

This collection of information is voluntary and will be used to complete a study on the benefits, cost-effectiveness, and feasibility of requiring element level inspection for highway bridges not on the National Highway System (NHS). Public reporting burden is estimated to average 2 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Please note that an agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control number for this collection is 2125-XXXX. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Michael Howell Information Collection Clearance Officer, Federal Highway Administration, 1200 New Jersey Avenue, SE, Washington, DC 20590.

Questionnaire: Study of the Cost-effectiveness, Benefits, and Feasibility of the Collection of Element Level Inspection Data for Highway Bridges not on the National Highway System (non-NHS)

Background

The “*Moving Ahead for Progress in the 21st Century Act*” or the “MAP-21” legislation, Section 1111, modified 23 U.S.C 144 to include a requirement for each State and appropriate Federal agency to report element level bridge inspection data to the Secretary, as each bridge is inspected, for all highway bridges on the National Highway System (NHS). The data is to be reported to the Federal Highway Administration (FHWA) not later than 2 years after the date of enactment of MAP-21. Additionally, MAP-21 included a requirement for a study on the benefits, cost-effectiveness, and feasibility of requiring element level data collection for bridges not on the NHS.

FHWA will be undertaking a project to complete the study of the benefits, cost-effectiveness, and feasibility of requiring element-level bridge inspection (ELBI) data collection for highway bridges not on the National Highway System (ELBI for non-NHS). The project will utilize contractor services to issue a questionnaire regarding current ELBI practices, compile and analyze responses to the questionnaire, and develop a report summarizing the contractor’s assessment of the benefits, cost-effectiveness, and feasibility of requiring ELBI for non-NHS highway bridges.

DEFINITIONS

For the purposes of this project, the following definitions will be used:

Benefits: The advantages to those who may utilize element level bridge inspection data. The advantages may relate to costs, the value of information gained from the inspection, the inspection efficiency, or any other aspect of bridge inspection and management that gains an advantage from more granular element level condition data. Benefits may differ depending on the stakeholder beneficiary, i.e. the bridge owner (State, local, or Federal Agency), the FHWA, elected officials.

Component level inspection: An inspection, primarily visual, that results in a component condition rating on a scale from 0 (failed condition) to 9 (excellent condition) for a deck, superstructure, and substructure on a bridge, or for a culvert meeting the definition of a

bridge, as defined in the FHWA *Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges*.

Cost-effectiveness: A comparison of the relative costs and outcomes (effects) of two or more courses of action, in this case, a bridge inspection conducted at the element level compared to a bridge inspection conducted at the component level. Included in the costs of an element inspection are the costs associated with managing and ensuring the quality of the data collected. These costs may vary depending on inspection program organization and responsibilities within a given agency. Additionally, the costs of element data collection must be considered as an incremental cost beyond that of collecting other inspection data.

Data collection: Includes the gathering and recording of element level inspection data and the reporting to FHWA.

AASHTO NBEs/BMEs level inspection: The visual inspection and collection of quantitative condition assessment data for highway bridges that provides for the severity and extent of bridge element defects based on the National Bridge Elements (NBEs), Bridge Management Elements (BMEs) and condition states defined in the AASHTO *Guide Manual for Bridge Element Inspection*, First Edition, 2011, or latest version.

AASHTO CoRe element level inspection: The visual inspection and collection of quantitative condition assessment data for highway bridges that provides for the severity and extent of bridge element defects based on the elements and condition states defined in the AASHTO *Guide for Commonly Recognized (CoRe) Structural Elements*.

Feasibility: A determination if element level data collection on non-NHS highway bridges is technically achievable. Element data collection is technically achievable since many bridge owners have been doing this type of inspection for several years. The issue here is whether it is practically feasible to require the State DOT's and Federal agencies to manage and report element level data for all non-NHS bridges. In some situations, the bridges may be owned by other agencies, yet the State DOT must still report the data, adding to the feasibility challenges.

Inspection: A complete examination of a highway bridge conducted in accordance with all requirements of the National Bridge Inspection Standards (NBIS). Requirements apply to both component and element level inspections.

Questionnaire

1. What type of inspection data does your agency collect?
NBI component ____
AASHTO CoRe element ____
AASHTO NBE/BME ____
A combination of NBI component and AASHTO CoRe ____
A combination of NBI Component and AASHTO NBE/BME ____
2. For agencies that currently collect AASHTO CoRe element data for highway bridges:
 - a. Does your agency collect AASHTO CoRe element data for all highway bridges in the State's inventory, or for a specific population or subset of highway bridges? If applicable, what is the subset of highway bridges?
 - b. What is the basis for limiting, or not limiting, the collection of AASHTO CoRe element data to a specific subset of highway bridges?
 - c. Is the collection of AASHTO CoRe element data for all highway bridges in the State feasible for your agency? Why or why not?
 - d. Does your agency have any information with respect to the cost of conducting an AASHTO CoRe element inspection, particularly the delta cost beyond that of a component level inspection? If so, please share the cost information.
 - e. How does your agency use the AASHTO CoRe element data that is collected?
 - f. How is the AASHTO CoRe element data beneficial to your agency's overall bridge management program and processes?
3. For agencies that do not collect AASHTO CoRe element data for any highway bridges:
 - a. What is the basis for not collecting AASHTO CoRe element data?
 - b. Does your agency currently supplement the FHWA component level bridge condition data collected with other condition data? If so, please describe.
 - c. Does your agency have any information with respect to the cost of conducting a component level inspection? If so, please share the cost information.

4. Does your agency plan to collect AASHTO NBE/BME data for non-NHS bridges? Why or why not?
5. Is the collection of AASHTO NBE/BME data for non-NHS highway bridges feasible for your agency?
6. How does your agency use the bridge condition data that is collected?
7. If the collection of AASHTO NBE/BME data for non-NHS highway bridges were required by law, what would be the estimated cost impact to your agency and what is the basis for this cost impact?
8. If you have any additional information that would be useful in this study of benefits, cost-effectiveness, and feasibility, please provide it in response to this questionnaire.