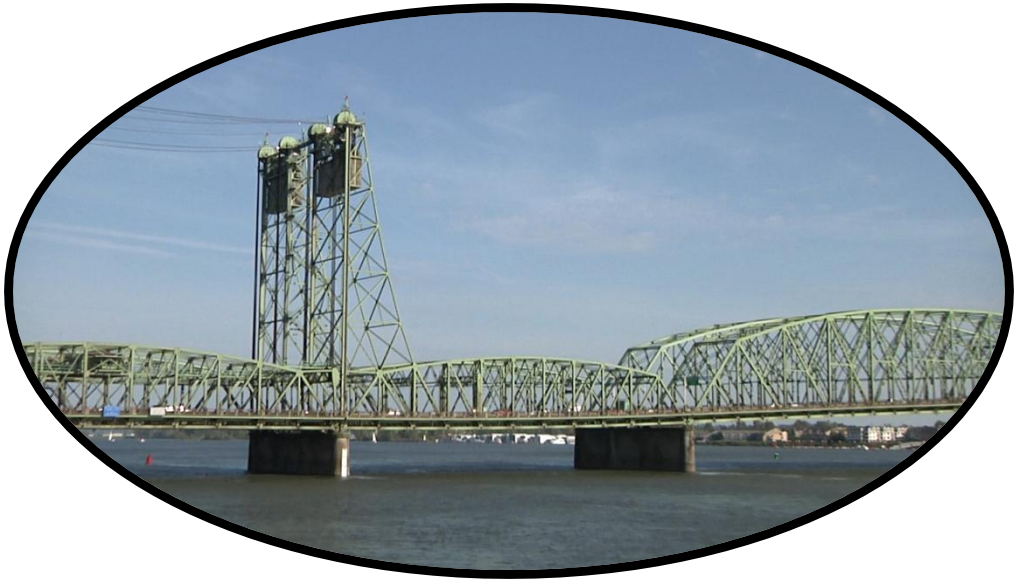
Bridge Preservation Tool Box & Bridge Management Report Out



2012 WBPP Conference
Vancouver, WA

Group number: 2	Discussion topic: 3

Discussion Highlights (note main discussion items)

BP and management resources you find useful
Washington DOT,Oregon DOT, Caltrans, New Mexico DOT, Idaho DOT, Alaska DOT, Baker, Simco, Agile Assets

Useful tools:
Bridge inspection condition assessment
National Bridge Inventory Items
Bridge Preservation Guide
AASHTO Guide Manual on Asset Management (free webinars)
Meaningful performance measures with trend analysis
Bridge management software tools for deterioration and life cycle cost analysis

What should the FHWA toolbox include:
Success stories from agencies around the country
Share life cycle cost spreadsheets that are good examples

How to prioritize preservation – Two part answer
With funding - doing preservation sooner rather than later is better. Seal decks within the first 10 years of life
Without funding -

Notable Practices (Note practices, strategies, policies, products, etc that are working well)

Have a defined leader in your organization for asset management – Several agencies had specific position others do not.

ODOT produces a bridge needs report annually – to help market needs outside the DOT

Notable bridge preservation performance measures: Bridge Health Index, Distressed bridges

IDOT has quantified the reduction in maintenance from historical norms following certain preservation actions.

Building preservation treatment applications into the initial construction. Example: Overlay 1 year after construction.

Element Level Inspection – Elements are superior to NBI rating because the elements account for condition in a more detailed way and the respective quantity is defined by condition.

Challenges with implementation: Element migration, Inspector Training, Custom manual development.

Simco – Get material characteristic of concrete to determine the best treatment options and to predict useful service life.

Action Items (Note recommendations for research, leadership, communication, facilitation, technical assistance, etc)

TSP2 has a bulletin board feature that seems very similar to the FHWA toolbox Share point site. These resources need to compliment each other not split the focus of the preservation community.

Continue to hold the Element Inspection Webinars. Many states cannot access Youtube from their agencies; consider placing them in a more accessible place.

Use the element inspections to call for preservation actions in state 1 and 2 primarily.

Explore and promote possible preservation applications of the Bridge Health Index.

Look at the data collected during inspection and determine if there may be better information for preservation that goes beyond the safety focus of the NBI

Group number: Table 3	Discussion topic: Topic 3

Discussion Highlights (note main discussion items)

Resources

- Webinar-See what other states are doing
- Web site – (TSP2) Review documents and presentations
- Meetings – Share information
- Formal Training
- Bringing in subject matter expert from FHWA
- Bringing in Pontis Vendor to help with model set-up
- You Tube Video's (Have not used yet but it sounds like a good idea)
- Vendors/Contractors/Suppliers-When we use products that are new to a state
- Maintenance Conferences –Share experiences with products
- TRB Conference on Bridge Management – See what other nations are doing (Danish System was simple and straightforward,
- Development of decision trees so good choices can be made for individual bridges

Notable Practices (Note practices, strategies, policies, products, etc that are working well)

Using the translator to check the NBI ratings and the element level ratings. If a state only collects the element level data and does not use it for management, the quality of that data can be suspect.

Action Items (Note recommendations for research, leadership, communication, facilitation, technical assistance, etc)

When CoRe elements were first implemented there were many states that made changes. Some states still do not do element level inspection. While some states may resist on general principal, we need to make sure this time we are the same nationwide.

Need to have examples of states that have approval for HBP funds for preventive maintenance so that others can use. We need to have a consistent and transparent process.

Revisit the systematic process – eliminate the steps that are intuitive or can be addressed on a nationwide basis. It should not be a "one size fits all" operation.

Bridge Management does not equal Pontis. It is overkill for those owners with a small number of bridges. If you don't have much bridges or money, you know what bridges need to be worked on.

If we want to promote preservation, we need more the "Structurally Deficient" and "Functionally Obsolete". Health Index may be an option, but not everyone has had a good experience in making it work for them.

Group number: 4	Discussion topic: Bridge Preservation Tool Box & Bridge Management

Discussion Highlights (note main discussion items)

- Useful data resources – how to extract useful info from inspection comments; NY analysis polarity vs. weighted condition state rating; ability to collecting more data with computers but somewhat lacking in objectively analyzing the data

  BP Toolbox –

  Making the case for BP funding in the overall scheme of bridge management – Can show $36 savings for every $1 spent but real problem is we don't have a dollar now

  Advantages of collecting element level inspection data – Most states still collect both NBI and element level data; can come up with prioritized lists with BMS but not confident with the optimized analysis and predictions, not quite synced with practical approaches to selecting bridge work

  Challenges in element level inspection process -

Notable Practices (Note practices, strategies, policies, products, etc that are working well)

- OR bridge raising of overpasses, repairing fatigue cracks at night
- AZ building

Action Items (Note recommendations for research, leadership, communication, facilitation, technical assistance, etc)

- Research study for predictive deterioration
- Need more tools for quantifying benefits for doing bridge preservation work
- Collection of objective data that would support analysis
- Need specialized training in new elements, customization for States
- FHWA be more proactive in providing information on the new coding guide and what to expect
- Toolbox – online training tutorials explaining the tools or link to an expert or YouTube videos
- Educational training for generic bridge preservation work from the industry

Group number: Table #5	Discussion topic: Bridge Preservation Tool Box and Bridge Management

Discussion Highlights (note main discussion items)

Panel: three vendors, three WSDOT, one ODOT, one Fed

- **Computer storage space is becoming very accessible. The amount of data bridge management systems require is no longer a hurdle, what is, are changing requirements around what and how is bridge data collected.**
- **Guidance currently being given is creating a need for more help from the Feds in developing new models.**
- **You can't implement Pontis unless you have deterioration rate models for each element. Someone needs to take the lead to give agencies a place to start.**
- **The philosophy behind the MBE is good, but there needs to be a pretty long transition period.**
- **Uniform application of the 2011 AASHTO inspection manual for all States is necessary. How is the Fed going to be prepared to oversee the implementation, and even more so, how are they going to receive the data in a meaningful way.**
- **National Bridge Elements will require new training and translators. The Feds need to fund these changes for all agencies, and allow time for agencies to switch there methodologies.**

Notable Practices (Note practices, strategies, policies, products, etc that are working well)

-
- **WSDOT's own version of BMS is working really well for them. They collect BMS and use data mining for programming activities. A mandatory move to AASHTO MBE elements will cause some disruption and require the need for a translator to be developed.**
- **ODOT is proactively modifying their implementation of Pontis, but changes to the program are causing unknowns going forward.**

Action Items (Note recommendations for research, leadership, communication, facilitation, technical assistance, etc)

-
- **LEGISLATURE. So much of our struggles with getting PM funds lies on getting funding. Educating our elected officials to think beyond their elected terms is paramount to getting an effective PM program established.**
- **FHWA should provide element deterioration rates and cost data to the states.**
- **There needs be training in regards to the new elements and how they will be implemented / used. Why am I collecting this new data?**
- **Training on new requirements needs to precede any mandates to adopt national elements.**
- **States need to know what format the Feds will want NBE element data submitted, and allow time for translators to be developed.**

Group number: 6	Bridge Preservation Tool Box and Bridge Management

Discussion Highlights (note main discussion items)

Represented by

ODOT
Colorado(FHWA)
WSDOT

Useful BP and management resources

- **FHWA division reps**
- **Pontis**
- **FDOT Bridge Maintenance and Repair handbook (A link on the toolbox that ODOT has used for reference in developing their own.)**
- **Upcoming FHWA Bridge Maintenance Course mentioned by Anwar.**

BP tool box should include

- **A better search ability within the quadrants. (Multiple methods)**
- **Subheadings should be linked to specific pages that pertain to the topic of interest.**
- **R&D is a nice place to share test results (i.e. test result section)**
-
- **Regional agreements of products used to eliminate time/effort spent and speed up abilities to address bridge issues rather than be tied up in paperwork.**
- **National Product information sharing. Vendors need to take advantage of this website and provide information of their own products and how they can be used for bridge applications.**
- **Consider the use of YouTube, webinar or other social media**

Advantages of collecting element level inspection data include:

- **More detail and a better breakdown of any particular element.**
- **Better and more quickly identifies the high priority needs.**
- **Quantifying deficiencies**
- **Identify future repair/replacement needs by looking at trends. As an element deteriorates from CS1 to CS4 over a period of time.**

Challenges faced in implementing element level inspection processes include:

- **Not utilizing the forecasting capabilities**
- **Transitioning to the new version of Pontis 5.1.2**
- **Adjusting to updates can be time consuming.**
- **Correlating the NBI data with the element level data.**
- **Standard methodology that all states would share**
- **Visual inspection of decks is difficult with ACP overlays**
- **Demands of doing more with less manpower in this economy.**

Action Items (Note recommendations for research, leadership, communication, facilitation, technical assistance, etc)

- **Being able to search topics in the Toolbox using different methods (key word search, drill down through a tree menu, etc). I.E. if I'm looking for information on bearings it would be great to get to a repository of all bearing preservation info from each state very quickly.**
- **R&D would be a nice place to share test results (i.e. test result section)**
- **Add sections to the Toolbox that deal with materials and testing methods that are approved on a state by state basis. Would be great to easily see what states are approving what materials and test methods.**
- **States should have a plan to move to new versions of Pontis and commit to carry it out within a certain pre-planned timeframe.**

Group number: Table 7	Discussion topic: Preservation Tool Box/Br. Management

Discussion Highlights (note main discussion items)(1 Or, 1Wa,4 vendors, 1 FHWA- Az)

- Tool box –ODOT maintenance step by step instructions/information videos/ tips of work that could be up loaded. "YouPreservation" site. To build a library with some type of review and approval by both user basis and product source (for proprietary products)
- Management resources conference (PNWB maintenance/Inspection)
- WSDOT manages elements data to fit the needs of the program (i.e., decks)
- New products/research coming out. Staying with technology. Good for advertising for vendor and locator/finder for user.
- WSDOT we just implement.
- Getting the word of what's being used by a state's maintenance forces isn't always known by the engineers. Vendors often facilitate conversation between an agencies maintenance crew and engineers.
- Tool box could provide listing specialty resources states might be maintaining within an agency.
- WSDOT has bridge maintenance crew in each region.
- Funding is developed by identifying a program/need, size the program, elevate program to executives who pursue funds from legislature.
-

Notable Practices (Note practices, strategies, policies, products, etc that are working well)

- Regional Conferences

Action Items (Note recommendations for research, leadership, communication, facilitation, technical assistance, etc)

- Create video library "youpreservation" for upload video library of techniques and information/tips.

Group number: 9	Discussion topic: Bridge Preservation Tool Box, Bridge Management

Discussion Highlights (note main discussion items)

- Idaho (1), WSDOT (1), FHWA (1), Montana (ex)(1), vendors (3)
- Performance measures
- Keeping your evaluation matrix from being overly complex
- We need linkage to relevant component deterioration info
- Develop database of component performance criteria and results
- Advantages of element level data
- R&D

Notable Practices (Note practices, strategies, policies, products, etc that are working well)

Action Items (Note recommendations for research, leadership, communication, facilitation, technical assistance, etc)

- Communicate with the preservation partnerships opportunities for NBE inspection training.
- Solicit and track preservation process theoretical and actual performance and cost info from industry
- Extending the tool box to help facilitate BP actions and provide parameters for management decisions

Group number: 10	Discussion topic: Bridge Preservation Tool Box, Bridge Management

Discussion Highlights (note main discussion items)

- Introductions
- Industry is useful; what is useful, what works and what doesn't.
- Other states are useful; what are they doing, what works and what doesn't.
- Trial and error on preservation work.
- Different things work for different environments. States with variable environments face a greater challenge.
- These conferences provide a great deal of information.
- We need more participants for greater effect.

Notable Practices (Note practices, strategies, policies, products, etc that are working well)

- CDOT – using Pontis but not for bridge management decisions. Need even greater communications between departments. Tracking what works is an issue.
- Washington – looking for better communication between maintenance and bridge management.
- CDOT – New bridges required acceptance by Bridge Inspections/Designers before finalizing the projects. Same with UDOT. The program has been a bit hit and miss so far.
- Montana – Design required to go over improvements with maintenance coordinators, both on repairs and new construction.
- Washington – all inspectors are engineers.
- UDOT – Strategic goals set up for each year. This is pushed and sold in the commission meetings.
- Bonding in (Colorado and Washington) states to replace bridges
- UDOT uses element levels to drive their management system, focusing on 7 key elements. Using more of the health index philosophy rather than sufficiency rating.

Action Items (Note recommendations for research, leadership, communication, facilitation, technical assistance, etc)

- Ability to share information between the different management systems.
- Ability to track work, sharing information between Design, Inspections and Maintenance.
- Need notifications to inspections and maintenance when construction is to be finalized.
- Ability to track innovative products being placed on our bridges. How do we get these into the bridge records.
- How can you document the benefits of preservation work and sell it to commissioners?
- Resource issue in going to the new bridge elements.
- How do you capture total costs including time, materials, traffic control etc.?