

FHWA Bridge Inspection Update

Michigan Bridge Conference Workshop

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Cleary University, Howell, MI

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Federal Highway Administration

Michigan Division



2013 Metric Summary

Metric	Description	Baseline	Year 1	PCA Ends
		CY 2011	PY 2013	
1	Bridge Inspection Organization	C	CC	12/31/2013
2	Qualifications of Personnel -Program Manager	C	C	
3	Qualifications of Personnel -Team Leader(s)	C	C	
4	Qualifications of Personnel -Load Rating Engineer	C	C	
5	Qualifications of Personnel -UW Bridge Inspection diver	C	C	
6	Routine Inspection Frequency - Lower Risk Bridges	CC	CC	3/31/2013
7	Routine Inspection Frequency - Higher Risk Bridges	C	CC	3/31/2013
8	Underwater Inspection Frequency - Lower Risk Bridges	CC	C	
9	Underwater Inspection Frequency - Higher Risk Bridges	C	C	
10	Inspection Frequency - Fracture Critical Member	CC	CC	3/31/2013
11	Inspection Frequency - Frequency Criteria	CC	CC	3/31/2014



2013 Metric Summary

12	Inspection Procedures - Quality Inspections	C	C	
13	Inspection Procedures - Load Rating	CC	CC	12/31/2016
14	Inspection Procedures - Post or Restrict	CC	CC	5/31/2013
15	Inspection Procedures - Bridge files	CC	CC	3/31/2014
16	Inspection Procedures - Fracture Critical Members	CC	CC	3/31/2014
17	Inspection Procedures - Underwater	C	C	
18	Inspection Procedures - Scour Critical Bridges	C	C	
19	Inspection Procedures - Complex Bridges	C	C	
20	Inspection Procedures - QC/QA	SC	SC	3/31/2014
21	Inspection Procedures - Critical Findings	CC	CC	3/31/2014
22	Inventory - Prepare and Maintain	C	C	
23	Inventory - Update Data	C	C	
	Compliant:	13	12	
	Minimum Assessment			
	Intermediate Assessment			
	In-Depth Assessment			
	5-Yr Summary & Trend Analysis			



Comments on 2013 NBIP Review

- Frequency Metrics:
 - PCA's modified MBRS
 - MDOT now publishing quarterly reports
 - Check MBRS for your upcoming bridge inspection dates
 - The April 2014 NBI data update should reflect the modifications made to the MBIS/MBRS due to the inspection cycle being biennial.



Comments on 2013 NBIP Review

- Procedure Metrics:
 - **Load Rating**; Tier 1 completed, Tier 2 completion is December 2014, and Tier 3 is December 2016
 - **Post or Restrict**: make sure at least the load rating assumption and summary sheets are in the bridge file and available to the inspector to assure the correct posting sign is in place.
 - **Bridge Files**; missing: load ratings, photographs, channel cross-sections, scour POA's, ...



Comments on 2013 NBIP Review

- Procedure Metrics (cont.)
 - **Fracture Critical Members:** Are the location of FCMs identified and the FCM inspection frequency and procedures described in the inspection records for each bridge requiring a fracture critical member inspection? Are FCMs inspected according to these procedures?
 - **QC/QA;** must have written procedures in the main file
 - **Critical Findings;** MDOT RFA form is being revised to include Local Agencies.



Comments on 2013 NBIP Review

- **Miscellaneous;**
 - **Scour:** if you have flood event, document your actions in the POA.
 - **Border Bridges;** we will be looking for agreements on border bridges defining responsibilities for: regular, underwater, and emergency inspections; and general maintenance.



MAP-21

Moving Ahead for Progress in the 21st Century Act

<http://www.fhwa.dot.gov/map21>

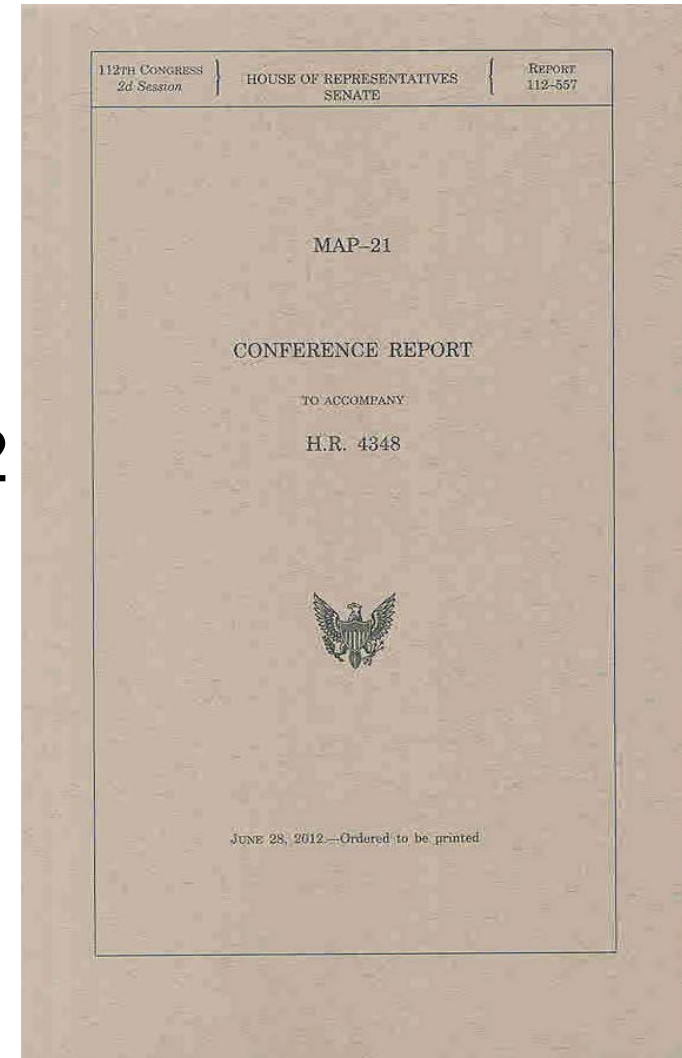


U.S. Department of Transportation
Federal Highway Administration



Moving Ahead for Progress in the 21st Century Act – MAP-21

- H.R.4348
- Signed by President July 6, 2012
- 2 year Bill (2013 & 2014)
- Effective date: October 1, 2012



MAP-21 Enhanced NHS

- Expands the NHS from ~165,000 to ~220,000 miles of rural and urban roads serving major population centers, international border crossings, intermodal transportation facilities, and major travel destinations.
- It includes:
 - The Interstate System.
 - All principal arterials (including those not previously designated as part of the NHS) and border crossings on those routes.
 - Intermodal connectors -- highways that provide motor vehicle access between the NHS and major intermodal transportation facilities.
 - STRAHNET -- the network of highways important to U.S. strategic defense.
 - STRAHNET connectors to major military installations.
- 55 Municipalities and 15 counties in Michigan have Enhanced NHS Routes in their respected areas
 - http://www.fhwa.dot.gov/planning/national_highway_system/nhs_maps



MAP-21

FHWA → Planning → National Highway System → Nhs Maps

National Highway System

Michigan



You can view state and urbanized area maps of the National Highway System.

Select the State or urbanized area below to view the National Highway System maps depicting the designated NHS routes.

You can also download a zipped (compressed) file containing all of the NHS maps for this state by clicking on the zipped file below.

These maps are in Adobe Acrobat's Portable Document Format (PDF). To view PDF files, you need the [Acrobat® Reader®](#).

<p>The NHS map of Michigan</p> <hr/> <p>Urbanized areas in this state:</p> <p>Ann Arbor Battle Creek Bay City Benton Harbor - St. Joseph Detroit Flint Grand Rapids Holland</p>	<p>Jackson Kalamazoo Lansing Midland Monroe Muskegon Port Huron Saginaw South Lyon - Howell - Brighton</p> <hr/> <p>All of this state's NHS maps In Zipped Format.</p>
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http://www.fhwa.dot.gov/planning/national_highway_system/nhs_maps/michigan/index.cfm



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MOVING THE
AMERICAN
ECONOMY

National Functional Classification Maps

MDOT - Main NFC Map Page - Windows Internet Explorer

http://mdotwas1.mdot.state.mi.us/public/maps_nfc/

MDOT Department of Transportation

Michigan.gov Home | NFC Contact | MDOT Home

National Functional Classification Maps

These maps require Adobe Acrobat Reader for viewing. The NFC information shown is current as of the most recent release of the Michigan Geographic Framework, version 11 (2011). Questions can be submitted to: mdot-nfc@michigan.gov

[Back to NFC main page](#)

County : Urban/Urbanized Area :

Michigan.gov Home | NFC Contact | MDOT Home | State Web Sites
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http://mdotwas1.mdot.state.mi.us/public/maps_nfc/



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- **Section 1106 NHPP (23 USC 119)**
 - (d)(2)(D) Inspection and evaluation of bridges and tunnels on the NHS, and inspection and evaluation of other highway infrastructure assets on the NHS, including signs and sign structures, earth retaining walls and drainage structures.
 - (2)(A) – If for the 3-year period preceding the date of determination, more than 10 percent of the total deck area of bridges on the NHS is classified as structurally deficient, an amount equal to 50% of the 2009 HBP allocation shall be set aside for bridge projects on the NHS.



MAP-21

- **Section 1111: National Bridge and Tunnel Inventory and Inspection Standards (23 USC 144)**
 - (b)(2) inventory all tunnels on public roads...
 - (b)(3) classify the bridges according to serviceability, safety, and essentiality for public use, including impacts to emergency evacuation routes and to regional and national freight and passenger mobility...



MAP-21

- **Section 1111 (cont.)**

- (d)(2) Inspection Report, ...each state shall report element level data...for all bridges on the NHS
- (d)(4)(A) Bridges not on the NHS, The Secretary shall conduct a study of the benefits, cost-effectiveness, and feasibility of requiring element-level data collection for bridges not on the NHS...

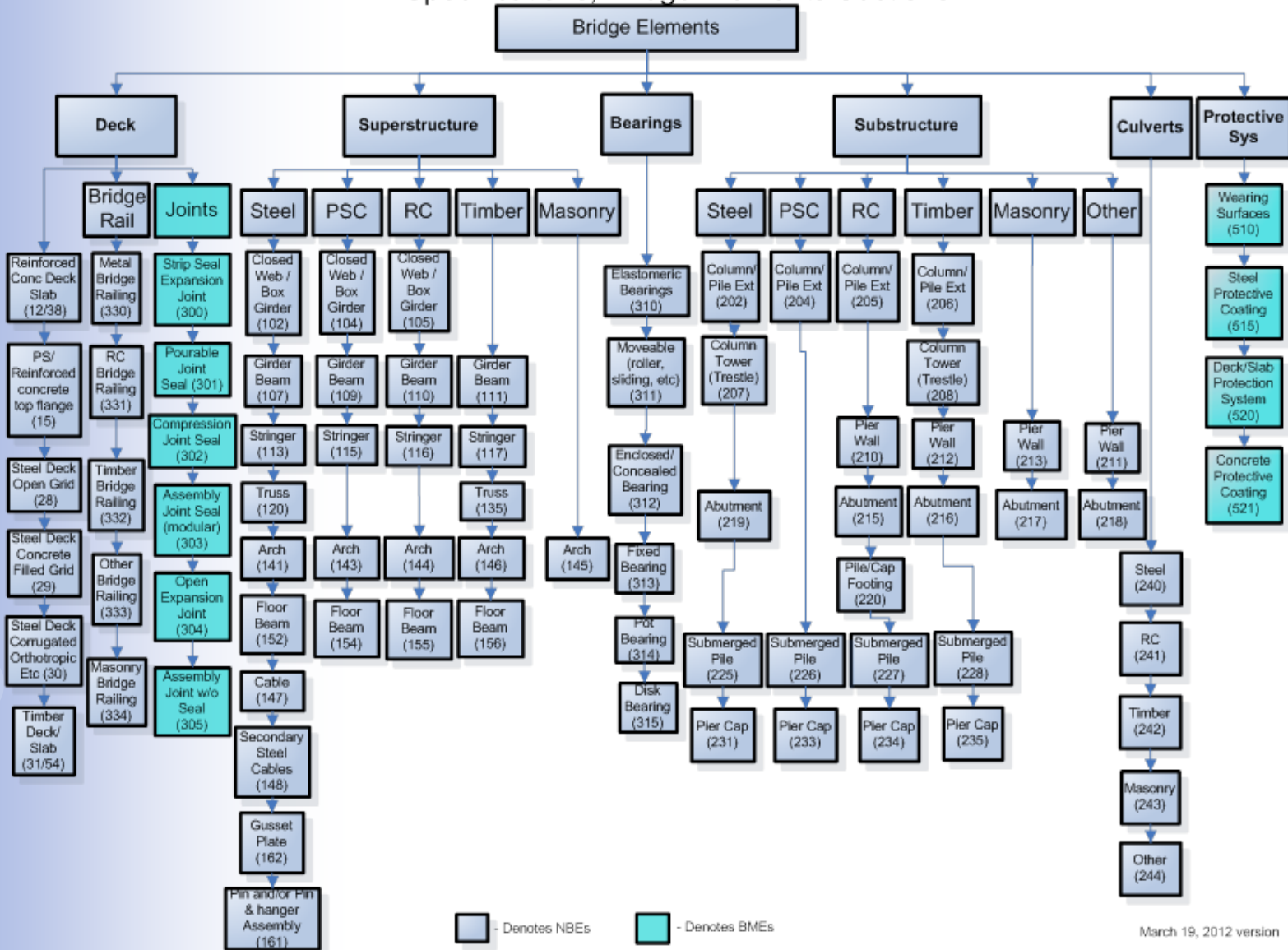


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- **Section 1111 (cont.)**
 - Commencing on/before **October 1, 2014** element level inspection required. (Not mandatory on Non-NHS bridges)
 - **April 1, 2015** State to provide NBI element level bridge inspection data as a supplement to the annual NBI data submission.



NBI Specifications, Bridge Elements Sections



- Denotes NBEs
 - Denotes BMEs

March 19, 2012 version



MAP-21

- **Section 1111 (cont.)**

- (h)(2)(E) establish a procedure of national certification of highway bridge inspectors and tunnel inspectors.
- (h)(7) Risk-Based Approach: ...,the Secretary shall consider a risk-based approach to determining the frequency of bridge inspections.



Thank you!

Questions?

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