspection plan for the regular removal of perforation covers and inspection of the interiors of all the box members during each annual inspection.

Additional priority items include addressing the numerous locations exhibiting cracked and displaced pin bushings for the wind tongue pin connections; the severe wear, areas of cracking and deficient fasteners throughout the top false chord bearings at Panel Point 58 and 70; and the locations noted with severe abnormal corrosion, corrosion holes, and vertical pumping of the stringers and girders located at Pier W3 and Panel Point 70.

The Authority should continue their program of annual rinsing and removal of dirt and debris along the truss members, within the roadway splash zones, and within the drainage troughs and downspouts. Other maintenance items include cleaning and spot painting, greasing of the stringer and truss expansion bearings and sliding surfaces, replacing deficient fasteners and addressing noted deficiencies throughout the maintenance walkway, light standards, gantries, and electrical components. Priority should be given to addressing the untight and loose U-bolt connections at Sign Structures 10 and 11.

The 2024 Maintenance Inspection findings are detailed in the report along with a comprehensive list of maintenance and repair recommendations which are listed in the back of the report.

This report is based upon examinations and studies at the times and in the manner herein discussed. The nature of the undertaking does not permit assurance that there may not be latent or hidden defects in the condition of the members, lack of uniformity in the quality of the materials used or detrimental occurrences subsequent to the inspection. No responsibility can, therefore, be assumed for lack of integrity of the structure from unpredictable causes or those beyond the scope of the inspection and report.

If there are any questions concerning the inspection or the contents of our report, please do not hesitate to contact us.

Very truly yours,

A handwritten signature in blue ink, appearing to read "Quentin P. Johnson".

Quentin P. Johnson, P. E.,
Vice President

QPJ:sed
encl

**THE HAMILTON FISH
NEWBURGH-BEACON BRIDGE
(SOUTH SPAN)**

2024

MAINTENANCE INSPECTION REPORT

for the

NEW YORK STATE BRIDGE AUTHORITY

by

**MODJESKI AND MASTERS, Inc.
Consulting Engineers
Poughkeepsie, New York**



**THE HAMILTON FISH
NEWBURGH-BEACON BRIDGE
(SOUTH SPAN)**

2024 MAINTENANCE INSPECTION REPORT

INTRODUCTION

The following report presents the findings, conclusions, and maintenance recommendations resulting from the 2024 Maintenance Inspection of the Newburgh-Beacon Bridge (South Span). The structure spans over the Hudson River and carries Eastbound U. S. Interstate Route 84 from Newburgh, New York to Beacon, New York (see Photographs 1 through 4). The inspection was conducted using a number of different types of specialized equipment and inspection techniques which are discussed in the following text. The inspection scope includes all Route 84 Eastbound approach roadways from the Route 84 Eastbound on-ramp from Route 9W to the Route 84 Eastbound off-ramp to Route 9G. The Balmville overpass, the Route 9W overpass, as well as the Route 84 Westbound approach roadways are included in the scope of the Newburgh Beacon Bridge (North Span) Maintenance Inspection.

The bridge was inspected for the New York State Bridge Authority (Authority) and the inspection was conducted in accordance with New York State Department of Transportation (NYSDOT) policies and the National Bridge Inspection Standards (NBIS) of the Federal Highway Administration (FHWA). The bridge inspection occurred from April 22 through May 17 by Messrs. S. E. Darley, P.E. (Team Leader), R. E. Wolfe Wawrzynek, L. A. Romanoski, E.I.T, W. R. Bolt, P.E., S. A. Yinger, P.E., M.J. Fyrster, E.I.T of Modjeski and Masters; in conjunction with W. Illig from Lu Engineer Associates and J. Davilus of Hayduk Engineering LLC.

The substructure units were inspected from the ground, maintenance walkways, pier tops, and bottom chords (see Photograph 5). The bases of the concrete piers surrounded by water (Piers 3 through 13) were inspected from the pier tops and utilizing the fixed ladders. A boat was not utilized during the 2024 Maintenance Inspection and the deficiencies listed for the bases of the river piers are carried over from the 2023 Biennial Inspection. The superstructure was inspected from the truss top and bottom chords, maintenance walkways, pier tops, roadway, pedestrian walkway, and through the use of specialized access equipment. The bridge roadway and the pedestrian walkway were inspected by walking the topsides of the roadway and walkway.

The under-bridge inspection vehicle, an Aspen Aerials Reach-All Model A62, was utilized to access the underside of the deck and floor system in the deck truss spans and girder spans, upper portions of the deck truss metalwork, and selected portions of the through-truss floor system and truss metalwork near deck level. 30' and 50' bucket trucks were utilized to inspect the light standards, sign and signal structures, portions of the through truss span members above the roadway, and portions of the girder spans metalwork. The under-bridge inspection vehicle and operator was provided by Campbell Engineering Services. The bucket trucks and general traffic control were provided by the Authority.

The 2024 Maintenance Inspection report consists of the general and specific findings supplemented with photographs located in the text of the report, inspection plans with expansion readings located in Appendix A, and deficiency tables located in Appendix B. Recommended monitoring activities, maintenance tasks and repairs resulting from the inspection, and items carried

over from previous inspections are located in the "Conclusions and Recommendations" section of the report text.

Non-redundant steel tension members (NSTM's) are discussed in the "Details or Situations Requiring Special Attention During Inspection" section of the report text. Additionally, the NSTM's are identified on Drawing No. 6 in Appendix A.

The following descriptions are used throughout the report to rate the condition of the various bridge elements and in some cases, describe the general category of maintenance or repair required:

RATING	DESCRIPTION	MAINTENANCE/REPAIR CATEGORY
Very Good	No noteworthy deficiencies	No maintenance required
Good	Some minor deficiencies	Minor maintenance required
Satisfactory	Structural elements have minor deterioration	Maintenance required
Fair	Primary structural elements are sound, but may have moderate deterioration, section loss, cracking or spalling	Major maintenance/repair required
Poor	Advanced deterioration, section loss, cracking or spalling	Major repair/rehabilitation required
Serious	Deterioration has seriously affected primary structural components	Repair or rehabilitation required immediately

LEVELS OF STEEL SURFACE CORROSION	
Minor	Lack of paint and a fine layer of corrosion that can be removed by rubbing with a cloth
Moderate	Lack of paint and a layer of corrosion that can be removed by light wire brushing
Significant	Lack of paint and a layer of corrosion that shows separation from the metal surface, but no appreciable section loss
Severe	Lack of paint and a layer of corrosion that shows separation from the surface, and loss of section are evident

CONDITIONS OF THE UNPAINTED WEATHERING STEEL SURFACES	
Good	Patina or mill scale exists on the surface providing good protection
Abnormal	Minor to severe section loss has occurred on the surface, causing flaking or laminar corrosion product

FASTENER DEFICIENCY DESCRIPTIONS	
Loose Bolt	bolt or nut can be moved by hand
Untax Bolt	bolt head or nuts are not completely bearing on the steel of the connection, but the shank of the bolt is tight in the hole
Short Bolt	shaft of the bolt is too short to fully engage all of the threads of the nut
Defective Rivet	may indicate a rivet head is not flush with the steel, but the shank of the rivet is tight in the hole

Concrete is defined as unsound or delaminated if it is hollow sounding when struck with a hammer. This condition is generally characterized by cracking or voids in the underlying concrete down to the level of the reinforcing steel.

Submitted to: New York State Bridge Authority
P. O. Box 1010
Highland, NY 12528-0010

Submitted by:
Modjeski and Masters, Inc.
301 Manchester Road, Suite 102, Poughkeepsie, NY



2024 MAINTENANCE INSPECTION REPORT
NEWBURGH BEACON BRIDGE (NORTH SPAN)
OVER THE HUDSON RIVER
Newburgh | New York
Beacon | New York
SEPTEMBER 2024





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9/9/2024

Dr. Minosca Alcantara, Executive Director
New York State Bridge Authority
P. O. Box 1010
Highland, New York 12528-0010

RE: PN4741.24
THE HAMILTON FISH NEWBURGH-BEACON BRIDGE (NORTH SPAN)
2024 Maintenance Inspection

Dear Dr. Alcantara:

Transmitted herewith is one electronic (pdf) copy of our report covering the 2024 Maintenance Inspection of the Newburgh-Beacon Bridge (North Span). The report also includes the findings of the Balmville Road Bridge, the Route 9W Overpass Structure and the Route 84 Westbound approach roadways to/from the main bridge. The inspection was performed in accordance with our Engineering Services Agreement BA 2023-RE-103-ES.

The Newburgh-Beacon Bridge (North Span) is in generally satisfactory condition (General recommendation = 5). Since the 2023 Biennial Inspection, numerous items of maintenance and repair have been performed by contract forces or Authority maintenance forces. These items are listed in the report.

During the 2024 Maintenance Inspection, the deck replacement project under Contract BA-2018-RE-110-CM was completed. The new bridge deck, wearing surfaces, parapets and sign gantries installed along the length of the bridge are in good condition with minor deficiencies noted. Portions of the through truss metalwork near the splash zones of the roadway were cleaned, painted and numerous steel repairs were performed as part of the deck replacement project.

The paint coating along the length of the bridge applied between 2010 and 2014 remains in overall good condition; however, there are numerous isolated paint failures typically found throughout the through truss metalwork at and below roadway level as well as at the lower truss joints of the deck truss spans. The isolated areas of paint failures exhibit minor to severe areas of corrosion. These locations should be addressed with a spot cleaning and painting program to arrest the areas noted with active corrosion and steel repairs should be performed at the locations noted with significant section loss.

Other items that require attention include: replacing the components of the light standards noted with significant cracking, addressing the areas of erosion adjacent to the land-based piers (Piers W1 and 15), monitoring and repairing isolated areas of section loss throughout the deck truss and through truss spans, addressing the over expanded Span 7 girder rocker bearings at Pier 1, replacing loose, missing or defective fasteners, removal of dirt and debris from the finger joint troughs and truss joints, and addressing deficiencies associated with the electrical and lighting systems.

The Balmville Overpass structure is in overall satisfactory condition (General Recommendation = 5). Areas that require attention include the areas of unsound and spalled concrete at the girder

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Dr. Minosca Alcantara

- 2 -

9/9/2024

pedestals, isolated areas of spalling and potholes in and adjacent to the abutment deck joints and approach slabs, deterioration of deck joint compression seals and joint armor angles, and settlement of the approach sidewalks. The areas exhibiting significant cracking along the top cap of the southwest retaining wall were being addressed during the 2024 Maintenance Inspection.

A rehabilitation of the Route 9W Overpass structure was performed in 2019 to 2020 under Contract BA-2016-RE-102-CM. The Route 9W Overpass structure is in overall good condition (General Recommendation = 6); however, there are deficiencies that require attention. These deficiencies include, but are not limited to, areas of deterioration of Piers 1 and 2, drainage issues along Route 9W, areas of minor leakage at the joints, and the deficiencies noted throughout the fencing enclosures. Priority should be given to the leaning sections of fencing along Route 9W.

The 2024 Maintenance Inspection findings are discussed in the report, and recommendations for maintenance and repairs are listed at the end of the text.

This report is based upon examinations and studies at the times and in the manner herein discussed. The nature of the undertaking does not permit assurance that there may not be latent or hidden defects in the condition of the members, lack of uniformity in the quality of the materials used or detrimental occurrences subsequent to the inspection. No responsibility can, therefore, be assumed for lack of integrity of the structure from unpredictable causes or those beyond the scope of the inspection and report.

If there are any questions concerning the inspection or the contents of our report, please do not hesitate to contact us.

Very truly yours,

Quentin P. Johnson, P. E.,
Vice President

QPJ:sed
encl

**THE HAMILTON FISH
NEWBURGH-BEACON BRIDGE
(NORTH SPAN)**

MAINTENANCE INSPECTION REPORT

2024

for the

NEW YORK STATE BRIDGE AUTHORITY

by

**MODJESKI AND MASTERS, P. C.
Consulting Engineers
Poughkeepsie, New York**



**THE HAMILTON FISH
NEWBURGH-BEACON BRIDGE
(NORTH SPAN)**

2024 MAINTENANCE INSPECTION REPORT

INTRODUCTION

This report details the findings, conclusions and maintenance recommendations resulting from the 2024 Maintenance Inspection of the Newburgh-Beacon Bridge North Span (see Photographs 1 through 6), as well as the Balmville Road Overpass Structure (see Photograph 7), and the Route 9W Overpass Structure (see Photograph 8). The Newburgh-Beacon Bridge (North Span) carries U. S. Interstate Route 84 westbound traffic over the Hudson River between Beacon and Newburgh, New York.

The 2024 Maintenance Inspection was conducted for the Authority in order to update items of maintenance for the Authority's maintenance program. The inspection was performed by Messrs. S. E. Darley, P.E. (Team Leader), R. E. Wolfe Wawrzynek, L. A. Romanoski, E.I.T, W. R. Bolt, P.E., S. A. Yinger, P.E. of Modjeski and Masters; W. Illig and K. Seely, PE from Lu Engineer Associates and J. Davilus of Hayduk Engineering LLC. during the period of April 8, 2024, through July 3, 2024.

The exposed portions of the reinforced concrete substructure units were inspected from the truss members, maintenance walkway, and ground level. The superstructure was inspected from the truss top and bottom chords, maintenance walkway, access equipment and the ground (see Photograph 9). The bridge roadway wearing surface and parapets were inspected by walking the westbound lanes of the deck from abutment-to-abutment. The east approach was inspected by walking between the east abutment and the Route 9D Overpass Structure. The west approach was inspected by walking between the west abutment and the Route 9W Overpass Structure.

Underbridge Inspection Vehicles (Model Aspen Aerials A-62) were provided by the Authority and Campbell Engineering Support Services (Campbell) of Bethpage, NY, which were used to access the upper portions of the truss metalwork, members of the floor system and the deck underside in the deck truss spans; the floor system members and truss members located near roadway level of the through-truss spans; and the girders, floor system and deck underside in the girder and multi-stringer approach spans. Operators and traffic control were provided by both the Authority and Campbell Engineering Services.

The Authority's 35' and 50' bucket trucks were used to access select light standards and sign/signal structures throughout the approach roadways and the main bridge. The 35' bucket truck was also utilized to access the substructure, superstructure and deck underside of the Balmville Overpass and portions of the west approach multi-stringer spans. Equipment, operators, and traffic control for the bucket trucks were provided by the Authority.

General and specific findings are presented in the report text and are supplemented with photographs to illustrate the conditions. The text of this report is also supplemented with deficiency tables included in Appendix B of this report. Conclusions and recommendations for repair and maintenance, and monitoring activities, including items carried over from previous inspections are included in the Conclusions and Recommendations portion of the report.

Appendix A of this report includes a location map and inspection drawings of the main bridge, the Route 9W Overpass Structure and the Balmville Road Bridge, as well as various measurements taken at the expansion points of all three structures. The spans of the main bridge

and Route 9W Overpass Structure are numbered west-to-east as prescribed by the New York State Department of Transportation (NYSDOT). An illustration including the span numbers can be found in Drawing 1 of Appendix A. New deficiencies, or ones that have changed since the previous inspection will appear in bold type within the tables of this report and the deficiency tables included in Appendix B.

For reference purposes, the stringers and beams of the main bridge and the Route 9W Overpass Structure are numbered from north-to-south; and the girders of the Balmville Road Structure are numbered east-to-west.

The following terms are used throughout the report to describe the condition of various bridge elements, and in some cases, to categorize the level of maintenance or repair required:

RATING	DESCRIPTION	MAINTENANCE/REPAIR CATEGORY
Very Good	No noteworthy deficiencies	No maintenance required
Good	Some minor deficiencies	Minor maintenance required
Satisfactory	Structural elements have minor deterioration	Maintenance required
Fair	Primary structural elements are sound, but may have moderate deterioration, section loss, cracking or spalling	Major maintenance/repair required
Poor	Advanced deterioration, section loss, cracking or spalling	Major repair/rehabilitation required
Serious	Deterioration has seriously affected primary structural components	Repair or rehabilitation required immediately

LEVELS OF STEEL SURFACE CORROSION	
Minor	Lack of paint and a fine layer of corrosion that can be removed by rubbing with a cloth
Moderate	Lack of paint and a layer of corrosion that can be removed by light wire brushing
Significant	Lack of paint and a layer of corrosion that shows separation from the metal surface, but no appreciable section loss
Severe	Lack of paint and a layer of corrosion that shows separation from the surface, and loss of section are evident

FASTENER DEFICIENCY DESCRIPTIONS	
Loose Bolt	Bolt or nut can be moved by hand
Untight Bolt	Bolt head or nuts are not completely bearing on the steel of the connection, but the shank of the bolt is tight in the hole
Short Bolt	Shaft of the bolt is too short to fully engage all of the threads of the nut
Defective Rivet	A rivet head is not flush with the steel, but the shank of the rivet is tight in the hole

Concrete is defined as unsound or delaminated if it is hollow sounding when struck with a hammer. This condition is generally characterized by cracking or voids in the underlying concrete down to the level of the reinforcing steel.

Submitted to: New York State Bridge Authority
P. O. Box 1010
Highland, NY 12528-0010

Submitted by:
Modjeski and Masters, Inc.
301 Manchester Road, Suite 102, Poughkeepsie, NY



2024 BIENNIAL INSPECTION REPORT

MID-HUDSON BRIDGE

OVER THE HUDSON RIVER

Highland | New York
Poughkeepsie | New York

SEPTEMBER 2024



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9/6/2024

Dr. Minosca Alcantara, Executive Director
New York State Bridge Authority
P. O. Box 1010
Highland, NY 12528-0010

RE: PN4742.24
THE FRANKLIN D. ROOSEVELT MID-HUDSON BRIDGE
2024 Biennial Inspection

Dear Dr. Alcantara:

Transmitted herewith is one electronic (pdf) copy of our report covering the 2024 Biennial Inspection of the Mid-Hudson Bridge. The inspection was performed in accordance with our Engineering Services Agreement BA 2023-OE-1051-ES.

The main suspension bridge and the associated east approach structures are in overall satisfactory condition (General Recommendation = 5); however, there are isolated locations noted with moderate to significant deterioration. Maintenance and/or repair items that have been addressed since the 2023 Maintenance Inspection are listed at the beginning of the report.

Many of the deficiencies present throughout the various bridge components can be addressed by Authority maintenance forces; however, there continues to be an increasing number of deficiencies noted that will likely need to be addressed by contract forces. Typical deficiencies include isolated areas with minor-to-moderate corrosion and section loss, minor to moderate cracking and spalling, fastener deficiencies and deficiencies associated with the wearing surface, deck joints, light standards, signage, fencing, guide railings, roadway drainage and paint protection. Isolated locations exhibiting more significant deficiencies are discussed in the following text and should be addressed on a priority basis. At the east roadway joint of the Rinaldi Boulevard Structure, there are areas exhibiting moderate to significant deterioration in the floor system metalwork and deck adjacent to the joint. Currently, there is contract work being performed to address the areas of deterioration along the southern half of the joint which encompass the deficiencies listed in Load Rating Red Flag 8B244ZW001 and Yellow Flag 8B244ZW002. At the Gerald Drive Structure, there continues to be significant scaling and spalling present on the east and west backwalls. Yellow Flag 8B244ZW003 was issued due to the significant scaling and spalling on the top portion of the east abutment backwall that is undermining the steel joint plates near the north end of the joint. Furthermore, the deck at the Gerald Drive Structure is in poor condition and numerous areas of delaminated and loose concrete needed to be removed during the 2024 Biennial Inspection. The deck of the main suspended spans exhibits an increasing number of locations noted with vertical pumping of the deck panels due to the cracked connection welds between the deck, steel haunch angles and top flanges of the stringers and diaphragms. The wearing surface of the east approach roadway continues to exhibit an increase in the size and number of areas noted with significant cracking,

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depressed asphalt and deteriorating patches. There also continues to be an increase in the areas noted with large areas of spalling with exposed and corroded reinforcing steel on the undersides of the deck slabs within the viaduct spans of the east approach. The remaining areas exhibiting more significant deficiencies include the locations noted with severely corroded steel grating at the fixed platforms located adjacent to the abutments and towers of the suspended spans; shifted bearing plates for Stringer 2W at Pier 15 of the South Widening Structure between Gerald Drive and South Water Street; and the light standards with significant impact damage and/or cracking along the west approach roadways listed within the report.

Items of the main bridge that should continue to receive attention include annual rinsing and removal of dirt and debris found along the lower portions of the stiffening truss metalwork, tower metalwork, drainage troughs of the finger joints, and along the shoulders of the roadways. Other maintenance items include, but are not limited to, greasing the stringer and truss expansion bearings, replacing deficient fasteners, periodically inspect and remove any loose areas of concrete from the underside of the decks and sidewalk, cleaning and painting isolated areas of paint failures on the superstructure metalwork and addressing noted deficiencies throughout the approach roadways, light standards and electrical components.

In general, the condition of the paint system is in satisfactory condition with the locations of paint failures and active corrosion located at and below the "splash zone" of the roadway, and below the joints of the east approach structures. These areas typically exhibit minor to moderate section loss, advanced crevice corrosion and isolated corrosion holes. The Authority should prioritize their spot painting efforts to address the locations noted with the most significant areas of deterioration, and consideration should be given to issuing a contract to perform blast cleaning and painting in the areas noted with the most significant paint failures.

The 2024 Biennial Inspection findings are discussed in the report, and recommendations for maintenance and repairs are listed at the end of the text.

This report is based upon examinations and studies, at the times and in the manner herein discussed. The nature of the undertaking does not permit assurance that there may not be latent or hidden defects in the condition of the members, lack of uniformity in the quality of the materials used or detrimental occurrences subsequent to the inspection. No responsibility can, therefore, be assumed for lack of integrity of the structure from unpredictable causes or those beyond the scope of the inspection and report.

Should any questions arise concerning the inspection or the contents of this report, please do not hesitate to contact us.

Very truly yours,

Quentin P. Johnson, P. E.,
Vice President

QPJ:sed

encl.

**MID-HUDSON BRIDGE
BIENNIAL INSPECTION REPORT
2024**

**for the
NEW YORK STATE BRIDGE AUTHORITY
by
MODJESKI AND MASTERS, P. C.
Consulting Engineers
Poughkeepsie, New York**

THE FRANKLIN D. ROOSEVELT
MID-HUDSON BRIDGE
2024 BIENNIAL INSPECTION REPORT

INTRODUCTION

This report presents findings, conclusions and maintenance recommendations resulting from the Mid-Hudson Bridge 2024 Biennial Inspection. The Mid-Hudson Bridge carries U. S. Routes 44 and 55 over the Hudson River between Highland, New York, and Poughkeepsie, New York (see Photograph 1).

The inspection was performed for the New York State Bridge Authority (Authority) during the period of April 22 through June 7, 2024, by Messrs. S. E. Darley, P. E. (Team Leader) and L. A. Romanoski, E.I.T of Modjeski and Masters, Inc in conjunction with P. Valente, P.E.; W. Illig and B. Durdaller from Lu Engineer Associates and J. Davilus of Hayduk Engineering LLC. The 2024 Biennial Inspection was completed in accordance with the policies of the New York State Department of Transportation (NYSDOT) and the guidelines of the National Bridge Inspection Standards (NBIS) of the Federal Highway Administration (FHWA).

The inspection includes an examination of the Route 9W Overpass Structure (see Photograph 2), the west approach roadway and ramps, the east approach roadway and ramps, the east approach structures and all elements of the main suspension bridge. The east approach structures include the following: the Gerald Drive Structure, three Masonry Viaducts, South Water Street Structure, Rinaldi Boulevard Structure, Railroad Arch Structure, Route 9 Southbound Structure and the north and south widening beam spans (see Photographs 3 through 14).

The approach roadways and structures were accessed using the Authority's equipment, ladders, walking and climbing. The Authority's bucket trucks were utilized to access the light standards on the main bridge and throughout the east and west approach roadways; the Route 9W Overpass; the stiffening truss top chords; and various portions of the structures throughout the east approach. The floor system and lower portion of the stiffening truss of the main bridge were inspected utilizing the available maintenance travelers operated by the Authority. The upper portions of the stiffening truss and lower suspender rope connections were accessed utilizing a ladder from the pedestrian sidewalks and utilizing the Authority's bucket truck with lane daytime closures. The main bridge cables were accessed by walking and climbing. The vertical faces of the tower piers were inspected utilizing a boat provided by the Authority.

The most recent underwater inspection of the tower piers was performed in 2022 by W.J. Castle, PE and Associates, P.C. Underwater inspection should be performed once every five years; thus, the next underwater inspection should be performed in 2027. Findings from the 2022 Underwater Inspection report can be found in the report submitted separately by W.J. Castle, PE and Associates, P.C.

The findings of the 2024 Biennial Inspection, both general and specific are included throughout this report. These findings are supplemented with representative photographs, tables and drawings to illustrate and define conditions observed during the inspection. Conclusions and maintenance and repair recommendations can be found at the end of the report text.

Illustrations of the structures comprising the main bridge and the Route 9 Overpass can be found in Appendix A, in Drawing Numbers 1 through 7. Span numbers, designated by the

NYS DOT, used throughout this report can be found in Drawings 1 and 2 in Appendix A. Drawing No. 2 also includes ramp designations, and a numbering diagram for the approach light standards. Tables 1 through 3 of Appendix B of this report contain expansion dam measurement tables. Tables 4 through 15 of Appendix B detail specific deficiencies to supplement the text portion of this report. Bold text used throughout the tables of this report is used to identify new deficiencies, or ones that have changed since previous inspections.

The following descriptions are used throughout this report to rate the condition of the various bridge components and the general category of maintenance or repair required:

RATING	DESCRIPTION	MAINTENANCE/REPAIR CATEGORY
Very Good	No noteworthy deficiencies	No maintenance required
Good	Some minor deficiencies	Minor maintenance required
Satisfactory	Structural elements have minor deterioration	Maintenance required
Fair	Primary structural elements are sound, but may have moderate deterioration, section loss, cracking or spalling	Major maintenance/repair required
Poor	Advanced deterioration, section loss, cracking or spalling	Major repair/rehabilitation required
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Short Bolt	shaft of the bolt is too short to fully engage all of the threads of the nut
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Concrete is defined as "unsound" or "delaminated" when striking it with a hammer produces a hollow sound. This condition is generally characterized by cracking or voids that extend to the level of the steel reinforcement.

Submitted to:
New York State Bridge Authority
P. O. Box 1010
Highland, NY 12528-0010

Submitted by:
Modjeski and Masters, Inc.
301 Manchester Road, Suite 102
Poughkeepsie, NY 12603-2585



2024 MAINTENANCE INSPECTION REPORT

KINGSTON-RHINECLIFF BRIDGE

OVER THE HUDSON RIVER

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Rhinecliff | New York

SEPTEMBER 2024



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9/9/2024

Minosca Alcantara, Executive Director
New York State Bridge Authority
P. O. Box 1010
Highland, New York 12528-0010

RE: PN 4741.24
KINGSTON-RHINECLIFF BRIDGE
2024 Maintenance Inspection

Dear Dr. Alcantara:

Transmitted herewith is one electronic (pdf) copy of our report covering the 2024 Maintenance Inspection of the Kingston-Rhinecliff Bridge. The inspection was performed in accordance with our Engineering Services Agreement BA 2023-RE-103-ES.

The Kingston-Rhinecliff Bridge is in satisfactory condition (General recommendation = 5). Many of the findings and recommendations continue to be minor in nature and should be able to be handled by Authority maintenance forces; however, there are additional findings that will need to be addressed by contract forces. The most significant findings include out-of-plumb/misaligned fascia stringers with broken anchor bolts at the east abutment, the widespread areas of cracking, spalling and deterioration on the substructure units throughout the east and west right-of-ways, areas of significant cracking and spalling on the top and outboard sides of the parapets, the isolated locations with significant corrosion and section loss of the pier access hatches, access platforms, staircases and support metalwork, and the light standards exhibiting areas of cracking greater than 1/2" in length.

Items of maintenance and repair performed by the bridge maintenance forces or by contract forces since the 2023 Biennial Inspection are listed in the report. The 2024 Maintenance Inspection findings are discussed in the report, and recommendations for maintenance and repairs are listed at the end of the text.

This report is based upon examinations and studies at the time and in the manner herein discussed. The nature of the undertaking does not permit assurance that there may not be latent or hidden defects in the condition of the members, lack of uniformity in the quality of the materials used or detrimental occurrences from unpredictable causes or those beyond the scope of the inspection and report.

If there are any questions concerning the inspection or the contents of this report, please do not hesitate to contact us.

Very truly yours,

Quentin P. Johnson, P. E.,
Vice President

QPJ:sed
encl

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**KINGSTON-RHINECLIFF BRIDGE
MAINTENANCE INSPECTION REPORT**

2024

**for the
NEW YORK STATE BRIDGE AUTHORITY**

by

**MODJESKI AND MASTERS, Inc.
Consulting Engineers
Poughkeepsie, New York**

KINGSTON-RHINECLIFF BRIDGE
2024 MAINTENANCE INSPECTION REPORT

INTRODUCTION

The 2024 Maintenance Inspection was performed for the New York State Bridge Authority (Authority) on the Kingston-Rhinecliff Bridge during the period of April 15 through July 18, 2024. The inspection was performed according to the policies of the New York State Department of Transportation (NYSDOT) and under the guidelines of the National Bridge Inspection Standards of the Federal Highway Administration by Messrs. Seth E. Darley, P.E. (Team Leader), Shawn A. Yinger, P.E., and Reed E. Wolfe Wawrzynek of Modjeski and Masters, Inc. (MM) in conjunction with Will Illig from Lu Engineer Associates.

This report presents the general and specific inspection findings and maintenance repair recommendations for the main bridge, the east and west approach spans, the bridge right-of-way on each side of the river, and the east and west approach roadways. The main bridge consists of the spans between Piers 12 and 22 (see Photographs 1 and 2). The west approach girder spans are located between the West Abutment and Pier 12 (see Photograph 3). The east approach girder spans are located between Pier 22 and the East Abutment. The west approach roadway (Route 199) extends from the West Abutment to the Route 32 overpass structure. The east approach roadway (Route 199) extends from the East Abutment to the Route 9G intersection.

The exposed upper portions of the substructure units were inspected from the pier tops, Underbridge Inspection Unit (Aspen Aerial A-62), and from the ground. The lower portions of the land-based piers were inspected by walking at ground level. The bases and interiors of the water-based piers were not included in the scope of the 2024 Maintenance Inspection. The superstructure was examined from the maintenance walkway, pier tops, main span deck truss bottom chords, and Underbridge Inspection Unit (see Photograph 4). The bridge roadway and the east and west approach roadways (Route 199) were inspected by walking between Routes 32 and 9G. Select light standards on the bridge and approach roadways were inspected with the use of a 35' bucket truck provided by the Authority.

An Underbridge Inspection Vehicle was utilized to access the girders, floor system, and deck underside of the east girder spans, as well as, the floor system, upper portions of the deck truss metalwork, and deck underside of the deck truss spans. An Aspen Aerial A-62 was provided by Campbell Engineering Services to perform the work. Due to the ongoing painting contract, the west approach girder spans were accessed utilizing the catwalks and climbing the top surfaces of the pier caps. Maintenance and protection of traffic was also provided by the Authority.

A location map, inspection plans, and expansion readings are located in Appendix A of this report. The expansion dam readings are recorded and attached in Table 1 of Appendix A. The expansion pot bearing readings for the east approach spans are recorded in Table 2 of Appendix A. Table 2 also includes the expansion pot bearing readings at Piers 13 (west rockers), 16 (west rockers), 18 (east rockers), and 21 (east rockers).

The orientation of the bridge is west (Span 1) to east (Span 31). The girders and stringers are numbered from north-to-south.

The terminology and descriptions presented in the following tables and text are used throughout the report to rate the condition of the deficiencies found on various bridge components and the general category of maintenance or repair required.

RATING	DESCRIPTION	MAINTENANCE/REPAIR CATEGORY
Very Good	No noteworthy deficiencies	No maintenance required
Good	Some minor deficiencies	Minor maintenance required
Satisfactory	Structural elements have minor deterioration	Maintenance required
Fair	Primary structural elements are sound, but may have moderate deterioration, section loss, cracking or spalling	Major maintenance/repair required
Poor	Advanced deterioration, section loss, cracking or spalling	Major repair/rehabilitation required
Serious	Deterioration has seriously affected primary structural components	Repair or rehabilitation required immediately

LEVELS OF STEEL SURFACE CORROSION	
Minor	Lack of paint and a fine layer of corrosion that can be removed by rubbing with a cloth
Moderate	Lack of paint and a layer of corrosion that can be removed by light wire brushing
Significant	Lack of paint and a layer of corrosion that shows separation from the metal surface, but no appreciable section loss
Severe	Lack of paint and a layer of corrosion that shows separation from the surface, and loss of section are evident

Other descriptive nomenclature used throughout the report are as follows: Concrete is defined as unsound or delaminated if it is hollow-sounding when struck with a hammer, and is generally characterized by cracking or voids in the underlying concrete down to the level of the reinforcing steel. Bolt deficiencies are described in the report as either "loose" (the bolt can be moved by hand), "untight" (the bolt head or nut is not bearing on the steel of the connection but the bolt cannot be moved by hand), or "short" (the shaft of the bolt is too short to fully engage all of the threads of the nut on the bolt). A rivet that is described as "loose" means that the rivet is loose in the hole or the head of the rivet does not fully bear on the member.

2024 BIENNIAL INSPECTION REPORT

RIP VAN WINKLE BRIDGE over the Hudson River

BIN 5017820

Catskill, NY
Hudson, NY

September 2024

Prepared for:

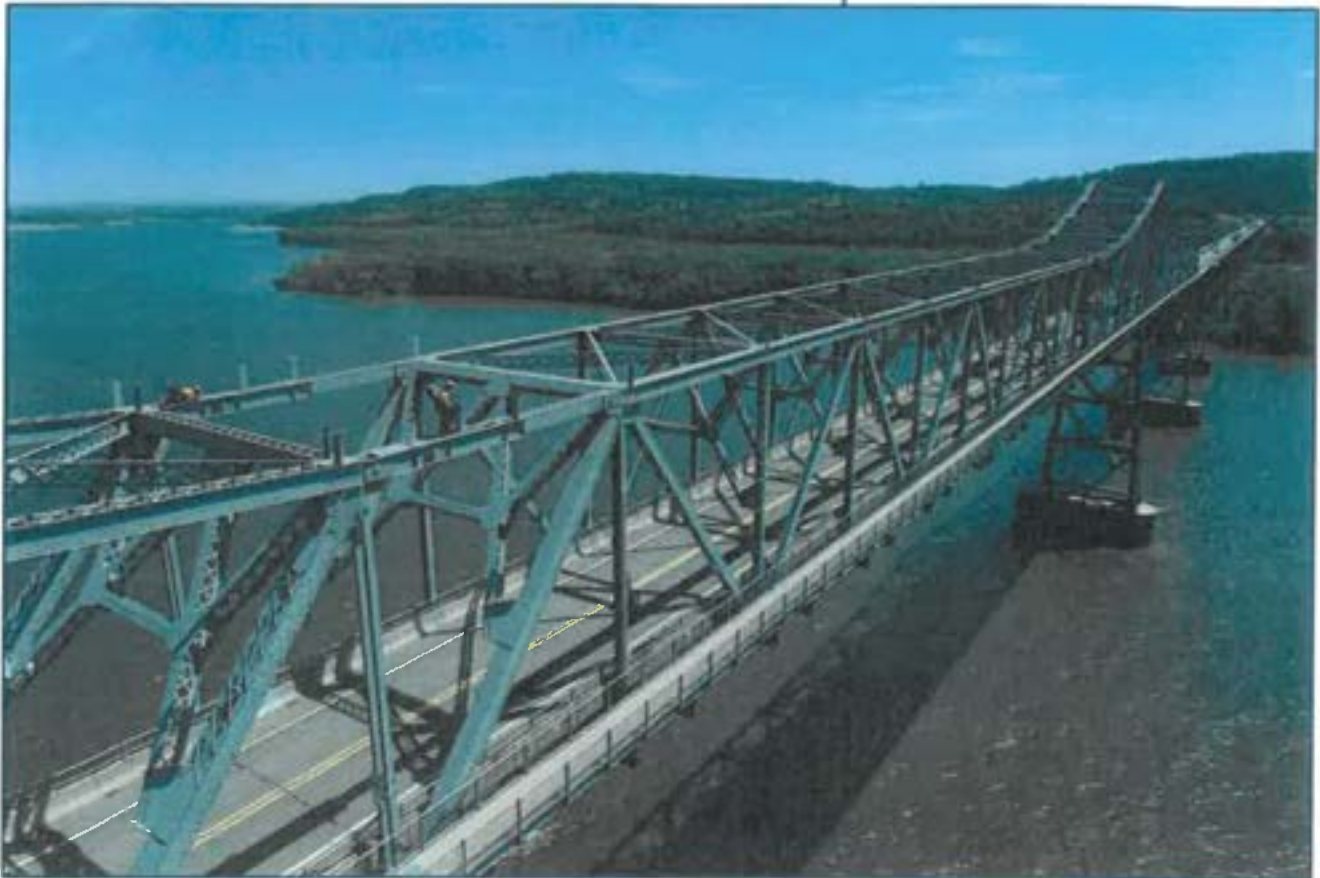


*P.O. Box 1010
Highland, NY 12528-0010*

Submitted by:



*112 Delafield St,
Poughkeepsie, NY 12601*



Section 1

Introduction

This report presents the inspection findings and repair recommendations for the through-truss, deck truss, east girders, abutment chambers, and the east and west approach roadways/right-of-way's, and serves as the 2024 Biennial Inspection for the Rip Van Winkle bridge.

This bridge carries New York State Route 23 (one traffic lane in each direction as well as a pedestrian walkway) (Photo 1 and Photo 2), which spans over the Hudson River and Amtrak/CSX, and has a total of 18 spans as follows:

Span 1 is referred to as the West abutment chamber which is composed prestressed voided slabs (spanning in the longitudinal direction) which is supported by concrete pier caps at the West and East sides, which adjacent concrete walls (Photo 3 and Photo 4). There are concrete walls on the North and South face which are faced with stone. Note: per historical nomenclature used by the Authority and subsequent inspections, these piers are not numbered (i.e. Pier 1 starts at the end of Span 2).

Spans 2 to 4 (Panel Points 0-40) is the main span through truss which is supported by the West abutment chamber and Piers 1 to 3 (steel towers on concrete piers) (Photo 5). The middle half of the through truss in Span 3 is a suspended span which is supported by pin and hangers connected to the cantilever arm trusses (outer quarter of Span 3) and anchor arm trusses (Spans 2 and 4) (Photo 6). The steel truss supports floorbeams, stringers and a concrete deck (Photo 7 and Photo 8). There is a walkway to the south of the bridge, which is supported by cantilever beams, supported by the deck stringers.

Spans 5 to 14 (Panel Points 40 to 157) is the approach span deck truss which is supported by Piers 3 to 13 (steel towers on concrete piers or columns) (Photo 9). The middle halves of Spans 6, 8, 10, 12 are suspended spans supported by pin and hangers, similar to Spans 2 to 4. The steel truss supports floorbeams, stringers and a concrete deck (Photo 10). There is a walkway to the south of the bridge, which is supported by cantilever beams, supported by the deck stringers.

Spans 15 and 16 are referred to as the East Girder spans. These spans consist of simply supported steel twin girders, supporting floorbeams and a concrete deck (Photo 11). There is a walkway to the south of the bridge, which is supported by cantilever beams, supported by the steel girders.

Spans 17 and 18 are referred to as the East abutment chamber which is composed of prestressed solid slab units (spanning in the transverse direction) which are supported by two longitudinal pier caps (1/3 points) and two concrete walls on the North and South side (faced with stones) (Photo 12). There are also transverse pier caps (at the West and East sides of the chamber) with adjacent concrete walls.

The west approach roadway extends from the intersection of Route 23 & Route 385 to the west end of the bridge (Photo 13). The east approach extends from the intersection of Route 23 & Route 9G, and includes a traffic circle, five infield areas, and a 25-space parking area (Photo 14).

The orientation of the bridge is west (Span 1) to east (Span 18). The stringers are numbered from north-to-south.

This Biennial Inspection was performed for the New York State Bridge Authority (Authority) on the Rip Van Winkle Bridge between 4/16/2024 and 8/21/2024. The inspection was performed according to the policies of the New York State Department of Transportation (NYSDOT) and under the guidelines of the National Bridge Inspection Standards of the Federal Highway Administration. The following consultant team members were used to inspect the bridge:

Table 1-1 Inspection Staff

NAME	POSITION	FIRM	INSPECTION LOCATIONS
Sean P. Doyle	Team Leader (of Record)	CDM Smith	Through Truss Superstructure, Deck Truss Superstructure, East Girder Spans, Approaches
Emmanuel De Jesus	Team Leader	CDM Smith	Deck Truss Bottom Chord, Towers and Piers 1 to 3
Curtis Cohen	Team Leader	JUNMA Engineering	Deck Truss Superstructure, Abutment Chambers, Light Standards
Joshua Villafane	Assistant Team Leader	CDM Smith	Through Truss Superstructure
Michael Tankersley	Assistant Team Leader	CDM Smith	Deck Truss Bottom Chord, Towers and Piers 1 to 3
Laith Qurreh	Rope Access Technician	CDM Smith	Towers and Piers 1 to 12
Tim Ball	Rope Access Technician	MISTRAS	Towers and Piers 1 to 12

1.1 Inspection Access

Access and equipment for the 2024 Biennial Inspection of the Rip Van Winkle were generally coordinated through the Authority. All equipment, operators, and traffic control for the under-bridge inspection vehicles, bucket truck, and boat were provided by the Authority.

To perform inspection of the bridge, the following equipment was utilized:

- The Authority’s Under-Bridge Inspection Vehicle (UBIU) (Model A-62) was utilized to access the superstructure (under the deck) and underdeck elements (Photo 15).
- The Authority’s 40’ bucket truck was utilized to assess the condition of the above deck elements in the through truss spans and light standards (Photo 16).
- An 86’ manlift (JLG) was rented from United Rentals to reach the underside of the top chord, verticals and diagonals near Piers 1 and 2 which could not be 100% hands-on inspected from the bucket truck or climbing (Photo 17). It is recommended to use this size manlift for future inspections.
- The through truss top and bottom chords and the deck truss bottom chords were inspected on foot with the use of the Authority’s installed safety lines (Photo 18 and Photo 19).

- The towers and piers were inspected by rappelling from the top of the piers (Photo 20), as well as on foot from pier tops, truss members, access ladders, maintenance walkways and maintenance platforms. The substructure bases surrounded by water were inspected utilizing a boat (provided and operated by the Authority) or by rappelling.
- The Pier 2 and 3 chambers are a permit-required confined space. Ladders (in place by the Authority) were used to enter the chambers.
- Maintenance key from the Authority was utilized to access the enclosed areas such as the abutment chambers and access hatches along the south pedestrian safety walk to access the catwalks.
- The roadway wearing surface, joints, parapets, and pedestrian walkway were inspected on foot.
- All maintenance walkways and access ladders were inspected on foot.
- The West Approach and East Approach Roadways and right-of-way areas were inspected on foot.

A location map and inspection plans are located in Appendix A of this report.

During the inspection Peregrine falcons (near Pier 1) (Photo 21) and an active Ravens nest (at L75S) (Photo 22) were present. Small nests were also located at a few locations within the chords.

1.2 Terminology

The terminology and descriptions presented in the following tables and text are used throughout the report to rate the condition of the deficiencies found on various bridge components and the general category of maintenance or repair required.

Table 1-2 Rating Table

RATING	DESCRIPTION	MAINTENANCE/REPAIR CATEGORY
Very Good	No noteworthy deficiencies	No maintenance required
Good	Some minor deficiencies	Minor maintenance required
Satisfactory	Structural elements have minor deterioration	Maintenance required
Fair	Primary structural elements are sound, but may have moderate deterioration, section loss, cracking or spalling	Major maintenance/repair required
Poor	Advanced deterioration, section loss, cracking or spalling	Major repair/rehabilitation required
Serious	Deterioration has seriously affected primary structural components	Repair or rehabilitation required immediately

Table 1-3 Steel Surface Corrosion

LEVELS OF STEEL SURFACE CORROSION	
Minor	Lack of paint and a fine layer of corrosion that can be removed by rubbing with a cloth
Moderate	Lack of paint and a layer of corrosion that can be removed by light wire brushing
Significant	Lack of paint and a layer of corrosion that shows separation from the metal surface, but no appreciable section loss
Severe	Lack of paint and a layer of corrosion that shows separation from the surface, and loss of section are evident

Other descriptive nomenclature used throughout the report are as follows:

- Concrete is defined as unsound or delaminated if it is hollow-sounding when struck with a hammer, and is generally characterized by cracking or voids in the underlying concrete down to the level of the reinforcing steel.
- Bolt deficiencies are described in the report as either "loose" (the bolt can be moved by hand), "untightened" (the bolt head or nut is not bearing on the steel of the connection but the bolt cannot be moved by hand), or "short" (the shaft of the bolt is too short to fully engage all of the threads of the nut on the bolt).
- Blind hole is defined as a bolt or rivet hole in one member, but not in the other connecting member.
- Fretting is defined as apparent movement between two steel components which may also contribute to deterioration/section loss due to the movement.

**NEW YORK STATE BRIDGE AUTHORITY
General Revenue Bonds, Series 2021A
General Revenue Refunding Bonds, Series 2021B
Continuing Disclosure Statement
For the Year Ended December 31, 2024
Capital Improvement Program**



New York State Bridge Authority Capital Improvement Program

**2025 - 2029
(\$ 000,000's)**

September 12, 2024

FACILITY	2024	PROGRAM YEARS					TOTAL
		2025	2026	2027	2028	2029	
Rip Van Winkle Bridge	\$0.000	\$0.500	\$4.000	\$0.000	\$5.000	\$10.000	\$19.500
Kingston-Rhinecliff Bridge	\$10.830	\$0.750	\$7.000	\$0.000	\$10.000	\$0.000	\$17.750
Mid-Hudson Bridge	\$0.250	\$20.750	\$14.500	\$0.000	\$13.000	\$10.000	\$58.250
Newburgh-Beacon Bridge	\$0.150	\$0.250	\$0.500	\$0.000	\$4.500	\$10.000	\$15.250
Bear Mountain Bridge	\$9.000	\$2.000	\$30.050	\$30.050	\$10.500	\$15.000	\$87.600
Walkway over the Hudson	\$0.000	\$1.500	\$0.000	\$0.000	\$1.000	\$0.000	\$2.500
Systemwide (Engineering)	\$3.000	\$3.200	\$9.200	\$7.400	\$4.750	\$3.350	\$27.900
Systemwide (IT Dept.)	\$1.443	\$4.855	\$0.770	\$1.252	\$0.925	\$0.880	\$8.682
Systemwide (Adminstration)	\$0.050	\$0.065	\$0.050	\$0.050	\$0.050	\$0.050	\$0.265
Operations: AET/CMD/TOLLS	\$1.795	\$7.645	\$3.605	\$1.555	\$8.155	\$1.845	\$22.805
Program Total	\$26.518	\$41.515	\$69.675	\$40.307	\$57.880	\$51.125	\$260.502

Board of Commissioners adopted September 19, 2024

NEW YORK STATE BRIDGE AUTHORITY
General Revenue Bonds, Series 2021A
General Revenue Refunding Bonds, Series 2021B
Continuing Disclosure Statement
For the Year Ended December 31, 2024
Current Toll Schedule Regulations

NEW YORK STATE BRIDGE AUTHORITY

Amend Title 21 NYCRR Section 201.2 entitled "Bridge tolls" to read as follows:

(a) Tolls shall be charged for each vehicle as classified below for each eastbound passage over each of the vehicular bridges controlled by the authority in accordance with the following schedule. Discounted tolls may be offered for fares paid through the E-ZPass electronic toll system provided that such discounted tolls shall expire December 31st of each year, except and to the extent extended annually by the authority. Discounts for fares paid through the E-ZPass electronic toll system are subject to the requirements of section 201.6 of this Part.

<i>Vehicle class</i>	<i>Vehicle description</i>	<i>Axles</i>	<i>Standard toll</i>	<i>E-ZPass discounted toll</i>
1L.	All vehicles with two or fewer axles, <u>nothing in tow, and a height of less than 7' 6" (non-commercial class)</u>	2	[\$1.50] \$1.75 effective on the effective date of this rule; \$1.75 effective May 1, 2021; \$2.00 effective May 1, 2022; \$2.15 effective May 1, 2023	[\$1.25] \$1.35 effective on the effective date of this rule; \$1.45 effective May 1, 2021; \$1.55 effective May 1, 2022; \$1.65 effective May 1, 2023
2H.	[Two axle v] Vehicles with [more than four tires] <u>two or fewer axles, nothing in tow, and a height of 7' 6" or more</u>	2	[\$5.00] \$6.00 effective on the effective date of this rule; \$6.00 effective May 1, 2021; \$7.00 effective May 1, 2022; \$8.00 effective May 1, 2023	[\$4.50] \$4.90 effective on the effective date of this rule; \$5.30 effective May 1, 2021; \$5.70 effective May 1, 2022; \$6.10 effective May 1, 2023

3H.	[Three axle v] Vehicles or vehicle combinations with three axles and a height 7' 6" or more	3	<p>[\$7.50] <u>\$9.00 effective on the effective date of this rule;</u></p> <p><u>\$9.00 effective May 1, 2021;</u></p> <p><u>\$10.50 effective May 1, 2022;</u></p> <p><u>\$12.00 effective May 1, 2023</u></p>	<p>[\$6.75] <u>\$7.35 effective on the effective date of this rule;</u></p> <p><u>\$7.95 effective May 1, 2021;</u></p> <p><u>\$8.55 effective May 1, 2022;</u></p> <p><u>\$9.15 effective May 1, 2023</u></p>
4H.	[Four-axle v] Vehicles or vehicle combinations with Four or more axles and a height 7' 6" or more	4	<p>[\$10.00] <u>\$12.00 effective on the effective date of this rule;</u></p> <p><u>\$12.00 effective May 1, 2021;</u></p> <p><u>\$14.00 effective May 1, 2022;</u></p> <p><u>\$16.00 effective May 1, 2023</u></p>	<p>[\$9.00] <u>\$9.80 effective on the effective date of this rule;</u></p> <p><u>\$10.60 effective May 1, 2021;</u></p> <p><u>\$11.40 effective May 1, 2022;</u></p> <p><u>\$12.20 effective May 1, 2023</u></p>
5H.	[Five-axle v] Vehicles or Vehicle combinations with 5 axles and a height of 7' 6" or more	5	<p>[\$12.50] <u>\$15.00 effective on the effective date of this rule;</u></p> <p><u>\$15.00 effective May 1, 2021;</u></p> <p><u>\$17.50 effective May 1, 2022;</u></p> <p><u>\$20.00 effective May 1, 2023</u></p>	<p>[\$11.25] <u>\$12.25 effective on the effective date of this rule;</u></p> <p><u>\$13.25 effective May 1, 2021;</u></p> <p><u>\$14.25 effective May 1, 2022;</u></p> <p><u>\$15.25 effective May 1, 2023</u></p>
6H.	[Six-axle v] Vehicles or vehicle combinations with 6 axles and a height of 7' 6" or more	6	<p>[\$15.00] <u>\$18.00 effective on the effective date of this rule;</u></p> <p><u>\$18.00 effective May 1, 2021;</u></p> <p><u>\$21.00 effective May 1, 2022;</u></p> <p><u>\$24.00 effective May 1, 2023</u></p>	<p>[\$13.50] <u>\$14.70 effective on the effective date of this rule;</u></p> <p><u>\$15.90 effective May 1, 2021;</u></p> <p><u>\$17.10 effective May 1, 2022;</u></p> <p><u>\$18.30 effective May 1, 2023</u></p>
7L.	Each additional axle attached to vehicles in	1	<p>[\$1.00] <u>\$1.25 effective on the effective date of this rule;</u></p>	<p>[\$0.90] <u>\$1.00 effective on the effective date of this rule;</u></p>

	class 1L (e.g. attached trailers: non-commercial class)		<u>\$1.25 effective May 1, 2021;</u> <u>\$1.50 effective May 1, 2022;</u> <u>\$1.70 effective May 1, 2023</u>	<u>\$1.10 effective May 1, 2021;</u> <u>\$1.20 effective May 1, 2022;</u> <u>\$1.30 effective May 1, 2023</u>
8H.	Each additional axle on or attached to vehicles in classes [2 through 6] 2H, 3H, 4H, 5H, or 6H	1	[\$2.50] <u>\$3.00 effective on the effective date of this rule;</u> <u>\$3.00 effective May 1, 2021;</u> <u>\$3.50 effective May 1, 2022;</u> <u>\$4.00 effective May 1, 2023</u>	[\$2.25] <u>\$2.45 effective on the effective date of this rule;</u> <u>\$2.65 effective May 1, 2021;</u> <u>\$2.85 effective May 1, 2022;</u> <u>\$3.05 effective May 1, 2023</u>
9.	Commuter discount	2	Not eligible	[As] Subject to the conditions described in section 201.5 of this Part, <u>\$1.10 effective on the effective date of this rule;</u> <u>\$1.20 effective May 1, 2021;</u> <u>\$1.30 effective May 1, 2022;</u> <u>\$1.40 effective May 1, 2023</u>
10.	Reserved			
11.	Vehicles owned and operated by the authority, by authority employees or contractors, and emergency service vehicles or other vehicles		No charge	

	which by law or authority resolution are treated as class 11 vehicles			
12.	Each additional axle on or attached to vehicles in class 11	1	No charge	

(b) Pedestrians and self-propelled bicycles shall not be subject to tolls on bridges and facilities where such access and/or operation is permitted.

Amend Title 21 NYCRR Section 201.5 entitled “Commuter discount” to read as follows:

- (a) The E-ZPass commuter discount shall provide for a maximum discounted toll [of 1.00] as stated for Vehicle Class 9 in Section 201.2 (a), in lieu of the otherwise applicable Class 1L toll, provided that the E-ZPass account holder agrees to allow their account to be charged for a minimum of 17 tolls per monthly period established by the authority.
- (b) The Commuter discount plan [shall be available only for privately-registered vehicles and individually owned or leased pick-up trucks through the E-ZPass system] applies to eligible vehicles equipped with E-ZPass tags that are issued to customers who apply, qualify and enroll in such plan. Vehicles eligible for the commuter discount are those privately registered class 1L vehicles held in the name of or leased to an individual or two individuals not constituting a business entity.