

Ohio Bridge Inventory

General	
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(203) Bridge Name (Dedicated Name)	GEORGE V. VOINOVICH BRIDGE
(204) Ohio Designated MPO	08 - NOACA (Cleveland)
(205) Route Number Extension	
(206) Inventory Preferred Route	NP - Non Preferred Route
(5.01) Priority System Code (Inventory Route)	P- Priority
(213) NLF_ID Inventory Route	SCUYIR00090**C
(218) Major Bridge	Y - Yes
(220) Inventory Location	CUY
(226) Seismic Susceptibility	N - not applicable
(227) GASB	Y - Yes
(236) Future Traffic Factor	1.085
(245) Aperture Cards Fabrication	2 - No
(246) Aperture Cards Original	2 - No
(247) Aperture Cards Repair	2 - No
(248) Original Construction Project Number	
(251) Standard Drawing Number	
(252) Microfilm Reel Number	
(261) Bridge Remarks	

CUY-00090-01541-R

(265) Electric Line Present	Y - Bridge carries this utility
(266) Gas Line Present	N - Bridge does not carry a utility
(269) Sanitary Sewer Present	N - Bridge does not carry a utility
(306) NBIS Bridge Length	3916.682
(207) Route Under the Bridge	41

Inventory Route Clearances			
<u>Inventory Route</u>	<u>Cardinal</u>	<u>Non-Cardinal</u>	

(336) Minimum Vertical Clearance	99	0	ft.
(335) Minimum Horizontal Clearance	99	0	ft.

Load Rating

(717) 2F1 Operating Rating Factor (GVW 15 T)	3.071
(720) 3F1 Operating Rating Factor (GVW 23 T)	2.098
(723.01) 4F1 Operating Factor (GVW 27 T)	1.795
(726.01) 5C1 Operating Rating Factor (GVW 40 T)	1.700
(723.02) SU4 Operating Rating Factor (GVW 27 T)	
(726.02) SU5 Operating Rating Factor (GVW 31 T)	
(732.01) SU6 Operating Rating Factor (GVW 34.75 T)	
(732.02) SU7 Operating Rating Factor (GVW 38.75 T)	
(735) EV2 Operating Rating Factor (GVW 28.75 T)	
(738) EV3 Operating Rating Factor (GVW 43 T)	
(734) Ohio Percent Legal	150
(705) Load Rater First Name	Maryam
(706) Load Rater Last Name	Hashemian
(707) Load Rater PE Number	78589
(704) Load Rating Date	04/02/2015
(708) Load Rating Software	5 - Finite Element (FE) Program
(709) Rating Source	1 - Plan information available for load rating analysis (Default)

Inspection Access

(92.02) Snooper Inspection Traffic Control	5- Night or Weekend: Merge with Divided Highway
(92.03) Snooper Inspection Est. Crew Hours	
(459) Inspection Access	Y - The bridge includes this feature

Deck & Approach

(224) Temporary Subdecking	N - No		
(404) Approach Slab Type	1 - Reinforced Concrete		
(405) Approach Slab Length	50		
	1	2	3
(406) Bridge Median Type	N - None	N - Non Barrier	N - No Joint
(407) Bridge Railing Type	2 - Reinforced Concrete and Steel		
(408) Composite Deck Code	Y - Composite Construction		
(419) Expansion Joint with Trough Retrofit 2			
(421) Joint Trough (Y/N)			
(431) Fence	N - The bridge does not include this feature		
(432) Fence Height on Bridge	0		
(433) Glare Screen	N - The bridge does not include this feature		
(434) Noise Barrier Walls	N - The bridge does not have Noise Barrier Walls		
(424) Deck Area	403420.1		
(427) Left Sidewalk/Curb Material	N - None		
(428) Left Sidewalk/Curb Type	N - None or N/A (RR, Pedestrian, etc.)		
(429) Right Sidewalk/Curb Material	N - None		
(430) Right Sidewalk/Curb Type	N - None or N/A (RR, Pedestrian, etc.)		

Substructure

(526) Abutment Forward Type	9 - Stub - Capped Pile (Multiple Row Piles)
(527) Abutment Forward Material Type	2 - Concrete
(528) Abutment Forward - Foundation Type	N - None (Such as most Culverts)
(531) Abutment Rear Type	9 - Stub - Capped Pile (Multiple Row Piles)
(532) Abutment Rear Material Type	2 - Concrete
(533) Abutment Rear - Foundation Type	N - None (such as most Culverts)
(534) Pier 1 (Predominate) Type	5 - Capped Column
(535) Pier 1 (Predominate) Material	2 - Concrete
(536) Pier 1 Type - Foundation Type	0 - Other
(537) Pier 2 Type	5 - Capped Column
(538) Pier 2 Material	2 - Concrete
(539) Pier 2 Type - Foundation Type	3 - Drilled Shafts
(547) Slope Protection Type	C - Mechanically Stabilized Earth (MSE) Wall

Superstructure

(711) Live Load Response	S - Satisfactory	
(468) Hinges/Pins/Hangers Type	N - Not Applicable (structures with no hinges)	
(409) Deck Drainage Type	3 - Scuppers and downspouts	
(411) Deck Concrete Type	B - QSC2-Superstructure concrete	
	A	B
	C	
(414) Expansion Joint Type	N - None	N - None
(301) Horizontal Curve Degree	00.00	
(453) Bearing Device 1, Type	7 - Disk	
(455) Bearing Device 2, Type	C - Elastomeric (laminated)	
(465) Framing Type	1 - Curved Beams/Girders	
(466) Haunched Girder	N - Bridge does not contain a haunched girder	
(467) Haunched Girder Depth	0	
(474) Main Structure System	3 - Four or More Girder Bridge	
(475) Main Member Type	3 - Welded Built-Up Steel	
(482) Protective Coating System Type	5 - Paint System OZEU	
(487) Structural Member Steel Type	C - Hybrid (A709 grade 70W flanges with 50W webs)	
(498) Protective Coating System Surface Area	0	
(499) Structural Steel Paint	3 - Combination (Shop and Field)	
(478) Post Tensioned Main Member Code	N - Bridge is not Post Tensioned	

Culvert and Waterway

(575) Culvert Type	N - Not a Culvert or Rigid Frame	
(578) Culvert Length Inlet_to_Outlet	0	
(580) Fill Depth Over Culvert	0	
(651) Scenic River	N - Waterway is not classified as Scenic River	
(587) Rise		
(588) Shape		
(655) Channel Protection Type	3 - Sheet Piling	
(663) Stream Velocity	0.0	
(672) pH		

Inspector: Mike Kronander
Inspection Date: 11/10/2020

Structure Number: 1808788
Facility Carried: IR 90 EB

Bridge Inspection Report

Executive Summary

Isolated cracks up to 1/16 inch wide exist in the approach slabs. The bridge deck is in good condition with moderate cracking in isolated areas. The west bridge rail exhibits full height vertical cracks. Several cracks exhibit efflorescence. Regarding safety access features, a handrail was missing on the west face of Girder 3 in Span 10 between Cross Frames 10.3 and 10.4. The bridge superstructure is in very good condition with random small areas of surface corrosion. One sheared bolt exists in the bottom flange splice of Delta Girder 1 at Pier 8. The bearings supporting the delta girder frames at Piers 3 through 11 typically exhibit hairline cracking in the pedestals. The Polytron disc bearings have missing stainless steel guide bars (plates) at bearings 3 and 4 at Pier 12, Span 13. The bridge substructure units are in very good condition with minor cracking to isolated locations. Spalls with exposed reinforcing steel exist on the interior of Pier 12 in isolated locations.

ODOT District: 12

CUY-00090-1541R_(1808788)

Date Built: 10/01/2016

Major Maint: 01 - State Highway Agency

Facility Carried: IR 90 EB

Traffic On: 1 - Highway

Rehab Date:

Routine Maint: 01 - State Highway Agency

Feature Inters: CUY RIVER VALLEY

Traffic Under: 8 - Highway - waterway - railroad

Insp. Resp A: 01 - State Highway Agency

FIPS Code: 16000 - CLEVELAND (CUY county)

Location: CUY

.67 MI. E. OF JCT IR-71

Insp Resp B:

Inspector

Kronander, Mike

Inspection Date

11/10/2020

Reviewer

Kronander, Mike

Inspector Comments - Deck and Approach

Deck

Floor/Slab (SF)

The deck floor is typically covered by stay-in-place forms; however, isolated areas of the deck floor are exposed. Random small areas of the stay-in-place forms exhibit minor leach stains around screwed connections, random small areas of light surface corrosion, and minor locations of construction damage. These do not significantly affect the condition of the deck floor. The exposed portions of the deck floor exhibit some hairline cracks, small honeycombed areas, minor delaminations, or minor spalls. Isolated cracks exhibit light leaching; however, these cracks are all minor in nature and these conditions do not affect the rating of the deck.

Edge of Floor/Slab (LF)

The edge of the floor exhibits hairline transverse cracks spaced greater than 5 feet apart, typically over the forward delta frame girder bearings. Isolated cracks exhibit light leeching and efflorescence. The cracking is most common in the west overhang. Cracking is structural in nature and observed in high moment regions of the deck wearing surface over the delta frame portions of the superstructure.

Bridge Wearing Surface (SF)

The west half of the deck wearing surface in the Spans 3 through 12 typically exhibits transverse 1/32-inch wide cracks initiating at the west fascia and extending for approximately half the deck width. These cracks are typically spaced greater than or equal to 3 feet apart and typically exists between the south deck cold joint and midspan point of most spans. These cracks are most prominent in Spans 3 through 8 and become less dense in Spans 9 through 12. Isolated cracks are up to 1/16-inch wide. Cracking is structural in nature and observed in high moment regions of the deck wearing surface over the delta frame portions of the superstructure. The east deck wearing surface curblin in Span 8 north of Pier 7 exhibits a 50-foot long x up to 24-inch wide x 1-inch deep area of scaling/spalling. A similar 30-foot long area exists to the west curblin. No explanation of these findings could be determined at the time of inspection. The wearing surface in the approach spans exhibits no significant deficiencies.

Bridge Railing (LF)

West bridge rail exhibits hairline full height vertical cracks with light staining typically spaced greater than 10 feet apart. Some areas of cracking in Spans 3 through 7 are spaced at 12 inches. East bridge rail typically exhibits hairline full height vertical cracks spaced greater than 10 feet. Both bridge rails exhibit hairline cracks emanating from the corners of electrical pull boxes. Isolated cracks exhibit light efflorescence. Isolated steel rail posts exhibit minor surface corrosion, typically initiating at the bolted connection to the concrete rail. Isolated areas of the concrete bridge rail exhibit impact damage with up to 1/4-inch deep gouges and tire rub marks. Both bridge rails exhibit 15 feet of densely spaced hairline vertical cracking with light efflorescence at the overhead sign in Span 8.

Deck Drainage (EA)

Scupper inlet grates in the deck top are typically clogged with vegetation and debris near the curbs. The downspout pipe is clear and functioning. Drain pan boxes are typically filled with light debris. The north strut connection between the drain pan box and Girder 4 south of Pier 7 exhibits multiple loose bolts.

Expansion Joint (LF)

The following deficiencies were noted to the expansion joints at the Rear abutment (modular), Pier 12 (modular), and the Forward Abutment (strip seal). Joints typically exhibit moderate debris accumulation throughout their length. Accumulation is most prominent in the shoulders. Joint armor typically exhibits isolated areas of surface corrosion. The northern joint armor beam at Pier 12 in the center and center-left lane exhibits minor bowing most likely due to impact damage. The beam is bowed approximately 2 inches to the north over a 12-foot length.

Joint measurements were taken from out-to-out edges of joint armor at the Rear abutment and Pier 12, while measurements were taken from face-to-face edges of joint armor at the Forward Abutment. Measurements are as follows taken at 65 degrees F in 2019, and 61 degrees F in 2020 at east curb line:

Rear Abutment (modular) - 2019 - 27.5"; 2020 - 28.25

Pier 12 (modular) - 2019 - 43.75"; 2020 - 44.75"

Forward Abutment (strip seal) - 2019 - 2"; 2020 - 1.13

Approach

Approach Wearing Surface (EA)

The approach roadway wearing surface exhibits a few minor cracks and missing tar sealant where the roadway meets the concrete approach slab.

Approach Slab (SF)

The south approach slab exhibits multiple longitudinal and diagonal cracks extending the full length of the approach slab and up to 1/16-inch wide. Similar, but less severe cracking exists to the west half of the north approach slab. The north approach slab exhibits a 4 1/2-foot x 4 1/2-foot patch in the west shoulder. The north approach slab exhibits minor edge spalling at the interface with the north approach roadway. This is not currently a significant concern.

Approach Relief Joint (LF)

Tar sealant is missing around the majority of the relief joint perimeter.

Approach Embankment (EA)

The embankment exhibits no significant deficiencies.

Approach Guardrail (EA)

The northeast approach bridge rail exhibits a shallow 6-inch diameter spall at the interface with the north approach roadway railing. The remainder of the approach rail is in good condition overall with no significant deficiencies.

Safety Features (EA)

The safety features for the bridge exhibit no significant deficiencies.

Signs (EA)

No end markers are present. The railing is continuous from the approach roadway through the structure. Navigation lights are functioning and exhibit no significant deficiencies.

Sign Supports (EA)

The sign supports for the overhead signs exhibit no significant deficiencies.

Misc.

Chain-link fencing exists around the Rear Abutment to prevent vandals from accessing the catwalk/climbing system of the bridge. The fence has a hole at the east end.

Inspector Comments - General Appraisal

Superstructure

Alignment (EA)

The alignment of the superstructure exhibits no significant deficiencies.

Beams/Girders (LF)

The following conditions exhibited no changes from the previous inspection:

The girders consist of continuous welded plates with bolted splices and integral steel delta frames at Piers 3 through 11. They are overall in good condition with few minor deficiencies. Typical conditions noted include: Random areas of minor impact damage exist to isolated locations on the girder flanges or splices possibly occurring during construction. Very isolated locations throughout the girder exhibit random areas of surface corrosion measuring less than 1 -square-foot. Random areas of mis-drilled holes in the girder webs exist throughout the main spans. Isolated areas of the access handrails and cables exhibit light surface corrosion. This is not currently a structural concern. The following deficiencies were noted on the delta frames and tie girders. Delta Girder 1 at Pier 8 exhibits one sheared bolt in the bottom flange splice on the north side of the pier. No explanation of these findings could be determined at the time of inspection. The top flanges of isolated delta girders exhibit shallow transverse grooves less than 1/16-inch deep. No explanation of these findings could be determined at the time of inspection. Tie girder connection bolts typically have less than two threads exposed past the nut. Two or more threads are preferred beyond the nut.

The following conditions were observed during the most recent inspection in 2020 - The safety cables between delta girders at the top of Pier 6 exhibit minor corrosion. The safety cable is missing between Delta Girders 1 and 2 at the top of Pier 6.

Stringers (LF)

Stringers run longitudinal in the main girder Spans 3 through 12 are supported by the floorbeams. The top flange of Stringer A at Floorbeam 8.0 is bent down 3/16-inch. Condition is

most like from erection damage.

Floorbeams (LF)

The cross frames in Spans 3 through 12 act as floorbeams and are considered fracture critical. The cross frames between girders exhibit no significant deficiencies.

Lateral Bracing (EA)

Lateral bracing struts exist between the delta girder frames. The lateral bracing exhibits no significant deficiencies.

Bearing Devices (EA)

The following conditions exhibited no changes from the previous inspection:

Polytron disc bearings exist at the delta girder frames and support the main girders above the tie girders. Elastomeric bearings support the girders in the approach spans. At the piers, post-tensioned steel rods hold down the bottom connection of the delta frame to the pier. The following deficiencies were noted in the bearings: Elastomeric bearing pads exhibit minor movement and deformation. These conditions were within tolerable limits at 57°F to 72°F. Isolated delta girder bearing pedestals and grout pads at piers exhibit hairline to 0.030-inch wide vertical cracks. Cracks are typically spaced at 6 to 12 inches. Isolated girder disc bearing bolts and plates exhibit surface corrosion measuring less than 6 square inches in area. Delta Frame 5 bearing at Pier 4 exhibits one missing anchor bolt head at the northeast corner. Delta frame 5 bearing at Pier 10 exhibits two anchor bolts not fully tightened at the southwest and northwest corners. Additionally, the grout pad exhibits a 4 3/4-inch long x 2 1/2-inch wide x up to 1 1/2-inch deep spall at the northwest corner. Girder 3 bearing at Pier 12, Span 13 exhibits a missing stainless steel plate on the west side. A portion of the plate is also missing at girder 4.

The following conditions were observed during the most recent inspection in 2020 - Girder 8 bearing at Piers 12, 13, and 14, and the Girder 10 bearing at the forward Abutment measure at 2 9/16 inches to 3 1/2 inches of movement. This measurement is inconsistent with the rest of the bearing measurements at Pier 14 due to the sole plate of the girder having been installed at the wrong location. The elastomeric bearing pads show no signs of excessive movement. This condition appears to be consistent with the east fascia girder at each of the piers and most likely is influenced by the curvature of the bridge (east to west).

Delta girder bearing measurements were taken assuming the centerlines of the masonry and sole plates were originally aligned. 2019 measurements were taken in September (generally higher temperatures), and the 2020 measurements were taken in November (generally lower temperatures). Future inspections can compare to these measurements.

Protective Coating System (LF)

The protective coating system for the girders and superstructure is OZEU paint based. The following deficiencies were noted on the paint system: A few isolated areas of paint failure exist on the steel girders. No section loss exists.

Fatigue (LF)

The end cross frame members at the forward abutment are welded to the gusset plates creating a category E' fatigue prone detail at the weld terminations. The girders in unit 3 are curved and rely on the cross frames for rotational stability. This classification changed with the AASHTO Bridge Design Specifications, Eighth Edition and were not category E' at the time the bridge was designed. The intermediate cross frames in unit 3 have bolted connections and are not category E or E'.

Utilities (LF) (Signage Item)

The utility supports at the following locations have broken or become detached allowing the conduit to hang: Delta Girder 2, rear leg at Pier 3. Delta Girder 1, rear leg at Pier 4. Girder bay 3-4 between Floorbeams 7.11 and 7.12. Girder bay 3-4 between Floorbeams 8.7 and 8.8. Girder 5 bottom flange between Cross Frames 4.2 and 4.3. The cover for the electrical conduit pull box in the west bridge rail north of Pier 4 is skewed and missing three bolts exposing the wires inside. The lights for the light pole affixed to the west bridge rail at midspan of Span 6 are out. The lighting utility line on the north side of Cross Frame 7.0 at Girder 5 is dislodged exposing two wires. The conduit is detached from a junction box at the Rear Abutment between Girders 4 and 5.

Substructure

Abutment Walls (LF)

The following conditions exhibited no changes from the previous inspection:

The abutments exhibit full height vertical cracks spaced greater than 3 feet apart. Minor debris accumulation exists on the abutment seats. This is currently not problematic.

The following conditions were observed during the most recent inspection in 2020 - Horizontal hairline cracks exist at the interface of two concrete pours. The west end of the MSE wall in front of the forward abutment exhibits vegetation growth in the joint with the MSE wall cap and abutment breastwall.

Pier Caps (LF)

Pier 6 cap exhibits several 4-foot long vertical cracks over the west column with some leakage stains. Isolated hairline cracks exist in the pier caps. Some honeycomb like areas present to the caps.

Pier Columns/Bents (EA)

The interior of the west column of Pier 12 exhibits the following deficiencies: Random areas of honeycombing, multiple hairline diagonal cracks are present in the ceiling initiating at the corners of the access hole. Multiple spalls are present on the north bottom edge of the ladder access hole with exposed epoxy coated reinforcement due to insufficient cover. Two 1-foot diameter spalls exist to the south wall at port holes below the mid-height diaphragm. Isolated hairline cracks exist in the pier columns. These are currently not problematic. Honeycombing areas in isolated areas are typical throughout the concrete surface. The upper access ladder inside Pier 12 exhibits a 1-foot tall x full width area of surface corrosion at the side rail splice. The corrosion is currently not problematic.

Backwalls (LF)

Backwalls exhibit isolated minor hairline vertical cracks.

Wingwalls (EA)

The northeast corner of the MSE wall at the rear abutment exhibits a 3-inch diameter x 1/2-inch deep spall. The wingwalls exhibit minor cracks. These cracks are currently not problematic.

Substructure Scour (EA)

An underwater inspection was not required to be performed for this inspection as all the substructure elements are accessible by land. The following scour was noted around substructure units: No scour was noted during the inspection.

Slope Protection (EA)

The following deficiencies were noted on the slope protection: The slope protection exhibits no significant deficiencies.

Culvert

Inspector Comments - Waterway

Waterway Adequacy

Channel Hydraulic Opening (EA)

The hydraulic opening is sufficient with no danger of overtopping.

Channel

Channel Alignment (LF)

The Cuyahoga River meanders through downtown and beneath this structure. The river alignment is engineered at this location.

Channel Protection (LF)

The channel protection exhibits no significant deficiencies.

Scour Critical

An underwater inspection was not required to be performed for this inspection as all the substructure elements are accessible by land. No scour was noted during the inspection.

ODOT District: 12

CUY-00090-1541R_(1808788)

Date Built: 10/01/2016

Major Maint: 01 - State Highway Agency

Facility Carried: IR 90 EB

Traffic On: 1 - Highway

Rehab Date:

Routine Maint: 01 - State Highway Agency

Feature Inters: CUY RIVER VALLEY

Traffic Under: 8 - Highway - waterway - railroad

Insp: 01 - State Highway Agency

FIPS Code: 16000 - CLEVELAND (CUY county)

Location: CUY

.67 MI. E. OF JCT IR-71

Resp A:

Insp

Resp B:

Inspector

Kronander, Mike

Inspection Date

11/10/2020

Reviewer

Kronander, Mike

Summary Recommendations

Urgent

1. Seal transverse cracks in the deck top.
2. Reseal perimeter of the relief joint with mastic.
3. Periodically clear the scupper grates of debris.
4. Periodically remove debris from modular and sealed expansion joints.
5. Tighten loose bolts on the north strut connection between the drain pan box and Girder 4 south of Pier 7.
6. Repair the seized dead bolt lock on the Pier 7 access door located on the outside of the west column.
7. Tighten bolts at tie girder connections in the delta girder frames.
8. Repair the broken utility supports at the following locations: Delta Girder 2, rear leg at Pier 3; Delta Girder 1, rear leg at Pier 4; Girder 5 bottom flange between Cross Frames 4.2 and 4.3.
9. Periodically remove debris from the abutment seats.
10. Remove vegetation from the MSE wall cap joint at the Forward Abutment.
11. Replace the missing bolts and conceal exposed wires for the electrical conduit pull box on the west bridge rail north of Pier 4.
12. Repair lights on the west bridge rail at midspan of Span 6 which are currently out.
13. Repair the hole in the east end of the chain-link vandal fencing at the Rear Abutment.

Less Urgent

1. Install safety cable between Delta Girders 1 and 2 at the top of Pier 6.

Monitor

1. Monitor the girders and bearings for additional paint loss and isolated surface corrosion.
2. Monitor the deck and railing for additional cracking or widening of current cracks.

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Feature Inters: CUY RIVER VALLEY

Traffic Under: 8 - Highway - waterway - railroad

Insp. Resp A: 01 - State Highway Agency

FIPS Code: 16000 - CLEVELAND (CUY county)

Location: CUY

.67 MI. E. OF JCT IR-71

Insp Resp B:

Inspector Kronander, Mike

Inspection Date 11/10/2020

Reviewer Kronander, Mike

National Bridge Inventory

Status 0 - ND Sufficiency Rating 88.0

Identification	Inspections
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(1) State Code	395 - Ohio	(90) Inspection Date	11/10/2020
(8) Structure File Number (SFN)	1808788	(91) Designated Inspection Frequency	12
(7) Facility Carried	IR 90 EB	(92) Critical Feature Inspection	(93) CFI Date
(208) Route on the Bridge	10 - State (ODOT) (Toll Free)	A. Fracture Critical Detail	Y 24 09/13/2019
(2) Highway Agency District	12	B. Underwater Inspection	0
(3) County Code	18 - Cuyahoga	C. Other Special Inspection	0
(209) Interstate Mile Marker	171.22	D.01 Snooper Inspection	Y 24 09/13/2019
(201) Special Designation	R	E.01 Drone Inspection	

Condition

(4) Place Code (FIPS)	16000 - CLEVELAND (CUY county)	(58) Deck	8 - Very Good Condition
(5) Inventory Route		(58.01) Wearing Surface	7 - Good (1% distress)
(A) Record Type On/Under Always "On"	1: Route carried "on" the structure	(58.02) Expansion Joint	6- Satisfactory (isolated leaking)
(B) Route Signing Prefix (Highway System)	1 - INTERSTATE HIGHWAY	(59) Superstructure	8 - Very Good Condition
(C) Designated Level of Service (Highway Designation)	1 - MAINLINE	(59.01) Protective Coating System (PCS)	7 - Good (1-5% corr.)
(D) Route Number	00090	(60) Substructure	8 - Very Good Condition
(E) Directional Suffix	0 - NOT APPLICABLE	(61) Channel & Channel Protection	9 - No noticeable deficiencies
(6) Features Intersected	CUY RIVER VALLEY	(61.01) Scour	7 - Good
(9) Location	.67 MI. E. OF JCT IR-71	(62) Culvert	N - Not Applicable
(11) Milepoint	15.41	(67.01) General Appraisal	8 - Very Good Condition (no problems noted)
(12) Base Highway Network	Inventory Route is on the Base Network		
(13A) LRS Inventory Route	90		
(13B) Subroute Number	0		
(16) Latitude	41.48419 Degrees		
(17) Longitude	-81.69132 Degrees		
(16.01) Latitude - Ohio	41.484194		
(17.01) Longitude - Ohio	-81.691316		
(98A) Border Bridge State Code			
(98B) Border Bridge State Percent Responsibility			
(99) Border Bridge Struct No.			

ODOT District: 12

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Traffic On: 1 - Highway

Rehab Date:

Routine Maint: 01 - State Highway Agency

Feature Inters: CUY RIVER VALLEY

Traffic Under: 8 - Highway - waterway - railroad

Insp. Resp A: 01 - State Highway Agency

FIPS Code: 16000 - CLEVELAND (CUY county)

Location: CUY

.67 MI. E. OF JCT IR-71

Insp Resp B:

Inspector Kronander, Mike

Inspection Date 11/10/2020

Reviewer Kronander, Mike

Structure Type and Material

Load Rating and Posting

(43) Main Structure Type

A. 3 - Steel

B. 03 - Girder and Floorbeam System

C. N- Not Applicable

(31) Design Load A - HL 93

(63) Operating Rating Method 8 - Load and Resistance Factor Rating (LRFR) rating report by rating factor (RF) method using HL-93 loadings.

(64) Operating Rating Factor 1.4

(44) Approach Type

A. 0 - Other

B. 00 - Other

C. N- Not Applicable

(65) Inventory Rating Method 8 - Load and Resistance Factor Rating (LRFR) rating report by rating factor (RF) method using HL-93 loadings.

(66) Inventory Rating Factor 1.1

(41) Structure Open, Posted, or Closed to Traffic A - Open

(45) Number of Spans in Main Unit 012

(70) Bridge Posting 5 - Equal to or above legal loads

(46) Number of Approach Spans 4

(70.01) Date Posted

(107) Deck Structure Type 1 - Concrete Cast-in-Place

(70.02) Posted Sign Type

(107.01)

(70.03) Posted Weight

(108B) External Deck Protection 3 - Epoxy

(108C) Internal Deck Protection 1 - Epoxy Coated Reinforcing

(422) Wearing Surface Date 10/01/2016

(108A) Wearing Surface Type 1 - Monolithic Concrete (concurrently placed with structural deck)

Appraisal

(108A.01) N- Not Applicable

(67) Structural Evaluation 8 - Equal to present desirable criteria

(423) Wearing Surface Thickness 0.0 in

(68) Deck Geometry 9 - Superior to present desirable criteria

(483) Protective Coating System Date

(69) Underclearances, Horizontal and Vertical 6 - Equal to present minimum criteria

Age of Service

(27) Year Built 2016

(71) Waterway Adequacy 9 - Bridge Above Flood Water Elevations

(263) Date Built 10/01/2016

(72) Approach Roadway Alignment 9 - Superior to present desirable criteria

(106) Year Reconstructed 0000

(36) Traffic Safety Feature

(264) Major Reconstruction Date

(42) Type of Service

On 1 - Highway

Under 8 - Highway - waterway - railroad

A. Bridge Railings: 1 - Meets acceptable standards

B. Transitions: 1 - Meets acceptable standards

C. Approach Guardrail 1 - Meets acceptable standards

D. Approach Guardrail Ends N - NA/Safety feature not required

(28) Lanes On 05 Under 10

(113) Scour Critical 8 - Stable for scour conditions

(29) Average Daily Traffic 71000 (30) ADT Yr. 2015

(109) Truck Percentage 8 % Truck

(114) Future Avg Daily Traffic 77000 (115) Future ADT Yr. 2040

(19) Bypass Detour Length 2 mi.

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Traffic On: 1 - Highway

Rehab Date:

Routine Maint: 01 - State Highway Agency

Feature Inters: CUY RIVER VALLEY

Traffic Under: 8 - Highway - waterway - railroad

Insp. 01 - State Highway Agency

FIPS Code: 16000 - CLEVELAND (CUY county)

Location: CUY

.67 MI. E. OF JCT IR-71

Resp A:

Insp

Resp B:

Inspector Kronander, Mike

Inspection Date 11/10/2020

Reviewer Kronander, Mike

Classification		Geometric Data	
(112) NBIS Bridge	Yes	(48) Longest Span	301.5 Ft.
(104) Highway System of the Inventory Route	1 - Structure/Route is on NHS	(49) Structure Length	3916.7 Ft.
(26) Functional Classification of Inventory Route	11 - Urban - Principal Arterial - Interstate	(50A) Curb/Sidewalk Left Side - Width	0 Ft.
		(50B) Curb/Sidewalk Right Side - Width	0 Ft.
(100) Strahnet Highway Designation	Is on an Interstate STRAHNET route	(51) Brdg Roadway Width Curb-to-Curb	100.0 Ft.
(101) Parallel Structure Designation	R - Right structure (North or East)	(52) Deck Width, Out-to-Out	103.0 Ft.
(102) Direction of Traffic	1-way traffic	(32) Approach Roadway Width	85.0 Ft.
(103) Temporary Structure Design		(33) Bridge Median	0 - No median
(105) Federal Lands Highways	Not Applicable	(34) Skew	99 Deg.
(110) Designated National Network	Inventory route on National Truck Network	(35) Structure Flared	1 - Yes, flared
(20) Toll	3 - On Free Road	Clearances	
(225) Routine Maintenance Responsibility	A. 01 - State Highway Agency	(10) Practical Maximum Vertical Clearance	99 Ft.
	B.	(53) Minimum Vertical Clearance Over Bridge Roadway	99 Ft.
(21) Maintenance Responsibility	01 - State Highway Agency	(47) Total Horizontal Clearance (Inventory Route)	99 Ft.
(21B) Major Maint. Responsibility B			
(221) Inspection Program Responsibility	A. 01 - State Highway Agency	(54) Minimum Vertical Under Clearance	B. 15.42 Ft.
	B.	A. H - Highway beneath structure	
(22) Owner	01 - State Highway Agency	(56) Minimum Lateral Under Clearance on Left	10 Ft.
(37) Historical Significance	5 - Not eligible	(55) Minimum Lateral Under Clearance on Right	B. 10 Ft.
		A. H - Highway beneath structure	

Navigation Data

(38) Navigation Control	1 - Navigation control on waterway (bridge permit required)
(39) Nav Vert Clearance	129.0 Ft.
(40) Nav Horizontal Clearance	200.0 Ft.
(111) Pier or Abutment Protection	2 - In place and functioning
(116) Minimum Navigation Vertical Clearance, Vertical Lift Bridge	0.0 Ft.

Inventory Route Clearances

NBI 005A: On/Under 1: Route carried "on" the structure
 NBI 005D: Route No. 00090

	<u>Cardinal Direction</u>	<u>Non-Cardinal Direction</u>
(336) Minimum Vertical Clearance on IR	99 Ft.	0 Ft.
(335) Minimum Horizontal Clearance on IR	99 Ft.	0 Ft.

Inspector: Mike Kronander
 Inspection Date: 11/10/2020

Structure Number: 1808788
 Facility Carried: IR 90 EB

Bridge Inspection Report

Element Inspection

	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
12 - Reinforced Concrete Deck	3 - Mod.	403419	sq. ft.	402959	450	10	0
805 - Wearing Surface - Monolithic Concrete		391669	sq. ft.	391319	250	100	0
107 - Steel Open Girder/Beam	3 - Mod.	24322	ft.	24271	50	1	0
515 - Steel Protective Coating		500000	sq. ft.	500000	0	0	0
113 - Steel Stringer	3 - Mod.	12032	ft.	12031	1	0	0
152 - Steel Floor Beam	3 - Mod.	14688	ft.	14688	0	0	0
205 - Reinforced Concrete Column	3 - Mod.	32	each	31	1	0	0
215 - Reinforced Concrete Abutment	3 - Mod.	220	ft.	205	15	0	0
234 - Reinforced Concrete Pier Cap	3 - Mod.	1229	ft.	1189	40	0	0
300 - Strip Seal Expansion Joint	3 - Mod.	100	ft.	0	100	0	0
303 - Assembly Joint with Seal	3 - Mod.	200	ft.	0	200	0	0
310 - Elastomeric Bearing	3 - Mod.	44	each	44	0	0	0
315 - Disk Bearing	3 - Mod.	100	each	90	10	0	0
316 - Other Bearing	3 - Mod.	45	each	43	2	0	0
321 - Reinforced Concrete Approach Slab	3 - Mod.	12000	sq. ft.	11975	25	0	0
333 - Other Bridge Railing	3 - Mod.	7834	ft.	7009	825	0	0
515 - Steel Protective Coating		7834	sq. ft.	7834	0	0	0
815 - Drainage	3 - Mod.	14	each	8	6	0	0
830 - Abutment Backwall	3 - Mod.	203	ft.	178	25	0	0
840 - Approach Slab: Termination or Joint	3 - Mod.	85	ft.	0	85	0	0

Ohio Bridge Inspection Summary Report

CUY-00090-1541R (1808788)

2: District 12 16000 - CLEVELAND (CUY county)
 21: Major Maint A/B 01 - State Highway Agency /
 225 Routine Main A/B 01 - State Highway Agency /
 221 Inspection A/B 01 - State Highway Agency /
 220: Inv. Location CUY

5A: Inventory Route 1 00090
 7: Facility On IR 90 EB
 6: Feature Ints CUY RIVER VALLEY
 9: Location .67 MI. E. OF JCT IR-71

Condition

58: Deck **8 - Very Good Condition**
 58.01 Wearing Surface 7 - Good (1% distress)
 58.02 Joint 6- Satisfactory (isolated leaking)
59: Superstructure **8 - Very Good Condition**
 59.01 Paint & PCS 7 - Good (1-5% corr.)
60: Substructure **8 - Very Good Condition**
61: Channel **9**
 61.01 Scour **7 - Good**
62: Culverts **N - Not Applicable**

67.01 GA **8**

Appraisal

Sufficiency Rating 88.0 SD/FO 0 - ND
 36: Rail, Tr, Gd, Term Std 1 1 1 N
 72: Approach Alignment 9 - Superior to present desirable criteria
 113: Scour Critical 8 - Stable for scour conditions
 71: Waterway Adequacy 9 - Bridge Above Flood Water Elevations

Geometric

48: Max Span Length (ft) 301.5
 49: Structure Length (ft) 3916.7
 52: Deck Width, Out-To-Out (ft) 103.0
 424: Deck Area (sf) 403420.1
 32: Appr Roadway Width (ft) 85.0
 51: Road Width, Curb-Curb (ft) 100.0
 50A: Curb/SW Width: Left (ft) 0
 50A: Curb/SW Width: Right (ft) 0
 34: Skew (deg) 99
 33: Bridge Median 0 - No median
 54B: Min Vert Underclearance (ft) 15.42
 336A: Min Vert Clrnce IR Cardinal (ft) 99
 336B: Min V Clr IR Non-Cardinal (ft) 0
 578: Culvert Length (ft) 0

Load Posting

41: Op/Post/Closed A - Open
 70: Posting 5 - Equal to or above legal loads
 70.01: Date
 70.02: Sign Type
 734: Percent Legal (%) 150
 704: Analysis Date 04/02/2015
 63: Analysis Method 8 - Load and Resistance Factor Rating (LRFR) rating report by rating factor (RF) method using HL-93 loadings.

Structure Type

43: Bridge Type 3 - Steel
 03 - Girder and Floorbeam System
 N- Not Applicable
 45: Spans Main / Approach 012 / 4
 107: Deck Type 1 - Concrete Cast-in-Place
 408: Composite Deck Y - Composite Construction
 414A Joint Type 1 N - None
 414B: Joint Type 2 N - None
 108A: Wearing Surface 1 - Monolithic Concrete (concurrently placed with structural deck)
 N- Not Applicable

422: WS Date 10/01/2016
 423: WS Thick (in) 0.0
 482: Protective Coating 5 - Paint System OZEU
 483: PCS Date
 453: Bearing Type 1 7 - Disk
 455: Bearing Type 2 C - Elastomeric (laminated)
 528: Foundn: Abut Fwd N - None (Such as most Culverts)
 533: Foundn: Abut Rear N - None (such as most Culverts)
 536: Foundn: Pier 1 0 - Other
 539: Foundn: Pier 2 3 - Drilled Shafts

Age and Service

27: Year Built/ 106 Rehab 2016 / 0000
 42A: Service On 1 - Highway
 42B: Service Under 8 - Highway - waterway - railroad
 28A: Lanes on 05
 28B: Lanes Under 10
 19: Bypass Length 2
 29: ADT 71000
 109: % Trucks (%) 8

Inspections

		Months	
90: Routine Insp.		12	11/10/2020
92A: FCM Insp.	Y	24	09/13/2019
92B: Dive Insp.		0	
92C: Special Insp.		0	
92D: UBIT Insp.	Y	24	09/13/2019
92E: Drone Insp.			

Inspector Kronander, Mike