

2013 INVENTORY, APPRAISAL & INSPECTION SNAPSHOT

MONTGOMERY COUNTY ENGINEER

Inventory Data - BR 87 NBIS Bridges Only

	<u>NBIS COUNT</u>
NBIS Bridges > 20'	290
Bridges 10'-20'	<u>191</u>
	481

Possible NBIS length errors 12

*

Item 95	Inspection Responsibility	CODE	COUNT	%
	County	3	290	100.0%
Item 97	Maintenance responsibility			
	County	3	290	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%
			290	100.0%
Item 100	Type service on bridge			
	Other	0	0	0.0%
	Highway	1	260	89.7%
	Railroad	2	0	0.0%
	Ped/Bikeway	3	1	0.3%
	Hwy/RR	4	0	0.0%
	Hwy/Ped	5	29	10.0%
	RR Abnd. rails rem'vd	A	0	0.0%
			290	100.0%

Item 100 Type service under bridge				
Hwy w/ or w/o Ped	1	0	0.0%	
Railroad	2	1	0.3%	
Ped/Bkwy	3	0	0.0%	
Hwy w/ RR	4	0	0.0%	
Waterway	5	289	99.7%	
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%	
		<u>290</u>	<u>100.0%</u>	

Structure Type	CODE	COUNT	%
concrete slab simple	111	13	4.5%
concrete slab continuous	112	23	7.9%
concrete beam simple	121	1	0.3%
concrete arch filled	155	1	0.3%
concrete frame simple	171	12	4.1%
concrete culvert filled	195	33	11.4%
prestressed conc. beam simple	221	6	2.1%
prestressed conc. beam continuous	222	4	1.4%
prestressed conc. box beam simple	231	151	52.1%
prestressed conc. box beam continuous	232	4	1.4%
steel beam simple	321	12	4.1%
steel beam continuous	322	21	7.2%
steel truss thru	344	1	0.3%
steel culvert filled	395	5	1.7%
composite slab simple	911	1	0.3%
steel truss pony	34A	2	0.7%
		<u>290</u>	<u>100.0%</u>

Item 188 Fracture Critical		CODE	COUNT	%
fracture critical member		Y	2	0.7%
fracture critical member		N	288	99.3%
			<u>290</u>	<u>100.0%</u>
No. of steel trusses and girders	34_, 36_ Struct. Type		3	
			1 Ped Bridge	
Fracture Critical File	to be completed by April 1, 2013		COUNT	
Required Fracture Critical Files (including written Procedure and FPD)	3 truss/girder		2	
Gusset Pl. Analysis	to be completed by December 31, 2011		COUNT	

Required Gusset Plate Analysis		3 trusses	2	
Item 189	Underwater	CODE	COUNT	%
	requires dive inspection	N	278	95.9%
	requires dive inspection	Y	12	4.1%*
	dive inspection dates		12	4.1%
Item 74	Scour			
	Bridge not over waterway	N	1	0.3%
	unknown foundation	U	0	0.0%
	over tidal waters	T	0	0.0%
	foundations on dry land	9	5	1.7%
	stable above footing	8	146	50.3%
	countermeasures installed	7	42	14.5%
	no scour evaluation made	6	0	0.0%
	stable within footer limits	5	91	31.4%
	stable action needed	4	5	1.7%
	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%
			290	100.0%
Item 71	Foundation Type			
	Compare with Scour "Unkown Foundation"			
	Forward Abutment	U	19	1.4%
	Rear Abutment	U	19	1.4%
	Predominate Pier	U	15	5.2%

Item 74	Scour	Unknown Foundation	0	
Item 71	Foundation Type	Unknown Foundation	19	*

53 codes U, 19 bridges

Item 87	Plan Information	CODE	COUNT	%
	no plans	0	28	9.7%
	plans available	1	259	89.3%
	field information	2	2	0.7%
	not applicable	N	1	0.3%
			290	100.0%

Load Factor	COUNT	%
Operating RF and Inventory RF equal to each other	0	0.0%

Eng Judgment No Plans	COUNT	%
Conc. Stone, Jack Arch	16	5.5%
Steel, Aluminum	3	1.0%*

Deep Culverts		COUNT	%
Culvert	fill>6.5'	4	1.4%*
		8 (Non-NBIS)	

195 Culvert vs 171 Frame		COUNT	%
# that do NOT meet the 2' Rule		11	3.8%*

Item 84	Method of Analysis	CODE	COUNT	%
	Field Eval & Doc. Eng Judgment	0	1	0.3%
	WS or AS	1	5	1.7%
	Load Factor (LF)	2	251	86.6%
	Load & Resistance Factor	3	11	3.8%
	Combination of methods	4	1	0.3%
	Engineering Judgment Superstr	5	19	6.6%
	Load testing	6	0	0.0%
	Engineering Judgment Substr	7	1	0.3%
	Assigned Rating (LFR) HS20	D	0	0.0%
	Assigned Rating (LRFR) HL93	F	0	0.0%
	Not applicable (Ped, RR, Bldg)	X	1	0.3%
			290	99.7%

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	34	11.7%
8 Very good	8	63	21.7%
7 Good	7	102	35.2%
6 Satisfactory	6	50	17.2%
5 Fair	5	27	9.3%
4 Poor	4	14	4.8%
3 Serious	3	0	0.0%
2 Critical	2	0	0.0%
1 Imminent Failure	1	0	0.0%
0 Closed	0	0	0.0%

290 100.0%

Rating Consistency		COUNT	%
GA <> Summary Items		3	1.0%*
1-4 codes <> Summary		4	0.1%*

INSPECTION FREQUENCY		COUNT
Number inspections per day		
	Avg.	2.4
	High	7
Recommended Max. 10 per day	# days over 10	0
Maximum 50 reviews per day		

Operating Status	CODE	COUNT	%
Open, No restriction	A	286	98.6%
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	2	0.7%
Posted for other than load	R	1	0.3%
Closed for other than load	X	1	0.3%
		290	100.0%

Item 41	AGE of BRIDGES	YEAR (built or rehab)	COUNT	
		-1900	1	0.3%
		1901-1910	0	0.0%
		1911-1920	1	0.3%
		1921-1930	0	0.0%
		1931-1940	1	0.3%
		1941-1950	2	0.7%
		1951-1960	11	3.8%
		1961-1970	38	13.1%
		1971-1980	23	7.9%
		1981-1990	90	31.0%
		1991-2000	75	25.9%
		2001-2010	34	11.7%
		2011-2020	14	4.8%
			290	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%	(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	% 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 below 100% legal but not posted (GA=A or R)	1	99.7%	(SC) *
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	5	depends on sample size *
LAT/LONG		

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

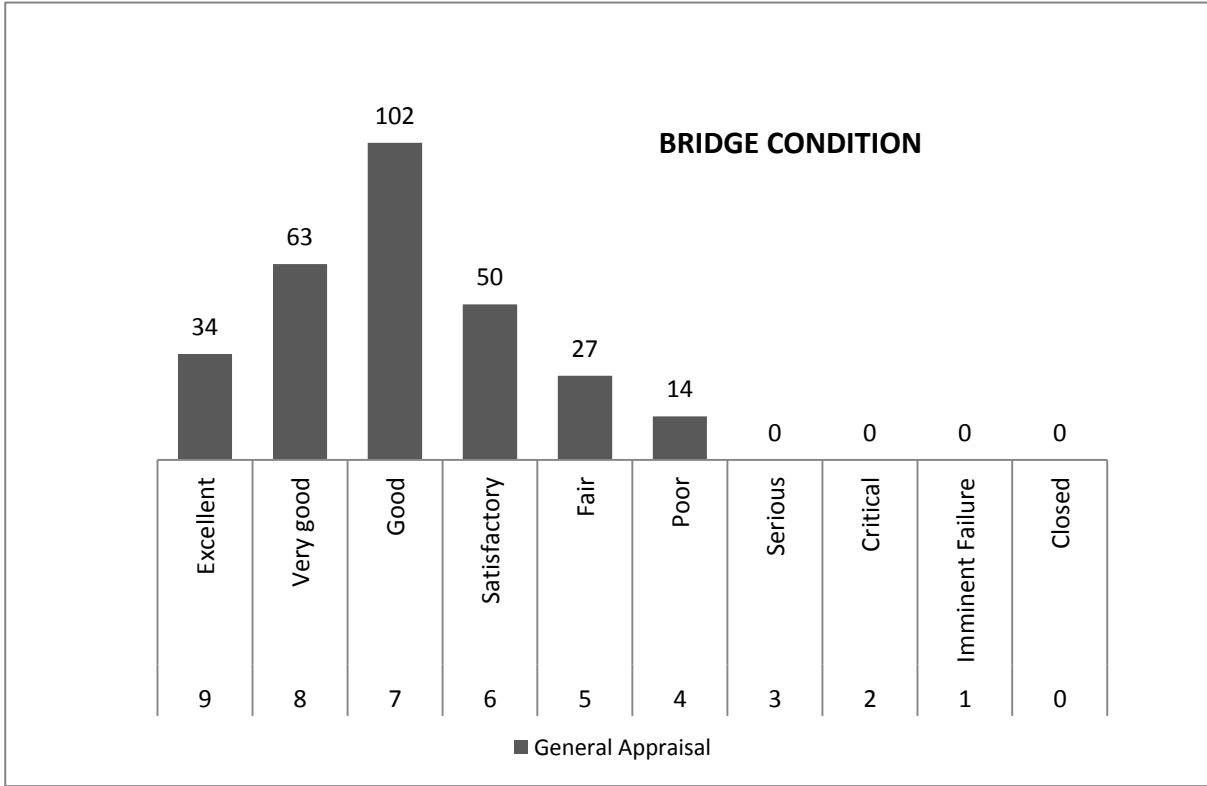
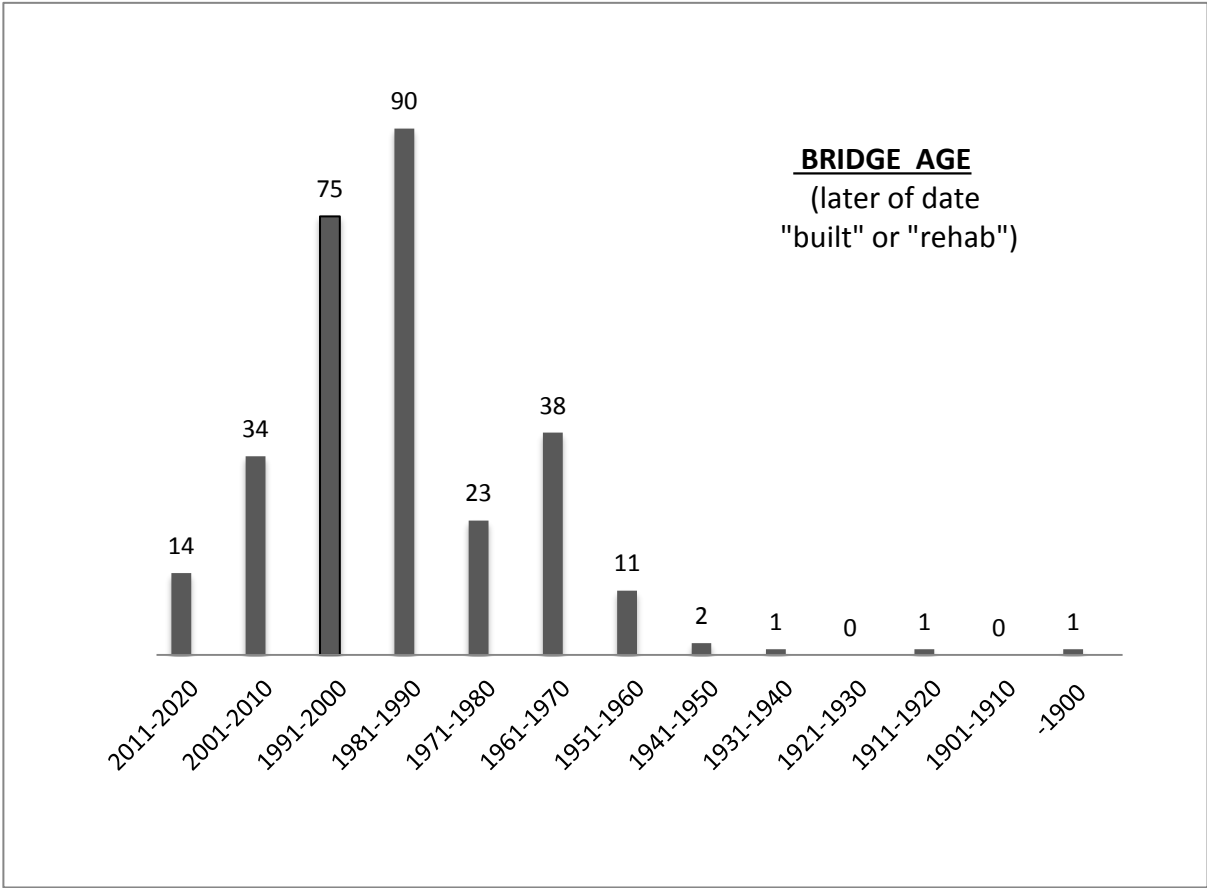
Metric	Description	(C)	(SC)	(CC)	(NC)
1	State Bridge Inspection Organization				
2	Program Manager Qualification				
3	Team Leader Qualification				
4	Load Rating Engineer Qualification				
5	UW Bridge Inspection Diver Qualification				
6	Routine Inspection Frequency - Low Risk				
7	Routine Inspection 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 ** 95%				
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 ** 94%				
23	Updating of Data				

* based on office review

** based on results of Field Review

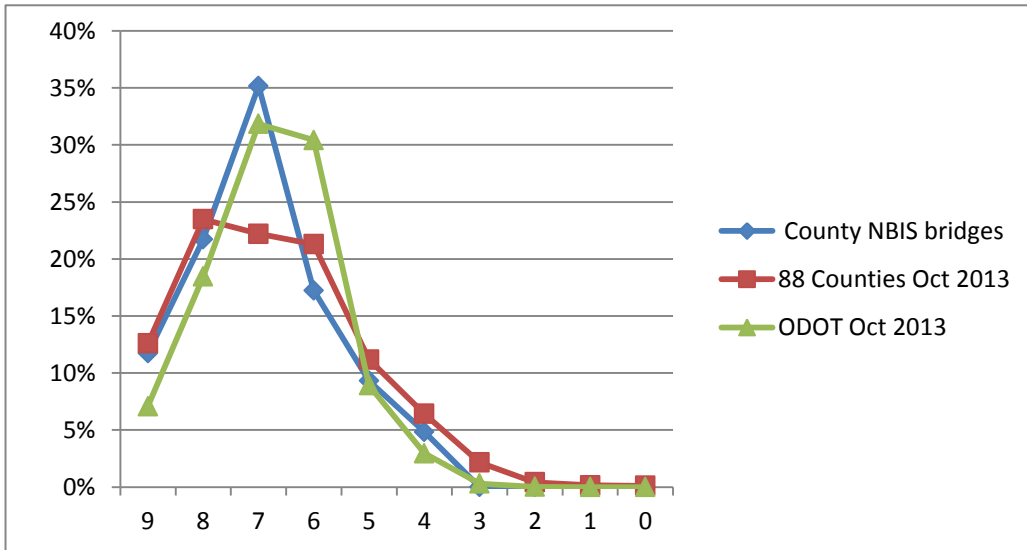
Metric Action Needed

22	Check inventory items during inspection
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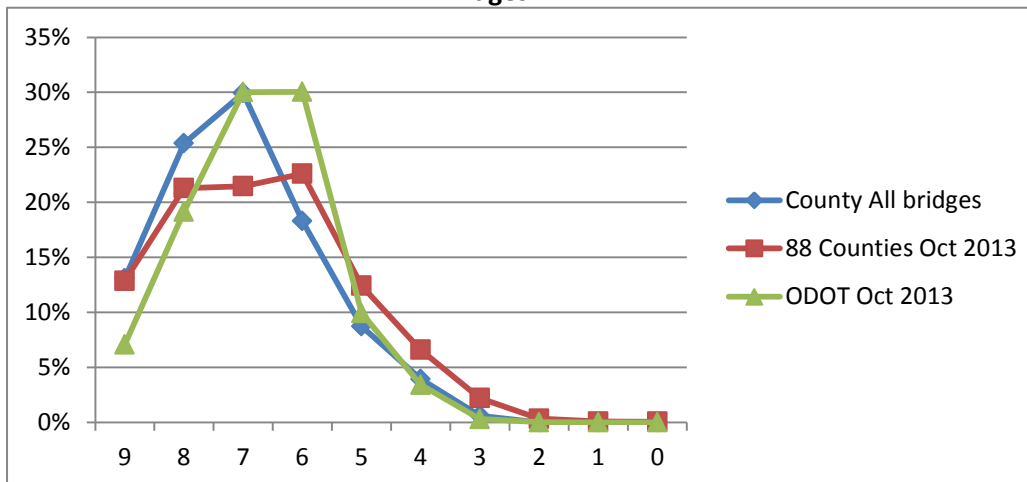
GENERAL APPRAISAL COMPARISON

NBIS Bridges



GENERAL APPRAISAL COMPARISON

All Bridges



22	21	23	22	24	23	23	23	181
24	24	24	24	24	24	24	24	192
								0.942708