2018 INVENTORY, APPRAISAL & INSPECTION SNAPSHOT

Trumbull County

Inventory Data - BR 87 NBIS Bridges Only

	NBIS COUNT
NBIS Bridges > 20'	**180**
Bridges 10'-20'	**195**
	375

Possible NBIS length errors* 9

Item 221	Inspection Responsibility	CODE	COUNT	%
	County	3	180	100.0%
Item 21	**Maintenance responsibility***			
	County	3	179	99.4%
	City or other local	4	0	0.0%
	Railroad*	6	**1**	0.6%
			180	100.0%
Item 42A	**Type service on bridge**			
	Other	0	0	0.0%
	Highway	1	170	94.4%
	Railroad	2	0	0.0%
	Ped/Bikeway	3	0	0.0%
	Hwy/RR	4	0	0.0%
	Hwy/Ped	5	10	5.6%
	RR Abnd. rails rem'vd	A	0	0.0%
			180	100.0%
Item 42B	**Type service under bridge***			
	Hwy w/ or w/o Ped	1	0	0.0%
	Railroad*	2	**3**	1.7%
	Ped/Bkwy	3	0	0.0%
	Hwy w/ RR	4	0	0.0%
	Waterway	5	175	97.2%
	Hwy/Waterway	6	0	0.0%
	RR/Waterway*	7	2	1.1%
	Hwy/Wtrway/RR	8	0	0.0%
	Relief (RR w/o tracks)	9	0	0.0%
	Other	0	0	0.0%
			180	100.0%

ITEMS	Structure Type* (Items 43A, 43B, 43C)	CODE	COUNT	%
	composite arch filled	95	1	0.6%
	concrete slab simple	111	8	4.4%
	concrete slab continuous	112	7	3.9%
	concrete beam simple	121	6	3.3%
	concrete beam continuous	122	1	0.6%
	concrete arch deck	153	1	0.6%
	concrete arch filled	155	**1**	0.6%
	concrete frame simple	171	12	6.7%
	concrete frame continuous	172	1	0.6%
	concrete culvert filled	195	3	1.7%
	prestressed conc. beam simple	221	1	0.6%
	prestressed conc. beam continuous	222	1	0.6%
	prestressed conc. box beam simple	231	39	21.7%
	prestressed conc. box beam continuous	232	2	1.1%
	steel beam simple	321	53	29.4%
	steel beam continuous	322	10	5.6%
	steel culvert filled	395	22	12.2%
	Timber Truss Other*	440	**1**	0.6%
	aluminum culvert filled	695	1	0.6%
	Steel Truss Pony	34A	9	5.0%
			180	100.0%

Item 92A	Fracture Critical*	CODE		COUNT	%
	fracture critical member	Y		9	5.0%
	fracture critical member	N		153	85.0%
				162	90.0%
	No. of steel trusses and girders		34x, 36x	9	
	Fracture Critical File			**COUNT**	
	Required Fracture Critical Files (including written Procedure and FPD)	9	truss/girde	8	
	Gusset Pl. Analysis to be completed by December 31, 2011			**COUNT**	
	Required Gusset Plate Analysis		trusses	8	
			18 missing Y/N		

Item 92B	Underwater*	CODE	COUNT	%
	requires dive inspection	N	156	86.7%
	requires dive inspection	Y	0	0.0%
			156	0.0%
			17 missing Y/N	

Item 113	Scour			
	Bridge not over waterway	N	3	1.7%
	unknown foundation	U	0	0.0%
	over tidal waters	T	0	0.0%
	foundations on dry land	9	0	0.0%
	stable above footing	8	128	71.1%
	countermeasures installed	7	0	0.0%
	no scour evaluation made	6	0	0.0%
	stable within footer limits	5	37	20.6%
	stable action needed	4	12	6.7%
	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%
			180	100.0%

Scour Photos on Schedule?

Item 709	Plan Information*	CODE	COUNT	%
	no plans	0	23	12.8%
	plans available	1	136	75.6%
	field information	2	20	11.1%
	not applicable	N	0	0.0%
			179	99.4%
			1 blank	

Item 63	Documented Engineering Judgment		COUNT	%
	Field Eval & Doc EJ		18	10.0%
	Rating Code in Error	D and F (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%

13 GVW items missing

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*		0	0.0%

Item 63	Method of Analysis	CODE	COUNT	%
	Field Eval & Doc. Eng Judgment	0	18	10.0%
	Load testing	4	0	0.0%
	No Rating done	5	0	0.0%
	Load Factor (LF)	6	127	70.6%
	WS or AS	7	4	2.2%
	Load & Resistance Factor	8	30	16.7%
	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%
			179	99.4%
		1 retired		

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

Performance	% Deck Area	General Appraisal	CODE	COUNT	%
		9 Excellent	9	50	27.8%
GOOD	**46.0%**	8 Very good	8	24	13.3%
		7 Good	7	28	15.6%
FAIR	**36.0%**	6 Satisfactory	6	21	11.7%
		5 Fair	5	23	12.8%
		4 Poor	4	23	12.8%
POOR	**18.0%**	3 Serious	3	8	4.4%
		2 Critical	2	2	1.1%
		1 Imminent Failure	1	1	0.6%
		0 Closed	0	0	0.0%
				180	100.0%

Performance		% Deck Area / s.f.			Lowest of GA or Deck		COUNT	% of Br's
			105,501	9	Excellent		45	25.0%
GOOD		**46.0%**	42,220	8	Very good	51.7%	22	12.2%
			42,770	7	Good		26	14.4%
FAIR		**36.0%**	67,509	6	Satisfactory		26	14.4%
			81,217	5	Fair	26.1%	21	11.7%
			62,701	4	Poor		27	15.0%
POOR		**18.0%**	8,240	3	Serious	20.6%	9	5.0%
			1,280	2	Critical		1	0.6%
				1	Imminent Failure			0.0%
				0	Closed			0.0%

Performance Measure	NHS Bridges	Lowest of GA or Deck	Deck Area
TRU-WMRKT-0000003_(7835566)	WEST MARKET ST	4	18330
TRU-C0322-2300 _(7834888)	COUNTY ROAD 322	4	3096

Item 41	Operating Status*	CODE	COUNT	%
	Open, No restriction	A	164	91.1%
	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	2	1.1%
	Posted for load capacity*	P	13	7.2%
	Posted for other than load	R	0	0.0%
	Closed for other than load*	X	1	0.6%
			180	100.0%

Items	AGE of BRIDGES	(Items 27, 106)	YEAR (built or rehab)	COUNT	
			-1900	0	0.0%
			1901-1910	0	0.0%
			1911-1920	1	0.6%
			1921-1930	4	2.2%
			1931-1940	11	6.1%
			1941-1950	6	3.3%
			1951-1960	6	3.3%
			1961-1970	6	3.3%
			1971-1980	18	10.0%
			1981-1990	27	15.0%
			1991-2000	36	20.0%
			2001-2010	31	17.2%
			2011-2020	34	18.9%
				180	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	0	depends on sample size
Culvert Span		
unusually long steel culvert spans	0	depends on sample size
Location		
Item 9 Location	1	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

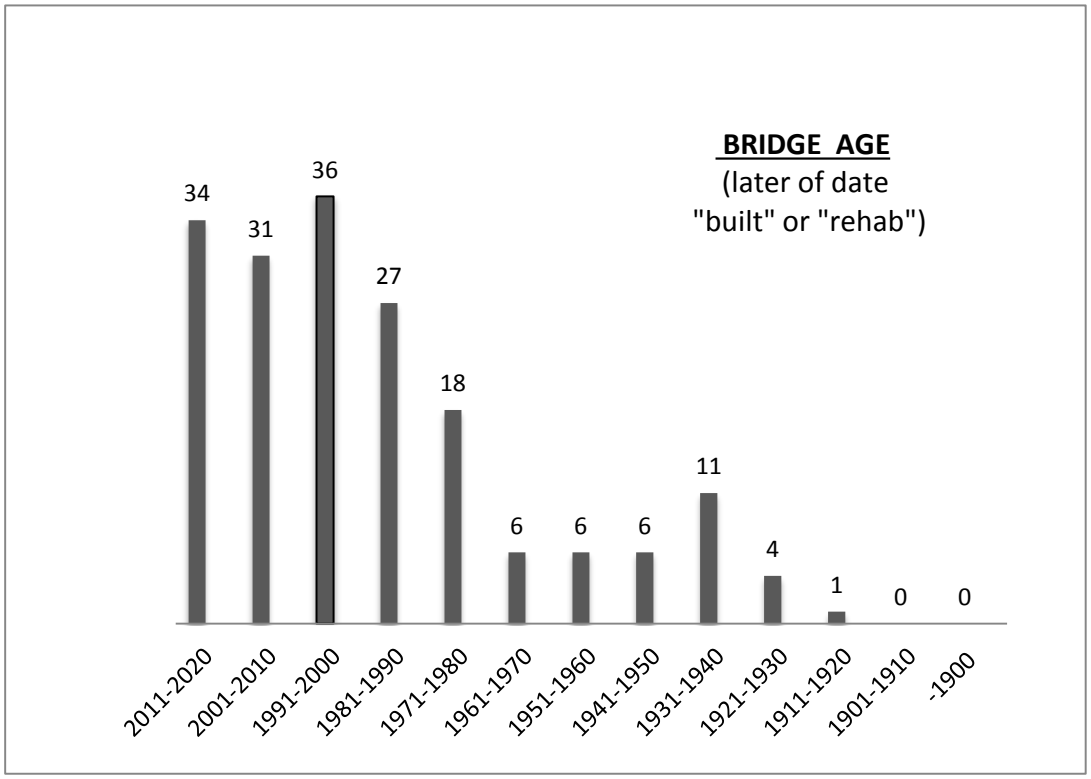
Metric	Description	(C)	(SC)	(CC)	(NC)
1	State Bridge Inspection Organization				
2	Program Manager Qualification				
3	Team Leader Qualification				
4	Load Rating Engineer Qualification				
5	UW Bridge Inspection Diver Qualification				
6	Routine Inspection Frequency - Low Risk				
7	Routine Inspection 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 ** 97%				
23	Updating of Data				

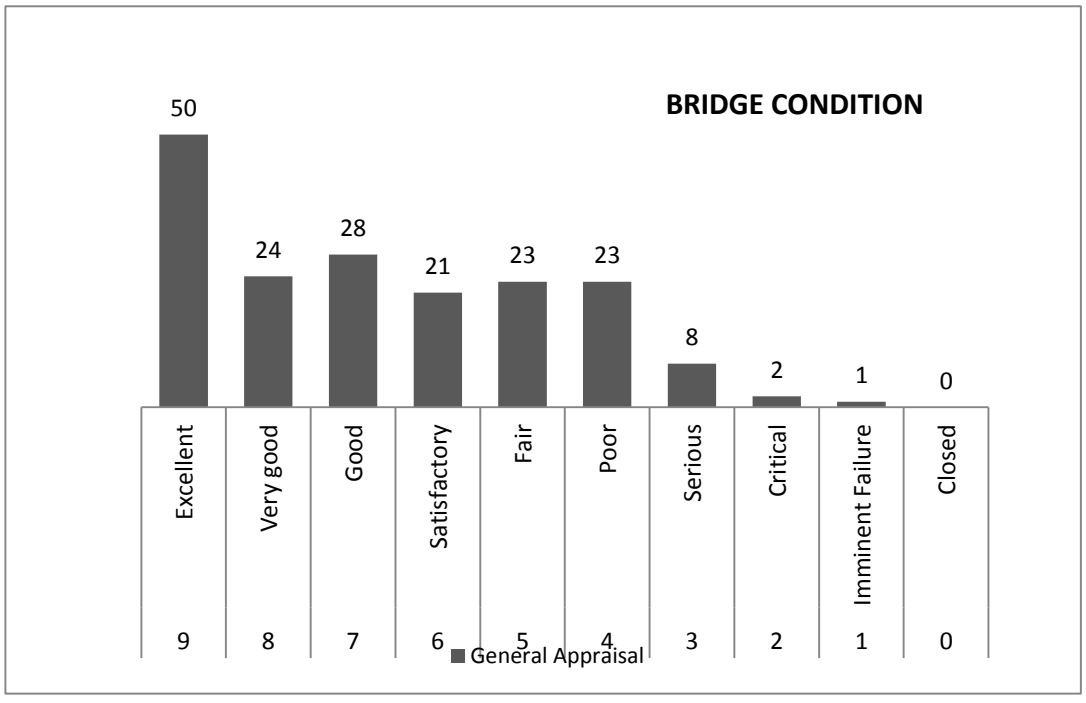
** based on results of Field Review

Metric	Action Needed

AGE VS. CONDITION

Overall Shape of AGE and CONDITION graphs typically mirror each other





GENERAL APPRAISAL COMPARISON