

## Message from the Chair



The role of the Subcommittee on Maintenance to this nation as the technical experts on maintenance issues is vital. In this day of dwindling budgets and escalating costs, preserving the nation’s infrastructure for the safety of the American public is so important. The work that maintenance professional do each and every day often goes unrecognized and is often underappreciated. There are no ribbon cuttings on maintenance projects or activities. The public expects roads to be open during snow and ice events and reopened after storms almost immediately and because DOT maintenance forces do such a great job expectations increase for each event. In general, most maintenance technicians are the lowest paid employees in a DOT and yet they have the highest exposure to high speed traffic and its inherent danger. However, even with

all of the negatives, maintenance professionals go about preserving our highways efficiently and effectively with little complaint, taking ownership and pride in their work. I cannot thank you, your staffs and the maintenance forces across this country enough for what you do each day.

This will be my last “Message from the Chair” as I have decided to retire from MDOT after 29 years of service to pursue another opportunity at the end of November. One of the most difficult things that weighed in my decision was how much I have enjoyed my time working with and chairing SCOM. I hope to remain involved in some way going forward but I know that this Subcommittee will remain the best Committee or Subcommittee within AASHTO. Thank you for your overwhelming support and I wish you nothing but the best in the future.

God Bless You,  
Mark

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## Equipment Technical Working Group / EMTSP

### Equipment Management Technical Services Program (EMTSP)

The EMTSP Oversight Panel continues their management of the program. Recent accomplishments include the following:

- Year-to-date FY 2017 State DOT annual contributions to EMTSP are aligned with contributions for this time of year with that of previous fiscal years
- Action items in the EMTSP Strategic Plan have been updated and completed
- 2015-2017 EMTSP Work Plan has been updated, action items assigned and work advances steadily
- Modified the EMTSP website to provide similar information as the former AASHTO Equipment Reference Book to eliminate the need for



continuing that publication. Additional enhancements include:

- Video recording and posting of all National AASHTO-EMTSP and bi-annual EMTSP Regional Partnership Meeting presentations
- Video recording and posting of selected Annual TRB AHD60 Meeting presentations sponsored by the cooperative TRB Committee on Maintenance Equipment (AHD60)
- Promotion and instruction encouraging the EMTSP community to utilize the Survey Monkey® tools found on the website
- Website posting of completed survey results
- Website posting of technical equipment specifications and related contractual language and tools

- Development of Regional Partnership and global email contact distribution lists
- 2016 AASHTO-EMTSP/TRB Joint National Equipment Fleet Management Conference and Equipment Trade Show was held on June 27-30, 2016. The national event was hosted by the Ohio Department of Transportation (ODOT) in collaboration with TRB Committee AHD60 Maintenance Equipment. The conference location selected was the Greater Columbus Convention Center.
  - The agenda developed for 2016 Joint AASHTO-EMTSP/TRB Joint National Equipment Fleet Management Conference and Equipment Trade Show was highlighted by speakers representing the fleet equipment industry, government, academic research communities and selected State DOT's. Arrangements were developed to provide the Regional Partnerships time to conduct their respective general business sessions, complete selection of officers and to conclude other mandatory obligations.
  - The participation in the 2016 AASHTO-EMTSP/TRB Joint National Equipment Fleet Management Conference and Equipment Trade Show was highlighted by the following:
    - 39 - States attended; 55 - State attendees; 201 - General attendees; 66 - Vendor exhibits; 33 - Presentations were given; and 1 - Technical Tour to the ODOT/Ohio Penal Institute Truck Fabrication Facility
- 2017 Regional Partnership Meeting Calendar – the coordination, planning and completion of the scheduled regional partnership meetings to occur on odd numbered calendar years continues. The host state selections for the 2017 EMTSP Regional Partnerships Conferences have been selected and corresponding city locations and dates are currently being studied respectively by each Regional Partnership. To date, the following regions report their 2017 host State selection status:
  - Western States Highway Equipment Mangers Association (WSHEMA):– Host State: California, Conference location – San Diego, Conference dates – October 2 – 5, 2017
  - Southeastern States Equipment Managers Conference (SSEMC): Host State – Georgia, Conference Location – Jekyll Island, Conference dates – TBD
  - Northeast Equipment Management Partnership (NEMP): Host State – Maine, Conference Location – Portland, Conference Dates – TBD
  - Midwest Equipment Management Partnership (MWEMP): will meet jointly with the Northeast Equipment Management Partnership listed above
- The 2018 National Equipment Management Conference and Equipment Tradeshow will be hosted by the State of Connecticut. Dates and location TBD.
- Continued work implementing the findings from the final report of Research Project 20-07/Task 309, *Challenges and Opportunities: A Strategic Plan for Equipment Management Research to identify and prioritize additional research projects*. New priorities were identified and voted at the 2016 National AASHTO-EMTSP Meeting in Columbus, Ohio on June 27, 2016.
- Continued working with the EMTSP National Performance Measurement Working Group and Michigan DOT to develop and post each state's available performance measures on the EMTSP website. Four (4) common State DOT fleet performance measures (Utilization, Preventative Maintenance, Retention, and Availability) are now being reported and may be reviewed at [www.emtsp.org](http://www.emtsp.org).
- Workforce Development – Promote and support professional development opportunities for equipment managers by cultivating training opportunities and certifications appropriate for state equipment managers. Utilize existing fleet management and academic organizations to provide training.
  - Two training modules selected by the EMTSP Oversight Panel and submitted to TC3 for web-based training (WBT) development were consideration and were accepted for development in 2015. The EMTSP Education Subcommittee, made up by EMTSP member state volunteers, has finalized the WBT educational requirements and outcomes for National Center for Pavement Preservation (NCP) course development and later AASHTO TC3 contractor production design work. The EMTSP Oversight Panel will oversee this production process. The selected web-based topics were deemed suitable by the panel for their overall application to all levels of DOT fleet management are listed below:
    - *Preventative Maintenance Concepts for State Equipment Fleet Management Operations* – now in development
    - *Bench Marking and Best Practices for State Equipment Fleet Management*
  - On-going development of a model training and certification curriculum appropriate for state equipment managers by revising the skills matrix developed by the TC3
  - Continued exploration of opportunities to develop a model AASHTO-EMTSP Certification Program or Certificate program appropriate for State DOT Fleet Mangers; determine how this program can be implemented as an AASHTO Equipment Management Certification program
  - Promote the use of the EMTSP website as a clearing house of information for professional

development self-study on subject related fleet management topics including, but not limited to:

- Equipment industry communications and updates
  - State and Federal regulatory communications
  - Technical equipment specifications and studies
  - Industry and government white papers
  - Videos and documents
  - Academic Presentations and Webinars
  - Libraries of industry, government and academic research papers and presentations
- The finalized EMTSP strategic plan and 2015-2017 Work Plan can be found on the “About EMTSP” page of the EMTSP website at the following link: <http://www.emtsp.org/about-emtsp/>

If your state has not yet remitted the voluntary contribution for EMTSP, you are encouraged you to do so in order for this valuable program to continue and expand its accomplishments, which serve the needs of highway agency equipment fleet professionals.

All state DOT equipment managers (and others interested in receiving periodic e-mail related to the EMTSP) are encouraged to subscribe to the EMTSP listserv by clicking on this link: [EMTSP General Listserv](http://mailman.egr.msu.edu/mailman/listinfo/emtsp) – <http://mailman.egr.msu.edu/mailman/listinfo/emtsp>

### **Equipment Technical Working Group (TWG)**

#### **Current Research Projects**

- NCHRP Project 13-04 – *Guide for the Development of Highway Operations Equipment Replacement Lifecycle Criteria* is on-going. The project panel has been staffed; RFP has been written, solicited and awarded to Dye Management Group. Project start date was May 01, 2015. Project completion date is April 30, 2017.
- NCHRP Project 13-05 – *Guidelines for the Development of Highway Operations Equipment Utilization Measurement and Management* is ongoing. The project panel has been staffed; RFP has been written, solicited and awarded to Washington State University. Project start date was June 01, 2015. Project completion date is May 31, 2017.
- NCHRP Project 13-06, FY2017 - *Development of an Automated Tool to Assist in the Formulation and Maintenance of Long Range Equipment Replacement Plans* was submitted to SCOM on August 13, 2015. In March 2016, SCOR approved the project and was later approved for funding by the AASHTO Board of Directors. NCHRP is assembling the project panel to develop RFP scope-of-work in October 2016.

- NCHRP Synthesis 452, State Department of Transportation *Fleet Replacement Management Practices*, has been completed and published in March 2014. The complete report can be found on the “About EMTSP” page of the EMTSP website at the following link: <http://www.emtsp.org/about-emtsp/>.

#### **Proposed Research Projects**

- During the 2016 AASHTO SCOM meeting the Equipment TWG developed and submitted two (2) research project statements and an application for a proposed scan tour. The research project statements and scan tour proposal were given initial SCOM endorsement and are currently submitted for further review and vetting for funding. The proposed research project statements and scan tour titles are listed below:
  - *Guidelines for the Selection and Application of Vehicle and Equipment Warning Light Configurations, Colors, and Markings* – the objective of the research is to update and enhance previous guidelines addressed in NCHRP Project 13-02, Report 624. This research project will include on-road vehicle and off-road equipment configurations. Research will identify configurations and provide a tool that describes the interrelated effects of vehicle color, light color, combination of lighting systems, flash rate, and markings, with maximum and minimum limits, to enhance the safety of highway vehicles and equipment and make them quickly and easily recognizable.
  - *Guidelines to Calculate Total Cost of Ownership for Fleet Operations* – The objective of the research is to develop a methodology and provide guidance leading to a full and accurate understanding of Total Cost of Ownership to inform fleet customers (both internal and external), fleet services providers, and senior decision makers and to assist in identifying opportunities to optimize these costs.
  - Proposal for Scan Tour – *Equipment Asset Preservation and Protection Techniques* – The purpose of the scan is to assist and educate State DOT equipment managers, who are tasked with identifying preventative maintenance practices to prevent premature deterioration. Fleet Managers are being asked questions like, what are the best protectant coatings, how do different methods of storing equipment affect fleet longevity, and do certain preventative maintenances programs or processes work better than another? Which fleets have implemented successful washing programs and how? What are the best practices for preparing fleet equipment for off season storage? There are many different

methods that have been developed over the years to address each of these questions. There would be significant value to State DOT's to identify which methods have been the most successful.

#### Resolution

Resolution to Establish an Increase of AASHTO-EMTSP Annual Contributions was submitted at the 2015 SCOM summer conference and been placed in abeyance for FY 2016 for further coordination.

#### Collaboration with TRB

Various members of the Equipment TWG have been involved with preparing, reviewing and arranging for papers on relevant equipment management topics to be presented at the Annual 96th TRB Meeting to be held in Washington, D.C. in January 8 – 12, 2017.

Tim Cunningham – Chair  
Equipment Technical Working Group – AASHTO SCOM

## *Maintenance Operation Technical Working Group / SICOP*

### SCOM/Maintenance Operation (MO) Technical Working Group (TWG)

#### **Every Day Counts: Weather-Savvy Roads**

Heavy rain, snow and other storms significantly impact the transportation system, often requiring significant investments in roadway maintenance. Safety is compromised, with 22 percent of all vehicle crashes occurring under adverse weather. On average, these crashes resulted in nearly 6,000 deaths and more than 445,000 injuries each year. Likewise, the delays associated with adverse weather can be profound and have significant economic impacts.

Under the Every Day Counts (EDC-4) initiative, FHWA is working with State Departments of Transportation (DOT) and National Weather Service (NWS) partners to aggressively promote the deployment of two distinct road weather management solutions that allow State and local agencies to be proactive in managing the surface transportation system ahead of and during adverse weather events. These two solutions are known as Pathfinder and Integrating Mobile Observations. While both solutions involve the maintenance community, the IMO effort has direct implications.

**PATHFINDER:** Pathfinder is a collaborative effort between the National Weather Service (NWS), State DOTs, and State DOT support contractors who provide road weather information to share and translate weather forecasts into consistent transportation impact statements for the public.

The Pathfinder implementation plan lays out a multi-step process regarding what information to share when and how before, during, and after high-impact weather events. This provides the public with consistent and actionable messages on existing and predicted impacts to the transportation system. Benefits of Pathfinder include:

- Enhanced Collaboration: Working together to execute the Pathfinder implementation plan strengthens the relationships between the NWS, the DOTs, and the DOTs road weather information providers.

- Informed Travelers: Cohesive weather impact statements enable drivers to make better decisions regarding whether, when, how, and where to travel.
- Improved Safety, Mobility, and Economy: Consistent impact messages can reduce traffic demand and smooth traffic flow, with the ultimate goal of saving lives, time and property.

**INTEGRATING MOBILE OBSERVATIONS:** Integrating mobile observations involves collecting weather and road condition data from government fleet vehicles, such as snowplows. The focus is on supplemental data from ancillary sensors installed on the vehicles, such as pavement temperature sensors, and it can also include native vehicle data such as windshield wiper status and anti-lock brake or traction control system activation.

The data provides maintenance managers with an extremely detailed view of the weather and road conditions along the road network. This information supports a number of road weather management strategies, such as a winter maintenance decision support system that enables agencies to use only the necessary amounts of labor, equipment and materials to pre-treat and maintain roads. It also supports traveler advisories and warnings, ultimately resulting in improvements in safety and mobility.

In addition, many states have environmental sensor stations (ESS) strategically placed along highways. By combining the connected vehicle data with the ESS data, maintenance and operations have new resources to better manage assets and inform the traveling public. Benefits of Integrating Mobile Observations include:

- Cost-Efficient Operation: Employing sensors on existing fleets is a relatively low-cost method of gathering road weather observations that can fill data gaps and support numerous maintenance, traffic, and performance management strategies.
- Proactive Management: Vehicle-based technologies provide agencies with the information needed to proactively manage roadway systems before the negative impacts of weather occur on the roads.
- Improved Safety, Mobility, and Economy: Connected vehicle technologies, advanced weather

prediction and targeted decision support enable operators to more effectively maintain a high level of service on roads, which decreases crashes and keeps traffic moving smoothly.

For additional information, contact Paul Pisano, FHWA, 202-366-1301, [paul.pisano@dot.gov](mailto:paul.pisano@dot.gov).

### **Summer Meeting**

The MO TWG was very productive at the Summer SCOM meeting in Clark County, Nevada. A sincere thanks go out to the Nevada DOT and all the participants that made the MO TWG breakout sessions so successful. Over 50 attendees participated in one or more of the three breakout sessions. Those in attendance were treated to excellent presentations, discussions and sharing. The TWG endorsed two new research need statements – *“Factors Influencing State DOT’s in systematically setting and managing Winter Maintenance Levels of Service,”* and *“Very Short Duration Work Zone Safety for Maintenance Activities.”* Both of these needs statements are progressing into the NCHRP process. Also, the TWG worked with SICOP on a domestic scan opportunity *“Best Practices In Maintenance Support Facility Site Layout And Design Features To Promote Safe, Efficient, And Effective Operation, And Environmental Stewardship”*

As our work ends in Nevada, the TWG leadership now turns our focus to the 2017 Rhode Island Summer SCOM meeting. The MO TWG would like to hear from you on potential content for next year’s breakout sessions. Please connect with Brad Darr, North Dakota Department of Transportation, 701-328-4443, [bdarr@nd.gov](mailto:bdarr@nd.gov), if you have ideas or suggestions – Any input would be appreciated.

Brad Darr – Chair  
Maintenance Operation TWG – AASHTO SCOM

### **Winter Maintenance Technical Services Program - SICOP Update**

#### **Program Update**

The AASHTO – Winter Maintenance Technical Service Program – SICOP represents the interests of states who have made the voluntary contribution to the program for FY 2016. If you’re not sure if your state participates in SICOP, the current listing of contributions can be found on the SICOP website. If your state hasn’t made the voluntary contribution of \$4,000 for SICOP, you are encouraged to do so in order for this valuable program to continue and expand its accomplishments, which serves the needs of the highway agency winter maintenance community.

Oversight of SICOP is provided by a representative steering committee with members from each AASHTO region, APWA, NACE, TRB winter maintenance related committee chairs, and liaisons with the AASHTO Subcommittee on Transportation System Management & Operations (STSMO) and FHWA.

Since the last edition of the Maintenance Manager Kyle Stollings, State Maintenance Engineer with the West Virginia DOT has joined the SICOP steering committee representing SASHTO for the next 3 years. Also joining the steering committee is Galen McGill, Systems Operations & ITS Manager for the Oregon DOT as the permanent liaison to STSMO and Matt Morreim, City of St. Paul Public Works now represents APWA.

### **Collaboration with TRB**

This past April, SICOP collaborated with the TRB to Winter Maintenance and Surface Transportation Weather Committees to hold the 5th International Conference and Workshop on Winter Maintenance and Surface Transportation Weather in Ft. Collins, Colorado. Significant changes were made to the way this conference / workshop was structured to greatly increase the value to practitioners. The presentations were pre-recorded and available on-line before the conference. During the conference/workshop a significant amount of time was devoted to facilitated breakout sessions where the papers and presentations could be discussed in detail.

Standing International Road Weather Commission (SIRWEC) held their 18th conference immediately following the TRB conference. This conference brought together winter maintenance professionals, meteorologists, and RWIS experts from around the world to discuss road weather and RWIS. SICOP steering committee members were involved in a number of activities.

### **2017 National Winter Maintenance Peer Exchange**

Mark your calendars, planning for the 2017 National Winter Maintenance Peer Exchange is underway. SICOP, Aurora, and Clear Roads co-sponsor this every other year event. This has become the premiere gathering of winter maintenance professionals to learn about the latest advances in research and operational strategies from their peers. The National Winter maintenance Peer Exchange also provides opportunities for attendees to share and hear the latest in state of the practice through state best practice reports and provide input on the gaps they face in implementing their winter maintenance programs. This input is valuable to the so-sponsors and others as they set their future research agendas. The 2017 National Winter Maintenance Peer Exchange is tentatively planned for September 2017 in Pittsburgh, PA. Please send an email to Rick Nelson, SICOP Coordinator at [RNelson@aaashto.org](mailto:RNelson@aaashto.org) to be sure you’re on the distribution list for future communications about the 2017 National Winter Maintenance Peer Exchange.

All the presentations and breakout session documents from past Peer Exchanges can be found on the SICOP website.

### **SICOP Website**

New material is continuously being added to the SICOP website. All the briefing materials from the SICOP steering committee annual business meeting in July is included and provides a snapshot of the activities of all the other winter

maintenance consortia. Please visit the new SICOP website at <http://sicop.transportation.org> for the latest winter maintenance events.

If your state has completed research or produced relevant reports, please forward links to the SICOP Coordinator,

Rick Nelson so they can be shared with the winter maintenance community through the SICOP website.

For more information

More information about the SICOP program and to obtain other information or support, contact the SICOP Coordinator, Rick Nelson at [RNelson@aaashto.org](mailto:RNelson@aaashto.org)

## *Bridge Technical Working Group*

The Bridge Technical Working Group (BTWG) of the AASHTO Subcommittee on Maintenance (SCOM) had very productive break-out sessions during the 2016 SCOM meeting in Clark County, Nevada. The meeting included three breakout sessions for the Bridge Technical Working Group, and approximately 43 individuals attended these bridge breakout sessions.

The 2017 Work Plan for the Bridge Technical Working Group includes the following:

### Safety

- Continue to promote the reliability and safety of bridges by focusing on innovative maintenance practices, early intervention techniques, timely inspections and repair, and worker safety.
- Continue to work through the Bridge TWG representative on the Fall Protection Resolution Team to ensure a practical outcome for the states that are affected.
- Encourage member agencies to explore the use of connected and automated vehicles for use in smart work zones.

### Asset Management

- Continue to monitor the FHWA Rule Making for bridge and pavement condition and for asset management systems.
- Continue to promote Bridge Preservation activities by owners.
- Continue to promote accountability and transparency through performance management and asset management of bridges and structures.
- Support member agencies in the inspection and maintenance of tunnels and ancillary (traffic, MSE walls, etc.) structures.

### Environmental

- Continue to promote sustainability of the highway bridge environment with a special focus on climate change, mitigation strategies and pollution prevention.
- Support the NCHRP 20-07 Project titled “*Synthesis for Bridge Maintenance and Preservation Practices that Minimize Environmental Impact*”.

### Workforce Development

- Continue working with TSP.2, FHWA BPETG, and industry on collection of maintenance training material and make available for practitioners through TSP2.
- Continue supporting the AASHTO TC3 program by reviewing the competency matrices for bridge workers.
- Continue serving as a liaison and facilitator between the TSP.2 regional bridge preservation partnerships and AASHTO SCOM Leadership.
- Support the liaisons from SCOM to other committees. For example:
  - AASHTO SCOBS
  - FHWA BPETG
  - TRB
  - AASHTO STSM&O
- Continue working with TSP.2, FHWA BPETG, and industry on collection and dissemination of information concerning bridge preservation materials and products.
- Continue coordinating with FHWA Lead to ensure that the Long Term Bridge Performance Program considers the appropriate bridge maintenance and preservation activities.
- Continue supporting FHWA’s Bridge Preservation Expert Task Group efforts. For example, reviewing and providing comments for the pocket guides.
- Continue to conduct email exchanges with the Bridge TWG members.
- Continue supporting the efforts of the SCOM leadership to update the AASHTO Maintenance Manual for Roadways and Bridges (NCHRP Project 20-07/Task 380).

### Communication

- Continue supporting the implementation of SHRP2 Project R06A (Non-destructive Testing to Identify Concrete Bridge Deck Deterioration) and R19A (Designing Bridges for 100 year service life).
- Continue to promote communications concerning bridge maintenance and preservation with local agencies.
- Develop a marketing package to communicate the value of system preservation to elected officials, the general public and State DOT executives. This strategy will include:

- Implement existing research in order to promote the need for additional funding
- Promote safety
- Promote environmentally friendly practices
- Develop a communication plan that promotes the value of bridge preservation
- Develop a strategy to better communicate bridge condition information by the media (ENR, Roads and Bridges, ARTBA, etc.).
- Continue to encourage regional bridge preservation partnerships to submit proposed research needs statements through the SCOM Bridge Technical Working Group.

#### Research

- Continue to provide a collaborative environment that encourages new research problem statement ideas.
- Continue to encourage implementation of research recommendations.
- Continue to review and consider for endorsement research problem statements from other committees.
- Continue to support Bridge related NCHRP projects and submit research problem statements.
- Continue to support the work of the TRB bridge related committees: Bridge Preservation (AHD37), Structures Maintenance (AHD30), and Bridge Management (AHD35).
- Continue to support the update of the TSP2 Research Roadmap.
- Continue to support FHWA's Long Term Bridge Performance Program.
- Work with FHWA to develop research to determine the cost effectiveness of bridge cleaning and washing.

#### Coordination with AASHTO Subcommittee on Bridges and Structure

- The Chair of the BTWG has collaborated with the Chair of the AASHTO Subcommittee on Bridges and Structures (SCOBs) to appoint liaisons between the BTWG and SCOBs.
- David Miller from Louisiana serves as the liaison from the SCOM BTWG to SCOBs.
- Randall Mullins from Alabama serves as the liaison from SCOBs to the SCOM BTWG.

#### Proposed Research

- Endorse the proposed research titled "*Effective Use of Duplex Coating Systems to Improve Steel Bridge Structure Durability*" that was submitted by the TRB Structures Maintenance Committee (AHD30) and approved by the AASHTO Subcommittee on Bridges and Structures T-9 Technical committee. The Bridge Technical Working Group supports this research and requested endorsement by the full subcommittee.
- Support a proposed study for Defining State DOTs Needs for Unmanned Aerial Systems (UAS) for Bridge Condition Assessment. The goal of this study will be to determine the current state of the practice and to determine the next steps needed for implementation by State DOT's. The Leadership Team of the BTWG in conjunction with the Standing Committee on Aviation submitted a Domestic Scan proposal for this study on October 14, 2016.

NCHRP Domestic Scan 15-03 – "*Successful Preservation Practices for Steel Bridge Coatings*" is underway and will document effective strategies used by bridge owners in their preservation of coating systems for steel structures that will result in substantial cost savings and significant extension of service life. A peer exchange workshop was conducted from May 23 – 26, 2016 in Orlando, Florida. The scan report is currently being prepared.

Jeff L. Milton – Chair  
Bridge Technical Working Group – AASHTO SCOM

## *Pavements Technical Working Group*

It was a pleasure hosting the 2016 Subcommittee on Maintenance Meeting in Clark County, Nevada. Thank you all for making this event a great success. The Pavement Technical Working Group (PTWG) had a very productive meeting. The breakout sessions were very informative with the technical presentations that were provided on the following topics: Indefinite Delivery Indefinite Quantity Contracting for Pavement and Bridge Preservation Projects, and New Approaches to Utility Cut Pavement Repairs, Communicating Maintenance Needs through a Transportation Asset Management Plan, Concrete Pavement Partial Depth Repairs, the Impact of Joint Sealing Effectiveness FHWA EDC-4 Program and Pavement Preservation Certification Program. The group discussed

and prioritized thirteen research ideas. We had a great increase in attendance and participation. We would also like to offer a special thank you to the four Pavement Preservation Partnerships for sending two representatives to this meeting. Each of the three PTWG breakout sessions was attended by 35+ people, representing 24 state transportation agencies.

The Pavement Technical Working Group 2017 Work Plan that was presented is provided below:

#### Safety

- Support efforts to quantify the contributions of pavement preservation to safety programs.

- Promote the use of Pavement Preservation Treatments that improve surface characteristics as a tool to reduce crashes.
- Identify best practices for maintaining rumble strips/stripes when applying pavement preservation treatments.

#### Asset Management

- Support efforts to quantify the contributions of pavement preservation to risk-based asset management programs.
- Assist in identifying and promoting Performance Measures to support AASHTO members' pavement preservation program decisions.

#### Environment

- Assist in the development and promotion of Pavement Preservation Life Cycle Assessment methodologies that consider the environmental effects.
- Review the products of FHWA's Sustainable Pavements Program.

#### Workforce Development & Retention

- Promote the Transportation System Preservation Technical Services Program (TSP2) to AASHTO members.
- Support TC3 and other groups in the development of various training and certification programs.
- Support the development of Contractor and Agency Pavement Preservation Treatments Certificate Programs.
- Promote the Pavement Preservation Partnerships to include more LPA's, LTAP Centers, and MPOs.
- Enhance internal communications of the PTWG: expand membership and e-mail list; and conduct conference calls and/or webinars involving roundtable discussions for members and industry.

#### Communication

- Conduct webinars to report out results of completed research.
- Promote the value of maintenance and successful strategies.

- Reach out and educate the stakeholders.
- Promote research products and support implementation.
- Survey the SCOM membership for the need of a pavement preservation listserv.

#### Research

- Review TRB/NCHRP Completed Research for possible publication as AASHTO Manuals or presentations in a series of "Pavement Preservation Book Club" webinars.
- Implement SHRP-2 products that are useful to pavement preservation and maintenance.

#### Other

- Support the FHWA Pavement Preservation Expert Task Group.
- Encourage Pavement Preservation Partnerships to continue providing funding for representatives to attend SCOM annual meeting.

#### Research Implementation Recommendations

- Review and provide recommendations for implementation for the following projects:
  - 2013 NCHRP 14-31 – "Developing a Pavement-Maintenance Database System." Participate in recorded TRB webinar, available online.
  - 2014 NCHRP 14-33 – "Pavement Performance Measures that Consider the Contributions of Preservation Treatments."

#### Research Problem Statements

- Developing a Framework for Cost-Effectiveness Measures for Pavement Preservation – Priority 2
- Guide Construction Specifications for Cold In-Place Recycling and Cold Central Plant Recycling – Priority 8
- No resolutions were submitted this year.

Anita Bush – Chair

Pavements Technical Working Group – AASHTO SCOM

## *Roadway/Roadsides Technical Working Group*

Thank you to Anita Bush and many other Nevada DOT staff for hosting the 2016 AASHTO SCOM meeting in Clark County, NV. The Roadway/Roadsides TWG's breakout sessions averaged 42 people in attendance. The breakout sessions included presentations on four recently completed research projects. A presentation on preserving pollinators along highways was well received by the attendees and prompted an extensive amount of questions and discussion.

**We will be conducting a webinar in the near future and are seeking possible roadway/roadsides topics.** If you

would like to present or know of a possible topic, please contact Jerry Hatcher at [jerry.hatcher@tn.gov](mailto:jerry.hatcher@tn.gov).

#### 2016 Work Plan Accomplishments

##### Safety

- A webinar was held that included a presentation on alternate traffic control methods on rural roads.
  - Some of the methods resulted in less exposure of personnel involved in the flagging operation

- Motorist compliance of each method was evaluated

#### Asset Management

- Held a webinar that included a presentation on NCHRP 20-07, Task 357 “*Best Practices for Collecting, Processing and Managing Roadway Asset Inventory Data.*”
- Presentation given during SCOM meeting on NCHRP Synthesis 470 “*Maintenance Quality Assurance Field Inspection Practices.*”

#### Environmental

- Presentation during SCOM meeting on Establishing and Preserving Pollinators Habitat Along Highways.

#### Workforce Development

- Support of the NHI Maintenance Leadership Academy.

#### Communication

- Continued outreach by holding webinars.

#### Research

- Conducted a webinar on recently completed research projects.
- Submitted a research problem statement during SCOM titled “*Synthesis of Best Practices of Vehicle Impact Attenuators in Highway Maintenance Work Zones.*”

#### 2017 Highest Priority Work Plan Activities

#### Safety

- Provide a forum for the sharing of innovations and ideas to improve worker and work zone safety.

#### Asset Management

- Support the No Boundaries pooled fund – Implementing Maintenance Innovations from different Agencies.

#### Environmental

- Support national efforts that preserve and enhance pollinator habitat.

#### Workforce Development

- Support the NHI Maintenance Leadership Academy.

#### Communication

- Organize and moderate webinars with a focus on recently completed research and emerging issues.

#### Research

- Review roadway/roadsides related TRB/NCHRP completed research projects and seek ways to create awareness and support implementation of best practices.
- Develop a synthesis statement (submitted at 2016 SCOM) for “*Synthesis of practices for protecting and enhancing pollinator habitat on state ROW.*”

Jerry Hatcher – Chair

Roadway/Roadsides TWG – AASHTO SCOM

## *Turner -Fairbank Highway Research Center Update*

Aside from the ongoing projects highlighted in the last issue of Maintenance Manager, there are two new research efforts that are just kicking off at Turner-Fairbank Highway Research Center.

Recycled Asphalt Pavement (RAP) Use in Pavement Preservation Surface Treatments: This project will investigate RAP use in surface treatments on a national/international basis, and developing documentation that includes case studies and best practices regarding design criteria, materials specification, construction techniques, costs, inspection, and performance data. The project period is 12 months, and should be completed in 2017.

Determining Highway Asset and Data Inclusion in an Asset Management System: The objective of this project is to provide guidance for a DOT to determine what assets, and asset data, to capture beyond pavements and bridges that focus on a long-term, sustainable infrastructure investment strategy. The outcome will be a methodology that will provide the practitioner decision guidance that is comprehensive, yet flexible, to help the agency determine

what assets, and what asset data, are worth tracking for their particular agency. This project should be completed in 2018.

Additionally, the Small Business Innovation Research Program (SBIR) Phase II contract for the robotic subsurface utility mapping and guidance project “RUMI”, as mentioned in the last newsletter, is well underway. The ultimate goal of this project is to develop a partially-robotic system that simultaneously maps subsurface utility conflicts in 3D and installs new utility conduits in near real time. The technologies developed in this project are showing good promise, and the project should be complete in 2017.

The “*Effective Use of Geospatial Tools in Highway Construction*” project, which looks at drone (UAV) use, LIDAR and photogrammetry in the highway construction/maintenance sectors, is scheduled to be complete in early 2017.

Lastly, the “*New Approaches to Utility Cut Pavement Repair*” project is nearly complete, and publication of the

Techbrief and main report is expected over the next few months.

Any questions regarding this or any other research and development-related work at Turner-Fairbank Highway Research Center may be directed to Morgan Kessler, PE, [Morgan.Kessler@dot.gov](mailto:Morgan.Kessler@dot.gov), 202-493-3187.

## *Transportation Research Board Update & NCHRP Corner*

### **TRB Update**

**TRB Calendar and Upcoming Conferences / Webinars**  
<http://www.trb.org/Calendar/Calendar.aspx> Webinars are recorded and can be accessed by State DOT employees.

### **TRB Webinar Registration Information**

There is no fee for employees of TRB Sponsors (<http://www.trb.org/Finance/Sponsors.aspx>) or TRB Sustaining Affiliates (<http://www.trb.org/Finance/SustainingAffiliates.aspx>) who register using their work email address. In general the webinars are free for State DOT Employees.

If you have any questions regarding any research related topics, please contact James Bryant, Senior Program Officer, TRB Liaison at [jbryant@nas.edu](mailto:jbryant@nas.edu) or 202-334-208

### **NCHRP Corner**

Projects recently awarded:

- Project 14-37, “*Guide Specifications for the Construction of Chip Seals and Microsurfacing.*” Contractor: Shuler Consultants, LLC
- Project 14-38, “*Guide for Timing of Asphalt-Surfaced Pavement Preservation.*” Contractor: AMEC Foster Wheeler Environ & Infrastructure Inc.
- Project 20-07(380), “*Proposed AASHTO Manual for the Maintenance of Roadways and Bridges.*” Contractor: Volkert, Inc.

### Projects recently completed:

- Project 9-50, “*Performance-Related Specifications for Asphaltic Binders Used in Preservation Surface Treatments.*” North Carolina State University. The report is being prepared for publication.

For further information, Please contact Amir N. Hanna, Senior Program Officer, 202-334-1431, [ahanna@nas.edu](mailto:ahanna@nas.edu)

## *From the Editor's Desk*

AASHTO SCOM – Assistant Secretary  
John A. Perry, FHWA Field Operations Engineer, Boise, ID  
Email: [johna.perry@dot.gov](mailto:johna.perry@dot.gov); Phone: 208-334-9180 x116

The Federal Highway Administration, in partnership with others, is actively advancing Pavement Preservation (When, Where, and How) as an Every Day Counts 4 (EDC-4) initiative. Pavement Preservation has been broken into a “When” and “Where” component that focuses upon a whole life perspective of planning and project selection. The “How” component is focused on quality materials and construction practices. We are currently holding regional summits with transportation leads to introduce the underutilized technology and develop an Implementation Plan. Then during 2017 and 2018 we will be performing activities within the implementation plan to accelerate national deployment.

In addition to the Pavement Preservation efforts being undertaken as part of EDC-4, FHWA supported the biannual Pavement Preservation Expert Technical Group (PPETG), which was held in Minneapolis, MN on September 12-14, 2016. The ETG has approximately 17 sitting members serving two-year terms. The ETG also uses virtual meetings in the alternate quarters to continue the efforts identified

during the biannual meetings. The next virtual meeting is scheduled for December 5, 2016. The ETG is currently working to:

- Update the Research and Implementation Roadmap for Pavement Preservation
- List the Top Ten Characteristics of a World Class Pavement Preservation Program
- Define Performance Measures for Pavement Preservation Treatments
- Calculating the Benefits of a Pavement Preservation Program
- Define Distress Warrants for Flexible and Rigid Pavements

We are also working on other activities associated with implementing the Asset Management rule, bridge preservation, developing driver assisted snow plow operation configurations, and researching the use of RAP in asphalt preservation treatments.

Please be safe and continue doing a great job,

Bryan Cawley: AASHTO SCOM Secretary

## 2017 Summer Meeting Information

We have confirmed the dates July 29 - August 3, 2017 and Rhode Island is excited about hosting the conference in Down Town Providence next year. We have assembled a conference planning team and will be working with AASHTO to make this conference a success. We look forward to seeing everyone in Providence!

### Mission Statement:

The Rhode Island Department of Transportation (RIDOT) designs, constructs, and maintains the state's surface transportation system. With a staff of more than 700 transportation professionals, RIDOT serves as the steward of a statewide multimodal transportation network, consisting of 3,300 lane miles of roadway, 1,162 bridges, five rail stations, and more than 60 miles of bike and pedestrian paths. <http://www.dot.ri.gov/about/index.php>

Joseph A. Bucci, P.E.  
RIDOT State Highway Maintenance Operations Engineer  
Contact me at 401-734-4800 or [joseph.bucci@dot.ri.gov](mailto:joseph.bucci@dot.ri.gov)

The SCOM Planning Team is scheduled to begin coordination efforts to develop the summer meeting agenda early in 2017.

The meeting will be held July 29-August 3 in Providence, at the Rhode Island Convention Center. See photo and the

following website for additional information.  
<http://www.riconvention.com/>



Recommended lodging accommodations are at the adjacent Omni Providence Hotel  
<https://www.omnihotels.com/hotels/providence>

**The SCOM Conference Website** is under development and information will include a Summary, Sponsor Registration, Hotel Info/Location, Staff, FAQs, and Contact Us.

### Future AASHTO SCOM Meetings:

2018 North Carolina  
2019 Michigan  
2020 Colorado  
2021 Maine

## AASHTO SCOM Leadership

### **Executive Leadership:**

<http://maintenance.transportation.org/Pages/ExecutiveLeadership.aspx>

### **TWG Leadership:**

<http://maintenance.transportation.org/Pages/TechnicalWorkingGroupLeadership.aspx>

### **AASHTO SCOM & Technical Working Group Leadership**

Chair:	Mark McConnell, MS
Vice Chair:	Russell Yurek, MD
Vice Chair:	Steve Lund, MN
Secretary:	Bryan Cawley, FHWA-HQ
Asst. Secretary:	John Perry, FHWA-ID
AASHTO Liaison:	Jameelah Hayes, DC
Research Coordinator:	Jon Wilcoxson, KY
TRB Contact:	James Bryant, DC

<b><u>Pavement TWG</u></b>	Anita Bush, NV – Chair
Vice Chair	Scott Capps, NC
Vice Chair	Bart Sweeney, CT
Liaison	Marc Hoelscher, FHWA-SD

<b><u>Bridge TWG</u></b>	Jeff Milton, VA – Chair
Vice Chair	Steve Cook, MI
Vice Chair	David Miller, LA
Liaison	Morgan Kessler, FHWA-TFHRC

<b><u>Roadway/Roadside TWG</u></b>	Jerry Hatcher, TN – Chair
Vice Chair	Erany Robinson-Perry, GA
Vice Chair	Thomas Lyden, OH
Liaison	William Beatty, FHWA-NC

<b><u>Equipment TWG</u></b>	Tim Cunningham, KS – Chair
Vice Chair	Bruce Erickson, OR
Vice Chair	Lisa Kunzman, CA
Liaison	Randy Jensen, FHWA-CO

Maintenance Operation Brad Darr – Chair  
Vice Chair Dale Doughty, ME  
Vice Chair Jim Feda, SC  
Liaison Paul Pisano, FHWA-HQ

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## *Useful Links and Information*

### Useful Links and Information

AASHTO SCOM Home Page

<http://maintenance.transportation.org/Pages/default.aspx>

AASHTO SCOM References, Publications, & Links

<http://maintenance.transportation.org/Pages/References.aspx>

AASHTO SCOM Technical Service Programs (TSP)

Equipment Management: <http://www.emtsp.org/>

Transportation System Preservation: <https://www.tsp2.org/>

Winter Maintenance: <http://sicop.transportation.org/Pages/default-old.aspx>

AASHTO Transportation Curriculum Coordination Council (TC3)

<http://tc3.transportation.org/>

FHWA Preservation (Pavements, Structures, Research)

<http://www.fhwa.dot.gov/preservation/>

FHWA Pavements Preservation

<http://www.fhwa.dot.gov/pavement/pres.cfm>

FHWA Long-Term Bridge Performance Program

<http://www.fhwa.dot.gov/research/tfhrc/programs/infrastructure/structures/ltp/>

FHWA Road Weather Management

<http://www.ops.fhwa.dot.gov/weather/>

FHWA Federal-aid Essentials Videos for Locals

<http://www.fhwa.dot.gov/federal-aidessentials/indexofvideos.cfm>

Google State DOT Search Engine

<https://www.google.com/cse/home?cx=006511338351663161139:cnk1qdc0dc>

Maintenance Manual (July 2014) – California

<http://www.dot.ca.gov/hq/maint/manual/maintman.htm>

Snow and Ice Best Practices – Ohio

<http://www.dot.state.oh.us/Divisions/Operations/Maintenance/SnowandIce/Pages/SnowBestPractice.aspx>

Structure Maintenance and Investigations

<http://www.dot.ca.gov/hq/structur/strmaint/>

TRB Calendar and Upcoming Conferences / Webinars

<http://www.trb.org/Calendar/Calendar.aspx>

TRB Research Related to Maintenance and Preservation

<http://www.trb.org/MaintenancePreservation/MaintenanceandPreservation1.aspx>