

2018 INVENTORY, APPRAISAL & INSPECTION SNAPSHOT

Ross County

Inventory Data - BR 87 NBIS Bridges Only

	<u>NBIS COUNT</u>
NBIS Bridges > 20'	223
Bridges 10'-20'	<u>208</u>
	431

*Possible NBIS length errors 19

Item	Inspection Responsibility	CODE	COUNT	%
Item 221	County	3	223	100.0%
Item 21	Maintenance responsibility			
	County	3	223	100.0%
	City or other local	4	0	0.0%
	Railroad	6	0	0.0%
	Private	7	0	0.0%
	Combination	8	0	0.0%
	ODNR	A	0	0.0%
	Park District	C	0	0.0%
	Township	F	0	0.0%
			223	100.0%
Item 42A	*Type service on bridge			
	Other	0	0	0.0%
	Highway	1	223	100.0%
	Railroad	2	0	0.0%
	Hwy/RR	4	0	0.0%
	Hwy/Ped	5	0	0.0%
	RR Abnd. rails rem'vd	A	0	0.0%
			223	100.0%
Item 42B	*Type service under bridge			
	Hwy w/ or w/o Ped	1	0	0.0%
	Railroad	2	4	1.8%
	Hwy w/ RR	4	0	0.0%
	Waterway	5	219	98.2%
	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%
			223	100.0%

ITEMS	*Structure Type (Items 43A, 43B, 43C)	CODE	COUNT	%
	concrete slab simple	111	16	7.2%
	concrete slab continuous	112	4	1.8%
	concrete beam simple	121	8	3.6%
	concrete box beam simple	131	20	9.0%
	concrete frame simple	171	1	0.4%
	prestressed conc. beam simple	221	1	0.4%
	prestressed conc. box beam simple	231	90	40.4%
	prestressed conc. box beam continuous	232	11	4.9%
	steel beam simple	321	35	15.7%
	steel beam continuous	322	19	8.5%
	steel girder deck	363	1	0.4%
	steel culvert filled	395	3	1.3%
	timber truss thru	444	1	0.4%
	steel truss pony	34A	13	5.8%
			223	100.0%

Item 92A	*Fracture Critical	CODE	COUNT	%
	fracture critical member	Y	17	7.6%
	fracture critical member	N	206	92.4%
			223	100.0%
	No. of steel trusses and girders	34x, 36x	14	

3 steel beams = FC

Item 113	Scour			
	Bridge not over waterway	N	4	1.8%
	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	197	88.3%
	countermeasures installed	7	0	0.0%
	no scour evaluation made	6	0	0.0%
	stable within footer limits	5	22	9.9%
	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%
			223	100.0%

Scour Photos on Schedule?

Item 92B Underwater	CODE	COUNT	%
requires dive inspection	N	220	98.7%
requires dive inspection	Y	0	0.0%
dive inspection dates		3	1.3%
		223	100.0%

Item 709 *Plan Information	CODE	COUNT	%
no plans	0	15	6.7%
plans available	1	204	91.5%
field information	2	4	1.8%
not applicable	N	0	0.0%
		223	100.0%

Item 63 *Documented Engineering Judgment	COUNT	%
Field Eval & Doc EJ*	14	6.3%
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	0	0.0%

Non-NBIS - 40

Item 63 *Method of Analysis	CODE	COUNT	%
Field Eval & Doc. Eng Judgment	0	14	6.3%
Load testing	4	0	0.0%
No Rating done	5	0	0.0%
Load Factor (LF)	6	201	90.1%

WS or AS	7	1	0.4%
Load & Resistance Factor	8	7	3.1%
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%
		223	100.0%

REMINDER:

Load Factor required for bridges built after 1993
LRFR required for bridges built after 2010 (with certain exceptions)

NON-NBIS bridges switch from code 5 to code 0

Inspection Condition Data - BR 86 NBIS Bridges Only

Item 41	Operating Status	CODE	COUNT	%
	Open, No restriction	A	216	96.9%
	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	7	3.1%
	Posted for other than load	R	0	0.0%
	Closed for other than load	X	0	0.0%
			223	100.0%

General Appraisal		CODE	COUNT	%		
GOOD	40.8%	9 Excellent	9	2	0.9%	
		8 Very good	8	16	7.2%	
		7 Good	7	73	32.7%	
FAIR	51.6%	6 Satisfactory	6	74	33.2%	
		5 Fair	5	41	18.4%	
POOR	7.6%	4 Poor	4	12	5.4%	
		3 Serious	3	5	2.2%	
		2 Critical	2	K	0	0.0%
		1 Imminent Failure	1	K	0	0.0%
		0 Closed	0	K	0	0.0%
			223	100.0%		

FHWA Performance Measures

Performance		% Deck Area			Lowest of GA or Deck	COUNT	Deck s.f
GOOD		54.9%	0.9%	9	Excellent	2	3,870
			6.8%	8	Very good	16	29,293
			47.2%	7	Good	73	203,323
FAIR		41.0%	28.8%	6	Satisfactory	74	124,125
			12.2%	5	Fair	41	52,637
POOR		4.0%	3.2%	4	Poor	12	13,749
			0.9%	3	Serious	5	3,691
			0.0%	2	Critical	0	0
			0.0%	1	Imminent Failure	0	0
			0.0%	0	Closed	0	0
		100.0%	100.0%			223	430,687

Items	AGE of BRIDGES	(Items 27, 106)	YEAR (built or rehab)	COUNT	
			-1900	2	0.9%
			1901-1910	0	0.0%
			1911-1920	0	0.0%
			1921-1930	4	1.8%
			1931-1940	12	5.4%
			1941-1950	4	1.8%
			1951-1960	0	0.0%
			1961-1970	5	2.2%
			1971-1980	19	8.5%
			1981-1990	43	19.3%
			1991-2000	90	40.4%
			2001-2010	23	10.3%
			2011-2020	21	9.4%
				223	100.0%

Load Data errors	COUNT	%
Rating factors	88	39.5%
Software code	2	0.9%
GVW	1	0.4%

Load Ratings Due	COUNT
due by 2019	0
due by 2020	7
On HOLD	19

(C) Compliant

(SC)	Substantially Compliant
(CC)	Conditionally Compliant (Adhering to approved plan 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%	(SC)
BIM - 18 months	0	100.0%	(SC)

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 approved PCA)
- (NC) Not Compliant

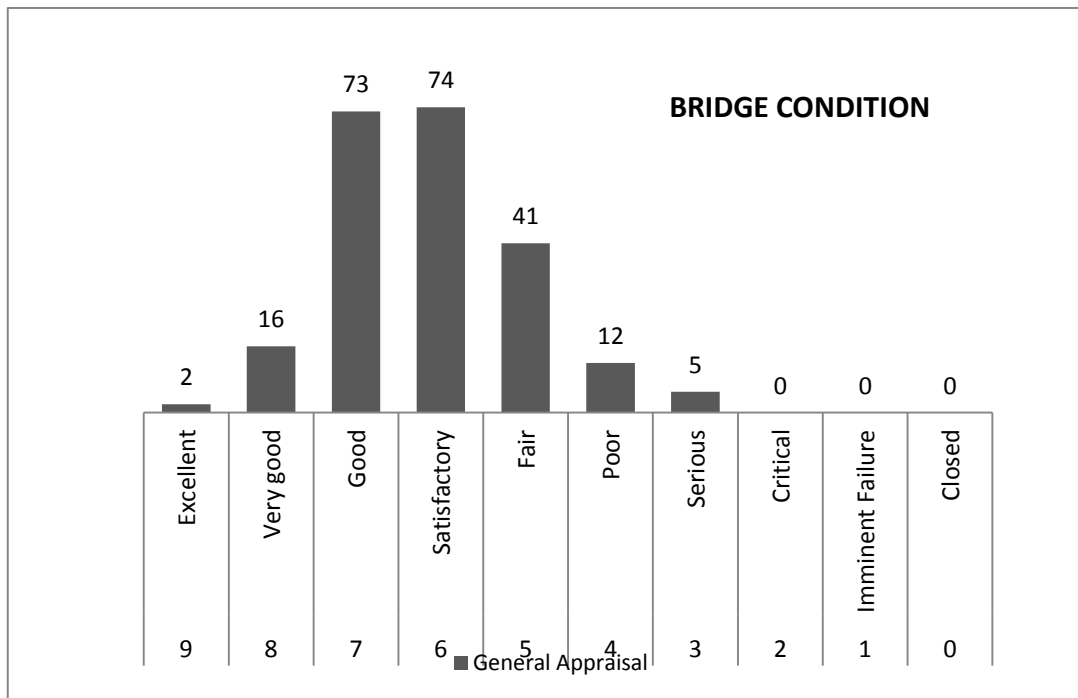
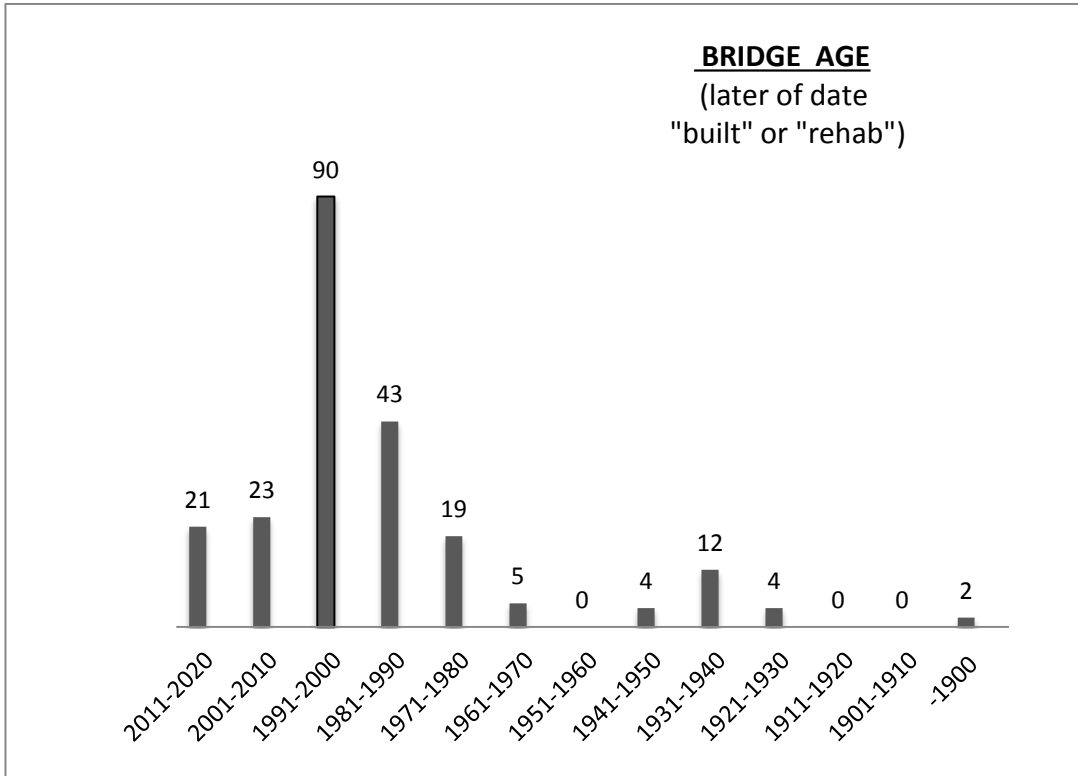
Metric	Description	(C)	(SC)	(CC)	(NC)
1	State Bridge Inspection Organization				
2	Program Manager Qualification				
3	Team Leader Qualification				
4	Load Rating Engineer Qualification				
5	UW Bridge Inspection Diver Qualification				
6	Routine Inspection Frequency - Low Risk				
7	Routine Inspection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

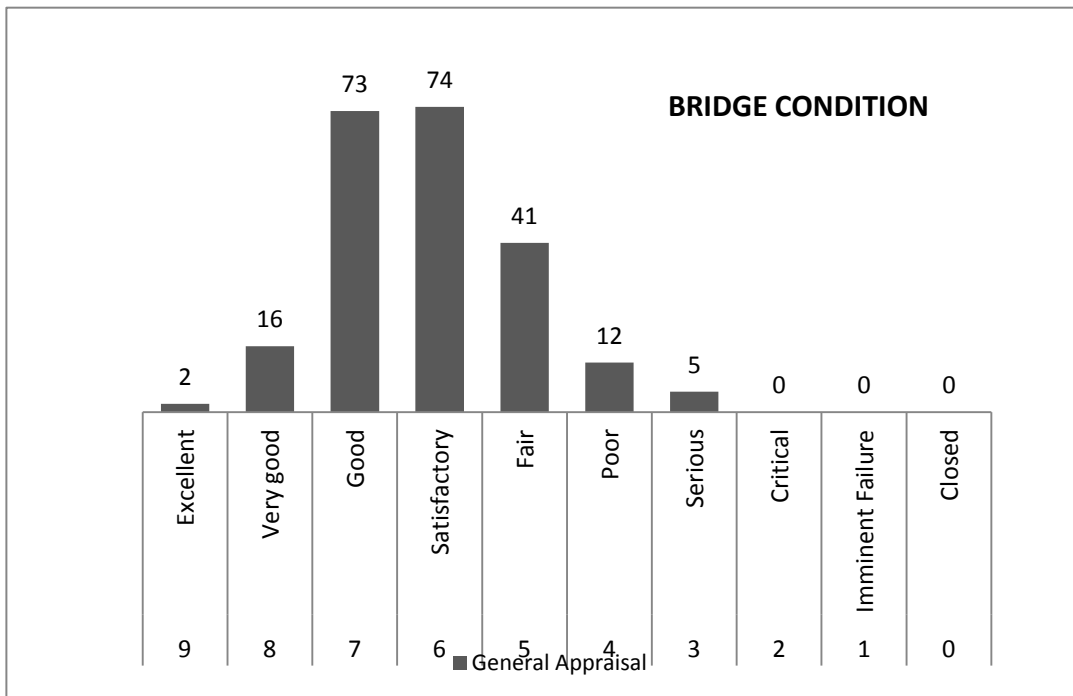
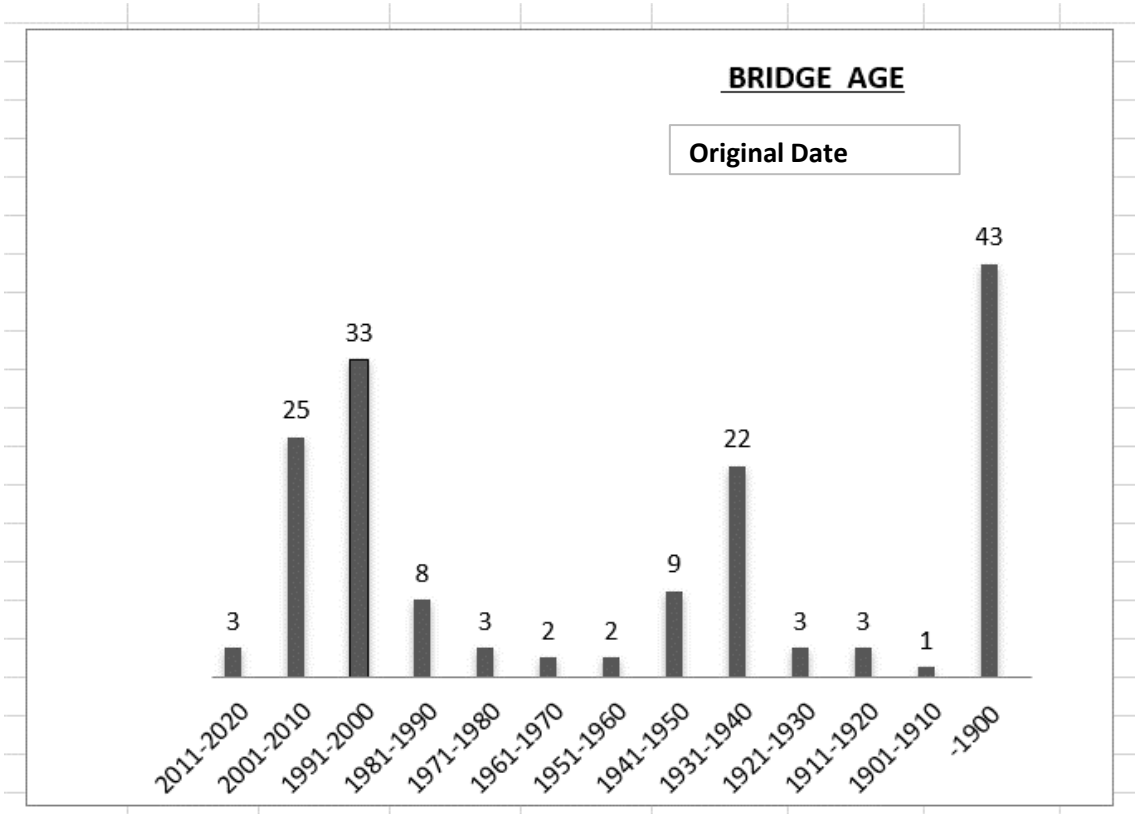
Metric	Action Needed

AGE VS. CONDITION

Overall Shape of AGE and CONDITION graphs typically mirror each other



AGE VS. CONDITION



GENERAL APPRAISAL COMPARISON

