2018 INVENTORY, APPRAISAL & INSPECTION SNAPSHOT

Geauga County

Inventory Data - BR 87 NBIS Bridges Only

	NBIS COUNT
NBIS Bridges > 20'	**89**
Bridges 10'-20'	**98**
	187

Possible NBIS length errors* 2

Item 221	Inspection Responsibility	CODE	COUNT	%
	County	3	89	100.0%
Item 21	**Maintenance responsibility***			
	County	3	87	97.8%
	Private other than RR	7	1	1.1%
	ODOT	1	1	1.1%
			89	100.0%
Item 42A	**Type service on bridge**			
	Other	0	0	0.0%
	Highway	1	89	100.0%
	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	0	0.0%
			89	100.0%
Item 42B	**Type service under bridge**			
	Hwy w/ or w/o Ped	1	1	1.1%
	Railroad	2	0	0.0%
	Ped/Bkwy	3	0	0.0%
	Hwy w/ RR	4	0	0.0%
	Waterway	5	88	98.9%
	Hwy/Waterway	6	0	0.0%
	RR/Waterway	7	0	0.0%
	Hwy/Wtrway/RR	8	0	0.0%
	Relief (RR w/o tracks)	9	0	0.0%
	Other	0	0	0.0%
			89	100.0%

ITEMS	Structure Type (Items 43A, 43B, 43C)	CODE	COUNT	%
	concrete slab simple	111	2	2.2%
	concrete slab continuous	112	1	1.1%
	concrete beam simple	121	2	2.2%
	concrete arch deck	153	1	1.1%
	concrete frame simple	171	27	30.3%
	concrete culvert filled	195	11	12.4%
	prestressed conc. beam simple	221	1	1.1%
	prestressed conc. box beam simple	231	18	20.2%
	prestressed conc. box beam continuous	232	3	3.4%
	steel beam simple	321	8	9.0%
	steel beam continuous	322	2	2.2%
	steel arch filled	355	1	1.1%
	steel culvert filled	395	3	3.4%
	timber slab simple	411	4	4.5%
	timber beam simple	421	2	2.2%
	aluminum culvert filled	695	1	1.1%
	Steel Truss Pony	34A	2	2.2%
			89	100.0%

Item 92A	Fracture Critical*	CODE		COUNT	%
	fracture critical member	Y		2	2.2%
	fracture critical member	N		87	97.8%
				89	100.0%
	No. of steel trusses and girders		34x, 36x	2	
	Fracture Critical File			**COUNT**	
	Required Fracture Critical Files (including written Procedure and FPD)		2 truss/girde	2	
	Gusset Pl. Analysis to be completed by December 31, 2011			**COUNT**	
	Required Gusset Plate Analysis		2 trusses	2	

Item 92B	Underwater	CODE	COUNT	%
	requires dive inspection	N	89	100.0%
	requires dive inspection	Y	0	0.0%
	dive inspection dates		0	0.0%
			89	0.0%

Item 113	Scour				
	Bridge not over waterway	N	1	1.1%
	unknown foundation	U	0	0.0%
	over tidal waters	T	0	0.0%
	foundations on dry land	9	2	2.2%
	stable above footing	8	46	51.7%
	countermeasures installed	7	7	7.9%
	no scour evaluation made	6	0	0.0%
	stable within footer limits	5	32	36.0%
	stable action needed	4	1	1.1%
	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%
			89	100.0%

Scour Photos on Schedule?

Item 709	Plan Information	CODE	COUNT	%
	no plans	0	3	3.4%
	plans available	1	83	93.3%
	field information	2	3	3.4%
	not applicable	N	0	0.0%
			89	100.0%

Item 63	Documented Engineering Judgment				COUNT	%
	Field Eval & Doc EJ				0	0.0%
	Rating Code in Error	D and F	0	171 or 195	0	

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)	COUNT	%
	# that do NOT meet the 2' Rule*		3	3.4%

Item 63	Method of Analysis	CODE	COUNT	%
	Field Eval & Doc. Eng Judgment	0	0	0.0%
	Load testing	4	0	0.0%
	No Rating done	5	0	0.0%
	Load Factor (LF)	6	76	85.4%
	WS or AS	7	7	7.9%
	Load & Resistance Factor	8	6	6.7%
	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%
			89	100.0%

REMINDER:

Load Factor required for bridges built after 1993 (with certain exceptions)

LRFR required for bridges built after 2010

Inspection Condition Data - BR 86 NBIS Bridges Only

General Appraisal	CODE		COUNT	%
9 Excellent	9		3	3.4%
8 Very good	8		51	57.3%
7 Good	7		17	19.1%
6 Satisfactory	6		9	10.1%
5 Fair	5		5	5.6%
4 Poor	4		4	4.5%
3 Serious	3		0	0.0%
2 Critical	2	K	0	0.0%
1 Imminent Failure	1	K	0	0.0%
0 Closed	0	K	0	0.0%
			89	100.0%

Item 41	Operating Status*	CODE	COUNT	%
	Open, No restriction	A	88	98.9%
	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	1	1.1%
	Posted for other than load	R	0	0.0%
	Closed for other than load	X	0	0.0%
			89	100.0%

Item 41	Posted but % Legal >= 100	COUNT	%
		0	0.0%

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	1	1.1%
			1931-1940	2	2.2%
			1941-1950	0	0.0%
			1951-1960	3	3.4%
			1961-1970	4	4.5%
			1971-1980	4	4.5%
			1981-1990	14	15.7%
			1991-2000	31	34.8%
			2001-2010	22	24.7%
			2011-2020	8	9.0%
				89	100.0%

(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	% COMPLIANT	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	4	depends on sample size
Culvert Span		
unusually long steel culvert spans	3	depends on sample size
Location		
Item 9 Location	4	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 (Adherin
(NC) Not Compliant

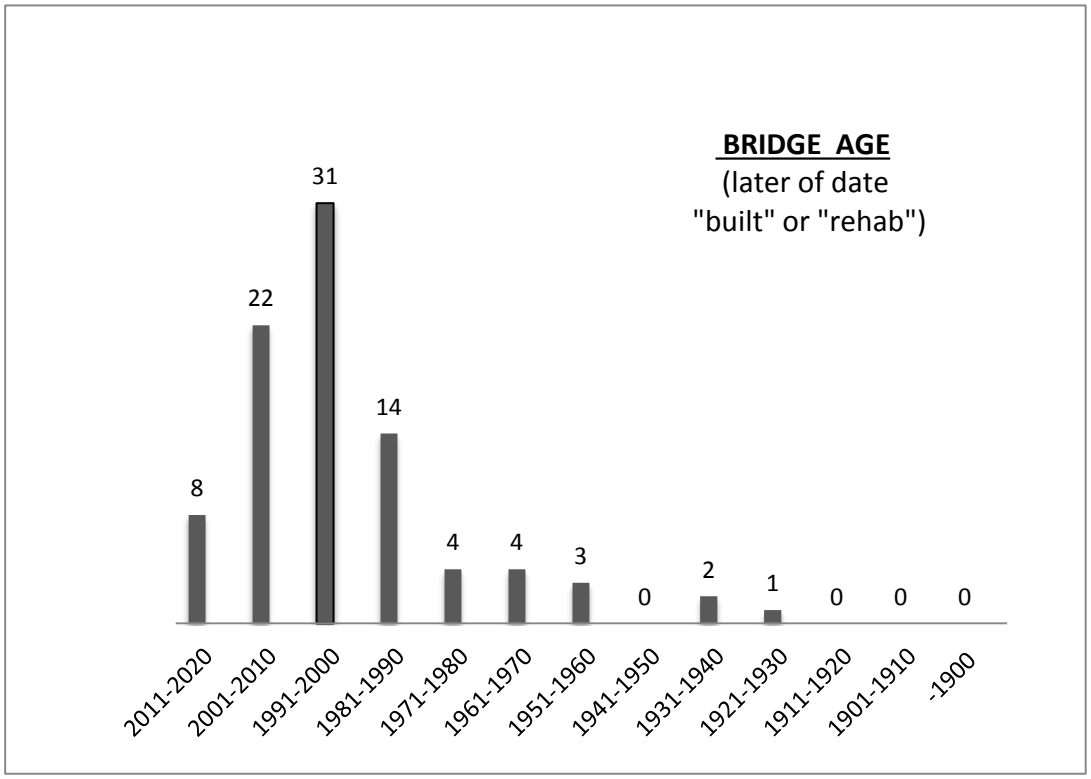
Metric	Description	(C)	(SC)	(CC)	(NC)
1	State Bridge Inspection Organization				
2	Program Manager Qualification				
3	Team Leader Qualification				
4	Load Rating Engineer Qualification				
5	UW Bridge Inspection Diver Qualification				
6	Routine Inspection Frequency - Low Risk				
7	Routine Inspection 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				

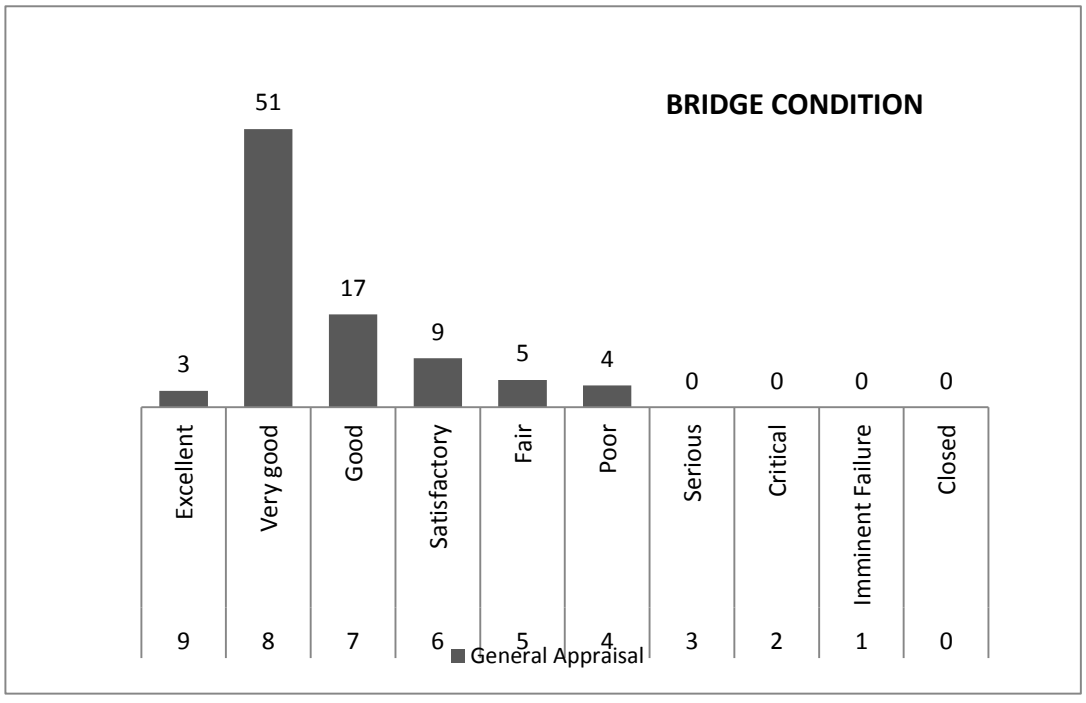
** based on results of Field Review

Metric	Action Needed

AGE VS. CONDITION

Overall Shape of AGE and CONDITION graphs typically mirror each other





GENERAL APPRAISAL COMPARISON