

Inspector: Persanyi,Andrea
 Inspection Date: 10/29/2022

Structure Number: 4305345
 Facility Carried: WHITE RD

Bridge Inspection Report

Ohio Bridge Inspection Summary Report

LAK-00271-0001 (4305345)

2: District 85512 - WILLOUGHBY HILLS (LAK county)
 District 12

5A: Inventory Route 1 00539

21: Major Maint A/B 01 - State Highway Agency /
 225 Routine Main A/B 04 - City or Municipal Highway /
 Agency
 221 Inspection A/B 01 - State Highway Agency /
 220: Inv. Location DISTRICT 12

7: Facility On WHITE RD
 6: Feature Ints IR-271&271X (LAK-271-.01
 9: Location .1 MI N CUY CNTY ON I-271
 Lat, Lon 41.570429746795256 , -81.44794840269535

Condition

58: Deck **5 - Fair Condition**
 58.01 Wearing Surface 6 - Satisfactory (1-10% distress)
 58.02 Joint 6- Satisfactory (isolated leaking)
59: Superstructure **6 - Satisfactory Condition**
 59.01 Paint & PCS 4 - Poor PCS (15-20% corr.)
60: Substructure **6 - Satisfactory Condition**
61: Channel **N**
61.01 Scour **N - Not Applicable**
62: Culverts **N - Not Applicable**
67.01 GA **6**

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 N - Non-composite Construction
 414A Joint Type 1 8 - Elastomeric Strip Seal
 414B: Joint Type 2 N - None
 108A: Wearing Surface 3 - Latex Concrete or similar
 additive
 N- Not Applicable

Appraisal

Sufficiency Rating 78.0 SD/FO 2 - FO
 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

422: WS Date 01/01/1977
 423: WS Thick (in) 1.125
 482: Protective Coating 7 - Metalized (Alum/Zinc)
 483: PCS Date 01/01/1988
 453: Bearing Type 1 2 - Rockers & Bolsters
 455: Bearing Type 2 N - None
 528: Foundn: Abut Fwd 1 - Steel H Piles (Other size)
 533: Foundn: Abut Rear 1 - Steel H Piles (Other Size)
 536: Foundn: Pier 1 4 - Spread Footing (on soil)
 539: Foundn: Pier 2 0 - Other

Geometric

48: Max Span Length (ft) 74.0
 49: Structure Length (ft) 402.0
 52: Deck Width, Out-To-Out (ft) 30.8
 424: Deck Area (sf) 12381.6
 32: Appr Roadway Width (ft) 34.0
 51: Road Width, Curb-Curb (ft) 24.0
 50A: Curb/SW Width: Left (ft) 2.2
 50A: Curb/SW Width: Right (ft) 2.2
 34: Skew (deg) 16
 33: Bridge Median 0 - No median
 54B: Min Vert Underclearance (ft) 15.84
 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 1963 / 0000
 42A: Service On 5 - Highway-pedestrian
 42B: Service Under 1 - Highway, with or w/out
 pedestrian
 28A: Lanes on 02
 28B: Lanes Under 06
 19: Bypass Length 0
 29: ADT 4185
 109: % Trucks (%) 5

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 07/01/1973

Inspections

90: Routine Insp. 12 Months 10/29/2022
 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

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63: Analysis Method 6 - Load Factor (LF) rating reported by rating factor (RF) method using MS18 loading.

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	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
12-Reinforced Concrete Deck	3 - Mod.	12362	sq. ft.	10162	550	1500	150
<p>CS 2 - Leaching cracks.</p> <p>CS 3 - Large mottled areas. Epoxy injected areas. Many delams. At least 50 sf of spalls (based on what is visible).</p> <p>CS 4 - Spalls with 4+ exposed rebar.</p>							
510-Wearing Surfaces		9648	sq. ft.	8048	1200	400	0
<p>CS 2 - Many transverse cracks. Shallow spall in EB lane at rear expansion joint.</p> <p>CS 3 - Some cracks as wide as 1/16th of an inch.</p>							
107-Steel Open Girder/Beam	3 - Mod.	1592	ft.	562	950	80	0
<p>CS 2 - Surface rust, mainly at lower flanges.</p> <p>CS 3 - Areas of section loss to fascia beams, mainly at lower flange, web connections, and abutments.</p>							
515-Steel Protective Coating		13944	sq. ft.	0	7944	4000	2000
<p>CS 2 - Chalking, faded.</p> <p>CS 3 - Rust.</p> <p>CS 4 - Peeling paint, rusting.</p> <p>Note: beam ends painted 9/05 (OZEU) are re-rusting.</p>							
205-Reinforced Concrete Column	3 - Mod.	15	each	10	2	2	1
<p>CS 2 - P1:C2, Delminating Fiber wrap. P5:C2, Minor cracking and small delams.</p> <p>CS 3 - P3:C3, Delams exceeding 8sf P5:C3, Failing fiber wrap with spall through fiber wrap.</p> <p>CS 4 - P2:C2, Large spall with 4+ rebar exposed.</p>							
215-Reinforced Concrete Abutment	3 - Mod.	56	ft.	46	10	0	0
<p>CS 2 - Cracks, some leached. Rust stains. Concrete deterioration below some weep holes.</p>							
234-Reinforced Concrete Pier Cap	3 - Mod.	125	ft.	123	2	0	0
<p>CS 2 - Cracks.</p>							
300-Strip Seal Expansion Joint	3 - Mod.	56	ft.	0	46	10	0
<p>CS 2 - Dirt & debris in joints.</p> <p>CS 3 - Tears in both seals. Spalls to rear header.</p>							
311-Movable Bearing	3 - Mod.	24	each	4	16	4	0
<p>CS 2 - Rusting at abutments.</p> <p>CS 3 - Rear rocker 1 & forward rocker 4 engulfed in dirt & debris. Pack rust obstructing mvment in some bearings.</p>							

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313-Fixed Bearing	3 - Mod.	4	each	0	4	0	0
CS 2 - Rusting.							
321-Reinforced Concrete Approach Slab	3 - Mod.	1400	sq. ft.	756	400	240	4
CS 2 - Minor cracking.							
CS 3 - Major cracking to asphalt throughout slabs.							
CS 4 - Area of approach slab spalled out.							
331-Reinforced Concrete Bridge Railing	3 - Mod.	796	ft.	621	135	40	0
CS 2 - Cracks.							
CS 3 - Many spalls & delams to inside & outside of rails. One aluminum post broken off to left rail over grass area between NB mainline & express lanes. A few locations of anchor bolts missing from base plates.							
815-Drainage	3 - Mod.	8	each	2	4	1	1
CS 2 - Partially plugged scuppers. Several downspouts have rusted thru holes just above lower flanges. Broken welds to 1st two downspout supports from rear abutment & the last downspout support near forward abutment on left fascia.							
CS 3 - Scupper trap full, beginning to plug.							
CS 4 - Fully plugged scupper.							
830-Abutment Backwall	3 - Mod.	56	ft.	27	10	15	4
CS 2 - Cracks. Rust stains.							
CS 3 - Delams. A few other spalls							
CS 4 - Large spalls with exposed cheese plate & rebar in bays 1 & 3 at both abutments.							

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ODOT District: District 12

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Date Built: 07/01/1963

Major Maint: 01 - State Highway Agency

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Traffic On: 5 - Highway-pedestrian

Rehab Date:

Routine Maint: 04 - City or Municipal Highway Agency

Feature Inters: IR-271&271X (LAK-271-.01

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

Insp. 01 - State Highway Agency

FIPS Code: 85512 - WILLOUGHBY HILLS (LAK county)

Location: DISTRICT 12

.1 MI N CUY CNTY ON I-271

Resp A:

Insp

Resp B:

Inspector

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Reviewer

Seif,Youssef

Inspector Comments - Deck and Approach

Deck

Floor/Slab (SF)

Note: timber sub-decked over traffic.

Curbs/Sidewalk (LF)

Cracks, a few large delams. Spall to rear-right corner & to left curb between rear scuppers 1 & 2. Large area of concrete deterioration at forward-right.

Approach

Approach Wearing Surface (EA)

Cracks. Areas of asphalt breaking up. Asphalt patches.

Approach Slab (SF)

Note: paved over with asphalt. Shallow void to forward-right slab along curb as deep as 8" x 48" long.

Approach Embankment (EA)

Minor erosion between rear-right guardrail posts 2 & 3.

Approach Guardrail (EA)

Post rot. Collision damage to rear-left. Partial exposure of concrete encasement of rear-right post 2. A few spacers missing at forward.

Signs (EA)

No bridge end markers.

Inspector Comments - General Appraisal

Superstructure

Diaphragm/X-Frames (EA)

Endframe rusting section loss. Rusted thru holes to forward endframe 1. Horizontal angle of first xframe from rear abutment in bay 2 is bent up 2".

Railing

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Rail spalls forming over traffic: South rail - over NB mainline lanes 1 & 2, NB express lanes 1 & 2, SB mainline lane 2 & SB express lane 1.

Fatigue (LF)

Welded cover plates at piers.

Substructure

Pier Columns/Bents (EA)

Note: 2 of 15 columns fiber wrapped.

Slope Protection (EA)

As much as 4" of forward abutment footing exposed.

Culvert

Inspector Comments - Waterway

Waterway Adequacy

Channel

Scour Critical

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Pictures