Midwest Bridge Preservation Partnership

Minutes – Monthly Teleconference
Tuesday March 2nd, 2021
1:00 – 2:00 PM CST

- **Roll Call –**

Name	Organization		Name	Organization	
Darlene Lane	NCPP	x	Kent Miller	Nebraska DOT	
John Hooks	NCPP	x	Kevin Irving	Int. Zinc Assoc.	
Adam Post	Indiana DOT	x	Kevin Stalz	Washer Coatings	
Alex Pence	Wisconsin DOT	x	Kevin Stumpf	Uretek U.S.A.	
Allen Scarborough	CMC	x	Kyle Bartfay	Phoscrete Concrete	x
Barry Kinnischtzke	North Dakota DOT	x	Larry O'Donnell	FHWA	
Basak Bektas	MN State-Mankato		LJ Dickens	HNTB	x
Bill Oliva *(Chair)*	Wisconsin DOT	x	Lorella Angelini	Angelini Consulting	x
Bradley Noll	Ohio DOT		Mark Swiderski		
Brandon Boatman *(Preservation Matrix WG)*	Michigan DOT		Mark Traynowicz	Nebraska DOT	
Chris Davis	Structural Tech	x	Matthew Keilson		
Chris Keegan	NCPP	x	Michael Hill	Arkansas DOT	x
Dave Juntunen	Kercher Group	x	Mike Brokaw	Ohio DOT	
David Brodowski	TrueTech	x	Mike Stroia		x
David Coley	South Dakota DOT	x	Nancy Huether	North Dakota DOT	x
David Heilman	Jet Filter System		Nick Graziani *(Director)*	Watson Bowman	x
Derrick Castle	Sherwin Williams		Patrick Conner *(Director)*	Indiana LTAP	x
Diana Hellman	FujiFilm	x	Patrick Martens	Bridge Preservation and Inspection Svcs.	x
Don Whisler	Kansas DOT	x	Paul Imbrock	PoreShield	x
Drew Storey	Kercher Group	x	Paul Jensen	Jensen Engr & Cnslt	
Ed Liberati	Hughes Group		Paul Pilarski	Minnesota DOT	x
Ed Welch	NCPP	x	Paul Vinik	GPI	
Fouad Jaber *(Deterioration Modeling WG)*	Nebraska DOT	x	Peter Seibert	UHPC Solutions	x
Glenn Washer *(Director)*	U of Missouri		Philip Meinel	Wisconsin DOT	x
Greg Heilman	Jet Filter System		Raj Ailaney	FHWA	
Jacob Creisher	Michigan DOT		Richard Dunne	GPI	x
Jason DeRuyver	Michigan DOT	x	Richard Huza	Salit Steel	x
Jason Fogg	HDR Inc.		Richard Marz	Wisconsin DOT	x
Javier Romero	Cook County, IL	x	Ryan Bowers	Wisconsin DOT	x
Jennifer Hart		x	Sarah Sondag *(Vice Chair)*	Minnesota DOT	x
Jeremy Hunter *(Past Chair)*	Indiana DOT	x	Sarah Wilson *(Director)*	Illinois DOT	
Jerry Goodman		x	Scott Neubauer	Iowa DOT	x
Jim Leaden *(Secretary)*	Kansas DOT	x	Scott Stotlemeyer *(Systematic PM WG)*	FHWA	
Joe Molinaro	Missouri DOT		Tessellen Fennelly	PoreShield	x
Joe Stanisz	Iowa DOT	x	Tim Anderson *(Director)*	FHWA	x

John Bunderson *(Social Media WG)*	Metal Fatigue Sol		Tim Woolery	Adv. Chem. Tech.	x
John Culbertson	Kansas DOT	x	Todd Thompson	South Dakota DOT	x
Josh Rogers *(Director)*	Kentucky TC	x	Tom Donnelly *(Vice Chair Non-State Agency)*	Transpo	x
Katelyn Freeseman			Walt Peters	Oklahoma DOT	x

- **Approval of Minutes – February 2021 Monthly Meeting**
  - The minutes were approved as written.

- **2020 MWBPP Annual Meeting (John Hooks)**
  - John Hooks provided a quick update on all four 2021 regional partnership meetings. So far, the MWBPP regional meeting is still scheduled for Kentucky on September 28 – 30, 2021. All other regional meetings are also still on the schedule, but there is some uncertainty whether the meetings will be able to be held in person. Everyone should have received a survey through Survey Monkey from NCPP regarding travel restrictions. NCPP has received 62 responses as of today, but only a few from Midwest states. At this point, the results are not definitive as most states have no end date for travel restrictions.
    - **ACTION: Please return the survey if you have not already done so.**
  - The agenda planning committee is in the process of developing the agenda. There was a discussion on topics for peer exchanges and panel sections. Bill Oliva suggested a topic on thermography (i.e. how agencies are contracting for this type of work and how to use the results for planning and determining work needs).
    - **ACTION: John will send out a list of topic ideas. Consider the issues you are facing and please respond with topic ideas and/or your preferences.**

- **Motion to support the continuation of the Bridge Preservation Blog**
  - This will include the development and posting of up to 12 blogs and support of attendance to one TSP-2 Meeting for Lorella Angelini for the purpose of face to face interviews. As funds are available, this expense shall not exceed $1800.00/year for the Partnership.
    - Other regional partnerships are in favor of continuing the bridge preservation blog. Since this includes a financial commitment, each partnership needs to pass a motion to include the development and posting of up to 12 blogs and support attendance to one TSP-2 regional in-person meeting for Lorella Angelini. Funding is dependent on which meeting she attends but the total shall not exceed $1800 per year.
    - Bill Oliva presented a motion to continue to pay the annual expense up to $1800 for continuation of blogs, meeting attendance, etc. Fouad Jaber seconded the motion. There was no opposition, the motion carried.
    - Fouad asked if Lorella needed to travel. It was discussed that she will do most blog interviews via webex but it is beneficial to have some opportunities to perform face to face interviews.
    - The partnership thanks Lorella for helping to get the word out regarding great advances in bridge preservation and the people that contribute.

- **MWBPP Deterioration Modeling Working Group (Bill Oliva)**
  - A recurring monthly meeting is set up for the third Friday of each month at 9:00 AM CST. The next meeting is scheduled for Friday January 15th.
  - The primary objective of the study is to produce a finite set of deterioration models based on inspection and construction history information that was submitted by the 12 Midwest states. The deliverables provided to date include a literature review, data gathering

memo, and a data screening process memo. Recent discussions have focused on the data management policy and the data analysis process.
  - The resulting dataset will be preserved and hosted by Wisconsin DOT in case of a future project. The group is working through how that might be accomplished, including access and permissions needed to utilize the data.
  - Researchers are preparing to begin Task 6, which will include refining the dataset, generating inspection pairs, incorporating work activities, stratifying the dataset, computing planning metrics and validation.

- **Monthly Preservation Topic - MnDOT high priority bridges for dedicated preservation funds (Paul Pilarski – Minnesota DOT)**
  - Minnesota DOT's bridge construction and scoping unit recently went through an exercise to categorize high priority bridges and determined the need for an annual dedicated fund of $5M to preserve 26 high priority bridges. Since resources are insufficient to be proactive everywhere, the goal was to identify critical infrastructure to preserve and maintain in good and satisfactory condition for as long as possible and prevent or postpone redecks and replacements, especially for bridges where redecks aren't possible or are cost-prohibitive.
  - The bridges were determined based on type, replacement cost, complexity, deck area, detour length, route/regional importance, ADT, and historic status.
  - Paul Pilarski demonstrated a spreadsheet that included bridge data such as route, location, NBI ratings, deck rebar year, wearing surface year, joint quantities, and other inspection data. Cost curves were assigned based on the current bridge configuration and complexity.
  - Perspectives on what makes a bridge important were then incorporated for bridge type, deck area, ADT, detour length, cost curve and historic status with corresponding weights for each attribute.
  - Management plan thresholds were set at 75 for each emphasis (or perspective). Bridges that met three perspectives were selected for inclusion on the priority list. Investment cycles for common preservation activities were calculated for the top bridges to determine the average annual dedicated preservation budget for the high priority bridges. However, even with an annual dedicated preservation budget, there will be spikes in funding needed for major preservation work on these bridges that will need to be addressed.
  - This process can also be utilized by the Districts to assess risks based on their highest management priorities or perspectives.
  - Dick Dunne asked if any movable bridges made the priority preservation list. In New Jersey, the movable bridges were at the top of the list due to the high dollar value to maintain and replace. The movable bridges did not make the list in Minnesota, but those bridges had alternate routes. The major routes mainly rose to the top of the list.

- **Monthly Preservation Topic - ITD Project - PoreShield technology which is a concrete durability enhancer and a recent addition to the ITD projects (Tess Fennelly, GreenSustains, Inc.)**
  - PoreShield SME-PS is a concrete durability enhancer, not a penetrating sealer. It is a patented technology based on soy methyl esters and polystyrene.
  - The product resulted from a partnership between Purdue University, Indiana DOT, and Indiana Soybean Alliance (ISA), which is a non-profit trade organization that works with United Soybean board to meet demand, develop new uses for soy products and expand export markets.

- When applied to dry concrete, PoreShield is absorbed into concrete; there is no chemical reaction. It leaves no surface film as it has a surface tension that is lower than water.
- The product remains fluid throughout its entire life. If a new crack should form, an access point is opened, allowing the fluid PoreShield to penetrate and protect. PoreShield does not fill cracks, it fills pores around cracking.
- Field studies in Indiana show that it has prevented premature deterioration for 10 years.
- Wisconsin DOT commissioned a study for the treatment of pavement joints using 40% silane and PoreShield. PoreShield was shown to reduce chloride content 40-60% due to the benefit of a fluid barrier in the pores instead of just a surface barrier.
- Applications include:
  - Over 100 bridge decks, Indiana, Iowa and Oregon
  - Highway Joint Treatments (Indiana)
  - Mortar Bridge Patch
  - Precast Concrete Structure
  - Sidewalks, Driveways, Patios
- PoreShield is part of the AASHTO TSP2 ITD Field Demonstration Program for three large scale field applications: pavement joint treatment (Indiana DOT), bridge deck treatment (Iowa DOT) and vertical surface application (TBD).
- The product is renewable and sustainable because it is derived from soy (93% bio content) and there are no fumes.
- The cost is comparable to silane in dollar per gallon (on an absolute basis)
- Application Information
  - The concrete needs to be old enough with a pore network (approximately 14 days old) prior to application. Wisconsin used 7 days in their study.
  - The product can be applied in low (20F) and high (120F) temps, cleans up with soap and water, works on all densities of concrete and can be used on both horizontal and vertical surfaces. For vertical surfaces, if paint is present, chemical compatibility needs to be verified so that it will penetrate. This product can be painted over; it is not a bond breaker.
  - Surface preparation typically entails blasting with compressed air. A dry concrete surface free of debris is required, so the pore network is not saturated.
  - For a dense bridge deck, it takes 30 hours to get fully absorbed (otherwise the surface is slick). Typically, close one lane at a time to treat.

- **Other New Business**
  - Send monthly preservation topics for April to Bill Oliva.

- **Next Monthly Meeting**
  - The next monthly meeting is scheduled for April 6th, 2021. Send meeting topic ideas to Bill Oliva.