



STATE OF OHIO DEPARTMENT OF TRANSPORTATION  
BRIDGE INSPECTION REPORT

Structure File Number: 1800930

Inventory Bridge Number: CUY 00006 14.560 N

USR 6 over (1499)CUY. RIVER & RTA

Inspection Type:

Inspection Date: 05/23/2014

District: 12

County: CUYAHOGA

Place Code (FIPS): CLEVELAND

Bridge Type: STEEL

Type of Service: HIGHWAY-PEDESTRIAN

Owner: OHIO STATE TRANSPORTATION DEPARTMENT

Inspection Responsibility: OHIO STATE TRANSPORTATION  
DEPARTMENT

Maintenance Responsibility: OHIO STATE TRANSPORTATION  
DEPARTMENT

Lead Inspector: Moellman, Mark

Reviewed By: Malloy, Michael



**STATE OF OHIO DEPARTMENT OF TRANSPORTATION  
APPROACH INSPECTION PHOTOS**

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Bridge Type: 3 - STEEL/5 - ARCH/4 - THRU

Sufficiency Rating: 48.8

Date Built: 7/1/1917

District: 12 Place Code (FIPS): CLEVELAND

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Type of Service on: HIGHWAY-PEDESTRIAN



# STATE OF OHIO DEPARTMENT OF TRANSPORTATION

## DECK INSPECTION

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### DECK

drain cover panels are damaged and much of the drain is filled with sediment or vegetation. There is also plow debris accumulating on the walk at several points along the bridge.

#### c10. Median (LF)

Total Quantity	State 1	State 2	State 3	State 4	Transition Rating
2656	0	323	322	30	3.01

The bridge has a single median at the point where the southern eastbound lane diverges around the steel arch superstructure. The median received a poor rating due to the condition of the attenuator on the eastbound leading edge. As shown in the pictures below, several of the attenuator bays show evidence of collision damage. The visibility paint on the west end of the barrier is also nearly gone.

#### c11. Railing (LF)

Total Quantity	State 1	State 2	State 3	State 4	Transition Rating
5312	6053		10		1.03

The entire length of concrete railing on the bridge was considered in this item. There was also Type 5 railing on the north side of Span 4 protecting the bridge chords. All concrete railing was in good condition with minor cracking, staining, and isolated distress.

#### c12. Drainage (EA)

Total Quantity	State 1	State 2	State 3	State 4	Transition Rating
0.00	0	26	2		2.32

This item encompassed the entire drainage system of the bridge moving from the deck scuppers to the outlets at the bases of the piers. During rainfall the deck had little to no ponding. The majority of the deficiencies occurred at the drainage outlets. Some of the downspouts or the basins into which they drained were completely clogged. There was also one catchbasin with dislodged lid. The south drain outlet at pier 1 is clogged up to the downspout and is preventing drainage from the structure.

At the south side of pier 3, downspout is broken and disconnected 10 feet up from the river.

Most of the curb drains are partially clogged, but drainage is not impacted.

#### c13. Expansion Joint (LF)

Total Quantity	State 1	State 2	State 3	State 4	Transition Rating
0.00	0	2538	40		2.09

The bridge has expansion joints within the tunnel sections, concrete spans, and main steel arch. The expansion joints in the west approach tunnels are in good condition having been previously rehabilitated, but some tunnel joints are stained and show signs of minor leakage. The concrete arches sections have expansion joints between spans. These joints are in good condition, showing little to no leakage. The armor above is in good condition, but some surrounding concrete has occasional delaminations and spalls on both the leading and trailing edges. The joints are nearly full of debris. There are four joints within the steel arch section. On the deck these joints show similar concrete damage and debris accumulation with minimal staining at the interface with the concrete spans. There is some plow damage. The expansion joint just east of the steel arch span has a slight (less than 1/4") vertical misalignment.

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DECK INSPECTION PHOTOS**

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# STATE OF OHIO DEPARTMENT OF TRANSPORTATION SUPERSTRUCTURE INSPECTION

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## SUPERSTRUCTURE

**(59) NBIS Superstructure Summary:**    5      **Recommended:**    6

### c14. Alignment (EA)

Total Quantity	State 1	State 2	State 3	State 4	Transition Rating
13	28				1.00

### c15.1 Beams/Girders (LF)

Total Quantity	State 1	State 2	State 3	State 4	Transition Rating
0.00	0	18713	500		2.14

This item is the concrete beams between the columns in the tunnel section. Overall these are in fair condition. Some were repaired during our inspection process.

### c16. Diaphragm/Cross Frames (EA)

Total Quantity	State 1	State 2	State 3	State 4	Transition Rating
0.00	0				

### c17. Stringers (LF)

Total Quantity	State 1	State 2	State 3	State 4	Transition Rating
0.00	0	17130	500	100	2.25

Overall, the stringers are in fair condition with isolated deficiencies. Stringers supporting the upper deck adjacent to areas where the steel arch or hangers penetrate through show more distress than interior stringers with severity ranging from isolated staining to section loss. In the lower deck, the stringers show most damage at their connections with the floorbeams with severe section loss occurring in isolated areas. Also present in many of the lower stringers are bolt holes from removed lateral bracing gussets.

### c18. Floorbeams (LF)

Total Quantity	State 1	State 2	State 3	State 4	Transition Rating
0.00	0	36268	1000	200	2.24

Rating of this item includes all concrete and steel floorbeams in both the upper and lower decks. Concrete floorbeams are supported by columns in the spans approaching the central steel arch. Floorbeams in the steel section are supported from hangers from the lower arch chord.

Most of the concrete floorbeams in the spans approaching the central steel span are in good condition. Hairline cracks are common and larger cracks have been previously repaired using epoxy injection. There are a few isolated spalls which are already marked for repair in the current rehabilitation. The steel floorbeams in Span 4 are in poor condition. All show severe corrosion and section loss especially around the verticals connecting the decks. Pack rust is common between the plates that compose the members. Through holes in the web, flanges, and stiffeners were also noted.

### c19. Truss Verticals (EA)

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## SUPERSTRUCTURE

Total Quantity	State 1	State 2	State 3	State 4	Transition Rating
0.00	0	0.00			

### c20. Truss Diagonals (EA)

Total Quantity	State 1	State 2	State 3	State 4	Transition Rating
0.00	0	0.00			

### c21. Truss Upper Chord (EA)

Total Quantity	State 1	State 2	State 3	State 4	Transition Rating
0.00	0				

### c22. Truss Lower Chord (EA)

Total Quantity	State 1	State 2	State 3	State 4	Transition Rating
0.00	0	0.00			

### c23. Truss Gusset Plate (EA)

Total Quantity	State 1	State 2	State 3	State 4	Transition Rating
0.00	0		0.00		

### c24. Lateral Bracing (EA)

Total Quantity	State 1	State 2	State 3	State 4	Transition Rating
36	0	32	4		2.43

Lateral Bracing Below deck at connections to arch are in poor condition.

### c25. Sway Bracing (EA)

Total Quantity	State 1	State 2	State 3	State 4	Transition Rating
0.00	0	26			2.00

### c26. Bearing Devices (EA)

Total Quantity	State 1	State 2	State 3	State 4	Transition Rating





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**SUPERSTRUCTURE**

<b>Total Quantity</b>	<b>State 1</b>	<b>State 2</b>	<b>State 3</b>	<b>State 4</b>	<b>Transition Rating</b>
0.00	0	19291			2.00

No fatigue distress was noted at the eyebar heads. Lower pins with grease fitting were greased as part of this inspections.

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SUPERSTRUCTURE INSPECTION PHOTOS**

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# STATE OF OHIO DEPARTMENT OF TRANSPORTATION

## SUBSTRUCTURE INSPECTION

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### SUBSTRUCTURE

**(60) NBIS Substructure Summary:**      5      **Recommended:** 5

#### c33. Abutment Walls (LF)

Total Quantity	State 1	State 2	State 3	State 4	Transition Rating
170.33	0	3289	600		2.52

The abutment wall include the tunnel walls. Abutment wall concrete shows signs of staining and minor cracking with some spalls. North East Approach Tunnel Wall was under construction during out initial inspections, with many areas of 360 degree rebar exposure during the repair process. These ares were repaired by the completion of the inspection and the rating is based on the repaired walls.

Overall the Pier Columns are in fair condition.

#### c35. Abutment Columns/Bents (EA)

Total Quantity	State 1	State 2	State 3	State 4	Transition Rating
0.00	0				

#### c34. Abutment Caps (LF)

Total Quantity	State 1	State 2	State 3	State 4	Transition Rating
170.33	0				

#### c38. Pier Columns/Bents (EA)

Total Quantity	State 1	State 2	State 3	State 4	Transition Rating
0.00	0	40	0		2.00

Piers 1-3 and 5-12. Minor cracking and some unsound areas where previously patched with shotcrete. (Note South Tower B is rated under wingwall)

#### c36. Pier Walls (LF)

Total Quantity	State 1	State 2	State 3	State 4	Transition Rating
1022.00	0	200			2.00

Arch Span Abutments and Piers 3 and 4. Minor Cracking and Staining.

#### c37. Pier Caps (LF)

Total Quantity	State 1	State 2	State 3	State 4	Transition Rating
1022.00	0	0			

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**SUBSTRUCTURE**

**c39. Backwalls (LF)**

Total Quantity	State 1	State 2	State 3	State 4	Transition Rating
170.33	0	92			2.00

Tunnel Ends. Minor Staining, Wet, and isolated cracking.

**c40. Wingwalls (EA)**

Total Quantity	State 1	State 2	State 3	State 4	Transition Rating
0.00	0	735	60		2.33

Soft concrete at southwest wingwall and cracking. Spalls at curtain walls typical with no significant change.

South Tower B settlement has continued. See crack monitor pictures in report.

**c42. Scour (EA)**

Total Quantity	State 1	State 2	State 3	State 4	Transition Rating
14	0	2			2.00

**c43. Slope Protection (EA)**

Total Quantity	State 1	State 2	State 3	State 4	Transition Rating
0.00	0	2			2.00

Stone in some areas along West Side.

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SUBSTRUCTURE INSPECTION PHOTOS**

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**STATE OF OHIO DEPARTMENT OF TRANSPORTATION  
CHANNEL INSPECTION**

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**CHANNEL**

**(61) NBIS Channel Summary:**

6

**Recommended:** 6

**c51. Alignment (LF)**

Total Quantity	State 1	State 2	State 3	State 4	Transition Rating
200.00	200.00				1.00

**c52. Protection (LF)**

Total Quantity	State 1	State 2	State 3	State 4	Transition Rating
200.00		200.00			2.00

Sheet Pile walls at Pier 4. Small sink hole behind sheet pile wall.

There is no functional collision protection present at pier 3. Sheet pile wall at pier 3 is deteriorated and deformed and is just visible above the water.

**c53. Hydraulic Opening (EA)**

Total Quantity	State 1	State 2	State 3	State 4	Transition Rating
1	1				1.00

**c54. Navigation Lights (EA)**

Total Quantity	State 1	State 2	State 3	State 4	Transition Rating
0.00	0	6			2.00

Navigation lights are all functioning but are very dim.

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**STATE OF OHIO DEPARTMENT OF TRANSPORTATION  
SIGNS/UTILITIES INSPECTION**

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**SIGNS/UTILITIES**

**(41) Open, Posted or Closed:**           A

**c55. Signs (EA)**

Total Quantity	State 1	State 2	State 3	State 4	Transition Rating
0.00	0	39	1		2.13

The West Approach "X" overhead sign at the south end of the cantilever sign support, facing eastbound traffic is faded and non functioning.

A sign is missing at the south west terminal of the steel arch sections just beyond the impact attenuator.

**c56. Sign Supports (EA)**

Total Quantity	State 1	State 2	State 3	State 4	Transition Rating
0.00	0	4			2.00

**c57. Utilities (LF)**

Total Quantity	State 1	State 2	State 3	State 4	Transition Rating
0.00	0	12000	0.00		2.00

UTILITY JUNCTION BOXES IN SPANS 3, 6 & 13 EXHIBIT ADVANCED CORROSION THROUGHOUT COMPONENTS WITH FAILED CORRUGATED METAL OUTER CONTAINMENT. AREAS OF LOOSELY CONNECTED/HANGING WIRES. DAMAGE TO SOME HANGERS. AREAS OF DISCONNECTED CONDUIT. RUSTED SECTION LOSS TO CONDUIT, MOSTLY IN TUNNELS.

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SIGNS/UTILITIES INSPECTION PHOTOS**

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**STATE OF OHIO DEPARTMENT OF TRANSPORTATION  
REVIEW**

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