



U.S. Department
of Transportation

Federal Highway
Administration

Memorandum

Subject: **ACTION:** Annual Call for Update of the
National Bridge Inventory 2013
/s/ Original Signed by Joseph Krolak for

Date: November 8, 2012

From: M. Myint Lwin, P.E., S.E.
Director, Office of Bridge Technology

In Reply Refer To:
HIBT-30

To: Federal Lands Highway Division Engineers
Director of Technical Services
Division Administrators

We hereby request that each State and Federal Agency submit to the Office of Bridge Technology, by April 1, 2013, a copy of their most current National Bridge Inventory (NBI) data on highway bridges.

New for the April 2013 submittal: The National Highway System (NHS) indicator must be updated by the States and Federal Agencies to reflect the expansion of the system under the MAP-21 legislation. Many Principal Arterials that were not previously included as part of the NHS are included under the expanded system. The maps posted at http://www.fhwa.dot.gov/planning/national_highway_system/nhs_maps/ are to be used to update the NHS indicator in the NBI for this subset of bridges. The population of bridges that will need the NHS indicator updated is expected to be small. The correct coding of the NHS designator will allow for administration of the new National Highway Performance Program.

Other noteworthy items:

1. Structure number changes are no longer allowed.
2. The checks implemented in 2012 to identify potential safety concerns and possible coding inconsistencies remain in place. Any potential safety issues must be resolved immediately, and the progress and status of the resolution reported to the Bridge Safety Engineer. See discussion of these checks in Attachment 1, Section 8, Safety Related Checks.
3. The States' inventory submissions should not include bridges owned by Federal Agencies as mentioned in our January 4, 1995, memorandum unless the State has inspection or maintenance responsibility for the Federal bridge.
4. NBI Items 31, 63, and 65 have revised and expanded codes that must be updated. See the memoranda dated February 2, 2011 and November 11, 2011 posted at <http://www.fhwa.dot.gov/bridge/nbi.htm> for timelines and more information.

The NBI data items are to be submitted in compliance with the "Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges," December 1995

including its updates, and in the 432-character record format. The data submittal options and specifications are outlined in Attachment 1.

Security measures with regard to the United States Postal Service mail deliveries are still in place. This process will destroy diskettes, compact discs or tapes. Electronic data submissions are encouraged. Submittal options are outlined in Attachment 1.

All NBI information submitted is to be checked for errors prior to submittal. An internet version of the error checking routine is available on FHWA's Website at the following address www.fhwa.dot.gov/bridge/nbi.htm. Files with significant errors will be returned for resolution. Significant errors are errors that are related to items that affect the deficiency status or sufficiency rating for a bridge or files with a large number of errors. All items are expected to be coded according to the Coding Guide; therefore, items that are inappropriately left blank or otherwise miscoded will receive an error message. In general, error messages generated in the 2012 submittal file are expected to have been fixed in the 2013 submittal; however, the FHWA recognizes that some errors will not be able to be resolved until the next inspection cycle. The FHWA also recognizes that while these error checks ensure data quality there will be exceptions to some error checks and that the error message will have to be overlooked. Error messages generated from the 2013 submittal file will be compared to the errors generated from the 2012 submittal. Files with large numbers of repeat errors will be flagged in a separate report and returned for immediate resolution which may include assurance that the error will be fixed in the next year's submittal.

Please direct questions from your office to Ms. Ann Shemaka at (202) 366-1575 or e-mail to ann.shemaka@dot.gov.

Attachments

cc:
Directors of Field Services

Attachment 1
National Bridge Inventory
Specifications for Submitting and Processing of Data
January 2012

This document and any future addendums shall be considered as the complete information on the following:

1. Record Format
2. Data Submittal Options
3. Structure Number Changes
4. Error Checking
5. Submittal Processing
6. Sufficiency Rating
7. Reports (error reports and selection list)
8. Safety Related Checks

1. Record Format

The National Bridge Inventory (NBI) data is collected and submitted as directed by the National Bridge Inspection Standards (NBIS) in 23 CFR 650 Subpart C, effective January 13, 2005. Bridge inspection data shall be recorded in accordance with the "Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges," December 1995 Including updates, and submitted in the NBI Record Format which can be found at <http://www.fhwa.dot.gov/bridge/nbi/format.cfm>.

2. Data Submittal Options

National Bridge Inventory data in the 432-character record format shall be submitted to the Office of Bridge Technology. Options for submitting the file include:

- Submittal through the web-enabled NBI system by logging on to FHWA User Profile & Access Control System (UPACS). Use the Submittal Button in the NBI system.
- E-mail the submittal file or FTP instructions to the Office of Bridge Technology mailbox, BridgeOfficialMailbox.FHWA@dot.gov, and copy Ann Shemaka, ann.shemaka@dot.gov.
- Use of a delivery service such as UPS or Fed-Ex that can deliver directly to the Office of Bridge Technology at the following address:

Federal Highway Administration
1200 New Jersey SE, HIBT-30 Washington, D.C. 20590
202-366-1575
Attn: Ann Shemaka, E-75-127

State and Federal Agencies can access the NBI web system via the internet after securing a userid and password. Complete instructions for registration to the NBI Web-system can be obtained by contacting Ms. Ann Shemaka at 202-366-1575 or ann.shemaka@dot.gov.

As of April 1, 2010, all State DOT users are required to login using credentials issued by Operational Research Consultants to access FHWA web-based applications. Attachment 2 contains the memorandum issued October 4, 2009 by Debbie Millard, Team Leader, Administrative & Business Applications Team regarding these changes. These changes apply to State users of only.

Please note that there are no FHWA FTP server options available.

3. Structure Number Changes

Structure number changes are not accepted. The State or Federal Agency is expected to assign a number to each bridge as required by the Coding Guide, Item 8, and retain the number for the life of the bridge.

4. Error Checking

There are two ways to error check a file. The first is the Check Data module within the NBI system which is accessible through UPACS. The user logs into NBI through UPACS, chooses the Check Data button, uploads the file, and then a short time later receives an E-mail directing them to return to the Check Data module in NBI system to download the error reports.

The second method is to use an error check module that is now on the FHWA's Internet site www.fhwa.dot.gov/bridge/nbi.htm. The file is uploaded and the user waits while the file is being checked (the window can be minimized while the file is being checked). When the procedure is complete a page displays with links to download the error reports. Both file check methods use the 432-character record file. All NBI data submitted is to be checked for errors prior to transmittal to the FHWA.

5. Submittal Processing

All submittals of NBI data will be processed as update transactions to the existing records. The process of adding, updating, and deleting records is as follows and applies to both State and Federal submittals:

Adding New Records - Any 432 character input record with a valid and unique ID (State code, structure number and first digit of Item 5) that has no match on the existing master file will be added to the new master file.

Deleting Records - Omitting a record in the submittal file that is an annual update will automatically delete the record from the NBI. If the State or Federal Agency is submitting a partial update after their annual full file submittal and wishes to delete a

record, they should code only State code, structure number and first digit of Item 5 of the record to be deleted, leaving all other items of the 432-character record blank.

Updating Records - Data in the master file record will be replaced by the data submitted when the unique ID (State code, structure number and first digit of Item 5) matches the record on file. Three items that cannot be changed are State code, structure number and first digit of Item 5.

Duplicate Records - If duplicate update records are present on the input file, the program will use the first one encountered, reject any others, and write an error message displaying rejected records.

The following options are available for updating data:

Full Data Submittal - The submitted data file contains a complete data set. Action taken: records in the existing NBI master file which match ID's with submitted data are updated; records in the NBI master file that do not have a match in the submitted file are automatically deleted and a list of their ID's are provided; and records on the submitted file which do not exist in the NBI master file are added.

Partial Inventory Update - The submitted data file contains a partial update to the inventory. Action taken: records in the existing NBI master file which match ID's with submitted data are updated. If there are records in the NBI master file that do not have a match to the submittal file they are not deleted. They are retained in the master file. Records on the submitted file which do not exist in the NBI master file are added. Records coded with the State code, structure number, first digit of Item 5 and the rest of the record blank are deleted.

Note: The annual submittal must be a full data submittal. The partial option is used throughout the year for updating smaller sets of bridge information.

6. Sufficiency Rating (SR)

The sufficiency rating is calculated and stored in the record for all structures meeting the following criteria:

- The first digit of Item 5 is coded 1
- The bridge must carry highway traffic (first digit of Item 42 must be 1, 4, 5, 6, 7, or 8)
- The bridge must be greater than or equal to 6.1 meters, and
- The bridge must be of NBIS bridge length

An asterisk prefix is used to identify a sufficiency rating that was calculated even though some essential data was missing or coded incorrectly. The program will substitute a value for the unusable /missing data for certain data elements and calculate the sufficiency rating. Note: It is normal that all culverts with Bridge Roadway Width, Curb-to-Curb Item 51 coded '0000' will have an asterisk prefix sufficiency rating. A value of 10.9 meters is used in the SR calculation.

7. Reports

After the agencies data has been added to the NBI file, reports are prepared detailing all of the transactions, data summaries and errors. Copies of these reports are automatically e-mailed to registered users in that particular State or Federal Agency. For State submittals, copies of these reports are automatically mailed to the FHWA Division Bridge Engineer and should be forwarded to the State by the Division to ensure they are received. For Federal Agency submittals, copies of the reports are e-mailed to the Federal Lands Highway Office to forward to the Federal Agency.

After the data is processed, the NBI user can generate a selection list by selecting the report from the list of standard reports. It should be noted that Federal bridges appear on the States selection list and the list will not be fully up to date until all Federal agency files have been processed.

It is expected that the highway agency will review these reports and lists and make any necessary corrections to their data. Files with significant errors will be returned for immediate resolution. In general, errors in the current year file submittal report are expected to be addressed the following year, although a more timely resolution is optimal. Significant errors and the errors in the two year persistent report are expected to be resolved immediately.

8. Safety Related Checks

Special reports have been developed as part of the error check and data processing procedure.

1) When the State or Federal Agency runs the error check, any bridges which are identified as meeting either of the following conditions will be flagged in special reports. The data must be corrected prior to submittal:

- Item 64 less than 2.7 metric tons, and item 41 = A, B, P, or R, and item 103 is blank; and
- Any bridge with item 59 and/or item 60 coded less than 2, and item 41 = A, B, D, P or R, and item 103 is blank.

2) Reports have been developed based on the following criteria in order to identify situations that may reflect an inconsistency in coding, a coding error, or situations that require follow-up:

- Item 64 between 2.7 metric tons and 19.9, Item 41 = A, Item 43b<>19, and Item 103 is blank; and
- Any bridge with Item 41 coded B.

These reports will be generated for structures which carry highway traffic only.



U.S. Department
of Transportation
**Federal Highway
Administration**

Subject: INFORMATION: User Profile and Access
Control System (UPACS) Credentials

Date: October 4, 2009

From: Debbie Millard
Administrative & Business Application
Team Leader

Refer To: HAIM43

To: Department of Transportation (DOT)
State Users and Metropolitan Planning
Organization (MPO) Users using the User
Profile and Access Control System
(UPACS)

In March 2007, the Federal Highway Administration (FHWA) pioneered in the successful implementation of e-Authentication as a part of the e-Gov initiative to enable trust and confidence in e-Government transactions. e-Authentication is a component of the Federal Enterprise Architecture (FEA) that provides user authentication using the credentials issued by Federal Government approved Credential Service Providers (CSPs). FHWA has become a member of the U.S. Government's e-Authentication Federation.

In adherence to the DOT Information Assurance guidance, all State DOT users and MPO users accessing FHWA web-based applications are required to obtain a Level-2 credential. The four levels of assurance are defined as:

- Level 1 - Little confidence in identity
- Level 2 - Some confidence in identity
- Level 3 - High confidence in identity
- Level 4 - Very high confidence in identity

Currently FHWA is a partner with the Operational Research Consultants, Inc (ORC) as FHWA Credential Service Provider (CSP). ORC is an approved CSP by the U.S. e-Authentication Federation.

Beginning April 1, 2010, all State DOT users and MPO users will be required to login using credentials issued by ORC to access FHWA web-based applications. We encourage State DOT users and MPO users to obtain Level-2 credentials prior to April 1, 2010 to avoid any accessibility issues related to FHWA externally facing applications. After April 1, 2010, State

DOT users and MPO users will no longer be able to access UPACS from the UPACS Login Page. State DOT users and MPO users must use the e-Auth Link on the UPACS Login Page and use their ORC credentials to access the FHWA application.

Further details pertaining to user registration for ORC can be found at <https://csp.orc.com>.

Please contact Kimberly Applewhite at Kimberly.Applewhite@dot.gov, 202-366-9029 if you have any questions.