Bridge Inspection Report

056B00380L
Inspector: David Rust
Entered by: DRUST
05/17/2023
Standard (24 months)

IDENTIFICATION

Structure Num (8):	056B00380L
NBI Number:	056B00380L
Structure Name:	I-265 SB over KY 155
Location (9):	2.3 MI S OF I-64
Carries (7):	I-265 SB
Type of Service (42A):	1 Highway
Feature Crossed (6):	KY 155 (TAYLORSVILLE RD)
Type of Service (42B):	1 Highway
Placecode (4):	Not Applicable
County (3):	Jefferson (056)
State (1):	21 Kentucky
Admin Area:	Inventory
District:	District 5
Latitude (16):	38° 11' 20"
Longitude (17):	85° 30' 33"
Owner (22):	State Highway Agency
Maint. Resp. (21):	State Highway Agency
Year Built (27):	1987
Year Recon (106):	0
Border State (98A):	Not Applicable (P)
Border Number (99):	
% Responsibility (98B):	-1

Poor **Heath Index:** 59.37

SubStd: No **SubStd Reason:** Not Sub-Standa

Inspection Type	Freq (92)	Last Insp (93)	Next Insp
Routine	24	5/17/2023	5/17/2025
Element	24	5/17/2023	5/17/2025
Fracture Critical (A)		1/1/1901	1/1/1901
Underwater (B)		1/1/1901	1/1/1901
Special Insp (C)		5/16/2007	1/1/1901

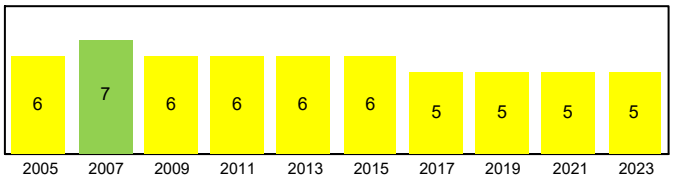
LOAD RATING AND POSTING

Posting Status(41):	A Open, no restriction
Posting (70):	5 At/Above Legal Loads
Signs Posted Cardinal:	No
Signs Posted Non-Cardinal:	No
Recmd Date:	
Posted Date:	

Required Postings (Tons.)		Field Postings (Tons.)	
Gross:		**Gross:**	
Truck Type 1:		**Truck Type 1**	
Truck Type 2:		**Truck Type 2**	
Truck Type 3:		**Truck Type 3**	
Truck Type 4:		**Truck Type 4**	
SUV 5:		**SUV 5:**	
SUV 6:		**SUV 6:**	
SUV 7:		**SUV 7:**	
EV Single Axle:		**EV Gross:**	
EV Tadem Axle:			

DECK GEOMETRY

Deck Geometry (68):	7 Above Min Criteria
Deck Area:	10,158.00 ft²
Deck Type (107):	1 Concrete-Cast-in-Place
Wearing Surface (108A):	1 Monolithic Concrete
Membrane (108B):	0 None
Deck Protection (108C):	1 Epoxy Coated Reinforci
Approach Roadway width (32):	40.00 ft.
Width Curb to Curb (51):	40.00 ft.
O. to O. Width (52):	43.30 ft.
Curb / Sidewalk Width L (50A):	0.00 ft.
Curb / Sidewalk Width R (50B):	0.00 ft.
Median (33):	0 No median

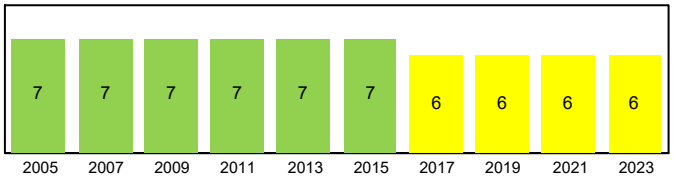


DECK CONDITION

Deck Rating (58):	5 Fair
Bridge Rail (36A):	1 Meets Standards
Transition (36B):	1 Meets Standards
Approach Rail (36C):	1 Meets Standards
Approach Rail Ends (36D):	1 Meets Standards

SUPERSTRUCTURE GEOMETRY

# of Main Spans (45):	3
# of Approach Spans (46):	0
Main Material (43 A):	3 Steel
Main Design (43 B):	02 Stringer/Girder
Max Span Length (48):	139.80 ft.
Structure Length (49):	234.60 ft.
NBIS Length (37):	Long Enough
Temp Structure (103):	Not Applicable (P)
Skew (34):	13°
Structure Flared (35):	0 No flare
Parallel Structure (101):	Left of || bridge
Approach Alignment (72):	8 Equal Desirable Crit

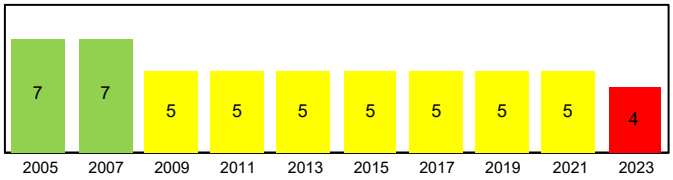


SUPERSTRUCTURE CONDITION

Superstructure Rating (59):	6 Satisfactory
Structure Evaluation (67):	4 Minimum Tolerable

SUBSTRUCTURE GEOMETRY

Navigation Control (38):	NA-no waterway
Nav Vert Clearance (39):	
Nav Horiz Clearance (40):	
Pier Protection (111):	Not Applicable (P)
Lift Bridge Vertical Clearance (116):	
Scour Rating (113):	N Not Over Waterway
Waterway Adequacy (71):	N Not applicable



SUBSTRUCTURE CONDITION

Substructure Rating (60):	4 Poor
Channel Rating (61):	N N/A (NBI)

KYTC FIELDS

Overlay:	No	**Scour Observed:**	N/A
Overlay Type:	None	**Scour Risk :**	N/A
Overylay Thickness:		**Scour Analysis/Assessment :**	Not Required
Overlay Year:		**Scour POA :**	Not Required
Cross Section:	Not Required	**Scour POA Date :**	
Cross Section Date:		**Next Cross Section Due Date :**	

1ST NON-CARD ROUTE UNDER: TAYLORSVILLE RD NC

ROADWAY LOCATION

Pos Prefix (5A):	1st Non-Card Route
Kind of Hwy (5B):	3 State Hwy
Route Num (5D):	00155
LRS Route (13A/B):	KY0155_000/00
Milepost (11):	6.07 mi
Suffix (5E):	0 N/A (NBI)
Lanes Under (28B):	4
Detour Length (19):	

ROADWAY CLASSIFICATION

Funct Class (26):	14 Urban Other Princ
Level Service (5C):	1 Mainline
NHS (104):	1 On the NHS
Defense Hwy (100):	0 Not a STRAHNET hwy
Toll Facility (20):	3 On free road
ADT (29):	10,273 Cars/Day
Pct Trucks (109):	7.00%
ADT Year (30):	2020

CLEARANCES

Vertical (10):	16.83 ft.
Min Vert Over (53):	99.99 ft.
Vert Ref (54A):	H Hwy beneath struct
Undrclearnce (54B):	16.58 ft.
Horizontal (47):	99.90 ft.
Min Lat Left (56):	0.00 ft.
Min Lat Right (55B):	29.00 ft.
Horiz Ref (55A):	H Hwy beneath struct
Underclearance (69):	7 Above Minimum

ROUTE UNDER STRUCTURE: TAYLORSVILLE RD

ROADWAY LOCATION

Pos Prefix (5A):	One Route Under
Kind of Hwy (5B):	3 State Hwy
Route Num (5D):	00155
LRS Route (13A/B):	KY0155_000/00
Milepost (11):	6.08 mi
Suffix (5E):	0 N/A (NBI)
Lanes Under (28B):	4
Detour Length (19):	

ROADWAY CLASSIFICATION

Funct Class (26):	14 Urban Other Princ
Level Service (5C):	1 Mainline
NHS (104):	1 On the NHS
Defense Hwy (100):	0 Not a STRAHNET hwy
Toll Facility (20):	3 On free road
ADT (29):	10,273 Cars/Day
Pct Trucks (109):	7.00%
ADT Year (30):	2020

CLEARANCES

Vertical (10):	17.08 ft.
Min Vert Over (53):	99.99 ft.
Vert Ref (54A):	H Hwy beneath struct
Undrclearnce (54B):	16.58 ft.
Horizontal (47):	99.90 ft.
Min Lat Left (56):	0.00 ft.
Min Lat Right (55B):	29.00 ft.
Horiz Ref (55A):	H Hwy beneath struct
Underclearance (69):	7 Above Minimum

ROUTE ON STRUCTURE: I-265 NC

ROADWAY LOCATION

Pos Prefix (5A):	Route On Structure
Kind of Hwy (5B):	1 Interstate Hwy
Route Num (5D):	00265
LRS Route (13A/B):	IO0265_000/00
Milepost (11):	23.10 mi
Suffix (5E):	0 N/A (NBI)
Lanes On (28A):	2
Detour Length (19):	0.00 mi

ROADWAY CLASSIFICATION

Funct Class (26):	11 Urban Interstate
Level Service (5C):	1 Mainline
NHS (104):	1 On the NHS
Defense Hwy (100):	1 On Interstate STRAHNET
Toll Facility (20):	3 On free road
ADT (29):	29,753 Cars/Day
Pct Trucks (109):	13.00%
ADT Year (30):	2022

CLEARANCES

Vertical (10):	99.99 ft.
Min Vert Over (53):	99.99 ft.
Vert Ref (54A):	H Hwy beneath struct
Undrclearnce (54B):	16.58 ft.
Horizontal (47):	40.00 ft.
Min Lat Left (56):	0.00 ft.
Min Lat Right (55B):	29.00 ft.
Horiz Ref (55A):	H Hwy beneath struct
Underclearance (69):	7 Above Minimum

STRUCTURE NOTES

-2010 repair project (CID 101302) included joint elimination and armored edge installation at bridge ends as well as joint seal replacement at piers.

INSPECTION NOTES

-Routine inspection performed by David Rust (QTL) and Jon Murrin of Palmer Engineering.
-NBI Substructure Condition Rating lowered to 4 (Poor) from 5 (Fair) due to extensive spalling with two layers of exposed rebar and section loss at Pier 2-Column 3.

SCOUR NOTES

LOAD RATING NOTES

03/26/2021. Controlling member is an interior beam (span2) with provision for FWS. JCG

COMPLIANCE NOTES

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
12	**Re Concrete Deck**	**3**	**05/17/2023**	**10,157.00**	**sq.ft**	**2,057.00**	**7,100.00**	**1,000.00**	**0.00**

Top of the deck has exposed & polished aggregate in both traffic lanes (5600 SF CS2) along with medium longitudinal cracking at bridge ends (500 SF CS2). There is some longitudinal cracking in the wheel-paths (abrasion controls condition state). Medium to wide full-width transverse cracking noted in Span 2 (1000 SF CS3). Soffit has medium transverse cracking with efflorescence (1000 SF CS2).

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
107	**Steel Opn Girder/Beam**	**3**	**05/17/2023**	**1,173.00**	**ft**	**0.00**	**1,034.00**	**139.00**	**0.00**

Girders have freckling rust throughout (1034 LF CS2) as well as moderate corrosion with section loss near each end (120 LF CS3). Span 2 noticeably deflects under heavy load. State forces performed an in-depth inspection on this structure in September 1989, and a consultant performed one in May 2007. 8 loose bolts (8 LF CS3) were noted in a lateral gusset to web plate (G2 near P2) and 1 loose bolt (1 LF CS3) was noted at a crossframe connection (G5 near P2). 10 cracks were noted in the transverse stiffener to top flange welds (10 LF CS3).

515	Steel Protective Coating	3	05/17/2023	18,182.00	sq.ft	0.00	14,732.00	3,300.00	150.00

Under the abutment & pier joints in areas of moderate corrosion and section loss, steel protective coating has completely failed (150 SF CS4). Protective coating has limited effectiveness in areas where corrosion has initiated, mainly along bottom flanges (3300 SF CS3) and is substantially effective elsewhere (14732 SF CS2).

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
205	**Re Conc Column**	**3**	**05/17/2023**	**6.00**	**each**	**2.00**	**1.00**	**3.00**	**0.00**

Pier 2-Column 1 has large spalling with exposed rebar (1 EA CS3). Pier 2-Column 3 has extensive spalling with two layers of exposed rebar and section loss; bearings are not undermined (1 EA CS3). Pier 3-Column 1 has medium cracking (1 EA CS2). Pier 3-Column 3 has wide vertical cracking, large areas of delamination and spalling with exposed steel reinforcement (1 EA CS3).

1080	Delamination/Spall/Patched Area	3	05/17/2023	1.00	each	0.00	0.00	1.00	0.00

Spalling defect has been added to call attention to Pier 2-Column 3.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
215	Re Conc Abutment	3	05/17/2023	88.00	ft	0.00	31.00	57.00	0.00

During 2010 repairs, the abutment backwalls were patched at the top as part of deck joint elimination. Patches are no longer sound and do not fully cover previous spalls and cracks (40 LF CS3). Both abutments have 2 medium width vertical cracks in the backwall per bay (16 LF CS2); some of these cracks extend down into the beam seats. There are also cracks, delaminations, and minor spalls on the beam seats (12 LF CS2). Abutment 1 has a medium width horizontal crack in the beam seat below Beam 3 (3 LF CS2). Abutment 4 has a horizontal crack with rust staining in the beam seat across Bays 3 and 4 (16 LF CS3) and a spall with exposed rebar below Beam 5 (1 LF CS3).

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
234	Re Conc Pier Cap	3	05/17/2023	84.00	ft	8.00	5.00	71.00	0.00

East end of Pier 2 cap has deep spalling with exposed steel reinforcement and section loss (3 LF CS3). Underside of Pier 2 cap has spalling with exposed steel reinforcement, as well as cracking with efflorescence, rust staining and large areas of delaminated concrete (30 LF CS3). East end of Pier 3 has spalling with exposed steel reinforcement (3 LF CS3) and medium vertical cracking. Underside of Pier 3 cap has cracking with efflorescence and rust staining as well as spalling with exposed steel reinforcement (5 LF CS2 and 25 LF CS3). Both faces of the Pier 3 cap have cracking with rust staining (10 LF CS3).

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
302	Compressn Joint Seal	3	05/17/2023	85.00	ft	0.00	22.00	24.00	39.00

2010 repairs included joint elimination at the abutments and joint seal replacement at the piers. Pier 2 joint has total adhesion loss in the traffic lanes, left shoulder, and half of the right shoulder with free flow of water (38 LF CS4). There are two areas of armored edge damage in the right traffic lane (adhesion defect controls). The remainder of this joint has partial depth adhesion loss (4 LF CS3). Pier 3 joint has minor to moderate leakage with minor adhesion loss and debris impaction throughout (22 LF CS2 and 20 LF CS3). The armored edge is broken in the right lane (1 LF CS4).

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
311	Moveable Bearing	3	05/17/2023	15.00	each	0.00	4.00	11.00	0.00

Corrosion has initiated on moveable bearings for Girder 1 at Pier 2-Spans 1 and 2 and for Girders 1 and 2 at Pier 3-Span 3 (4 EA CS2). All of the other moveable bearings have moderate corrosion with section loss (11 EA CS3).

515	Steel Protective Coating	3	05/17/2023	90.00	sq.ft	0.00	0.00	24.00	66.00

Steel protective coating has limited effectiveness where corrosion has initiated (24 SF CS3) and has failed completely in areas of moderate corrosion with section loss (66 SF CS4).

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
313	**Fixed Bearing**	**3**	**05/17/2023**	**15.00**	**each**	**0.00**	**3.00**	**12.00**	**0.00**

Corrosion has initiated on fixed bearings for Girders 1, 3, and 4 at Pier 3-Span 2 (3 EA CS2). All of the other fixed bearings at Pier 3 and both abutments have moderate laminating corrosion with section loss (12 EA CS3).

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
515	Steel Protective Coating	3	05/17/2023	40.00	sq.ft	0.00	0.00	8.00	32.00

Steel protective coating has limited effectiveness where corrosion has initiated (8 SF CS3) and has failed completely in areas of moderate corrosion with section loss (32 SF CS4).

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
331	**Re Conc Bridge Railing**	**3**	**05/17/2023**	**470.00**	**ft**	**376.00**	**94.00**	**0.00**	**0.00**

Railing has medium vertical cracks spaced at approximately 5 feet (94 LF CS2).

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
851	**Transitions**	**3**	**05/17/2023**	**1.00**	**(EA)**	**0.00**	**0.00**	**1.00**	**0.00**

Settlement has progressed up to 1 inch at both approaches due to spalling along the bridge end armored edges (1 EA CS3).

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
853	**Utilities**	**3**	**05/17/2023**	**1.00**	**(EA)**	**0.00**	**0.00**	**1.00**	**0.00**

There is a light blister on the west barrier in Span 2 without a light pole. Other street lights in the area are still in place (1 EA CS3).

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
859	Vegetation	3	05/17/2023	1.00	(EA)	0.00	1.00	0.00	0.00

Vegetation at the west end of Pier 3 is beginning to cover Column 1. In addition, vegetation is growing over most of the wingwalls (1 EA CS2).

Work Candidates Report

BRIDGE ID	WORK ID	DESCRIPTION	DATE RECOMMENDED	DATE COMPLETED	TARGET YEAR	STATUS	PRIORITY	WORK ASSIGNE	SOURCE
056B00380L	4FE7062-7CBC-052021-93D68D8973	Joints-Replace	2021/05/07		2021	Under Review	Medium	KYTC Bridge Crew	Inspector Recommended

Notes : Generated by user "pdavis" on 5/20/2021 - Pier 2 joint has total adhesion loss in the traffic lanes and left shoulder with free flow of water. There is partial adhesion loss and debris impaction elsewhere. Pier 3 joint has minor to moderate leakage with minor adhesion loss and debris impaction throughout. Joint replacement or elimination is needed to extend the life of the superstructure and substructure.

-Agree. DER 5/17/23

BRIDGE ID	WORK ID	DESCRIPTION	DATE RECOMMENDED	DATE COMPLETED	TARGET YEAR	STATUS	PRIORITY	WORK ASSIGNE	SOURCE
056B00380L	4FE7062-4F81-051519-BD637EA4BC	Deck-Wash	2019/05/07		2019	Under Review	Medium	KYTC Bridge Crew	Inspector Recommended

Notes : -Water ponds in East gutter-line in Span 3; there is heavy amount of roadway debris build-up in the East gutter-line and needs clearing (DFS 05-07-19).

-Agree. Debris has accumulated in both gutter-lines. PWD 05/07/21

-Agree. DER 5/17/23

BRIDGE ID	WORK ID	DESCRIPTION	DATE RECOMMENDED	DATE COMPLETED	TARGET YEAR	STATUS	PRIORITY	WORK ASSIGNE	SOURCE
056B00380L	4FE7062-1490-070717-9F061245B7	Deck-Place Overlay	2017/06/07		2017	Under Review	High		Inspector Recommended

Notes : Generated by user "mkennedy" on 7/7/2017 - Deck has moderate transverse cracking, with heaviest density in Span 2. Place overlay to prevent further deterioration of the deck.

-Concur; moderate to wide full-width transverse cracking in Span 2, as closely spaced as 4ft; deck soffit full-depth transverse cracks follow a similar pattern and show signs of full-depth deterioration. Entire deck soffit has minor separation transverse cracking spaced approximately 6-8 inches apart; some have efflorescence and line up with wider cracking noted in top surface (full-depth contamination). Full-depth patching may be likely

BRIDGE ID	WORK ID	DESCRIPTION	DATE RECOMMENDED	DATE COMPLETED	TARGET YEAR	STATUS	PRIORITY	WORK ASSIGNE	SOURCE
056B00380L	4FE7062-1490-070717-943D4A5256	Paint-Structural	2017/06/07		2017	Under Review	Medium		Inspector Recommended

Notes : Generated by user "mkennedy" on 7/7/2017 - Girders have areas where the paint has partially or completely failed. Consider spot painting to prevent further deterioration.

-Agree. DER 5/17/23

BRIDGE ID	WORK ID	DESCRIPTION	DATE RECOMMENDED	DATE COMPLETED	TARGET YEAR	STATUS	PRIORITY	WORK ASSIGNE	SOURCE
056B00380L	7058-BQUQ-070815-46A21E694A464	Approach Roadway-Wedge Approach	2015/05/05		2015	Under Review	Medium	KYTC Maintenance	Inspector Recommended

Notes : Generated by user "ddudgeon" on 7/8/2015 - There is minor transition at north approach.

-Transition up to 3/4 in. at north approach and both approaches have spalling at the bridge ends. MRK 06/07/2017

-Agreed. DER 5/17/23

BRIDGE ID	WORK ID	DESCRIPTION	DATE RECOMMENDED	DATE COMPLETED	TARGET YEAR	STATUS	PRIORITY	WORK ASSIGNE	SOURCE
056B00380L	7058-BQUQ-070815-ED3E3D1976B44	Misc-Remove Vegetation	2015/05/05		2015	Under Review	Medium	KYTC Agronomy	Inspector Recommended

Notes : Generated by user "ddudgeon" on 7/8/2015 - Remove excess vegetation from around the structure.

-Agree, particularly at the west end of Pier 3. MRK 06/07/2017

-Completed since last inspection (DFS 05-07-19).

-Vegetation at the west end of Pier 3 is beginning to cover Column 1 again. In addition, vegetation is growing over most of the wingwalls. Please spray to hinder future growth. PWD 05/07/21

-Agreed. DER 5/17/23

BRIDGE ID	WORK ID	DESCRIPTION	DATE RECOMMENDED	DATE COMPLETED	TARGET YEAR	STATUS	PRIORITY	WORK ASSIGNE	SOURCE
056B00380L	A-KYTC-1213D0AA-00000000	Substructure-Patch spalls	2009/07/27		2009	Under Review	Medium		Inspector Recommended

Notes : Generated by ehouse on 08/11/2009. Both pier caps and some columns have cracking, delamination, and spalling... should remove delaminated concrete and protect steel.

-Agree; east ends and undersides of both pier caps have spalling and cracking, and Pier 2-Column 3 has widespread spalling. Remove unsound concrete, clean rebar, and patch. MRK 06/07/2017