

ACEC Meeting

Andrew Fitzgerald, PE

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Indianapolis Sub

July 24, 2020

Outline

- Bridge Inspection Manual Revisions
- LPA/ Contract/ Compliance Month
- LPA Bridge Inspection/LPA County Balance
- INDOT Workshop
- INDOT Job Postings
- Bridge Degradation Guidance
- Training



Bridge Inspection Manual Revisions

- The following is the status of the Bridge Inspection Manual:
 - Part 1- Administration – complete
 - Part 2- Types of Inspections – complete pending final review
 - Part 3- load rating – complete
 - Part 4- QC/QA – complete
 - Part 5- Fatigue and Fracture critical – complete
 - Part 6- Scour – not complete
 - Part 7- Wearing Surface – complete pending final review
 - Part 8- Asbestos – complete
 - Part 9- Appendix – not complete



INDOT Bridge Inspection Manual Revisions

1-2.02 Delinquent Inspections

- An inspection is considered delinquent when the inspection interval exceeds the required interval. If an inspection cannot be completed due to an unusual circumstance, the inspection team leader must notify the INDOT Bridge Inspection Administrator within five working days once the inspection interval is exceeded. The team leader is directed to contact the Administrator by emailing INDOT IN Bridges Help to document the unusual circumstance.
- This revision is required in order to be complaint with the FHWA 23 metrics.

INDOT Bridge Inspection Manual Revisions

1-2.04(03) Inspection Frequency

- Bridges must receive a Routine Inspection every 24 months unless widespread deterioration dictates more frequent inspections. If only a portion of a bridge needs more frequent inspections, a Special Inspection is required.
- Bridges with a **rating of 3 or less** for the deck, superstructure, substructure, or culvert rating shall have a reduced interval between Routine Inspections. *A maximum inspection interval of 12 months will be used.*

7-1.01 Portland Cement Concrete Overlay Condition Ratings

Condition Rating Guide for rigid Portland Cement Concrete Overlays:

<u>Code</u>	<u>Description</u>
N	NOT APPLICABLE - means does not apply.
9	EXCELLENT CONDITION – no significant defects.
8	VERY GOOD CONDITION – hairline cracking less than 0.012” nominal width and widely spaced.
7	GOOD CONDITION - cracking less than 0.016” nominal width, widely spaced, and less than 5% delamination.
6	SATISFACTORY CONDITION - cracking less than 0.020” nominal width and nominal on center spacing greater than 10 feet. Delamination less than 15%.
5	FAIR CONDITION - cracking greater than 0.020” and less than 0.040” nominal width and nominal on center spacing not greater than 10 feet. Delamination less than 30%.
4	POOR CONDITION – cracking greater than 0.040” nominal width and nominal on center crack spacing less than 10 feet. Delamination greater than 30%. Unpatched or unsound patching, or spalled areas, visible.
3	SERIOUS CONDITION - delamination greater than 30% with severe cracking and numerous unsound patches and spalled areas visible. The wearing surface is no longer effective.
• Condition ratings less than 3 shall not be coded.	

Condition Rating Guide for Semi-Rigid Epoxy Overlays

Code	Description
N	NOT APPLICABLE – means does not apply.
9	EXCELLENT CONDITION – no visible defects or visible wearing of the friction surface aggregate.
8	VERY GOOD CONDITION – minor intermittent wearing of the friction surface aggregate across less than 5% total surface area within the travel lanes.
7	GOOD CONDITION – minor wearing, glazing, or polishing of the friction surface aggregate across less than 50% total surface area within the travel lanes.
6	SATISFACTORY CONDITION – deep wearing, glazing, or polishing of the friction surface aggregate across more than 50% total surface area, but all areas remain intact with no visible surface voids or peeling.
5	FAIR CONDITION – Less than 5% total surface area exhibiting areas of full thickness wearing down to bare deck, surface voids, or peeling.
4	POOR CONDITION – Greater than 5% and less than 10% total surface area exhibiting areas of full thickness wearing down to bare deck, surface voids, or peeling.
3	SERIOUS CONDITION – Greater than 10% of the total surface area exhibiting areas of full thickness wearing down to bare deck, surface voids, or peeling. The wearing surface is no longer effective.

Condition ratings less than 3 shall not be coded.

7-1.03 Bituminous Overlay Condition Ratings

<u>Code</u>	<u>Description</u>
N	NOT APPLICABLE – means does not apply.
9	EXCELLENT CONDITION – no significant defects, cracks, spalls, or voids visible.
7	GOOD CONDITION – shallow wearing or rutting of the bituminous surface visible in the travel lanes. No wide cracks, spalls, or voids visible. All cracks present are sealed, and all spalls and voids are soundly patched.
5	FAIR CONDITION – moderate wearing or rutting of the bituminous surface visible across more than 30% of the travel lanes. No wide cracks, spalls, or voids visible. All cracks present are sealed, and all spalls and voids are soundly patched.
4	POOR CONDITION – moderate wearing or rutting of the bituminous surface visible across more than 30% of the travel lanes. Unsealed cracks and unpatched spalls or void visible across less than 10% of the total surface area.
3	SERIOUS CONDITION – widespread wearing or rutting of the bituminous surface visible across the travel lanes. Unsealed cracks and unpatched spalls or void visible across more than 10% of the total surface area. The wearing surface is no longer effective.

Only the condition ratings listed in this section shall be coded.

INDOT BRIDGE INSPECTION DIVISION
XXXXXXXXXXXXX DISTRICT
SCOUR PLAN OF ACTION

General Information

Bridge Number: XXX-XX-XXXXX

NBI Number: XXXXXX

Facility Carried: XXXXXXXXXXXXXXXXXXXX

Features Intersected: XXXXXXXXXXXXXXXXXXXXXXXX

Location: XXXXXXXXXXXXXXXXXXXXXXXX

Scour Status Summary

Scour Critical Rating (Item 113): X

Substructure Rating (Item 60): X

Channel and Channel Protection Rating (Item 61): X

Culverts Rating (Item 62): X

Waterway Adequacy Appraisal (Item 71): X

Scour/Flood

History: _____

SCOUR PLAN OF ACTION

Initial Scour Inspection and Monitoring Plan

Bridge Scour Critical Components: _____

Trigger: Rainfall events of 2.5" or more in a 24 hour period will trigger the initial scour inspection.

Initial Scour Inspection following Trigger (Date/Findings): _____

Monitoring Required after Initial Scour Inspection (Y/N): _____

Reason for Bridge Monitoring: _____

If monitoring is required after initial scour inspection, the Bridge Scour Monitoring Log shall be used.

Person or Agency that will monitor the bridge: _____

Monitoring Methodology: _____

Monitoring History/Comments: _____

Monitoring Termination Criteria: _____

Bridge Owner Contact Information (primary): _____

Countermeasures Information

Existence/Type of Countermeasures

Present: _____

Countermeasures

Observations: _____

Countermeasures Recommendations: _____

SCOUR PLAN OF ACTION



Emergency Traffic Information

Closure Plan: _____

Suggested Detour Route: _____

Re-opening Procedures: _____

Recommendations

Provide recommendations as needed, such as reduced routine inspection frequency, need for future underwater inspections, countermeasure recommendations, and other comments.

Scour POA Author (Name/Title): _____

Scour POA Approved (Name/Title): _____

Scour POA Updated (Name/Title): _____

Date: MM/DD/YYYY

Date: MM/DD/YYYY

Date: MM/DD/YYYY

Bridge Number: XXX-XX-XXXXX
NBI Number: XXXXXX
Facility Carried: XXXXXXXXXXXXXXXXXXXX
Features Intersected: XXXXXXXXXXXXXXXXXXXXXXXX
Location: XXXXXXXXXXXXXXXXXXXXXXXX

Date/Time	Inspector Initials	Type of Monitoring	Bridge Condition Due to Scour	Actions Taken



LPA Bridge Inspection/ LPA County Balance

- Border Bridge - August
- Review Order
 - Supplementals
 - RFP's
 - LPA Consultant Contract
- New Contract 22-25
 - Pending- September
- LPA Contract Year Balance
 - January 2020

Contract to be Reviewed 2019 #15	Compliance	Cycle	Contract to be Reviewed 2020 #6	Compliance	Cycle	Contract to be Reviewed 2021 #21	Compliance	Cycle	Contract to be Reviewed 2022 #50	Compliance	Cycle
Benton	May	19-22	Parke	April	20-23	Decatur	April	21-24	Adams	May	22-25
Cass	June	19-22	Randolph	August	20-23	Rush	April	21-24	Allen	May	22-25
Crawford	September	19-22	Warren	August	20-23	Carroll	May	21-24	Bartholomew	May	22-25
Daviess	June	19-22	Fayette	September	20-23	Miami	May	21-24	Blackford	October	22-25
Dearborn	April	19-22	LaPorte	September	20-23	Greene	July	21-24	Clark	March	22-25
Jackson	March	19-22	St. Joseph	September	20-23	Henry	July	21-24	Clay	September	22-25
Jennings	April	19-22	Marshall	October	22-25	Vigo	July	21-24	Clinton	April	22-25
Noble	April	19-22	Monroe	March	22-25	Hamilton	August	21-24	Dekalb	October	22-25
Ohio	February	19-22	Montgomery	April	22-25	Knox	August	21-24	Delaware	October	22-25
Perry	January	19-22	Morgan	August	22-25	Warrick	August	21-24	Dubois	February	22-25
Pike	April	19-22	Newton	September	22-25	Boone	September	21-24	Elkhart	August	22-25
Putnam	March	19-22	Orange	May	22-25	Huntington	September	21-24	Floyd	March	22-25
Sullivan	July	19-22	Owen	November	22-25	Scott	September	21-24	Fountain	June	22-25
Union	May	19-22	Porter	May	22-25	Brown	October	21-24	Franklin	October	22-25
Vermillion	August	19-22	Posey	April	22-25	Grant	October	21-24	Fulton	April	22-25
			Pulaski	September	22-25	Jay	October	21-24	Gibson	March	22-25
			Ripley	October	22-25	Shelby	October	21-24	Hancock	June	22-25
			Spencer	August	22-25	Steuben	October	21-24	Harrison	August	22-25
			Starke	September	22-25	Wells	October	21-24	Hendricks	May	22-25
			Switzerland	May	22-25	LaGrange	November	21-24	Howard	November	22-25
			Tippecanoe	September	22-25	Martin	November	21-24	Jasper	August	22-25
			Tipton	November	22-25				Jefferson	November	22-25
			Vanderburgh	October	22-25				Johnson	July	22-25
			Wabash	May	22-25				Kosciusko	March	22-25
			Washington	July	22-25				Lake	August	22-25
			Wayne	April	22-25				Lawrence	June	22-25
			White	October	22-25				Madison	September	22-25
			Whitley	March	22-25				Marion	July	22-25

INDOT Bridge Workshop

- Workshop will be online
- Two Friday mornings: September 18th and 25th.
- Each session scheduled for three hours: 9:30 AM to 12:30 PM (EDT).
- Participants will earn 3 PHDs per session.
- Certificates at the end (Talent Management).
- This will be advertised in August
- Agenda has been created



INDOT 2020 BRIDGE INSPECTION WORKSHOP

Friday September 18th 9:30 – 12:30 & Friday September 25th 9:30 – 12:30

AGENDA WebEx Presentations

Friday September 18th

- 9:30 – 10:20 Scour Channel Profiles: Bill Dittrich, Assistant Bridge Inspection Manager and Chris `Everman, Seymour Bridge Inspection Supervisor.
- 10:30 – 11:20 Corrosion Investigation and Mitigation Systems: Erik Thorp, Business Development Manager, Vector Corrosion Technologies Inc.
- 11:30-12:20 Introduction to Bridge Asset Management: Adam Post, Bridge Asset Manager and Erich Hart, Bridge Asset Engineer.

Friday September 25th

- 9:30 – 10:20 Bridge Inspection Review: Jose Ortiz, Bridge Engineer FHWA.
- 10:30 – 11:20 Inspecting Covered Bridges: Richard J. Kristie, P.E., S.E., Patrick J. Marra, P.E., S.E., Brian J. Santosuosso, P.E., S.E., Wiss, Janney, Elstner Associates, Inc.
- 11:30 – 12:20 New Guide Specifications & Retrofit Review: Professor Rob Connor, Purdue University.

INDOT Bridge Inspection Job Postings

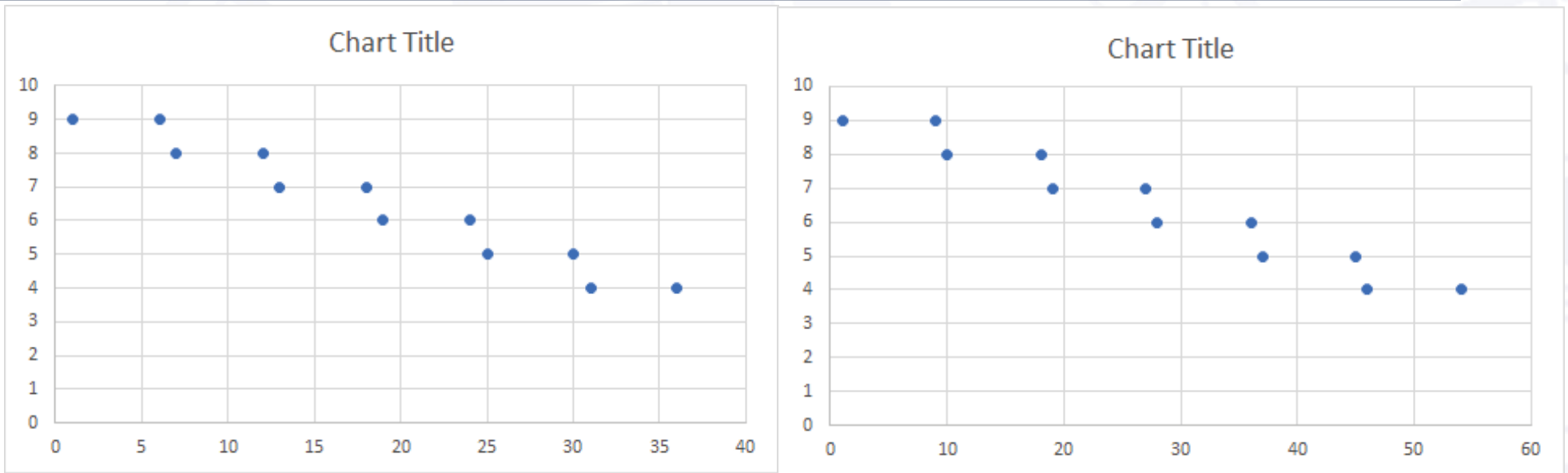
- Crawfordsville Supervisor position
 - Vincennes Bridge Engineer position
 - Greenfield Bridge Technician position
 - LaPorte Bridge Technician position
- *Received authorization to re-post and began hiring process for all our vacancies.*



Bridge Inspection Degradation & Life Span Guidance

- The bridge should have a reasonable residence time at each rating
- The average deck should have a residency at each rating for 6 – 9 years
- The rating of 4 should indicate the bridge has about 5 – 10 years of remaining life
- The rush to 6 and fear of 4 can cause all our data to be center weighted which can cause the data to be of less value.

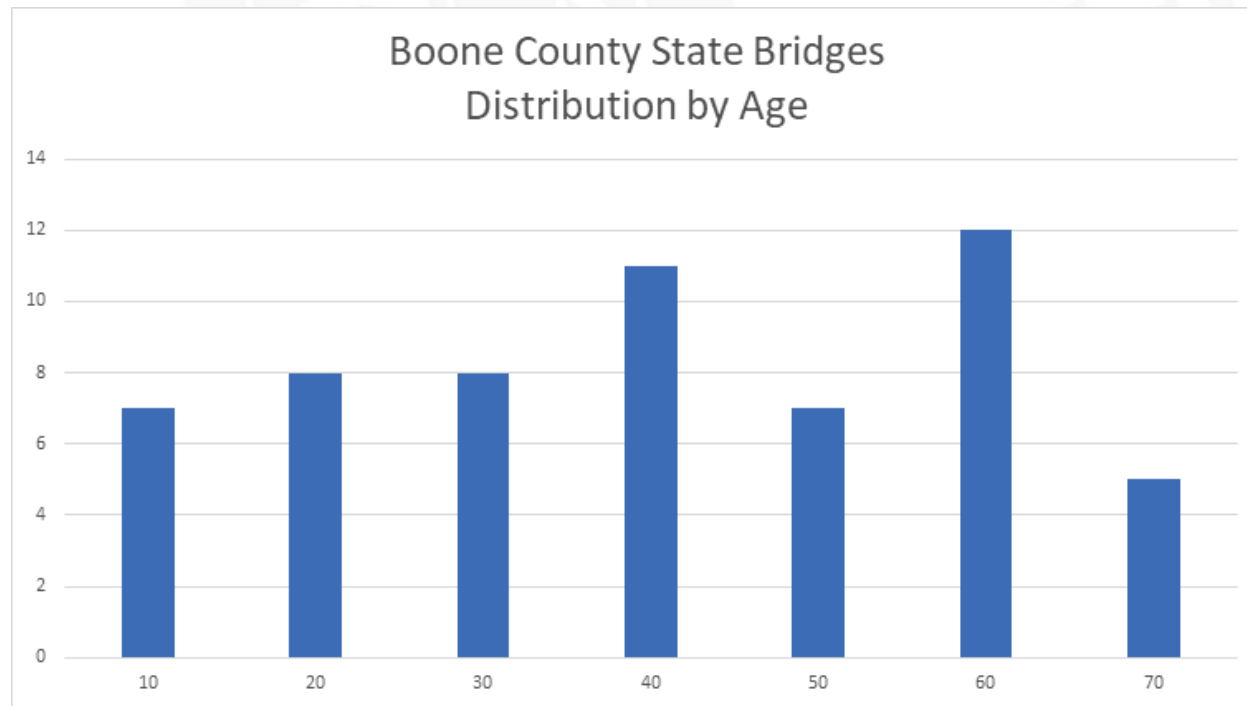
Bridge Inspection Degradation & Life Span Guidance



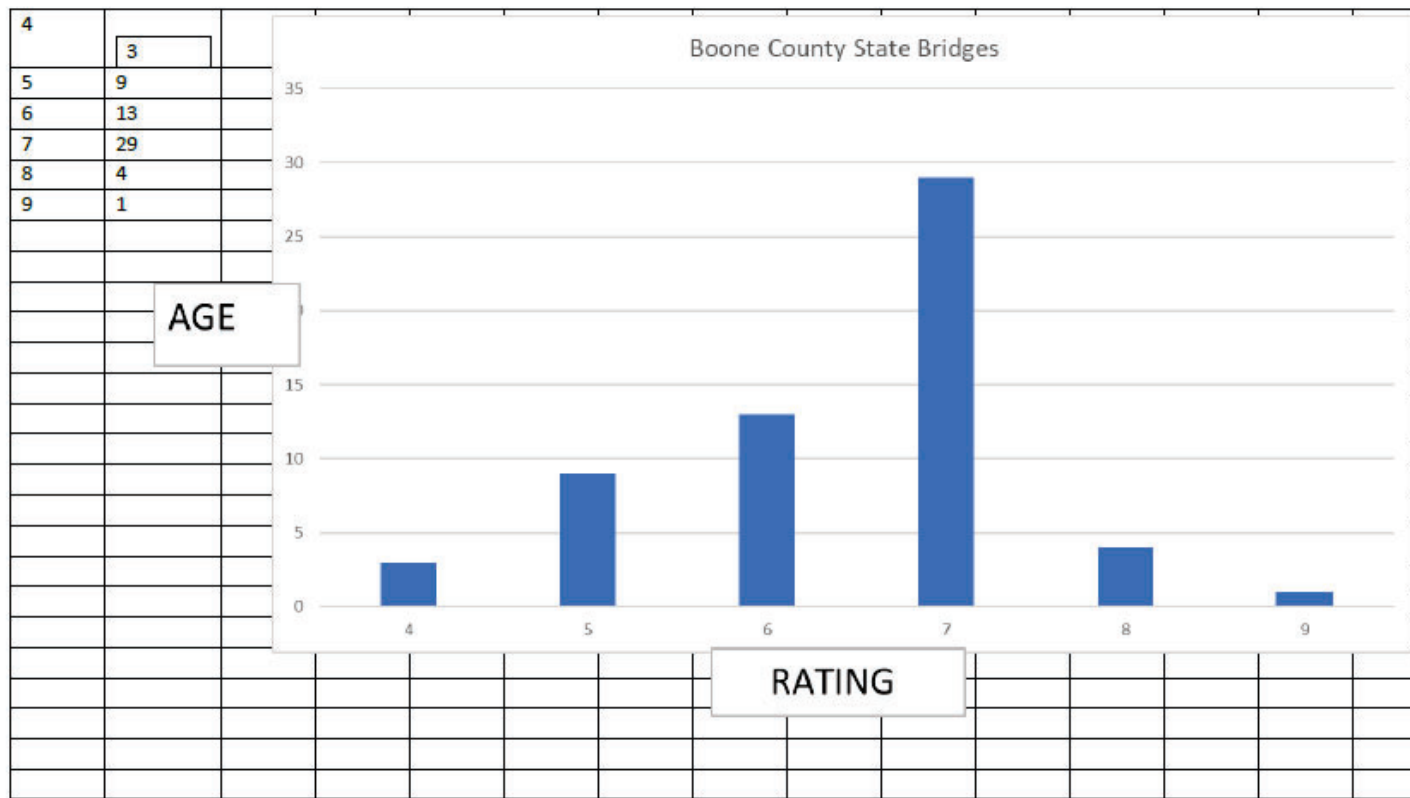
Graphs depict a concrete deck degradation curve of 6 and 9 years. The inspector needs to know the age of the deck and treatments placed before rating the bridge. In this example, the bridge deck has not received any treatments.

The acceptable ratings for this bridge at the age of 50 would be between 5 and 4. A rating of 6 or 7 would be too high.

Bridge Inspection Degradation & Life Span Guidance



Bridge Inspection Degradation & Life Span Guidance



Training Later This Year/Next Year

- Confirmed:
 - Bridge Inspection Workshop: September 18th and 25th (Online)
- Proposed for 2020 NHI Courses:
 - NBI 3-day Refresher – Looking to possibly schedule this Fall; pending query as to how the course can be taught during current pandemic.
 - S-Brite (Fracture Critical)

Other discussions

- Area of improvement
- Next Meeting: Recommend October 23, 2020

