

2018 INVENTORY, APPRAISAL & INSPECTION SNAPSHOT

Stark County

Inventory Data - BR 87 NBIS Bridges Only

	<u>NBIS COUNT</u>
NBIS Bridges > 20'	199
Bridges 10'-20'	<u>129</u>
	328

Possible NBIS length errors* 12

Item	Inspection Responsibility	CODE	COUNT	%
Item 221	County	3	199	100.0%
Item 21	Maintenance responsibility*			
	County	3	198	99.5%
	City or other local	4	0	0.0%
	Private	7	1	0.5%
			199	100.0%
Item 42A	Type service on bridge*			
	Other	0	0	0.0%
	Highway	1	197	99.0%
	Railroad	2	0	0.0%
	Ped/Bikeway	3	0	0.0%
	Hwy/RR	4	0	0.0%
	Hwy/Ped	5	0	0.0%
	RR Abnd. rails rem'vd	A	2	1.0%
			199	100.0%
Item 42B	Type service under bridge*			
	Hwy w/ or w/o Ped	1	2	1.0%
	Railroad	2	6	3.0%
	Ped/Bkwy	3	0	0.0%
	Hwy w/ RR	4	0	0.0%
	Waterway	5	187	94.0%
	Hwy/Waterway	6	0	0.0%
	RR/Waterway	7	2	1.0%
	Hwy/Wtrway/RR	8	0	0.0%
	Relief (RR w/ water)	9	1	0.5%
	Other	0	1	0.5%
			199	100.0%

ITEMS	Structure Type (Items 43A, 43B, 43C)	CODE	COUNT	%
	stone arch filled	55	1	0.5%
	concrete slab simple	111	9	4.5%
	concrete slab continuous	112	6	3.0%
	concrete arch filled	155	10	5.0%
	concrete girder thru	164	1	0.5%
	concrete frame simple	171	13	6.5%
	concrete culvert filled	195	1	0.5%
	prestressed conc. beam simple	221	2	1.0%
	prestressed conc. beam continuous	222	2	1.0%
	prestressed conc. box beam simple	231	61	30.7%
	prestressed conc. box beam continuous	232	13	6.5%
	steel beam simple	321	35	17.6%
	steel beam continuous	322	18	9.0%
	steel culvert filled	395	6	3.0%
	timber slab simple	411	1	0.5%
	timber beam simple	421	2	1.0%
	aluminum culvert filled	695	1	0.5%
	Steel Truss Pony	34A	17	8.5%
			199	100.0%

Item 92A	Fracture Critical*	CODE	COUNT	%
	fracture critical member	Y	17	8.5%
	fracture critical member	N	176	88.4%
	Blank FC Switch Y/N		6	3.0%
			199	97.0%
	No. of steel trusses and girders	34x, 36x	17	
	Fracture Critical File		COUNT	
	Required Fracture Critical Files (including written Procedure and FPD)	17 truss/girde	17	
	Gusset Pl. Analysis	to be completed by December 31, 2011	COUNT	
	Required Gusset Plate Analysis	trusses	16	

Item 92B	Underwater*	CODE	COUNT	%
	requires dive inspection	N	189	95.0%
	requires dive inspection	Y	0	0.0%
	dive inspection dates		5	2.5%
	Blank Dive Switch Y/N		5	2.5%
			199	2.5%

Item 113 Scour				
Bridge not over waterway	N		9	4.5%
unknown foundation	U		0	0.0%
over tidal waters	T		0	0.0%
foundations on dry land	9		5	2.5%
stable above footing	8		126	63.3%
countermeasures installed	7		14	7.0%
no scour evaluation made	6		0	0.0%
stable within footer limits	5		44	22.1%
stable action needed	4		1	0.5%
scour critical - unstable	3		0	0.0%
scour critical - scour present	2		0	0.0%
scour critical - failure imminent	1		0	0.0%
scour critical - bridge failed	0		0	0.0%
			199	100.0%

Scour Photos on Schedule?

Item 709 Plan Information			
	CODE	COUNT	%
no plans	0	4	2.0%
plans available	1	193	97.0%
field information	2	0	0.0%
not applicable	N	2	1.0%
		199	100.0%

Item 63 Documented Engineering Judgment*			
		COUNT	%
Field Eval & Doc EJ		4	2.0%
Rating Code in Error	D and F	0	171 or 195

BR_100 for these bridges

ITEMS	Rating Factor	(Items 64, 66)	COUNT	%
	Inventory RF >= Operating RF		0	0.0%
	Inventory Rating Factor < 40% Operating RF (Too Low)		0	0.0%
	Operating Rating Factor < 40% Ohio % Legal (Too Low)		0	0.0%
	Op RF < 0.61 not Posted		0	0.0%
	Op RF in tons for Eng Judgment		0	0.0%

Item 63 Method Of Rating = 5			
		COUNT	%
		0	0.0%

Item 580 Deep Culverts* (depth of fill)			
		COUNT	%
Culvert	fill > 6.5'	0	0.0%

Items	195 Culvert vs 171 Frame	(Items 43A, 43B, 43C)	<u>COUNT</u>	<u>%</u>
	# that do NOT meet the 2' Rule*		0	0.0%

Item 63	Method of Analysis	<u>CODE</u>	<u>COUNT</u>	<u>%</u>
	Field Eval & Doc. Eng Judgment	0	4	2.0%
	Load testing	4	0	0.0%
	No Rating done	5	2	1.0%
	Load Factor (LF)	6	157	78.9%
NEW BrR software	WS or AS	7	3	1.5%
	Load & Resistance Factor	8	33	16.6%
	Assigned Rating (LFR) HS20	D	0	0.0%
	Assigned Rating (LRFR) HL93	F	0	0.0%
	Not applicable (Ped, RR, Bldg)	X	0	0.0%
			199	100.0%

REMINDER:

Load Factor required for bridges built after 1993

(with certain exceptions)

LRFR required for bridges built after 2010

WS allowed for Timber and Masonry

Inspection Condition Data - BR 86 NBIS Bridges Only

Performance		% Bridges	General Appraisal	CODE	# Bridges	% Bridges
GOOD		33.2%	Excellent	9	2	1.0%
			Very good	8	26	13.1%
			Good	7	38	19.1%
FAIR		54.8%	Satisfactory	6	70	35.2%
			Fair	5	39	19.6%
POOR		12.1%	Poor	4	19	9.5%
			Serious	3	5	2.5%
			Critical	2	0	0.0%
			Imminent Failure	1	0	0.0%
			Closed	0	0	0.0%
		100.0%			199	100.0%

Performance		% Deck Area		Lowest of GA or Deck	COUNT	Deck s.f	
GOOD		40.0%	1.4%	9	Excellent	2	7,836
			20.3%	8	Very good	26	111,089
			18.3%	7	Good	37	100,026
FAIR		48.4%	35.4%	6	Satisfactory	72	193,918
			13.0%	5	Fair	42	70,977
POOR		11.7%	10.8%	4	Poor	20	58,940
			0.9%	3	Serious	5	5,070
			0.0%	2	Critical	0	0
			0.0%	1	Imminent Failure	0	0
			0.0%	0	Closed	0	0
		100.0%			199	547,855	

Performance Measure		NHS Bridges	Lowest of GA or Deck	Deck Area
		NONE		

Item 41	Operating Status*	CODE	COUNT	%
	Open, No restriction	A	194	97.5%
	Open, posting recommended	B	0	0.0%
	Open, Half width construction	C	0	0.0%
	Open because of temporary fix	D	0	0.0%
	Open using temporary structure	E	0	0.0%
	New struture not yet open	G	0	0.0%
	closed for load capacity reason	K	0	0.0%
	Posted for load capacity	P	5	2.5%
	Posted for other than load	R	0	0.0%
	Closed for other than load	X	0	0.0%
			<u>199</u>	<u>100.0%</u>

Items	AGE of BRIDGES	(Items 27, 106)	YEAR (built or rehab)	COUNT	%
			-1900	0	0.0%
			1901-1910	0	0.0%
			1911-1920	0	0.0%
			1921-1930	5	2.5%
			1931-1940	10	5.0%
			1941-1950	10	5.0%
			1951-1960	13	6.5%
			1961-1970	4	2.0%
			1971-1980	13	6.5%
			1981-1990	42	21.1%
			1991-2000	40	20.1%
			2001-2010	34	17.1%
			2011-2020	28	14.1%
				<u>199</u>	<u>100.0%</u>

(C)	Compliant
(SC)	Substantially Compliant
(CC)	Conditionally Compliant (Adhering to approved pan of corrective action)
(NC)	Not Compliant

METRIC 6 Insp. Frequency Routine

Bridge Inspections Overdue	ACTUAL COUNT	% COMPLIANT	COMPLIANCE
NBIS - 24 months	0	100.0%	(C)
ORC - Calendar Year	0	100.0%	N/A
BIM - 18 months	0	100.0%	N/A

METRIC 8 - Insp. Frequency Underwater

Dive Inspections Overdue	ACTUAL COUNT	% COMPLIANT	COMPLIANCE
60 months	0	N/A	(C)

METRIC 10 - Insp. Frequency FC Member

FC Inspections Overdue	ACTUAL COUNT	% COMPLIANT	COMPLIANCE
24 months	0	100.0%	(C)

METRIC 13 - Load Rating

Type of Metric check	Need for compliance	# Not Rated	% of NBIS Rated	COMPLIANCE
Deck, Super, Sub, Culvert Summary <=4	100%	0	100.0%	(C)
Operating Status = D or E	100%	0	100.0%	(C)
FC=Y	100%	0	100.0%	(C)
Operating Status = P or R	100%	0	100.0%	(C)
Bridges with no restrictions	100%	0	100.0%	(C)

METRIC 14 - Post or Restrict

Bridge posting/closing Follow-through*	COUNT	% COMPLIA NT	COMPLIANCE
Bridges below 10% legal but not closed	0	100.0%	(C)
Operating Rating Factor = 0 but not closed	0	100.0%	(C)
Bridges < 100% legal but not posted (OpStatus =A or R)	0	100.0%	(C)
Bridges to be posted but aren't (Op Status code B)	0	100.0%	(C)

METRIC 22 - Inventory (partial review)

Structure Length *	ACTUAL COUNT	COMPLIANCE
Number of bridges with length or span difference	0	depends on sample size
Culvert Span		
unusually long steel culvert spans	0	depends on sample size
Location		
Item 9 Location	0	depends on sample size
missing coordinates	0	depends on sample size

PRELIMINARY FHWA 23 Metric Matrix

23 metrics used by FHWA to measure NBIS compliance

Compliance Codes for the following Metrics:

- (C) Compliant
- (SC) Substantially Compliant
- (CC) Conditionally Compliant (Adhering to)
- (NC) Not Compliant

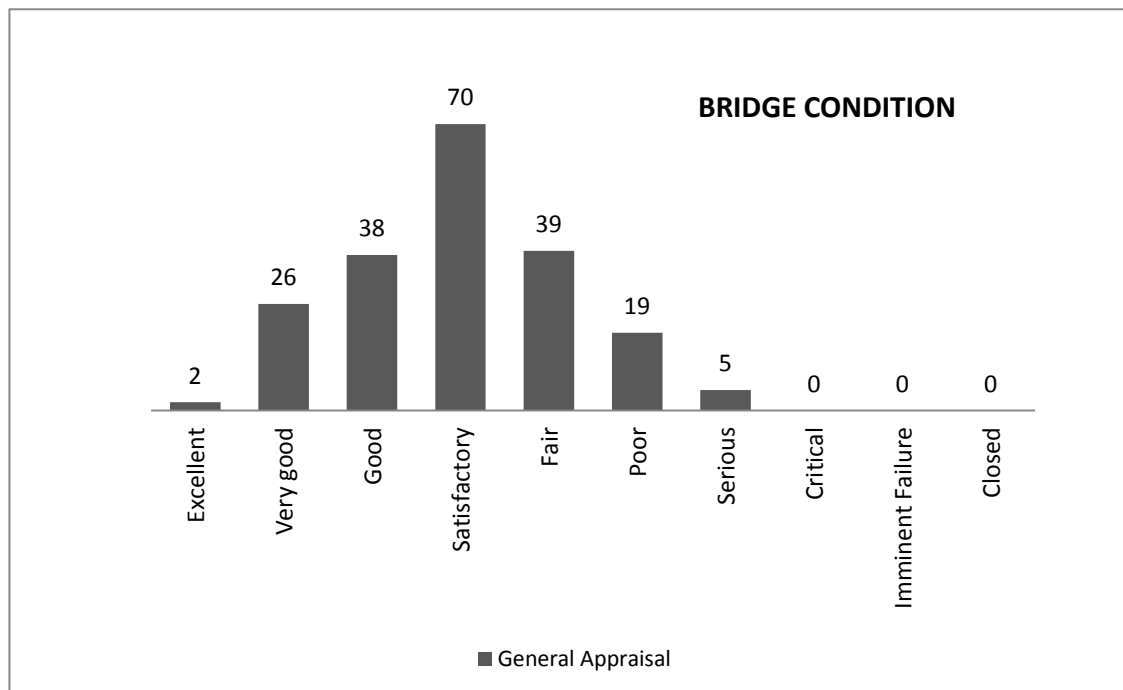
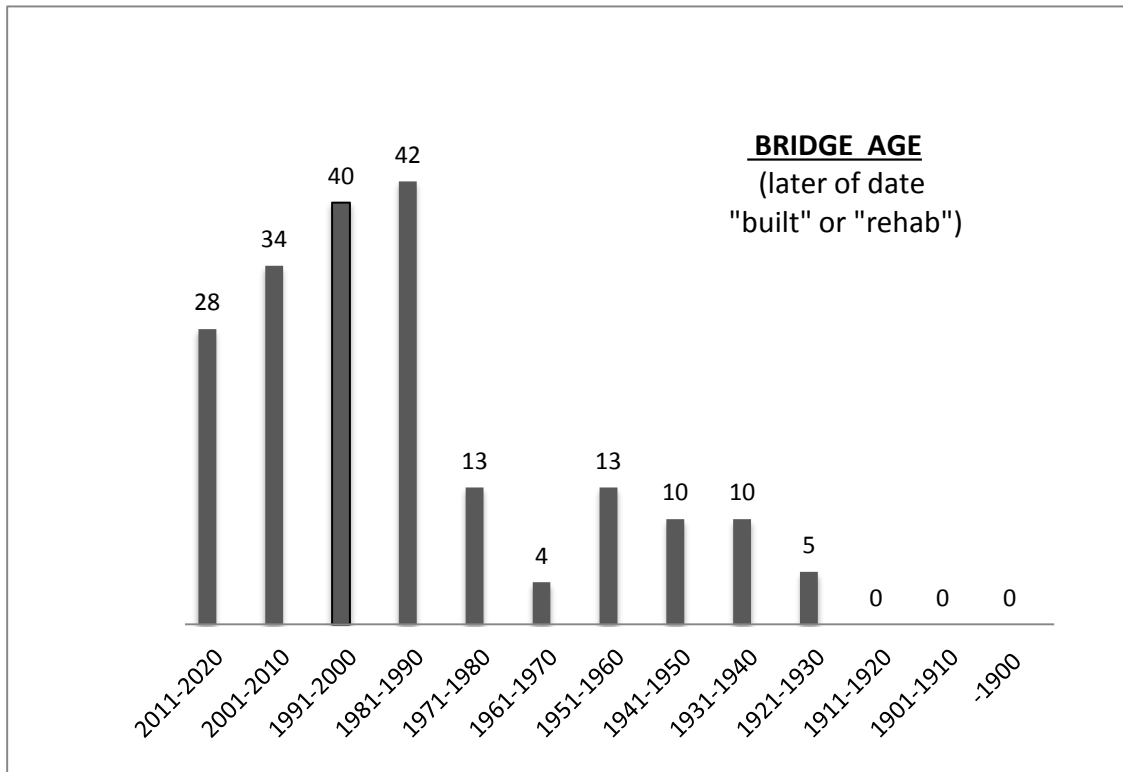
Metric	Description	(C)	(SC)	(CC)	(NC)
1	State Bridge Inspection Organization				
2	Program Manager Qualification				
3	Team Leader Qualification				
4	Load Rating Engineer Qualification				
5	UW Bridge Inspection Diver Qualification				
6	Routine Inspection Frequency - Low Risk				
7	Routine Inspection Frequency - High Risk				
8	UW Inspection Frequency - Low Risk				
9	UW Inspection Frequency - High Risk				
10	FC Inspection Frequency				
11	Frequency Criteria				
12	Inspection Quality ** 100%				
13	Load Rating				
14	Posted or Restricted Bridges				
15	Bridge Files				
16	FC Bridges				
17	UW inspection procedures				
18	Scour Critical Bridges				
19	Complex Bridges				
20	QC/QA				
21	Critical Findings				
22	Inventory ** 99%				
23	Updating of Data				

** based on results of Field Review

Metric	Action Needed
17	create UW inspection procedure for dive bridges, include frequency
13	create BR-100 for engineering judgment bridges

AGE VS. CONDITION

Overall Shape of AGE and CONDITION graphs typically mirror each other



GENERAL APPRAISAL COMPARISON

