

Inspector: Persanyi,Andrea
 Inspection Date: 08/29/2022

Structure Number: 4301862
 Facility Carried: SR535

Bridge Inspection Report

Ohio Bridge Inspection Summary Report

LAK-00535-0469 (4301862)

2: District 59430 - PAINESVILLE TWP (LAK county)
 District 12

5A: Inventory Route 1 00535

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 12

7: Facility On SR535
 6: Feature Ints SR 2 (LAK-2-1752)
 9: Location 1.1 MI E GRAND RIVER
 Lat, Lon 41.746894 , -81.216119

Condition	Structure Type
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58: Deck **5 - Fair Condition**
 58.01 Wearing Surface 5 - Fair (10-15%, 2% asphalt patch)
 58.02 Joint 5- Fair (obvious leaking, 1" offset)
59: Superstructure **5 - Fair 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 **5**

43: Bridge Type 4 - Steel continuous
 02 - Stringer/Multi-beam or Girder
 N- Not Applicable
 45: Spans Main / Approach 5 / 0
 107: Deck Type 1 - Concrete Cast-in-Place
 408: Composite Deck N - Non-composite Construction
 414A Joint Type 1 2 - Sliding Metal Plate Angle
 414B: Joint Type 2 N - None
 108A: Wearing Surface 3 - Latex Concrete or similar additive
 N- Not Applicable

Appraisal

Sufficiency Rating 65.8 SD/FO 2 - FO
 36: Rail, Tr, Gd, Term Std 1 0 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 10/31/2004
 423: WS Thick (in) 1.2
 482: Protective Coating 0 - Other Paint
 483: PCS Date 01/01/1992
 453: Bearing Type 1 3 - Sliding (Bronze)
 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 1 - Steel H Piles (Other size)
 539: Foundn: Pier 2 0 - Other

Geometric

48: Max Span Length (ft) 76.0
 49: Structure Length (ft) 314.0
 52: Deck Width, Out-To-Out (ft) 36.9
 424: Deck Area (sf) 11586.6
 32: Appr Roadway Width (ft) 30.0
 51: Road Width, Curb-Curb (ft) 30.0
 50A: Curb/SW Width: Left (ft) 2.0
 50A: Curb/SW Width: Right (ft) 2.0
 34: Skew (deg) 36
 33: Bridge Median 0 - No median
 54B: Min Vert Underclearance (ft) 14.97
 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 1964 / 0000
 42A: Service On 5 - Highway-pedestrian
 42B: Service Under 1 - Highway, with or w/out pedestrian
 28A: Lanes on 02
 28B: Lanes Under 04
 19: Bypass Length 2
 29: ADT 5209
 109: % Trucks (%) 11

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
 63: Analysis Method 6 - Load Factor (LF) rating reported by

Inspections

	<i>Months</i>	
90: Routine Insp.	12	08/29/2022
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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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.	11591	sq. ft.	10079	1100	50	362
<p>CS 2 - Leaching cracks, some with stalactites. Epoxy injected areas. Rust stains from rebar chairs throughout. CS 3 - Spalls with exposed rebar to right edge of floor over Westbound lanes. Delaminations. Mottled areas. A few spalls with exposed rebar along deck edge. CS 4 - Spalls with 4 or more exposed rebar with section loss.</p>							
805-Wearing Surface - Monolithic Concrete		9420	sq. ft.	0	8940	480	0
<p>CS 2 - Minor to moderate map cracking in areas throughout. Transverse and longitudinal cracks. CS 3 - Cracks as wide as 1/16th of an inch.</p>							
107-Steel Open Girder/Beam	3 - Mod.	1545	ft.	1239	275	30	1
<p>CS 2 - Minor section loss to flanges throughout. A few scrapes to lower flanges over EB traffic. Scrapes & old ground out gouges to lower flanges over WB mainline & ramp. CS 3 - Heavy rusted section loss at beam ends. Deep gouge with 1/2" tear in lower flange to right fascia over Westbound lane 2. CS 4 - 2" rusting through hole in web of beam 1 at forward .</p>							
515-Steel Protective Coating		13905	sq. ft.	0	12155	1300	450
<p>CS 2 - Chalking and faded paint. CS 3 - Peeling and cracking to finish and primer coats. Areas of surface rust throughout. CS 4 - Areas of paint failure at beam ends and to flanges throughout.</p>							
205-Reinforced Concrete Column	3 - Mod.	16	each	7	8	1	0
<p>CS 2 - P1:C4, 6 sf delam. P1:C4, 5 sf delam. P3:C1, 7 sf delam. P3:C3, 4 sf delam (tight). P3:C4, 3 sf delam (tight). P4:C1, 2 sf spall. P4:C3, 6 sf delam. P4:C4, Unsound patchwork. CS 3 - P2:C1, 10 sf of delams and spalls.</p>							
215-Reinforced Concrete Abutment	3 - Mod.	91	ft.	67	22	2	0
<p>Note: seat has heavy debris. CS 2 - Cracks, rust stains. CS 3 - 2 ft spall in bay 1 at rear.</p>							
234-Reinforced Concrete Pier Cap	3 - Mod.	183	ft.	163	20	0	0
<p>CS 2 - Cracks and rust stains and a small delam to P3 cap.</p>							

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305-Assembly Joint without Seal	3 - Mod.	60	ft.	0	47	0	13
<p>Note: As much as 9" of dirt & debris on abutment seats. CS 2 - A few gouges in armor. Section loss to armor. Cracks and concrete break up to both headers. Evidence of leakage down both backwalls. CS 4 - Rusted through hole to rear-left curb plate. Asphalt patch to forward joint in Northbound lane.</p>							
311-Movable Bearing	3 - Mod.	25	each	0	15	0	10
<p>CS 2 - Rust. CS 4 - Abutment bearings have pack rust and are engulfed in debris.</p>							
313-Fixed Bearing	3 - Mod.	5	each	0	5	0	0
<p>CS 2 - Rust.</p>							
321-Reinforced Concrete Approach Slab	3 - Mod.	1500	sq. ft.	733	733	34	0
<p>CS 2 - Long diagonal cracks to both. Map cracking. CS 3 - Concrete break up along both approach pavements.</p>							
331-Reinforced Concrete Bridge Railing	3 - Mod.	628	ft.	537	85	6	0
<p>CS 2 - Cracks, rust stains and small delaminations. CS 3 - Spalls to inside of left rail.</p>							
815-Drainage	3 - Mod.	16	each	0	15	0	1
<p>CS 2 - Partially plugged scuppers. Rusted section loss to grates. CS 4 - 1 plugged scupper at forward.</p>							
830-Abutment Backwall	3 - Mod.	91	ft.	71	20	0	0
<p>CS 2 - Cracks.</p>							

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ODOT District: District 12

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Date Built: 07/01/1964

Major Maint: 01 - State Highway Agency

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Traffic On: 5 - Highway-pedestrian

Rehab Date:

Routine Maint: 01 - State Highway Agency

Feature Inters: SR 2 (LAK-2-1752)

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

Insp. 01 - State Highway Agency

FIPS Code: 59430 - PAINESVILLE TWP (LAK county)

Location: DISTRICT 12

1.1 MI E GRAND RIVER

Resp A:

Insp

Resp B:

Inspector

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Inspection Date 08/29/2022

Reviewer Seif,Youssef

Inspector Comments - Deck and Approach

Deck

Floor/Slab (SF)

Spalls forming over traffic - Over EB traffic: bay 1 over lane 2, bays 3 and 4 over lane 2, bay 4 over lane 1. Over WB traffic: bay 2 over lane 2 bay 3 over lane 1,

Curbs/Sidewalk (LF)

Cracks, minor delams. Spalls, some with exposed rebar. Concrete patches.

Bridge Railing (LF)

Some rust severed hardware.

Expansion Joint (LF)

As much as 9" of dirt & debris on abutment seats.

Approach

Approach Wearing Surface (EA)

Cracks.

Inspector Comments - General Appraisal

Superstructure

Diaphragm/X-Frames (EA)

Heavy rusting section loss to endframes. Horizontal angle to forward endframe 1 is rust severed. Rusted thru hole in forward endframe #4

Fatigue (LF)

Welded moment plates over piers 2, 3 & 4.

Substructure

Slope Protection (EA)

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Tears in grout bags. Small voids in forward slope. Forward right embankment has 4X4 hole with undermining up to 12".

Culvert

Inspector Comments - Waterway

Waterway Adequacy

Channel

Scour Critical

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Pictures