2018 INVENTORY, APPRAISAL & INSPECTION SNAPSHOT

Erie County

Inventory Data - BR 87 NBIS Bridges Only

	NBIS COUNT
NBIS Bridges > 20'	**83**
Bridges 10'-20'	**55**
	138
***Possible NBIS length errors**	**5**

Item 221	Inspection Responsibility	CODE	COUNT	%
	County	3	83	100.0%
Item 21	**Maintenance responsibility**			
	County	3	83	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%
			83	100.0%
Item 42A	***Type service on bridge**			
	Other	0	0	0.0%
	Highway	1	83	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%
			83	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	0	0.0%
	Waterway	5	83	100.0%
	Hwy/Waterway	6	0	0.0%
	RR/Waterway	7	0	0.0%
	Other	0	0	0.0%
			83	100.0%

ITEMS	*Structure Type (Items 43A, 43B, 43C)	CODE	COUNT	%
	concrete slab simple	111	3	3.6%
	concrete slab continuous	112	3	3.6%
	concrete frame simple	171	6	7.2%
	concrete culvert filled	195	8	9.6%
	prestressed conc. beam simple	221	1	1.2%
	prestressed conc. box beam simple	231	50	60.2%
	prestressed conc. box beam continuous	232	2	2.4%
	steel beam simple	321	4	4.8%
	steel beam continuous	322	2	2.4%
	steel culvert filled	395	3	3.6%
	stone culvert filled	595	1	1.2%
			83	100.0%

Item 92A	*Fracture Critical	CODE	COUNT	%
	fracture critical member	Y	0	0.0%
	fracture critical member	N	82	98.8%
			82	98.8%
	No. of steel trusses and girders	34x, 36x	0	

1 bridge missing FC Y/N

Item 92B	Underwater	CODE	COUNT	%
	requires dive inspection	N	81	97.6%
	requires dive inspection	Y	0	0.0%
	dive inspection dates		1	1.2%
			82	98.8%

1 bridge missing Dive= Y/N

Item 113	Scour			
	Bridge not over waterway	N	0	0.0%
	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	22	26.5%
	countermeasures installed	7	0	0.0%
	no scour evaluation made	6	0	0.0%
	stable within footer limits	5	61	73.5%
	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%
			83	100.0%

Scour Photos on Schedule?

Item 709	*Plan Information	CODE	COUNT	%
	no plans	0	4	4.8%
	plans available	1	78	94.0%
	field information	2	1	1.2%
	not applicable	N	0	0.0%
			83	100.0%

Item 63	*Documented Engineering Judgment			COUNT	%
	Field Eval & Doc EJ*			2	2.4%
	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 580	*Deep Culverts (depth of fill)		COUNT	%
	Culvert	fill>6.5'	1	1.2%

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	2	2.4%
	Load testing	4	0	0.0%
	No Rating done	5	0	0.0%
	Load Factor (LF)	6	12	14.5%
	WS or AS	7	4	4.8%
	Load & Resistance Factor	8	63	75.9%
	Assigned Rating (LFR) HS20	D	2	2.4%
	Assigned Rating (LRFR) HL93	F	0	0.0%
	Not applicable (Ped, RR, Bldg)	X	0	0.0%
			83	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

Item 41	Operating Status	CODE	COUNT	%
	Open, No restriction	A	80	96.4%
	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	3	3.6%
	Posted for other than load	R	0	0.0%
	Closed for other than load	X	0	0.0%
			83	100.0%

		General Appraisal	CODE		COUNT	%
		9 Excellent	9		5	6.0%
GOOD	75.9%	8 Very good	8		29	34.9%
		7 Good	7		29	34.9%
FAIR	24.1%	6 Satisfactory	6		18	21.7%
		5 Fair	5		2	2.4%
		4 Poor	4		0	0.0%
POOR	0.0%	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%
					83	100.0%

FHWA Performance Measures

Performance		% Deck Area			Lowest of GA or Deck	COUNT	Deck s.f
			8.7%	9	Excellent	5	13,183
GOOD		78.6%	25.1%	8	Very good	25	38,113
			44.8%	7	Good	32	68,175
FAIR		21.4%	19.6%	6	Satisfactory	18	29,860
			1.8%	5	Fair	3	2,723
			0.0%	4	Poor	0	0
POOR		0.0%	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%			83	152,054

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

Items	AGE of BRIDGES	(Items 27, 106)	YEAR (built or rehab)	COUNT	
			-1900	1	1.2%
			1901-1910	0	0.0%
			1911-1920	0	0.0%
			1921-1930	0	0.0%
			1931-1940	0	0.0%
			1941-1950	0	0.0%
			1951-1960	1	1.2%
			1961-1970	10	12.0%
			1971-1980	12	14.5%
			1981-1990	7	8.4%
			1991-2000	8	9.6%
			2001-2010	35	42.2%
			2011-2020	9	10.8%
				83	100.0%

LOAD RATING DEADLINES		Deadline	Total	Complete	Remaining
EV & SHV	< 1mile from Interstate	end 2019	0	0	0
EV & SHV	> 1 mile from Interstate	HOLD	16	16	0
SHV & EV	<138% and < 200' span	end 2020	32	32	0

EV: **HL93<0.9, HS20< 1.0, Distance from Interstate**

SHV: **Controlling RF<1.38, < 200' span**

(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%	(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	#DIV/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	2	depends on sample size
***Location**		
Item 9 Location	138	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

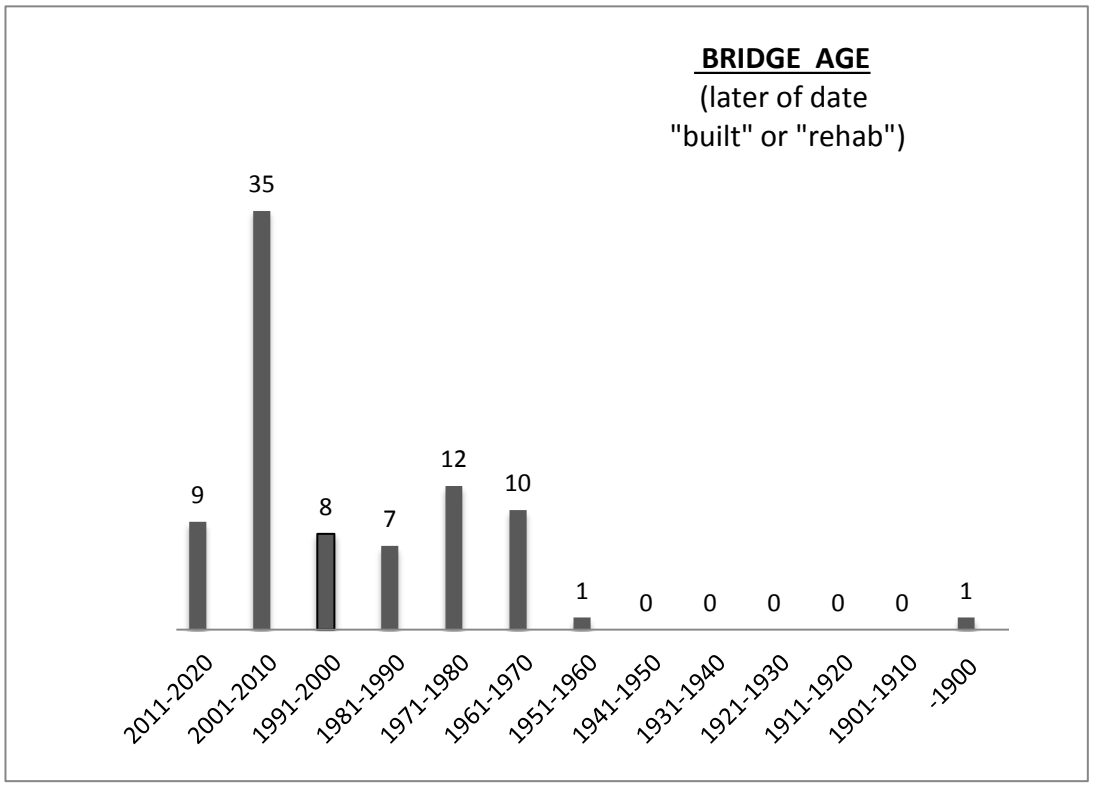
Metric	Description	(C)	(SC)	(CC)	(NC)
1	State Bridge Inspection Organization				
2	Program Manager Qualification				
3	Team Leader Qualification				
4	Load Rating Engineer Qualification				
5	UW Bridge Inspection Diver Qualification				
6	Routine Inspection Frequency - Low Risk				
7	Routine Inspection 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 ** 96%				
23	Updating of Data				

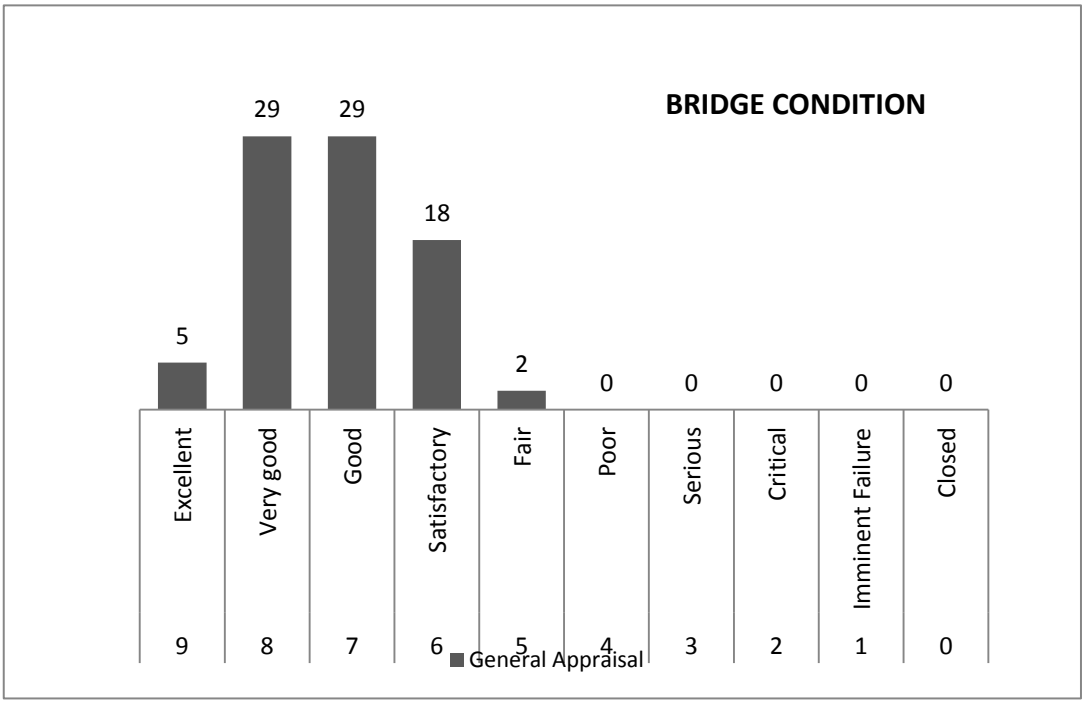
** based on results of Field Review

Metric	Action Needed

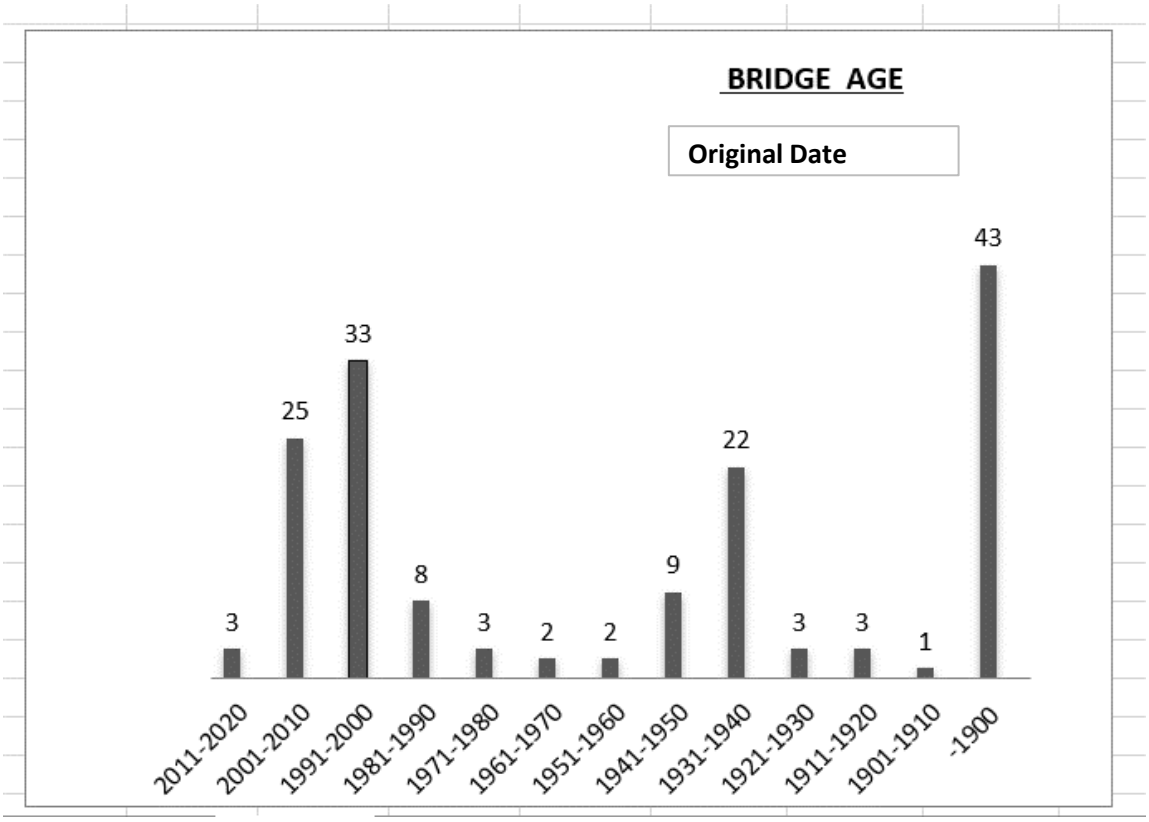
AGE VS. CONDITION

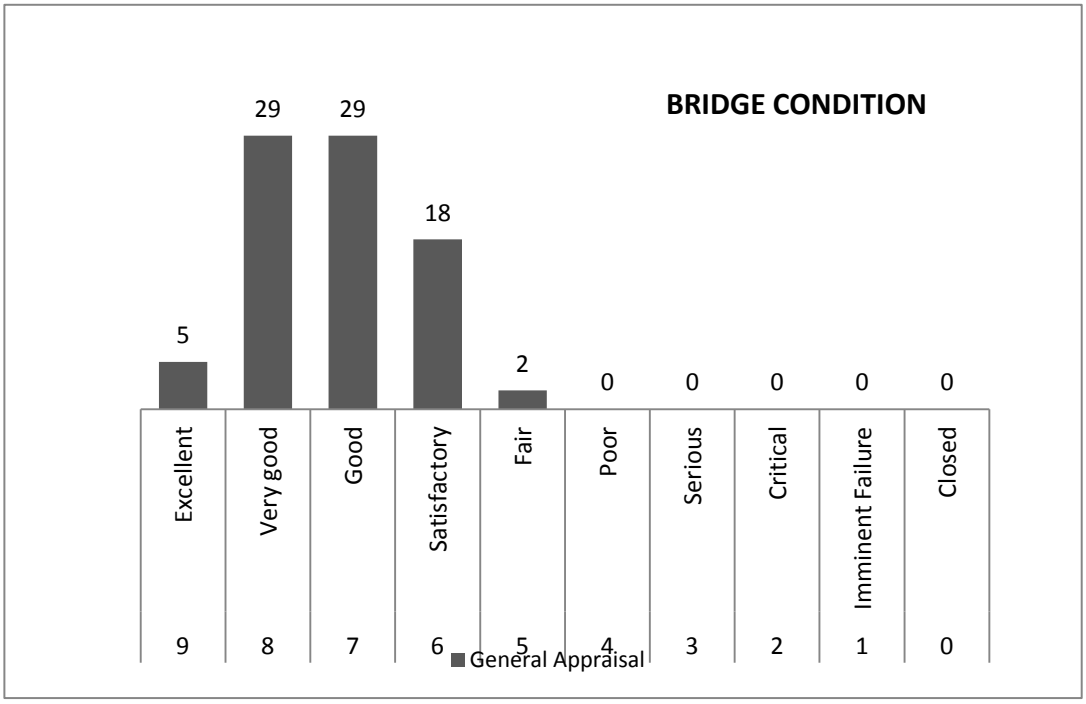
Overall Shape of AGE and CONDITION graphs typically mirror each other





AGE VS. CONDITION





GENERAL APPRAISAL COMPARISON