Lucas County 2019 INVENTORY, APPRAISAL & INSPECTION SNAPSHOT

Inventory Data - NBIS Bridges Only

	NBIS COUNT
NBIS Bridges > 20'	**115**
Bridges 10'-20'	**66**
	181
***Possible NBIS length errors**	8

Item 221	Inspection Responsibility	CODE	COUNT	%
	County	3	115	100.0%
Item 21	***Maintenance responsibility**			
	County	3	104	90.4%
	City or other local	4	11	9.6%
	Railroad	6	0	0.0%
	Private	7	0	0.0%
	Combination	8	0	0.0%
	ODNR	A	0	0.0%
	Township	F	0	0.0%
			115	100.0%
Item 42A	***Type service on bridge**			
	Other	0	0	0.0%
	Highway	1	105	91.3%
	Railroad	2	0	0.0%
	Ped/Bikeway	3	0	0.0%
	Hwy/RR	4	0	0.0%
	Hwy/Ped	5	10	8.7%
	RR Abnd. rails rem'vd	A	0	0.0%
			115	100.0%
Item 42B	***Type service under bridge**			
	Hwy w/ or w/o Ped	1	0	0.0%
	Railroad	2	0	0.0%
	Ped/Bkwy	3	0	0.0%
	Hwy w/ RR	4	1	0.9%
	Waterway	5	113	98.3%
	Hwy/Waterway	6	0	0.0%
	Hwy/Wtrway/RR	8	0	0.0%
	Relief (RR w/o tracks)	9	0	0.0%
	Other	0	1	0.9%
			115	99.1%

ITEMS	Structure Type (Items 43A, 43B, 43C)		CODE	COUNT	%
	concrete slab simple		111	9	7.8%
	concrete slab continuous		112	23	20.0%
	concrete beam simple		121	2	1.7%
	concrete arch deck		153	2	1.7%
	concrete girder thru		164	1	0.9%
	concrete frame other	*	170	1	0.9%
	concrete frame simple		171	15	13.0%
	concrete culvert filled		195	6	5.2%
	prestressed conc. beam simple		221	5	4.3%
	prestressed conc. beam continuous		222	1	0.9%
	prestressed conc. box beam simple		231	34	29.6%
	prestressed conc. box beam continuous		232	3	2.6%
	steel beam simple		321	4	3.5%
	steel beam continuous		322	7	6.1%
	steel arch deck		353	1	0.9%
	steel culvert filled		395	1	0.9%
				115	100.0%

Item 92A	Fracture Critical	CODE	COUNT	%
	fracture critical member	Y	0	0.0%
	fracture critical member	N	115	100.0%
			115	100.0%
	No. of steel trusses and girders	34x, 36x		

Item 113	Scour			
	Bridge not over waterway	N	2	1.7%
	unknown foundation	U	0	0.0%
	over tidal waters	T	0	0.0%
	foundations on dry land	9	5	4.3%
	stable above footing	8	53	46.1%
	countermeasures installed	7	0	0.0%
	no scour evaluation made	6	0	0.0%
	stable within footer limits	5	55	47.8%
	stable action needed	4	0	0.0%
	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%
			115	100.0%

Scour Photos Done?

Item 92B	*Underwater	CODE	COUNT	%
	requires dive inspection	N	114	99.1%
	requires dive inspection	Y	1	0.9%
	dive inspection dates		1	0.9%

	115	100.9%

Item 709	*Plan Information	CODE	COUNT	%
	no plans	0	1	0.9%
	plans available	1	114	99.1%
	field information	2	0	0.0%
	not applicable	N	0	0.0%
			115	100.0%

Item 63	*Documented Engineering Judgment			COUNT	%
	Field Eval & Doc EJ			1	0.9%
	Rating Code in Error	D and F	0 171 or 195	0	

BR_100 for these bridges?

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		0	0.0%

Item 63	*Method of Analysis	CODE	COUNT	%
	Field Eval & Doc. Eng Judgment	0	1	0.9%
	Load testing	4	0	0.0%
	No Rating done	5	0	0.0%
	Load Factor (LF)	6	101	87.8%
	WS or AS	7	5	4.3%
	Load & Resistance Factor	8	8	7.0%
	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%
			115	100.0%

REMINDER:

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

LRFR required for bridges built after 2010

Inspection Condition Data - NBIS Bridges Only

Item 41	*Operating Status	CODE	COUNT	%
	Open, No restriction	A	114	99.1%
	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	0.9%
	Posted for other than load	R	0	0.0%
	Closed for other than load	X	0	0.0%
			115	100.0%

General Appraisal				CODE		COUNT	%
		9	Excellent	9		32	27.8%
GOOD	80.9%	8	Very good	8		31	27.0%
		7	Good	7		30	26.1%
FAIR	16.5%	6	Satisfactory	6		15	13.0%
		5	Fair	5		4	3.5%
		4	Poor	4		3	2.6%
POOR	2.6%	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%
						115	100.0%

FHWA Performance Measures

Performance		% Deck Area			Lowest of GA or Deck	COUNT	Deck s.f
			23.8%	9	Excellent	24	79,179
GOOD		83.5%	40.6%	8	Very good	38	134,914
			19.1%	7	Good	30	63,391
FAIR		15.1%	11.6%	6	Satisfactory	16	38,565
			3.5%	5	Fair	4	11,778
			1.4%	4	Poor	3	4,542
POOR		1.4%	0.0%	3	Serious	0	0
			0.0%	2	Critical	0	0
			0.0%	1	Imminent Failure	0	0
			0.0%	0	Closed	0	0
		100.0%	100.0%			115	332,370

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	2	1.7%
			1931-1940	4	3.5%
			1941-1950	3	2.6%
			1951-1960	1	0.9%
			1961-1970	7	6.1%
			1971-1980	10	8.7%
			1981-1990	31	27.0%
			1991-2000	23	20.0%
			2001-2010	22	19.1%
			2011-2020	12	10.4%
				115	100.0%

Load Rating Errors	COUNT
a) Load Rating Software (Item 708) shows not calculated but Method of Rating is calculated	3
b) Inv RF Too Low or Op RF Too High	2
c) Legal Load RF missing	2

Load Ratings Due	COUNT
SHV due end 2020 DONE	1
SHV load ratings Due end 2020	4
EV Load Ratings DONE	1
EV Load Ratings Due end 2022 - ON HOLD	10

2 EV Ratings done that are not part of the deadline

(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%	(C)
BIM -	18 months	0	100.0%	(C)

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	0		(C)
Culvert Span			
unusually long steel culvert spans	0		(C)
***Location**			
Item 9 Location	0		(C)
missing coordinates	0		(C)

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 approved PCA)
(NC) Not Compliant

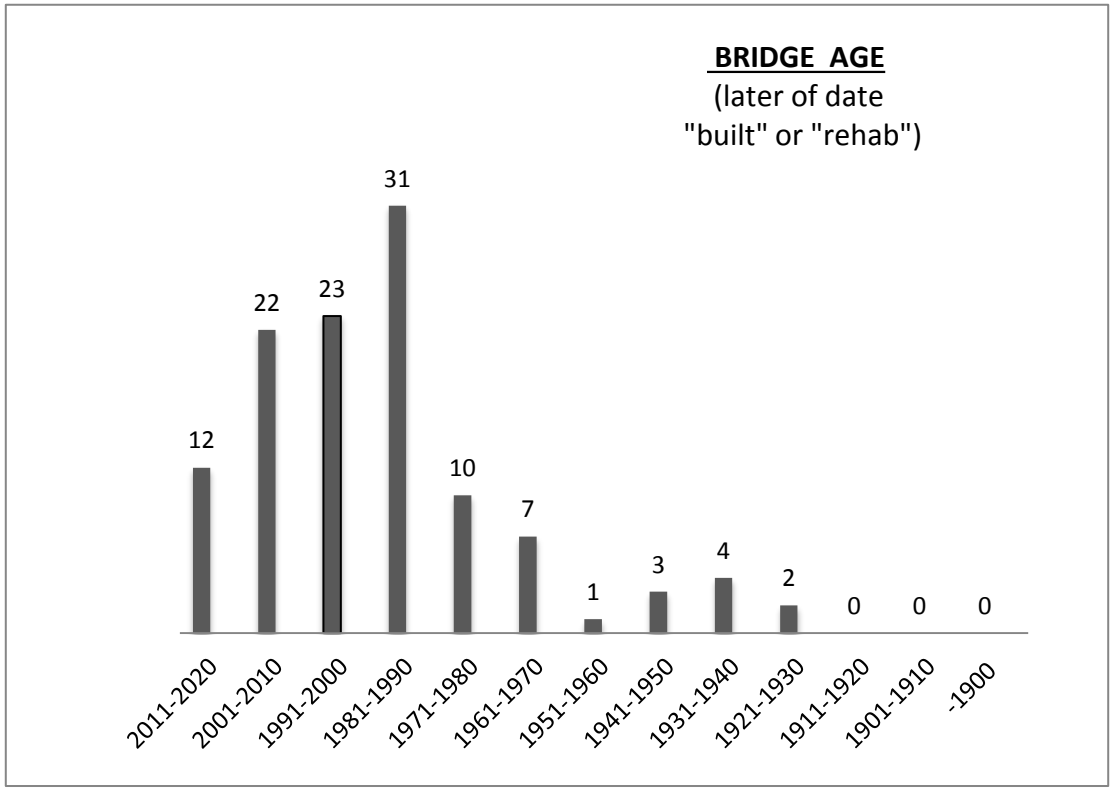
Metric	Description	(C)	(SC)	(CC)	(NC)
1	State Bridge Inspection Organization				
2	Program Manager Qualification				
3	Team Leader Qualification				
4	Load Rating Engineer Qualification				
5	UW Bridge Inspection Diver Qualification				
6	Routine Inspection Frequency - Low Risk				
7	Routine Inspection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

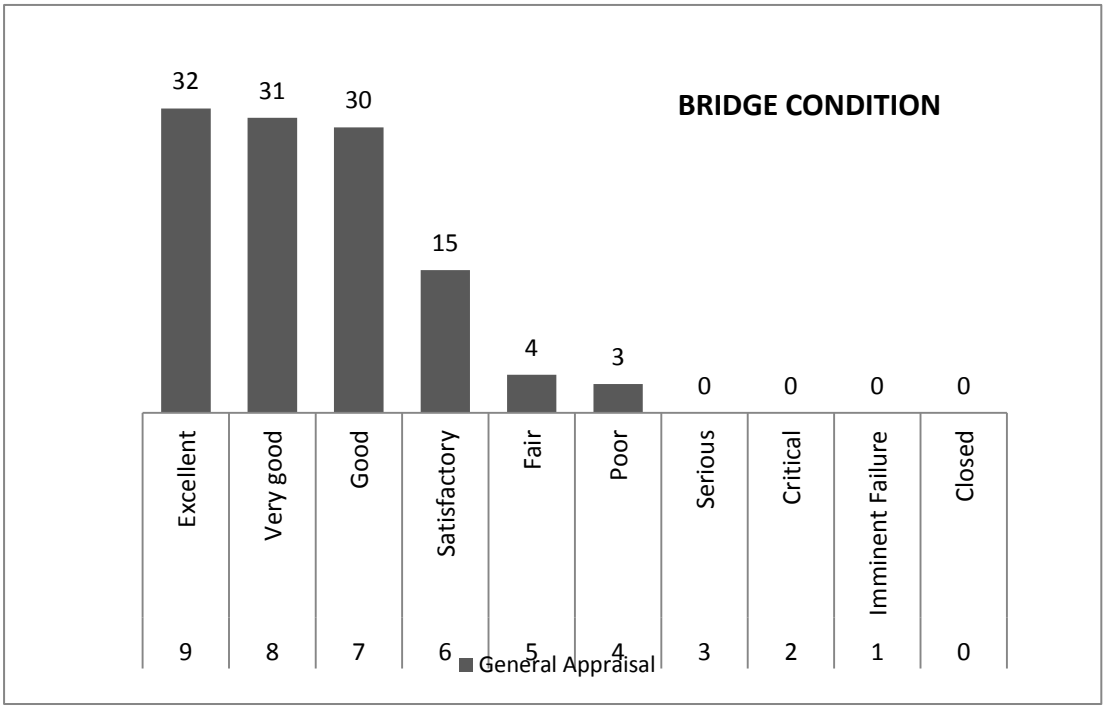
** based on results of Field Review

Metric	Action Needed

AGE VS. CONDITION

Overall Shape of AGE and CONDITION graphs typically mirror each other





GENERAL APPRAISAL COMPARISON