Committee on Bridges and Structures Update for Committee on Maintenance (MaC)

July 25, 2018
Bridge Preservation Technical Committee

Bruce Johnson, OR - Chair
Randall Mullins, AL
Pe-Shen Yang, AZ
James Nelson, IA
Wayne Frankhauser Jr., ME
Kathy Crowell, NM

Jeff Pouliotte, FL – Vice Chair
Raj Alainey, FHWA
Ken Walus, VA
Richard Marchione, NY
Dan Williams, MDTA
David Miller, LA - Liaison
Liaisons Between AASHTO COBS and MaC

• David Miller from Louisiana serves as the liaison from the MaC BTWG to COBS.

• Randall Mullins from Alabama serves as the liaison from COBS to the MaC BTWG.
Bridge Preservation Technical Committee Strategic Plan

The overall COBS Strategic Plan is presently being updated at this time. The plan will be viewable at the AASHTO COBS website when completed. Below is a synopsis of T-9’s part of the draft plan:

1. Promote bridge preservation,
2. Develop and publish guidelines and best practices for bridge preservation.
3. Incorporate bridge preservation concepts and performance measures (for keeping bridges in a state of good repair) in bridge design, construction, inspection and management.


6. Identify and facilitate the advancement of state-of-the-practice through research.
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<th>Time</th>
<th>Session Title</th>
<th>Presenter(s)</th>
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<tr>
<td>1:00 PM</td>
<td>Welcome, Introductions</td>
<td>Bruce Johnson, Oregon DOT</td>
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<tr>
<td>1:15 PM</td>
<td>Update on NCHRP 12-108 - Guide Specification for Service Life Design of Highway Bridges</td>
<td>Tom Murphy, M&amp;M</td>
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<tr>
<td>1:45 PM</td>
<td>Update on NCHRP 14-36 - Guidelines for Preservation Decision Making for Existing Bridges</td>
<td>George Hearn, UC Boulder</td>
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<td>2:15 PM</td>
<td>Update on Service Life Design and R-19A implementation</td>
<td>Mike Bartholomew, Jacobs</td>
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<td>2:45 PM</td>
<td>Bridge Preservation ETG &amp; LTBP Program Update</td>
<td>Bruce for Raj Alainey, FHWA</td>
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<td>3:00 PM</td>
<td>Break</td>
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<td>Update on NCHRP 20-07(397) - Decommissioned Bridges</td>
<td>Basak Aldemir-Bektas</td>
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<td>Washington State DOT Preservation Program</td>
<td>Bijan Khaleghi, Washington DOT</td>
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<td>4:15 PM</td>
<td>TSP-2 Update</td>
<td>Substitute for Ed Welch</td>
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<td>National Steel Coatings Working Group</td>
<td>Jeff Pouliotte, Florida DOT</td>
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<td>SCOM Bridge Task Force Update</td>
<td>David Miller, Louisiana DOT</td>
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Extend Service Life

NCHRP 12-108, Guide Specifications for Service Life Design of Bridges

(Tom Murphy, M&M)

1. The objective of this project is to “provide bridge owners and designers with specifications for design of bridges for a specific service life.”

2. Deliverables:
   - Report documenting service life design research effort
   - Guide Specifications
   - Design examples
3. Schedule:

Final Deliverables ... February 2019
Draft Service Life Design Guide Specifications ballot item at COBS 2019 annual meeting,
Coordinate with T-5, T-10, T-14, T-18
NCHRP 14-36, Guidelines for Preservation Decision Making for Existing Bridges  (George Hearn, UC Boulder)

1. The objective of this project is to “provide bridge owners and designers with guidelines for preservation decision making for existing bridges.” Decision making for preservation of bridge decks was added in 2017.

2. Deliverables:

   Report documenting bridge preservation decision making research effort for bridges, and specifically for bridge decks
Guidelines

Design examples

3. Schedule:

Final Deliverables ... November 2018 for bridges in general, September 2019 for bridge decks

Draft Guidelines for Bridge Preservation ballot item at COBS 2019 annual meeting,

Draft Guidelines for Bridge Deck Preservation ballot item at COBS 2020 annual meeting,

Coordinate with T-5, T-10, T-14, T-18
Mike Bartholomew, Jacobs

http://shrp2.transportation.org/Pages/ServiceLifeDesignforBridges.aspx
CHARACTERISTICS OF DECOMMISSIONED BRIDGES
NCHRP 20-07/Task 397

Research Need

- Earlier studies showed that bridges are decommissioned younger than their intended service-lives.
- What are the main drivers behind bridge decommissioning?

Research Objective

- The main objective of this research project was to determine the reasons of bridge decommissioning for State highway agency–owned bridges in the United States.
1. The objective of this project is to document the state of practice in the seismic design of non-conventional bridges. These bridge include very long-span and non-conventional structures such as cable-supported superstructures, bridges with truss tower substructures and long-span arch bridges. The AASHTO LRFD Bridge Design Specifications and the AASHTO Guide Specifications for LRFD Seismic Bridge Design do not directly address the bridge types being considered in this synthesis project.
2. Deliverable:

   Current Project -- Final Report

   Future Projects – Research to address knowledge gaps

3. Schedule:

   Draft Report Received July 2018

   Panel Review Meeting July 24, 2018

   Final Report September 2018(?)
Future projects – Depends on needs identified and available funding for research to address knowledge gaps

1) Guide Specifications for Bridge Strengthening with Titanium

The objective of this pooled fund research project is to develop AASHTO guide specifications for titanium strengthening of bridges. Oregon is the lead state for this work with support from Virginia.

Deliverables:

Report documenting research findings
Draft AASHTO Guide Specifications for Titanium Strengthening of Bridges

Schedule:
Draft Deliverables – November 2018
Anticipate sharing draft documents for wide COBS review, so they can see it before the draft ballot item is distributed
Final Deliverables – January 2019
Hope to ballot at 2019 annual COBS meeting
Coordinate with T-5, T-6, T-10
2) Guide Specifications for Preservation of Historic Bridges

The objective of this pooled fund research project is to develop AASHTO guide specifications for preserving historic bridges. Oregon is the lead state for this work.

Deliverables:

- Report documenting research findings
- Draft AASHTO Guide Specifications for preservation of historic Bridges
Schedule:

Draft Deliverables – January 2019
Anticipate sharing draft documents for wide COBS review, so they can see it before the draft ballot item is distributed

Final Deliverables – February 2019
Hope to ballot at 2019 annual COBS meeting
Coordinate with Committee on Environment, National Park Service
T-9 endorses three of the RNS proposals from TRB in the following priority order.

1) Corrosion resistant prestressing strands
2) Virtual and Augmented Reality for Integration and Effective Use of Heterogeneous Data from Visual Inspection, Nondestructive Testing/Evaluation, and Structural Health Monitoring
3) MASH – Bridge Decks and Overhangs
In addition, T-9 has two 20-07 proposals to submit

1) Evaluation of Durability of ABC Technologies
2) Synthesis of Best Practices for Steel Bridge Coating and Recoating Warranty Contract Requirements
2019 AASHTO Committee on Bridges and Structures
Montgomery, AL
June 23-27, 2019