2014 INVENTORY, APPRAISAL & INSPECTION SNAPSHOT

VINTON COUNTY ENGINEER

Inventory Data - BR 87 NBIS Bridges Only

Bridges Inspected	NBIS COUNT	County
NBIS Bridges > 20'	119	122
Bridges 10'-20'	91	89
	210	211

Possible NBIS length errors 10 *

Item 95	Inspection Responsibility	CODE	COUNT	%
	County	3	119	100.0%
Item 97	**Maintenance responsibility**			
	County	3	119	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%
			119	100.0%
Item 100	**Type service on bridge**			
	Other	0	0	0.0%
	Highway	1	117	98.3%
	Railroad	2	0	0.0%
	Ped/Bikeway *	3	2	1.7%
	Hwy/RR	4	0	0.0%
	Hwy/Ped	5	0	0.0%
	RR Abnd. rails rem'vd	A	0	0.0%
			119	100.0%

Item 100	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	119	100.0%
	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%
			119	100.0%

	Structure Type	CODE	COUNT	%
	concrete slab simple	111	31	26.1%
	concrete slab continuous	112	2	1.7%
	concrete girder thru	164	1	0.8%
	concrete frame simple	171	1	0.8%
	concrete culvert filled	195	2	1.7%
	prestressed conc. box beam simple	231	9	7.6%
	prestressed conc. box beam continuous	232	2	1.7%
	steel beam simple	321	40	33.6%
	steel beam continuous	322	3	2.5%
	steel truss thru	344	25	21.0%
	timber truss thru	444	3	2.5%
			119	100.0%

Item 188	Fracture Critical		CODE		COUNT	%
		fracture critical member	Y		25	21.0%
		fracture critical member	N		94	79.0%
					119	100.0%
		No. of steel trusses and girders	*	34x, 36x	25	
					VEH TRAFFIC	
	Fracture Critical File	to be completed by April 1, 2013			**COUNT**	
	Required Fracture Critical Files (including written Procedure and FPD)			25 truss/girde	25	
	Gusset Pl. Analysis	to be completed by December 31, 2011			**COUNT**	
	Required Gusset Plate Analysis			25 trusses	25	

Item 189	Underwater	CODE	COUNT	%
	requires dive inspection	N	119	100.0%
	requires dive inspection	Y	0	0.0%
	dive inspection dates		0	0.0%

Item 74	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		49	41.2%
	countermeasures installed	7		0	0.0%
	no scour evaluation made	6		0	0.0%
	stable within footer limits	5		70	58.8%
	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%
				119	100.0%

Item 71	Foundation Type				
	Compare with Scour "Unkown Foundation"				
	Forward Abutment	*	U	65	1.4%
	Rear Abutment		U	65	1.4%
	Predominate Pier		U	63	52.9%
			Single Span	55	

Item 87	Plan Information	CODE	COUNT	%
	no plans	0	23	19.3%
	plans available	1	45	37.8%
	field information	2	51	42.9%
	not applicable	N	0	0.0%
			119	100.0%

	Load Factor		COUNT	%
	Operating RF and Inventory RF equal to each other	*	4	3.4%

	Method of Rating = 0 NO PLANS	COUNT	%
		23	19.3%

	Method Of Rating = 5	COUNT	%
		2	1.7%
		Ped Bridges OK	

	Deep Culverts		COUNT	%
	Culvert	fill>6.5'	0	0.0%

195 Culvert vs 171 Frame	COUNT	%
# that do NOT meet the 2' Rule	0	0.0%

Item 84	Method of Analysis	CODE	COUNT	%
	Field Eval & Doc. Eng Judgment	0	23	19.3%
	WS or AS	1	34	28.6%
	Load Factor (LF)	2	50	42.0%
	Load & Resistance Factor	3	0	0.0%
	Combination of methods	4	10	8.4%
	Engineering Judgment Superstr	5	2	1.7%
	Load testing	6	0	0.0%
	Engineering Judgment Substr	7	0	0.0%
	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%
			119	80.7%

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	12	10.1%
8 Very good	8	30	25.2%
7 Good	7	20	16.8%
6 Satisfactory	6	22	18.5%
5 Fair	5	22	18.5%
4 Poor	4	10	8.4%
3 Serious	3	3	2.5%
2 Critical	2	0	0.0%
1 Imminent Failure	1	0	0.0%
0 Closed	0	0	0.0%

Rating Consistency		COUNT	%
GA <> Summary Items		0	0.0%
1-4 codes <> Summary	*	30	1.2%

INSPECTION FREQUENCY				COUNT
Number inspections per day				
	Inspector	BS	Avg.	11.3
			High	16
	Inspector	PT	Avg.	10.2
			High	13
	Inspector	JM	Avg.	7.6
			High	13
Recommended Max. 10 per day			# days over 10	10
Maximum 50 reviews per day				

Operating Status	CODE		COUNT	%
Open, No restriction	A		91	76.5%
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	*	20	16.8%
Posted for other than load	R		7	5.9%
Closed for other than load	X	Ped br	1	0.8%
			119	100.0%

Item 41	AGE of BRIDGES	YEAR (built or rehab)	COUNT	
		-1900	2	1.7%
		1901-1910	0	0.0%
		1911-1920	4	3.4%
		1921-1930	0	0.0%
		1931-1940	15	12.6%
		1941-1950	2	1.7%
		1951-1960	20	16.8%
		1961-1970	8	6.7%
		1971-1980	7	5.9%
		1981-1990	14	11.8%
		1991-2000	24	20.2%
		2001-2010	16	13.4%
		2011-2020	7	5.9%
			119	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 -	12 mo. + 6 mo. Input	0	100.0%	N/A

ORC is not in Metric 6

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 (GA=A or R)	0	100.0%	(C)
Bridges to be posted but aren't (GA 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
LAT/LONG		
missing coordinates	0	depends on sample size

PRELIMINARY FHWA 23 Metric Matrix

23 metrics used by FHWA to measure NBIS compliance

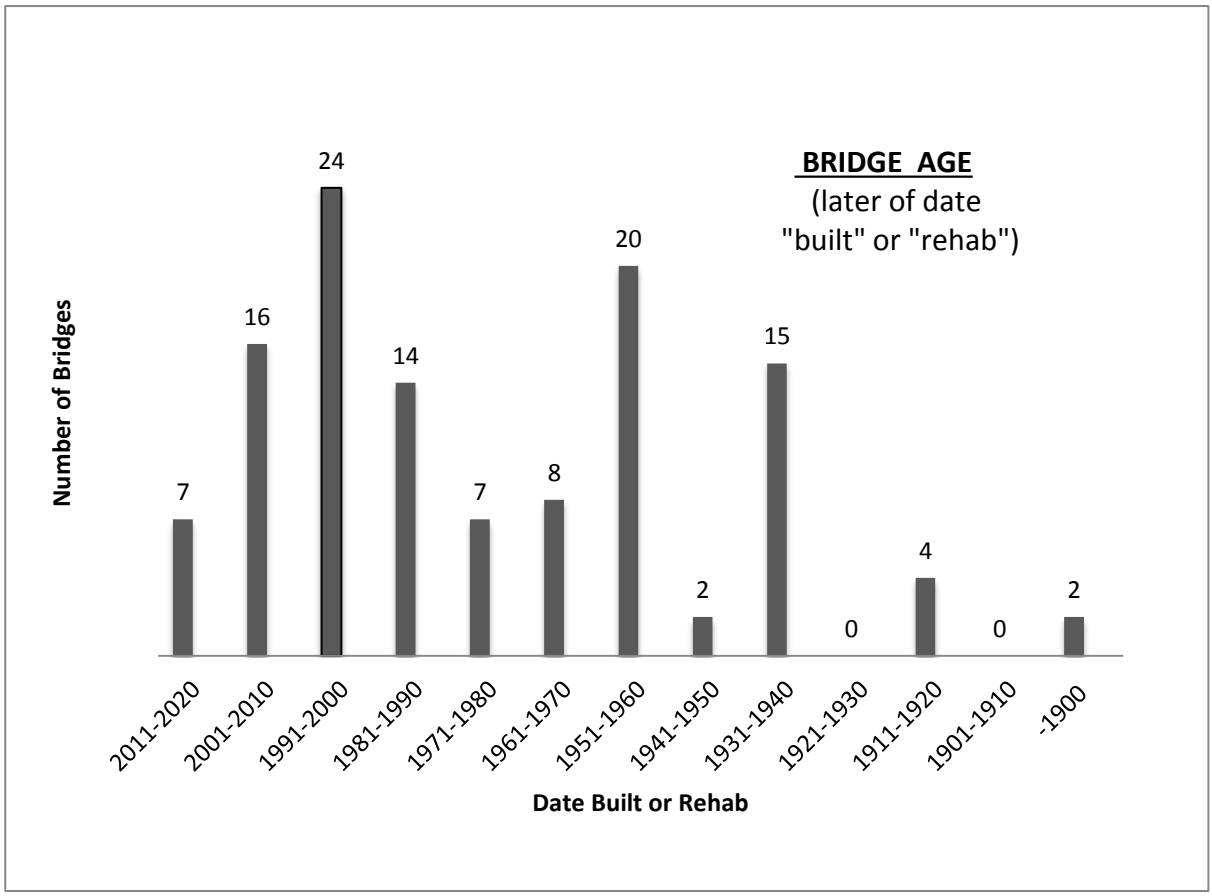
Compliance Codes for the following Metrics:

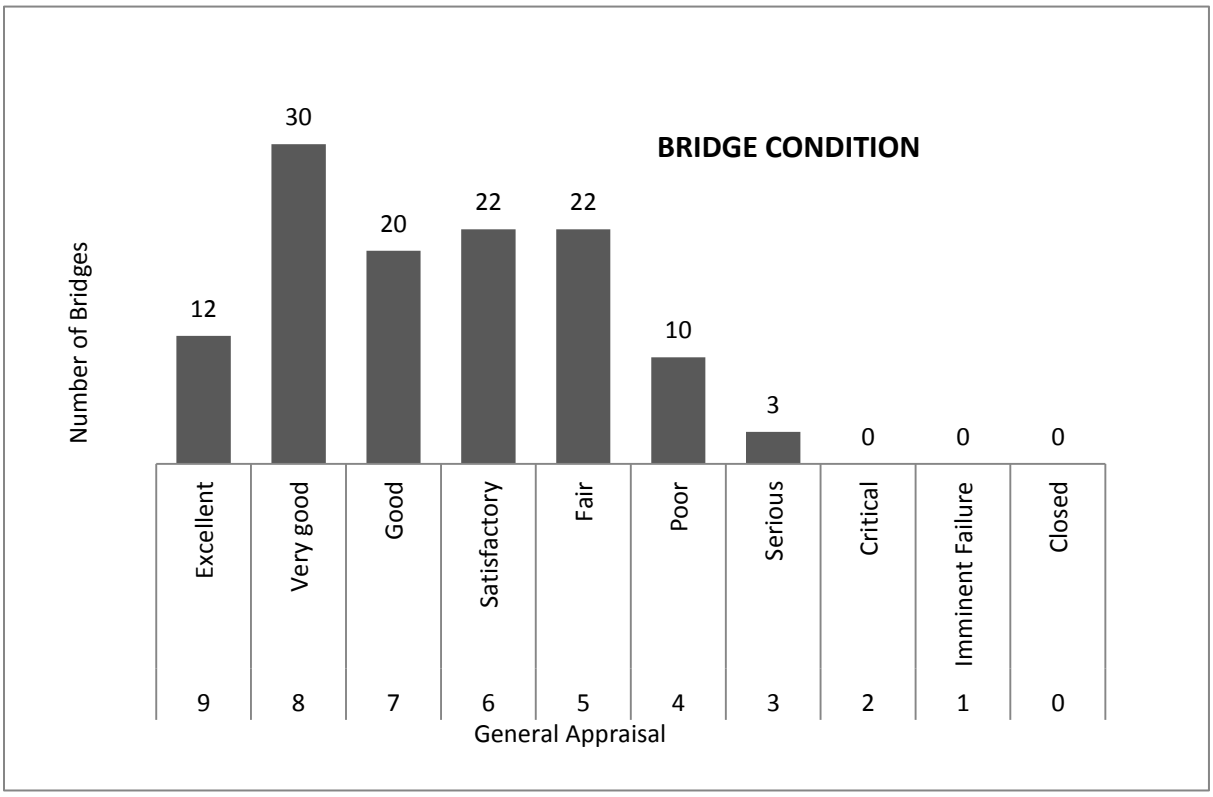
(C) Compliant
(SC) Substantially Compliant
(CC) Conditionally Compliant (Adherin
(NC) Not Compliant

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 ** 97%				
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 ** 93%				
23	Updating of Data				

** based on results of Field Review

Metric	Action Needed
2	PM needs Refresher class within year
12	All Ratings should be within 1 value of the MBI
13	PE stamp and signature needed. Documentation for Engineering Judgment needed
22	Check inventory items during next cycle of inspection


BRIDGE AGE
(later of date "built" or "rehab")
Number of Bridges
7
16
24
14
7
8
20
2
15
0
4
0
2
2011-2020
2001-2010
1991-2000
1981-1990
1971-1980
1961-1970
1951-1960
1941-1950
1931-1940
1921-1930
1911-1920
1901-1910
-1900
Date Built or Rehab


BRIDGE CONDITION
Number of Bridges
12
30
20
22
22
10
3
0
0
0
Excellent
Very good
Good
Satisfactory
Fair
Poor
Serious
Critical
Imminent Failure
Closed
9
8
7
6
5
4
3
2
1
0
General Appraisal

GENERAL APPRAISAL COMPARISON