

# LOAD RATING & LOAD POSTING METRIC FINDINGS & CORRECTIVE ACTIONS

Bureau of Bridges and Structures

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Michigan Department of Transportation

2019 Michigan Bridge Conference Workshop



# Presentation Outline

- Metric 13 – Inspection Procedures: Load Rating Findings
- Metric 14 – Inspection Procedures: Post or Restrict Findings
- Plan of Corrective Action (PCA)



# Metric 13 Findings



Load rating unavailable



Load rating not up to date



Judgment ratings

Improperly used  
Inadequately documented



Documentation incomplete



Timeliness

National Bridge Inspection Program  
Final Summary of Metric 13

State: Michigan Review Year: PY18 Assessment Level: Int  
Metric: 13 - Inspection Procedures - Load Rating Prior Year Compliance: C

**Metric Summary**

**Extent of Review**  
This Metric was assessed based on the results of Metric Assessment Report (MAR) for Metric 13, the results of the file reviews and on the reviewer's knowledge and awareness of the State's Bridge Inspection Program. File reviews were performed to verify bridges have load rating calculations or documented determinations exist and to ensure that the results are consistent with other bridge information (NBI Data, Condition Information, MDOT/FHWA/ASSHTO Guidance).

**MAR Resolution**  
MAR Resolved? No  
If No or N/A, explain:  
Unresolved compliance deficiency pending review by local agency.

**Populations and Samples**  
Pop Description: All Bridges in the State that are Open to Traffic  
Data Source: NBI  
Population Size: 10,944 File Reviewed: 19 Interviewed: 19  
Sample Size: 19 Field Reviewed: 17

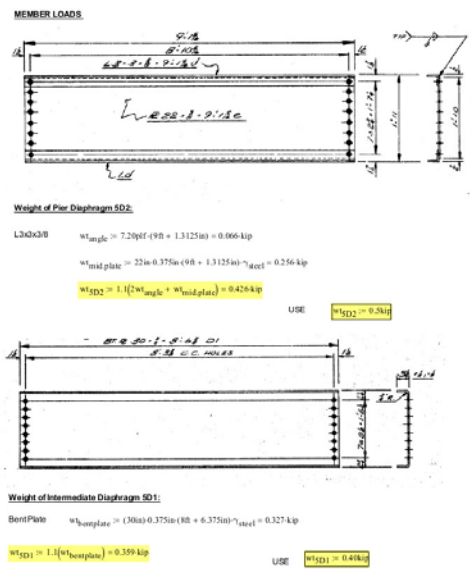
**Observations**  
**Documentation Review:**  
As required by the Plan of Corrective Action for Metric 13 (PCA\_MDOT\_2011\_M13) MDOT reviewed and revised policies/guidance to ensure load ratings were consistent with State/Federal requirements. In addition, MDOT issued Bridge Advisories to clarify and expand on existing policies/guidance. The following is a list of Load Rating Bridge Advisories developed/issued to clarify and expand on existing policy/guidance:

- BA-2009-02 (2009 Interim Update for MDOT Bridge Analysis Guide)
- BA-2010-03 (Load Rating Compliance with NBIS)
- BA-2010-06 (Licensing and use of AASHTOWare Virts Software)
- BA-2011-02 (Local Agency Load Rating Prioritization and Coding)
- BA-2012-01 (Modifications and Improvements to Load Rating Data and MBIS/MBRS)
- BA-2012-02 (Guidance for the use of Field Evaluation and Judgement Ratings)
- BA-2012-03 (Corrugated Metal Pipe Analysis Spreadsheets)
- BA-2016-01 (Load Rating Updates to MIBridge)
- BA-2016-02 (Corrugated Metal Pipe Analysis Spreadsheets)
- BA-2016-03 (Load Rating Method Update)

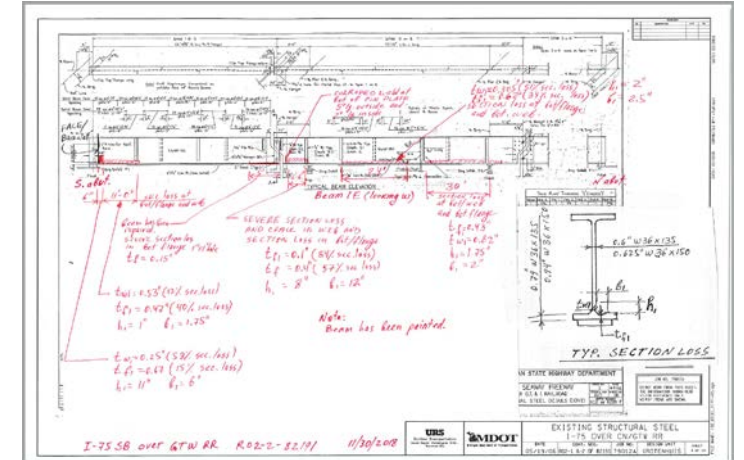
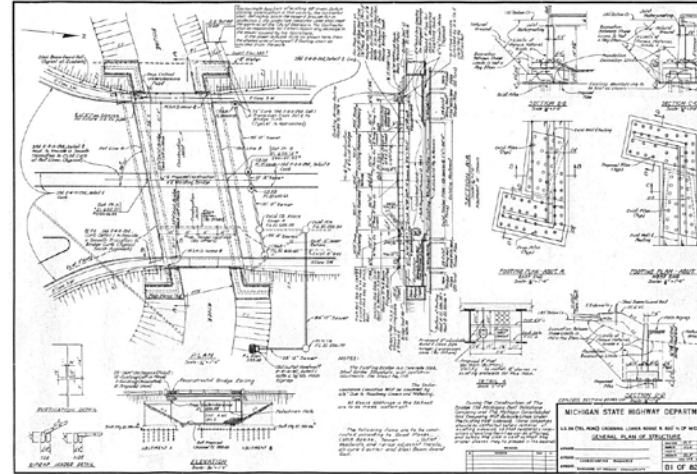
MDOT also developed a contract with the Center for Technology & Training at Michigan Tech University (<http://loadrating.michiganitap.org/about>) to provide local agencies and their consultants support and training to ensure success in meeting the requirements of the bridge load rating program. This program offers training via webinars and



By: EKR 1/3/2019  
 CNA: KAH 2/12/2019



Task #34 Page 5 of 11 Rating Information Sheet



# LOAD RATING UNAVAILABLE

## METRIC 13 FINDING



LOAD RATING  
UNAVAILABLE

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METRIC 13 FINDING





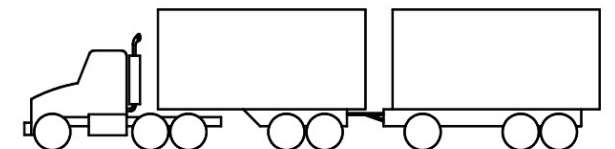
## THE MANUAL FOR BRIDGE EVALUATION



# LOAD RATING NOT UP TO DATE

METRIC 13 FINDING

**BRIDGE ANALYSIS GUIDE**  
2005 Edition  
with  
2009 Interim Update  
Part 1



Inventory & AppraisalInspections / ReportsLoad RatingsOutstanding WorkWork HistoryDocuments

Structure DetailsGeneral InfoPhysical CharacteristicsRoute On InfoRoute Under InfoOther Features UnderInspection Data

Physical Characteristics

EditPrint All

Historical Information

27	Year Built	1955	106	Year Reconstructed	
202	Year Painted	1955	203	Year Overlay	2007
	Under Clr. Measurement Year	2016	31	Design Load	5 HS 20 (MS 18)

Material Information

43A	Main Material	3 Steel	43B	Main Design Type	02 Multi Str Non Comp			
44A	Approach Material	Unknown (NBI)	44B	Approach Design Type				
77	Steel Type	1 Carbon Stl (A7, A 373)	78	Paint Type	1 Lead-base Paint	600	Proposed Paint Color	Blue
79	Rail Type	7 Conc Parapet Solid	80	Rail Post Type		107	Deck Structure Type	1 Concrete-Cast-in-Place
108A	Wearing Surface	6 Bituminous	108B	Membrane Type	0 None	108C	Deck Protection	None
143	Pin and Hanger	1 None	148	Num/Pin and Hanger	0			
120	Pedestrian Fencing	1 Has Pedestrian Fence	595	Footing Type				

# LOAD RATING NOT UP TO DATE

METRIC 13 FINDING

# JUDGMENT RATING IMPROPERLY USED

## METRIC 13 FINDING

### **6.1.4—Bridges with Unknown Structural Components**

For bridges where necessary details, such as reinforcement in a concrete bridge, are not available from plans or field measurements, a physical inspection of the bridge by a qualified inspector and evaluation by a qualified engineer may be sufficient to establish an approximate load rating based on rational criteria. Load tests may be helpful in establishing the safe load capacity for such structures.

A concrete bridge or concrete bridge length culvert with unknown details need not be posted for restricted loading if it has been carrying normal traffic for an appreciable period and shows no distress. The bridge shall be inspected regularly to verify satisfactory performance.

### **MDOT Bridge Advisory 2012-2:**

Engineering judgment alone shall not be used to determine the live load capacity of a bridge component when sufficient structural information is known to utilize a rational method of analysis and rating.





**BRIDGE ADVISORY**  
Design Division  
Bridge Management Section

BRIDGE ADVISORY NUMBER: BA-2012-02      DATE: October 16, 2012

*Note: This Bridge Advisory was originally issued on October 15, 2012 as Bridge Advisory 2012-02 (3). It is being re-issued as BA-2012-02 dated October 16, 2012 for cataloging purposes.*

SUBJECT: Guidance for the use of "Field Evaluation and Documented Engineering Judgment" Ratings

ISSUED BY: Bradley Wagner, Load Rating Program Manager

REVIEWED BY: Rebecca Curtis, Bridge Management Engineer

Contact Information: Bradley Wagner, Load Rating Program Manager, 517-322-1186 or [wagnerb@mdot.gov](mailto:wagnerb@mdot.gov)

"Field Evaluation and Documented Engineering Judgment" is described in a memo issued by FHWA on February 2, 2011 ([FHWA Memo](#)). The Memo states "...judgment ratings must be documented." This reference shall serve as additional guidance for the use and documentation of judgment ratings in the state of Michigan.

Per AASHTO Manual for Bridge Evaluation, 2<sup>nd</sup> Edition 2010 (w/2011 Interims) Section 6.1.4:  
*"For bridges where necessary details, such as reinforcement in a concrete bridge, are not available from plans or field measurements, a physical inspection of the bridge by a qualified inspector and evaluation by a qualified engineer may be sufficient to establish an approximate load rating based on rational criteria."*

Furthermore, it states:  
*"A concrete bridge with unknown details need not be posted for restricted loading if it has been carrying normal traffic for an appreciable period of time and shows no distress. The bridge shall be inspected regularly to verify satisfactory performance."*

The commentary for section 6.1.4 states:  
*"Knowledge of the live load used in the original design, the current condition of the structure, and live load history may be used to provide a basis for assigning a safe load capacity. Bridge owners may consider nondestructive proof load tests to establish a safe load capacity for such bridge."*

Engineering judgment alone shall not be used to determine the live load capacity of a bridge component when sufficient structural information is known to utilize a rational method of analysis and rating.

BA 2012 – 02

-2-

October 16, 2012

The appropriate rating(s) shall be determined by the engineer upon careful consideration of all available information including, but not limited to:

- Year of construction and material properties of members
- Assumed design (Inventory) loading and controlling Operating vehicle
- Measurable structural dimensions
- Condition of load carrying components
- Redundancy of load path
- Changes since original construction
- Comparable structures of known design

# JUDGMENT RATING INADEQUATELY DOCUMENTED

METRIC 13 FINDING



# LOAD RATING DOCUMENTATION INCOMPLETE

METRIC 13 FINDING

Compliance Issue:

None

Compliance Verified:

No

\*The above structure was analyzed using:

Virtis/AASHTOWARE Bridge Rating

\*Version or Other:

6.8.2

Rating considers field condition of members:

Yes

Inspection Date:

06/13/2017

\*Controlling component and failure mode:

Fed Inv: Typical Interior, Span 1, PS Tensile Stress - Concrete

Fed Op & MI Op: Typical Interior, Span 1, Design Flexure - Concrete

Overload A: Typical Interior, Span 1, Design Shear - Concrete

NEW INVENTORY CODING

\*NBI Item 63 - Operating Rating Method:

6 LFR in Rating Factor

\*NBI Item 64F - Federal Operating Rating:

2.67

\*MDOT Item 64MA - Michigan Operating Method:

6 LFR in Rating Factor

\*MDOT Item 64MB - Michigan Operating Rating:

1.42

\*MDOT Item 64MC - Michigan Operating Truck:

17

\*NBI Item 65 - Inventory Rating Method:

6 LFR in Rating Factor

\*NBI Item 66 - Federal Inventory Rating:

1.29

\*NBI Item 41 - Structure Open Posted Closed:

A Open, no restriction

\*NBI Item 70 - Bridge Posting:

5 - 100% or more

Analyzed By: YaldaD

Analyze Date: Wednesday, October 03, 2018 14:50:00

Analysis Engine: AASHTO LFR Engine Version 6.8.2.30i

Analysis Preference Setting: None

Report By: yaldad

Report Date: Wednesday, October 03, 2018 14:51:48

Structure Definition Name: Span 2 w det

Member Name: G1

Member Alternative Name: Fascia beam 1s or 8s w det

Load

Live Load		Rating Factor	Controls
HS 20-44	Inventory	1.275	Design Flexure - Stc
HS 20-44	Operating	2.129	Design Flexure - Stc
Michigan 1 Unit Truck 05-DL	Operating	1.931	Design Flexure - Stc
Michigan 2 Unit Truck 17-DL	Operating	1.260	Design Flexure - Stc
Michigan 2 Unit Truck 18-DL	Operating	1.288	Design Flexure - Stc
Michigan 3 Unit Truck 23-DL	Operating	1.388	Design Flexure - Stc

LOAD RATING

DODUMENTATION INCOMPLETE

METRIC 13 FINDING



(d) For changes in load restriction or closure status, enter the SI&A data into the State or Federal agency inventory within 90 days after the change in status of the structure for State or Federal agency bridges and within 180 days after the change in status of the structure for all other bridges.

## TIMELINESS

METRIC 13 FINDING



# Metric 14 Findings



Incorrect coding of NBI Items



Posting sign missing in field



Posting confirmation missing from file



Posting sign inconsistent with MUTCD

The screenshot displays the 'National Bridge Inspection Program Final Summary of Metric' report for Michigan, PY18. It includes sections for Metric Summary, Extent of Review, MAR Resolution, Populations and Samples, and Observations. The Observations section details compliance deficiencies and references specific guidance documents.

**National Bridge Inspection Program  
Final Summary of Metric**

State: Michigan Review Year: PY18 Assessment Level: Int  
Metric: 14 - Inspection Procedures - Post or Restrict Prior Year Compliance: C

**Metric Summary**

**Extent of Review**  
This Metric was assessed based on the results of the Metric Assessment Report (MAR) for Metric 14, the results of the file reviews and on the reviewer's knowledge and awareness of the State's Bridge Inspection Program. File reviews were performed to verify that documentation shows the posting was properly implemented and corresponds to the load rating recommendation. File verification reviews (site visits) were performed to verify the posting signs exist and are consistent with MUTCD/State Regulation and Load Rating recommendations.

**MAR Resolution**  
MAR Resolved? Yes- based on original MAR

**Populations and Samples**  
Pop Description: All bridges in the state requiring posting or that are closed.  
Data Source: NBI  
Population Size: 1,124 File Reviewed: 18 Interviewed:   
Sample Size: 18 Field Reviewed: 5

**Observations**  
**Documentation Review:**  
Metric 14 compliance is correlated to Metric 13 compliance. As required by the Plan of Corrective Action for Metric 13 (PCA\_MDOT\_2011\_M13) MDOT reviewed and revised policies/guidance to ensure postings were consistent with State/Federal requirements. The following posting guides were revised/developed to clarify and expand on existing policy/guidance:  
  
BA-2009-02 (2009 Interim Update for MDOT Bridge Analysis Guide)  
BA-2009-05 (NBI Coding Guidance for Item 41)  
Bridge Load Posting Process and Practice Brochure (11/2016)  
  
MDOT also developed a contract with the Center for Technology & Training at Michigan Tech University (<http://loadrating.michiganitap.org/about>) to provide local agencies and their consultants support and training to ensure success in meeting the requirements of the bridge load rating program. This program offers training via webinars and workshops, technical support for AASHTOWare Bridge Rating (BrR) software, and engineering technical assistance. AASHTOWare BrR is available to local agencies and their consultants free of charge as part of MDOT's super-site license purchase.  
  
**File Review/Verification:**  
Compliance deficiencies were noted in eight of the eighteen files reviewed/verified. The deficiencies are as follows:

## Item 70 – Bridge Posting

<u>Code</u>	<u>Description</u>
4 or less	Posting required
5	No posting required

The degree that the operating rating is less than the maximum legal load level may be used to differentiate between codes. As an example and for coding purposes only, the following values may be used to code this item. The controlling vehicle from item 64MC should be used to determine this field.

Code	Rating Factor	MI #18 (U.S. tons)	MI #5 (U.S. tons)
5	≥ 1.00	≥ 77 tons	≥ 42 tons
4	1.00 – 0.91	69.4 - 76.9 tons	37.8 - 41.9 tons
3	0.90 – 0.81	61.7 - 69.3 tons	33.6 - 37.7 tons
2	0.80 – 0.71	54.0 - 61.6 tons	29.4 - 33.5 tons
1	0.70 – 0.61	53.9 - 46.3 tons	25.2 - 29.3 tons
0	< 0.61	< 46.3 tons	< 25.2 tons

### NEW INVENTORY CODING

NBI Item 63 - Operating Rating Method	6 LFR in Rating Factor
NBI Item 64F - Federal Operating Rating	1.08
MDOT Item 64MA - Michigan Operating Method	6 LFR in Rating Factor
MDOT Item 64MB - Michigan Operating Rating	0.7
MDOT Item 64MC - Michigan Operating Truck	18
NBI Item 65 - Inventory Rating Method	6 LFR in Rating Factor
NBI Item 66 - Federal Inventory Rating	0.65
NBI Item 41 - Structure Open Posted Closed	P P Posted for load
NBI Item 70 - Bridge Posting	5 5 - 100% or more
Posted By	Truck Type
MDOT Item 141 - Posted Loading	425360
MDOT Item 193A - Michigan Overload Class	
MDOT Item 193C - Overload Status	

# INCORRECT CODING OF NBI ITEMS

## METRIC 14 FINDING

NBI Item 41 - Structure Open Posted Closed  
NBI Item 70 - Bridge Posting

Posted By  
MDOT Item 141 - Posted Loading

P P Posted for load  
4 4 - 99% - 90%

No Posting

NBI Item 41 - Structure Open Posted Closed  
NBI Item 70 - Bridge Posting

Posted By  
MDOT Item 141 - Posted Loading

P P Posted for load  
0 0 - 59% or less

No Posting  
36

NBI Item 41 - Structure Open Posted Closed  
NBI Item 70 - Bridge Posting  
Posted By  
MDOT Item 141 - Posted Loading

A A Open, no restriction  
5 5 - 100% or more  
No Posting  
None

# INCORRECT CODING OF NBI ITEMS

METRIC 14 FINDING

NBI Item 41- Structure Open Posted Closed  
NBI Item 70- Bridge Posting  
NBI Item 141- Posted Loading

P P Posted for load  
4 4 - 99% - 90%  
50NNNN

# POSTING SIGN MISSING IN FIELD

METRIC 14 FINDING







# POSTING CONFIRMATION MISSING FROM FILE

METRIC 14 FINDING



# POSTING SIGN INCONSISTENT WITH MUTCD

METRIC 14 FINDING



# Metric 13 & 14 Plan of Corrective Action (PCA)

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MDOT WILL SEND NOTIFICATION  
TO LOCAL BRIDGE OWNERS  
CLARIFYING THEIR ROLES &  
RESPONSIBILITIES PER THE NBIS



MDOT WILL DEVELOP A  
COMPREHENSIVE QAQC  
PROGRAM FOR LOCAL AGENCY  
LOAD RATINGS

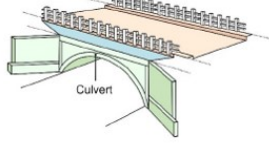
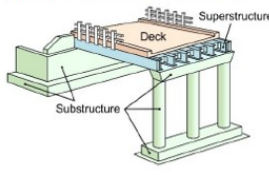



MDOT WILL DEVELOP &  
IMPLEMENT DATA CHECKS IN  
MIBRIDGE TO IMPROVE THE  
ACCURACY OF LOAD RATINGS

# Local Bridge Owners Guide

## Local Bridge Owners Guide

mdot-nbis-compliance@michigan.gov





**► What is a bridge?**  
The National Bridge Inspection Standards (NBIS) defines a bridge as a structure, including supports, erected over a depression or an obstruction, such as water, a highway or a railway, having a track or passageway for carrying traffic or other moving loads, and having an opening measured along the roadway of more than 20 feet.

**► Inventory**

- The NBIS requires each bridge owner to maintain and update a file for each bridge.
- The bridge file must include the following components (when applicable):
  - Construction plans.
  - Inspection reports, including history of any structural damage.
  - Waterway information (channel cross-sections, soundings, stream profiles).
  - Special inspection procedures or requirements.
  - Load rating documentation, including load testing results.
  - Posting documentation.
  - Critical findings and actions taken.
  - Scour assessment.
  - Scour plan of action (POA) (for scour critical bridges and those with unknown foundations) and documentation of post-event inspection or follow-up.
  - Inventory and evaluation data and collection/verification forms.
  - Significant correspondence.
- The State of Michigan uses the Michigan Bridge Management and Inspection System (MiBridge) to document this information.
- Pictures and other documents can be uploaded into MiBridge and serve as the bridge file.

**► Non-compliance details and warning**  
Failure to comply with the following rules and regulations can cause federal and state transportation funds to be withheld and new projects may not be able to proceed.





**► Underwater Inspections**

- The NBIS requires that all underwater structural elements are inspected.
- The following water depths are general guidelines for selecting the appropriate method of underwater inspection:
  - Wade and probe: Water depths of 4 feet or less.
  - Boat and probe: Water depths of 4 feet to 10 feet.
  - Underwater diving inspection: Water depths exceeding 10 feet.
- Underwater inspections are performed at regular intervals dependent on the required method. At water depths of 10 feet or less, the inspection can be performed at the same frequency as the routine inspection. At water depths that exceed 10 feet, the diving inspection must be completed at regular intervals not exceeding 60 months.
- The frequency should be determined based on factors such as age, design of the structure, previously observed conditions, and suspected rate of deterioration.

**► Fracture Critical Inspections**


- Fracture critical bridges are steel bridges where the failure of one member could lead to collapse. Inspections of these structures must occur at regular intervals no greater than 24 months. It is recommended that the inspector performing the fracture critical inspection has successfully passed the FHWA-NHI-130078 Fracture Critical Inspection Techniques for Steel Bridges course.
- The NBIS requires all fracture critical members to be inspected at arms-length.

**► Scour**

Scour occurs when water washes away the soil supporting a bridge. Many older bridges were not designed for scour. Additionally, the land use or stream profile may have changed over time, which could increase the impacts of heavy storm events on the bridge.

- Scour Critical
  - A bridge that could suffer structural damage due to loss of soil around the supports based on a certain storm size is considered scour critical.
  - The NBIS requires all bridges over water to be evaluated for scour. This analysis identifies a bridge's vulnerability to scour and is typically performed by a team of hydraulic, geotechnical and structural engineers.
  - All scour critical bridges and bridges with unknown foundations require a Scour POA to be created and maintained in MiBridge until the bridge is replaced or properly designed scour countermeasures are installed.
- Load Rating

The NBIS requires load ratings for all bridges. Load ratings check for how much weight a bridge can safely carry. Load ratings should reflect the current condition of the bridge and must be updated when there is a change in condition. Load ratings must also be updated to incorporate rehabilitation and reconstruction performed on the bridge.

  - Qualifications
    - Load ratings must either be analyzed by or checked by a registered P.E. The same person cannot perform both duties. It is recommended that the P.E. has a minimum of five years of bridge analysis and inspection experience.
  - Post or restrict
    - Bridges that cannot safely carry all Michigan legal loads must be posted, load restricted, strengthened, or closed. If a bridge cannot safely carry at least 3 U.S. tons, it must be load posted, strengthened, or closed.
  - Load rating data and pictures of load posting signs (if present) must be uploaded to MiBridge.

R12-5

### Additional Resources

**Essentials for Local Public Agencies**  
[ides/essentials/companionresources/87nbis.pdf](#)

**ntials for Local Public Agencies (videos)**  
[deral-aidessentials/catmod.cfm?id=87](#)

**of the National Bridge Inspection Program**  
[of.gov/bridge/nbip/metrics.pdf](#)

**ction Program Requirements**  
[ker\\_1\\_Program\\_Requirements\\_12-08-2017\\_608341\\_7.pdf](#)


**of Local Bridge Program**  
[\\_Overview\\_of\\_Local\\_Bridge\\_Program\\_116617\\_7.pdf](#)

**istory and Appraisal Coding Guide (SI&A)**  
[ments/mdot\\_SIA\\_Manual-2\\_79072\\_7.pdf](#)

**ture Inspection Manual (MISIM)**  
[167-151-9625\\_24768\\_24773-326737--00.html](#)

**e Vendors for Inspection and Load Rating**  
[state.mi.us/PSVR/PSVRHome.htm](#)

	Non-Compliance Deadlines
of a critical a bridge, ad posting.	Insufficient action on a critical finding may lead to immediate non-compliance and funding may be withheld immediately.
cheduled	Funding may be withheld when the inspection is greater than two months past due.
ry based nges to the contacts.	MiBridge must be updated within 180 days or funding may be withheld.
ry based on enance or dge.	Posting signs, when required, should be placed as soon as possible. MiBridge must be updated within 180 days or funding may be withheld.
	MiBridge must be updated within 180 days of the inventory information change or funding may be withheld.





# Local Bridge Owners Guide

## Load ratings must:

Reflect the current  
condition of the  
bridge

Be updated when  
there is a change  
in condition

Incorporate  
rehabilitation and  
reconstruction



Load rating data and pictures of  
weight limit signs must be uploaded  
into MiBRIDGE



Load rating  
unavailable



Load rating  
not up to date



Posting  
confirmation  
missing from  
file



# Statewide QAQC Contract



## Bridge Inspection & Load Rating



## Annual QC Checks on:

Minimum of 20% of local agencies

Minimum of 10% of agency's bridge inventory



Load rating  
unavailable



Load rating  
not up to date



Judgment  
ratings



Documentation  
incomplete



Incorrect  
coding of NBI  
Items



Posting sign  
missing in field



Posting  
confirmation  
missing from  
file



Posting sign  
inconsistent  
with MUTCD

18

6 LFR in Rating Factor ▼  
1.17

P Posted for load ▼  
3 - 89% - 80% ▼

Gross Load ▼  
33 NN NN

B ▼  
N - No Restriction ▼

**Sample Sign**

**WEIGHT  
LIMIT  
XX  
TONS**

R12-1

18

6 LFR in Rating Factor ▼  
1.17

P Posted for load ▼  
3 - 89% - 80% ▼

Truck Type ▼  
33 44 55

B ▼  
N - No Restriction ▼

**Sample Sign**

**WEIGHT  
LIMIT  
XX T  
XX T  
XX T**

R12-5

18

6 LFR in Rating Factor ▼  
1.17

P Posted for load ▼  
3 - 89% - 80% ▼

Axle Load ▼  
NN 44 NN

B ▼  
N - No Restriction ▼

**Sample Sign**

**AXLE  
WEIGHT  
LIMIT  
X TONS**

R12-2

18

6 LFR in Rating Factor ▼  
1.17

P Posted for load ▼  
3 - 89% - 80% ▼

Gross and Axle Load ▼  
33 44 NN

B ▼  
N - No Restriction ▼

**Sample Sign**

**WEIGHT LIMIT  
X TONS PER AXLE  
XX TONS GROSS**

R12-4



# MiBRIDGE Enhancements



Incorrect  
coding of NBI  
Items



Posting sign  
inconsistent  
with MUTCD

# MiBRIDGE Enhancements

NBI INSPECTION		MCMUNNC - 3Y9N	
Inspector Name	Agency / Company Name	* Insp. Freq.	* Insp. Date
Creightyn McMunn	MDOT Load Rating	24	03/11/2019
GENERAL NOTES		<a href="#">Prev. Comment</a>	
<div>Hi everyone at the Bridge Conference!</div>			
* Posting signs in place on both ends of bridge			



## Warning!

• An image of the posting sign from each end of the bridge should be uploaded as part of this inspection report.

Ok

- Future enhancements
  - Ability to upload XML files
  - Assumption form required fields
  - Judgment rating category on load rating dashboard
  - PE Verification check & unique analyzed by & reviewed by check



Load rating  
unavailable



Documentation  
incomplete



Posting sign  
missing in field



Posting  
confirmation  
missing from  
file



# Metric 14 Plan of Corrective Action

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MDOT WILL CREATE & IMPLEMENT A POLICY  
REQUIRING IMAGES OF POSTING SIGNS TO  
BE TAKEN WITH EACH ROUTINE INSPECTION  
& UPLOADED INTO MIBRIDGE



MDOT WILL PREPARE AND PUBLISH  
UPDATED LOAD POSTING GUIDANCE



Photographs of weight limit signs must be taken during each routine inspection and stored electronically in MiBRIDGE



Applies to the weight limit signs at each end of the bridge, as well as any advanced warning signs



Posting signs found to be missing, damaged, or vandalized should be replaced or repaired quickly

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## Bridge Advisory 2018-01: Load Posting Guidance



Posting sign missing in field



Posting confirmation missing from file



NBI ITEMS REQUIRED  
FOR LOAD POSTING



WEIGHT LIMIT SIGN  
GUIDANCE



TIMEFRAMES FOR  
IMPLEMENTATION

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## Bridge Advisory 2018-01: Load Posting Guidance



Incorrect  
coding of NBI  
Items



Posting sign  
inconsistent  
with MUTCD



Timeliness

# Internal Changes



New procedure for  
timeliness checks &  
contacting agencies  
with compliance issues



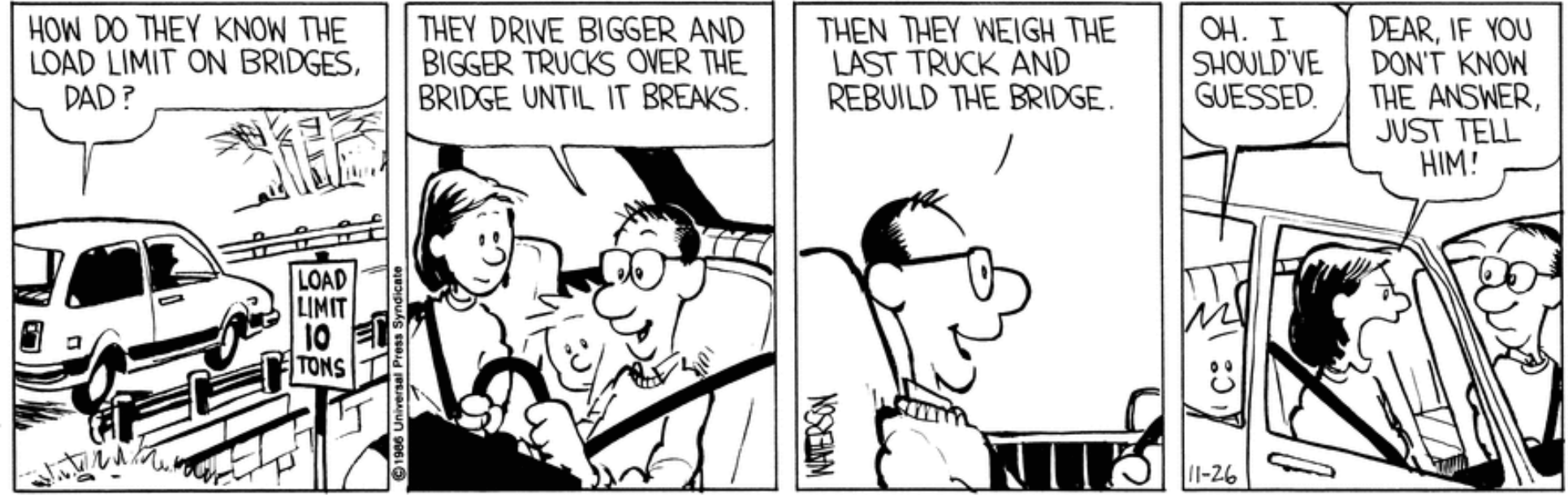
Manual monthly review  
of load posting data

Period Relative to NBI Compliance Deadline	Bureau of Bridges and Structures (BoBS) Activities to Mitigate NBI Compliance Issue	TSC Manager Activities to Prevent Withholding of Funding from Local Agencies	Consequence of Continued NBI Compliance Issue
6 Months Prior	Email to Bridge Owner, notifying them of the NBI Compliance Issue and requesting a response that details their plan of action to resolve the issue, including an anticipated date of resolution.	No action is necessary.	None
5 Months Prior	Email to Bridge Owner, continuing the notification of the NBI Compliance Issue and requesting an update regarding action taken since the previous correspondence.	No action is necessary.	None
4 Months Prior	Email to Bridge Owner, continuing the notification of the NBI Compliance Issue and requesting an update regarding action taken since the previous correspondence.  If no response has been received to the former email, call Bridge Owner to notify them of the NBI Compliance Issue and send a follow-up email, detailing the phone conversation.	No action is necessary.	None
3 Months Prior	Email to Bridge Owner, requesting an update regarding action taken since the previous correspondence and reiterating the upcoming deadline and the potential funding implications of being held in noncompliance.  Consider contacting the former bridge inspector and/or rating engineer, directly, in regard to the NBI Compliance Issue.	No action is necessary.	None
2 Months Prior	Call Bridge Owner to discuss steps taken to resolve the NBI Compliance Issue.  Email TSC Manager, detailing prior correspondence with local agency and requesting TSC communicate with local agency as well.	Communicate directly with proper Local Agency staff to ensure that they are aware of the upcoming noncompliance deadline and potential funding implications, and request a plan of action to resolve the issue, including an anticipated date of resolution.	None
1 Month Prior	Call Bridge Owner, warning of the upcoming deadline and possible withholding of funds from the agency. Send a follow-up email, detailing the phone conversation, and include the Bureau of Bridges and Structures Director, Local Agency Program Section Supervisor, TSC Manager, and most recent bridge inspector and/or load rating engineer in the correspondence.	Follow-up with Local Agency regarding inaction following the previous month's contact. Work with the agency to ensure action is taken. Provide regular status updates to Bureau of Bridges and Structures staff and Local Agency Program Section Supervisor regarding progress to complete the work.	Warning
Past Deadline	Bureau of Bridges and Structures staff will email a letter to the Bridge Owner stating that the local agency is in noncompliance with the National Bridge Inspection Standards (NBIS). The determination to restrict funding will be made at the Bureau Management level according to present action being undertaken by the agency.	Communicate that due to noncompliance with the NBIS, transportation related funds may be withheld, and new projects may not be able to be obligated. Continue to work with the agency to ensure action is taken. Provide regular status updates to Bureau of Bridges and Structures staff and Local Agency Program Section Supervisor regarding progress to complete the work.	Noncompliance



## Policy changes under consideration

- Require load rating documents & plans be uploaded into MiBRIDGE
- Require use of BrR when possible
- Issue updated judgment rating Bridge Advisory
- Add advanced warning sign verification to BSIR
- Add Item 141 vs. values on weight limit sign verification to BSIR
- Require inspectors to submit an RFA when posting sign is missing



Questions?

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