



January 28, 2021

RE: Bridge Inspection Program - NBIS

Nebraska Bridge Inspection Program Participants:

The Quality Assurance (QA) Evaluation of the Bridge Inspection Program (BIP) has been completed for data entered into BrM from April 1, 2019 to April 30, 2020. In addition to meeting with bridge owners to review records, the following items were part of the QA Program:

- Inspection Frequency
- Inspection Procedures
- Bridge Posting Signage or Closure status
- Detour Length Review (Item 19) – Office Review
- Year of Future ADT (Item 115) – Office Review
- Posting Status (Item 70) – Office Review

A total of 252 bridge files were reviewed this year at 20 separate Bridge Owners offices. The results from this year as well as the previous four years are shown below.

Review Result	Percent				
	2016	2017	2018	2019	2020
Compliant → All required items are included in file	30%	56%	43%	35%	60%
Substantially Compliant → File is missing one required item	36%	21%	28%	35%	29%
Non-Compliant → File is missing two or more required items	34%	23%	29%	30%	11%

The majority of owners visited this year were last seen in 2016. The increase between the 2016 results and this year's results is evident in the above table. **Nearly 90% of files reviewed this year were complete or missing only one item, compared to 66% from 2016.** Owners are increasingly keeping all required information in each file.

Each of the 252 bridge files reviewed also had the inspection interval reviewed in BrM. Nearly 95% were inspected within the 24-month inspection interval. **When structures are inspected late, inspectors should add a note in BrM to indicate the reason.**



Pete Ricketts, Governor

A summary of areas for improvement noted during this year's QA program follows:

Owner File Organization – While owners of off-system bridges are increasingly storing all or most required information, many times the files are unorganized and contain multiple copies of the same documents. The most common duplicate items found are scour plans of action and load rating summary sheets. Duplicate information should be removed from the file to avoid confusion.

Each file should also be kept in a similar order so there is consistency. For example, if the load rating summary sheet is kept as the first thing in each file it is easy to recognize when it is missing. Keeping each file organized consistently will allow owners and others to access required information quickly.

Inspectors are required to add a note and take a photo for any NBI Condition Code of 5 (Fair) or less. This applies to NBI Items 58, 59, 60, and 62. The note should document the reason for the condition rating of 5 or less and include a photo of the defect or distress. The wording of the note should preferably follow the BIP Manual descriptions in Chapter 3-NBI for the item being evaluated. Inspectors are also encouraged to upload the photo(s) to BrM. Both the note and photos should be updated each inspection cycle.

A total of 294 bridge files were reviewed that had a condition code of 5 or less for one or more of Items 58, 59, 60 or 62. Of these, 67% had poor quality notes or had no notes at all describing the condition. A few things to keep in mind regarding quality inspection notes:

- “No change from last inspection” was used frequently as a note. This is not an adequate note as it gives no information about the condition. Many times, this note is used for multiple inspection cycles in a row, potentially not accurately reflecting the defect over time.
- “Minor” or “major” are often used to describe conditions. A better description would be to use dimensions that can be followed up on in subsequent inspections. For example, a “2-ft drop at inlet” as opposed to “minor drop at inlet.”
- Inspectors should make sure to include inspection notes in the inspection-level notes area in BrM and not in the structure-level notes area.

Detour Lengths (NBI Item 19) – In a more detailed follow-up to last year's work, the detour length for 322 structures in seven counties was checked for accuracy. Over half of the structures were found to have detour lengths 1 mile or more off. In addition, if a structure is on a dead-end road, the coding guide requires Item 19 to be coded 199, only one structure on a dead-end road was found to be coded correctly.



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Year of Future Average Daily Traffic (NBI Item 115) – This item was checked for 315 structures in seven counties across the state. Per the National Bridge Inspection Standards, the year of future ADT shall be at least 17 but no more than 22 years from the date of inspection. In almost all instances the year of future ADT was less than 17 years from the date of inspection, indicating this item is not being updated.

Bridge Posting (Item 70) – This item was checked for all bridges in the inventory for consistency with Item 41-Posting Status. If Item 41 is coded as “A-Open, No Restriction” then Item 70 must be coded “5-Equal to or Above Legal Loads.” A total of 31 records from the sample list were found that violated this requirement. In almost all of these instances, the issue was an outdated load rating on file. When a structure is replaced it is important that the load rating on file be updated accordingly.

Inspection Type in BrM – Multiple instances were found where inspectors have entered the incorrect inspection type in BrM. This typically occurs after a special in-office inspection is done. Inspectors should check that the correct inspection type is selected when a new inspection is created in BrM and before completing an inspection record, inspection primary type and type of inspection performed should be checked in the BrM Inspection Schedule page.

Nebraska Department of Transportation and Federal Highway Administration appreciate your cooperation in meeting the requirements of the National Bridge Inspection Standards.

This memorandum is being sent to all local Bridge Owners and is intended to provide an update on the Nebraska Bridge Inspection Program. Electronic copies of this and previous BIP memos, as well as other BIP information, can be found on the NDOT Bridge Division website at the following link:

<https://dot.nebraska.gov/business-center/bridge/inspection/>

Sincerely,

Mark Traynowicz, PE
State Bridge Engineer

cc: Babrak Niazi, NBIS Program Manager