

Message from the Chair:



I hope all of you had a great summer and are welcoming in the cooler fall temperatures and the beauty of the changing seasons. However as maintenance professionals we cannot sit back and enjoy this change for long as we know winter is just around the corner. The citizens of the United States depend on the efforts that each one of you makes each year in keeping the highways safe during snow and ice events. It is definitely a challenge but it is one that is handled efficiently and effectively each year. It is very much appreciated by the public and other stakeholders and we need to convey that message through the ranks at every opportunity.

We had a very successful Subcommittee meeting in Des Moines this summer. Thanks again go out to Bob Younig and the Iowa DOT staff for their hard work and hospitality. As you know we have had several changes to the leadership team recently. First I would again like to thank Chris Christopher (former SCOM Vice Chair) and Erle Potter (former Equipment TWG Chair) for their years of dedicated service to the Subcommittee, you will most definitely be missed. However I am very pleased to welcome the new leadership team; Steve Lund, Minnesota DOT (SCOM Vice Chair), Jon Wilcoxson, Kentucky TC (Research

Coordinator), Tim Cunningham, Kansas DOT (Equipment TWG Chair), Brad Darr, North Dakota DOT (Maintenance Operations Chair), Jim Smith, Pennsylvania DOT (Equipment TWG Vice Chair), Bart Sweeney, Connecticut DOT (Pavement TWG Vice Chair), Dale Doughty, Maine DOT (Maintenance Operations Vice Chair). In addition we welcome Morgan Kessler, FHWA HQ (Bridge TWG Liaison) and Randy Jensen, FHWA Colorado (Equipment TWG Liaison). Thank you for stepping up to these new roles and I look forward to working with you going forward. I would be remiss if I didn't also thank the leadership team already in place, your experience and diligence is invaluable to the subcommittee.

Lastly I was able to participate in the fall Annual AASHTO Meeting in Chicago, IL. It was my pleasure to report on the accomplishments of subcommittee. SCOM is the first Subcommittee that I am aware of to draft a new strategic plan. Also the work that the SCOM membership perform in coordination and participation with other committees, subcommittees, scans, etc. provides the input needed to make sure maintenance is always at the decision making table. I am honored to Chair this group and would welcome any comments or suggestions to make SCOM better positioned to address the maintenance needs of our great nation. Thank you for what you do each and every day.

All the best - Mark

Inside This Issue

Equipment Technical Working Group / EMTSP	1	AASHTO SCOM Strategic Plan	10
Maintenance Operation TWG / SICOP	3	AASHTOWare Bridge Design/Rating System	11
Bridge Technical Working Group	5	From the Editor's Desk	11
Pavement Technical Working Group / PPETG	7	Summer Meeting Information	12
Roadway/Roadsides Technical Working Group	8	AASHTO SCOM Leadership	12
Turner-Fairbanks Highway Research Center Update	9	Useful Links and Information	13
Transportation Research Board Update	9		

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 2016 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 with action items assigned.
- 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:
 - Posting of the Annual TRB 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.
 - Development of regional and global email contact distribution lists.
- Continued coordination and completion of the scheduled regional partnership meetings to occur on odd numbered calendar years.
- Agendas of the Regional Partnerships meetings this summer were underscored by speakers representing the fleet equipment industry, government and the academic research communities. Arrangements were developed by each Regional Partnership to conduct their respective general business sessions, complete selection of officers and to conclude other mandatory obligations. The 2015 Regional Partnership Meeting calendar and estimated reported conference attendance by category is as follows:
 - The joint Northeast Equipment Management Partnership and the Midwest Equipment Management Partnership met jointly in St. Louis, Missouri on June 15-18, 2015.
 - 15 states attending
 - 120 attendees
 - 32 separate vendors and exhibitors participated with 80 attendees
 - 19 invitational state attendees
 - 21 non-invitational state DOT attendees and guests
 - Southeastern States Equipment Managers Conference met in Myrtle Beach, South Carolina on June 21-25, 2015.
 - 13 states attending
 - 149 attendees
 - 43 separate vendors and exhibitors participated with 91 attendees
 - 23 invitational state attendees
 - 35 non-invitational state DOT attendees and guests
 - Western States Highway Equipment Managers Association met in Anchorage, Alaska on August 23-27, 2015.
 - 9 states attending
 - 86 attendees
 - 32 separate vendors and exhibitors participated with 62 attendees
 - 14 invitational state attendees
 - 10 non-invitational state DOT attendees and guests
- Working in partnership with TRB Committee AHD60 Maintenance Equipment, Ohio Department of Transportation (ODOT) and associated conference planning committees, the preparation and event planning for the 2016 Joint AASHTO-EMTSP/TRB Joint National Equipment Fleet Management Conference and Equipment Trade Show continues. The dates for the event are June 27- June 30, 2016. The conference location selected is the Greater Columbus Convention Center, 400 N. High St. Columbus OH 43215. The conference hotel designated is the Hampton Inn & Suites, 501 North High St., Columbus OH 43215.
- Continued work implementing findings from the final report of Research Project 20-07/Task 309 to identify and prioritize additional research projects.
- Continued working with the EMTSP National Performance Measurement Working Group 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.
- Continued development of a training and certification program for State DOT fleet equipment managers in collaboration with the National Center for Pavement Preservation, Ferris State University continues to move forward.
 - During, the 2014 joint AASHTO-EMTSP/TRB Joint National Equipment Fleet Management Conference and Trade Show, each state DOT completed a survey, in which they prioritized critical training modules. A listing of the ten (10) most critical training modules was identified.
 - Certification types, prerequisites, curriculums, testing protocols and documentation procedures are being researched for program finalization.
- The identified and prioritized modules were aligned with the AASHTO Transportation Curriculum Coordination Council (TC3) Training Matrix to assure applicability and relevance.
- Two training modules were selected by the Oversight Panel and submitted to TC3 for web-based development consideration and were accepted for development in 2015. A study committee, made up by EMTSP member state

volunteers, is now finalizing the educational requirements and outcomes for TC-3 and contractor development. The EMTSP Oversight Panel will oversee this development process. The selected web-based topics were deemed suitable by the panel for their overall application to all levels of management. The modules are:

- Preventive Maintenance Concepts for Equipment Fleet Management
- Bench Marking and Best Practices within Equipment Fleet Management
- EMTSP website continues to provide a clearinghouse of information for professional development self-study on subject-related fleet management topics including: industry and regulatory communications, technical equipment specifications, white papers, videos, academic presentations and webinars.

The revised 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>.

Equipment Technical Working Group (TWG)

Research

- The Equipment TWG’s research problem statement titled Guidelines for the Development of Highway Operations Equipment Replacement Lifecycle Criteria and assigned NCHRP project number 13-04, FY2014 is on-going. The project panel has been staffed; RFP has been written, solicited, evaluated and awarded to Dye Management Group. Project start date was May 01, 2015. Project completion date is April 30, 2017.

- The Equipment TWG’s research problem statement titled Guidelines for the Development of Highway Operations Equipment Utilization Measurement and Management and assigned NCHRP Project Number 13-05, FY2015 is on-going. The project panel has been staffed, RFP written, solicited, evaluated and awarded to Washington State University. Project start date was June 01, 2015. Project completion date is May 31, 2017.
- The Equipment TWG’s most recent research problem statement titled Development of an Automated Tool to Assist in the Formulation and Maintenance of Long Range Equipment Replacement Plans was presented to the Subcommittee on Maintenance (SCOM) at the 2015 summer conference with the final document submitted on August 13, 2015. Next process action going forward is SCOM Selection, NCHRP review and SCOR recommendation.
- 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 at can be found on the “About EMTSP” page of the EMTSP website at the following link: <http://www.emtsp.org/about-emtsp/>.

Resolution

- Resolution to Establish an Increase of AASHTO-EMTSP Annual Contributions was submitted at the 2015 SCOM summer conference. The Resolution requests that AASHTO Member Departments will be asked to sponsor the EMTSP Program, effective upon passage of the resolution, by increasing the voluntary contribution assessment from \$3,000 per sponsor annually to \$5,000 per sponsor annually to fund the ongoing and new activities of the Program

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 95th TRB Meeting to be held in Washington, D.C. on January 10-14, 2016.

Tim Cunningham – Chair
Equipment Technical Working Group – AASHTO SCOM

Maintenance Operation Technical Working Group / SICOP

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

Leadership Changes

Steve Lund, MNDOT has moved up to be a Vice Chair for the SCOM. Brad Darr, NDDOT will take his place as TWG chair moving up from a vice chair position. Dale Doughty, Maine DOT will become a Vice Chair. Jim Feda will continue as a vice chair.

July 2015 SCOM MO TWG Results

The planning for the July 2015 SCOM meeting and joint conference with TRB paid off. The papers sponsored by the TWG during the general session and TWG breakouts were well received. In addition informative updates were received from the national winter programs. The TWG continues to strive for a mix of snow and ice and safety related topics.

An additional responsibility of the SCOM/TWGs is to identify and advance critical research needs. The SCOM has been very successful in advancing research needs through the NCHRP process. The MO TWG has the luxury of close working relationships with the Clear Roads Pool fund, Aurora Pool fund and SICOP TSP and has been successful in getting research accomplished. The 2015 National Winter Maintenance Peer Exchange is complete and the new research ideas will be available shortly.

Critical to that success is that the research needs are well vetted. With the limited time that the SCOM conference provides, it can be somewhat difficult to fully develop research needs statements. So please, if you have a suggested research need not identified by the peer exchange, please share them early by contacting Brad Darr at 701-328-4443 or bdarr@nd.gov.

Planning will commence shortly for our 2016 meeting in Nevada any suggestions for topics are appreciated.

Winter Maintenance Technical Services Program - SICOP Update

At last count, a total of 29 State DOT's have provided annual contributions to AASHTO in support of the Winter Maintenance Technical Service Program – SICOP.

Collaboration with TRB

SICOP Steering Committee members have been working with TRB Committees AHD65 - Winter Maintenance and AH010 – Surface Transportation Weather in the planning of the quadrennial 2016 TRB International Conference on Winter Maintenance and Surface Transportation Weather and the 2016 SIRWEC meeting planning to be held next spring in Colorado. Additionally members of the Steering Committee will be assisting with the planning of the biannual SIRWEC meeting, to be held immediately after the TRB meeting, also in Fort Collins, CO.

SICOP Steering Committee members participated in the planning of the 2015 TRB International Conference on Transportation System Resilience to Climate Change and Extreme Weather Events which was held September 16-18, 2015 in Washington DC.

Various members of SICOP's Steering Committee have been involved with the review of relevant papers for AHD65, Winter Maintenance, and AH010, Surface

Transportation Weather, to be presented at the January 10-14, 2016 Annual TRB Meeting.

Research:

SICOP Steering Committee members are participating on project panels for the following research projects:

- NCHRP project number 14-34 regarding the Development of a Guide for Winter Maintenance Performance Measures, and
- NCHRP Synthesis 20-05/Topic 46-17 regarding the training and certification of highway maintenance workers.
- Connecticut Academy of Science and Engineering study of Winter Maintenance Operations: Connecticut for the Connecticut DOT. This study has an emphasis on corrosion.
- Research sponsored by Clear Roads into performance measures, and
- Research sponsored by Aurora into quantifying salt concentrations on pavement.

In addition to these efforts, SICOP has been conducting a two year long effort to determine the top ten components of a world class winter maintenance program. Data from this effort are being used in a variety of formats, including in guiding discussions on research needs at the winter maintenance peer exchange (see below).

Outreach:

During the APWA 2015 Congress August 30 – September 2 in Phoenix, AZ SICOP Steering Committee Members Mark DeVries, Wilf Nixon, and Rick Nelson presented a learning session titled: Applying Long-Term Thinking to Winter Maintenance Operations. The session was well attended with approximately 120 attendees. The session (an updated version) is planned for inclusion in the program of the 2016 APWA North American Snow Conference, to be held in Hartford CT in May.

SICOP conducted 4 surveys to determine the state of practice in maintenance and winter maintenance.

- Salt Survey regarding price and availability
- The AASHTO Winter Maintenance Survey regarding the winter of 2014-15 that culminated in the National Earned Media Opportunity release. This release generated some 2,000 stories nationwide focusing on the excellent work of our winter maintenance forces.
- Portable Rumble Strips experiences and reports
- Status of implementation of the Top-Ten practices that define a world-class winter maintenance program.

2015 National Winter Maintenance Peer Exchange:

With special thanks to our host, the Minnesota DOT, SICOP along with co-sponsors Aurora and Clear Roads held a very successful Winter Maintenance Peer Exchange on September 23-25, 2015 in Bloomington, MN. 35 states, and two international partners, the Ontario Ministry of

Transport, Canada, and the Sweden Transport Agency were represented along with 20 winter maintenance related vendors.

There were many presentations showcasing successful relationships between the transportation system management and operations and the winter maintenance communities to improve mobility during winter events along with a full day of state best practice reports. Breakout sessions helped guide the winter maintenance research program for future years.

General Comments:

If your state has not yet remitted the voluntary contribution 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 winter maintenance community.

Maintenance of the Snow-Ice List-Serve provides a forum for the exchange of ideas, information, and news. During the last year there were 607 subscribers and 54 discussion threads. All State DOT winter maintenance professionals interested in receiving periodic email communications regarding all manner of winter maintenance information are encouraged to subscribe to the Snow and Ice Listserv by visiting the SICOP webpage at <http://sicop.transportation.org>.

Oversight of the SICOP program comes from a committee made up of one representative from each AASHTO region and representatives from APWA, NACE, and TRB winter maintenance related committees. Currently we have a vacancy for an AASHTO member from Region 2. If you are a SICOP state in region 2 and are interested in serving on SICOP's steering committee, please communicate your interest to the SICOP Coordinator, Rick Nelson at Rnelson@ashto.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 2015 SCOM meeting in Des Moines, Iowa. The meeting included three breakout sessions for the Bridge Technical Working Group, and a total of 36 individuals attended these bridge breakout sessions, with 21 of those individuals being state DOT employees.

The chairs of the four bridge preservation partnerships attended the 2015 meeting.

The following bridge related research problem statement was presented during the 2015 business meeting:

- Synthesis for Bridge Maintenance and Preservation Practices that Minimize Environmental Impact

The 2016 Work Plan for the Bridge Technical Working Group includes the following actions:

Workforce Development and Retention

- Continue working with TSP.2, FHWA BPETG, and industry on collection of maintenance training material and make available for practitioners.
- Continue supporting the AASHTO TC3 program.
- Continue serving as a liaison and facilitator between the TSP.2 regional bridge preservation partnerships and AASHTO SCOM Leadership.
- Continue working with TSP.2, FHWA BPETG, and industry on collection and dissemination of information concerning bridge preservation materials and products.
- Coordinate 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.
- Conduct teleconferences and 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).
- Update the Strategic Plan for the BTWG.
- Continue to coordinate with other committees through Bridge TWG liaisons.

Research

- Provide a collaborative environment that encourages new research problem statement ideas.
- Encourage implementation of research recommendations.
- Review and consider for endorsement research problem statements from other committees.
- Support Bridge related NCHRP projects and submit research problem statements.
- Support the work of the TRB Bridge Preservation Committee (AHD37).
- Support the work of the TRB Structures Maintenance Committee (AHD30).
- Support the work of the TRB Bridge Management Committee (AHD35).
- Support the update of the TSP2 Research Roadmap.
- Support FHWA's Long Term Bridge Performance Program.

- Provide implementation recommendations for NCHRP Projects that are scheduled to be completed in 2016.
- Re-submit the research problem statement titled “Synthesis for Bridge Maintenance and Preservation Practices that Minimize Environmental Impact” – Project was submitted in 2014 and was not selected. The objective of this project is to identify effective practices and provide the information needed to develop guidelines to assist bridge owners in selecting the most appropriate strategies and procedures for bridge maintenance and preservation activities which minimize environmental impacts. The strategic plan for SCOM includes a Focus Area for Environment and this project will be an important component of supporting this Focus Area.

Asset Management

- Monitor the FHWA Rule Making for bridge and pavement condition and for asset management systems.
- Continue to collaborate with FHWA BPETG, and other stakeholders on defining “State of Good Repairs” as it applies to the bridge assets.
- Promote Bridge Preservation activities by owners.
- Promote accountability and transparency through performance management and asset management of bridges and structures in conjunction with the other technical working groups with a focus on an accurate and efficient bridge inventory system, appropriate performance measures, clear measurable goals which can be attained, and innovative reporting techniques using common terminology.

Environment

- Promote sustainability of the highway bridge environment with a special focus on climate change, mitigation strategies and pollution prevention.
- Promote the proposed research project titled “Synthesis for Bridge Maintenance and Preservation Practices that Minimize Environmental Impact”.

Safety

- Promote the reliability and safety of bridges by focusing on innovative maintenance practices, early intervention techniques, timely inspections and repair, and worker safety.
- Work through the Bridge TWG representative on the Fall Protection Resolution Team to ensure a practical outcome for the states that are affected.

Communication

- Continue supporting implementation recommendations for NCHRP 14-24, Report 742 “Communicating the value of preservation”.
- Continue supporting the implementation of SHRP2 Project R19A (Designing Bridges for 100 years service life).

- Support members in communicating the value of maintenance and system preservation to elected officials, the general public and state DOT executives.
- Promote communications concerning bridge maintenance and preservation with local agencies.
- Encourage regional bridge preservation partnerships to submit proposed research needs statements through the SCOM Bridge Technical Working Group.

The Bridge Technical Working Group provided an endorsement for a proposed Domestic Scan Program titled “Bridge Recoating Best Practices”. The scan team for this project is currently being formed.

The Bridge Technical Working Group Chair will serve as the Panel Chair for the SCOBs submitted NCHRP research problem statement titled “Development of Guidelines for Uniform Service Life Design for Bridges” (NCHRP Project 12-108).

Chris Keegan from the Washington DOT will serve as the Bridge TWG representative on the Fall Protection group created by Policy Resolution PR-10-14 (Fall Protection Requirements for Highway Workers on Existing Bridges).

The Bridge Technical Working Group (BTWG) Strategic Plan was updated and submitted to the subcommittee leadership team on September 18, 2015.

The 2015 meeting was a joint AASHTO/TRB Maintenance Conference. The following papers were presented during a Bridge Technical Working Group break-out session:

- Using equity, functionality, importance and risk to select maintenance interventions for bridges – Adam Matteo – Presented by Jeff Milton.
- Comparing benefits of bridge maintenance and preservation focused life-cycle strategies with the rehabilitation and replacement based strategies – Charles Pilson.
- Bridge Maintenance and preservation in the context of transportation asset management planning – Jason Bittner.
- Tools to generate a more transparent decision for bridges – Jorge Rueda.

FHWA has developed a NHI Bridge Preservation Web based training Course Series

- Course 1 – Bridge Preservation Fundamentals – 4 hrs
- Course 2 – Establishing a Bridge Preservation Program – 5 hrs
- Course 3 – Communication Strategies for Bridge Preservation – 3 hrs
- Target Audience: includes Federal, State, and local bridge engineers and managers involved in or becoming involved in highway bridge preservation

- Project Status: Development Completed – Courses are available on the NHI Website

FHWA has developed a NHI Bridge Management Web based training Course Series

- Course 1 - Bridge Management Fundamentals
- Course 2 - Performance-Based Management of Highway Bridges
- Target Audience: Federal, State, and local bridge program managers; bridge management engineers; bridge management practitioners; transportation planners; and project planning and programming personnel
- Project Status: Development Completed – Courses are available on the NHI Website

FHWA is in the process of updating the NHI Bridge Maintenance Training Course

- Update the Bridge Maintenance Reference Manual
- Develop new web-based training modules
- Update the Instructor-led training course – 4 days
- Target Audience: Individuals involved in onsite bridge maintenance activities and those that supervise and manage these activities
- Project status: Work began July 2013 (40% complete)
- Target Completion Date: 2016

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

Pavements Technical Working Group / PPETG

Pavements Technical Working Group

The Pavement Technical Working Group had a productive Subcommittee on Maintenance Meeting in Des Moines, Iowa. The breakout sessions were very informative with the technical presentations that were provided, such as Precast Concrete for State-of-the-Art Pavement Infrastructure Maintenance and Optimizing Pavement Maintenance and Rehabilitation Funding through the use of the Rolling Wheel Deflectometer. A total of 46 individuals attended the PTWG breakout sessions, with 14 of those individuals being state DOT employees.

The Pavement Technical Working Group 2016 Work Plan that was presented is provided below:

Safety

- Promote the use of Pavement Preservation Treatments that improve surface characteristics as a tool to reduce crashes.
- Support efforts to quantify the contributions of pavement preservation to safety programs.
- 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 provide funding for representatives to attend SCOM annual meeting.

Research Implementation Recommendations

- Review research once published (projected completion date of 2016)
 - 2013 NCHRP 14-31 - Developing a Pavement-Maintenance Database System.
 - 2014 NCHRP Synthesis 20-05/Topic 46-17 - Training and Certification of Maintenance Workers.
 - 2014 NCHRP 14-33 - Pavement Performance Measures that Consider the Contributions of Preservation Treatments.

Research Problem Statements

- Evaluation and Use of Alternative Aggregates in Chip Seals - Priority 1
- Guidelines for Incorporating Maintenance Costs into a Transportation Asset Management Plan - Priority 2
- Scan Tour/Peer Exchange on current practices on determining the performance and life extending benefits of pavement preservation treatments.
- No resolutions were submitted this year.

Anita Bush – Chair

Pavements Technical Working Group – AASHTO SCOM

Pavement Preservation Expert Task Group

FHWA hosted the kickoff meeting for the new Pavement Preservation Expert Technical Group (PPETG), which was held at the National Highway Institute in Arlington, Virginia on September 9-10, 2015.

The ETG has approximately 17 sitting members serving two-year terms, including two co-chairs, namely Magdy Mikhail of TxDOT, and Morgan Kessler of FHWA.

The ETG will also host virtual meetings in the alternate quarters to continue the efforts identified during the bi-annual meetings. The first virtual meeting is scheduled for December 4, 2015. The ETG is still in its infancy and is working on a mission, vision, and respective performance measures to guide activities over the next 5 years. Some initial activities for the group to work on between now and the next in-person meeting are:

- Updating/developing a FHWA-housed pavement preservation toolbox
- Working on developing QA/QC and inspection guidelines for preservation techniques, and
- Aggregating, reviewing, and updating the various national preservation training classes and programs from all sectors including FHWA, state, and industry

The PPETG has good SCOM representation among its membership, with Steve Lund (Committee Vice Chair), Anita Bush (Pavement TWG Chair), Jon Wilcoxson (Research Coordinator), Bryan Cawley (SCOM Secretary), and Morgan Kessler (Bridge TWG Liaison). If you have some great suggestions for the ETG, please feel free to share them with your respective SCOM representation. Through these champions, the PPETG is looking to take pavement preservation to the future.

The ETG will continue work on awareness and acceptance of the need for pavement preservation treatments at the national level. Highway agencies, trade associations, and members of academia continue to work together to share knowledge and best practices in pavement preservation. And local agencies and municipalities are applying more and more preservation treatments to their roads to make their investment last longer.

Any questions regarding the PPETG can be directed to Morgan Kessler, PE. Morgan.Kessler@dot.gov, 202-493-3187.

Roadway/Roadsides Technical Working Group

Thank you to Bob Younie and many other IADOT staff for the wonderful job hosting the 2015 AASHTO SCOM meeting in Des Moines, IA. The Roadway/Roadsides TWG's breakout sessions were well attended at the SCOM meeting and provided for several opportunities for informative, interactive discussions between the moderator, speakers and audience.

Fall Webinar

The Roadway/Roadsides TWG will be hosting a webinar on **November 19 from 1:00-2:00 CST**. Additional details will be sent out to SCOM members prior to the event. Below are the planned topics that will be presented:

- Alternative Methods of Temporary Traffic Control on Rural Highways– Melisa Finley, Texas A&M Transportation Institute
- Best Practices for Collecting, Processing and Managing Roadway Asset Inventory Data– Katie Zimmerman, Applied Pavement Technology

2016 Highest Priority Work Plan Activities

- We will continue to host webinars and focus on presentations of recently completed research.
- Send potential research problem statements from Maintenance Peer Exchanges to TWG members and request recommendations.

- Discuss the need for consistent units of measurement in the MQA Programs.
- Explore the need for a MQA domestic scan or workshop.

- Discuss how environmental compliance regulations are impacting maintenance activities and budgets.

Jerry Hatcher – Chair
Roadway/Roadsides TWG – AASHTO SCOM

Turner – Fairbanks Highway Research Center – Update

“Since the last issue of the Maintenance Manager, significant asset management and maintenance-related activities have taken place at the Turner-Fairbank Highway Research Center (TFHRC).

As mentioned in the last newsletter, TFHRC was about to embark on a new contracted research project titled “Effective Use of Geospatial Tools in Highway Construction”; this effort kicked off last month, with Jag Malella serving as the principal investigator for Parsons-Brinckerhoff. In particular, the project will place significant emphasis on looking at the use of Unmanned Aerial Vehicles (UAVs) or “drones” in the highway construction and maintenance areas.

Earlier in the month, a concept-of-operations (CONOPS) meeting was held between FHWA and Carnegie Mellon

University for the “Advanced, Low-Cost Snowplow Visual Guidance System” project. This was a key step, in that we determined the operating parameters and basic technology needed to move forward toward the final design and prototype assembly.

The projects titled “Integrating 3D Models into Asset Management”, “New Approaches to Utility Cut Repair”, and “In-Place Recycle Energy Use Analysis” are all progressing well, and stay tuned for webinars resulting from these efforts.

Any questions regarding these research highlights, or any other R&D –related work at TFHRC may be directed to Morgan Kessler, PE. Morgan.Kessler@dot.gov, 202-493-3187.”

Transportation Research Board – Update

The SICOP Update included a general update on the 2016 Winter Maintenance Conference, included here are some additional details.

2016 International Conference & Workshop on Winter Maintenance and Surface Transportation Weather

- February 2016 – Online Conference with On-Demand Presentations
- April 25-27, 2016 In-person Workshop (Fort Collins, Colorado)

The TRB’s Committees on Winter Maintenance (AHD65) and Surface Transportation Weather (AH010) in cooperation with the FHWA are organizing a Joint Conference of the Ninth International Symposium on Snow Removal and Ice Control Technology, and the Sixth National Conference on Surface Transportation Weather.

Conference presentations will be posted online and an in-person workshop will follow. Presentations for accepted abstracts will be recorded and posted in February 2016 and available for on-demand viewing at any time for conference registrants. Viewers will be able to interact with presenters using an on-line Q&A. The in-person workshop will draw from themes developed in the papers to identify key advances since the 2012 conference, technologies that are on the horizon for near-term implementation, and key ongoing

research needs. Selected papers will be considered for publication in a special issue of the Transportation Research Record.

Objective

The objectives of the International Conference on Winter Maintenance and Surface Transportation Weather are to provide a forum for the exchange of information on the state-of-the-art and state-of-the-practice in research and technology applications to improve snow removal and ice control operations with support of surface transportation weather information.

Prospective attendees include transportation and weather information managers, planners, analysts, researchers, application developers, and other practitioners from public and private agencies who are engaged in winter maintenance, or developing and implementing weather information products, technologies and services. A tentative program with information on registration and hotel accommodations will be published in October 2015. As a self-sustaining activity of TRB, a registration fee will be required of all participants.

Topics

Papers are being solicited for presentation at the conference and inclusion in the conference proceedings. Papers that present case studies describing how new technologies, methods or procedures have been implemented will be seen as particularly valuable. Please consider submitting papers describing current practices, or the results of recent research and technological innovations that improve snow removal and ice control operations with an emphasis and support of surface transportation weather. The topics include but are not limited to the following:

Policy, Management and Human Resources

- Policy and management for winter maintenance and weather services
- Performance measures, Standards, and Level of Service
- Cost Benefit of Winter Maintenance Activities
- Training and certification programs

Sustainability, Resiliency and Livability

- Sustainability and livability issues
- Resilience under severe/changing weather regimes
- Environmental Impacts of winter maintenance

Operations

- Innovative equipment and materials
- Winter operations for non-highway transportation modes (bicycles, pedestrians, rail, airports, etc.)
- Winter operations on unique road geometry or in urban environments
- Large-volume snow control
- Facilities and materials management
- Sustainable winter operations best practices

Data & Technology

- Modeling and forecasting for surface transportation and weather
- Decision support systems
- Connected/Automated vehicles - vehicle based technology Road weather and surface condition data collection; Dissemination of weather, traffic and operations information

Recent and Upcoming Webinars

(<http://www.trb.org/ElectronicSessions/ConferenceRecordings.aspx>) Webinars are recorded and can be accessed by State DOT employees.

Date	Webinar Title
October 7, 2015	TRB Webinar: Strain-based Structural Health Monitoring for an Informed Extension of Bridge Lifetime
October 15, 2015	TRB Webinar: The Vital Role of Operations and Maintenance in Supporting and Enhancing Sustainability
October 19, 2015	TRB Webinar: Effect of Wide-base Tires on Pavement Damage – A National Study, Part II
October 20, 2015	TRB Webinar: Sign and Pavement Marking Retroreflectivity- Measurement Basics, Safety Benefits, Advancements: A state Department of Transportation (DOT) Perspective
October 22, 2015	TRB Webinar: Reducing Costs by Streamlining the Selection and Bidding of Alternative Highway Drainage Pipe Systems
December 8, 2015	TRB Webinar: The Economic and Ecological Effects of Roadside Mowing

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 or 202-334-208

AASHTO SCOM Strategic Plan

During July 2015 members of the SCOM leadership team met with Dr. Amir Hanna, NCHRP Senior Program Officer at the National Academies Beckman Center in Irvine, California to update the December 2009 SCOM Strategic Plan. The following is a brief summary of the updates.

Vision – Supports members with guidance for the maintenance operations of the evolving transportation

system, and addresses new challenges through leadership and innovation.

Mission – Provides technical and policy guidance to members and supports the AASHTO organization in preserving and maintaining a safe and reliable highway infrastructure that meets the expectations of its customers.

Strategic Goals – The products and actions of SCOM will support members in their efforts to promote:

- A safe, reliable highway system in a state of good repair
- Accountability and transparency through performance management
- Environmental stewardship and compliance
- A well-qualified and competent workforce
- The communication of the value and role of maintenance
- Research, innovation and emerging technology

Strategic Focus Areas – Six “Strategic Focus Areas” connect to the goals as follows:

- **Safety** (Goal: A safe, reliable highway system in a state of good repair.)
- **Asset Management** (Goals: A safe, reliable highway system in a state of good repair; accountability and transparency through performance management.)

- **Environmental** (Goal: Environmental stewardship and compliance.),
- **Workforce Development** (Goal: A well-qualified and competent workforce.)
- **Communication** (Goal: The communication of the value and role of maintenance.), and
- **Research** (Goal: Research, innovation and emerging technology.)

Subcommittee & TWG Structure

- SCOM Leadership
- SCOM Organization and Functional Matrix, and Areas for Action
- Appendix – Liaisons
- Organizations with Formal Liaisons
- AASHTO Affiliated Organizations, Committees and Subcommittees
- Other Organizations

AASHTOWare Bridge Design and Rating System

With this notice, AASHTO is soliciting member agencies to participate in a project to develop the next generation of the AASHTOWare Bridge Design and Rating System. This project will result in the BrDR system being the ultimate bridge analysis and design software in use by most state agencies and their consultants by significantly improving the bridge design and rating tools available and decreasing future maintenance costs. Specifically, the BrDR Modernization Project will:

- Significantly upgrade the core technology to a modern software architecture that better utilizes current and future hardware and the latest software development technologies
- Improve analysis performance by taking advantage of the latest hardware and software advances – primarily parallelization by using the multi-threading capabilities of the new processors and the latest parallel task libraries (i.e. running multiple tasks simultaneously)
- Improve and simplify the user interface - easier to use for beginners without losing modeling flexibility and robustness for advanced users
- Improve reporting capabilities
- Reduce maintenance costs
- Reduce implementation time for new features
- Continue to support third-party development

The project Work Plan (available upon request) outlines detailed requirements which will be delivered in a strategically phased approach. The modernization of BrDR will be a multi-year, phased effort, beginning in the second quarter of calendar year 2016 with a 48-month software development and testing cycle. The project supports three software releases with the first release planned for roughly two years from the beginning of development. The first release will focus on modernization of the AASHTO analysis engine and will use the current user interface and Domain. The second release, planned for approximately one year following the first release, will introduce the completed, modernized user interface and Domain along with the modernized AASHTO engine. Finally, the third release, planned for one year following the second release, will include many of the enhancements requested by users over the past 10 years, for which sufficient licensing revenue was not previously available to fund.

As noted in the Work Plan, we are soliciting each agency’s voluntary participation in this cooperative effort. Responses received by December 15, 2015 will be greatly appreciated. Thank you

Judy B. Skeen, P.E., Project Manager, jskeen@aaashto.org, (office): 512.963.1465

From the Editor’s Desk:

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

As we prepare for the future, we would like to hear from YOU concerning any maintenance innovations you have developed. Have you placed a strobe light somewhere on your vehicle to make it safer? Have you developed a special spray nozzle configuration for herbicide placement around

guardrails? Have you developed a safer more durable manner of filling potholes? Are you using reclaimed asphalt product (RAP) in a manner to save on the mining of virgin materials? Or, something of the like to provide a safer more efficient and environmental conscious way of maintaining our nation's road network? Please email your innovation descriptions, with photos, to John Perry (Editor) and myself

to share. You will see your innovation in future highway maintenance correspondence.

Thank you all for your hard work and be safe in all you do.

Bryan Cawley: AASHTO SCOM Secretary

2016 Summer Meeting Information

The Nevada Department of Transportation will host the summer meeting this year. AASHTO and the hosting state are planning a technical tour visiting the Hoover Dam and the Mike O'Callaghan Tillman Memorial Bridge.

Information about the hosting state Maintenance and Asset Management Division follows:

Mission Statement: NDOT Maintenance and Asset Management has an essential function and responsibility within NDOT to assist the agency in meeting its overall mission, core values and goals. The mission of this group and the maintenance districts is to assure that the Department-maintained highway system is maintained to as high a level as possible consistent with the resources, budget, work plan, policies and program objectives.

Maintenance and Asset Management Division
http://www.nevadadot.com/About_NDOT/NDOT_Divisions/Operations/Maintenance/Maintenance_and_Asset_Management.aspx

Road Maintenance
http://www.nevadadot.com/Projects_and_Programs/Road_Maintenance/ROAD_MAINTENANCE.aspx

Anita Bush, P.E., C.P.M.
Chief Maintenance and Asset Management Engineer
(775) 888-7487
abush@dot.state.nv.us



Clark County – Nevada

The SCOM Planning Team will begin coordination efforts to develop the summer meeting agenda early in 2016.

The meeting will be held at the Renaissance Hotel (Marriott) from July 17-21, 2016 in Clark County, NV. Hotel and local information can be found at:
<http://www.marriott.com/hotels/travel/lasbr-renaissance-las-vegas-hotel/>.

The SCOM Conference website will be developed and made available in early spring 2016.

Future AASHTO SCOM Meetings:

2017 Rhode Island
2018 North Carolina
2019 Michigan

AASHTO SCOM Leadership & Useful Links and Information:

AASHTO SCOM Leadership

Chair:	Mark McConnell, MI
Vice Chair:	Jennifer Brandenburg, NC
Vice Chair:	Steve Lund, MN
FHWA Secretary:	Bryan Cawley
FHWA Asst. Secretary:	John Perry
AASHTO Liaison:	Jameelah Hayes
Research Coordinator:	Jon Wilcoxson, KY
TRB Contact:	James Bryant

Technical Working Groups

<u>Pavement TWG</u>	Anita Bush, NV – Chair
Vice Chair	Scott Capps, NC
Vice Chair	Bart Sweeney, CT
Liaison	Marc Hoelscher, FHWA-SD
<u>Bridge TWG</u>	Jeff Milton, VA – Chair
Vice Chair	Steve Cook, MI
Vice Chair	David Miller, LA
Liaison	Morgan Kessler, FHWA-TFHRC

Roadway/Roadside TWG Jerry Hatcher, TN – Chair
Vice Chair Enray Robinson-Perry, GA
Vice Chair Thomas Lyden, OH
Liaison William Beatty, FHWA-NC

Equipment TWG Tim Cunningham, KS – Chair
Vice Chair Jim Smith, PennDOT
Vice Chair Ron Pruitt, AL
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

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 Transportation Curriculum Coordination Council

<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/ltpb/>

FHWA Road Weather Management

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

FHWA Federal-aid Essentials for Locals

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

Google State DOT Search Engine

<https://www.google.com/cse/home?cx=006511338351663161139:cnk1qdck0dc>

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 Committees Related to Maintenance and Preservation

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

TRB Research Related to Maintenance and Preservation

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