AASHTO Guide Manual for Bridge Element Inspection

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CoRe Element Guide History

- In 1993, the FHWA created a task force charged with developing the Commonly Recognized Elements (CoRe Elements).
- Core was adopted by AASHTO T-18 in 1995.
- In 1997, the FHWA adopted the Element Translator to allow elements in lieu of NBI condition ratings.
- Core elements have had two minor changes since 1995 (decks/slabs and technical correction).
The Need For Change

- Fully capture all condition defects on the bridges.
- Incorporate 15 years of suggestions from inspectors and managers.
- Change the units of decks/slabs to square area measurement.
- Improve Bridge Management System results.

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The Need For Change

- Improve the presentation of the condition state definitions.
- Improve the deck and slab language to capture structural capacity and defects of these high maintenance items.
- Separate wearing surfaces and protective coatings to improve management of these protection systems.
Element Level Inspection
Improvement Team

- State DOT Representatives
  - AASHTO T-18 Members
  - BRIDGEWare Task Force Members

- Federal Highway Administration Representatives, including Federal Lands

- Local Agency Representative

- AASHTO Representative

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Goal

“To develop the best approach to bridge condition assessment possible and implement it’s use nationwide”
Significant Changes

- Four condition states for all elements.
  - Follow – Good, Fair, Poor, Severe convention.

- Deck and Slab units changed to square feet (meters).

- Wearing surfaces separated from deck element.
Significant Changes

- All smart flags have been incorporated into condition state language.

- Intuitive defect presentation of the condition states.
Significant Changes

- Steel protective coatings separated from steel.

- Smart Flags operate at the element level.

- Enhanced element commentary to help the inspector.
Three Element Types

- **National Bridge Elements (NBE’s)**
  - Provide the minimum element set to define safety and load capacity of bridges.
    - Decks, Slabs, Girders, Columns, Abutments etc.

- **Bridge Management Elements (BME’s)**
  - Elements define secondary bridge components.
    - Joints, wearing surfaces, protective coatings, etc.

- **Agency Developed Elements**
  - Manual supports the creation of agency defined elements.
    - May deteriorate or not
    - Can include non-bridge items

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Implementation

- Development of training
- Revisions to manuals
- Data migration
- Changes to software
- Training
- Continuous Guide Manual Improvement
Implementation

Will retraining of our inspectors be required?

- The new elements build on a concept that they are familiar with, however some training will be required.
- Many of the changes in the new elements will appeal to the field inspectors and will be welcome improvements.
- The consistent four state model will provide for more standardized inspection from one element to the next. More standardized information should improve data quality and consistency.
Implementation

Will the new elements work in Pontis?

- Pontis 5.2 will be able to accommodate the new element definitions and will have the capability to handle sub-sets and agency developed elements.
- Pontis will facilitate the conversion of older element data for the majority of state DOT’s.
- The new element definitions will provide vastly improved modeling and cost estimating too.

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Implementation

Will the new element manual impact the sufficiency rating?

- The new elements are not currently associated with the sufficiency rating and will have no impact on project eligibility or apportionment.
Summary

- State-of-the-art tool for bridge owners to manage their bridge inventory
- Provides a comprehensive set of bridge elements designed to be flexible for agencies needs
- Significant improvement to the previous 1994 CoRe Guide
- Positive step in advancing bridge inspection, condition assessment, and bridge management

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“To develop the best approach to bridge condition assessment possible and implement it’s use nationwide”
T-18 Thanks You

(Vote Yes)