

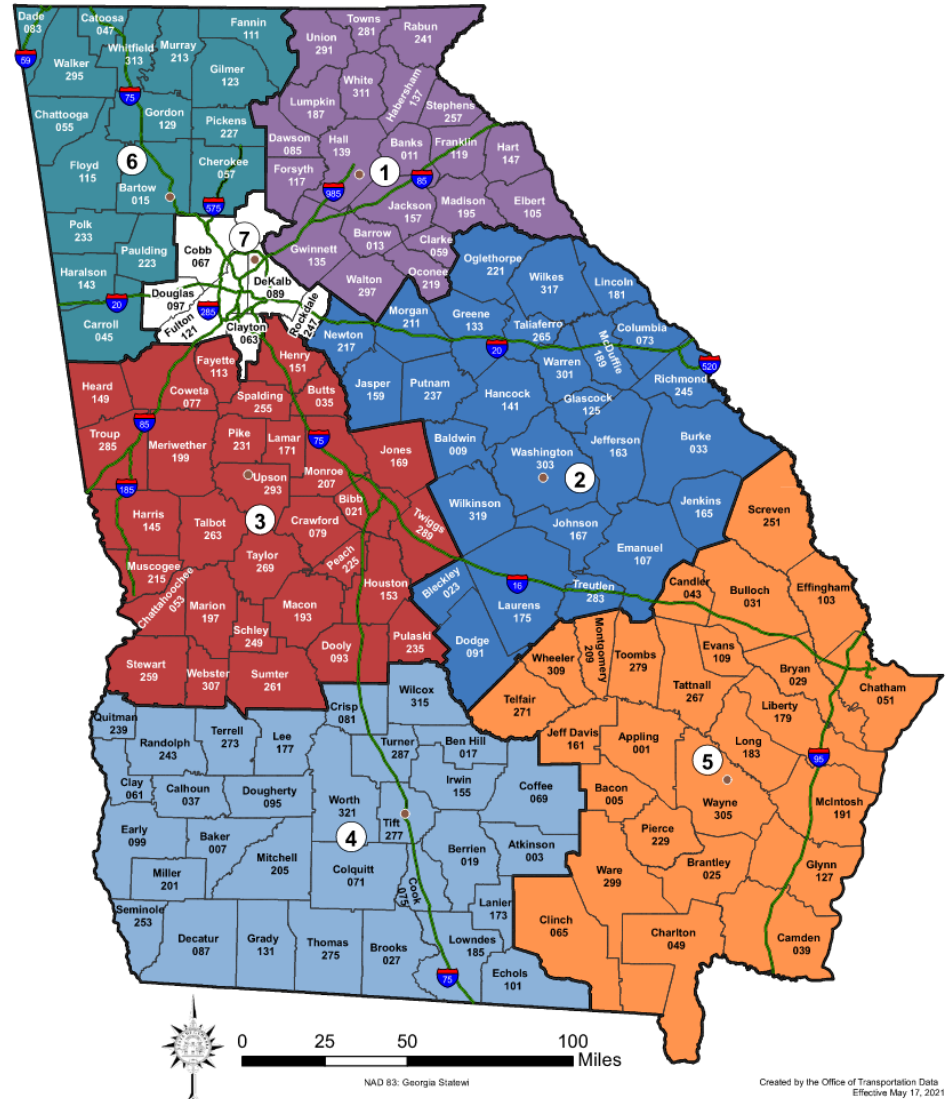
# Inspection and Maintenance

Bryon Patterson, Bridge Asset Manager

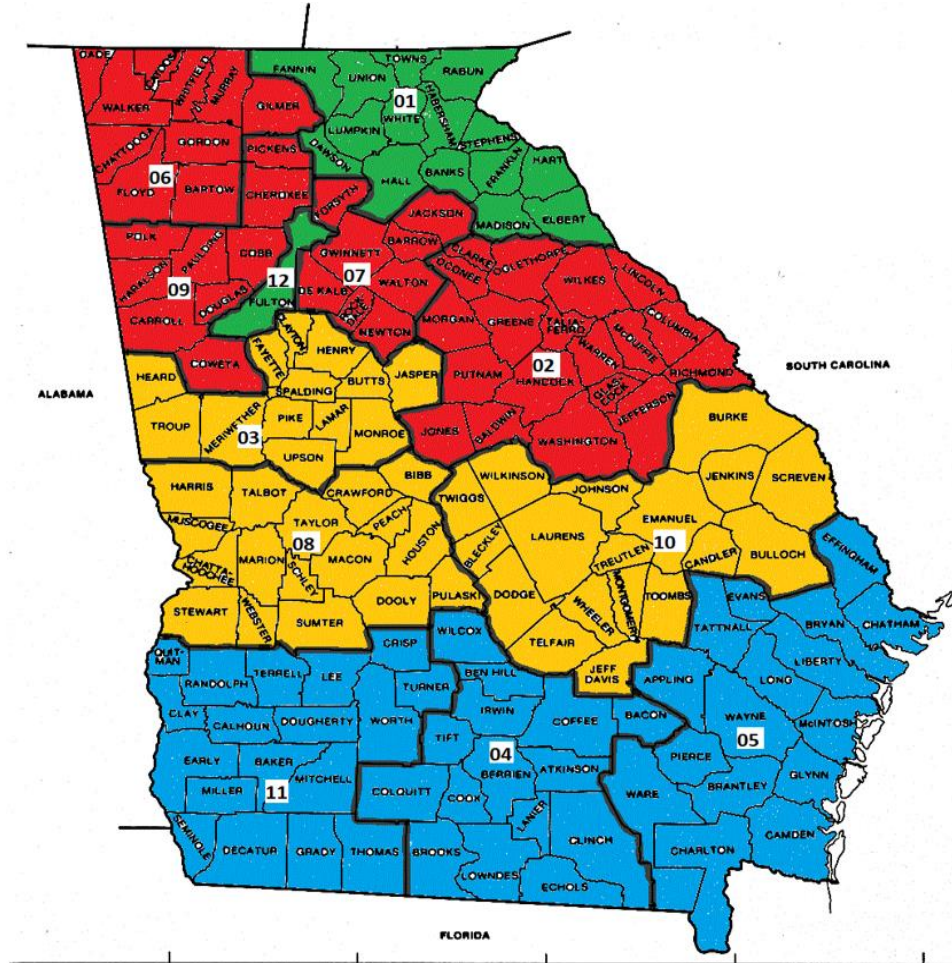


# GDOT Districts

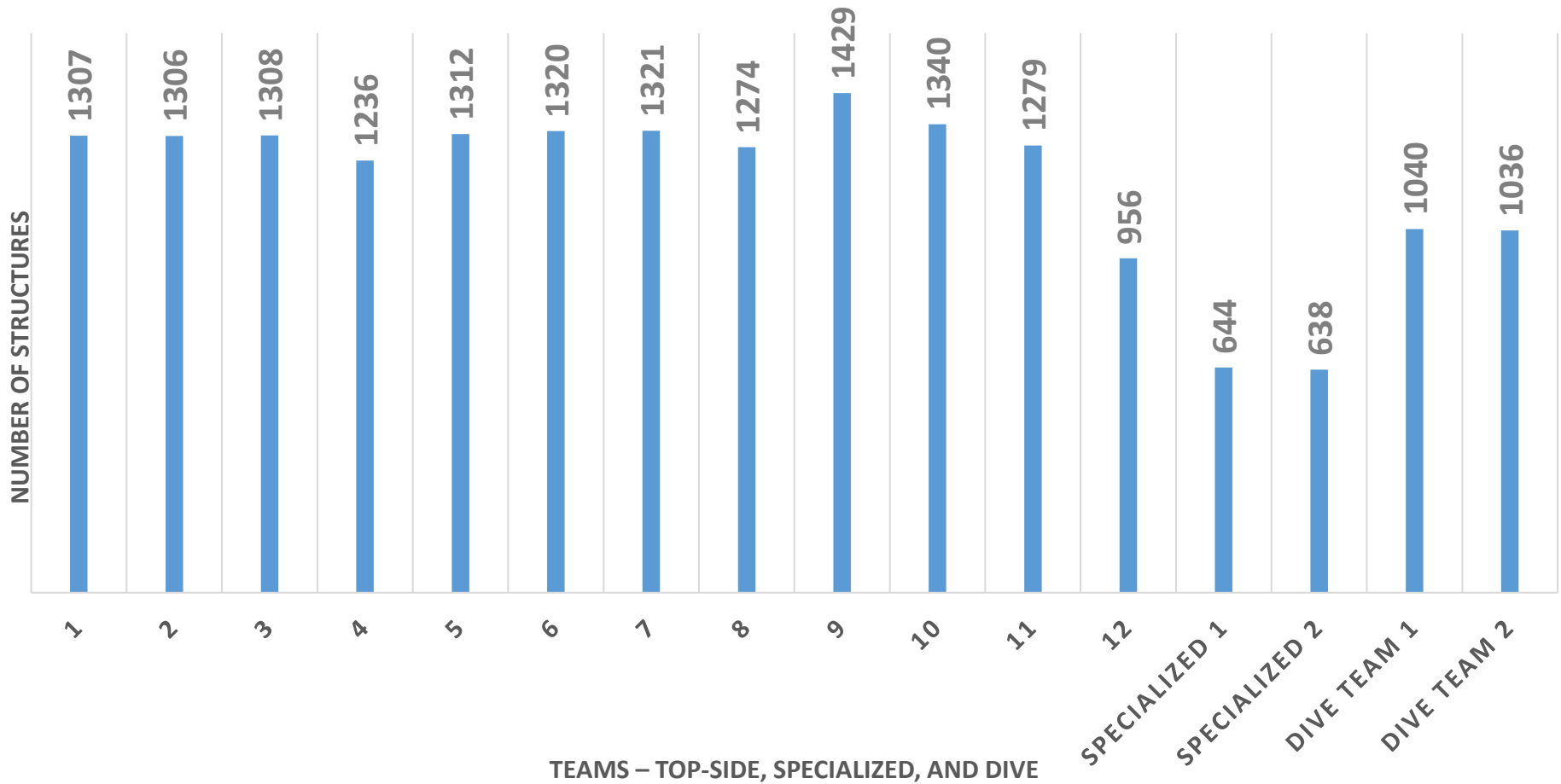
- 1 GDOT District One - Gainesville  
Office Number: (770) 532-5500
  - 2 GDOT District Two - Tennesse  
Office Number: (478) 552-4600
  - 3 GDOT District Three - Thomaston  
Office Number: (706) 646-6900
  - 4 GDOT District Four - Tifton  
Office Number: (229) 386-3280
  - 5 GDOT District Five - Jesup  
Office Number: (912) 427-5700
  - 6 GDOT District Six - Cartersville  
Office Number: (770) 387-3640
  - 7 GDOT District Seven - Chamblee  
Office Number: (770) 216-3810
- Interstate Routes
- District Office



# GDOT 12 Bridge Inspection Areas



# Bridge Inspection Teams



# Inspection Types

- Routine (24 Month)
- Interim-"Other" (as needed)
- Specialized (48 Month)
- Underwater (60 Month)
- Damage (as needed)
- Repair (as needed)
- Data Correction (as needed)
- Scour Critical (12 month)
- Fracture Critical (12 Month)

**Bridge #075-5034-0(Data Correction)**

RUTLAND BRIDGE RD over NEW RIVER (075-00195X-000.00W)

**County:** 75 - Cook, **District:** 4, **Inspection Area:** 4

**Team Lead:** Michael McLendon, **Inspection Date:** 01/03/2023

**Bridge #263-5014-0(Other Special Recurring, Routine)**

GORMAN ROAD over CSX RAILROAD (263-00017X-000.24N)

**County:** 263 - Talbot, **District:** 3, **Inspection Area:** 3

**Team Lead:** Mark Gooden, **Inspection Date:** 02/06/2023

**Bridge #263-5067-0(Routine)**

SR 90 (WBL) over CSX RAILROAD (263-00090D-002.91W)

**County:** 263 - Talbot, **District:** 3, **Inspection Area:** 3

**Team Lead:** Mark Gooden, **Inspection Date:** 12/27/2022

**Bridge #007-0002-0(Specialized Inspection)**

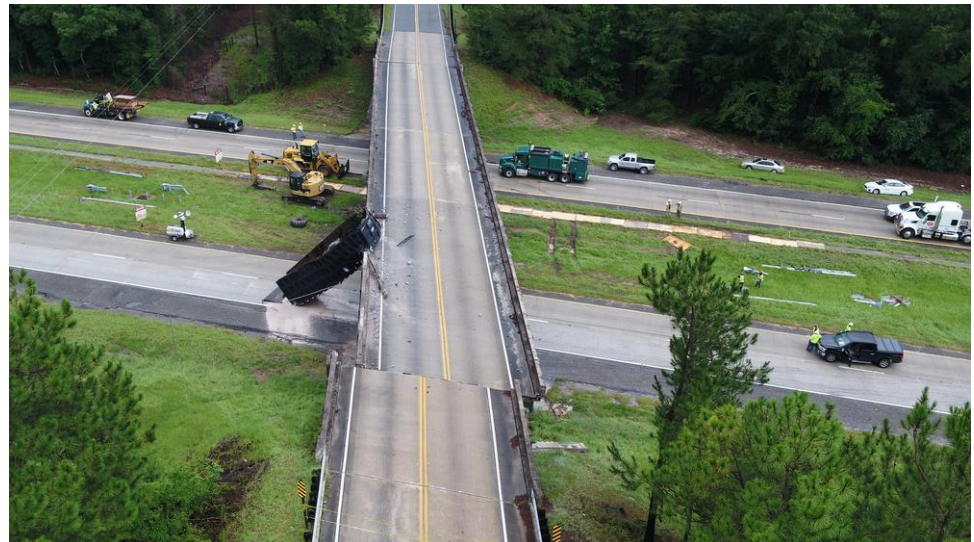
SR 37 over FLINT RIVER (007-00037D-015.01E)

**County:** 7 - Baker, **District:** 4, **Inspection Area:** 11

**Team Lead:** Matt Butler, **Inspection Date:** 01/03/2023

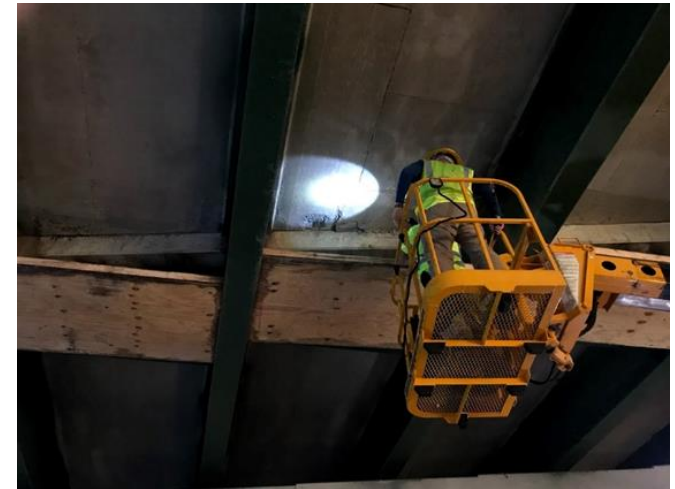
## Why Do We Inspect?

- Safety of the traveling public
- Meet federal regulations under CFR 650 Subpart C
- Determine maintenance needs for bridge preservation and repair
- Determine maximum loads for industry
- Collect data to determine if bridge should be posted or closed
- Anytime a bridge is hit, an inspection is completed



## When Do We Inspect?

- GDOT inspects ~15,400 structures (~14,900 route carrying; ~500 non-route structures)
- Each structure is routinely inspected on a 24-month schedule (minimum)
- Some structures are inspected on a 6-month or 12-month interim schedule
- Underwater inspections performed every 60 months
- Specialized inspections performed every 48 months



## Scour Critical

- A structure is considered Scour Critical when an abutment or pier foundations are rated unstable due to
  - observed scour at the bridge site
  - a scour potential as determined from a scour evaluation study
- One of the most common cause of a bridge failure is from floods scouring bed material from around bridge foundations





## Fracture Critical

- A bridge is considered Fracture Critical if it has non-redundant steel members (steel truss, two steel girder bridge)
  - A steel member in tension, or with a tension element, whose failure will probably cause a portion or the entire bridge to collapse



## I-40 Fracture Critical bridge structure at the TN/AR line over the Mississippi River



## Concrete Defects



**Spalls/Delamination**



**Spall with Exposed Rebar**

# Concrete Defects



**Efflorescence**



**Patched Areas**

# Concrete Defects



**Scaling**



**Cracking**

# Steel Defects



**Pitting & Pack Rust**



**Section Loss**

# Steel Defects



**Section Loss**



**Paint Failure**



**Bearing Misalignment**

## Timber Defects



**Cracking**



**Missing/Deteriorated Boards**



# Timber Defects



**Rotten Section**



**Rotten Section**

# Timber Defects



**Damage**


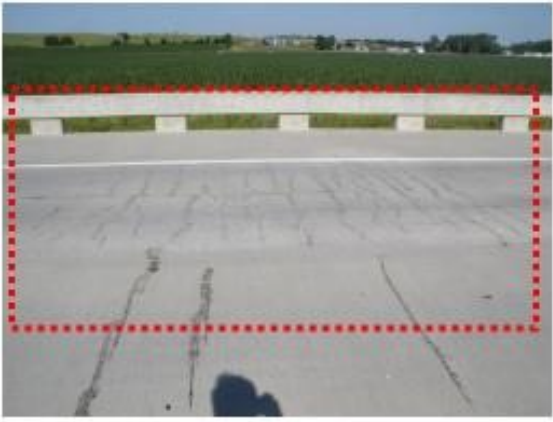



**Rotten Section**

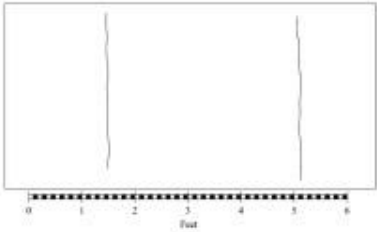
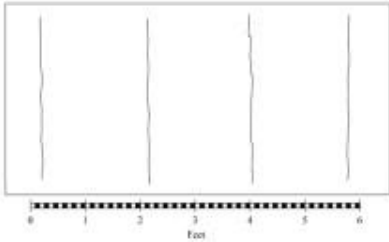
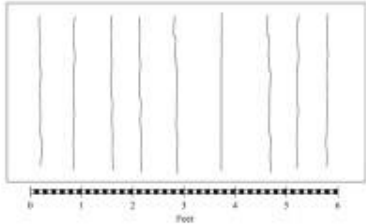
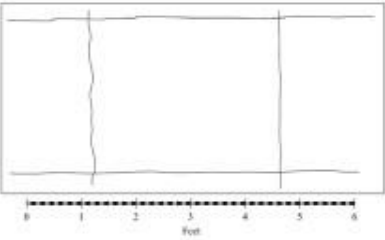
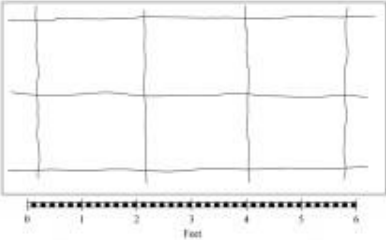
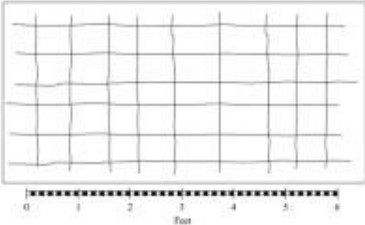
# Bridge Elements

- Bridge Elements breakdown each bridge component into condition states (1 through 4)
- 1= Good, 2 = Fair, 3 = Poor, 4 = Severe
- Each element has a specific unit of measure (Linear Feet, Square Feet, Each)

Elements & Defects							
ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
15	Prestressed Concrete Top Flange	SF	6110	6110	0	0	0
510	Wearing Surfaces	SF	5168	5168	0	0	0
104	Prestressed Concrete Closed Web/Box Girder	LF	1520	1440	0	80	0
1090	Exposed Rebar	LF	80	0	0	80	0
215	Reinforced Concrete Abutment	LF	172	172	0	0	0
225	Steel Pile	EA	24	0	14	10	0
1000	Corrosion	EA	24	0	14	10	0
515	Steel Protective Coating	SF	1708	0	0	0	1708
3440	Effectiveness (Steel Protective Coatings)	EA	1708	0	0	0	1708
234	Reinforced Concrete Pier Cap	LF	174	169	5	0	0
1090	Exposed Rebar	LF	5	0	5	0	0
321	Reinforced Concrete Approach Slab	SF	720	720	0	0	0
331	Reinforced Concrete Bridge Railing	LF	152	147	0	5	0
1130	Cracking (RC and Other)	LF	5	0	0	5	0



Condition State 1	Condition State 2	Condition State 3
<p>Insignificant cracks or moderate-width cracks that have been sealed.</p>	<p>Unsealed moderate width cracks or unsealed moderate pattern (map) cracking.</p>	<p>Wide cracks or heavy pattern (map) cracking.</p>
<p><i>Spacing greater than 3.0 ft.</i></p>	<p><i>Spacing of 1.0—3.0 ft.</i></p>	<p><i>Spacing of less than 1 ft.</i></p>
		

### Crack Pattern Guide



Condition State 1	Condition State 2	Condition State 3
Spacing >3 ft.	Moderate pattern (map) cracking, spacing 1–3 ft.	Heavy pattern (map) cracking, spacing less than 1 ft.
		
		






**Defect 1080—Delamination/Spall/Patched Area**

Condition State 1	Condition State 2	Condition State 3
None.	Delaminated. Spall 1 in. or less deep or 6 in. or less in diameter. Patched area that is sound.	Spall greater than 1 in. deep or greater than 6 in. diameter. Patched area that is unsound or showing distress. Does not warrant structural review.
		

**Defect 1120—Efflorescence/Rust Staining**

Condition State 1	Condition State 2	Condition State 3
None.	Surface white without build-up or leaching without rust staining.	Heavy build-up with rust staining.
		

**Defect 1190—Abrasion/Wear**

Condition State 1	Condition State 2	Condition State 3
<p>No abrasion or wearing.</p>	<p>Abrasion or wearing has exposed coarse aggregate, but the aggregate remains secure in the concrete.</p>	<p>Coarse aggregate is loose or has popped out of the concrete matrix due to abrasion or wear.</p>
		



# Inspection Report



**Bridge #255-0002-0(Routine)**  
 SR 16 over NS RAILROAD (255-00016D-013.69E)  
 County: 255 - Spalding, District: 3, Inspection Area: 3  
 Team Lead: Mark Gooden, Inspection Date: 07/28/2022



Latitude:33.24718, Longitude:-84.26723  
 Route: 00016 Log:13.690  
 District 3, 255 - Spalding County  
 Owner: 1-State Highway Agency  
 Team Leader: Mark Gooden



**Bridge #255-0002-0(Routine)**  
 SR 16 over NS RAILROAD (255-00016D-013.69E)  
 County: 255 - Spalding, District: 3, Inspection Area: 3  
 Team Lead: Mark Gooden, Inspection Date: 07/28/2022

IDENTIFICATION	
(1) State Names	13 - Georgia
(8) Structure Number	255-0002-0
(5) Inventory Route	1
(2) Highway Agency District	3 - District 3
(3) County Code	255 - Spalding
(4) Place Code	35324
(6) Features Intersected	NS RAILROAD
(7) Facility Carried	SR 16
(9) Location	IN GRIFFIN
(11) Mile Point	13.690 mi
(12) Base Highway Network	Yes
(13) LRS Inventory Rte & Subrte	2551001600
(16) Latitude	33.2471783333333
(17) Longitude	-84.26723
(98) Border Bridge State Code	
(99) Border Bridge Structure No.	
STRUCTURE TYPE AND MATERIAL	
(43) Main Structure Type	55
Material	5-Prestressed concrete *
Type	5-Box beam or girders - Multiple
(44) Approach Structure Type	00
Material	0-Other
Type	0-Other
(45) No. of Spans in Main Unit	3
(46) No. of Approach Spans	0
(107) Deck Structure Type	2-Concrete Precast Panels
(108) Wearing Surface/Protective System	
Type of Wearing Surface	6-Bituminous
Type of Membrane	0-None
Type of Deck Protection	0-None
AGE AND SERVICE	
(27) Year Built	1928
(106) Year Reconstructed	1976
(42) Type of Service	52
On	5-Highway-pedestrian
Under	2-Railroad
(28) Lane	
On	4
Under	0
(29) Average Daily Traffic	23750
(30) Year of ADT	2011
(109) Truck ADT	1 %
(19) Bypass, Detour Length	7 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	36.0 ft
(49) Structure Length	76.0 ft
(50) Curb or Sidewalk Width	
Left	5.0 ft
Right	5.0 ft
(51) Bridge Roadway Width Curb to Curb	88.0 ft
(52) Deck Width Out to Out	80.4 ft
(32) Approach Roadway Width (W/Shoulders)	68.0 ft
(33) Bridge Median	0-No median
(34) Skew	21 Deg.
(35) Structure Flared	0-No flare
(10) Inventory Route Min Vert Clear	99.99 ft
(47) Inventory Route Total Horiz Clear	68.0 ft
(53) Min Vert Clear Over Bridge Rdwy	89.89 ft
(54) Min Vert Underclear	18.00 ft
Ref:	
(55) Min Lat Underclear RT	10.5 ft
Ref:	
(56) Min Lat Underclear LT	0.0 ft
NAVIGATION DATA	
(38) Navigation Control	N-Not applicable, no waterway.
(111) Pier Protection	0-Not Applicable (P)
(39) Navigation Vertical Clearance	0.0 ft
(116) Vert-Lift Bridge Nav Min Vert Clear	0.0 ft
(40) Navigation Horizontal Clearance	0.0 ft

CLASSIFICATION	
(112) NBIS Bridge Length	Y
(104) Highway System	1
(26) Functional Class	14-Urban Other Principal Arter
(100) Defense Highway	0-The inventory route is not a
(101) Parallel Structure	N-No parallel structure exists
(102) Direction of Traffic	2-2 - way traffic
(103) Temporary Structure	
(105) Federal Lands Highways	0-N/A
(110) Designated National Network	0-The inventory route is not p
(20) Toll	3-On free road. The structure
(21) Maintain	1-State Highway Agency
(22) Owner	1-State Highway Agency
(37) Historical Significance	5-Bridge is not eligible for t
CONDITION	
(58) Deck	7
(59) Superstructure	7
(60) Substructure	6
(61) Channel & Channel Protection	N
(62) Culverts	N
LOAD RATING AND POSTING	
(31) Design Load	6-MS 18+Mod / HS 20+Mod
(63) Operating Rating Method	1
(64) Operating Rating	
Type	1-Load Factor(LF)
(65) Inventory Rating Method	1-Load Factor(LF)
(66) Inventory Rating	
Type	
Rating	
(70) Bridge Posting	5-Equal to or above legal loads
(41) Structure Open/Posted/Closed	A-Open, no restriction
APPRAISAL	
(67) Structural Evaluation	6
(68) Deck Geometry	9
(69) Clearances, Vertical/Horizontal	2
(71) Waterway Adequacy	N
(72) Approach Roadway Alignment	7
(36A) Bridge Railings	0-Inspected feature does not meet c
(36B) Transitions	0-Inspected feature does not meet c
(36C) Approach Guardrail	0-Inspected feature does not meet c
(36D) Approach Guardrail Ends	0-Inspected feature does not meet c
(113) Scour Critical Bridges	N-Bridge not over waterway.
PROPOSED IMPROVEMENTS	
(75) Type of Work	
(76) Length of Structure Improvement	0.0 ft
(94) Bridge Improvement Cost	\$ 459
(95) Roadway Improvement Cost	\$ 48
(96) Total Project Cost	\$ 688
(97) Year of Improvement Cost Estimate	2013
(114) Future ADT	36625
(115) Year of Future ADT	2031
INSPECTIONS *	
(90) Inspection Date	07/28/2022
(91) Frequency	24
(92) Critical Feature Inspection	Done Freq. (Mon) Date
A. Fracture Critical Detail	No
B. Underwater Inspection	No
C. Other Special Inspection	

\* The inspection date and frequency information in this box contains the current NBI date and frequency information. Please refer to the report header for the date this inspection was conducted.



**Bridge #255-0002-0(Routine)**  
 SR 16 over NS RAILROAD (255-00016D-013.69E)  
**County:** 255 - Spalding, **District:** 3, **Inspection Area:** 3  
**Team Lead:** Mark Gooden, **Inspection Date:** 07/28/2022

**Evaluation**

**Deck**

**NBIS Condition:** 7 **Material:** 15 - O. Concrete **Deck Wearing Surface:** 6-Bituminous

Deck Evaluation:  
 Concrete deck 5.0" thick) with a 3" asphalt overlay.

Deck Top:  
 There are up to 1" wide transverse cracks in the asphalt overlay over the abutment and bent joints. Has been sealed.

Repair crack/delamination in Span 3 right bridge rail.

Deck Underside:  
 The overhangs have spalls with exposed rebar throughout. Needs repair

**Superstructure**

**NBIS Condition:** 7 **Material:** 37 - P. Prestressed, post tensioned box beams **Year Painted:** 0000 **Paint Type:** 1 - 0- Not Applicable

Superstructure Evaluation:  
 Three spans with twenty, 17" high x 4.0' wide, prestressed concrete box beams.

Beam:  
 Span 2, beam 3, 4, and 7, bottom faces have 6 popout spalls with exposed rebar.  
 Span 2, beam 7, bottom face has ten up to 12" x 3" x 1" spalls with exposed rebar in the bottom face adjacent to Beam 8.  
 Span 2, beam 8 has eight up to 12" x 3" x 1" spalls with exposed rebar in the bottom face adjacent to Beam 7. Refer to photo.  
 Span 2, beam 15 has eight up to 12" x 3" x 1" spalls with exposed rebar in the bottom face and also a 6" x 3" hole at mid-span.  
 Span 2, beam 16, has three up to 12" x 3" x 1" spalls with exposed rebar in the bottom face and also, a 15' long x 6" wide longitudinal crack/delamination.  
 Span 2, beam 17 has a 12" x 3" x 1" spall with exposed rebar in the bottom face.  
 Span 3, beam 1 has a 16" x 4" x 1" spall with no exposed steel, 2' from Abutment 4.  
 Span 3, beam 6 has three spalls with exposed rebar on the bottom face.  
 Span 3, beam 7 has a spall with exposed rebar on the bottom face.  
 Span 3, beam 9 has a spall with exposed rebar on the bottom face.  
 Span 3, beam 19 has a spall with exposed rebar on the bottom face.

**Substructure**

**NBIS Condition:** 6 **Material:** 19 - N. Steel -Concrete **Year Painted:** 1976 **Paint Type:** 5 - 3- Epoxy Mastic



**Bridge #255-0002-0(Routine)**  
 SR 16 over NS RAILROAD (255-00016D-013.69E)  
**County:** 255 - Spalding, **District:** 3, **Inspection Area:** 3  
**Team Lead:** Mark Gooden, **Inspection Date:** 07/28/2022

Substructure Evaluation:  
 The abutments have 30" high x 24" deep x 86.5' long concrete caps on driven piles.  
 The bents have 30" high x 24" deep 86.5' long concrete caps on seven HP12x53 steel H-piles with 4" sway bracing.

Abutments:  
 The abutment caps have up to 1/32" wide vertical cracks throughout.  
 The dirt slope under abutment 4 cap has eroded up to 12" deep x 16' long, exposing two H-Piles at the right end. Refer to photo.  
 The original abutments are still in-place under Spans 1 and 3. The slopes in front of the original abutments have severe erosion. (Needs repair)

The concrete bent caps have up to 1/64" wide vertical cracks, some with efflorescence, throughout.

Various piles at both intermediate bents have moderate corrosion swell with section loss at the bottom of cap; several piles have sheet corrosion forming at the encasements.

Bent 2, piles 1 through 11 are encased with 30" corrugated metal pipe filled with concrete.  
 Bents 2 and 3; all steel H-piles have flaking (blistering) paint and surface corrosion with pitting up to 1/16" deep. Refer to photo.

Bent 3 cap has exposed steel chairs in the bottom face.  
 Bent 3 cap has a 16" x 14" x 2" spall with no exposed steel in the forward face over pile 6; rear face has minor spalls with exposed rebar.  
 Bent 3, pile 7 has steel corrosion at the top of the pile at the cap.  
 Repair spalls

**General**

**This Bridge:**

Year built 1928; Reconstructed 1976; 76' x 80.4'  
 Project U-BRU-022-1 (5)

Railroad Minimum Vertical Under clearance: 18' 10"  
 Railroad Minimum Lateral Under clearance: 10.5'

Handrails:  
 The right bridge rail in Span 3 has a 12" x 17" crack/delamination in top face. Refer to photo. Needs repair

Wing walls:  
 The forward right wing wall has a 1" crack adjacent to the structure. Refer to photo. Needs repair

Equipment used: Hand Tools, Binoculars and Ladder.

**Conditional Situations**

**Confined Space:** 0 - No **Traffic Control:** 0 - No **Underwater Inspection:** **Specialized Inspection:**

**Equipment Used**

**Access Equipment:** 3 - 24' Ladder **Topside Boat:** 1 - None  
**Waders:** 1 - None **Special Imaging Device:** 2 - Binoculars

Bridge #255-0002-0(Routine)  
 SR 16 over NS RAILROAD (255-00016D-013.69E)  
 County: 255 - Spalding, District: 3, Inspection Area: 3  
 Team Lead: Mark Gooden, Inspection Date: 07/28/2022

Load Rating and Posting

103-Temporarily Shored:

41-Structure Open, Posted, Closed: A-Open, no restriction

Truck Type	Gross/H-Mod	HMod	Tandem	3-S-2	Timber	Piggyback
Calculated Posting	21	30	33	40	37	40
Posting required	0	0	0	0	0	0
Existing Posting	00	00	00	00	00	00

Bridge #255-0002-0(Routine)  
 SR 16 over NS RAILROAD (255-00016D-013.69E)  
 County: 255 - Spalding, District: 3, Inspection Area: 3  
 Team Lead: Mark Gooden, Inspection Date: 07/28/2022

Superstructure Data

Span #	Beam Type	Beam Spacing (ft)	Span Length (ft)	# Beams	Remarks
1	Reinforced Concrete Box	4	20	20	17"D x 4'W
2	Reinforced Concrete Box	4	36	20	17"D x 4'W
3	Reinforced Concrete Box	4	20	20	17"D x 4'W

Bearing Data

Span #	Rear Type Bearing	Forward Type Bearing	Remarks
1	Beam on Cap	Beam on Cap	
2	Beam on Cap	Beam on Cap	
3	Beam on Cap	Beam on Cap	

Bridge #255-0002-0(Routine)  
 County: 255 - Spalding, District: 3, Inspection Area:  
 Team Lead: Mark Gooden, Inspection Date: 07/28/2022

Elements & Defects

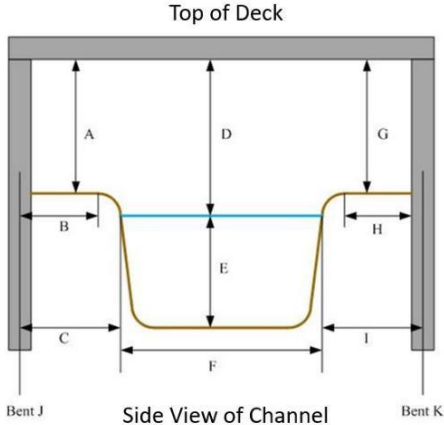
ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
15	Prestressed Concrete Top Flange	SF	6110	6110	0	0	0
510	Wearing Surfaces	SF	5168	5168	0	0	0
104	Prestressed Concrete Closed Web/Box Girder	LF	1520	1440	0	80	0
1090	Exposed Rebar	LF	80	0	0	80	0
215	Reinforced Concrete Abutment	LF	172	172	0	0	0
225	Steel Pile	EA	24	0	14	10	0
1000	Corrosion	EA	24	0	14	10	0
515	Steel Protective Coating	SF	1708	0	0	0	1708
3440	Effectiveness (Steel Protective Coatings)	EA	1708	0	0	0	1708
234	Reinforced Concrete Pier Cap	LF	174	169	5	0	0
1090	Exposed Rebar	LF	5	0	5	0	0
321	Reinforced Concrete Approach Slab	SF	720	720	0	0	0
331	Reinforced Concrete Bridge Railing	LF	152	147	0	5	0
1130	Cracking (RC and Other)	LF	5	0	0	5	0

Maintenance

Activity	Priority	Location	Comments
550-Erosion control	C		Repair slopes.
830-Repair Main Structural Members	B		Repair cracking.
830-Repair Main Structural Members	B		Repair spalls in beams.
830-Repair Main Structural Members	B		Repair fractured forward right wing wall.
000-Bridge Painting	C		Clean and paint all piles.

**Bridge #199-0056-0**(Load Rating Inspection)  
 FLAT SHOALS ROAD over FLINT RIVER (199-00739F-012.50E)  
 County: 199 - Meriwether, District: 3, Inspection Area: 3  
 Team Lead: Schwartz, Kevin ., Inspection Date: 05/03/2022

### Channel Information



**A:** 9   **B:** 16   **C:** 22   **D:** 11.5  
**E:** 14   **F:** 526   **G:** 9   **H:** 14  
**I:** 22   **J:** 1   **K:** 8

**Location of Bridge Height:** 5' forward bent 2  
**Bridge Height Taken:** 0  
**Scour Condition:** 7  
**Waterway Adequacy:** 8  
**Channel Protection:** 7  
**Channel Protection:** 7

B, C, H, & I are measured to the center of bent or Back Face of Paving Rest

+ Substructure Skew = 0   - Channel Skew = 0   Angle of Stream Attack = 276

### Vertical Clearance

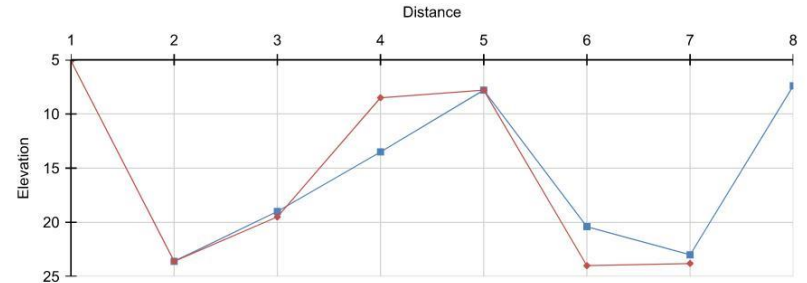
- (54B) Min Vertical Underclearance (ft-in):
- (228A) Actual Min Vertical Odometer (ft-in): 99-99
- (228B) Actual Min Vertical Opposite (ft-in): 99-99
- (228C) Posted Min Vertical Odometer (ft-in): 00-00
- (228D) Posted Min Vertical Opposite (ft-in): 00-00
- (5E) Direction: 0-N/A
- (55A) Lateral Type: N-Feature not a highway or railroad
- (55B) Min Lateral Under Clearance on Right (ft): 0.0
- (56) Min Lateral Under Clearance on Left (ft): 0.0
- (47) Total Horizontal Clearance (ft): 26.0
- (69) Rating-Under Clearance Horizontal/Vertical: N

**Bridge #199-0056-0**(Load Rating Inspection)  
 FLAT SHOALS ROAD over FLINT RIVER (199-00739F-012.50E)  
 County: 199 - Meriwether, District: 3, Inspection Area: 3  
 Team Lead: Schwartz, Kevin ., Inspection Date: 05/03/2022

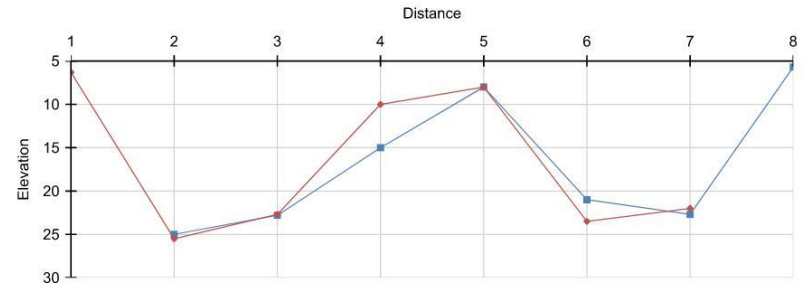
### Channel Profile

Bent No.	Distance	Upstream -	Upstream +	Downstream -	Downstream +
1			6.3		5.1
2		25	25.5	23.6	23.6
3		22.8	22.7	19	19.5
4		15	10	13.5	8.5
5		8	8	7.8	7.8
6		21	23.5	20.4	24
7		22.7	22	23	23.8
8		5.7		7.4	

### Downstream Elevation



### Upstream Elevation



**Bridge #199-0056-0**(Routine)  
FLAT SHOALS ROAD over FLINT RIVER (199-00739F-012.50E)  
**County:** 199 - Meriwether, **District:** 3, **Inspection Area:** 3  
**Team Lead:** Mark Gooden, **Inspection Date:** 05/02/2022

### Underwater Report

**Dive Supervisor:** Shon Reynolds    **Diver:** Michael Jameson    **Standby Diver:** Shon Reynolds

**Bents Inspected:** 2                            **Bent Construction:** Concrete columns on footings/seals  
**Boat Used:**                                    **Inspection Type:** 1  
**Maximum Water Depth:** 14    **Water Level Reference:** Bridge height to cap is 3.1' at bent 2 column 2.  
**Bridge Inspection Procedure:**  
1 - 1. This bridge was inspected according to the procedures established in the Georgia Department of Transportation's Underwater Bridge Inspection Team Policy and Procedures Manual version June 2020

**Condition Ratings:**  
**Substructure:** 4    **Channel Protection:** 7    **Scour:** 7    **Underwater:** 7    **Waterway Adequacy:** 8

**Detailed Inspection:**

**Bridge #255-0002-0**(Routine)  
SR 16 over NS RAILROAD (255-00016D-013.69E)  
**County:** 255 - Spalding, **District:** 3, **Inspection Area:** 3  
**Team Lead:** Mark Gooden, **Inspection Date:** 07/28/2022



Underneath looking at bent 3. 2022



Typical exposed rebar in deck panels. 2022

# Inspection Completed – What's Next?

# County Reports – 1/3

## County Letter Bridge List

3 - County Name	9 - Structure Number	11A - Location ID	27 - Year Built	22 - Owner Desc	21 - Maintenance Responsibility Desc	7A - Route Number	7 - Facility Carried By Structure	6A - Features Intersected	16 - Latitude In Decimals	17 - Longitude In Decimals	Bridge Condition Desc	58 - Deck Desc	59 - Superstructure Desc	60 - Substructure Desc	60B - Scour Condition	60C - Underwater Condition	62 - Culverts Desc	41 - Structure Open Posted Closed Desc	70 - Bridge Design Postng	43B - Type Of Design Construction Main Desc	212A - Year Last Painted - Superstructure	212B - Year Last Painted - Substructure	267A - Superstructure Paint Type	267B - Substructure Paint Type
Gwinnett	135-0065-0	135-01046F-003.00E	1978	2-County Highway Agency	2-County Highway Agency	CR02730	OLD NORCROSS ROAD	SWEETWATER CREEK	33.84939	-84.09493	Good	N-NOT APPLICABLE	N-NOT APPLICABLE	N-NOT APPLICABLE	8-SLIGHT SCOUR PRESENT in Scourwash is found near the structural members. The scourwash is noticeable and definite. The function of the structural members is not affected yet.	10-NOT APPLICABLE	7-Shrinkage cracks, light scaling and insignificant spalling which does not expose reinforcing	A-Open, no restriction	5-Equal to or above legal loads	19-Culvert	0	0	0-Not Applicable	0-Not Applicable
Gwinnett	135-0066-0	135-01305V-000.88N	1977	2-County Highway Agency	2-County Highway Agency	CR010305	JIMMY CARTER BLVD	JACKSON CREEK	33.88013	-84.18939	Good	N-NOT APPLICABLE	N-NOT APPLICABLE	N-NOT APPLICABLE	8-SLIGHT SCOUR PRESENT in Scourwash is found near the structural members. The scourwash is noticeable and definite. The function of the structural members is not affected yet.	10-NOT APPLICABLE	7-Shrinkage cracks, light scaling and insignificant spalling which does not expose reinforcing	A-Open, no restriction	5-Equal to or above legal loads	19-Culvert	0	0	0-Not Applicable	0-Not Applicable
Gwinnett	135-0067-0	135-09366M-000.45N	1990	2-County Highway Agency	2-County Highway Agency	CR01947	ROSEBUD ROAD	BRUSHY FORK CREEK	33.80256	-83.36711	Good	N-NOT APPLICABLE	N-NOT APPLICABLE	N-NOT APPLICABLE	8-NEGLECTIBLE SCOUR PRESENT in Some scourwash may be found in the vicinity of the structure, but the scour is in no way affecting the function of the structure.	10-NOT APPLICABLE	7-Shrinkage cracks, light scaling and insignificant spalling which does not expose reinforcing	A-Open, no restriction	5-Equal to or above legal loads	19-Culvert	0	0	0-Not Applicable	0-Not Applicable
Gwinnett	135-0068-0	135-09466M-003.17N	1989	2-County Highway Agency	2-County Highway Agency	CR01951	LVILLE-SUVANEE RD	YELLOW RIVER	33.87804	-84.02001	Good	7-GOOD CONDITION - some minor problems.	8-VERY GOOD CONDITION - no problems noted.	7-GOOD CONDITION - some minor problems.	8-NEGLECTIBLE SCOUR PRESENT in Some scourwash may be found in the vicinity of the structure, but the scour is in no way affecting the function of the structure.	10-NOT APPLICABLE	N-Not applicable. Used if structure is not a culvert.	A-Open, no restriction	5-Equal to or above legal loads	2-Stringer/Multi-beam or girder	0	0	0-Not Applicable	0-Not Applicable
Gwinnett	135-0072-0	135-07238V-002.33S	1980	2-County Highway Agency	2-County Highway Agency	CR07238	PLEASANT HILL ROAD	BEAVER RUM CREEK	33.82273	-84.11381	Good	7-GOOD CONDITION - some minor problems.	7-GOOD CONDITION - some minor problems.	7-GOOD CONDITION - some minor problems.	8-NEGLECTIBLE SCOUR PRESENT in Some scourwash may be found in the vicinity of the structure, but the scour is in no way affecting the function of the structure.	10-NOT APPLICABLE	N-Not applicable. Used if structure is not a culvert.	A-Open, no restriction	5-Equal to or above legal loads	4-Te beam	0	1980	0-Not Applicable	3-Epoxy Mastic
Gwinnett	135-0074-0	135-02343F-008.00N	1972	2-County Highway Agency	2-County Highway Agency	CR01880	PLEASANT HILL RD S	CHATTahoochee RIVER	34.00792	-84.17953	Good	7-GOOD CONDITION - some minor problems.	7-GOOD CONDITION - some minor problems.	7-GOOD CONDITION - some minor problems.	6-SLIGHT SCOUR PRESENT in Scourwash is found near the structural members. The scourwash is noticeable and definite. The function of the structural members is not affected yet.	7-GOOD CONDITION - some minor problems.	N-Not applicable. Used if structure is not a culvert.	A-Open, no restriction	5-Equal to or above legal loads	2-Stringer/Multi-beam or girder	0	0	0-Not Applicable	0-Not Applicable
Gwinnett	135-0075-0	135-09294M-002.60N	1985	2-County Highway Agency	2-County Highway Agency	CR01958	FIVE FORKS TRICKUM	GARNER CREEK	33.86198	-84.09722	Good	N-NOT APPLICABLE	N-NOT APPLICABLE	N-NOT APPLICABLE	6-SLIGHT SCOUR PRESENT in Scourwash is found near the structural members. The scourwash is noticeable and definite. The function of the structural members is not affected yet.	10-NOT APPLICABLE	7-Shrinkage cracks, light scaling and insignificant spalling which does not expose reinforcing	A-Open, no restriction	5-Equal to or above legal loads	19-Culvert	0	0	0-Not Applicable	0-Not Applicable
Gwinnett	135-0077-0	135-09294M-006.33N	1978	2-County Highway Agency	2-County Highway Agency	CR00373	FIVE FORKS TRICKUM	BANSTON CREEK	33.89612	-84.05427	Good	N-NOT APPLICABLE	N-NOT APPLICABLE	N-NOT APPLICABLE	6-SLIGHT SCOUR PRESENT in Scourwash is found near the structural members. The scourwash is noticeable and definite. The function of the structural members is not affected yet.	10-NOT APPLICABLE	7-Shrinkage cracks, light scaling and insignificant spalling which does not expose reinforcing	A-Open, no restriction	5-Equal to or above legal loads	19-Culvert	0	0	0-Not Applicable	0-Not Applicable
Gwinnett	135-0078-0	135-09294M-007.87N	1978	2-County Highway Agency	2-County Highway Agency	CR00373	FIVE FORKS TRICKUM	FUGHS CREEK	33.91012	-84.03431	Good	N-NOT APPLICABLE	N-NOT APPLICABLE	N-NOT APPLICABLE	5-MODERATE SCOUR PRESENT in Scourwash is found by the structural members and is starting to affect the function of the members. (i.e., slight load capacity reduction due to increased pile lengths.)	10-NOT APPLICABLE	7-Shrinkage cracks, light scaling and insignificant spalling which does not expose reinforcing	A-Open, no restriction	5-Equal to or above legal loads	19-Culvert	0	0	0-Not Applicable	0-Not Applicable
Gwinnett	135-0079-0	135-09317M-003.12N	1985	2-County Highway Agency	2-County Highway Agency	CR00560	INDIAN TRAIL ROAD	BEAVER RUM CREEK	33.82427	-84.17339	Good	8-VERY GOOD CONDITION - no	8-VERY GOOD CONDITION - no	7-GOOD CONDITION - some minor problems.	8-NEGLECTIBLE SCOUR PRESENT in Some scourwash may be found in the vicinity of the	10-NOT APPLICABLE	N-Not applicable. Used if structure is	A-Open, no restriction	5-Equal to or above legal loads	2-Stringer/Multi-beam or girder	0	0	0-Not Applicable	0-Not Applicable

# County Reports – 2/3

## County Letter Deficiency Report

- Deficiency Report – The suggested maintenance for the bridge structure.

County Letter-Deficiency Report

008 - Bridge Serial Number	County	007B - Facility Carried by Structure	006A - Features Intersected	Activity Name	Priority	Location	Comments	Completion Date	004 - Place Code
285-0031-0	Troup	ROCK MILL ROAD	CSX RAILROAD	800 - BRIDGE JOINT SEALING	C	bent #2 joint	Clean and seal bent 2 joint		00000
285-0031-0	Troup	ROCK MILL ROAD	CSX RAILROAD	830 - REP MAIN STRUCT MEMBERS	B	bearings	Replace nuts missing on various bearing pad restraints.		00000
285-0087-0	Troup	FAS 740 SPUR	WILSON CREEK	550 - EROSION CONTROL	B	Abutment 4	Repair erosion under abutment 4 cap up to 1.0' high x 3.0' back for the full length of cap.		00000
285-0087-0	Troup	FAS 740 SPUR	WILSON CREEK	800 - BRIDGE JOINT SEALING	C	All deck joints	Deck joints need to be cleaned and sealed.		00000
285-0087-0	Troup	FAS 740 SPUR	WILSON CREEK	830 - REP MAIN STRUCT MEMBERS	B	Bents 2 and 3	Bents 2 and 3, caps have minor spalls at the steps and need to be repaired.		00000
285-0087-0	Troup	FAS 740 SPUR	WILSON CREEK	845 - OTHER BRIDGE MAINT	B	Bent 2	Repair moderate stream bank scour at bent 2, repair scour at bent 2 columns 1 and 2. Column 1 footing is exposed up to 4.2' with 1.0' undermining. Column 2 footing exposed up to 3.0'.		00000
285-0087-0	Troup	FAS 740 SPUR	WILSON CREEK	845 - OTHER BRIDGE MAINT	B	Left rear end post	Left rear end post has spall with exposed rebar		00000
285-0088-0	Troup	3RD AVENUE	CHATTAHOOCHEE RIVER O/F	000 - BRIDGE PAINTING (Not performed by Highway Maintenance, used by Bridge Mntce)	C	Steel piles	Steel piles need to be cleaned and painted.		00000
285-0088-0	Troup	3RD AVENUE	CHATTAHOOCHEE RIVER O/F	550 - EROSION CONTROL	C	Forward of bent 2	Stream bank forward of bent 2 has moderate erosion and needs to be repaired.		00000
285-0088-0	Troup	3RD AVENUE	CHATTAHOOCHEE RIVER O/F	615 - REPAIR/INSTALL GUARDRAIL	B	right rear guardrail	right rear guardrail needs repair		00000
285-0088-0	Troup	3RD AVENUE	CHATTAHOOCHEE RIVER O/F	800 - BRIDGE JOINT SEALING	C	Deck joints	Deck joints need to be cleaned and sealed.		00000
285-0088-0	Troup	3RD AVENUE	CHATTAHOOCHEE RIVER O/F	845 - OTHER BRIDGE MAINT	B	Abutment 7	End roll needs to have rip rap added and reshaped existing rip rap.		00000
285-0090-0	Troup	STOVALL ROAD	FLAT SHOALS CREEK	845 - OTHER BRIDGE MAINT	C	Span 1	Barrier rails have surface spalls, scaling, and map cracking		00000
285-0094-0	Troup	HAMMETT ROAD	BEECH CREEK	000 - BRIDGE PAINTING (Not performed by Highway Maintenance, used by Bridge Mntce)	C	Bents 2, 4, and 6	Steel piles need to be cleaned and painted.		00000
285-0094-0	Troup	HAMMETT ROAD	BEECH CREEK	845 - OTHER BRIDGE MAINT	B	Bents 2, 4, and 6	All piles need to be encased. (in the flood plain)		00000
285-0096-0	Troup	HAMMETT ROAD	YELLOW JACKET CREEK	000 - BRIDGE PAINTING (Not performed by Highway Maintenance, used by Bridge Mntce)	C	Steel piles	Steel piles need to be cleaned and painted.		00000



# County Reports – 3/3

## Posting Report

Georgia Department of Transportation

Posting Summary for County: **Monroe**

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Processed On: Nov-07-2022 02:01 PM

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	Location ID	Structure ID	Action	H Truck	Type-3 Truck	Timber Truck	HS Truck	3S2 Truck
	207-01077F-001.70E	207-0058-0	POSTED	12.0	8.0	11.0	11.0	16.0
	207-01431F-005.58E	207-0061-0	POSTED	9.0				
	207-01700F-011.19E	207-0065-0	POSTED	14.0	14.0	19.0	17.0	24.0
	207-00077X-000.89N	207-5012-0	POSTED	19.0	19.0	18.0		
	207-00273X-003.78N	207-5037-0	POSTED	17.0	17.0	24.0		

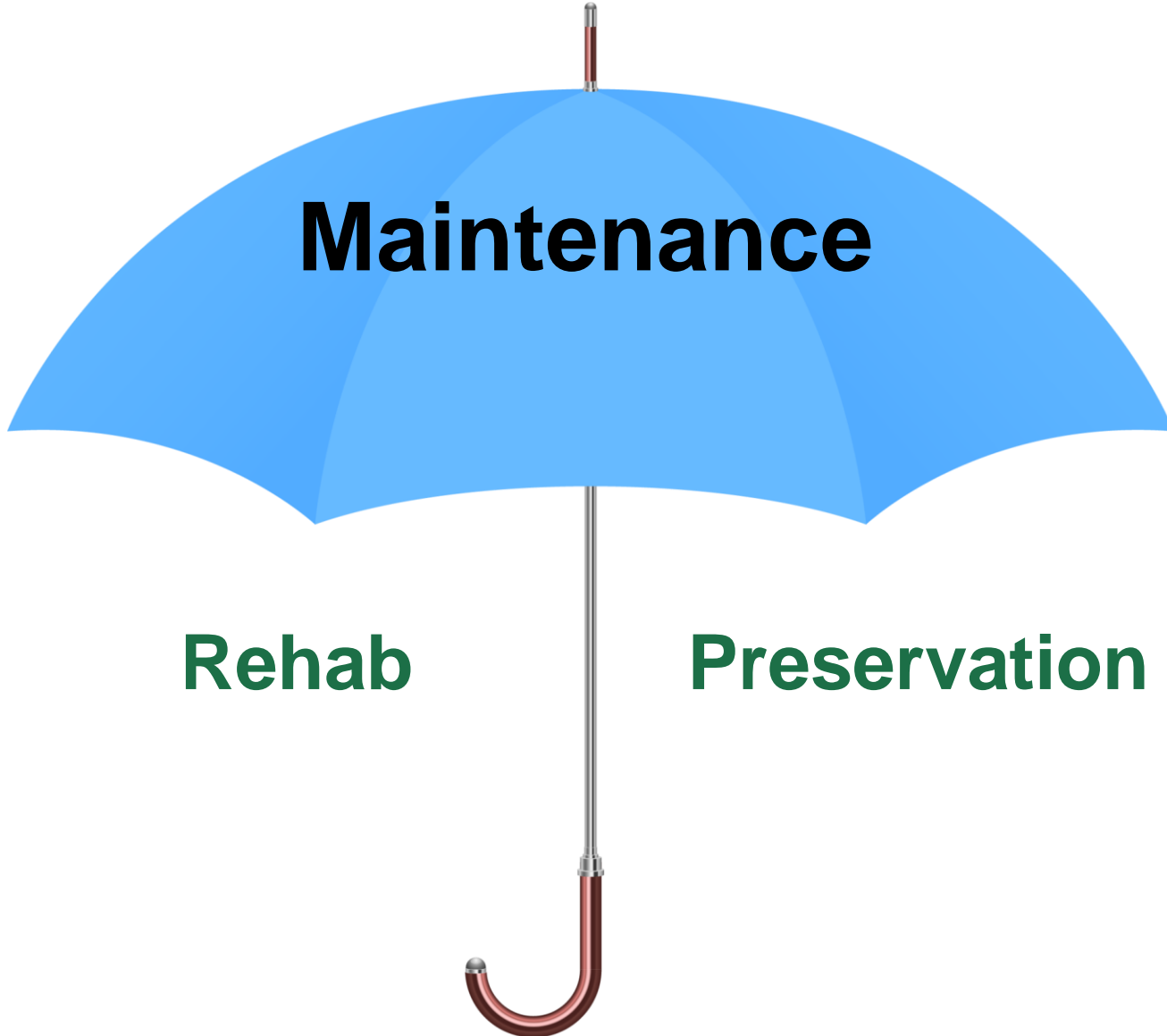
# Bridge Posted incorrectly, Reposting required

+ Bridge not Posted, Posting Required

Please indicate which alternate closing method, the county uses to close a structure.

**Note:** It is recommended that advanced weight limit signs be placed.

**Kahoot!**



**Maintenance**

**Rehab**

**Preservation**

# Maintenance

- GDOT encourages local governments to be proactive for maintenance and repair
- When maintenance or preservation work is completed, please inform area inspectors
- Proactive maintenance is cheaper than replacement
- We inspect, local governments maintain



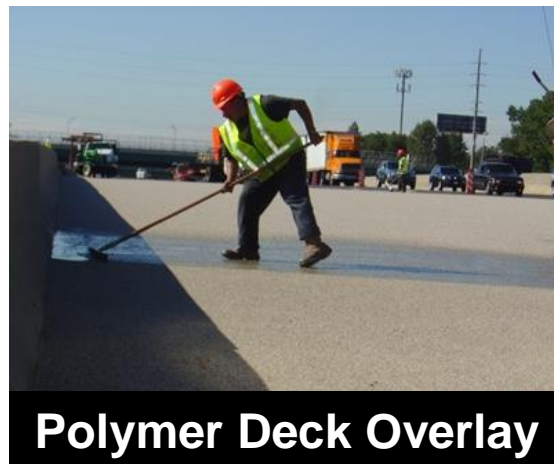
## Bridge Preservation

- Prevents, delays, or reduces deterioration of bridges
- Restores the function of existing bridges
- Keeps bridges in good or fair condition and extends service life
- Preservation actions may be cyclic or condition-driven

**Painting of existing steel beams  
is a preservation that can  
extend the life of a structure.**



# Bridge Preservation Examples



# Bridge Rehabilitation

**Restores and brings back the use of a bridge.**

Increased vehicle weights, pollution and limited maintenance are some of the factors that influence the deterioration of our structures.



**Before**



**After**

# Deck Rehabilitation





## Timber Pile – Section Loss Repair



Before Repair



After Repairs

## Timber Pile – Section Loss Repair (Collar)



Before Repair



After Repairs

# Timber Pile – Swaybracing



Before Repair



After Repairs

## Helper Bent (Temporary Repair)



Before Repair



After Repairs

# Beam Web Section Loss Repair



Before Repair



After Repairs

# H-Pile Structural Encasement



# County Repair Coordination

- Inform GDOT Area Bridge Inspector
  - Via phone call or email
  - What has been done
  - Provide plans if applicable



**CONTACT US**

## Why do we Load Rate Bridges?

- To determine load carrying capacity of the structure
- To determine if a structure should be posted or closed
- Safety of the traveling public



## When do we Load Rate Bridges?

- At design and initial construction
- When conditions warrant
- Intermittently as a QA/QC check





# Why do we Post Structures? How?

- When load rating determines the need
  - If the operating rating falls below the legal truck weight
- To reduce damage caused by overloading
- To extend the life of the bridge



# Types of Posting Signs



R12-1  
GROSS WEIGHT LIMIT SIGN  
(Type A.)

## Type A



MODIFIED R12-5  
WEIGHT LIMIT SYMBOL SIGN  
(Type B)

H-TRUCK

TYPE 3

TIMBER



HS-TRUCK (Add as required)



3S2 (Add as required)



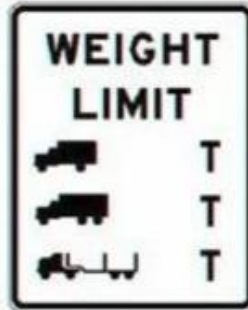
PIGGYBACK (Add as required)

## Type B

## Georgia Weight Limit Signs



R12-1  
GROSS WEIGHT LIMIT SIGN  
(Type A.)



MODIFIED R12-5  
WEIGHT LIMIT SYMBOL SIGN  
(Type B)

H-TRUCK

TYPE 3

TIMBER



HS-TRUCK (Add as required)



3S2 (Add as required)

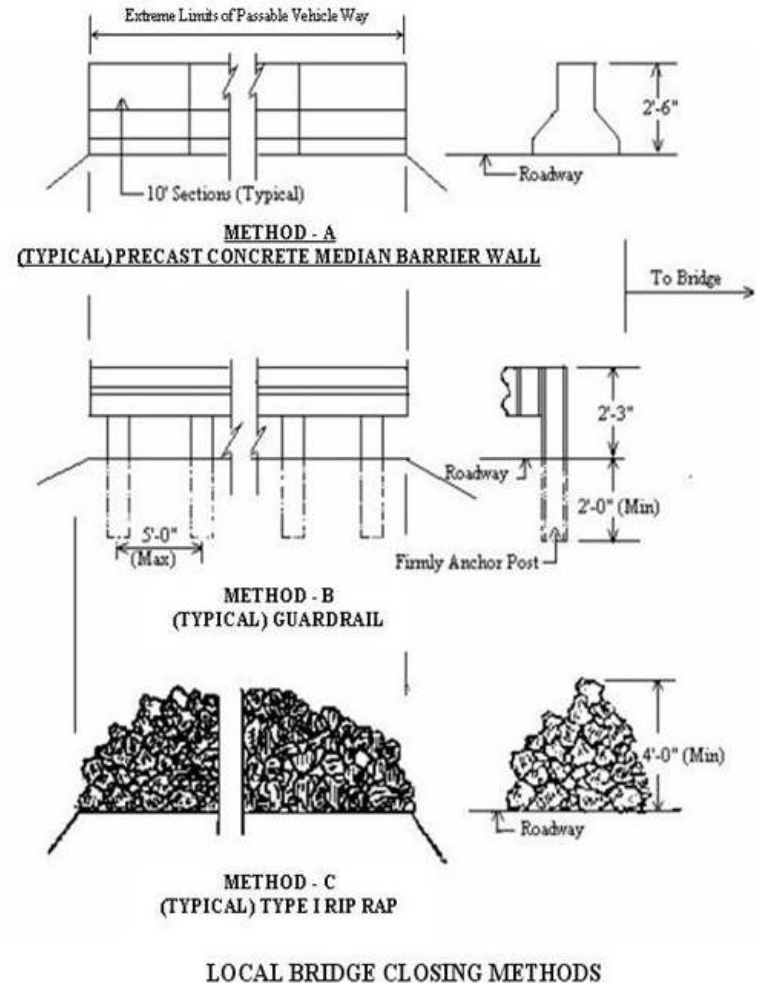


PIGGYBACK (Add as required)

## Posting Signs

# Closing Bridges

- Why do we close structures?
  - If the load rating calculates less than 5 tons of carrying capacity
  - Any bridge below 5 tons **MUST** be closed according to GDOT Methods
- Different Methods of Closures
  - Method A
  - Method B
  - Method C



# Closing Method A, B, C



# Proper Bridge Closures



# Improper Bridge Closures



# Bridge Replacement

- Total replacement of an existing bridge with a new facility constructed in the same general location.
- The replacement structure will meet current standards to better serve the highway's current and future traffic needs.
- Bridges are replaced when it is no longer economically feasible to repair or rehabilitate them to fully functional structures.





**Kahoot!**

# Questions?

