



# INDIANA DEPARTMENT OF TRANSPORTATION

*Driving Indiana's Economic Growth*

100 North Senate Avenue  
Room N642  
Indianapolis, Indiana 46204-2216 (317) 232-5348 FAX: (317) 233-4929

**Mitchell E. Daniels, Jr., Governor**  
**Karl B. Browning, Commissioner**

## **Disposition of key issues on *Methodology to Identify Select and Non-Select Bridges***

### ***Introduction***

The following key issues resulted from public review of the *Indiana Historic Bridge Inventory: Methodology to Identify Select and Non-Select Bridges* (Draft February 2008). The review period occurred February 18 to March 18, 2008. The disposition of issues was determined through consultation among Indiana Department of Transportation (INDOT), Federal Highway Administration (FHWA), and the State Historic Preservation Office (SHPO) during a meeting on March 24, 2008. These results were presented to the Historic Bridge Task Group in a meeting on May 14, 2008. After this meeting, comments were solicited for an additional five days. This summary presents the final disposition of key issues.

### ***Issues and disposition***

1. Effectively balancing "most suitable for preservation" and "excellent examples of a type"
  - A. Agreed that the report and proposed process appeared to favor engineering criteria. As a result, the following changes were made:
    - i. Revised the report to provide engineering and historic considerations together to avoid the perception of added weight of one factor over the other. A new flowchart was developed to illustrate this process.
    - ii. Use Eligibility Score (ES) to rank historic merit. Develop separate ES thresholds for each bridge type to define "excellent examples of a type" for prioritizing bridges by ES in the filtering process. The current 11-point threshold, which represents a high ES (84<sup>th</sup> percentile) score based on a representative sample of bridges, is currently assigned to listed and previously determined eligible bridges of all types. This threshold may change once ES scores are calculated for each bridge type based on the final results of the National Register evaluations.
2. "Double-counting" of engineering criteria (comment was to remove Sufficiency Rating (SR) and to replace Condition Score (CS) with Predictive Condition Score).
  - A. The use of both values is not an attempt to "double count" each value, as if cumulative, rather both values are used as a means to provide internal checks and balances on the validity of the engineering score for each bridge. As such, each bridge is subject to a thorough evaluation. The SR in this methodology is being used as a check of the more detailed CS. The CS was developed for this methodology to isolate and numerically measure key indicators to understand if a bridge can be rehabilitated (see Appendix A in the methodology for definition and calculation method for CS). It draws from the same National Bridge Inventory (NBI) data as the SR but better isolates factors that drive preservation potential.

- B. Measures are included in the methodology to verify the accuracy of NBI data. Bridges with components that are rated in poor condition have been flagged and images of these components were collected during field review. These images will be reviewed to assess appropriateness of the poor component rating. Any revision of ratings will be made in consultation with INDOT.
  - C. For these reasons, the SR and CS will function as two aspects of a single engineering rating.
  - D. The report was revised to describe this rationale.
3. Predictive Condition Score (comment was to factor the state of each historic bridge following rehabilitation)
- A. The methodology is intended to provide a programmatic approach. A predictive condition score would require alternative analysis and detailed study, which is beyond the scope of the Programmatic Agreement's (PA) requirement to identify select and non-select bridges.
  - B. The CS is a tool to estimate the preservation potential of historic bridges that carry traffic. Historic bridges that are an excellent example of a type that do not score well based on engineering criteria, will be considered during individual bridge review following the methodology.
  - C. The suggestion to modify the CS pointed out that possible changes in width during rehabilitation were not considered. The ability to increase the width of a bridge is addressed in Checks 2 and 3 of individual bridge review. The methodology provides for the potential to increase the width (or address other functional issues) in the individual bridge review process.
4. Section 4(f) test (comment was that the methodology fails to meet the Section 4(f) test)
- A. The process to identify select and non-select bridges is not meant to satisfy Section 4(f) of Department of Transportation Act; rather it is a programmatic approach to satisfying compliance under Section 106 of the National Historic Preservation Act. This process, together with the Low Volume Roads Standards, may provide some of the information considered under Section 4(f) analysis, but FHWA will conduct this review on a project-by-project basis during the project development process as identified in the PA.
5. Non-vehicular bridges (Comments identified two related issues to address: Should existing non-vehicular bridges be considered for select status? Should non-vehicular use be an option for the preservation of bridges that are now in vehicular use?)
- A. Preservation of non-vehicular historic bridges is intended to supplement, not replace, preservation of historic bridges in vehicular use. This option applies to the best examples of each type that cannot be retained in vehicular use as determined through individual review.
  - B. The PA, through the Low-Volume Road Standards and the project development process, requires that alternatives to keep a bridge in vehicular use be pursued before a non-vehicular option. The individual review step includes non-vehicular use as a preservation option.
  - C. The FHWA observed that federal funding makes continued vehicular use more attractive to bridge owners, however funding for non-vehicular use is available through the transportation enhancement program.
  - D. Non-vehicular bridges must have a preservation commitment to be considered select.
6. What population of bridges was considered when preservation goals are set (comment sought clarification) - The preservation goal is based on the population of historic bridges. A bridge type is defined as "common" or "uncommon" based on total population of the type within the subject period. Bridge types are groupings of similar NBI/INDOT bridge type codes. Common bridge types have pre-1966 populations of 100 or more and/or

continued to be built after the subject period and were not awarded points as an uncommon type under the National Register Evaluation System. A preservation goal for each bridge type was set applying the concept of normal distribution of data (i.e., 84% for uncommon, 16% for common).

### **Other clarifications**

Agencies provided the following clarifications to comments received:

1. Request for underlying data - Data used to formulate recommendations will be posted to FHWA's FTP site during public review as was done in the review of the *National Register Eligibility Results*. This data will be provided in the working forms as used by the consultants. INDOT will notify the stakeholder groups and the public of its location via e-mail and post notice of its location on INDOT project website.
2. Applicability of methodology to non-vehicular bridges - Definition in the methodology report is appropriate. Methodology applies to publicly owned bridges that are subject to the inventory, regardless of current use.
3. Subjecting individually listed bridges to agency review - The methodology is consistent with the Section 106 process, in which listed bridges are considered the same as other historic bridges (i.e., those determined eligible or that contribute to a listed historic district).
4. Methodology omitted reference to the use of U.S. Census data to measure development pressure and substituted the phrase "Documented development pressure."
5. Special circumstances and periodic review - Retain last section of report "special circumstances and periodic review" to provide context for the reader. This text is taken from the PA.
6. Agency review process - This step allows for consideration of unanticipated factors. In general, agencies plan to adhere to the methodology. Other factors that may need to be considered are expressed to the best extent possible. The development of the methodology included a review of selection metrics by agencies to achieve balance between historic and engineering factors. Information used to make determinations will be available during the future public review period for the select and non-select lists.
7. Use of current Average Daily Traffic (ADT) versus design year ADT - Future (design year) ADT should be used. This coincides with data used in the Low Volume Road Standards.
8. National Bridge Inventory data item 64B (structural capacity) is the correct data item for use in the Condition Score Matrix.