

Inspector: Cooper, Kenneth  
 Inspection Date: 04/24/2023

Structure Number: 7709811  
 Facility Carried: I.R. 277

## Ohio Bridge Inspection Summary Report

**SUM-00277-0369 (7709811)**

2: District 19036 - COVENTRY TWP (SUM county)  
 District 04

5A: Inventory Route 1 00277

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 DISTRICT 04

7: Facility On I.R. 277  
 6: Feature Ints OVER SUM-IR 77-9.42  
 9: Location JCT OF IR 277 AND IR 77  
 Lat, Lon 41.025186 , -81.502358

Condition	
<b>58: Deck</b>	<b>5 - Fair Condition</b>
58.01 Wearing Surface	4 - Poor (advanced)
58.02 Joint	5- Fair (obvious leaking, 1" offset)
<b>59: Superstructure</b>	<b>5 - Fair Condition</b>
59.01 Paint & PCS	4 - Poor PCS (15-20% corr.)
<b>60: Substructure</b>	<b>6 - Satisfactory Condition</b>
<b>61: Channel</b>	<b>N</b>
61.01 Scour	<b>N - Not Applicable</b>
<b>62: Culverts</b>	<b>N - Not Applicable</b>
<b>67.01 GA</b>	<b>5</b>

Structure Type	
43: Bridge Type	4 - Steel continuous 02 - Stringer/Multi-beam or Girder N- Not Applicable
45: Spans Main / Approach	6 / 0
107: Deck Type	1 - Concrete Cast-in-Place
408: Composite Deck	U - Unknown
414A Joint Type 1	8 - Elastomeric Strip Seal
414B: Joint Type 2	N - None
108A: Wearing Surface	6 - Bituminous N- Not Applicable
422: WS Date	07/15/2012
423: WS Thick (in)	3.0
482: Protective Coating	5 - Paint System OZEU
483: PCS Date	01/01/1995
453: Bearing Type 1	2 - Rockers & Bolsters
455: Bearing Type 2	N - None
528: Foundn: Abut Fwd	7 - Steel H Piles (HP 10 x 42)
533: Foundn: Abut Rear	7 - Steel H Piles (HP 10 x 42)
536: Foundn: Pier 1	U - Unknown
539: Foundn: Pier 2	N - None (Such as most Culverts)

Appraisal	
Sufficiency Rating	75.0 SD/FO 0 - ND
36: Rail, Tr, Gd, Term Std	1 1 1 1
72: Approach Alignment	8 - Equal to present desirable criteria
113: Scour Critical	N - Not over waterway
71: Waterway Adequacy	N - Not Applicable

Geometric	
48: Max Span Length (ft)	115.0
49: Structure Length (ft)	561.0
52: Deck Width, Out-To-Out (ft)	106.3
424: Deck Area (sf)	59634.3
32: Appr Roadway Width (ft)	40.0
51: Road Width, Curb-Curb (ft)	102.0
50A: Curb/SW Width: Left (ft)	0
50A: Curb/SW Width: Right (ft)	0
34: Skew (deg)	0
33: Bridge Median	2 - Closed median (no barrier)
54B: Min Vert Underclearance (ft)	15.08
336A: Min Vert Clrnce IR Cardinal (ft)	99
336B: Min V Clr IR Non-Cardinal (ft)	0
578: Culvert Length (ft)	0

Age and Service	
27: Year Built/ 106 Rehab	1968 / 0000
42A: Service On	1 - Highway
42B: Service Under	1 - Highway, with or w/out pedestrian
28A: Lanes on	04
28B: Lanes Under	06
19: Bypass Length	1
29: ADT	61861
109: % Trucks (%)	6

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 (%)	110
704: Analysis Date	02/09/2021
63: Analysis Method	8 - Load and Resistance Factor Rating (LRFR) rating report by rating factor (RF) method using HL-93 loadings.

Inspections		
	Months	
90: Routine Insp.	12	04/24/2023
92A: FCM Insp.	N	0
92B: Dive Insp.	N	0
92C: Special Insp.	N	0
92D: UBIT Insp.	N	0
92E: Drone Insp.	N	0
Inspector	Cooper, Kenneth	

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	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
<b>12-Reinforced Concrete Deck</b>	3 - Mod.	59653	sq. ft.	23860	29827	5966	0
<p>CS2:            The concrete deck has numerous transverse cracks with some efflorescence. Over the slopes the haunch has some spalled areas. There are previously removed spalls over traffic. Some of these removal areas appear to have new delaminated areas in them. These areas need to be monitored with delamination removal scheduled in the future.            Span 1 - Transverse cracks, spalls along top flange.            Span 2 - Transverse cracks, delamination's, spalls.            Span 3 - Transverse cracks, spalls.            Span 4 - Transverse cracks            Span 5 - Transverse cracks, delamination's, spalls.            Span 6 - Transverse cracks, delamination's, spalls. Bay 12 has spalls along the top flange.</p> <p>CS3:            A few of the spalls both over the roadway and over the center median have exposed rebar. There is approximately 10% saturation of the deck with some stalactites.            Span 1 - Saturation near Rr abutment.            Span 3 - Spalls with rebar exposed.            Span 4 - Small amount of saturation bays 2 &amp; 3            Span 5 - Spalls with rebar exposed.            Span 6 - Saturation in bays 8, 10 &amp; 12</p> <p>Pictures - 2020, 2021, 2022, 2013</p>							
<b>510-Wearing Surfaces</b>		57222	sq. ft.	34269	22888	65	0
<p>CS2:            Numerous full length longitudinal and transverse cracks have developed in the Asphalt wearing surface. Some of the cracks have been sealed.</p> <p>CS3:            There are 2 failures in the EB ramp lane. At the rear expansion joint there is a failure that attempts have been made to repair, 45 sq. ft. At the fwd. expansion joint there is a failure which a couple inches deep. Patching attempts have failed, 20 sq. ft.</p>							
<b>107-Steel Open Girder/Beam</b>	3 - Mod.	7854	ft.	2983	4713	158	0
<p>CS2:            Rust has developed on the bottom flanges and the stiffeners. There are also sections of the beams where the top layer of paint is peeling off. Rust also developing on cross frames.</p> <p>CS3:            Rear right fascia beam there are rust holes in the web, behind the bearing. Forward right fascia beam there is a hole in the web over the bearing. Forward left fascia beam and cross frames at Fwd abutment have excessive rust.</p>							
<b>515-Steel Protective Coating</b>		119516	sq. ft.	61064	56556	1896	0
<p>CS2:            Rust has developed on the bottom flanges and on the stiffeners. There are also sections of the beams where the top layer of paint is peeling off. Rust has developed on the cross frames and the bearings. The beams are also dirty over the roadway.</p> <p>CS3:            There are areas of heavy rust on the beam ends and end cross frames. There are spots of heavy rust over the roadway.</p>							
<b>205-Reinforced Concrete Column</b>	3 - Mod.	50	each	42	8	0	0
<p>CS2:            P1C2 thru C6 from left have cracks.            P2C9 has delamination's near the top of the column.            P5C9 &amp; 10 have spalls at the bottom.</p>							

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<b>215-Reinforced Concrete Abutment</b>	3 - Mod.	212	ft.	206	6	0	0
	CS2: The abutments have visible vertical cracks. Fwd. = 3 ft. Rear = 3 ft.						
<b>234-Reinforced Concrete Pier Cap</b>	3 - Mod.	530	ft.	530	0	0	0
<b>301-Pourable Joint Seal</b>	3 - Mod.	213	ft.	99	114	0	0
	2020 - A new joint was placed since the prior inspection.  CS2: WB: - Fwd. full width crack, 48 ft. - Rear full width crack, 48 ft.  EB: - Fwd. patched over ramp lane, 12 ft. - Rear failing in ramp lane, 6 ft.						
<b>311-Movable Bearing</b>	3 - Mod.	84	each	0	84	0	0
	CS2: All the bearings are starting to or are rusting. Some of the bearings at the forward abutment are randomly tilted.						
<b>313-Fixed Bearing</b>	3 - Mod.	14	each	0	14	0	0
	CS2: The fixed bearings (on center pier only) are rusting.						
<b>321-Reinforced Concrete Approach Slab</b>	3 - Mod.	2000	sq. ft.	1000	1000	0	0
	Approach slabs are paved over with asphalt.  CS2: The forward left approach slab in the driving lane appears to have settled, small dip coming on to the bridge. Both the fwd. and rear approach slabs have cracks, longitudinal and transverse. The cracks have developed in the asphalt wearing surface, some that have been sealed.						
<b>331-Reinforced Concrete Bridge Railing</b>	3 - Mod.	1122	ft.	965	157	0	0
	CS2: The concrete bridge railing and the median railing both have a couple horizontal cracks and some vertical cracks. The sealer is peeling off some of the previously patched areas. Left parapet has 8 noticeable spalls. Right side has one.  left = 62 ft. median = 55 ft. right = 40 ft.						
<b>815-Drainage</b>	3 - Mod.	50	each	15	30	5	0
	CS2: All the median scuppers and most of the outside scuppers are partially plugged.  CS3: All but one of left side scuppers is clogged and blocked.						
<b>830-Abutment Backwall</b>	3 - Mod.	212	ft.	196	13	3	0

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Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
CS2: There is a spall in the forward abutment near the median. Also in this same area there is one beam that is almost touching the back wall. There is a crack in bay 1. Vertical cracks in both back walls. Fwd. = 12 ft. Rear = 1 ft.						
CS3: Fwd. bay 13, there is a 3 ft. spalled area that is saturated.						

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ODOT District: District 04

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Date Built: 07/01/1968

Major Maint: 01 - State Highway Agency

Facility Carried: I.R. 277

Traffic On: 1 - Highway

Rehab Date:

Routine Maint: 01 - State Highway Agency

Feature Inters: OVER SUM-IR 77-9.42

Traffic Under: 1 - Highway, with or w/out pedestrian

Insp. Resp A: 01 - State Highway Agency

FIPS Code: 19036 - COVENTRY TWP (SUM county)

Location: DISTRICT 04

JCT OF IR 277 AND IR 77

Insp Resp B:

Inspector

Cooper, Kenneth

Inspection Date 04/24/2023

Reviewer Chaney, Nicholas

## **Inspector Comments - Deck and Approach**

### **Deck**

#### **Floor/Slab (SF)**

NUMEROUS TRANSVERSE CRACKS WITH EFFL., 10% SATURATION. SOME AREAS IN HAUNCH AREA SPALLED. STALACTITES. THIN HANGING SPALLS OVER SLOPES. PREVIOUSLY REMOVED SPALLS OVER TRAFFIC NOW APPEAR TO BE GETTING LARGER. SPALL REMOVAL SHOULD BE SCHEDULED FOR THIS STRUCTURE IN THE FUTURE, STARTING WITH NB LANES. PICTURES - 2016, 2019

#### **Bridge Wearing Surface (SF)**

NUMEROUS CRACKS HAVE DEVELOPED IN THE ASPHALT CONCRETE WEARING SURFACE.

#### **Bridge Median (LF)**

SMALL SECTION HAS HORIZONTAL CRACK.

#### **Bridge Railing (LF)**

COUPLE AREAS HAVE HORIZONTAL CRACKS. SOME OF THE SEALER PEELING OFF.

#### **Deck Drainage (EA)**

ALL MEDIAN SCUPPERS ARE PARTIALLY CLOGGED. SOME OF THE OUTSIDE SCUPPERS ARE ALSO PARTIALLY CLOGGED.

#### **Expansion Joint (LF)**

RUTTING WITH SOME MATERIAL BEING SHOVED OUT. BAD REAR RIGHT, STEEL IS EXPOSED. FORWARD LEFT RAMP LANE IS RUTTING WITH THE STEEL EXPOSED. STEEL EXPOSED IN REAR LANES ALSO.

### **Approach**

#### **Approach Wearing Surface (EA)**

TRANSVERSE AND LONGITUDINAL CRACKS.

#### **Approach Slab (SF)**

FORWARD LEFT DRIVING APPEARS TO HAVE SETTLED, DIP COMING ON TO THE BRIDGE. CRACKS HAVE ALSO DEVELOPED.

#### **Signs (EA)**

1 WARNING SIGN AT EACH ABUTMENT.

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## **Inspector Comments - General Appraisal**

### **Superstructure**

#### **Superstructure Alignment (EA)**

BRIDGE MEDIAN AND APPROACH MEDIAN DO NOT LINE UP AT REAR.

#### **Beams/Girders (LF)**

RUST HAS DEVELOPED ON THE BOTTOM FLANGES AND STIFFENERS. THERE ARE ALSO SECTIONS WHERE THE TOP LAYER OF PAINT ARE PEELING OFF.

#### **Diaphragm/X-Frames (EA)**

RUST HAS DEVELOPED ON THE CROSS FRAMES.

#### **Bearing Devices (EA)**

ROCKERS ARE RANDOMLY TILTED AT THE FORWARD ABUTMENT. ABUTMENT BEARINGS ARE ALSO STARTING TO RUST.

#### **Protective Coating System (LF)**

RUST HAS DEVELOPED ON THE BOTTOM FLANGES AND STIFFENERS. THERE ARE ALSO SECTIONS WHERE THE TOP LAYER OF PAINT ARE PEELING OFF. RUST HAS DEVELOPED ON THE CROSS FRAMES. ABUTMENT BEARINGS ARE ALSO STARTING TO RUST.

### **Substructure**

#### **Backwalls (LF)**

SMALL SPALL FORWARD ABUTMENT NEAR THE MEDIAN. THERE IS ONE BEAM IN THIS AREA THAT IS ALMOST TOUCHING THE BACK WALL.

#### **Slope Protection (EA)**

SMALL AMOUNT OF EROSION UNDER THE MEDIAN HAS STARTED.

### **Culvert**

## **Inspector Comments - Waterway**

### **Waterway Adequacy**

#### **Channel**

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**Scour Critical**

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**Bridge Inspection Report**

**Pictures**