

## WBPP Roundtable Questions - 2012

1. Does your agency collect bridge element condition data?

**AZ:** Yes

**AK:** Yes

**HI:** Yes

**ID:** Yes

**NM:** Yes

**OR:** Yes

**UT:** Yes

**WA:** Yes, but we are not a PONTIS state and we use WSDOT elements.

**WY:** Yes

- a. If yes, are you using Core Elements or the new AASHTO Elements. How and to what extent is the data being used in your bridge preservation program?

**AK:** Core Elements. Do not have a preservation program.

**AZ:** We use Core Elements, not the new AASHTO Elements. ADOT uses the core element condition rating combined with bridge sufficiency rating to establish the priority for bridge rehabilitation and replacement.

**HI:** Core Elements

**ID:** Core Elements to identify problem areas. We also have preservation needs identified by our Districts.

**NM:** NMDOT currently collects CoRe Elements. We use this data only for reviewing bridge conditions and for estimating quantities on rehab projects. We have been trying to improve the quality of our data.

**OR:** Core Elements. Plan to use the new AASHTO Elements soon.

**UT:** Core Elements. Plan to use the new AASHTO Elements later this year.

**WA:** Neither we use WSDOT elements to the fullest extent possible and tie them directly to funding for bridge decks, paint, replacement, scour, seismic, and special repairs.

**WY:** WYDOT inspects using CoRe Elements. Both NBI and CoRe element ratings/conditions are used to trigger preservation and rehabilitation activities.

- b. With what you have seen so far: shifting from element based condition assessment ratings to the defect condition assessment ratings, do you think it takes more time, about the same, or less time to inspect?

**AK:** Initially more time but about the same after inspectors get experience.

**AZ:** We are not using defect condition assessment ratings at this time.

**HI:** Roughly the same time.

**ID:** We do not do this yet, but...probably more time in the beginning.

**NM:** About the same. However, it is now much easier to quantify.

**OR:** A little more.

**UT:** It will take more time to quantify and rate the new elements.

**WA:** It should take about the same time once the inspector is trained on it and has used it.

**WY:** WYDOT has been using element level inspections for over 15 years and convert these to NBI ratings using Pontis. Some of the converted NBI ratings are a little conservative, but those are reevaluated and adjusted accordingly.

- c. If no, how are your bridge preservation needs identified and managed?

**AK:** Alaska has a Preventive Maintenance Program in 2 of 3 Regions. Preservation. Many of the preservation activities the State completes are also considered to be preservation activities. (Deck and joint repairs, overlays, etc...)

**AZ:** N/A

**HI:**

**ID:** No response.

**NM:** All needs are managed with NBI Condition Ratings and engineering input. NMDOT is not centralized. All decisions are made at the District level. NMDOT Central Office generates priority Lists which are reviewed and prioritized with District input.

**OR:**

**UT:**

**WA:** No response.

**WY:**

2. How are the bridge preservation (BP) needs funded?

**HI:** With HBP Funds

**OR:** State dollars for scour paint, Cp through STIP, and major bridge maintenance.

**UT:** Currently using State dollars for UDOT's Bridge Preservation program and they are determined by a system wide Asset Management system.

a. Does your state have a separate program for Bridge Preservation activities?

**AK:** No

**AZ:** Yes

**HI:** Yes

**ID:** Yes

**NM:** NMDOT uses federal bridge funding to support bridge preservation needs. NMDOT apportions bridge funding to each District similar to how FHWA apportions each state. Funding decisions are then made at each District. All Districts spend a portion of their BR funds on preservation.

**OR:** No

**UT:** Yes

**WA:** Yes, there are funds for bridges that are separate from safety and roadway funds. Also as subsets under the bridge funding there are separate programs to take care of bridge painting, scour, overlays, special repairs and seismic retrofit.

**WY:** No

b. What program(s) are used to fund BP activities?

**AK:** N/A

**AZ:** ADOT Bridge Inspection and Repair Program

**HI:** Bridge Preservation Program

**ID:** A combination of Federal (IM, STP, NH and/or HBP) Funds and State Funds

**NM:**

**OR:** Major bridge maintenance and STIP

**UT:** We have one stand along program specifically for Bridge preservation but we also address bridge needs through other types of funding as well based on the scope of the project.

**WA:** We have two sources of funds that are used for bridge preservation. Our bridge preservation program replaces and rehabilitates bridges, there are separate categories within the preservation program that address bridge painting, scour, seismic retrofit, special repairs, and overlays. Under our maintenance program are funds to maintain and operate our bridges. The bridge preservation activities using all state funds for the maintenance program are: deck patching, joint repairs and sealing, bridge cleaning, bridge repairs, bridge maintenance inspections, all pm activities on our movable bridges, etc.

**WY:** STP, NHS, and IM

3. What is the impact of the current funding on your bridge program in general and on your bridge preservation program in particular? Please explain.

**AK:** Recently, bridge rehabilitation and replacement projects have been successful in obtaining Federal and State funds. If funds become scarcer anticipate less money will be available for bridge activities

**AZ:** We are continuously falling behind. We spend most of the available funding on bridge replacement or deck replacement. Very little is spent on bridge preservation activities.

**HI:** Available funds are able to fund one project per fiscal year.

**ID:** We spend about \$11,000,000/year in our Bridge Preservation Program. Our goal is to keep our good condition bridges in good condition and extend their life. We also try to improve some of our fair condition bridges to good condition with Bridge Preservation Funds.

**NM:** NMDOT estimates that our preventative maintenance and minor reconstruction needs are approximately \$19.6 million per year. Our current budget is about \$6 million per year (\$13.6 million deficit). In the next 10 years, 25% of NMDOT's bridges will become 50 years old.

**OR:** Our program has been bonded for the next 25 years. We will do few replacements.

**UT:** Based on the economic situation UDOT's dollars for bridge preservation have decreased over the past few years. Our Preservation funding is not enough to keep our system at a "status quo" level. We receive approximately \$5 Million per year for specific bridge preservation treatments.

**WA:** Our preservation funds have been reduced to about 50% of what is needed. One of the hardest hit is bridge painting. Because the majority of our older steel bridges have so much paint on them that they can no longer be over coated. Our maintenance funds over the last several years have grown slightly due to a greater understanding in the legislature that we have been falling behind in maintenance and this has been shown in our maintenance Accountability Process (MAP). The funds have not been increased to cover the additional bridges and increased square footage of bridge decks added.

**WY:** Changes to pavement preservation strategies have resulted in decreased bridge work on paving projects. Districts are favoring paving projects over bridge projects and this is causing bridge needs to not always be addressed, making expending all of the HBP funding more challenging. Most districts are addressing some of the bridge needs by adding small (\$ 1M - \$2 M) district-wide bridge rehabilitation projects to the STIP every year or every other year. Candidate work lists are provided to the districts for input in developing these projects.

4. Does your agency have an approved Systematic Preventive Maintenance process for use of Federal-Aid funds?

**AK:** No

**AZ:** No

**HI:** Yes

**ID:** Yes

**NM:** Yes / no. We have a signed agreement that outlines requirements for award of bridge maintenance price agreements. Not sure if our agreement would meet all of the requirements outlined in Bridge Preservation Guide. Have discussed updating our agreement. NMDOT/FHWA pavement preventative maintenance agreements have been updated recently.

**OR:** No

**UT:** Not currently, but plan to in the near future.

**WA:** Yes but only for Bridge painting, scour, seismic retrofit, bridge deck overlays, and some special repairs.

**WY:** No

- a. If you answered no, has your agency submitted a request to your local FHWA office? What is the status of the request?

**AK:** Alaska did receive approval for a one-time painting project but has no consistent SPM program. No additional approval requests submitted.

**AZ:** No

**HI:** N/A

**ID:** N/A

**NM:** No

**OR:** Yes and it was declined.

**UT:** We have not submitted anything to our local office.

**WA:** N/A

**WY:** No

- b. Is your answered no, does your agency have any plans for pursuing an agreement?

**AK:** Management has not made a decision. Not sure if State Bridge Crews can effectively use more funding and contracting costs more and yet requires a relatively large amount of State oversight.

**AZ:** Yes

**HI:** N/A

**ID:** N/A

**NM:** Yes. We have approved agreements for preventative maintenance on pavement. We plan on doing the same for bridge.

**OR:** Yes

**UT:** Most likely will pursue HBP dollars for preservation in the next few years.

**WA:** N/A

**WY:** Yes, the FHWA division office is currently working with WYDOT to develop an agreement.

- c. If you answered yes, would you be willing to share a copy of the agreement with others?

**AK:** NA

**AZ:** N/A

**HI:** Yes

**ID:** No response

**NM:**

**OR:**

**UT:**

**WA:** Yes

**WY:** N/A

5. Please provide details of the preservation activities performed during the last few years?

- a. Deck Overlays – What kind of overlays have you applied? Show percentages of if you use more than one type of overlay.

**AK:** One polyester overlay installed via contract; two polymer overlays installed via State forces; several asphalt overlays with waterproof membranes installed by State forces and contractor; several partial depth silica fume concrete deck rehabilitations via contract; several timber running plank overlays via State forces.

**AZ:** Epoxy overlay, MMC overlay, AR-ACFC overlay

**HI:** Have not started but looking to use polyester, latex modified or thin bonded polymer overlays.

**ID:** Silica Fume, Polyester Overlay, & Epoxy Overlays. Predominately Silica Fume Concrete overlays have performed the best.

**NM:** 1) Crack sealing using low viscosity, gravity fed sealers (15%); 2) Polymer concrete bridge deck overlays (80%); 3) Polyester concrete bridge deck overlays (5%)

**OR:** Polyester Overlay, & Epoxy Overlays

**UT:** Approximations used for systems: Polymer Epoxy Overlays 35% (now only being applied to new bridge decks); Waterproofing membrane with HMA overlay – 45% (moving away from these); Healer / Sealer Treatments 19%; HPC overlays (LMC, Polyester, HPC) 1%

**WA:** HMA w/o membrane -189/347 (54%); BST 111/347 (34%); HMA with membrane 25/347 (7%); fly ash concrete overlays 17/347 (5%), Rapid Set Concrete 5/347 (1%).

**WY:** From 2004 – 2012: 84 % - Rigid overlay (silica fume modified concrete); 14 % - AC overlay w/ membrane; 2 % - Thin overlay (epoxy)

- b. Steel Superstructure Painting - What kind of coating systems have you applied. Show percentages of if you use more than one type of system.

**AK:** Three component, zinc rich paint system.

**AZ:** N/A

**HI:** Inorganic zinc in past, moisture cured urethanes currently

**ID:** Primer coat, intermediate coat, and topcoat using Sherwin Williams or Wasser High-Tech Coatings.

**NM:** Mostly epoxy based paints. Most steel structures were originally painted with lead based paints. Efforts are now directed towards repair of small areas or encapsulating as needed.

**OR:** Urethane

**UT:** Three-part coating system consisting of a zinc primer, epoxy or urethane intermediate coat, and aliphatic urethane top coat

**WA:** Moisture Cured Urethane in a three part system.

**WY:** System A – Alkyd Bridge Paint System and System B – Zinc rich primer, Epoxy intermediate coat, and Latex top coat

- c. Deck joints- What kind of joint seals do you use for movement ratings less than 1 inch, 1-3 inches and over 3 inches.

**AK:** 1-inch: pourable joints. 1-3 inches: Sliding plate joints over compression or strip seals. Over 3 inches: Modular and finger joints

**AZ:** Compression Seal for 0 -4", Strip Seal for 0-6", Modular Joint for more than 8"

**HI:** Mostly strip and pre-molded joint seals, few modular

**ID:** Silicone & Compression Seals for 1 in, Strip Seals for 1-3 inches, and asphaltic plugs or modular joints for 3 inches and greater.

**NM:** For 1-3 inches – mostly strip seals with embedded anchorages. Some compression joints. Poured joints have not performed well in New Mexico. For over 3 inches – Finger joints.

**OR:** For less than 1 inch we use AC Plug; for 1-3 inches we use compression joints; and for over 3 inches we use strip or modular joints.

**UT:** For strip seals for 1- 3inches, modular Joints over 3 inches

**WA:** Small, backer rod and silicone sealer, medium 2 to 4 inches strip or compression seal, larger than 4 inches we go with a modular joint.

**WY:** Less than 1":\_Compressed joint material; 1" to 3": Compression seal and Strip seal; Greater than 3": Strip seal (up to 4") and Steel plate finger joint

6. In your opinion, what are the top three priorities that you would like to see the WBPP pursue in the future and why?

**AK:** 1) Educate/promote bridge preservation activities to upper management; 2) Develop list of approved preservation activities and request template; 3) Develop and maintain list identifying contacts for preservation activities

**AZ:** 1) Continue to work on Systematic Preventive Maintenance Process for use of Federal Aid funds. 2) Continue work on effective repair/rehabilitation method and materials. 3) Advance the cause of bridge preservation program.

**HI:** Deck repairs (rapid set concrete), joint work, scour mitigation

**ID:** 1) Resist the urge to standardize bridge preservation strategies amongst all the states, and appreciate the diversity of different approaches. 2) Learn from past failures and share those experiences with other states. 3) Emphasize innovative approaches and using ingenuity.

**NM:** 1) Consistency – Become an advocate for more consistency in Bridge Management in Bridge Preservation efforts, dealing with FHWA, specifications and other requirements. 2) Simplification – Become an advocate for simplifying and streamlining processes. This is the only forum for Departments to share information on how they deal with bridge preservation processes, whether, these be related to construction practices, FHWA requirements or internal processes. 3) Information Clearinghouse – There is a strong need for shared information and experiences in bridge preservation practices. Being able to know, understand and share these experiences is extremely valuable.

**OR:** 1) Revisit the 9 step systematic process since several of the steps are intuitive. These could be addressed on a nationwide or FHWA level instead of state by state. Reduce the steps to just the critical ones. 2) New AASHTO Elements (sources) - Guide Manual, Use Pontis 5.X, Mike Johnson (he is busy). Need to help guide states in the implementation process.

**UT:** 1) Gathering of information on deck preservation treatments, what works, for how long, and what kind of return on the dollar can we expect. 2) How long will this treatment last and extend the life of our system. 3) Collaboration with the industry to develop standards that we know work.

**WA:** 1) A user's guide to bridge preservation activities to include what should be in a comprehensive bridge preservation program as well as how it should be done. 2) Development of an appropriate data system that collects bridge information at the element level, facilitates managing the bridge program, and helps to justify sufficient funding to do bridge preservation activities. 3) Ways that local agencies are using the AASHTO elements to justify increased funding for bridge preservation.

**WY:** No response