
Office of Inspector General

Audit Report

FHWA EFFECTIVELY OVERSEES BRIDGE SAFETY, BUT OPPORTUNITIES EXIST TO ENHANCE GUIDANCE AND ADDRESS NATIONAL RISKS

Federal Highway Administration

Report Number: ST-2015-027

Date Issued: February 18, 2015





Memorandum

U.S. Department of
Transportation

Office of the Secretary
of Transportation
Office of Inspector General

Subject: **ACTION**: Final Report—FHWA Effectively Oversees Bridge Safety, but Opportunities Exist To Enhance Guidance and Address National Risks
Federal Highway Administration
Report Number ST-2015-027

Date: February 18, 2015

From: Thomas E. Yatsco
Assistant Inspector General
for Surface Transportation Audits

Reply to
Attn. of: JA-30

To: Federal Highway Administrator

There are over 600,000 bridges on public roads that carry, on average, more than 4.6 billion vehicles per day. The Federal Highway Administration (FHWA) established the National Bridge Inspection Standards (NBIS)¹ to require inspections of public highway bridges, and FHWA oversees States' efforts to ensure bridges within their jurisdictions are safe.² Since 2006, we have issued three reports recommending improvements to FHWA's oversight of States' bridge programs by implementing a data-driven, risk-based approach.³ In response, FHWA announced a new bridge safety initiative in 2011, which was designed to more consistently monitor how States perform bridge inspections and target problem areas.

The former Ranking Member of the House Committee on Transportation and Infrastructure requested that we assess FHWA's efforts to improve bridge safety. We undertook two audits to address this request. The first⁴ audit assessed FHWA's implementation of bridge provisions in the Moving Ahead for Progress in the 21st Century Act⁵ and prior open OIG recommendations. For this second

¹ 23 C.F.R. Part 650, Subpart C.

² In this report, the term "State" refers to any of the 50 States, the District of Columbia, or Puerto Rico.

³ *Audit of Oversight of Load Ratings and Postings on Structurally Deficient Bridges on the National Highway System* (OIG Report Number MH-2006-043), Mar. 21, 2006; *National Bridge Inspection Program: Assessment of FHWA's Implementation of Data-Driven, Risk-Based Oversight* (OIG Report Number MH-2009-013), Jan. 12, 2009; and *Assessment of FHWA Oversight of the Highway Bridge Program and the National Bridge Inspection Program* (OIG Report Number MH-2010-039), Jan. 14, 2010. OIG reports are available on our Web site: <https://www.oig.dot.gov>.

⁴ *FHWA Has Not Fully Implemented All MAP-21 Bridge Provisions and Prior OIG Recommendations* (OIG Report Number MH-2014-089) Aug. 21, 2014.

⁵ Pub. L. 112-141 (2012).

audit, our objectives were to assess whether (1) FHWA Division Offices are effectively using a data-driven, risk-based approach to oversee States' bridge inspection programs and (2) FHWA Headquarters is identifying and addressing high-priority risks to bridge safety at the national level.

We conducted this review in accordance with generally accepted Government auditing standards. To perform our work, we reviewed laws, regulations, and guidance pertaining to FHWA's oversight of the NBIS and interviewed Federal and State officials. We also visited FHWA Division Offices and State departments of transportation (State DOT) in a statistical sample of six states: California, Florida, Mississippi, Oklahoma, Pennsylvania, and Wisconsin. Exhibit A further details our scope and methodology.

RESULTS IN BRIEF

FHWA established a data-driven, risk-based approach to oversee States' compliance with the NBIS, which its Division Offices have effectively implemented. However, we identified gaps in three areas of FHWA guidance that could limit the program's long-term success. First, FHWA established the Assessment Reporting Tool (ART) to serve as a central repository of the NBIS reviews from Division Offices, but Division Offices lack a consolidated source of ART-related guidance. As a result, not all of the Division Offices we visited clearly understood the requirements for documenting their work in ART. Second, while FHWA established a Quality Assurance Review (QAR) process for the NBIS reviews recorded in ART, FHWA Headquarters does not fully communicate annual results to the appropriate Division Offices or formally track actions taken to correct documentation deficiencies. Consequently, not all of the Divisions we visited were aware of their specific QAR results, and Headquarters could miss opportunities to improve documentation of bridge oversight efforts. Finally, current FHWA guidance for Division Offices overseeing States' bridge inspection programs does not explain how to combine separate assessments of a State's bridge inspection program into a single rating or how FHWA Division Offices and Headquarters should coordinate when the Division Office's resources are insufficient to fully review the State's bridge inspection program. Thus, Division Offices may make different compliance determinations when combining assessments, and FHWA Headquarters may be unaware of resource gaps.

FHWA established the National Bridge Inspection Program Oversight Team (NBIPOT) in 2010 under the FHWA Headquarters Office of Bridges and Structures. One role of the NBIPOT is to perform an annual assessment of the bridge safety inspection program to routinely and systematically identify and prioritize national bridge safety risks. However, more than 4 years later, the NBIPOT has not completed a formal bridge safety risk assessment, although it is currently working to finalize its risk assessment process. FHWA officials

explained that the delay was the result of the NBIPOT's priority to first develop FHWA's new national bridge safety initiative and ensure its successful implementation. The NBIPOT's national bridge safety risk assessment process under development considers various sources of bridge safety information in order to identify, prioritize, and address bridge safety risks. However, the process does not include key elements, such as how the NBIPOT will report on risks or how it will implement and track any mitigation actions that the NBIPOT may recommend. The lack of a comprehensive risk management process limits the NBIPOT's ability to consistently identify, report, and track high-priority risks to bridge safety at the national level.

We are making several recommendations to improve FHWA's communication and program guidance and its efforts to ensure high-priority bridge safety risks are effectively identified and addressed.

BACKGROUND

State DOTs are required to have a bridge inspection program to ensure that highway bridges on public roads within their jurisdictions are properly inspected in accordance with the NBIS.⁶ Established by FHWA, the NBIS sets the national standards for the proper safety inspection and evaluation of all highway bridges. Historically, FHWA provided limited guidance for a general review of States' compliance with the NBIS that resulted in inconsistent assessments by the various FHWA Division Offices. In response to our prior recommendations and congressional direction, beginning in 2008, FHWA worked to develop and pilot a new NBIS oversight process and later engaged the American Association of State Highway and Transportation Officials (AASHTO) and other stakeholders to further improve the process. FHWA also hired additional bridge engineers to provide technical assistance to Division Offices. In 2011, FHWA implemented a new data-driven, risk-based process to oversee States' bridge inspection programs.

The new process incorporates uniform data from the National Bridge Inventory⁷ and standard criteria for 23 metrics, each directly associated with requirements in the NBIS, to assess and report on the performance of States' bridge inspection programs in a uniform manner. The metrics address the following key areas: bridge inspection organization, qualifications of personnel, inspection frequency, inspection procedures, and inventory data (see exhibit B for more details). The process requires that the 52 FHWA Division Offices systematically assess each metric for compliance with the NBIS and report any non-compliance issues to the State by December 31 of each year. States are then provided 45 days to correct any

⁶ States are not responsible for bridges owned by Federal agencies or tribal governments, which are responsible for their own bridges subject to the NBIS.

⁷ The National Bridge Inventory is a database maintained by FHWA of bridge information that is updated annually from data submitted by States and other agencies.

deficiencies identified by FHWA or submit a corrective action plan to FHWA for approval. If any deficiencies remain unresolved, FHWA may then require the State to dedicate apportioned Federal funds to correct the issue of non-compliance with the NBIS.

The FHWA Headquarters Office of Bridges and Structures provides bridge inspection program policy, guidance, and technical assistance to the Division Offices. Additionally, to support the new oversight approach, FHWA established the NBIPOT under the Office of Bridges and Structures in 2010 to ensure that areas of greatest risk are identified and addressed and that FHWA's oversight process is carried out in a consistent, effective, and efficient manner. NBIPOT's responsibilities include completing quality assurance reviews of the Division Office assessments, reporting on national progress with regard to FHWA's oversight activities and States' performance, and assessing national risk areas related to bridge safety.

FHWA DIVISION OFFICES EFFECTIVELY IMPLEMENTED OVERSIGHT OF STATE BRIDGE INSPECTIONS, BUT GAPS IN GUIDANCE AND COMMUNICATION MAY LIMIT THE PROGRAM'S LONG-TERM SUCCESS

Since 2011, FHWA Headquarters has established—and its Division Offices have effectively implemented—a data-driven, risk-based approach to oversee States' compliance with the NBIS. FHWA Headquarters also developed guidance and training for the Division Offices to carry out the program. However, we identified gaps in three areas that could limit the program's long-term success: (1) ensuring NBIS reviews are properly documented, (2) communicating results and tracking corrective actions identified by its annual quality assurance reviews, and (3) reporting the results of NBIS reviews when the process is adjusted to address unusual State circumstances.

Division Offices Effectively Implemented FHWA's Data Driven, Risk-Based Approach To Oversee States' Bridge Inspection Programs

The six Division Offices we visited effectively implemented NBIS compliance reviews. Their reviews used a data-driven, risk-based process to consistently identify deficiencies in States' bridge inspection programs and target them for improvement. During these reviews, FHWA Division bridge engineers use data in the National Bridge Inventory and State DOT information to identify deficiencies; they also select a random sample of bridges to visit in order to assess the quality of the States' inspections and documentation. The Division Offices' oversight process provided for a reliable determination of States' compliance with 23 discrete NBIS requirements, which FHWA refers to as metrics. We found that all 6 FHWA Division Offices we visited completed their 2014 annual reviews of

all 23 metrics, resulting in comprehensive assessments of States' bridge inspection programs.⁸ We determined this based on extensive interviews with Division bridge engineers in six States and an examination of documentation maintained by the Division Offices, such as field review checklists, corrective action plans, and correspondence with State DOTs. According to Federal and State officials, the NBIS reviews covered the areas most critical to bridge inspections, including metrics such as inspector qualifications, load rating, and scour.⁹

The Division Offices we visited ensured that States had plans for corrective action in place to address areas of non-compliance with the NBIS, based on the annual reviews. For example, in 2012, FHWA's Florida Division Office found the State to be non-compliant with the NBIS requirement to have plans in place to monitor bridges with unknown foundations, which may be susceptible to scour. Consequently, the Division Office required Florida DOT to implement a plan of corrective action to evaluate or establish monitoring plans for approximately 450 bridges with unknown foundations. According to the Division Office, after Florida DOT implemented this plan, the State was able to address all the bridges with unknown foundations and was determined to be compliant by the end of 2013.

FHWA Lacks Consolidated Guidance to Division Offices for Documenting Annual Bridge Inspection Oversight Reviews

FHWA established ART as a resource to assist its Divisions in performing and documenting the NBIS compliance reviews. However, FHWA lacks a consolidated source of ART-related guidance for Division Offices. ART is an important tool for both the Division Offices and FHWA Headquarters. ART can help Division bridge engineers by generating standard assessment reports and providing a sampling tool that assists in selecting the appropriate random sample of bridges to review. ART also serves as a central repository of Division Offices' NBIS review results, which FHWA Headquarters uses for national reports, risk assessments, and internal quality assurance reviews.

Instead of providing a consolidated source for guidance, FHWA's guidance is documented in multiple formats, such as recorded webinars and meetings, training materials, emails and examples of completed assessments available from various sources. While these individual aids are informative, the guidance is not organized to allow Division Offices to easily identify or locate relevant information when needed. As a result, not all of the Division Offices we visited clearly understood the requirements for documenting their work in ART. For example, FHWA

⁸ FHWA refers to their annual reviews by performance year. The 2014 performance year cycle went from June 1, 2013, to May 31, 2014.

⁹ Load rating is the calculation of a bridge's weight-carrying capacity. Scour is the result of the erosive action of flowing water that excavates and carries away material from stream beds and banks as well as from around bridge piers and abutments.

requires that Division Offices include Improvement Plans¹⁰ in ART for metrics that are determined to be substantially compliant.¹¹ Four of the six Division Offices had approved Improvement Plans, but only two of the Divisions we reviewed had documented the plans in ART. Moreover, FHWA Headquarters distributed an example of a substantially compliant metric to the Division Offices; however, it did not include the required Improvement Plan. A lack of clear guidance for documenting annual NBIS reviews could undermine the integrity of FHWA's official recordkeeping system and limit the benefits of ART as a tool to assist the Division Offices in conducting oversight of States' bridge programs. Further, FHWA Headquarters may not obtain an accurate representation of the oversight work performed by the Division Offices, which is used for quality assurance, national risk management, and reporting.

FHWA has begun developing an internal website that will centralize all existing NBIS guidance, including guidance related to ART. However, until the website is fully developed, Division Offices lack a consolidated source of instructions for documenting their work in ART.

FHWA Lacks an Adequate Process To Fully Communicate Its Quality Assurance Review Results to Division Offices

FHWA's NBIPOT implemented an internal QAR process to evaluate the NBIS review process through the documentation recorded in ART by the Division Offices. However, we found that the NBIPOT does not fully communicate annual results to the appropriate Division Offices through the QAR process. The results of the QAR are used to recommend corrective actions to improve the consistency and documentation of NBIS reviews. FHWA officials told us that they hold monthly teleconferences with Divisions and periodically discuss high-level QAR results and recommendations, but not all Divisions we visited were aware of QAR results specifically related to their NBIS reviews.

The lack of communication is concerning in that the 2013 QAR found that the documentation in ART for 51 of the 325 metrics reviewed did not provide a clear and complete summary of the work performed by the Divisions. In response, FHWA Headquarters recommended targeted outreach to the Divisions identified as needing to improve. Yet, officials at four of six Division Offices we visited were unaware of any specific QAR findings or recommendations that would be helpful for them to improve their documentation in ART. For example, FHWA's 2013 QAR identified that a Division Office we visited did not document all of the steps taken during its metric assessment. During our site visit, the bridge engineer

¹⁰ This is a written response by a State that documents agreement for corrective actions to address deficiencies. The timeframe for such agreements is limited to 12 months or less, unless the deficiencies are related to issues that would most efficiently be corrected during the next inspection.

¹¹ Substantial compliance means adherence to the NBIS regulation with minor deficiencies. These deficiencies do not adversely affect the overall effectiveness of the program and are isolated in nature.

at this Division Office was unaware of any issues detected by the QAR regarding how the Division documented its metric assessment in ART.

Additionally, FHWA does not formally track its QAR recommendations or the corrective actions taken to resolve identified documentation deficiencies. For example, we found several recommendations repeated over consecutive QAR reports without discussion of completed corrective actions and whether any actions resulted in improvements in trends. Since its QAR process does not formally address these key areas, FHWA is missing an opportunity to improve the documentation of the bridge oversight efforts of the Division Offices—which are ultimately responsible for conducting the compliance reviews and follow-up actions. According to Standards for Internal Control in the Federal Government,¹² management should communicate information to enable personnel to perform key roles in achieving mission objectives, including taking corrective actions.

FHWA Division Offices Lack Guidance for Combining Separate Compliance Assessments and Coordinating Assistance

FHWA's Bridge Program Manual (BPM) is the primary source of guidance to Division Offices overseeing States' compliance with the NBIS. However, the BPM lacks clear guidance for how to combine and report separate assessments of a State's bridge inspection program into a single compliance rating. Additionally, current guidance does not define a process for how FHWA Division Offices and Headquarters should coordinate on getting assistance when the Division Office's resources are insufficient to fully review the State's bridge inspection program.

The BPM lacks procedures for reporting separate reviews and combining the compliance ratings into a single rating for each metric.¹³ Many States have bridges owned by local public agencies or turnpike authorities that can warrant Division Offices to conduct separate reviews. In fact, we identified three Division Offices that used different methods for combining multiple assessments of the same metric and reporting a single compliance rating. In all three cases, the Divisions performed separate assessments based on whether the bridges were State- or locally owned. For example, one Division Office performed two separate assessments of every metric in the same year that resulted in two final summaries for each metric, which Headquarters amended to report the lower of the two ratings for each metric. The two other Division Offices performed separate assessments of two metrics and consolidated them into a single final summary for each metric. However, they used different methods to combine the compliance ratings: one Division Office performed the separate assessments over

¹² "Standards for Internal Control in the Federal Government," United States Government Accountability Office, GAO-14-704G, September 2014.

¹³ The BPM describes situations when Division Offices can perform separate reviews of different parts of a State's bridge inspection program.

2 consecutive years and reported the rating of a prior year that was lower, while the other performed separate assessments in the same year and reported a combined rating based on the average score of the separate assessments. Consequently, the methods used by the Division Offices were inconsistent and may result in different compliance determinations based on the method used.

Current guidance also does not address how Division Offices and FHWA Headquarters should coordinate when a Division Office is unable to fully assess each metric in accordance with all the requirements established for the NBIS review process. For example, in 2013 a Division Office was unable to fill a vacancy for a bridge engineer for almost a year and did not select a random sample of bridges and perform a field review, which is required to assess the two metrics at the minimum level and, according to the BPM, is a critical part of the review process. As a result, the two metrics were not fully assessed. In this case, the Division Office did not seek additional support from Headquarters and simply reported the previous year's results—potentially providing an inaccurate representation of the State's current performance. According to FHWA officials, assistance from the FHWA Resource Center or other Division Offices could be used in such circumstances. This highlights the need for a process that would enable Division Offices to promptly communicate—and for the NBIPOT to monitor—challenges well in advance of any deadlines so that a full assessment can be completed on time. Without a process for ensuring proper coordination and communication, the FHWA Headquarters Office of Bridges and Structures may not be aware of a Division Office's need of additional resources and therefore would be unable to coordinate any support.

FHWA HAS NOT FULLY IMPLEMENTED A PROCESS TO IDENTIFY AND ADDRESS NATIONAL RISKS TO BRIDGE SAFETY

FHWA established the NBIPOT under the Office of Bridges and Structures in 2010 to perform an annual assessment of the bridge safety inspection program to routinely and systematically identify and prioritize national bridge safety risks. More than 4 years later, NBIPOT has not completed a formal bridge safety risk assessment. According to FHWA, it assessed national risks for the first time in 2014 using a draft risk assessment process, but it has not finalized this process or the results from its initial efforts. FHWA officials explained that the delay was the result of the NBIPOT's priority to first develop FHWA's new national bridge safety initiative and ensure its successful implementation.

NBIPOT's draft risk assessment process describes how it will consider all sources of bridge safety information such as critical events, audit and National Transportation Safety Board recommendations, and AASHTO concerns. The

process also includes steps for the NBIPOT to identify, analyze, and prioritize national risks and offer responsive strategies to address those risks. However, the process still lacks elements of a fully developed risk management process, such as how it will report on risks and implement and track any mitigation actions that the NBIPOT may recommend. While FHWA officials stated that NBIPOT modeled its process after FHWA's agency-wide risk management framework, the NBIPOT did not incorporate all of its principles. Specifically, in its current form, the process does not incorporate the following practices outlined in FHWA's agency-wide risk management framework:

- communicate and consult with stakeholders, such as AASHTO and the National Transportation Safety Board, throughout the risk assessment process. FHWA has not identified how often or what mechanisms it will use to reach out and document input from key stakeholders.
- systematically track high-priority risks targeted for remediation to ensure actions are taken to address the issues. FHWA's draft risk assessment process does not specifically describe how it will ensure that the identified risks are effectively managed and revisited to evaluate the efficacy of the mitigation strategies.

To date, FHWA has taken some actions to assess national bridge safety risks as part of its existing agency-wide risk management process.¹⁴ Specifically, FHWA used the results of its NBIS reviews, completed in 2011, to identify national risks related to scour and load rating. However, the NBIPOT has not fully implemented a comprehensive national bridge safety risk management process to consistently identify, report, and track high-priority risks to bridge safety at the national level.

CONCLUSION

FHWA has made significant progress in implementing a data-driven, risk-based approach across its Division Offices to oversee bridge safety throughout the Nation in response to our prior recommendations and congressional direction. In particular, since 2011, FHWA has effectively launched a program that assesses each State's bridge safety risks based on uniform metrics. However, FHWA Headquarters can build a better foundation for the program's long-term success by improving communication with Division Offices and addressing gaps in program guidance. Further, until FHWA defines and implements a comprehensive national bridge safety risk management process, it may be missing opportunities to identify, track, and remediate high-priority risks.

¹⁴ We first recommended to FHWA in 2009 that it routinely and systematically identify and prioritize national bridge safety risks (OIG Report Number MH-2009-013).

RECOMMENDATIONS

We recommend that the Federal Highway Administrator:

1. Establish a consolidated source of guidance on documenting the National Bridge Inspection Standards oversight reviews in the Assessment Reporting Tool that allows Division Offices to easily identify or locate relevant information.
2. Revise the quality assurance review process to fully communicate the results of the annual reviews to appropriate Division Offices and track the actions taken to address its recommendations.
3. Revise Bridge Program Manual guidance to specify how Division Offices should combine and report results when separate assessments of the National Bridge Inspection Standards oversight metrics are performed.
4. Establish a process for Division Offices to promptly inform the FHWA Headquarters Office of Bridges and Structures when additional resources are needed to complete a review of the State's bridge inspection program and for the Office of Bridges and Structures to coordinate the necessary support.
5. Develop and implement a comprehensive risk management process for NBIPOT to identify, report, and track mitigation actions for high-priority risks to bridge safety at the national level. The process should incorporate best practices consistent with FHWA's risk management framework.

AGENCY COMMENTS AND OFFICE OF INSPECTOR GENERAL RESPONSE

We provided FHWA with our draft report on December 22, 2014, and received its response on February 3, 2015, which is included as an appendix to this report. FHWA concurred with all five recommendations as written and provided appropriate completion dates. We consider all five recommendations resolved but open pending completion of the planned actions.

We appreciate the courtesies and cooperation of Federal Highway Administration representatives during this audit. If you have any questions concerning this report, please call me at 202-366-5630 or Gary Middleton, Program Director, at 202-366-0625.

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cc: DOT Audit Liaison, M-1
FHWA Audit Liaison, HCFB-30

EXHIBIT A. SCOPE AND METHODOLOGY

We conducted our work from November 2013 through December 2014 in accordance with generally accepted Government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

To assess whether FHWA Division Offices are effectively using a data-driven, risk-based approach to oversee States' bridge inspection programs we interviewed officials from FHWA and State DOTs. We examined the relevant Federal bridge inspection laws, regulations, policy, and other guidance to gain an understanding of the program requirements and oversight process developed by FHWA. To select a representative sample of Division Offices to assess, we used two criteria: 1) a composite score based on FHWA's 2011 baseline oversight reviews and 2) the State's total bridge deck area as of December 2011. These were proxies for the relative performance and size of each State's bridge inspection program. In coordination with the OIG statistician, we stratified the universe of 52 States into 3 approximately equal sized groups based on their relative performance and then selected a probability proportional to size sample with replacement of 3 states from each group for a total sample size of 9 States. After completing our work in three States, we reduced our total sample to six States, which we deemed sufficient to verify our initial findings and address our audit objective. Accordingly, we visited FHWA Division Offices and State DOTs in six States: California, Florida, Mississippi, Oklahoma, Pennsylvania, and Wisconsin. During the site visits, we conducted standardized interviews with FHWA Division Office leadership and bridge engineers as well as State DOT bridge program officials. We also developed a standardized tool to review the work completed by the Division bridge engineers in order to assess its conformance with the data-driven, risk-based process prescribed by FHWA Headquarters and whether it was implemented effectively. The documentation we examined included field review checklists, correspondence with State DOTs, and bridge data reports that corresponded to the 23 metrics, or areas of compliance, as defined by FHWA Headquarters. Our assessment focused on FHWA's most recent annual review cycle at the time of our audit, which ended in March 2014, and also included a limited review from the previous review cycle that ended in March 2013.

To assess whether FHWA Headquarters is identifying and addressing high-priority risks to bridge safety at the national level we interviewed officials from the FHWA Office of Bridges and Structures and the National Bridge Inspection Program Oversight Team. We also examined internal directives, policy and guidance related to bridge safety and risk management.

EXHIBIT B. METRICS FOR THE OVERSIGHT OF THE NATIONAL BRIDGE INSPECTION PROGRAM

The following is a list of the 23 metrics, which are existing requirements of the NBIS and were established by FHWA to provide an assessment of NBIS compliance.

Metric Number and Description	NBIS Reference
Metric #1: Bridge inspection organization	23 C.F.R 650.307
Metric #2: Qualifications of personnel – Program Manager	23 C.F.R 650.309 (a) and 650.313 (g)
Metric #3: Qualifications of personnel – Team Leader(s)	23 C.F.R 650.309 (b) and 650.313 (g)
Metric #4: Qualifications of personnel – Load Rating Engineer	23 C.F.R 650.309 (c)
Metric #5: Qualifications of personnel – Underwater Bridge Inspection Diver	23 C.F.R 650.309 (d)
Metric #6: Inspection frequency – Routine – Lower risk bridges	23 C.F.R 650.311 (a)
Metric #7: Inspection frequency – Routine – Higher risk bridges	23 C.F.R 650.311 (a)
Metric #8: Inspection frequency – Underwater – Lower risk bridges	23 C.F.R 650.311 (b)
Metric #9: Inspection frequency – Underwater – Higher risk bridges	23 C.F.R 650.311 (b)
Metric #10: Inspection frequency – Fracture Critical Member	23 C.F.R 650.311 (c)
Metric #11: Inspection frequency – Frequency criteria	23 C.F.R 650.311 (a)(2), (b)(2), (c)(2), and (d)
Metric #12: Inspection procedures – Quality Inspections	23 C.F.R 650.313 (a) and (b)
Metric #13: Inspection procedures – Load Rating	23 C.F.R 650.313 (c)
Metric #14: Inspection procedures – Post or Restrict	23 C.F.R 650.313 (c)
Metric #15: Inspection procedures – Bridge Files	23 C.F.R 650.313 (d)
Metric #16: Inspection procedures – Fracture Critical Members	23 C.F.R 650.313 (e)(1)
Metric #17: Inspection procedures – Underwater	23 C.F.R 650.313 (e) and (e)(1)
Metric #18: Inspection procedures – Scour Critical Bridges	23 C.F.R 650.313 (e)
Metric #19: Inspection procedures – Complex Bridges	23 C.F.R 650.313 (f)
Metric #20: Inspection procedures – Quality Control and Quality Assurance	23 C.F.R 650.313 (g)
Metric #21: Inspection procedures – Critical Findings	23 C.F.R 650.313 (h)
Metric #22: Inventory – Prepare and Maintain	23 C.F.R 650.315 (a)
Metric #23: Inventory – Timely Updating of Data	23 C.F.R 650.315 (a), (b), (c), and (d)

Source: Federal Register Notice, 79 FR 27032, National Bridge Inspection Standards Review Process, May 12, 2014.

EXHIBIT C. MAJOR CONTRIBUTORS TO THIS REPORT

<u>Name</u>	<u>Title</u>
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APPENDIX. AGENCY COMMENTS

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

Memorandum

Subject: **INFORMATION**: Federal Highway
Administration (FHWA) Response to Office of
Inspector General (OIG) Draft Report on Bridge
Safety Oversight

Date: February 3, 2015

From: Gregory G. Nadeau
Acting Administrator

In Reply Refer To:
HCFB-30

To: Thomas E. Yatsco
Assistant Inspector General for Surface
Transportation Audits

Safety of the Nation's highways and bridges continues to be the first and foremost priority for FHWA. The FHWA continually ensures State compliance with the National Bridge Inspection Standards and provides oversight to State bridge inspection programs. Building upon efforts started in 2008 to improve the oversight process, and in alignment with the Agency's risk management approach, FHWA implemented a robust, data-driven, risk-based approach in 2011 to oversee State bridge inspection programs.

- The improved bridge oversight system enables FHWA to objectively identify potential safety challenges related to bridges and to more clearly monitor bridge program issues in each State. Data is collected on 23 specific inspection program areas or metrics, including bridge inspection frequency, load limits, and loss of sediment from the foundation due to erosion.
- The data-driven, risk-based oversight process has validated that FHWA and the States are continuing to advance highway bridge safety through the bridge inspection program. Eighty-three percent of the oversight metrics in 2014 met or exceeded compliance requirements, an improvement by 17 percent compared to the baseline in 2011. In 2014, no metrics for any State were assessed as unsatisfactory.
- Through frequent communication with its division offices and partnerships with the American Association of State Highway and Transportation Officials and other stakeholders, FHWA has made significant improvements to achieve national consistency in the oversight process.
- The Office of Bridges and Structures implemented a reporting tool in 2011 for FHWA division offices to document the review process and created a Web site in

2013 to centralize national review program guidance, thereby increasing consistency of compliance reviews among the 52 FHWA division offices.

The FHWA and the States are firmly committed to improving the existing inspection program and making it even more thorough and effective. The improvements have enabled the States to keep bridges safe for the traveling public, manage them more efficiently, and maximize their service life and functionality. They have also positioned States to better address advancements in data collection, technology innovation, and bridge management.

The FHWA concurs with the OIG recommendations as written, and work is already underway to address the recommendations. The FHWA expects to complete action on recommendations 4 and 5 by December 31, 2015, and recommendations 1, 2 and 3 by July 1, 2016.

We appreciate this opportunity to offer additional perspective on the OIG draft report. Please contact Dr. Joseph Hartmann, Director of the FHWA Office of Bridges and Structures at (202) 366-4599 with any questions or if the OIG would like to obtain additional details about these comments.