



Midwest Bridge Preservation Partnership

Agenda – Monthly Teleconference

May 5th, 2020

1:00 – 2:00 PM CST

- Roll Call –

Name	Organization		Name	Organization	
Darlene Lane	NCPP	X	Javier Romero	Cook County, IL	
Ed Welch	NCPP	X	Adam Post	Indiana DOT	X
John Hooks	NCPP	X	Scott Neubauer	Iowa DOT	X
Chris Keegan	NCPP	X	Joe Stanis	Iowa DOT	X
Bill Oliva (<i>Chair</i>)	Wisconsin DOT	X	Don Whisler	Kansas DOT	X
Sarah Sondag (<i>Vice Chair</i>)	Minnesota DOT	X	John Culbertson	Kansas DOT	X
James Leaden (<i>Secretary</i>)	Kansas DOT	X	Joe Molinaro	Missouri DOT	
Jeremy Hunter (<i>Past Chair</i>)	Indiana DOT		Jacob Creisher	Michigan DOT	
Sarah Wilson (<i>Director</i>)	Illinois DOT	X	Jason DeRuyver	Michigan DOT	X
Josh Rogers (<i>Director</i>)	Kentucky TC	X	Paul Pilarski	Minnesota DOT	X
Glenn Washer (<i>Director</i>)	U of Missouri	X	Kent Miller	Nebraska DOT	X
Patrick Conner (<i>Director</i>)	Indiana LTAP	X	Mark Traynowicz	Nebraska DOT	
Nick Graziani (<i>Director</i>)	Watson Bowman	X	Nancy Huether	North Dakota DOT	X
Tom Donnelly (<i>Vice Chair Non-State Agency</i>)	Transpo	X	Barry Kinnischtzke	North Dakota DOT	X
John Bunderson (<i>Social Media WG</i>)	Metal Fatigue Solutions		Mike Brokaw	Ohio DOT	
Scott Stotlemeyer (<i>Systematic Preventive Maintenance WG</i>)	FHWA	X	Andrew Blower	Ohio DOT	
Brandon Boatman (<i>Preservation Matrix WG</i>)	Michigan DOT		Walt Peters	Oklahoma DOT	X
Fouad Jaber (<i>Deterioration Modeling WG</i>)	Nebraska DOT	X	Todd Thompson	South Dakota DOT	X
Tim Anderson (<i>Director</i>)	FHWA	X	David Coley	South Dakota DOT	X
Larry O'Donnell	FHWA	X	Richard Marz	Wisconsin DOT	X
Raj Ailaney	FHWA	X	Tim Woolery	Adv. Chem. Tech. Inc.	X
Dick Dunne	GPI	X	Lorella Angelini	Angelini Consulting	X
David Heilman	Jet Filter System		Pat Martens	Bridge Preservation and Inspection Svcs.	
Greg Heilman	Jet Filter System		Jason Fogg	HDR Inc.	X
Mark Swiderski		X	Paul Jensen	Jensen Engr & Cnslt	X
Dennis Tang		X	Dave Juntunen	Kercher Group	X
Derrick Castle	Sherwin Williams Co.		Drew Storey	Kercher Group	
Basak Bektas			Kyle Bartfay	Phoscrete Concretes	X
Ken Warbritten		X	Philip Meinel	Wisconsin DOT	
Kevin Irving	Int. Zinc Assoc.		Paul Vinik		X
Kevin Stalz	Washer Coatings		Patrick Conner		X
Kevin Stumpf	Uretex U.S.A.		Jennifer Harper		
Bob Wu		X	Kristen A. Leier		X



Midwest Bridge Preservation Partnership

- **Approval of Minutes – April 7th, 2020 Monthly Meeting**

The minutes from the April 7th, 2020 meeting were distributed via email on May 2nd, 2020. Bill Oliva quickly scrolled through those minutes and made a motion to approve the minutes. John Hooks seconded it. There was no opposition. The motion passed.

- **2020 MWBPP Annual Meeting (Lexington Kentucky) – September 9th – 11th 2020** *Josh Rogers and John Hooks* -
 - *Call for Presentations (John)* - <https://www.surveymonkey.com/r/NRQBKKZ>.

John stated that they were moving along with the agenda. On April 15th, 2020, there was an Agenda Planning Meeting. On that call a list of about 40 different presentation topics were looked at and rated (high, medium, low) by the members of the planning group. These will be narrowed down during the May 20th, 2020 Agenda Planning Meeting. John Hooks said that he's willing to accept new presentation additions, but as of now, there are plenty of presentation topics to choose from as well as the typical panel sessions, and peer exchanges (should the Annual Meeting go on as scheduled). John added that earlier in the day, there was lively discussion within the NEBPP concerning whether that meeting will be cancelled (scheduled for October 2020). This might stimulate conversations in the MWBPP, and the SEBPP which currently have Annual Meetings scheduled earlier than the NEBPP. The oversight panel of the TSP-2 program is meeting is soon to discuss this very topic. Stay tuned for updates. For now, we will continue as if the Annual Meeting will occur as scheduled.

- **MWBPP Deterioration Modeling Working Group (Bill Oliva)**
 - *Reoccurring monthly meeting Set up – Third Friday of each month at 9:00 AM CST Next is Friday May 15th.*

Once we sorted out a few technical difficulties, Bill Oliva proceeded with discussion on the Deterioration Modeling Working Group (DMWG). The big push for the pooled fund for deterioration modeling right now is the collection of data. Most of the states have provided data to date. There are a lot of different categories of data. The research team is contacting each state individually with unique questions about the data those States have submitted. Questions relate to the types of information and definitions of data types. The goal is to get all of the submitted data on the same page to analyze data correctly. They are hoping to have interviews done by the end of this month, then get into the modeling beginning in the end of May into June. Bill stated that the DMWG plans on having a face to face meeting at some point during MWBPP Annual Meeting scheduled for September 2020. Bill said that to pull off the face-to-face meeting for the DMWG during the Annual Meeting, that 1-2 additional people will need to have their travel be funded by the Partnership. He stated that the project is well funded right now. He stated that overall, the DMWG is off to a good start, is on track, and has good data collection so far.

- **Monthly Preservation Topic: Bridge Product Databases on the TSP2 Bridge Website**
 - *Dennis Tang will give an overview and demonstration of using the Bridge Product Databases on the TSP2 Bridge Website*
 - <http://bridgeproductdb.com>

Dennis Tang presented a tutorial on the Bridge Product Databases on the TSP2 website that they have been working on for a few years now. The goal of the database is to provide attributes for various products and for States to be able to input comments on products that they've used and give feedback and

also upload attachments that might be helpful to other users. Dennis went on with a brief tutorial on how the website works. You must be logged-in as an Agency level user to view comments or add comments but viewing of the products will otherwise be available. He continued with his presentation by navigating the website showing the basic overview of the product databases. He then continued by showing one of the main features of the website, the ability for States to add information and comments. He showed an example of how a state would provide input on a product name. They would note their contact name, email, name of the State commenting, the comments they provided, links and attachments for documents.

This Bridge Product Database is designed to give States a way to communicate their experience of using a certain product, and perhaps find information from other States on products they are using, and perhaps contact the individual to get more information.

Dennis then logged-out and showed the registration process to gain access to the Bridge Product Database. The system requires that each registrant have an administrator approve their request. So, after you register, Dennis will get an email and he will manually approve you then he will send an email back prompting you to create a password for your account. This process was established to allow members access to the database, and to prevent spam or non-registered users from use of the database.

Bill Oliva asked where the initial data to populate the database originated? From a Working Group? Dennis followed up that yes it came from previous working groups.

Dennis was asked how to get to the Product Database on the website. Right now, the link is a little hidden on the TSP-2 Bridge Deck Working Group page, but the link is just “BridgeProductDB.com”. In the future Dennis will be adding a shortcut to the TSP-2 Bridge page on one of the sides.

Fouad Jaber of NDOT stated: Is the “comments area” intended for only the product, or construction quality, are we are not sharing bad experiences, only good experiences? Ed Welch followed up with: The partnership doesn’t want to take on liability; there are a lot of reasons that products fail, we don’t want to knock a product because recommendations or prep-work wasn’t followed (a little history...It was agreed by the States that were in the Working Group at that time that they didn’t want the liability making details on a product that was bad). You can list the products you’ve tried and say that “we are no longer using this product”. And then someone could call you up “why aren’t you using this product?”, and you could say the reason may be our climate is too cold to utilize this product, and we switched to a similar product. The Working Group is looking for positive comments of what is being utilized out there.

It’s basically a means of virtual networking about products. Recently they started with patching materials. They may do membranes in the future. Whatever the greatest interest is in the future, the Working Group will work on those items as well.

Bill Oliva asked if people are putting up specifications associated with the products? Dennis answered “Not yet, not many people have been using attachments. A lot of people are just putting URLs in the comment section for the specifications, but specs could be uploaded as attachments as well. Ed Welch added that even photographs could be added.

- **Monthly Preservation Topic:**
 - *Pat Conner will share some of the information and resources related to the Indiana Local Bridge Conference*

Pat Conner works at the Indiana LTAP and sits on the National Local Agency Outreach Committee. One of the initiatives of the Outreach Committee is to develop a video to share around the country on how Indiana Local Agencies address bridge preservation. The video was developed to give other States and

local agencies an example on how to promote and offer training in bridge preservation. Pat highlighted one of the things that the Indiana DOT and LTAP has been doing for the past 20-30 years, a County Bridge Conference. It is a big bridge outreach program where attendees include the INDOT, FHWA, local practitioners, industry, academia (part of Indiana LTAP is at Purdue). They host the conference at Purdue University giving them access to all of the faculty and resources there. At the conference, they talk about various topics such as: funding, bridge inspection updates, bridge design, new innovations, they show demonstrations, INDOT and FHWA are there to share any updates to the local agencies. Topics also include bridge asset management, bridge preservation, etc. It typically takes place each year in October.

During the last meeting, the Local Agency Outreach Committee decided to develop a 5-8 minute video to share some of the testimonies from the local agencies. They wanted the video to capture how Indiana and LTAP was providing classroom training, and hands-on training, some of the networking and partnership opportunities (TSP-2 and industry partners), share flexible funding opportunities across the State that are available for preservation. They also want to build an asset management culture that looks at the network and has the ability to have a performance-based program using data and life-cycle costs to calculate bridge needs which ultimately justifies bridge maintenance activities.

The County Bridge Conference is being rebranded this year. It is now called the Local Transportation Asset Management Conference to make it more compatible for “Local Asset Managers”. They wear different hats and do different things and it was requested that the conference be more inclusive with all asset responsibilities assumed by those managers. There are a lot of training opportunities at InDOT. This is a way to expose those to the Locals.

Bill Oliva asked... did you “TAP” into other States and the LTAPs in regard to their efforts on local bridges and asset management?

Pat Conner responded: that’s part of the initiative of the Local Agency Outreach Committee, to get information out through the LTAP. Pat said he also shared some TSP-2 bridge preservation information to the LTAPs at a national conference. Most locals were aware of the pavement preservation side of TSP-2, but not many of them were aware of the resources and availability of bridge preservation. So yes, they are starting to “spread the word” at regional and national conferences.

Ed Welch asked: How is funding tied to having an asset management program that is specifically for preservation?

Pat answered with: There are 3 main funding sources. Federal Aid “opened-up” in Indiana for bridge preservation if they have a Bridge Asset Management Plan and the State provides guidelines on what that asset management plan looks like. If they meet all the requirements, they are eligible for federal aid for preservation activities. But a State sponsored “local road and bridge matching grant program” is more readily available. If the local agency has an Asset Management Plan, then they are eligible for a grant for pavement and bridge. The State Legislature developed the grant program 2-3 years ago that InDOT manages (assisted by Indiana LTAP) and doles out a portion of the roughly \$200 Million annually (*teleconference attendees gasped*) to those eligible. This has spurred the desired asset management culture in the local agencies in Indiana.

Bill Oliva stated as other DOTs get more involved in asset management on the local side, we will keep this in mind as a resource.

- **Kent Miller (NDOT)** *Two 1960 steel girder bridges over the Platte River that no longer carry traffic and are available to be used as research subjects. They have been fenced off and UN-L is coordinating any proposed projects. We'd like to promote this opportunity for researchers.*

Kent Miller started off by discussing three bridges that NDOT has available to try some research ideas on (preservation projects or analytical studies or anything related to bridge health).

Two were originally built in 1960 spanning the Platte River. These were in service for about 45 years, then the alignment shifted, and the NDOT left them in place. These bridges have a little more advanced deterioration. They are in fair condition. They could carry traffic, but they would face replacement in the next 10-15 years. The bridges have been fenced off, and a shed will be built for the researchers. These bridges are located west of Omaha.

The third bridge was built in 1976, a prestressed bridge built as a parallel bridge, but the parallel alignment was not built. It was never opened to traffic. This bridge had a waterproofing membrane under the asphalt wearing surface. It is located just north of Omaha. This bridge had typical deterioration but is in fairly good condition.

These bridges are being used as an outdoor lab for the NDOT, and University of Nebraska to try things on. **GoBigRed!**

- **Kent Miller (NDOT)** *Two bridges built in the 1930s that were widened and overlaid with asphalt and waterproofing membrane in 1972. This summer the ACC&M will be removed and NDOT has contracted with Vector to do a survey of deck condition and corrosion rate testing before a new ACC&M system is placed. Nebraska has about 20 bridges that had ACC&M placed prior to opening to traffic in the 1970s, but only 3 that had some earlier concrete in place in inner girder bays. These 3 are of particular interest, because of the uncertainty about how effective ACC&M is for reducing corrosion rate on bridges with previous chloride exposure. Once the study of these is completed, NDOT will make the results available.*

The synopsis above provides the backdrop for this segment... So, Kent continued on... There were some bridges in Nebraska that had a preservation experiment done in the 1970's. They took 24 bridges and covered them with asphalt waterproofing membrane before opening to traffic. These Asphalt Membranes on Original Deck (AMOD) bridges have all remained in service with almost no bottom of deck deterioration typically seen on bridges that age. Once NDOT realized that this method to preserve bridge decks worked, they felt that they needed to adjust their policy around it.

So, this summer, they are going to do a project to answer a question. How are the bridges going to perform when exposed to chloride? These bridges were covered up before they were exposed to chlorides. However, three were widened in the 1970s (they had the original 1930s concrete, then were widened with 1970s concrete). So those three have two zones of chloride exposure on the deck (1950s chloride exposure in the center (over 1930s concrete protected with membrane), and 1970s chloride exposure on the outside(protected with 1970s membrane)) and full chloride exposure on the open concrete rail. They are going to test all of those areas on these 3 bridges to determine how corrosion affects these bridges in the three different conditions. They are going to remove the overlays and have Vector come in and do a

full deck survey and corrosion testing. NDOT invited other DOTs to attend the membrane removal this summer, just contact Kent Miller.

Kent went on and showed slides of the bridges involved in this study. **Then opened it up for questions.**

Josh Rogers asked if that was a Spray-on membrane that was used? Kent discussed the different types of membranes they use. Most of what they use is the preformed fabric membranes that they roll out, working from low to high on the bridge, but they also use the spray-on type in high traffic areas or in areas where the cross slope is more than 4% because the paving machine can slide on the membrane with too much cross slope.

Fouad Jabber (NDOT) stated that it is their policy to put asphalt with membrane on all new bridges.

Kent added that NDOT has done this to 340 bridges now, and they do about 25 per year. Ideally they get a 3" asphalt overlay over a membrane. So that they can mill 2" then fill 2" so that they don't have to touch the membrane again. However, if it is done on an existing bridge, they time that work with expansion joint replacements. In Nebraska the only time they use epoxy is if the bridge is too new to warrant raising the grade, and the expansion joints are in good shape.

Ed Welch stated that New Hampshire has been doing Asphalt membranes for about 30 - 40 years now. They've done some research on them, and presently they use machine applied hot membrane. The preformed membrane is heated with a machine when it is put down to get better adhesion. Ed said he could put Kent in contact with those involved at the New Hampshire DOT. *(And here is the Name Drop...)* Steve Johnson is the present Bridge Maintenance Engineer for New Hampshire. He's your guy.

Bill Oliva had a question: You referenced good success on bridges in the 1970s. Was that the original asphalt? Or has it been milled and overlayed over the years? Kent Miller said Yes, it is the original 1970s asphalt with cracks sealed when they developed. It's not a problem for Maintenance, as long as they get those cracks sealed. Some others have been milled with asphalt overlays 1" to 1.5". When membranes were damaged, they would put another one on. And a couple of those bridges, they just milled off and left it or put on a concrete overlay.

Bill Oliva added that WisDOT are doing this research on deck protocols, through the whole life-cycle on a bridge deck, and in Wisconsin they shied away from asphalt overlays for a long time (especially asphalt without membrane), but the research found that with the right combination of asphalt and membrane, they performed very well. This research might be ready by the MWBPP Annual Meeting this year. Fouad Jabber of NDOT invited the WisDOT researcher to Nebraska for the overlay removal this summer.

Sarah Wilson (IllDOT) said anytime they do an overlay or replace an overlay, they are required to do a condition report. Studies for overlays require 4 years to complete to do the design. When these only last 10 years, this can be ineffective. Kent Miller responded that they would wait for the timing to get right to put a 3" overlay over a membrane that stays in place (then mill 2", fill 2", when necessary). If they can't do that, then it's usually governed by rail height, then they rebuild the rail, or decide if the bridge should even be kept. But they are also willing to scrape it off and apply another membrane. It's cheap to put on.

Sarah Wilson said Waterproofing membrane used to take 3 days of good weather to place it (with no traffic) which made this material choice problematic in the past. Is new waterproofing that time consuming? Kent responded with "No, you pave right on the membrane right away". Sarah continued: this is why Illinois went predominantly with concrete overlays to get 20 to 30 years as opposed to 10

years out of asphalt. Paul Pilarski (MnDOT) agreed with Sarah, in Minnesota, they had a poor lifespan of the asphalt in high ADT areas. This became too much of a maintenance personnel risk to be repairing these all the time. He asked Kent what ADT are you putting this on? Kent Miller replied that they put them on Interstates and really everywhere. Sarah Wilson added High ADTs in the larger metro areas can get up to 200,000. Kent added that with concrete, the traffic is off the bridge for a couple weeks, and with asphalt membrane, the traffic could be off the bridge for maybe a day. It's fast. An option to consider.

Josh Rogers asked about paving over expansion joints, do you just use plug joints? Kent added that plug joints worked well on shorter bridges. He also added they are doing polymer nosing with various types of expansion devices (no armored edges, just polymer material (like a rubberized concrete)).

- **ALL**
 - *Bridge preservation activities during covid-19, Round robin style, each state attendee shares issues/best practices/impacts*

This topic was not discussed during this month's teleconference.

- **Next Monthly Meeting**
 - **June 2nd, 2020**

Bill Oliva put out a request for ideas for the June call. Please contact him with ideas.

- **Meeting Adjourned**

The Meeting adjourned a few minutes late at 2:04 CDT.