STATE BRIDGE ENGINEERS’ SURVEY

June 25th, 2014, COLUMBUS, OHIO
http://bridges.transportation.org/Pages/FAQ.aspx
Introduction

- Great participation – 47 States
- Categorized by Prioritized Objectives from the 2013 SCOBS Strategic Plan

- If you need details, please contact Barton or Lian.Duan@dot.ca.gov
1. Extend Bridge Service Life

- Quality of Construction using Design-Build
  - 1 better than expected
  - 24 meeting expectations
  - 11 slightly or far below expectations

- Stay-in-Place Metal Forms: 33 of 37 are not concerned of draining water from forms

- New decks--protective overlay or coating: 20 do; 27 don’t; In-service decks: timing varies
1. Extend Bridge Service Life, cont.

- All-hazards assessment—should T1 take on? 37 yes, 10 no
- Who has screening criteria for a hazard? 10 do; 35 don’t (14 are willing to share)
- AASHTO extreme event vulnerability screening methodology? 38 yes, 9 no
2. Assess Bridge Condition

- For NHS NHPP performance level requirements, 19 of 29 have established a baseline.
- Adopted ‘State of Good Repair’ definition—15 States; both national, state are needed.
- Truss rehab or painting, only 5 States require first cleaning and inspecting.
2. Assess Bridge Condition, cont.

- Implementation of NBE: 37 state-owned; 6 local owned; 5 just NHS bridges
- Inspect using NBE by 10/1/14, but not local br.
- Electronic input of NBE data: 32 by end of year
- Most are coding defects or selectively coding
- Agency-Developed Elements being created by 38 States
- Most will have their system ready for NBE data entry by end of 2015; half are translating old
2. Assess STRUCTURE Condition

- Inspect High Mast Light Poles? 33 do
- Inspect Standard Light Poles? 12 do
- Inspect Sign Structures? 35 do
- Inspect MSE Retaining Walls? 13 do
- Inspect Concrete Retaining Walls? 10 do
3. Knowledgeable Workforce

- Design Specs for temporary bridges, prefabricated modular steel truss bridges—20 States would like for AASHTO to develop
- BDS and MBE hard copy interims: pink sheets
- BDS and MBE e-file interims at end of Section
4. AASHTO Specs

- Column collision $600^k - 2/3^{rd}$ find it excessive
- Refined analysis—28 States have tried, 18 feel it not appropriate for routine bridge design
- Performance-based seismic dgn—12 States use
- Consider performance-based concrete mix design for decks—18 States do
- Allow sloped neoprene bearing pads? 21 yes
- P.E. calcs for design of shoring, temporary works must use LRFD? 21 do; 26 don’t
5. AB Delivery/Construction

- Considered during project development phase? 44 States
- GRS-IBS abutments: 20 States have built, mostly single-span bridges
- Of 20 States, 11 would use GRS-IBS again; 2 would not; 7 did not answer
- Precast concrete seismic-resistant connections: 4 States have done research
6. Optimize Structural Systems

- Used stainless steel deck reinforcing? 20 States
- Allow seismic isolation in ordinary bridges? 22 States
- Consider abuts and wingwalls as providing seismic resistance? 22 States
- Built MSE Abuts on spread footings? 26 States
- Require ground-in pigment for coatings on structural steel? 6 States do

- Two-part protective coating system for railing w/hot dip galv and electrostatic powder? Split
- Allow a contrasting intermediate coating in a three-coat system on steel? 38 States
- Half of States have a definition for “mass” concrete pour, and half of the half use 5-ft
- Most States have not modified traffic barrier standards to 39-in. min. for fall protection
7. Model, Manage Information Intelligently

- Life-cycle Cost Analysis: Most States consider durability and service life subjectively
  - for new and rehab bridge projects
  - maintenance/preservation alternatives

- Would you use Life Cycle Cost Analysis if a Guide was available from AASHTO? 7 yes; 9 no

- NO one uses (yet) remote controlled flying cameras to inspect bridges, structures
8. Contribute to National Policy

- FHWA memorandum requiring the states to re-rate all bridges, post for specialized hauling vehicles? 17 States agree; 28 don’t

- Sound walls on bridges? 29 States allow; 12 States consider the sound wall components to be sacrificial i.e. not designed for collision
State Bridge Engineers’ 2014 Survey Summary
55 Questions
47 States Responded

THANK YOU!