

History of Bridge Inspection in Indiana

Bill Dittrich

INDOT – Assistant Bridge Inspection Program Manager

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History of Bridge Inspection in Indiana

- 1. 1919 to 1967 and the Silver Bridge collapse
- 2. 1967 – 1971: Federal Legislation enacting NBIS
- 3. 1972 – 1978: Additional Federal legislation to include all county bridges
- 4. 1979 – 1988: Early Bridge Inspection activities
- 5. 1988 – 2005: Fracture Critical, Underwater, Scour, and Metric
- 6. 2005 – 2010: New Federal Rules and BIAS
- 7. 2010 – 2015: Bridge Elements, 23 Metric Reviews, and Tunnels
- 8. 2016 – Present: iTAMS, Plans of Corrective Action, and Critical Findings

History of Bridge Inspection in Indiana

- Disclaimers
- 1. There is not much information on the bridge inspection activities in Indiana prior to the 1970's, due to many major disposals of files at INDOT, the last being in 2020 when the Central Office building was evacuated for Covid.
- 2. There are too many bridge inspection activities following 1970 to include in the limited time allowed for this presentation so only a few are included here.

History of Bridge Inspection in Indiana

- 1919 to 1967 and the Silver Bridge collapse:
- The US Office of Road Inquiry was established in 1893. It was then re-named as the Office of Public Roads and finally the Bureau of Public Roads in 1915. This eventually became today's FHWA/Department of Transportation.
- In 1919, the Indiana State Highway Commission was created. This begins our story.
- Most records from the earliest days of the ISHC have been thrown away or lost, but a few items exist to help us know that bridges were being inspected and inventoried.

History of Bridge Inspection in Indiana

- 1919 to 1967 and the Silver Bridge collapse

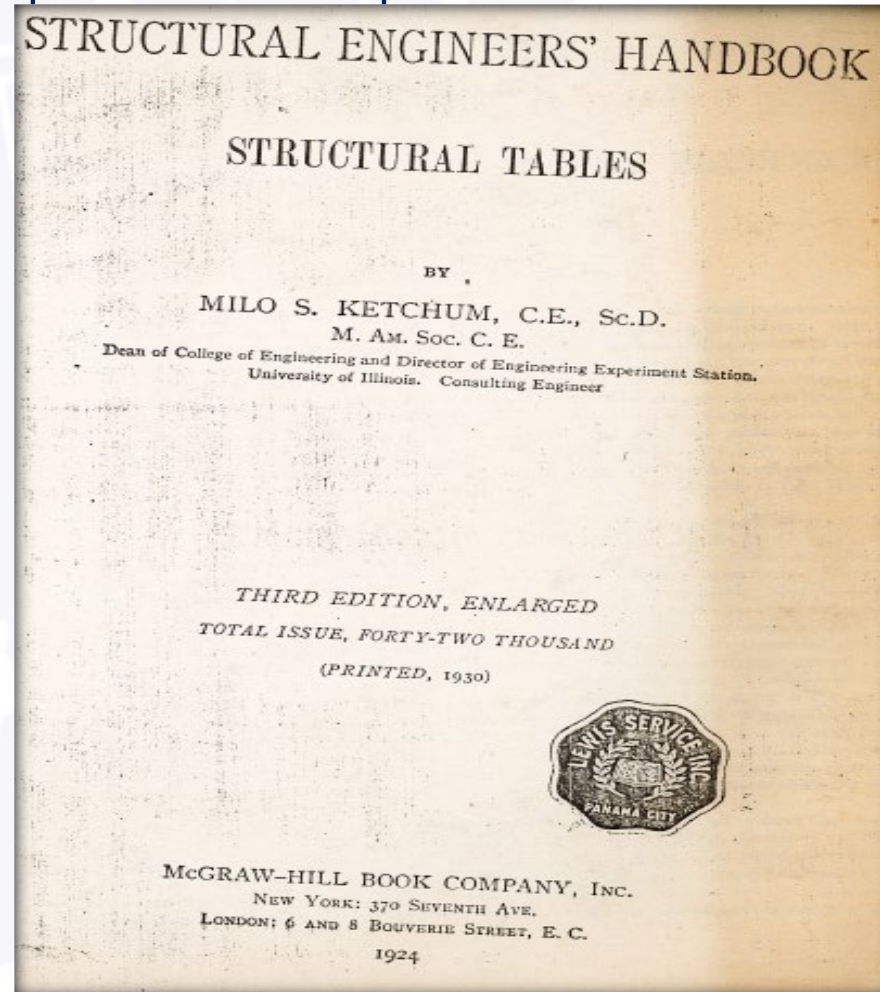
1893-1898	Office of Road Inquiry
1899-1905	Office of Public Road Inquiry
1905-1915	Office of Public Roads
1915-1918	Office of Public Roads and Rural Engineering
1918-1939	Bureau of Public Roads
1939-1949	Public Roads Administration
1949-1967	Bureau of Public Roads
1967-present	Federal Highway Administration

History of Bridge Inspection in Indiana

- 1919 to 1967 and the Silver Bridge collapse
- American Association of State Highway and Transportation Officials (AASHTO)
- Published Manuals from 1921 to the Present

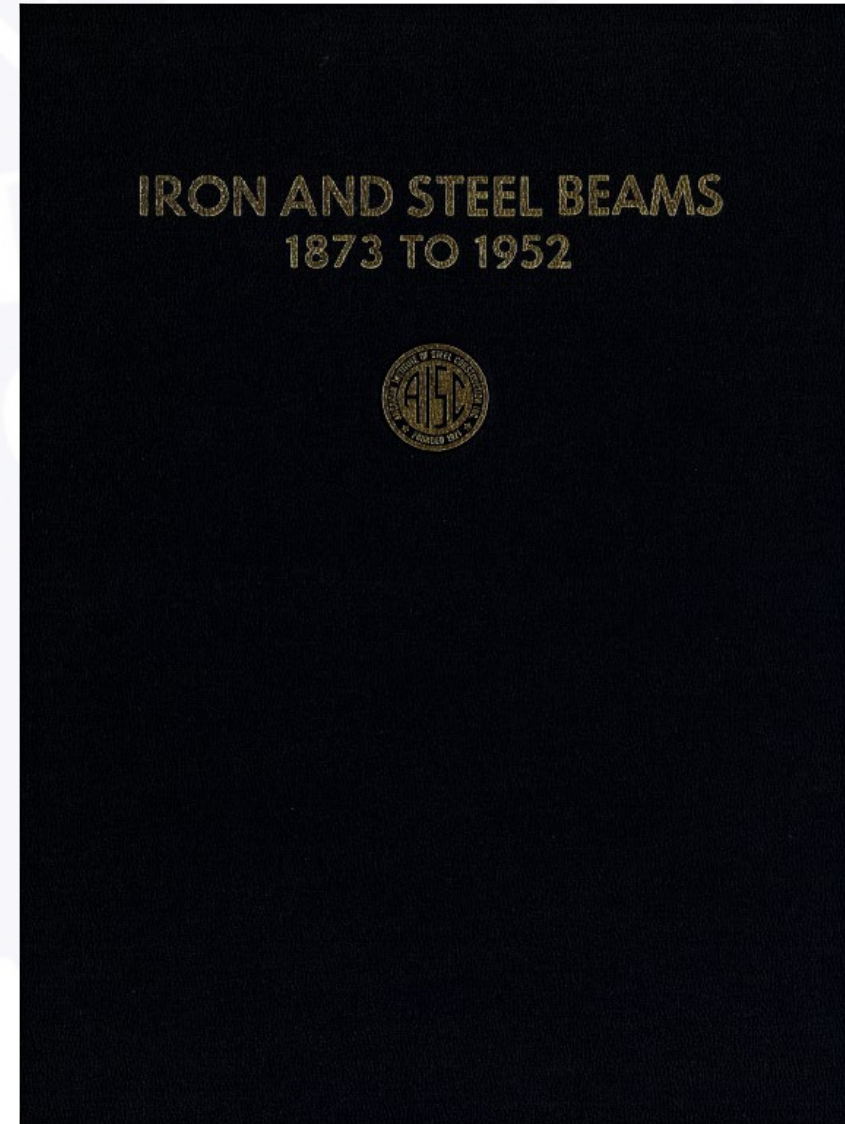
History of Bridge Inspection in Indiana

- 1919 to 1967 and the Silver Bridge collapse
- 1924 Book with Steel Shapes and Properties:



History of Bridge Inspection in Indiana

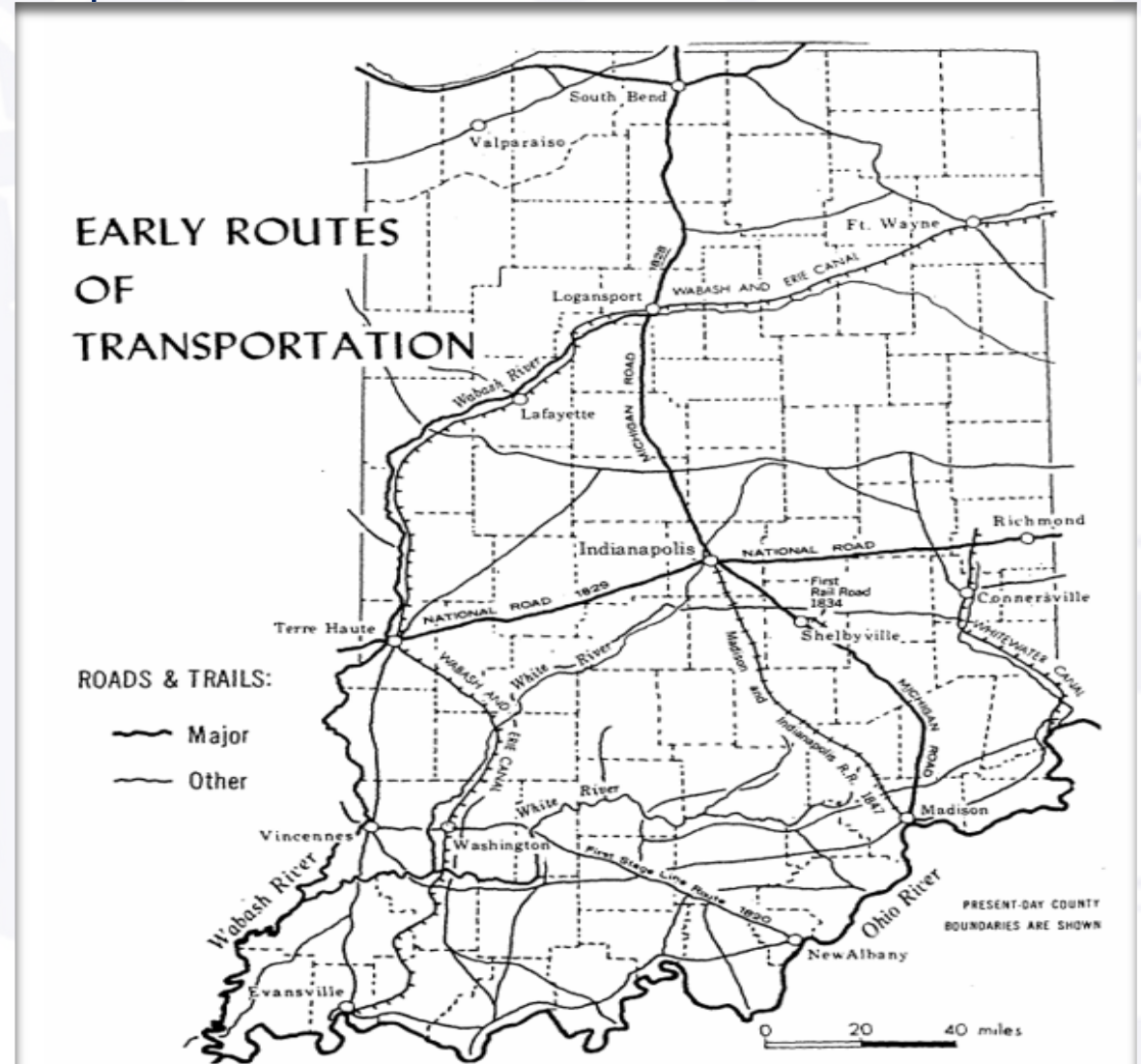
- 1919 to 1967 and the Silver Bridge collapse
- 1873 – 1952 Iron and Steel Beams:



History of Bridge Inspection in Indiana

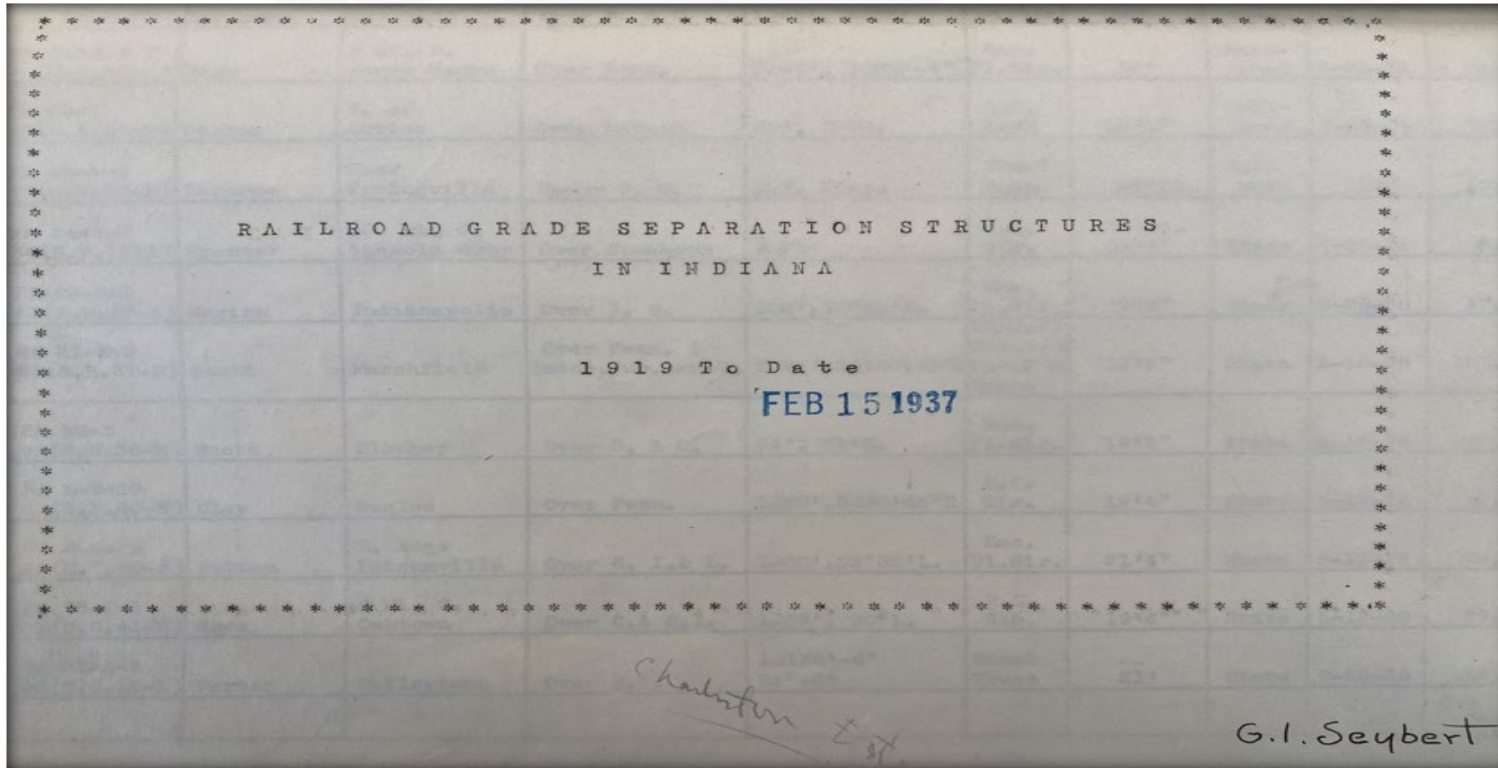
- 1919 to 1967 and the Silver Bridge collapse

The 1919 state highway act created a State Highway Fund, which drew revenue from vehicle license fees, chauffeur license fees, the inheritance tax, and a general levy.



History of Bridge Inspection in Indiana

- 1919 to 1967 and the Silver Bridge collapse
- 1937 Bridge Inventory Book:



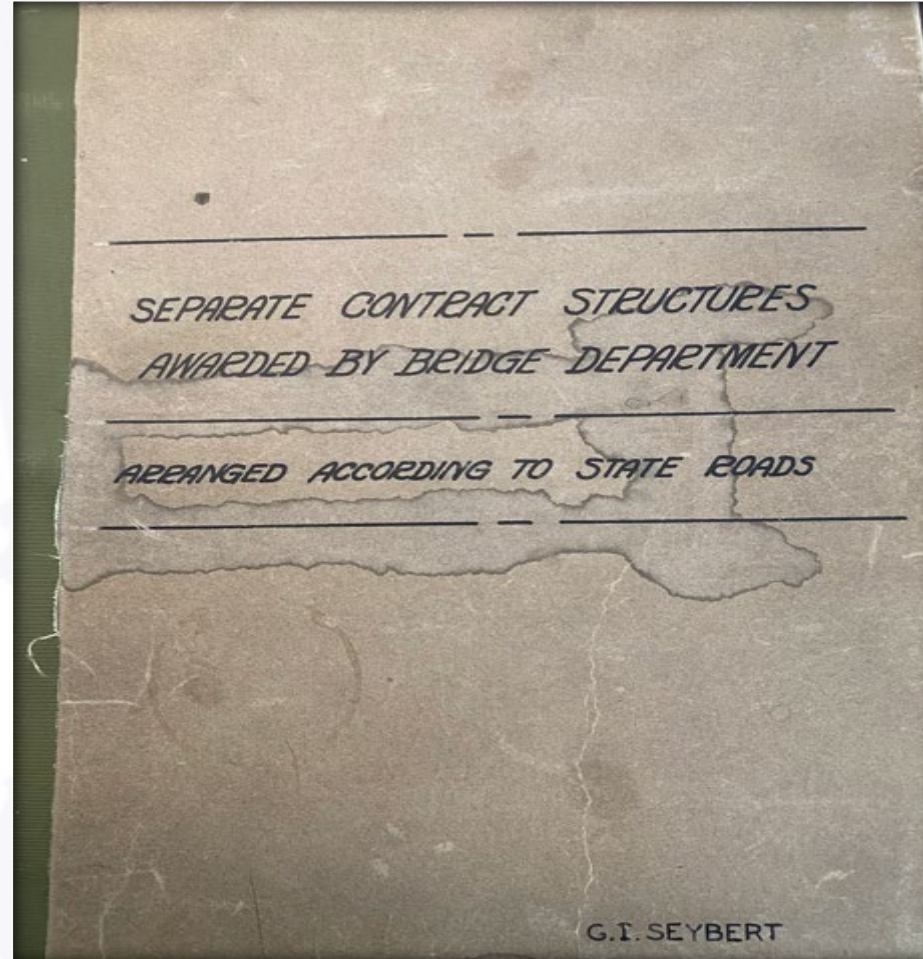
History of Bridge Inspection in Indiana

- 1919 to 1967 and the Silver Bridge collapse
- 1937 Bridge Inventory Book:

State Road	County	Structure Number	Bridge Contr.No.	Span	Type	Remarks	Rdwy	Date Awarded	Contr. Price	Date Completed
1-A	Ripley	1-A-1234	577	60'Sk.20'L	RCA(UF)	Hogan Cr.	44'	5-2-33		
1-C	Franklin	1-C-987	385	50'Sk.30'L	RCA	Butlers Run Cr.	24'	1-27-31	10,968.86	11-9-33
1-C	Franklin	1-C-1120	-----	20'Sk.45'R	RCA(UF)	Butlers Run Cr.	36'		13,754.66	10-10-31
						(Built by Rd.Dept.-Proj.182-A)				
1-C	Franklin	S.34-B-201	Comb.43	20'	RCA(Replaced by 201-A)			9-23-24	1,514.54	7-8-25
		1-C-201-A	384	30'	RCA	Little Duck Cr.	24'	1-27-31	6,852.25	7-16-31
1-C	Franklin	S.34-B-41	Comb.43	60'Sk.15'L	RCA	Duck Cr.	19'4"	9-23-24	10,392.86	11-27-25
1-D	Payette	S.34-C-40	Comb.43	28'Sk.30'R	RCG(Eliminated by 988)			9-23-24	2,831.63	6-15-25
	Payette	1-D-988	384	36'Sk.30'R	RCA	Wilson Cr.	24'	1-27-31	6,723.00	6-5-31
1-E	Payette	F.A.80-1	63	48'	St.Tr.(Eliminated by 3230A)			2-16-26	7,433.73	10-6-26
		1-E-3230	1726	72'	Temp.Dr.	Lick Cr.	24'	8-15-38	2,288.00	11-5-38
		1-E-3230-A	1731	50'	St.Bm.	Lick Cr.	28'	11-1-38	13,680.10	6-15-39
1-E	Payette	1-E-874	306	12'Sk.62'L	RCB	Whitewater Canal	24'	10-15-29	14,918.70	1-15-31
1-F	Wayne	F.A.80-3	29	2 at 28'	RCG	Shaker Run Cr.	19'4"	5-26-25	5,194.51	9-16-26
1-F	Wayne	S.34-D-42		115'10"	St.Tr.(Eliminated By FA 80-4)			6-6-22	1,546.14	9-1-22
	Wayne	F.A.80-4	29	2 at 55'Sk.R.	St.Tr.	Symonds Cr.	19'2"	5-26-25	13,852.17	9-16-26
1-G	Wayne	1-G-1511	602	15'	RCA	Dills Br.	24'	6-27-33	2,130.55	9-28-33
1-H	Wayne	1-H-2114	606	3 at 36'9'Sk.						
				14'51'L	RCG(O.H.)	C. & O.RR.(2wks)	24'	12-39		
1-M	Jay	1-M-1188	442	36'Sk.45'R	RCG	Haines Cr.	24'	11-5-31	6,896.08	3-21-32
1-N	Wells	S.13-H-247	Comb.9	14'	R.C.S.	Bill Cr.	23'7"	6-17-24	2,833.44	8-14-25
1-O	Wells	1-O-230	692	4 at 72',Sk.15'L	RCA	Wabash Riv.(2wks)	44'	2-26-34	65,573.51	9-25-34
1-O	Wells	S.13-I-248	Comb.9	4'	RCB		18'	6-17-24	886.25	8-14-25
1-O	Wells	S.13-I-203	Comb.9	8'	RCB	Smith Dt.	28'	6-17-24	3,595.43	8-14-25
1-O	Wells	S.13-I-249	Comb.9	Conc.Substr.	Replaced by 249A			6-17-24	5,965.42	8-14-25
		S.13-I-249	Comb.25	84'Sk.R.	St.Tr.Super	8 Mile Cr.		4-15-24	5,886.46	6-23-25
		1-O-249-A	1485	2 at 39'-6 3/4"						
				Sk.29'21.5'R.	RCG	8 Mile Cr.(2wks.)	36'	2-9-37	19,932.75	9-8-37
1-P	Allen	3-U-638	147	28',Sk.15'R.	RCG(Widened by 638-A)		24'	8-6-27	4,303.38	11-21-27
		1-P-638-A	377-C ₃ (1880)	28',Sk.15'R.	RCG	Debtner Dt.	36'47'			
								2-6-40		
1-O	Wells	1-O-230A	2182	Clearing Waterway - Wabash River				7-15-41		

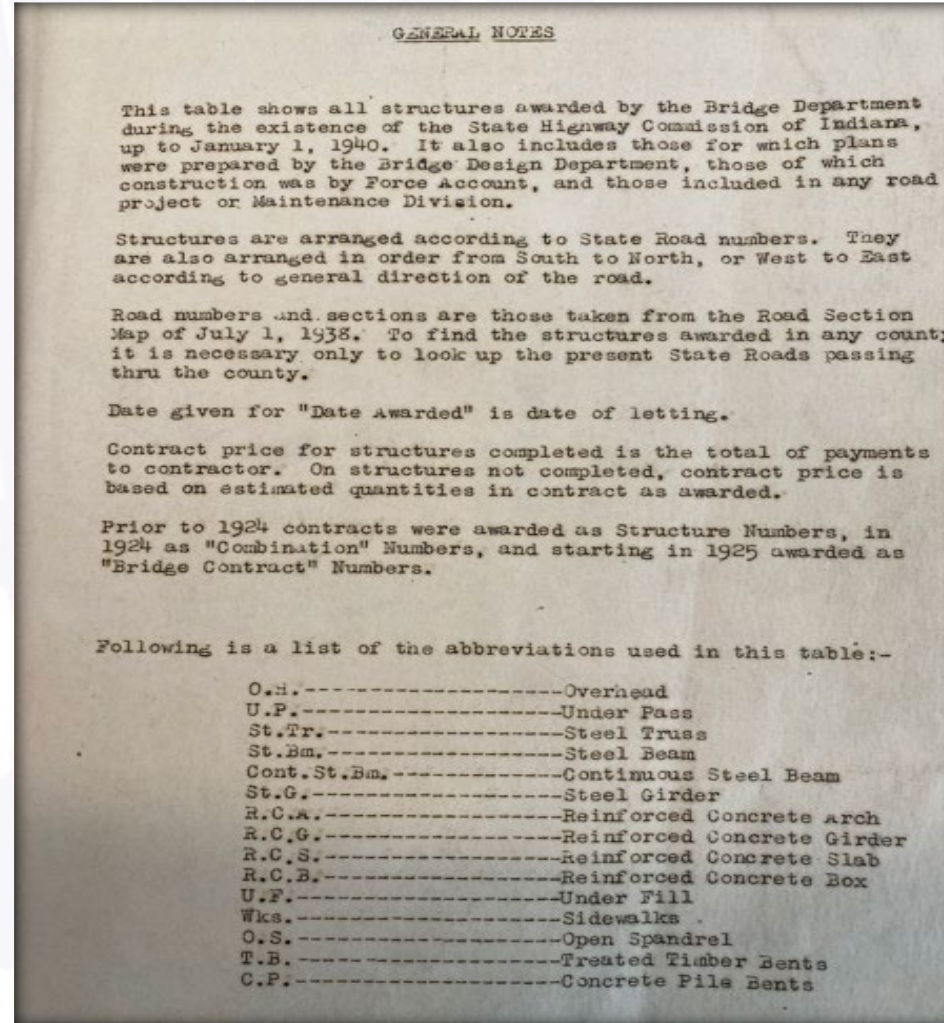
History of Bridge Inspection in Indiana

- 1919 to 1967 and the Silver Bridge collapse
- 1940 Bridge Inventory Book:



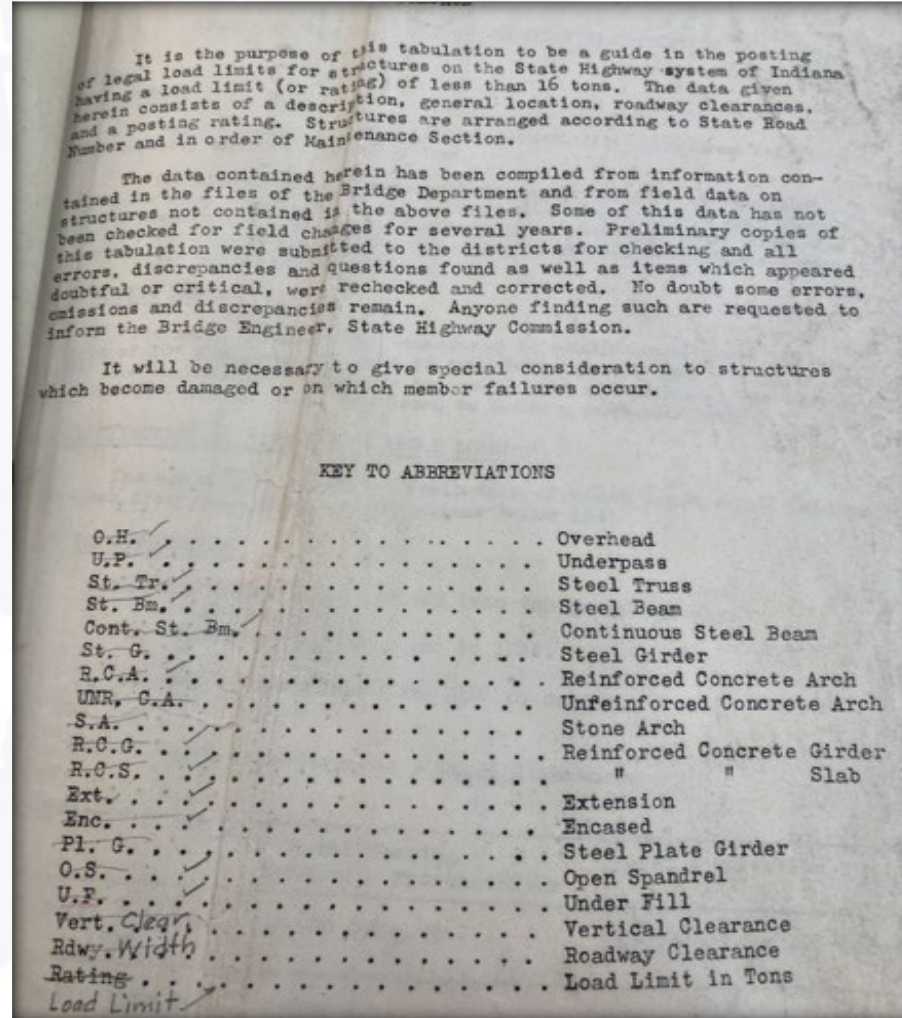
History of Bridge Inspection in Indiana

- 1919 to 1967 and the Silver Bridge collapse
- 1940 Bridge Inventory Book:



History of Bridge Inspection in Indiana

- 1919 to 1967 and the Silver Bridge collapse
- 1940 Bridge Inventory Book:



History of Bridge Inspection in Indiana

- 1919 to 1967 and the Silver Bridge collapse
- 1940 Bridge Inventory Book:

SPECIFICATIONS USED FOR RATING EXISTING STRUCTURES

a. GENERAL
 The following data was used in determining the maximum safe live load capacity of existing structures.
 The allowable unit stresses were used to compute an operating rating for each structure. Since an operating rating is the load limit for a structure which is to be used for only a short period of time, the inventory rating or actual load limit shown in the Tabulation, was computed as 80% of the operating rating.

b. TRAFFIC LANES
 The lane loadings were considered to occupy lanes, each having a width of 10' for roadway widths of over 20'. For roadway widths of 16' to 20' the vehicle was considered to occupy half of roadway. For widths less than 16' the 10' lane was placed to produce maximum stress.

c. DISTRIBUTION OF WHEEL LOADS AND H LOADING
 The specifications for distribution of wheel loads and H loading were taken from A.A.S.H.O. Specifications dated 1941

d. STEEL STRUCTURES
 Steel structures were divided into two groups namely:

1. Structures built prior to 1936.
2. Structures built from 1936 to date.

Allowable Stresses - Steel Structures

	Axial Tension Bending - Extreme Fiber	Axial Compression
Built Prior to 1936	24000 #/Sq. In.	$(16000 - 70 \frac{L}{r}) \times 1.5 \text{ #/Sq. In.}$
Built 1936 to date	27000 #/Sq. In.	$(15000 - \frac{1}{4} \frac{L^2}{r^2}) \times 1.5 \text{ #/Sq. In.}$

Allowable tension stress in bending on extreme fiber for 1800 #/Sq. In.

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- 1919 to 1967 and the Silver Bridge collapse
- 1940 Bridge Inventory Book:

e. CONCRETE STRUCTURES

Concrete structures were roughly divided into three main classifications in assigning allowable stresses. The classifications were as follows:

- (1) Structures built under State Highway Commission supervision from January 1, 1936 to the present time;
- (2) Structures built under State Highway Commission supervision previous to January 1, 1936. Some recent structures built under County Road Department supervision to State Highway Commission standards were also included in this classification;
- (3) Structures built under County Road Department supervision generally, and especially those around twenty years old.

ALLOWABLE STRESSES - CONCRETE STRUCTURES

Classification of Structures	Tension in flexural members	Tension in web reinf.	Compression in Concrete	End Shear in Conc. Beams	Shear in conc. when figuring stirrups	Bond	Assumed "n"
Classification 1 State Supervised. Present to 1936.	27000	24000	1500	270	90	225	10
Classification 2 State Supervised. Prior to 1936. Recent Co Jobs built to State Stds.	24000	24000	1200	240	80	225	12
Classification 3 County Supervised.	20000	20000	1000	200	67	187	15

The structures were placed in the various classes as nearly as possible from the limited field data and photographs available.

The amount of reinforcing steel in concrete members was estimated from the probable design specifications in force at the time of construction with the amount required for balanced reinforcement by such specifications as a maximum.

History of Bridge Inspection in Indiana

- 1919 to 1967 and the Silver Bridge collapse
- As far back as 1941, the American Association of State Highway Officials (AASHO) Standard Specification for Highway Bridges included provisions for the load rating of existing bridges.

History of Bridge Inspection in Indiana

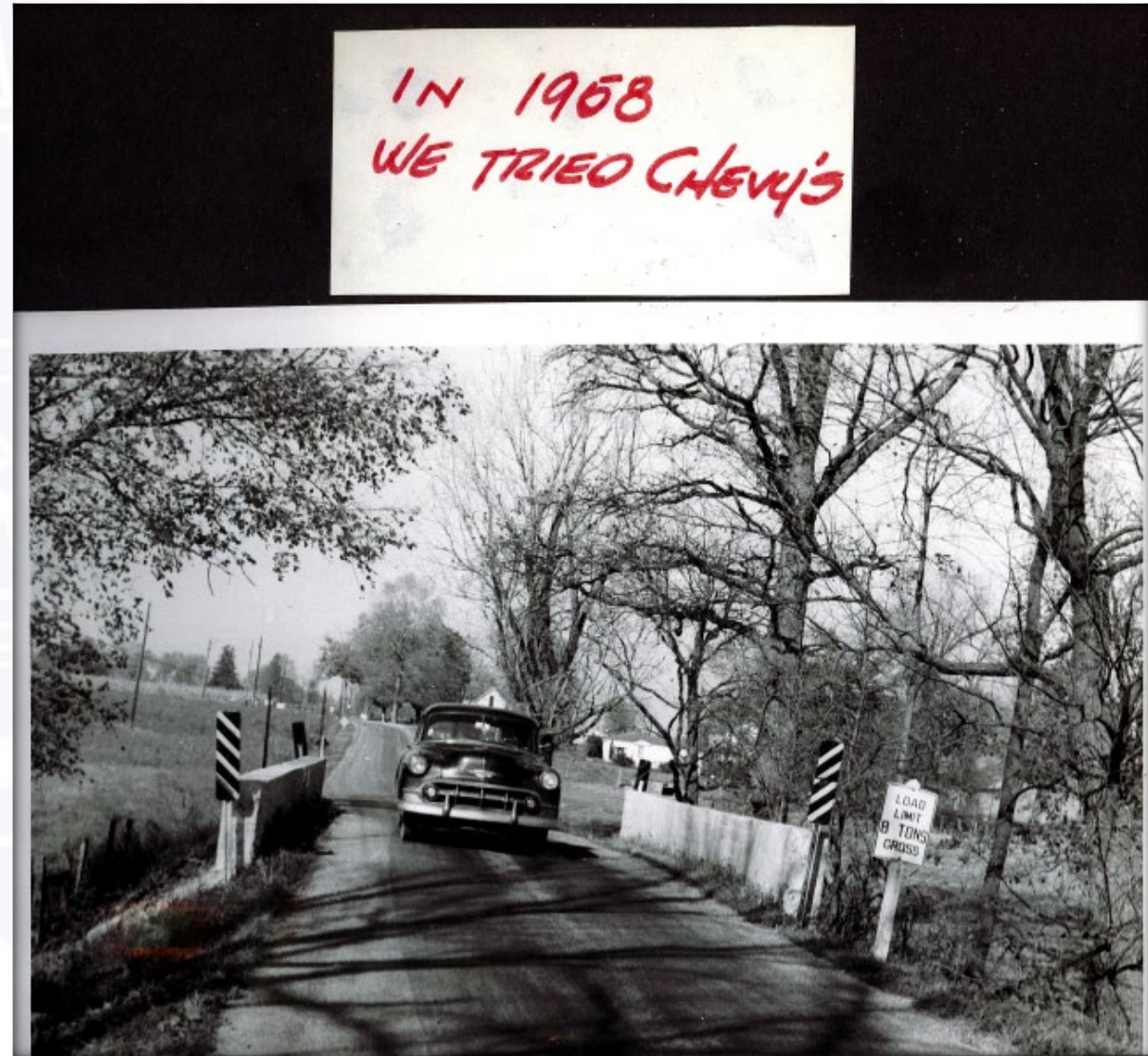
- 1919 to 1967 and the Silver Bridge collapse
- 1958 Annual Toll Road Report:



History of Bridge Inspection in Indiana

- 1919 to 1967 and the Silver Bridge collapse

INDOT Bridge Inspection Vehicles



History of Bridge Inspection in Indiana

- 1919 to 1967 and the Silver Bridge collapse

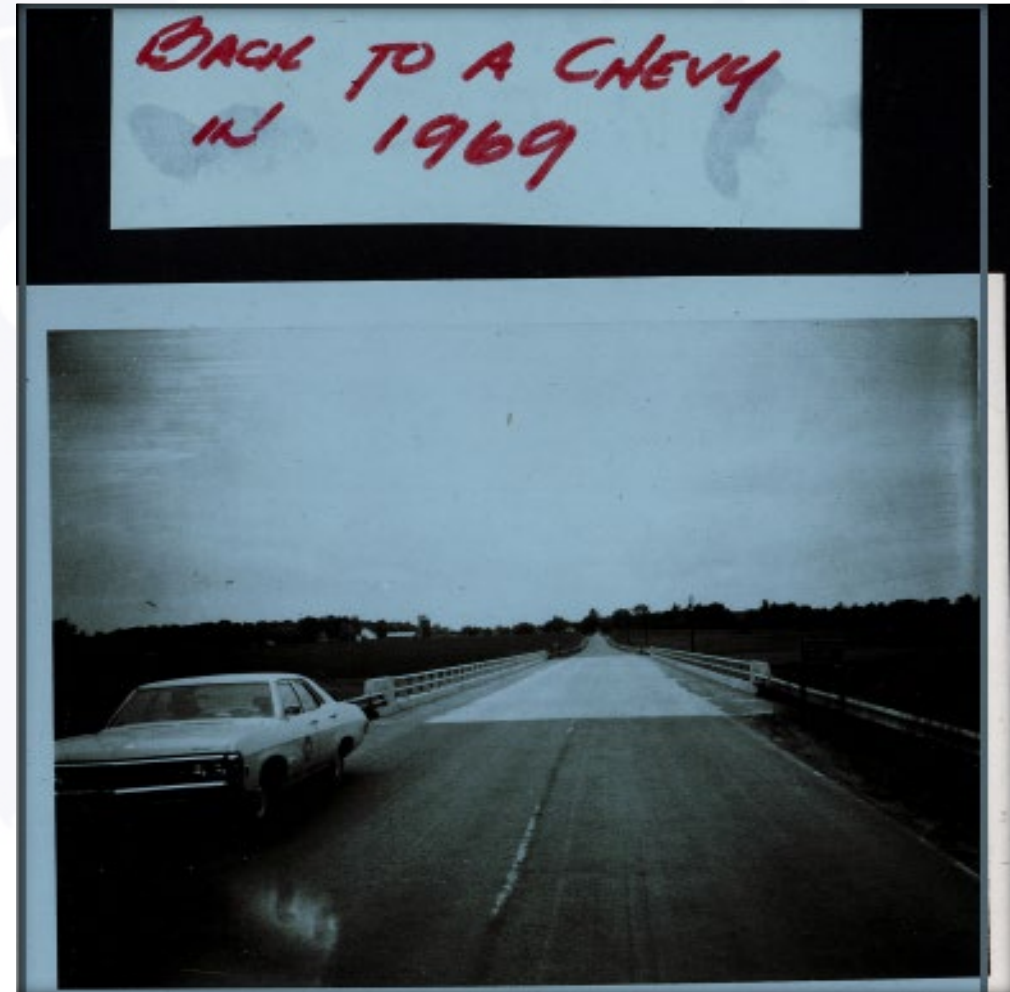
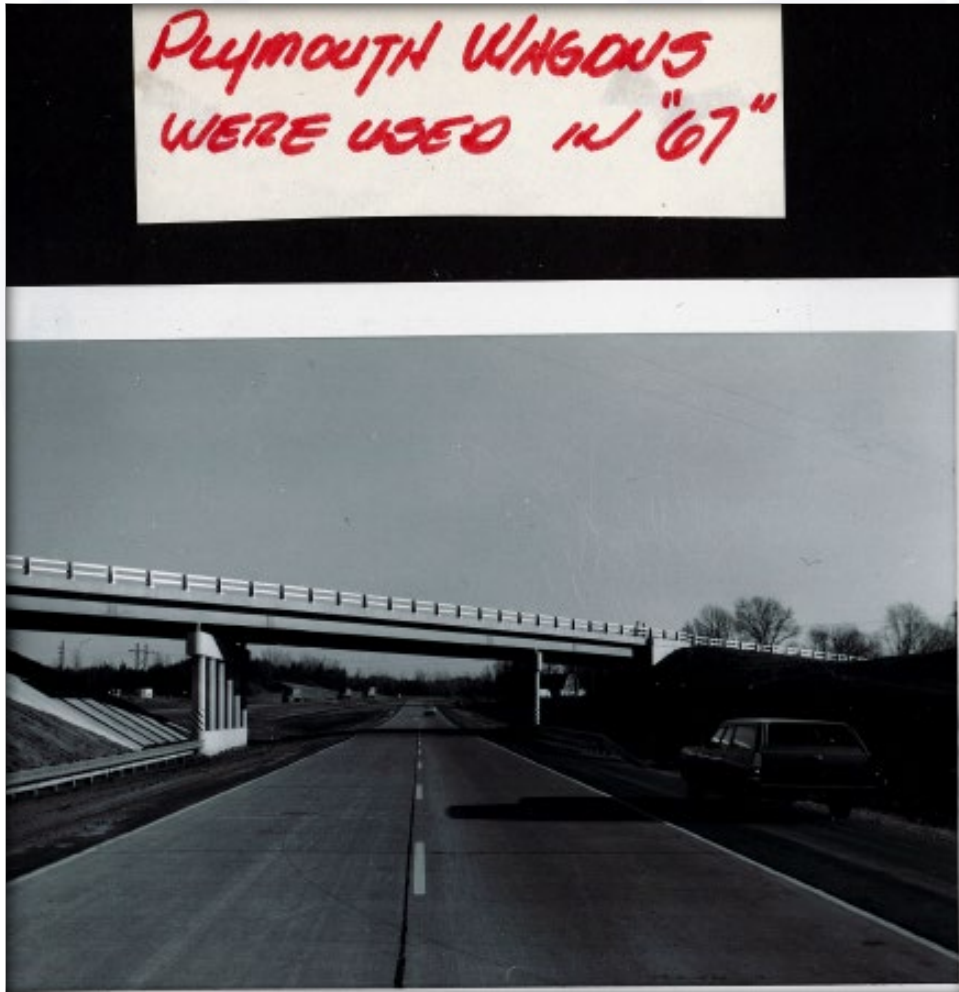
INDOT Bridge Inspection Vehicles



History of Bridge Inspection in Indiana

- 1919 to 1967 and the Silver Bridge collapse

INDOT Bridge Inspection Vehicles



History of Bridge Inspection in Indiana

- 1919 to 1967 and the Silver Bridge collapse
- **Silver Bridge Collapse:**

On December 15, 1967, the Silver Bridge, which spanned the Ohio River between Ohio and West Virginia, collapsed during Rush hour, resulting in the deaths of 46 people.

This catastrophic failure highlighted the condition of bridges around the country and the need for national scrutiny of bridge safety and the need for a comprehensive bridge inspection program

History of Bridge Inspection in Indiana

- 1919 to 1967 and the Silver Bridge collapse
- Silver Bridge Collapse:



History of Bridge Inspection in Indiana

- 1919 to 1967 and the Silver Bridge collapse
- Silver Bridge Collapse:



History of Bridge Inspection in Indiana

- 1919 to 1967 and the Silver Bridge collapse
- Silver Bridge Collapse:



History of Bridge Inspection in Indiana

- 1967 – 1971 Federal Legislation enacting NBIS:

In response to the Silver Bridge collapse, the Federal Aid Highway Act of 1968 was enacted which mandated the creation of the National Bridge Inspection Standards (NBIS).

These Standards established uniform inspection procedures, frequency of inspections, and qualifications for inspectors, ensuring that bridges were regularly evaluated for safety.

History of Bridge Inspection in Indiana

- 1967 – 1971 Federal Legislation enacting NBIS:

FHWA adopted the National Bridge Inspection Standards (NBIS) in 1971.

When the NBIS were established, the standards required that bridges be inspected at least once every two years, with special emphasis on identifying and assessing fractures, corrosion, and fatigue.

FHWA was ultimately charged with using the data from bridge inspections nationwide to create the National Bridge Inventory and to standardize bridge inspector qualifications

History of Bridge Inspection in Indiana

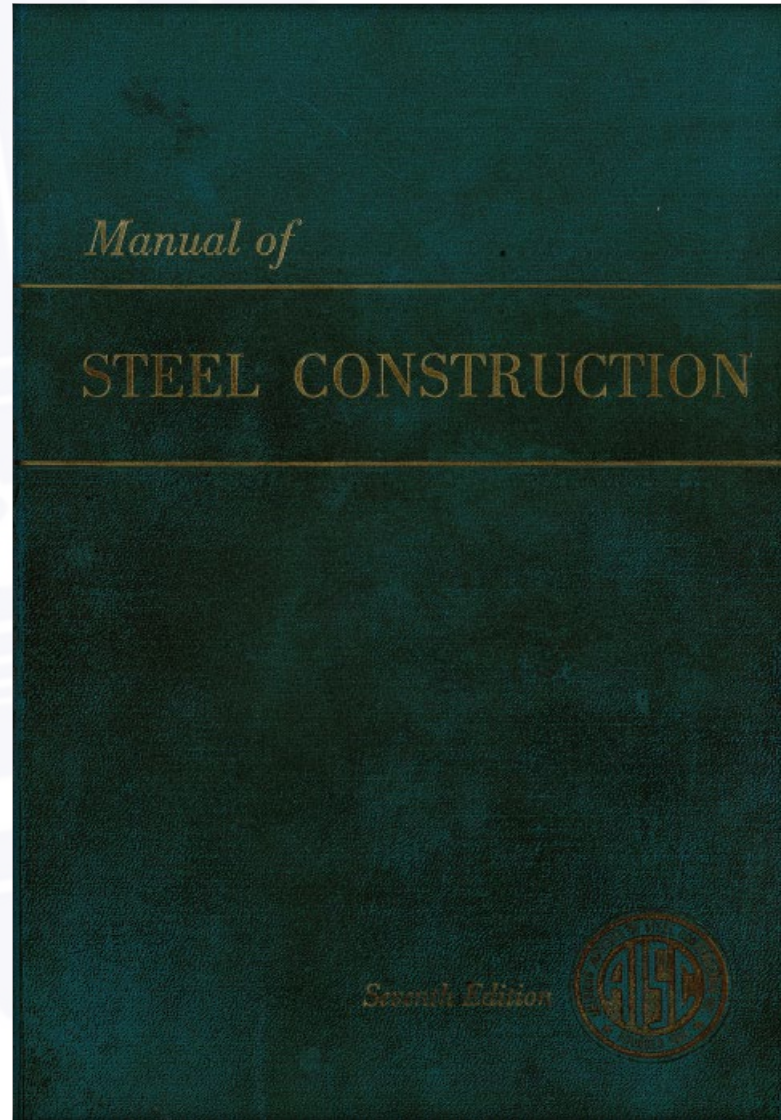
- 1967 – 1971 Federal Legislation enacting NBIS:



History of Bridge Inspection in Indiana

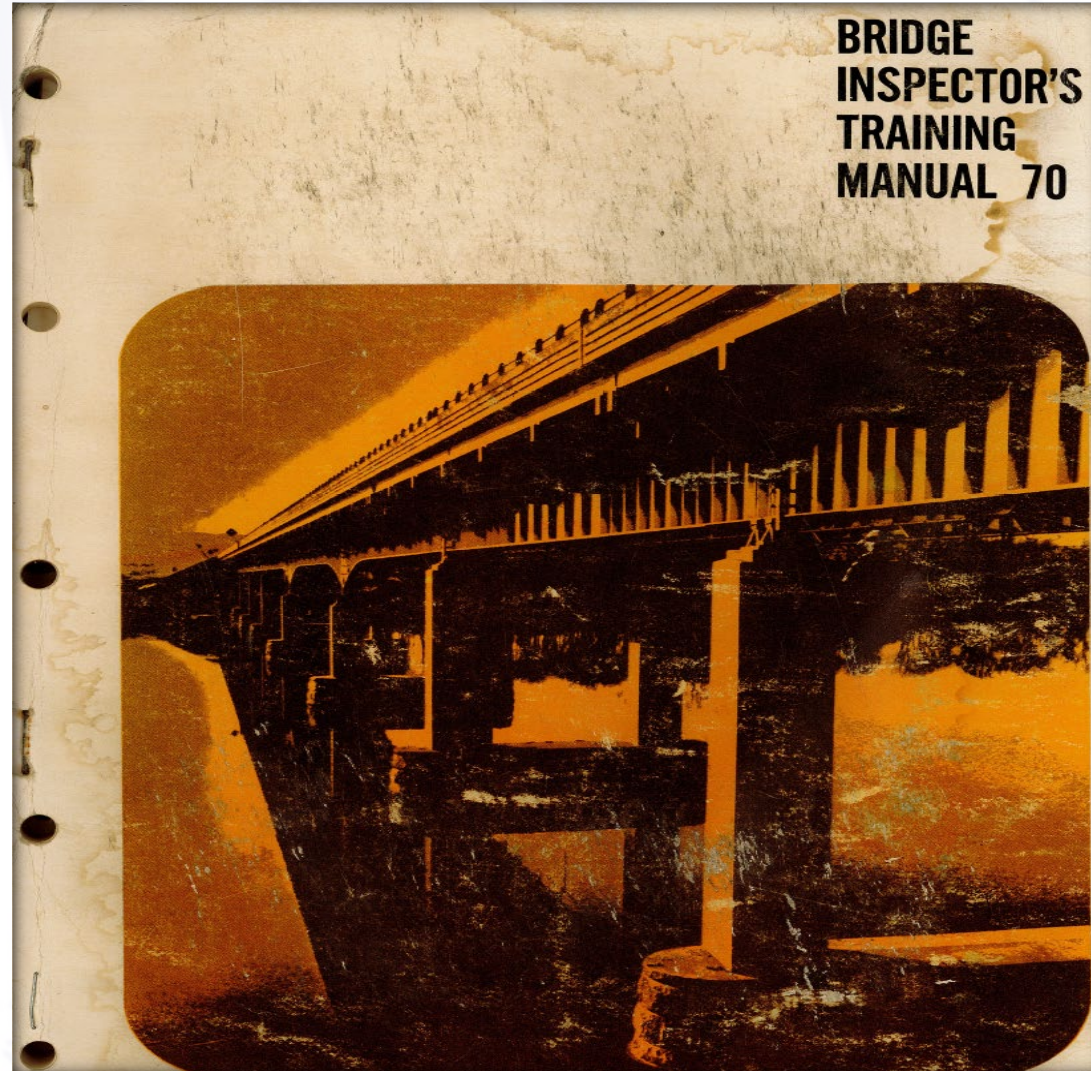
- 1967 – 1971 Federal Legislation enacting NBIS:

1970 – 7th edition of the
Manual of Steel Construction



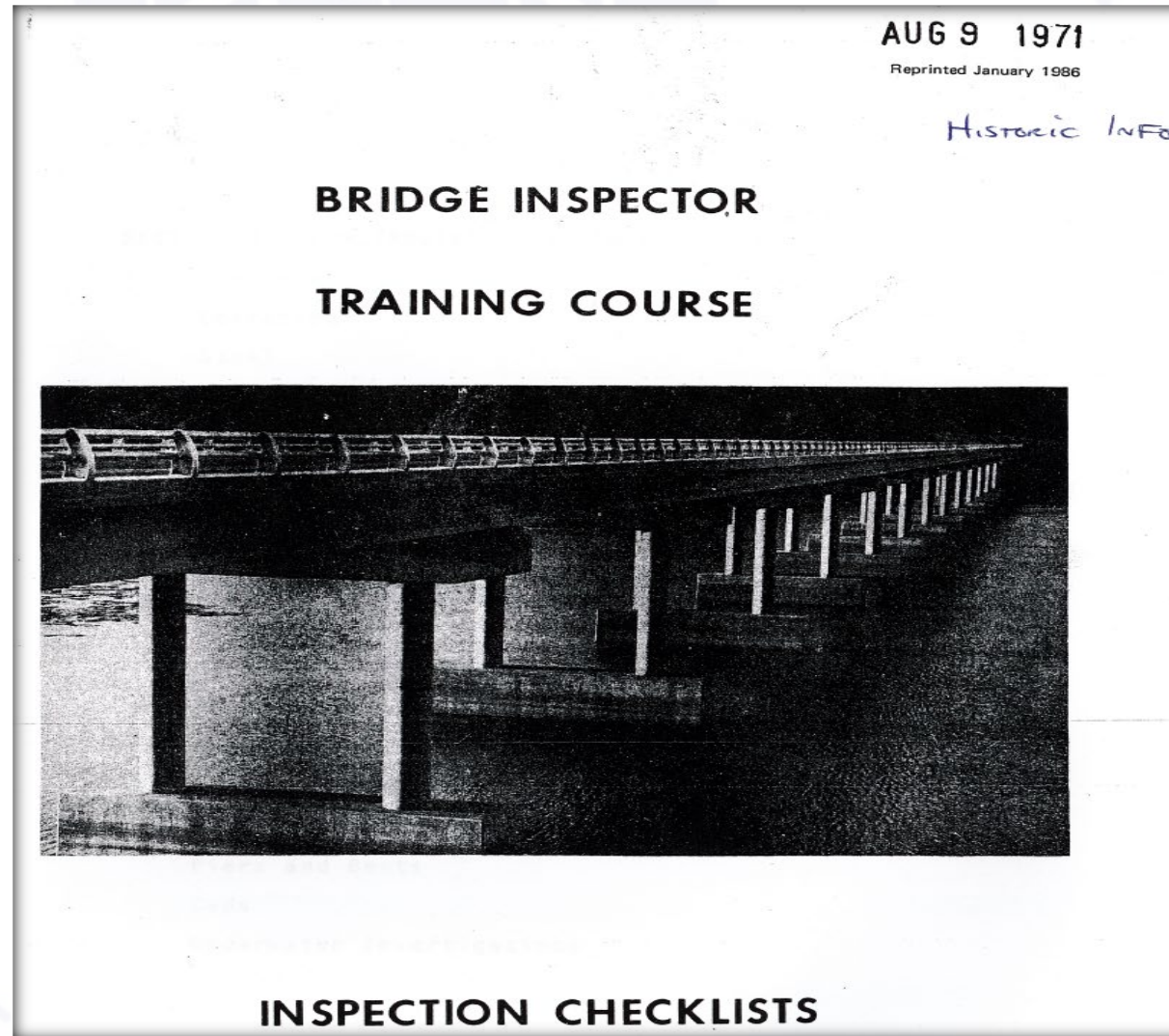
History of Bridge Inspection in Indiana

- 1967 – 1971 Federal Legislation enacting NBIS:



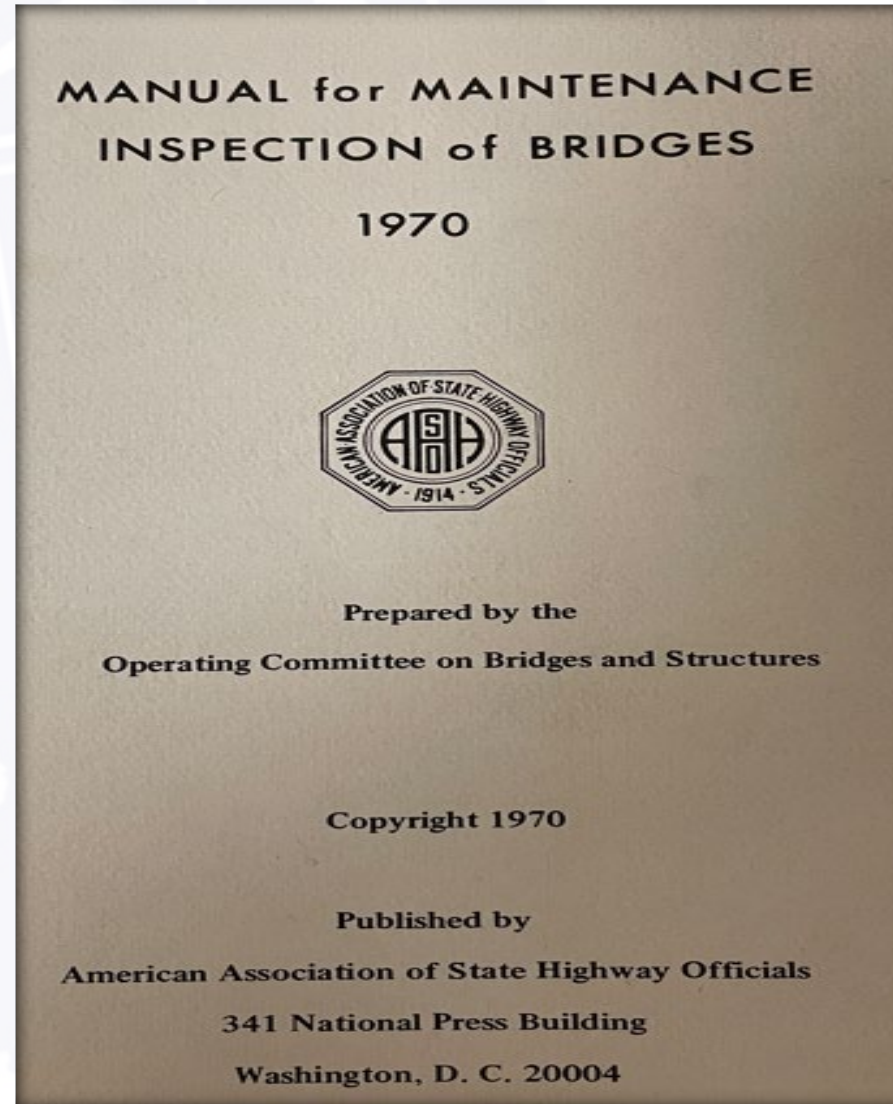
History of Bridge Inspection in Indiana

- 1967 – 1971 Federal Legislation enacting NBIS:



History of Bridge Inspection in Indiana

- 1967 – 1971 Federal Legislation enacting NBIS:



History of Bridge Inspection in Indiana

- 1967 – 1971 Federal Legislation enacting NBIS:

STRUCTURE INVENTORY & APPRAISAL SHEET					
IDENTIFICATION <input type="checkbox"/> State <input type="checkbox"/> Hwy District <input type="checkbox"/> County <input type="checkbox"/> City/Town <input type="checkbox"/> Principal Route <input type="checkbox"/> Feature Crossed <input type="checkbox"/> Principal Dte <input type="checkbox"/> Over <input type="checkbox"/> Under <input type="checkbox"/> Structure No. <input type="checkbox"/> Location <input type="checkbox"/> Route <input type="checkbox"/> Milepost <input type="checkbox"/> Road Section No. <input type="checkbox"/> Sub-Section No. <input type="checkbox"/> Latitude <input type="checkbox"/> Longitude <input type="checkbox"/> DDD Rd Section <input type="checkbox"/> DDD Bridge Letter <input type="checkbox"/> Toll <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Custodian <input type="checkbox"/> Owner <input type="checkbox"/> F.A.P. No.		CLASSIFICATION <input type="checkbox"/> Fed Aid System <input type="checkbox"/> Administrative <input type="checkbox"/> Functional STRUCTURE DATA <input type="checkbox"/> Year Built <input type="checkbox"/> Lanes on Str. <input type="checkbox"/> under <input type="checkbox"/> ADT on Str. <input type="checkbox"/> Year <input type="checkbox"/> Design Load <input type="checkbox"/> Appr. Road Width 95th % <input type="checkbox"/> Median <input type="checkbox"/> ft <input type="checkbox"/> Open <input type="checkbox"/> Closed <input type="checkbox"/> Skew <input type="checkbox"/> Ground Level By Pass <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Hydraulic Structure <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Depot Available <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Navigation Control <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Vertical <input type="checkbox"/> Horizontal <input type="checkbox"/> Relief Structures <input type="checkbox"/> Type Service <input type="checkbox"/> Structure Type-Main <input type="checkbox"/> Approach <input type="checkbox"/> No of Spans-Main <input type="checkbox"/> Approach <input type="checkbox"/> Total <input type="checkbox"/> Max. Span Length <input type="checkbox"/> ft <input type="checkbox"/> Structure Length <input type="checkbox"/> ft <input type="checkbox"/> Stilewall <input type="checkbox"/> ft <input type="checkbox"/> L.F. <input type="checkbox"/> ft <input type="checkbox"/> Abutment (each side) <input type="checkbox"/> ft <input type="checkbox"/> Deck Width (each side) <input type="checkbox"/> ft <input type="checkbox"/> Vert. Clearance over Deck <input type="checkbox"/> ft <input type="checkbox"/> Under Clearance - Vertical <input type="checkbox"/> ft <input type="checkbox"/> Lateral - Right <input type="checkbox"/> ft <input type="checkbox"/> Lateral - Left <input type="checkbox"/> ft <input type="checkbox"/> Utilities		<input type="checkbox"/> Transfer of Date <input type="checkbox"/> Condition Abandon <input type="checkbox"/> Appraisal <input type="checkbox"/> Cost <input type="checkbox"/> General Review <input type="checkbox"/> Maintenance Inspect Plan <input type="checkbox"/> Item No. <input type="checkbox"/> Card Control Number <input type="checkbox"/> Card Col.	
CONDITION <input type="checkbox"/> Deck <input type="checkbox"/> Superstructure <input type="checkbox"/> Substructure <input type="checkbox"/> Channel / Channel Protection <input type="checkbox"/> Culvert # Retaining Walls <input type="checkbox"/> Estimated Remaining Life <input type="checkbox"/> Permit Capacity <input type="checkbox"/> Approach Alignment <input type="checkbox"/> Balanced Loading					
APPRAISAL <input type="checkbox"/> Structural Condition <input type="checkbox"/> Deck Geometry <input type="checkbox"/> Underclearances-Vert / Lateral <input type="checkbox"/> Safe Load Capacity <input type="checkbox"/> Waterway Adequacy <input type="checkbox"/> Approach Alignment <input type="checkbox"/> Deficiencies <input type="checkbox"/> Rating (0-10)					
PROPOSED IMPROVEMENTS <input type="checkbox"/> Year Needed <input type="checkbox"/> Completed <input type="checkbox"/> Describe <input type="checkbox"/> Type of Service <input type="checkbox"/> Type of Work <input type="checkbox"/> Improvement Length <input type="checkbox"/> ft <input type="checkbox"/> Design Loading <input type="checkbox"/> Obstacle Width <input type="checkbox"/> ft <input type="checkbox"/> Number of Lanes <input type="checkbox"/> ADT <input type="checkbox"/> Year <input type="checkbox"/> Prop. Roadway Improvement-Year <input type="checkbox"/> Type					
COST OF IMPROVEMENTS \$ _____,000					
Remarks 					

History of Bridge Inspection in Indiana

- 1967 – 1971 Federal Legislation enacting NBIS:

FORM BD22A		N 40°44'39"			W 85°34'05"		BRIDGE INSPECTION RECORD					YEAR BUILT: 1926			
CONTRACT 103		DISTRICT	ROAD	COUNTY	STR. NO.	MILEAGE LOG	CROSSING								
		Ft. Wayne	S.R.9	Hunt.	101-B-1	7.3 mi.	Salamonie River								
TYPE OF STRUCTURE:		R.C. Arch		SPAN LENGTH: 4@80'			RDWY: 20'								
SUB-DIST. Wabash		ITEM		SKEW: 30° Lt.		CONDITION*		YEAR							
PROJ.				B.M. None		1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
1. SITE.							G								
2. ABUTMENTS.							G								
3. PIERS.							G								
4. DECKS AND WEARING SURFACE.							G								
5. FLOOR SYSTEM.							G								
6. CURBS, WALKS, RAILING, DRAINAGE.							G								
7. BEARING AND EXPANSION DEVICES.							G								
8. MAIN SUPPORT MEMBERS.							G								
9. SECONDARY MEMBERS.							G								
10. MOVABLE BRIDGE MACHINERY.							-								
11. RESPONSE TO LIVE LOAD.							G								
12. HOUSEKEEPING MAINTENANCE.							G								
CONDITION*		G-Good		F-Fair		P-Poor		C-Critical		TYPE HANDRAIL: Concrete					

History of Bridge Inspection in Indiana

- 1967 – 1971 Federal Legislation enacting NBIS:

FORM BD22A		CONTRACT: B-6700		BRIDGE INSPECTION RECORD				YEAR BUILT 1967					
DISTRICT	ROAD	COUNTY	STR. NO.	MILEAGE LOG		CROSSING							
Ft. Wayne	S.R.9	Hunt.	5425	7.3 mi.		Salamonie River							
TYPE OF STRUCTURE:		Twin Str. Pre. R.C. Bridge		SPAN LENGTH: 2-82'-9", 3-83'-6"		RDWY: 33'							
SUB-DIST. Wabash		ITEM		SKEW: 30° Lt.		CONDITION* YEAR							
PROJ: F-101(9)		B.M. F-40		1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
1. SITE.				G	G								
2. ABUTMENTS.				G	G								
3. PIERS.				G	G								
4. DECKS AND WEARING SURFACE.				G	G								
5. FLOOR SYSTEM.				G	G								
6. CURBS, WALKS, RAILING, DRAINAGE.				G	G								
7. BEARING AND EXPANSION DEVICES.				G	G								
8. MAIN SUPPORT MEMBERS.				G	G								
9. SECONDARY MEMBERS.				G	G								
10. MOVABLE BRIDGE MACHINERY.				-	-								
11. RESPONSE TO LIVE LOAD.				G	G								
12. HOUSEKEEPING MAINTENANCE.				G	G								
CONDITION*		G-Good F-Fair P-Poor C-Critical		TYPE HANDRAIL:		Aluminium							

History of Bridge Inspection in Indiana

- 1967 – 1971 Federal Legislation enacting NBIS:

The INDOT Bridge Inspection Program began during this time frame.

30-40 Central Office Design Personnel were tasked with conducting initial inspections all State owned bridges listed in the inventory (Bridge Log Books).

As the initial inspections were completed, most of the Central Office Staff resumed their previous task, but a core of around eight people were kept on to conduct in-Depth Inspections of steel truss bridges and bridges that were posted with a weight limit, and conduct load ratings, and maintain the inventory.

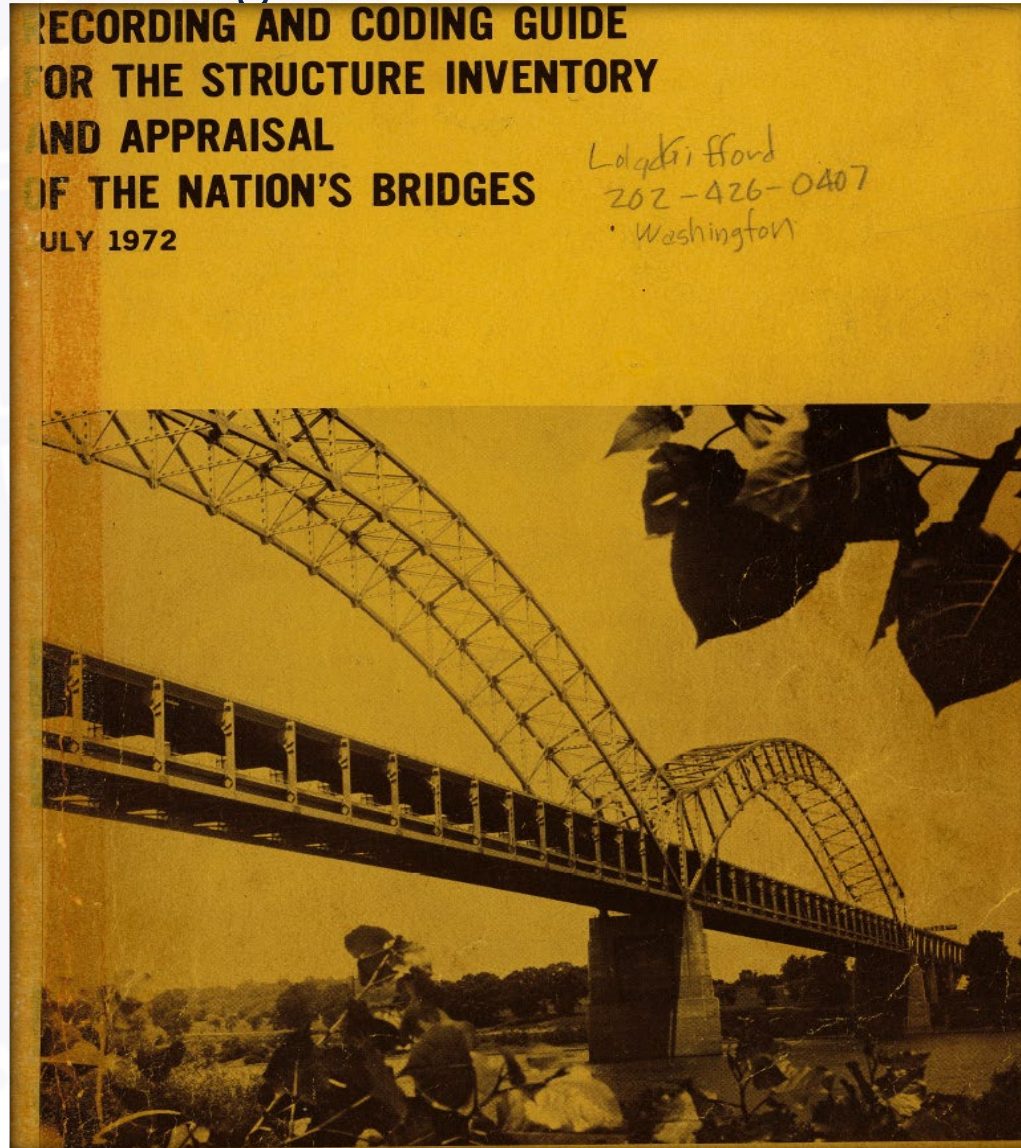
An engineer position was created in each Highway District to conduct Routine Inspections.

History of Bridge Inspection in Indiana

- 1972 – 1978 Additional Federal legislation to include all county bridges :
- The Surface Transportation Assistance Act of 1978 expanded the bridge program to the Highway Bridge Replacement and Rehabilitation Program in recognition that many bridges could be made safer at less cost by rehabilitation instead of waiting for deterioration to require replacement.
- Required all public bridges with spans equal to or greater than 20.0 feet in length to be inspected.

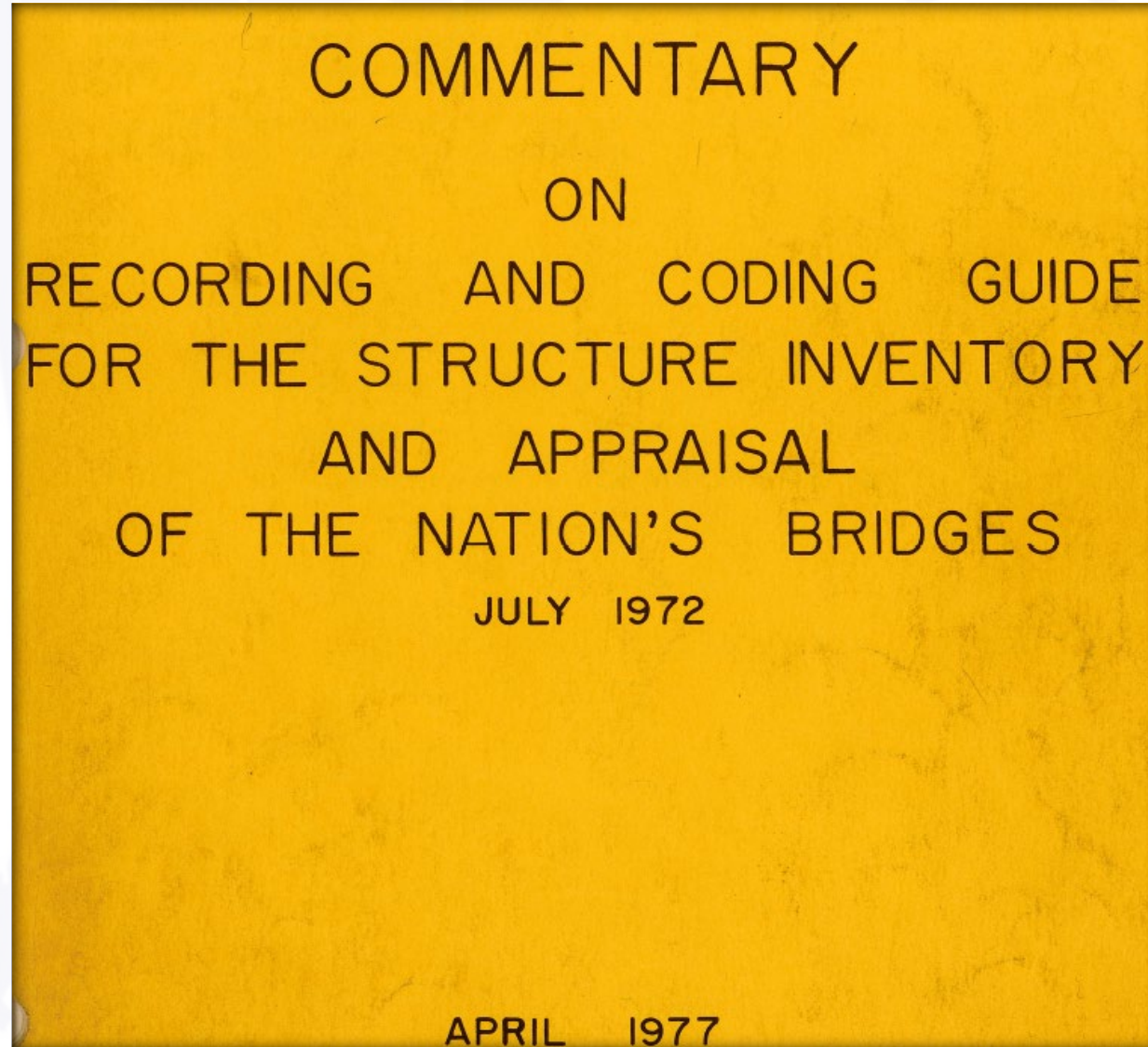
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- 1972 – 1978 Additional Federal legislation to include all county bridges :



History of Bridge Inspection in Indiana

- 1972 – 1978 Additional Federal legislation to include all county bridges :



History of Bridge Inspection in Indiana

- 1971 – 1978 Additional Federal legislation to include all county bridges :

The Indiana County Bridge Inspection Program began during this time frame.

INDOT's LPA Section was created to help counties to enter into bridge inspection contracts with consulting firms with qualified bridge inspectors, and to administer and monitor the contracts.

Not all counties wanted to participate due to the required matching funds needed, and it took until the early 1980's before all counties participated.

History of Bridge Inspection in Indiana

- 1979 – 1988 Early Bridge Inspection activities :

**RECORDING AND CODING GUIDE
FOR THE STRUCTURE INVENTORY
AND APPRAISAL
OF THE NATION'S BRIDGES**

JANUARY 1979

Reprinted February 1979



History of Bridge Inspection in Indiana

- 1979 – 1988 Early Bridge Inspection activities :

INDOT had a main frame computer that stored the Bridge Data for the NBI.

INDOT Inspection Reports from the Districts were sent to the Central Office so that the data could be transferred on to computer punch card.

The County Inspection Consultants submitted the Bridge Data to INDOT on large green sheets of paper mimicking eighty column computer punch card.

INDOT submitted the NBI data to the FHWA on large computer tape reels through the mail.

History of Bridge Inspection in Indiana

- 1979 – 1988 Early Bridge Inspection activities :

In 1979 INDOT had a Prestressed Concrete Box Beam Bridge have several individual beams fail, and several people were injured, including motor cyclists.

The Box Beams had a bituminous overlay which allowed water and salt to deteriorate the tops of the Boxes underneath the asphalt. INDOT identified approximately 600 of these types of bridges using the Bridge Log Books.

INDOT mobilized its entire Central Office Design team to break into teams to develop contracts where the asphalt was removed and they would then inspect and sound the tops of the Beams.

History of Bridge Inspection in Indiana

- 1979 – 1988 Early Bridge Inspection activities :

In 1980 INDOT then let contracts to replace any beams that were in poor condition and to place a concrete deck slab on/across the Box Beams.

In 1981 INDOT let contracts to go back out and drill drainage holes into the bottoms of the Box Beams that did not already have drainage holes.

A few Box Beam Bridges were missed in this undertaking due to incorrect inventory in the Bridge Log Books. For some of these bridges it took many years for the superstructure type to be corrected and the issue with the Box Beams addressed.

History of Bridge Inspection in Indiana

- 1979 – 1988 Early Bridge Inspection activities :

The current INDOT paper bridge inspection reports were saved cabinets in files that were in road order number. As new reports came in the old ones were removed and saved in boxes in a storage room. In the late 1980's these old reports began to be micro-filmed.

County Bridge Inspection Consultants submitted bound paper reports that contained numerous tables and list as well as reports and photos of each bridge.

One copy of each bound report was kept by INDOT, and a second was set to the FHWA. As new bound reports were submitted to INDOT, the old ones were sent to the Indiana State Library for Archiving.

History of Bridge Inspection in Indiana

- 1979 – 1988 Early Bridge Inspection activities :

Typical INDOT 1981 Bridge Inspection Field Report

BRIDGE INSPECTION FIELD REPORT TD

Structure No. (8) 1-15-2474 District No. (2) 05 County No. (3) 15

Route(5, 7) SR 1 Crossing(over)(under)(6) PENN-CENTRAL RAILROAD

Location (9) 2.21 MI N US50 Log Mile(11) 2.21

Type-Main Spans(43) CRCG Type-Approach Spans (44) NA

No. Spans-Main(45) 8 No. Spans-Appr(46) NA Span Lengths(48) 30.22', 18.20', 18.20', CLR
SET RR TRACKS 20.22', 18.20'

No. Lanes(28)-On Str. 1 Under Str. 3 Skew(34) 0° Str.Length(49) 204'

Appr.Rdy.Width/O. to O. Shldr.(32) 19' Sidewalk on Str.Width(50)Rt. NA, Lt. NA

Deck Width RAIL RAIL RAIL Gurb to Gurb(51) 13.5' Deck Width O. to O. Coping (52) 20.2'

Min.Vertical Cl. over Deck(53) NA Min.Vert.Cl.Under Str.(54) 19'-11"

Min.Horiz.Cl.Under Str.-Rt.(55) 8.5' Lt.(56) 8.5' Total Horiz. Cl. (47) 13.5'

Utilities(57) NA Safety Features(36) B.R. 0 TR. 0 A.R. 0 T.E. 0

City/Town Limit (4) Greendale Inspector Chris L Isbell Date 6-9-81

CONDITION

Under Remarks-show structural material and provide a narrative description of the condition of each and every item that is applicable to the bridge being inspected. Provide a photograph for every item which is rated 5 or below. (Use back of sheet for additional narrative and sketches showing location and extent of deficiencies.)

(58) DECK	Rating (9-0)	REMARKS:
1. Wearing Surface	6	Type of Material & Thickness <u>1/2"</u> POLISHING & ASPHALT CRACKS & MAJOR SPALLING
2. Deck - Structural Condition	3	
3. Curbs	N	DOES NOT MEET STANDARDS
4. Median	N	
5. Sidewalks	N	
6. Parapet	N	
7. Railing	3	
8. Paint	N	
9. Drains	N	
10. Lighting Standards	N	
11. Utilities	N	
12. Joint Leakage	N	
13. Expansion Joints or Devices	N	
14. Record Elevations Gutterline @ c Brgs. @ c Spans	N	
Inspectors Condition Rating	3	

REV. 1-1-76

(59) SUPERSTRUCTURE	Rating (9-0)	REMARKS:
1. Bearing Devices	N	OUTSIDE GIRDERS VERY SEVERELY SPALLED, INTERIOR GIRDERS SHOWING SIGNS OF CRACKING AND SPALLING
2. Stringers	N	
3. Girders, Beams, or Arch Ring	9	
4. Floor Beams	N	
5. Trusses - General - Portals - Bracing	N	
6. Paint (Date)	N	
7. Machinery (Movable Spans)	N	
8. Rivets or Bolts	N	
9. Welds - Cracks	N	
10. Rust	3	RODS IN OUTSIDE GIRDERS EXPOSED, EXTENSIVE RUST
11. Timber Decay	N	
12. Concrete Cracking	9	SEVERE CRACKING ON ALL GIRDERS
13. Collision Damage	7	
14. Deflection under load	6	
15. Alignment of Members	6	
16. Vibrations under load	6	
Inspectors Condition Rating	3	

(60) SUBSTRUCTURE	Rating (9-0)	REMARKS:
1. Abutments - Bridge Seats - Wings - Backwall - Footing - Piles - Erosion - Settlement	7 5 4 4 7 7	CRACKING WITH MEDIUM SPALLING
2. Piers or Bents - Caps (Stem) - Column - Footing - Piles - Scour - Settlement	4 3 4 7 7	CRACKING WITH SIGNS OF SPALLING SEVERE CRACKING WITH MAJOR SPALLING
3. Pile Bents	7	SEVERE CRACKING WITH MAJOR SPALLING
4. Concrete Cracking or spalling	3	
5. Steel Corrosion	3	STEEL EXPOSED WITH SEVERE RUST
6. Timber Decay, etc.	N	
7. Debris on Seats	N	
8. Paint	N	
9. Collision Damage	7	
Inspectors Condition Rating	3	

REV. 1-1-76

History of Bridge Inspection in Indiana

- 1979 – 1988 Early Bridge Inspection activities :

Typical INDOT 1981 Bridge Inspection Field Report

(61) CHANNEL & CHANNEL PROTECTION	Rating (9-0)	REMARKS:									
1. Channel Scour	<table border="1"> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> </table>										NA
2. Embankment Erosion											
3. Drift											
4. Vegetation											
5. Channel Change											
6. Fender System											
7. Spur Dikes & Jetties											
8. Rip Rap											
9. Adequacy of Opening											
Inspectors Condition Rating	<input checked="" type="checkbox"/> N										
(62) CULVERT & RETAINING WALLS	Rating (9-0)	REMARKS:									
1. Barrell Concrete Steel Timber	<table border="1"> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> </table>						NA				
2. Headwall											
3. Cutoff Wall											
4. Adequacy											
5. Debris											
Inspectors Condition Rating	<input checked="" type="checkbox"/> N										
(63) ESTIMATED REMAINING LIFE	Inspectors appraisal of structural condition of structure <input type="checkbox"/> 0 YRS.										
(64) PERMIT CAPACITY	Record if available										
(65) APPROACH ALIGNMENT	Rating (9-0)	REMARKS:									
1. Alignment	<input checked="" type="checkbox"/> 4	90° TURNS WITH ENDS NO TRAFFIC CONTROL									
2. Approach Slab	<input checked="" type="checkbox"/> 6										
3. Relief Joints	<input checked="" type="checkbox"/> 6										
4. Approach - Guardrail	<input checked="" type="checkbox"/> 5										
- Pavement	<input checked="" type="checkbox"/> 6										
- Embankment	<input checked="" type="checkbox"/> 6										
Inspectors Condition Rating	<input checked="" type="checkbox"/> 4	90° TURNS WITH NO TRAFFIC CONTROL									

(3)

REV. 1-1-76

(66) RATED LOADING	Rating (9-0)	REMARKS:
1. Posted loading	<input checked="" type="checkbox"/> 6	Load Limit Posted <u>15</u> Tons
2. Legibility	<input checked="" type="checkbox"/> 6	
3. Visibility	<input checked="" type="checkbox"/> 6	
APPRAISAL		
	Deficiencies	Rating (9-0)
(67) Structural Condition		3
(68) Deck Geometry		3
(69) Under Clearance (Vert. Horiz.)		6
(70) Safe Load Capacity		3
(71) Waterway Adequacy		<input checked="" type="checkbox"/> N
(72) Approach Alignment		4
PROPOSED IMPROVEMENTS		
(73) Year Needed	1981	
(75) Type of Work	REPAIR	
(76) Improvement Length		
(78) Roadway Width	(77) Design Loading	No. of Lanes
COST OF IMPROVEMENTS \$ _____		
Remarks:		

(4)

REV. 1-1-76

History of Bridge Inspection in Indiana

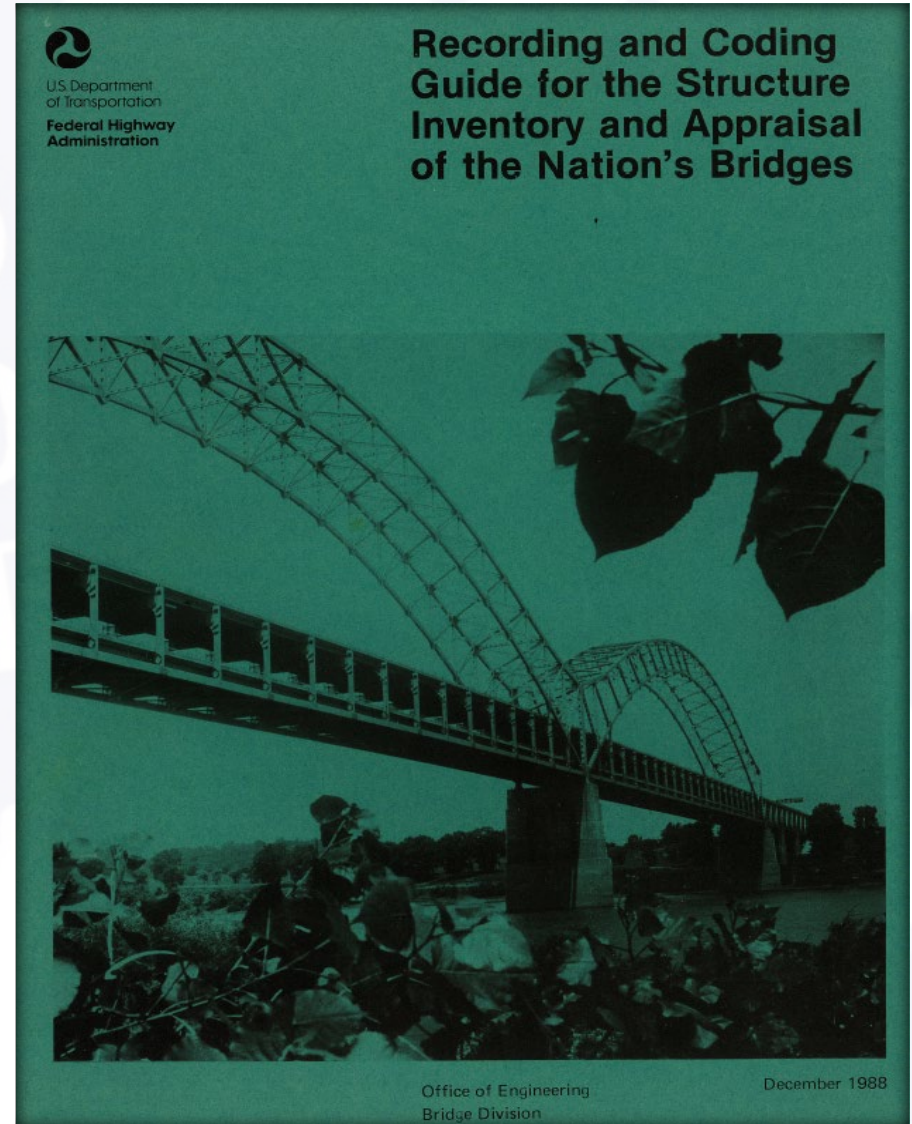
- 1979 – 1988 Early Bridge Inspection activities :

In 1981 INDOT purchased a Paxton Mitchel Snooper for under bridge and arm's length inspections.



History of Bridge Inspection in Indiana

- 1979 – 1988 Early Bridge Inspection activities :
- 1988 Recording and Coding Guide:



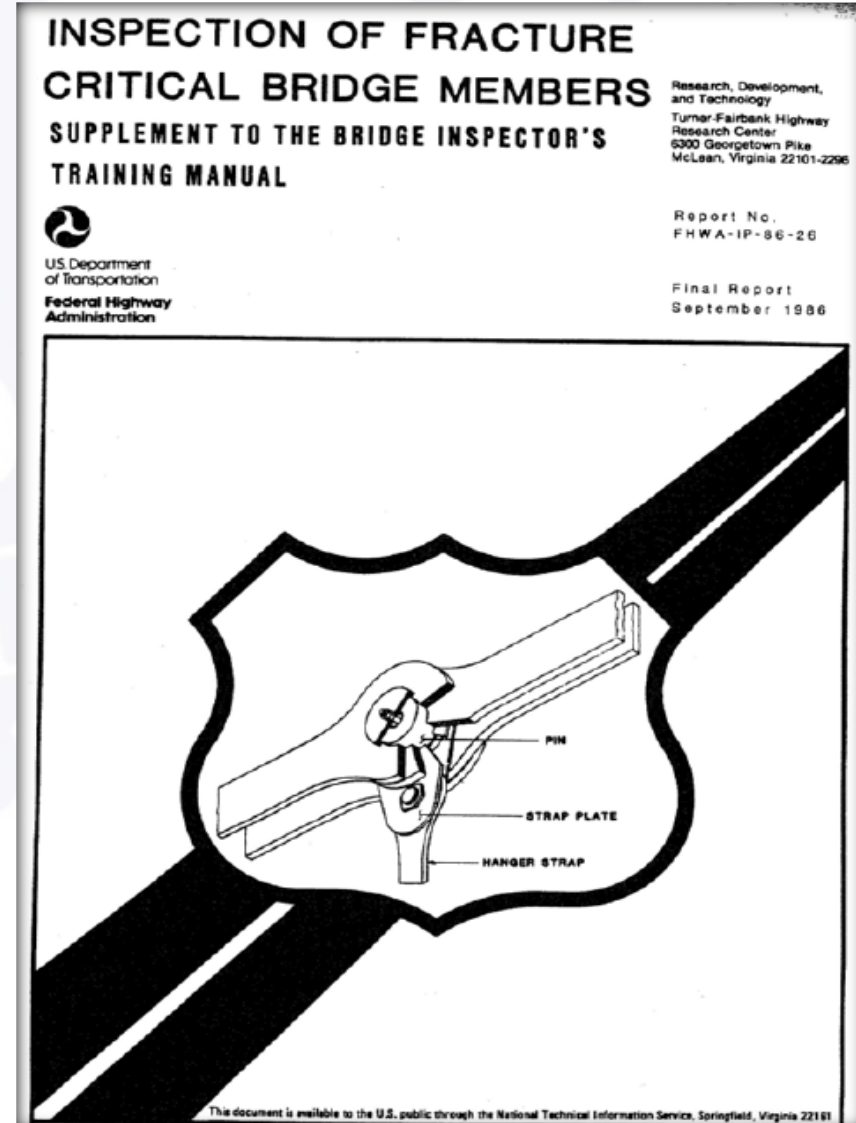
History of Bridge Inspection in Indiana

- 1979 – 1988 Early Bridge Inspection activities :
- June 28, 1983 Mianus River Bridge Collapse – Failed Pin and Hanger Connection – Non-Redundant two-Girder bridge System:



History of Bridge Inspection in Indiana

- 1979 – 1988 Early Bridge Inspection activities :
- 1986 Fracture Critical Bridge Members:



History of Bridge Inspection in Indiana

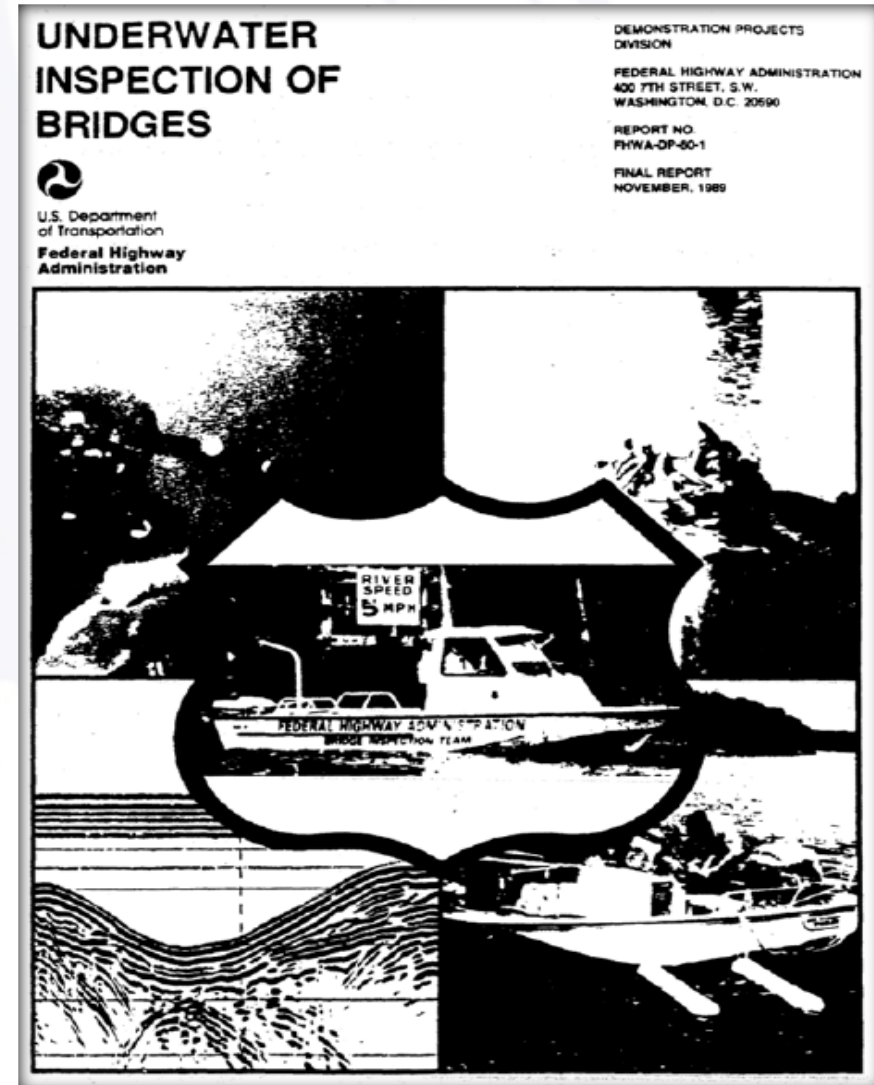
- 1979 – 1988 Early Bridge Inspection activities :
- April 5, 1987 Schoharie Creek Collapse –

Pier Foundation scoured out underneath.



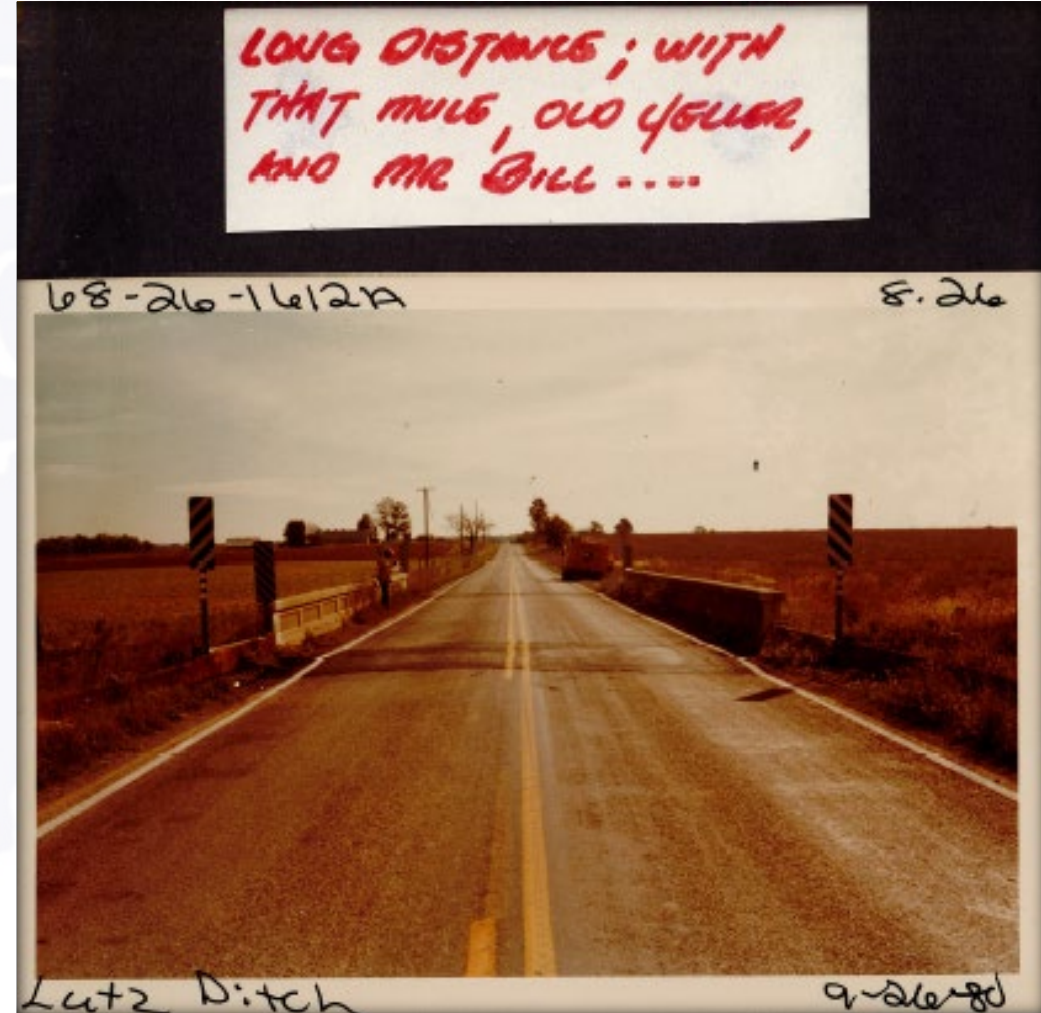
History of Bridge Inspection in Indiana

- 1979 – 1988 Early Bridge Inspection activities :
- 1988 revisions to NBIS to include Underwater Inspection Requirements:



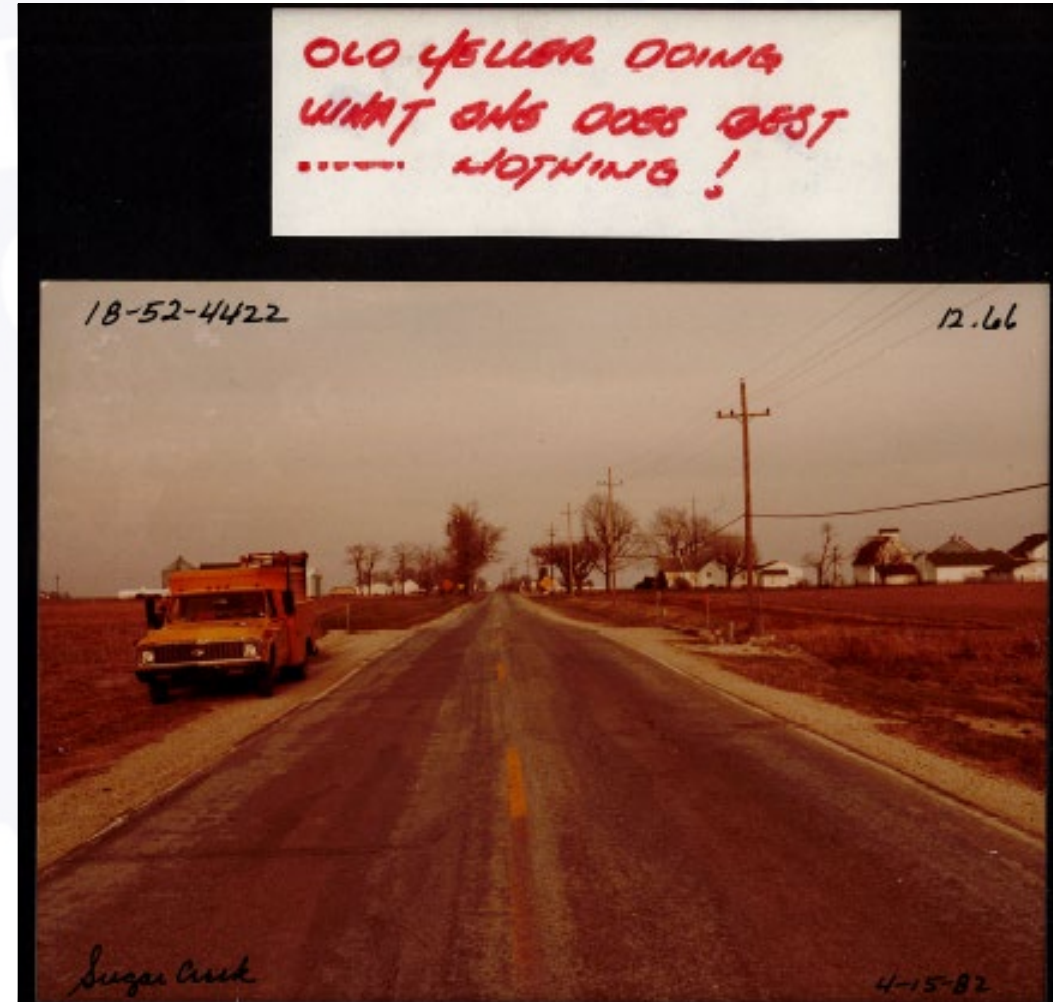
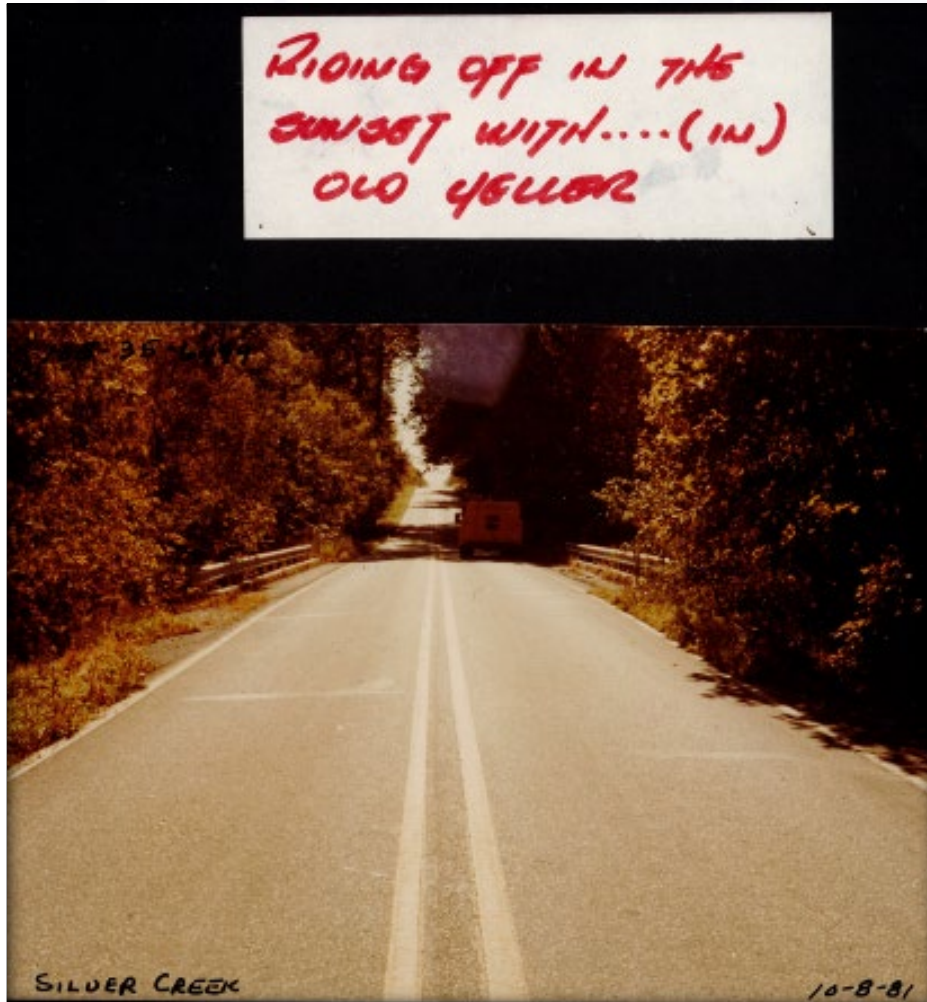
History of Bridge Inspection in Indiana

- 1979 – 1988 Early Bridge Inspection activities :
- INDOT Bridge Inspection Vehicles



History of Bridge Inspection in Indiana

- 1979 – 1988 Early Bridge Inspection activities :
- INDOT Bridge Inspection Vehicles



History of Bridge Inspection in Indiana

- 1988 – 2005 Fracture Critical, Underwater, Scour, and Metric :

In 1988, the NBIS was modified to include requirements for inspection of fracture critical bridges and bridges needing underwater inspection.

In 1993, requirements were added for reports on follow-up correction actions taken in response to critical findings.

In 2004, the NBIS was modified to define the qualifications and training requirements for inspection Team Leaders and Program Managers.

History of Bridge Inspection in Indiana

- 1988 – 2005 Fracture Critical, Underwater, Scour, and Metric :

During this time, County Inspection Firms began using PARADOX to enter their bridge data. This data was still then imported into INDOT's mainframe computer.

During the early part of this time INDOT Inspectors switched over to using paper that was printed off from the mainframe that had the data filed followed across the page with any existing data followed by an area where new dated could be written in. These pages were still used for key-punching the data into the mainframe.

History of Bridge Inspection in Indiana

- 1988 – 2005 Fracture Critical, Underwater, Scour, and Metric :

Towards the end of this time, starting first with INDOT, and then with the county, the NBI Data was stored in an ACCESS Database.

This slowly began to allow inspectors to query their own bridge data, as they gained experience with ACCESS.

History of Bridge Inspection in Indiana

- 1988 – 2005 Fracture Critical, Underwater, Scour, and Metric :

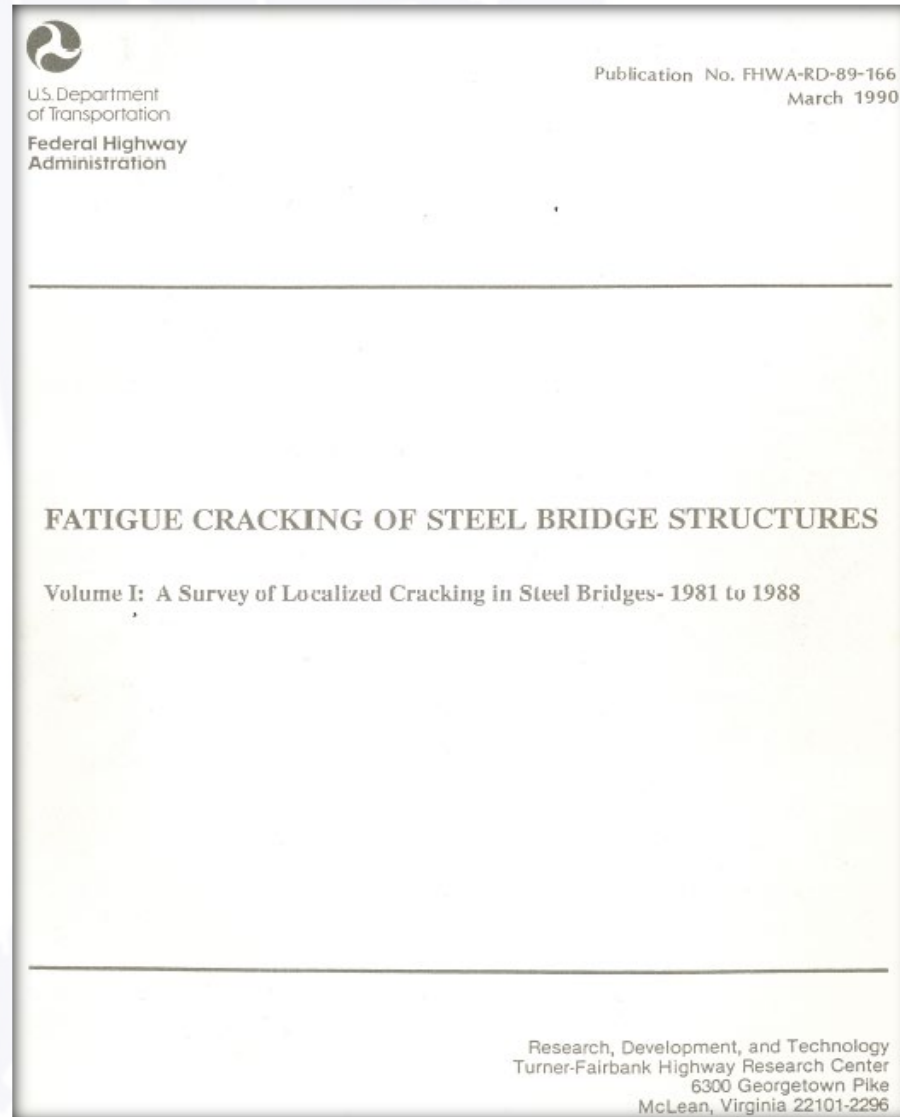
In the early 1990's, INDOT's District Bridge Inspection Staff was increased from one Engineer to an Engineer and an Engineer Technician.

By the late 1990's, the staff of the Greenfield and La Porte District was increased to two Engineers and one Technician.

In the mid 2000's, the District Staffs were changed to two Engineers and two technicians, however, Large Culvert Inspections were added to their workload.

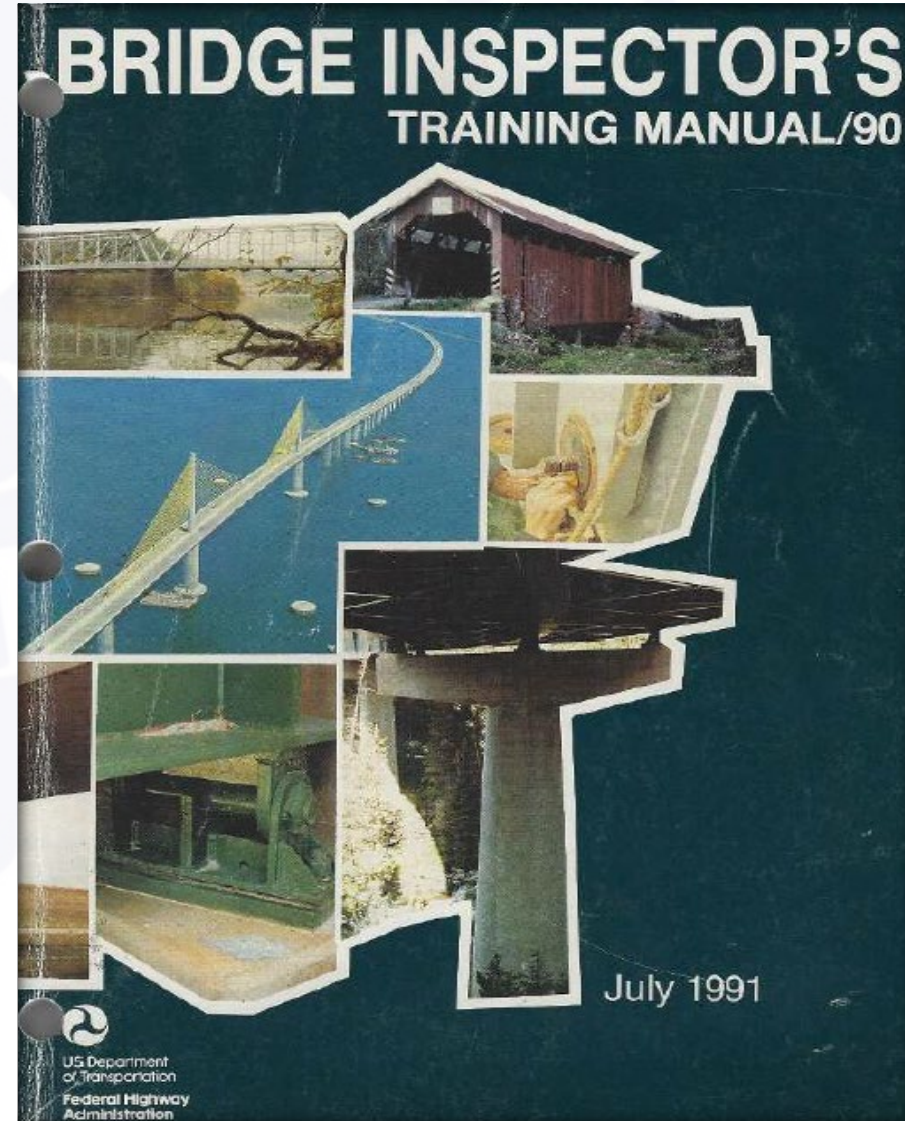
History of Bridge Inspection in Indiana

- 1988 – 2005 Fracture Critical, Underwater, Scour, and Metric :



History of Bridge Inspection in Indiana

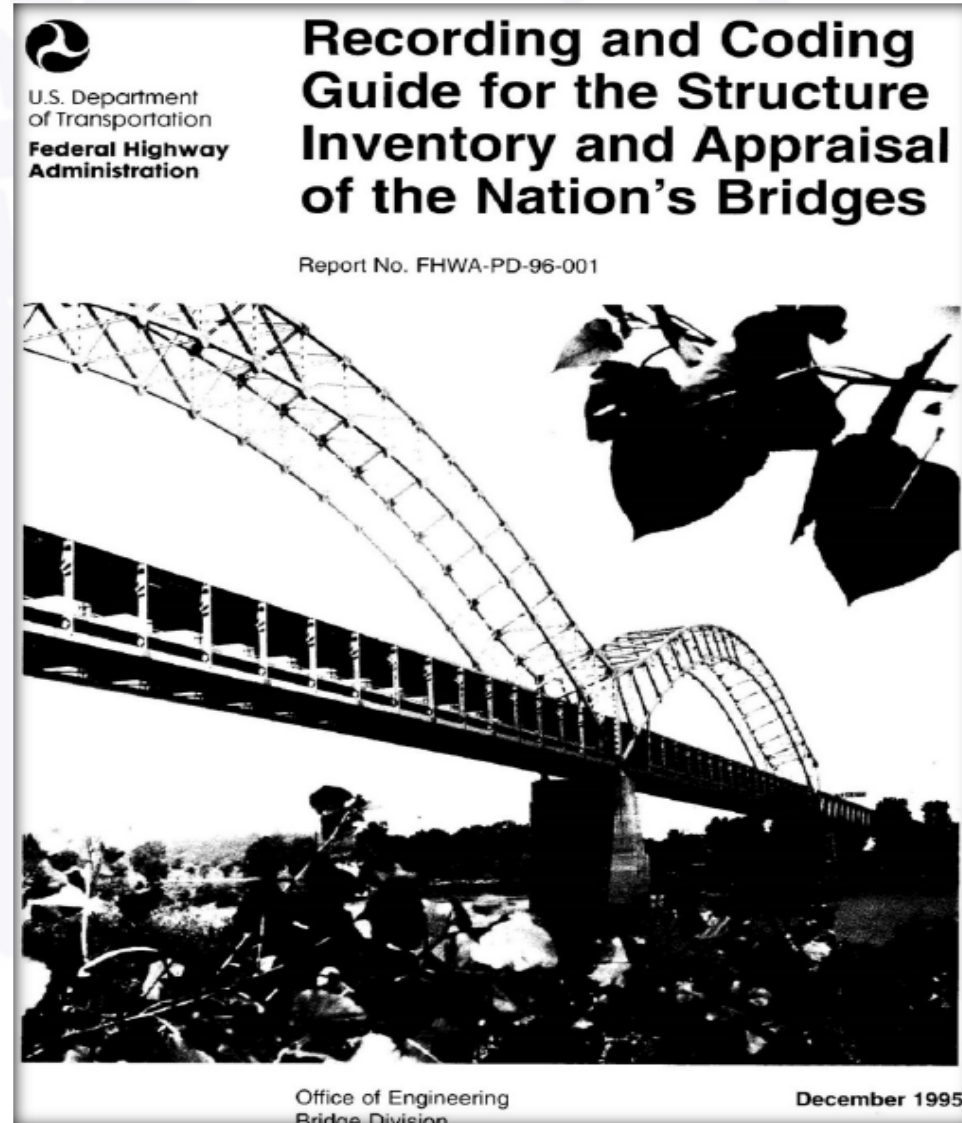
- 1988 – 2005 Fracture Critical, Underwater, Scour, and Metric :
Bridge Inspector's Training Manual 90



History of Bridge Inspection in Indiana

- 1988 – 2005 Fracture Critical, Underwater, Scour, and Metric :
- 1995 Recording and Coding Guide:

Included Metric Data Entry!!



History of Bridge Inspection in Indiana

- 1988 – 2005 Fracture Critical, Underwater, Scour, and Metric :
- During this time Non-Redundant Fracture Critical Bridges were identified throughout the state and Fracture Critical Inspections began to be conducted.
- Bridges were identified throughout the state that required an In-water/Underwater Inspection. INDOT began letting contracts to have underwater inspections conducted on state bridges.
- The LPA Contracts were amended to include both Fracture Critical and Underwater Inspection of county bridges.

History of Bridge Inspection in Indiana

- 1988 – 2005 Fracture Critical, Underwater, Scour, and Metric :
- During this time Districts and Counties were instructed to develop a list of bridges that had either a history of overtopping or having scour issues.
- These became the first lists of possible scour critical bridges.
- Over the various two-year inspection cycles, inspectors were to conduct scour screenings for possible scour critical bridges.
- Scour assessment were also begun, mainly for INDOT Bridges.

History of Bridge Inspection in Indiana

- 1988 – 2005 Fracture Critical, Underwater, Scour, and Metric :
- During this time NHI Classes began to be made available for training Inspectors.
- INDOT worked with Purdue to conduct research on a number of bridge items that were of concern, such as a study on welded tapered steel coverplates, and out-of-plane bending, as well as a whole series of drift, scour, and stream stability issues.
-
- INDOT began hiring on-call Consultant Inspection Firms to inspect the larger Ohio River Bridges that INDOT was required to inspect, as well as bridges with Pin and Hanger Connections.

History of Bridge Inspection in Indiana

- 1988 – 2005 Fracture Critical, Underwater, Scour, and Metric :
- Pages from a 1990 INDOT Routine Inspection Report:

Bridge No. (8B,8C) 19-43-6147B District No. (2) 2 County No. (3) 43

Road - Over (5B,7) S.R. 19 Log Mile Over (11A) 5.75

Road - Under (5C,7) - Log Mile Under (11B) -

Feature Intersected (over) (UNDER) (6) Yellow Creek

Location (9A) 0.30 miles south of Jct. S.R. 25

Type-Main Spans (43A,B) 505, P.C.B.B. widened with (43C) -

Type-Approach Spans (44A,B) -

No. Spans-Main (45) 1 list span no. span A

No. Spans-Appr. (46) - list span no. -

No. Lanes (2B) On Str. 2 Under Str. -

Skew (34) 0° (Right), (Left), (Varies), (Square)

Span Lengths (48) 38'-0" (clear span), (c-c bearing)

Str. Length (49) 40'-0" o-o of beams g-o backwall (measured), (from plans)

Total Horst. Cl. (47A) Over 27.7', (47B) Over -, (47C) Under -, (47D) Under -

Bridge Width (51) 27.7' (concrete curb) or (rail-rail)

Deck Width (52) 30.0' [out-out coping]

Curb/Walk Width (50) Right 0.0' Left 0.0'

Median (33) 0 = None (0,1,2,3)

Flared (35) No (yes/no)

Minimum Vertical Clearance Over Deck (53) Unlimited

Minimum Vertical Clearance Under, Feature Reference Code (54A) N (H,R,N)

Minimum Vertical Clearance Under Structure (54B) -

Minimum Lateral Clearance, Feature Reference Code (55A) N (H,R,N)

Minimum Lateral Clearance Under Structure: Right (55B) (from roadway) -
Left (56) (from roadway) -

Approach Roadway Width (32) 22.0' = ±19' of asphalt + 2 shoulders = ±1.5' of gravel

Bridge Number 19-43-6147 B

Traffic Safety Features (36A,B) Bridge Rail 0, G Transition 1 Approach Rail 1 Terminal End 1

Direction of Traffic (102) 2 = 2 way traffic (0,1,2,3)

Type of Interchange (19B) N (A,B,C,D,E,F,G,H,I,J,K,N, chose one)

Minimum Navigation Vertical Clearance for Lift Bridge (116) -

City / Town (4) Mentone

Year Built (27A) 1964

Year(s): Rehab/Reconstruction (106A) 1979, Widened (106B) -, Repaired (106C) -

Deck Material Type Code (107A) 2 = Concrete Precast Panels

Concrete Stay in Place Forms (107B) No (yes/no)

Metal Stay in Place Forms (107C) No (yes/no)

Deck Thickness (107D) N/A (measured), (from plans) top of beams

Wearing Surface Type, Code (108A) 1 = Concrete

Membrane Type (108B) 0 = None

Deck Protection (108C) 8 = Unknown

Wearing Surface Thickness (108D) varies { 7" at E, 5" at curbs } 6" average

(location of measurement(s)) district report

(date of overlay(s)) 1980

Inspector(s) Bill Dittich + Theo Bowman Date(s) 3-6-90

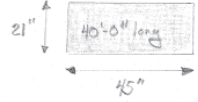
History of Bridge Inspection in Indiana

- 1988 – 2005 Fracture Critical, Underwater, Scour, and Metric :
- Pages from a 1990 INDOT Routine Inspection Report:

SUPERSTRUCTURE (59A)

59A.01	Bearings	—
59A.02	Steel: Girders	—
59A.03	Beams	—
59A.04	Diaphragms	—
59A.05	Cross Bracings	—
59A.06	Concrete: Girders	—
59A.07	Beams	7 Good
59A.08	Diaphragms	—
59A.09	Concrete Slabs	—
59A.10	Integral with pier cap: 1=yes,2=no	2 = No
59A.11	Timber Beams	—
59A.12	Arches	—
59A.13	Arch Ring	—
59A.14	Spandrel Walls	—
59A.15	Stringers	—
59A.16	Floor Beams	—
59A.17	Knee Braces	—
59A.18	Trusses	—
59A.19	Are truss members eyebars: 1=yes,2=no	2 = No
59A.20	Verticals	—
59A.21	Diagonals	—
59A.22	Upper Chords	—
59A.23	Lower Chords	—
59A.24	Upper Bracings	—
59A.25	Portals	—
59A.26	Top Laterals	—
59A.27	Lateral Strut	—
59A.28	Sway Bracings	—
59A.29	Lower Bracings Laterals	—
59A.30	Connection Plates	—
59A.31	Gusset Plates	—
59A.32	Stay Plates	—
59A.33	Lacings	—
59A.34	Rivets	—
59A.35	Bolts	5 Fair
59A.36	Splice Plates	—
59A.37	Brackets	—
59A.38	Tack Welds	—
59A.39	Full Welds	—
59A.40	Others	—

Beams have small drain holes in their underside surface
Beams show signs of leakage between each other, but this appears to be old. (Prior to 1980 concrete overlay)
Beam #2 has a ± 6" ϕ spall on its underside surface, along its east edge, near midspan.



Fair - ends at anchor bolts connecting beams together exposed at beams #1 & #8 - rusted

Page 5

Bridge Number 19-42-6147 B
 Inspection Date 3-6-90
 Inspector(s) Bill Dittrich + Theo Bowman

FOUNDATION INFORMATION (113B)

113B.01 Total Number of all Piers 2

FOUNDATION AT ABUTMENTS

113B.02 Abutment #1 type South I
 113B.03 Abutment #2 type North I } Timber piles - extending out of the ground with a timber cap on top - 9 piles per abutment

113B.04 Is foundation visible? Yes (yes/no)
 Describe ± 4' of piles at north abutment, ± 7' of piles at south abutment

FOUNDATIONS AT INTERMEDIATE PIERS

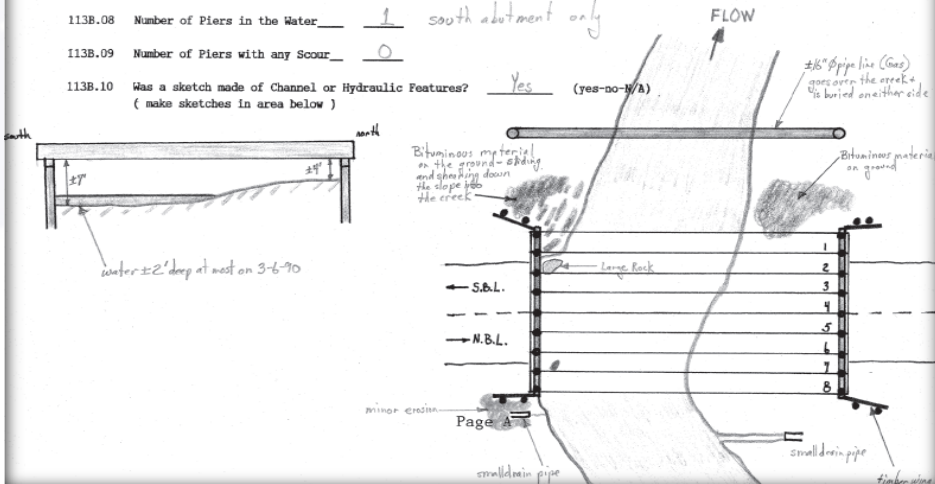
113B.05 Number of Intermediate Piers 0
 113B.06 Types of Intermediate Piers —

113B.07 Is foundation visible? — (yes/no)
 Describe —

113B.08 Number of Piers in the Water 1 South abutment only

113B.09 Number of Piers with any Scour 0

113B.10 Was a sketch made of Channel or Hydraulic Features? Yes (yes-no-N/A)
 (make sketches in area below)



History of Bridge Inspection in Indiana

- 1988 – 2005 Fracture Critical, Underwater, Scour, and Metric :
- Pages from a 1998 INDOT Routine Inspection Report:

INDOT BRIDGE FIELD INSPECTION AND CODING REPORT

CONDENSED BRIDGE NUMBER .. 07575 DATE INSPECTED... 05-27-98 *
 STRUCTURE DESIGNATION INSPECTED BY...: Richard Fieber *
 PREVIOUS INSPECTION DATE.: 07-03-96 ..: Mike Chambers *

GENERAL INVENTORY DATA	REMARKS	CURRENT	CHANGES	ITEM
SORT NUMBER		000660		A
BRIDGE CONTRACT PREFIX		R		B.1
BRIDGE CONTRACT NUMBER		18563		B.2
BRIDGE NUMBER	002-64-07575			008
STRUCTURE DESIGNATION				008C
DISTRICT	04	(01-06)		002
COUNTY	64	(01-92)		003
ROAD OVER	0002			005B
ROAD UNDER				005D
LOG MILE OVER	022.68			011A
LOG MILE UNDER				011B
FACILITY CARRIED BY STRUCTURE	SR 2			007
FEATURE INTERSECTED	CROOKED CREEK			006A
LOCATION	<u>West Branch</u> 3.32 E SR 49			009A
MAIN SPAN MATERIAL	3	(1-9)		043A.01
MAIN SPAN CONSTRUCTION TYPE	19			043A.02
STRUCTURE TYPE MAIN ENGLISH	2			043B
WIDENED WITH	<u>4' wide separator</u>			043C
APPROACH SPAN MATERIAL	0	(0-9)		044A.01
APPROACH SPAN CONSTRUCTION TYPE	00			044A.02
STRUCTURE APPROACH PRIMARY ENGLISH				044B
OTHER APPROACH CODES	N			044C
NUMBER OF MAIN SPANS	002			045
NUMBER OF APPROACH SPANS	0000			046
NUMBER OF LANES ON STRUCTURE	02			028A
NUMBER OF LANES UNDER STRUCTURE	00			028B
SKEW	0			034
SPAN LENGTH	161'2" SQUARE	0016.6		048
STRUCTURE LENGTH	161'2" + 4'0" + 161'2" = 326'4"	000037		049
HORIZ. CLEARANCE OVER EB/NB	50' + 22'0" + 5'0"	32.0		047A
HORIZ. CLEARANCE OVER WB/SB				047B
HORIZ. CLEARANCE UNDER EB/NB				047C
HORIZ. CLEARANCE UNDER WB/SB				047D
BRIDGE WIDTH		000.0		051
DECK WIDTH		000.0		052
SIDEWALK/CURB WIDTH LEFT		00.0		050A
SIDEWALK/CURB WIDTH RIGHT		00.0		050B
MEDIAN	0	(0-3)		033
FLARED	0	(0,1)		035
MIN. VERT. CLEARANCE OVER FEET	99	(00-99)		053.01
MIN. VERT. CLEARANCE OVER INCHES	99	(01-11, 99)		053.02
MIN. VERT. CLEARANCE UNDER CODE	N	(H, N, R)		054A
MIN. VERT. CLEARANCE UNDER FEET	00	(00-65)		054B.01
MIN. VERT. CLEARANCE UNDER INCHES	00	(01-11)		054B.02
MIN. LATERAL CLEARANCE UNDER CODE	N	(H, N, R)		055A
MIN. LATERAL CLR RIGHT (FROM ROADWAY)	99.9			055B
MIN. LATERAL CLR LEFT (FROM ROADWAY)	00.0			056
APPROACH ROADWAY WIDTH	5'0" + 22'0" + 5'0"			032
TRAFFIC SAFETY FEAT. BRIDGE RAIL	1	(0,1,N)		036A.01
TRAFFIC SAFETY FEAT. TRANSITION	1	(0,1,N)		036A.02

PAGE 1

INDOT BRIDGE FIELD INSPECTION AND CODING REPORT

CONDENSED BRIDGE NUMBER .. 07575 DATE INSPECTED... 05-27-98 *
 STRUCTURE DESIGNATION INSPECTED BY...: Richard Fieber *
 PREVIOUS INSPECTION DATE.: 07-03-96 ..: Mike Chambers *

ROAD MANAGEMENT DATA (CONT'D)	REMARKS	CURRENT	CHANGES	ITEM
BRIDGE JOINT TYPE-S/W END OF DECK		L	(A-N)	608.1
BRIDGE JOINT-CONDITION-S/W		G	(G,F,P)	608.2
BRIDGE JOINT TYPE-N/E END OF DECK		L	(A-N)	608.3
BRIDGE JOINT-CONDITION-N/E		G	(G,F,P)	608.4
BRIDGE JOINT TYPE(S) - INTERIOR		N	(A-N)	608.5
BRIDGE JOINT-CONDITION-INTERIOR			(G,F,P)	608.6
SPECIAL INSPECTION ITEM			(1-8)	092C.X
BRIDGE REMARKS				609
NATIONAL ROAD SYSTEM			(1-4)	601.01

ITEM NUMBER	COMMENTS

PAGE 10

History of Bridge Inspection in Indiana

- 1988 – 2005 Fracture Critical, Underwater, Scour, and Metric :
- Pages from a 2003 County Routine Inspection Report:

STRUCTURE INVENTORY AND APPRAISAL REPORT BENTON COUNTY BRIDGE NUMBER 00026			
IDENTIFICATION			
1. State Code:	185 Indiana	8B. Bridge Number:	00026
8A. NBI Number:	0400015	8C. Old Bridge Number:	
5A. Inventory Rte. On:	141000520	5B. Road Number On:	0052
5C. Inventory Rte. Under:		5D. Road Number Under:	
2. INDOT District:	01 Crawfordsville	4. City/Town Code:	00000
3. County Code:	04 Benton	9B. Map Location:	H-8
6. Feature Intersected:	UPPER SUGAR CREEK		
7. Facility Carried:	400 N		
9A. Location:	400 N - 230 E		
11A. Milepoint (over):	00000	11B. Milepoint (under):	
16. Latitude degrees:	40 Deg. 39.8 Min.	17. Longitude degrees:	087 Deg. 16.8 Min.
98. Border Bridge:		99. Border Bridge No.:	
STRUCTURE DATA			
43A. Main Structure Type:	501A PPCS Prestressed Precast Concrete Slab	45. No. of Spans Main:	001
43C. Main Widening Type:			
44A. Appr. Structure Type:	000 None	46. No. of Spans Appr.:	0000
44C. Other Approach Types:	N		
107. Deck Structure Type:	1 Concrete Cast in Place		
108A. Wearing Surface:	6 Bituminous	108B. Deck Membrane:	0 None
108C. Deck Protection:	0 None	108D. Thickness of Asphalt:	02 in.
AGE AND SERVICE			
27A. Year Built:	1997	106A. Year Reconstructed:	0000
27B. Paint Date:		106B. Year Repaired:	
59B. Paint Rating:		B. Fed. Contract Number:	
59C. Tons of Steel:		8D. Fed. Design Number:	
42. Type of Service:	15 Highway/Waterway		
28A. Lanes on Structure:	02	28B. Lanes Under Structure:	00
29A. ADT over:	000325	30A. Year of ADT over:	00 (2000)
29B. ADT under:		30B. Year of ADT under:	
109. Average Truck %:	10 (32± ADTT)		
19. Detour Length:	04 4 Miles		
GEOMETRIC DATA			
48. Max. Span Length:	0020.1 ft.	49. Structure Length:	000022 ft.
50. Sidewalk/Curb Left:	00.8 ft.	50. Sidewalk/Curb Right:	00.8 ft.
51. Bridge Roadway Width:	028.1 ft.	52. Deck Width (o-o):	031.3 ft.
32. Appr. Roadway Width:	020 ft.	33. Median Code:	0 No Median
34. Bridge Skew:	00 Degrees	35. Structure Flared:	0 No
10A. Vert. Clear Over :	99 ft. 99 in.	10B. Vert. Clear Under :	
47A. Horz. Clearance Over:	28.1 ft.	47C. Horz. Clearance Under:	
53. Vert. Clear. Over Deck :	99 ft. 99 in.	55A. Min. Lat. Clear. Type:	N N/A
54A. Min. Vert. Clear. Type:	N N/A	55B. Lat. Clear. Under Rt.:	99.9 ft.
54B. Vert. Underclearance :	00 ft. 00 in.	56. Lat. Clear. Under Lt.:	00.0 ft.

STRUCTURE INVENTORY AND APPRAISAL REPORT BENTON COUNTY BRIDGE NUMBER 00026			
NAVIGATION DATA			
38. Navigational Control:	N	39. Vert. Clearance:	000 ft.
111. Pier/Abut. Navigation Protection:	Not Applicable	40. Horz. Clearance:	0000 ft.
		116. Vert. Cl.-Lift Bridge:	
CLASSIFICATION			
112. NBI Bridge Length Met:	Y		
104A. Highway System Over:	0 Non NHS	104B. Hwy System Under:	No Roadway Exists
104C. FAS Number Over:	NONNHS	104D. FAS Number Under:	
26A. Func. Class. Over:	07 Major Collector - Rural		
26B. Func. Class. Under:			
100. Defense Hwy Designation:	0	101. Parallel Struct. Des.:	N
102. Direction of Traffic:	2 Two Way	103. Temp. Struct. Desig.:	
110. Des. National Network:	0	20. Toll Status:	3 On Free Road
21. Maintenance:	02 County Highway	22. Owner:	02 County Highway
37. Historical Significance:	5 Not Eligible	Functional Classification:	OK
CONDITION			
	<u>MATERIAL</u>	<u>CONDITION</u>	<u>RATING</u>
58. Deck:	CONCRETE W/GRAVEL	GOOD	8
59. Superstructure:	PRECAST CONCRETE SLAB	GOOD	8
60. Substructure:	CONCRETE	GOOD	8
61. Channel:	RIPRAP	GOOD	8
62. Culv./Ret.:	N/A	N/A	N
65. Approach Roadway:		ASPHALT, GOOD	8
LOAD RATING AND POSTING			
31. Design Load:	5 HS-20		
64A. Operating Rating:	249	64B. Year of Load Rating:	2003
66A. Inventory Rating:	236		
66B. Gross Tons or H Rating:	20		
70. Bridge Posting Code:	5 (>= 16 Tons) NO POSTING REQUIRED		
41. Open, Posted, Closed:	A Open		
66C. Tons Posted:		66D. Date Posted/Closed:	
APPRAISAL			
	<u>DEFICIENCIES</u>	<u>RATING</u>	
67. Structural:	GOOD	4	
68. Geometry:	GOOD	6	
69. Underclearance:	N/A	N	
71. Waterway Adequacy:	ADEQUATE, CLEAR CHANNEL	8	
72. Roadway Alignment:	FAIR, STRAIGHT, SLIGHT HILL EAST	6	
36A. Traffic Safety Features:	1111 All Features Acceptable		
36B. Bridge Rail Type:	G Steel - W Shaped		
113A. Scour Critical Bridge:	5 Stable - Within Limits		
113B. Foundation Type:	A Concrete Spread Footings - No Piles		
Sufficiency Rating:	97.90		

History of Bridge Inspection in Indiana

- 2005 – 2010 New Federal Rules and BIAS:
- In 2005 the NBIS Regulations were revised adding more emphasis on a state's Bridge Inspection Organization and Qualifications.
- INDOT began to Certify Bridge Inspection Team Leaders and provide them a Team Leader Number.
- INDOT also began to save Training Certificates of all Team Leaders as well as Team Members.

History of Bridge Inspection in Indiana

- 2005 – 2010 New Federal Rules and BIAS:
- The collapse of the I-35W Bridge in Minneapolis, on 08/01/2007 resulted in immediate arm's length inspections of all Steel Deck Truss Bridges in the state, with attention to gusset plate connections.



History of Bridge Inspection in Indiana

- 2005 – 2010 New Federal Rules and BIAS:
- Following this immediate action, all truss connections and gusset plates were inspected at arm's length and load rated over the next inspection cycle.



History of Bridge Inspection in Indiana

- 2005 – 2010 New Federal Rules and BIAS:

A big emphasis during this time was to reduce the number of bridge with Unknown Foundations and that were coded as Scour Critical, especially on the county side.

Consultants were given strict timeframes to investigate and reduce these numbers. Those bridges that remained would require written Plans of Action to monitor these bridges and to mitigate the situation.

This was a major task in the ACCESS Database.

History of Bridge Inspection in Indiana

- 2005 – 2010 New Federal Rules and BIAS:
- In mid-2009 InspecTech had developed their application for INDOT and began rolling it out in the Crawfordsville District for testing.
- Immediate issues such as little to no computer connectivity to the internet and to printers, slowed down the implementation. After a router was installed near the Inspectors, things improved.
- Shortly after getting the Crawfordsville Inspectors up and running, the Seymour District was selected for trial implementation. After learning the lessons from Crawfordsville and getting the work area properly set up, and have more tech savvy inspectors, things went a lot better.

History of Bridge Inspection in Indiana

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History of Bridge Inspection in Indiana

- 2005 – 2010 New Federal Rules and BIAS:
- By early 2010, InspectTech was being used by all six INDOT Districts.
- All INDOT Inspectors were provided a laptop computer and were encouraged, when practical/safe to type up their reports in their inspection vehicles at the bridge sites.
- Some Inspectors created desks in their vehicles so they could type easier.
- All inspectors were taking photos from cameras where their photos could be downloaded into InspectTech and their reports.

History of Bridge Inspection in Indiana

- 2010 – 2015 Bridge Elements, 23 Metric Reviews, and Tunnels:

Between late 2010 and mid 2011 County Bridge Inspections were switched over to using Inspectech.

INDOT held training sessions at the County Bridge Conference and Road School, for several years to help Consultants as well as County Officials.

There were many sections in the Inspectech Database that the Counties were not required to complete, since these were more for INDOT Bridges.

History of Bridge Inspection in Indiana

- 2010 – 2015 Bridge Elements, 23 Metric Reviews, and Tunnels:

The FHWA began to conduct intense NBIS Reviews and found the state in compliance/non-compliance for all of the 23-Metrics they were reviewing. This was the first time that the FHWA required Improvement Plans with deadlines to address issues.

The 2011 was the first time that the FHWA Itemized findings for each of 23-Metrics.

Previous FHWA Reviews dealt more with field reviews to ensure quality inspections.

History of Bridge Inspection in Indiana

- 2010 – 2015 Bridge Elements, 23 Metric Reviews, and Tunnels:

In 2012 Bridge Element Inspection were added for Bridges that carry National Highway System, (NHS) routes.

NHS Routes were reviewed to ensure they were on-system. This included several hundred County Bridges.

All INDOT Bridge Inspectors and most Consultant Inspectors were required to take the revised NHI two-week training class to learn how to inspect and code Bridge Elements.

History of Bridge Inspection in Indiana

- 2010 – 2015 Bridge Elements, 23 Metric Reviews, and Tunnels:

InspecTech was updated to include Bridge Elements and Condition State Coding.

Over the next couple of years rules were changed and county's requested to have any NHS Bridges in their system coded as not being on the NHS.

Today there are only a couple of NHS Bridges that are not either an INDOT or Indiana Toll Road Bridge.

History of Bridge Inspection in Indiana

- 2010 – 2015 Bridge Elements, 23 Metric Reviews, and Tunnels:

In 2014 INDOT Bridge Inspectors started to use I-pads in the field for Bridge Inspections.

It took a number of years to fully supply all INDOT Inspectors with their own i-pad to use.

History of Bridge Inspection in Indiana

- 2010 – 2015 Bridge Elements, 23 Metric Reviews, and Tunnels:

In 2015 Large Culverts were included in the INDOT side of InspectTech.

Also in 2015, InspectTech had a major over hall, eliminating a large number of State Defined Items for the input sheets. The items that remained were mostly just NBI Items and sub-Items.

Both State and County Inspectors were basically using the same forms now.

History of Bridge Inspection in Indiana


- 2010 – 2015 Bridge Elements, 23 Metric Reviews, and Tunnels:

In 2013 the Indiana FHWA identified a number of structures around the state that they believed met the definition of a Tunnel. After many discussions with INDOT, five structures in Marion County were selected to be tunnels.

In 2015 the initial Tunnel Inspections were conducted and Tunnel Data submitted to the NTI.


History of Bridge Inspection in Indiana

- 2010 – 2015 Bridge Elements, 23 Metric Reviews, and Tunnels:
Pages from a 2009 INDOT Routine Inspection Report (2 of 64 pages):



BRIDGE INSPECTION REPORT

NBI Number: 15730
Bridge Number: 042-11-01428
Facility Carried: SR 42
Feature(s) Intersected: EAST FORK HONEY CREEK
Location: 4.52 W SR 59
Logmile Over: 1.49 **Logmile Under:**
Reference Post: 6 **Offset:** 99



Inspection Date: 09/15/2009

Inspection Type:
 Routine Special
 Fracture Critical
 Underwater
 Scour
 Damage

Other Info:
 Under Construction
 Initial Inspection
 Flag for Central Office Review

Inspected By: (* is primary inspector)
Melvin Hughes*

Comments:

This inspection report is property of the Indiana Department of Transportation. Questions related to the content of this report should be directed to the INDOT district bridge engineer or the INDOT state central office.

GENERAL INVENTORY DATA

NBI Number: 15730
Facility Carried: SR 42

Bridge Number: 042-11-01428
Feature(s) Intersected: EAST FORK HONEY CREEK

IDENTIFICATION

Contract Prefix:..... B
 Contract Number:..... 00901

8A. NBI Number:..... 15730
 8N. Bridge No:..... 042-11-01428
 8C. Structure Designation:..... 01428

6. Features Intersected:..... EAST FORK HONEY CREEK
 7. Facility Carried:..... SR 42

Road Number On:..... 0042
 Road Number Under:.....
 5. Inventory Route On:..... 131000420
 Inventory Route Under:.....

(A.) Sort Number:..... 16530

1. State:..... (INDIANA)
 2. District:..... 01 (Crawfordsville)
 3. County:..... 011 (CLAY)
 4. City/Town:..... 00000 (N/A)

9. Location:..... 4.52 W SR 59
 16. Latitude:..... 39° 26' 53.24"
 17. Longitude:..... 087° 12' 43.38"

11A. Logmile Over:..... 1.49
 11B. Logmile Under:.....

STRUCTURE DATA

43. Material/Design - Main Span:..... RCA111
 Variable Dept Continuous Curved

43C. Main Span Widening Type:.....
 45. Number of Spans - Main:..... 001

44. Material/Design - Approach Spans:..... 000 ()
 Variable Dept Continuous Curved

44C. Other Approach Codes:..... N
 46. Number of Spans - Approach:..... 000

GEOMETRIC DATA

28A. Lanes Over:..... 02 (02)
 28B. Lanes Under:..... 00 ()
 33. Bridge Median:..... 0 (No Median)
 34. Skew:..... 15 (s)

19B. Type Interchange:..... N
 102. Traffic Direction:..... 2 (2-way traffic)
 116. Minimum Nav Vert Clearance:.....
 35. Structure Flared:..... 0 (No flare)

MEASUREMENT DATA

48. Maximum Span Length:..... 0030.0 Ft
 49. Structure Length:..... 00033.0 Ft

47A. Total Horizontal Clearance - Over:..... 24.1 Ft
 47C. Total Horizontal Clearance - Under:..... Ft

50A. Sidewalk Width Left:..... 000.3 Ft
 50B. Sidewalk Width Right:..... 000.3 Ft

53. Minimum Vehicle Over:..... 99' 99"
 54A. Minimum Vehicle Clearance Code:..... N

	Date	Plan	Measured	Laser
Min Vert Over	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Governs				

Additional Span Lengths

Ft.	Ft.	Ft.
Ft.	Ft.	Ft.

47B. Total Horizontal Clearance - Over:..... Ft
 47D. Total Horizontal Clearance - Under:..... Ft

51. Bridge Roadway Width:..... 24.1 Ft
 52. Deck Width:..... 27.2 Ft
 32. Approach Roadway Width:..... 20 Ft

10A. Defense Vertical Clearance - Over:..... 99' 99"
 10B. Defense Vertical Clearance - Under:.....

54B.1 Lateral Right:..... 0000 Ft
 54B2 Lateral Left:..... 0000 Ft

TRAFFIC SAFETY FEATURES

36A. TSF Bridge Railing:.....
 36B. TSF Transitions:.....
 36C. TSF App Guardrail:.....

36D. TSF Terminal End:.....
 36X.1 Bridge Rail Type:.....
 36X.2 Fencing On Bridge:..... 2

THINK SAFETY FIRST

History of Bridge Inspection in Indiana

- 2010 – 2015 Bridge Elements, 23 Metric Reviews, and Tunnels:
Pages from a 2015 INDOT Routine Inspection Report (2 of 8 pages):

Bridge Inspection Report

040-89-00338 B
US 40
over
WHITEWATER RIVER



Inspection Date: 01/15/2015

Inspected By: James Yapp

Inspection Type(s): Routine

GEOMETRIC DATA				
(48) LENGTH OF MAX SPAN:	0055.0	FT	(35) STRUCTURE FLARED:	0 - No flare
(49) STRUCTURE LENGTH:	00172.0	FT	(10) INV RTE, MIN VERT CLEARANCE:	99.99 FT
(50) CURB/SIDEWALK WIDTHS:			(47) TOT HORIZ CLEARANCE:	046.0 FT
A) LEFT	05.4	FT	(53) VERT CLEAR OVER BR RDWY:	99.99 FT
B) RIGHT:	05.4	FT	(54) MIN VERTICAL UNDERCLEARANCE:	
(51) BRDG RDWY WIDTH CURB-TO-CURB:	046.0	FT	A) REFERENCE FEATURE:	N
(52) DECK WIDTH, OUT-TO-OUT:	058.8	FT	B) MIN VERT UNDERCLEAR:	0 FT
(32) APPROACH ROADWAY	050.0	FT	(55) LATERAL UNDERCLEARANCE RIGHT:	
(33) BRIDGE MEDIAN:	0 - No median		A) REFERENCE FEATURE:	N
(34) SKEW:	20	DEG	B) MIN LATERAL UNDERCLEAR:	000.0 FT
			(56) MIN LATERAL UNDERCLEAR ON LEFT:	00.0 FT
INSPECTIONS				
(90) INSPECTION DATE:	01/15/2015		(91) DESIGNATED INSPECTION FREQUENCY:	24 MONTHS
(92) CRITICAL FEATURE INSPECTION:			(93) CRITICAL FEATURE INSPECTION DATE:	
A) FRACTURE CRITICAL REQUIRED/FREQUENCY:	N		A) FRACTURE CRITICAL DATE:	
B) UNDERWATER INSPECTION REQUIRED/FREQUENCY:	N		B) UNDERWATER INSP DATE:	
C) OTHER SPECIAL INSPECTION REQUIRED/FREQUENCY:	N		C) OTHER SPECIAL INSP DATE:	
CONDITION				
(58) DECK:	7 - Good Condition (some minor problems)		(60) SUBSTRUCTURE:	6 - Satisfactory Condition (minor deterioration)
(58.01) WEARING SURFACE:	7 - Good Condition		(61) CHANNEL/CHANNEL PROTECTION:	6 - Bank slump, widespread minor damage
(59) SUPERSTRUCTURE:	6 - Satisfactory Condition (minor deterioration)		(62) CULVERTS:	N - Not Applicable
CONDITION COMMENTS				
(58) DECK:	7 - Good Condition (some minor problems)			
Comments:				
(58.01) WEARING SURFACE:	7 - Good Condition			
Comments:	Bitum. wearing surface has cracks, esp. over piers.			
(59) SUPERSTRUCTURE:	6 - Satisfactory Condition (minor deterioration)			
Comments:	Arch rings have long, cracking & delaminations, with efflorescence. Previously repaired areas of epoxy injection. Gunite repairs have continued to crack & have efflorescence. Spandrel walls have gunite repairs, minor vertical cracks & efflorescence.			

History of Bridge Inspection in Indiana

- 2016 – Present BIAS re-vamped, iTAMS, Plans of Corrective Action, and Critical Findings:

BIAS continued to be revamped and upgraded to include the ability to query ERMS for inspection documents, plans and calculations.

Agreements were saved in BIAS and ERMS such as Border Bridge and Railroad Agreements

User files were set up to include Team Leader Status and to save pdf's of training certificates.

History of Bridge Inspection in Indiana

- 2016 – Present BIAS re-vamped, iTAMS, Plans of Corrective Action, and Critical Findings:

Critical Finding Alerts were created as well as a documented progression of actions taken to ensure they were properly closed out.

Even though many improvements were made throughout the bridge Inspection program in Indiana, the level of reviews by the FHWA increased and resulted in more Improvement Plans. Due to this many Bridge Inspection Memos were written and the Bridge Inspection Manual was re-written pretty much entirely twice during this ten-year period.

History of Bridge Inspection in Indiana

- 2016 – Present BIAS re-vamped, iTAMS, Plans of Corrective Action, and Critical Findings:

Due to various reasons, including the coming of the SNBI, INDOT decided to request Proposals for a new Bridge Inspection/management System to house our current NBI and future SNBI Data.

Sixense was selected to develop the new database, called iTAMS (Indiana Total Management System).


History of Bridge Inspection in Indiana

- 2016 – Present BIAS re-vamped, iTAMS, Plans of Corrective Action, and Critical Findings:
- After INDOT Submitted its March, 2023 NBI Data the FHWA, BIAS use was stopped.
- In May, 2023 use of iTAMS began. There were many issues with the roll out, and general use really started around September of 2023.

History of Bridge Inspection in Indiana

- 2016 – Present BIAS re-vamped, iTAMS, Plans of Corrective Action, and Critical Findings:
- Pages from a 2024 INDOT Routine Inspection Report (2 of 15 pages):

Routine Bridge Inspection Report



Structure Information


Structure:	040-89-00338 B	Facility Carried:	US 40
NBI Number:	014080	Features Intersected:	WHITEWATER RIVER

Inspection Information

Inspection Date:	10/23/2024	Lead Inspector:	James Yapp
Inspection Type:	Routine	Additional Inspectors:	

Condition Ratings Summary

(58) Deck:	N	(60) Substructure:	N
(58.01) Wearing Surface:	N	(61) Channel / Channel Protection:	5
(58.02) Joints:		(62) Culverts:	5
(58.05) Approach Slabs:	N	(71) Waterway Adequacy:	8
(59) Superstructure:	N	(72) Approach Roadway Alignment:	8
(59.01) Paint:	N	(113) Scour Critical Bridge:	3



Structure:	040-89-00338 B	Facility Carried:	US 40	Inspector:	James Yapp
NBI Number:	014080	Features Intersected:	WHITEWATER RIVER	Inspection Date:	10/23/2024

Identification

(1) State Code:	185 - Indiana	(12) Base Highway Network:	0
(8) Structure:	014080	(13A) Inventory Route:	
(5) Inv. Route:	1 - 2 - 1 - 00040 - 0	(13B) Subroute Number:	
(2) Highway Agency District:	3 - Greenfield	(16) Latitude:	39.81274
(3) County Code:	089 - Wayne	(17) Longitude:	-85.16565
(4) Place Code:	09874 - Cambridge City	(98) Border	
(6) Features Intersected:	WHITEWATER RIVER	(A) State Name:	
(7) Facility Carried:	US 40	(B) Percent:	
(9) Location:	00.58 W SR 1	(99) Border Bridge Struct. No:	
(11) Milepoint:	0003.040		

Age Of Service

(27) Year Built:	1935	(19) Bypass Detour Length:	007
(106) Year Reconstructed:	1987	(29) ADT:	005622
(42) Type Of Service		(30) Year Of ADT:	2015
(A) On Bridge:	5 - Highway-Pedestrian	(109) ADTT:	06
(B) Under Bridge:	5 - Waterway	(114) Future ADT:	007300
(28) Lanes		(115) Year Of Future ADT:	2035
(A) On Bridge:	04		
(B) Under Bridge:	00		

Structure Type And Material

(43) Main Spans:		(45) No. Of Spans In Main Unit:	003
(A) Kind Of Material:	1 - Concrete	(46) No. Of Approach Spans:	0000
(B) Type Of Design:	19 - Culvert (includes frame culverts)	(107) Deck Structure Type:	N - N/A
(44) Approach Spans		(108) Wearing Surface	
(A) Kind Of Material:	0 - Other	A) Wearing Surface:	N - N/A
(B) Type Of Design:	00 - Other	B) Deck Membrane:	0 - None
		C) Deck Protection:	N - N/A

History of Bridge Inspection in Indiana


- 2016 – Present BIAS re-vamped, iTAMS, Plans of Corrective Action, and Critical Findings:
- In March, 2022 the Specifications for the National Bridge Inventory was published.



History of Bridge Inspection in Indiana

- 2016 – Present BIAS re-vamped, iTAMS, Plans of Corrective Action, and Critical Findings:
- A couple pages from an INDOT Initial Inspection using the SNBI.

Initial Inspection Report



Structure Information


B.ID.01 Bridge Number	009900	
B.ID.02 Bridge Name	031-52-02317 DNBL	
B.F.01 Feature Type - Number	01	02
B.F.01 Feature Type - Type	H - Highway	H - Highway
B.F.02 Feature Location	C - Carried on bridge	B - Below bridge
B.F.03 Feature Name	US 31 NB	Old US 24 Logansport Road

Inspection Information

B.IE.02 Inspection Begin Date	12-05-2025	B.IE.04 Bridge Inspector	IN000401
B.IE.01 Inspection Type	Initial	Additional Inspectors:	

Condition Ratings Summary

B.C.01 Deck	8	B.C.07 Bridge Bearings	8
B.C.02 Superstructure	8	B.C.08 Bridge Joints	4
B.C.03 Substructure	6	B.C.09 Channel	N
B.C.04 Culvert	N	B.C.10 Channel Protection	N
B.C.05 Bridge Railing	9	B.C.11 Scour	N
B.C.06 Bridge Railing Transitions	9		



B.ID.01 Bridge Number	009900	Inspector:	Joshua Biller
B.ID.02 Bridge Name	031-52-02317 DNBL	Inspection Date:	12/05/2025

Section 1: Bridge Identification

Subsection 1.1: Identification

B.ID.01 Bridge Number	009900		
B.ID.02 Bridge Name	031-52-02317 DNBL		
B.ID.03 Previous Bridge Number	0		

Subsection 1.2: Location

B.L.01 State Code	18 - Indiana	B.L.02 County Code	52 - Miami
B.L.03 Place Code	00000 - N/A	B.L.04 Highway Agency District	2 - Fort Wayne
B.L.05 Latitude	40.7518	B.L.06 Longitude	-86.1275
B.L.07 Border Bridge Number	N	B.L.08 Border Bridge State or County Code	
B.L.09 Border Bridge Insp. Resp.		B.L.10 Border Bridge Designated Lead State	S01 - State transportation department
B.L.11 Bridge Location	1.47 miles south of US 24		
B.L.12 Metro. Planning Org.	N		

Subsection 1.3: Classification

B.CL.01 Owner	S01 - State transportation department	B.CL.02 Maintenance Responsibility	S01 - State transportation department
B.CL.03 Federal or Tribal Land Access	N - Not applicable	B.CL.04 Historic Significance	N - Bridge is not eligible for the National Register, and is not in a historic district eligible for the National Register
B.CL.05 Toll	N - Bridge does not carry a toll road and is not a toll bridge	B.CL.06 Emergency Evacuation Designation	

Section 2: Bridge Material and Type

Subsection 2.1: Span Material and Type

B.SP.01 Span Configuration Designation - Number	01
B.SP.01 Span Configuration Designation - Type	M - Main
B.SP.02 Number of Spans	4
B.SP.03 Number of Beam Lines	7
B.SP.04 Span Material	S01 - Steel – rolled shapes
B.SP.05 Span Continuity	2 - Continuous
B.SP.06 Span Type	G02 - Girder/beam – I-shaped spread
B.SP.07 Span Protective System	C01 - Coating – paint
B.SP.08 Deck Interaction	CU - Unshored construction
B.SP.09 Deck Material and Type	C01 - Reinforced concrete – cast-in-

5 / 34

History of Bridge Inspection in Indiana

- 2016 – Present BIAS re-vamped, iTAMS, Plans of Corrective Action, and Critical Findings:
- The entry of Bridge Data in the NBI Format ceased on December 31, 2024.
- The final NBI data submittal was in March, 2025
- NBI Data was cross-walked over into the appropriate fields in the SNBI Format. Data entry using the SNBI Format began on January 1, 2025.
- The Hybrid bridge data submittal to the FHWA will be done in March, 2026.

History of Bridge Inspection in Indiana

Thank You!!

