As I am writing this message, the Weather Channel is reporting on tornados and storms in Oklahoma, Kansas, Arkansas, Missouri and Illinois. During the first three months of 2019, there have been 156 tornados confirmed in 19 states. Last year more than 40 states experienced confirmed tornados. Add in flooding, winter storms, hurricanes, and the like and it is often overwhelming. In each of those big events, as well as the countless “smaller” events that happen every day and night, Maintenance personnel take the lead in each DOT’s response and recovery efforts. The work that you and your personnel do is a true public service. Supporting those that perform that service is an important and fundamental mission of the MaC.

Over the last several months there have been several retirements that created vacancies in several TWGS. I am happy to report that all of the TWG leadership positions and TWG FHWA liaisons are now filled. The work of the MaC is accomplished through our TWGS, so sincere thanks are due to all our TWG members -- especially to those who volunteer to take on the extra responsibilities of leading.

Preparations are well underway for the 2019 Annual Meeting in Grand Rapids, Michigan. Steve Lund is doing his normal great work in leading the planning effort. Steve Cook, the Michigan staff, the TWG leaders, TRB, FHWA and the AASHTO staff have worked very hard and are putting together a meeting that should not be missed! This year is a joint MaC/TRB meeting so there will be even more good stuff than normal. There will also be an FHWA workshop on “Impacts of Automated Vehicles on Highway Infrastructure.”

As great as the meeting will be, it will be even better if you are there, so please make every effort to attend. What you will gain from the meeting will be valuable, what you bring to the meeting will be invaluable to someone else. Last year in Charlotte we reached a quorum for the business meeting (thanks to all who helped make that happen) and I look forward to us reaching that milestone again. Among all the business that will be on the agenda, there are two very important actions that will be taken: First, we will be voting on the revised Maintenance Manual that was presented last year. Second, we will begin the triennial review process for the Transportation System Preservation Technical Service Program (TSP2). If you are not able to attend in person this year, please participate by designating a proxy or joining our planned conference call during the Thursday morning business meeting. Your involvement is wanted, needed, and important.

The opportunity to serve as your Chair is an honor. Seeing and hearing about all that you do for your Agencies and for the MaC always leaves me amazed and humbled. Thank you.

In closing, remember the five Focus Areas of the MaC:

1. Be committed to the fundamentals while embracing new technologies and processes,
2. Be recognized as the national leader in the Maintenance community,
3. Improve coordination between the MaC and its Technical Service Programs (TSPs),
4. Improve participation and attendance by MaC member agencies,
5. Be more engaged with other AASHTO communities that have influence on maintenance practices and processes

George Conner
Alabama DOT
Michigan is excited about hosting the annual conference in downtown Grand Rapids on July 13 through July 18, 2019. The conference planning team has nearly completed all the work to accommodate the attendees. This includes our Tuesday afternoon Technical Tour – Maintenance and Operations of the Grand Rapids Water Plant on Lake Michigan and our awesome social event on Wednesday evening at the Van Andel Museum Center, walking distance for the hotel. We look forward to seeing everyone in Grand Rapids!

View this link for a short video on what to expect and help plan your trip to Michigan.
https://youtu.be/GrZ9kegkuH

The meeting will be held at the Amway Grand Plaza and Convention Center in downtown Grand Rapids. See the photo below, along with the following website for additional information. www.amwaygrand.com/meetings-events/devos-place

Lodging accommodations for the 2019 MaC Summer Meeting are available on line at the AASHTO MaC website.

Contact information:
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Future AASHTO MaC Meetings:
2020 Colorado
2021 Maine

Welcome New MaC Leadership
By: Jerry Hatcher, Vice Chair MaC, Tennessee DOT

It seems the only thing that’s constant is change. As members of our Maintenance Committee leadership team have moved on to other chapters in their careers we want to wish them well and thank them for their dedication to maintenance and the Maintenance Committee and at the same time welcome those who have stepped up assume those leadership positions.

Rebecca Allmeroth, State Maintenance Engineer/Chief Safety Officer for the Missouri DOT has been selected to serve as a Vice Chair of the Maintenance Operations Technical Work Group.

Pasco Bakotich III, P.E., State Maintenance Engineer for the Washington State DOT has been selected to serve as a Vice Chair for the Roadway/Roadside Technical Workgroup.

Mark Woods, State Pavement Engineer for the Tennessee DOT has been selected to serve as a Vice Chair on the Pavements Technical Work Group.

TRB at the MaC Annual Meeting
By: James Bryant, TRB

Every 3-4 years TRB’s Maintenance & Preservation Section partners with the AASHTO Maintenance Committee (MaC) to jointly sponsor the summer meeting. In the past TRB committees and staff would work with AASHTO’s leadership to hold typical conference style technical sessions throughout the summer meeting. The last jointly sponsored meeting was in 2015. While this format worked well in the past it did limit the “business” activities that need to be accomplished by the MaC Technical Working Groups (TWG).
This year we are taking a different approach! One that will allow the TWGs to accomplish their tasks and allow for TRB to make a contribution to the technical content of the meeting. Since many of the attendees at the MaC summer meeting don’t get an opportunity to attend the TRB Annual Meeting we are going to bring the best of the TRB Annual Meeting to the MaC. There will be several presentations originally given during the TRB Annual Meeting that will be presented throughout the week in the TWG sessions.

Research News
MaC Research Coordinator
Jon Wilcoxson, Kentucky Transportation Cabinet

The Technical Working Groups provided responses to FHWA and NCHRP comments regarding our proposed 2019 research projects which included:

• Guidelines for Incorporating Maintenance Costs into a Transportation Asset Management Plan
• Benefit-Cost Analysis of Chip Seal Binder Alternatives
• Strategies to Maximize Vehicle and Equipment Resale Values to Optimize Fleet Total Cost of Ownership, and

These responses are intended to address concerns raised by reviewers and help to provide additional information for the balloting process. Balloting was completed in April and results were just released May 14th. The Maintenance Committee had two projects that were approved for FY 2020. These are:

• D-07 Guide Construction Specifications for Cold In-place Recycling (CIR) and Cold Central Plant Recycling (CCPR)
• F-03 Guidelines for Incorporating Maintenance Costs into a Transportation Asset Management Plan


Bridge TWG
Chair: Jeff Milton, Virginia DOT

The Bridge Technical Working Group (BTWG) is planning for the breakout sessions at the 2019 MaC meeting in Michigan.

The Southeast Bridge Preservation Partnership meeting was held in Baton Rouge, Louisiana from April 16 to April 18.

The schedule for the remaining Bridge Preservation Partnership meetings follows:

• Western Bridge Preservation Partnership - May 14—16, 2019 in Reno, Nevada
• Northeast Bridge Preservation Partnership – September 9 – 11 in Burlington, Vermont
• Midwest Bridge Preservation Partnership – October 15-17 in Bismarck, North Dakota

Bridge TWG members are involved in the following TSP2 national working Groups:

Bridge Deck Chloride Testing National Working Group
Local Agency Outreach Working Group
Bridge Preservation BMS Working Group
Innovative Technology Demonstrations Working Group (ITD)
Bridge Preservation Social Media
Bridge Deck Preservation
Bridge Preservation Coatings

BTWG members are working with the consultant for the AAHTO TC3 program to develop bridge preservation courses.

The BTWG is supporting the efforts of the MaC leadership to update the AASHTO Maintenance Manual for Roadways and Bridges.

Members of the BTWG have provided support to the FHWA Bridge Preservation Expert Task Group (BPETG). The BPETG is in the process of preparing pocket guides for Thin Polymer Deck Overlays, Bridge Cleaning, Coatings, and Joints.

The BTWG has supported NCHRP bridge related research projects, and members of the group attended the 2019 TRB meeting in Washington, D.C.

The following MaC sponsored research projects are complete and the BTWG is working with AASHTO staff to publish the reports as AASHTO documents:

• NCHRP Project 12-100 “Guidelines for Maintaining Small Movement Bridge Expansion Joints”
• NCHRP Project 14-29 “Assessing, Coding, and Marking of Highway Bridges in Emergency Situations”

Pending NCHRP Projects

• NCHRP Project 12-117 – “Guidelines for Corrosion Protection of Steel Bridges Using Duplex Coating Systems” – Proposals were received December 11, 2018 - Panel will meet to select the contractor.

Recently completed NCHRP Projects

• NCHRP 12-90 – “Guidelines for Shielding Bridge Piers” – Research Agency: Road Safe LLC – Project complete -
NCHRP Report 892 issued on November 9, 2018 and posted on TRB website.

- NCHRP Domestic Scan 17-03 – “Experiences in the Performance of Bridge Bearings and Expansion Joints Used for Highway Bridges” - Final Report Delivered to NCHRP in November 2018

The leadership team of the BTWG also conducted email exchanges with the group members.

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**Equipment TWG**

**Chair:** Tim Cunningham, Kansas DOT

Work continues in implementing the findings from the final 2011 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.

### Current Research Projects

- **NCHRP 20-7/Task 426 – Update to NCHRP 20-7/Task 309, Challenges and Opportunities: A Strategic Plan for Equipment Management Research Challenges and Opportunities.** The research panel has been selected and work to develop a research project statement will begin soon. This project will update the results of original 2011 project 20-07/Task 309 identifying a Strategic Plan for Equipment Management Research.
- **NCHRP Project 13-04 – Guide for the Development of Highway Operations Equipment Replacement Lifecycle Criteria** is now complete. Dye Management Group completed the project report in October 2018. TRB has published the work as NCHRP Project Report 879. The Equipment TWG received approval from AASHTO to adopt research guide and tool as an AASHTO publication.
- **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 The Cadmus Group, LLC. The project has been approved; the projects initiation has been deferred pending progress and completion of NCHRP Project 13-07. It is estimated that the project panel will develop the scope of work and resultant RFP early Fall 2019.

### Proposed Research Projects

- **During the 2019 AASHTO Mac the Equipment Technical Working Group (TWG) developed and submitted one (1) research project statement.**
  - Research Project Statement - Strategies to Maximize Vehicle and Equipment Resale Values to Optimize Fleet Total Cost of Ownership. State DOTs purchase needed vehicles and equipment at competitive prices from the manufacturers or distributors, but many lack the expertise and incentives to maximize resale values. The primary objectives of the research project would be to develop guidelines for state DOT fleet management organizations to use when disposing and marketing surplus used fleet assets. The end-product would promote increased sales values to reduce fleet total cost of ownership. Status: TBD

**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 Transportation Research Board (TRB) 99th Annual Meeting to be held January 12–16, 2020.
Maintenance Operations TWG
Chair: Brad Darr, North Dakota DOT

The Maintenance Operations TWG is looking forward to a productive meeting at the Summer Maintenance Committee meeting in Grand Rapids, Michigan. In addition to several briefings from winter maintenance related pooled fund efforts we will have presentations from authors of TRB papers presented at the last TRB annual meeting and discussions of other operational issues.

Maintenance Operations is a diverse area and we are continuing to identify individuals interested to be more formally involved with our TWG.

In March 2019 the Maintenance Operations TWG collaborated with SICOP to host a State Showcase Webinar highlighting the Snowplow/Garage Route Optimization project undertaken by North Dakota DOT and the use of a damage assessment application utilized by North Carolina DOT after Hurricane Florence. This webinar was well attended with close to one hundred registered participants. Based on this success future State Showcase webinars will be planned. These webinars will cover a wide range of topics, not just winter maintenance. If you would like to share an interesting use of technology or how your state is approaching a maintenance operations challenge please contact Brad Darr or Rick Nelson, SICOP coordinator.

Research News
With the completion of NCHRP Project F14-34, Guide for Performance Measures in Snow and Ice Control Operations the TWG will be discussing if this guide should be adopted as an AASHTO manual.

Please connect with Brad Darr, North Dakota Department of Transportation, 701-328-4443, bdarr@nd.gov, if you have ideas or suggestions for research, resolutions or future meeting topics—Any input would be appreciated.

Pavement TWG
Chair: Anita Bush, Nevada DOT

Our group welcomed Mark Woods from Tennessee DOT to our leadership team. We appreciate his expertise and willingness to help and are looking forward to working with him for many years to come.

The PTWG is working with TRB on finalizing the agenda for the AASHTO MaC annual summer meeting. The annual Business Meeting where we talk about research topics will be held Monday and Tuesday, during the first and second PTWG breakout sessions. A few of the technical presentation topics for this year’s meeting consist of updates from many of our industry and academic partners, chips seals, cost effectiveness of crack sealing and the life-cycle environmental impacts of asphalt pavement maintenance, repair, and rehabilitation options. We are also working on a webinar to feature popular topics presented at the annual TRB meeting in January of this year.

The PTWG Leadership is looking forward to seeing you at the AASHTO MaC Meeting!

Roadway/Roadside TWG
Chair: Erany Robinson-Perry, Georgia DOT

The Leadership for the Roadway/Roadside (R/R) Technical Workgroup (TWG) has great anticipation for the 2019 AASHTO Maintenance Committee meeting in Grand Rapids, Michigan this July. We are confident that the technical workshop sessions will be even more successful and informative than they were in Charlotte in 2018. The Roadway/Roadsides TWG leadership is currently finalizing plans for our break-out sessions at the 2019 Maintenance Committee meeting. The Roadway/Roadside TWG will continue to present topics and facilitate discussion on the six focus areas that include: Safety, Asset Management, Workforce Development, Environment, Communication, and Research.

We ask that potential attendees begin brainstorming and bring ideas for research projects and presentation topics that you would be interested in the R/R workgroup pursuing. The goal of our workgroup is to present information and research findings that will assist you in your transportation role. As transportation officials, we all face similar challenges with limited workforce and increased litigation. The Roadway/Roadside TWG intends to present to you the latest advancements in technology and best management practices that will help members to achieve successful and efficient operations.

The R/R TWG Leadership Team is looking forward to seeing you in Grand Rapids this summer!
EMTSP
Coordinator: National Center for Pavement Preservation
Chair: Tim Cunningham, Kansas DOT

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

- Year-to-date FY 2019 State DOT annual contributions to EMTSP have exceeded those of previous years and the EMTSP Oversight Panel would like to express their appreciation to those states that have elected to support this valuable program. Thank you!
- The second EMTSP Web-based training module - *Bench Marking and Best Practices for State Equipment Fleet Management*, is available on the AASHTO TC3 website.
  - The course content promotes an understanding of these management concepts and is recommended for 2.5 PDHs. The topic of benchmarking is closely aligned with performance management. Most agencies have a strategic plan from which they make decisions on how to allocate resources and pursue their long-range strategy. This five-lesson course discusses how to create a group of performance metrics to track based upon what is important in an agency’s long-range strategy. This course also covers topics such as developing performance metric targets, measurement techniques, internal and external benchmarking, performance gaps, limitations of benchmarking, and benchmarking best practices. The target audience for this training includes maintenance supervisors, managers, and engineers that manage a fleet for their organization.
  - To locate, go to the EMTSP Home Page, find the tab category named “TRAINING” then select “EMTSP Web-Based Training” which will provide information about the course.
  - *This and all the EMTSP developed Web Based Training courses are provided on the TC3 website for FREE to anyone who registers for the training utilizing their “public employee” email address regardless of whether your State contributes to the TC3 technical program."
- The third EMTSP Web-based training module - *Establishing Equipment Complements and Sizing of State Equipment Fleets*, has been completed and approved by the EMTSP Education Committee and Oversight Panel. The work is now with the TC3 contractor for web development and should be available by late Spring 2019.
- A fourth EMTSP Web-based training module - *Utilization Management Concepts for State DOT Equipment Fleets*, is now under review by the EMTSP Education Committee and will be approved for TC3 contractor web development in early Summer 2019.
- The EMTSP Regional Partnerships are now planning their respective 2019 Regional Partnership Meetings. Most available information about these events is as follows:
- Additional information about current, future and past regional and national conference meetings, trade shows, and presentations given are found at [www.emtsp.org](http://www.emtsp.org).
- The 2020 National Fleet Management Conference and Equipment Trade Show will be hosted by the California DOT (Caltrans). Location – San Diego, CA. Dates to be determined.
- Work continues with the EMTSP National Performance Measurement Working Group and Michigan DOT in compiling and posting each state DOT fleet’s available performance measures on the EMTSP website.
  - Five (5) common state DOT fleet performance measures (Utilization, Preventative Maintenance, Retention, Availability and Scheduled vs. Unscheduled Repairs, has been created and all are now being reported and may be reviewed at [www.emtsp.org](http://www.emtsp.org).

If your State has not yet sent in your voluntary contribution to the EMTSP program, please consider sending it in soon so that we may continue to enhance this important program. If you are not sure if your State has contributed, you can find a link to the invoices and the year to date receipts on the [www.emtsp.org](http://www.emtsp.org) home page.

SICOP
Coordinator: Rick Nelson
Chair: Steve Lund, Minnesota DOT

Work is continuing on elements of the 2018-2020 Strategic Winter Maintenance Plan with various products being produced. SICOP teamed up with the Maintenance Operations TWG to host a State Showcase Webinar on Technology featuring Brad Darr (ND DOT) on their Route/Garage Optimization project and Emily McGraw (NC DOT) on an app that was developed to aid in damage assessments they utilized during the recovery efforts from Hurricane Florence. If you missed this webinar the recording is available on the SICOP Talks Winter Ops website [http://SICOPTalksWinterOps.com](http://SICOPTalksWinterOps.com)
Speaking of the SICOP Talks Winter Ops podcasts, we produced 5 new episodes since last fall that include Steve Lund (MN DOT) with a SICOP Year in Review, Jim Sullivan (University of Vermont) on Emergency Management Operations, and Steve Lund and Caleb Dobbins (NH DOT) on Performance Measures. This podcast is an excellent way to listen in on interesting discussion about winter operations. So far there have been almost 2,500 listens.

Work is continuing on the planning for the 2020 International Road Weather and Winter Maintenance Conference and Peer Exchange. This event is the result of collaboration between SICOP, Aurora, Clear Roads, TRB Surface Transportation Weather, and TRB Winter Maintenance to combine the National Winter Maintenance Peer Exchange and the quadrennial TRM Winter conference into a single gathering. Expect more information soon about this event coming in September 2020.

The AASHTO Guide for Snow and Ice Control was first published many years ago and several advancements in the way we look at winter operations have taken place. SICOP and it’s steering committee are heavily involved with the NCHRP project 06-18, Guide for Snow and Ice Control Operations to create a new source of guidance for winter operations. You can read more about this project in the NCHRP Corner.

July will mark the beginning of the next fiscal year and the call for support of the technical service programs. Without the voluntary contributions of member states the work of the Technical Service Programs like SICOP couldn’t continue. As of this writing 30 states have participated in SICOP. If you have any questions regarding SICOP or voluntary contributions please contact Rick Nelson at RNelson@aashto.org.

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**TSP2**

Coordinator: National Center for Pavement Preservation, MSU
Chair: George Conner, Alabama DOT

2019 has gotten off to a busy and productive start for the Transportation System Preservation Technical Services Program (TSP2). There are four regional partnerships each for pavement and bridge preservation, so we have held (or will within the next few weeks) two partnerships for each. The remaining partnership meetings occur in the fall.

West Virginia DOT played host for the Southeast Pavement Preservation Partnership, with an excellent meeting in Charleston, WV. The theme of the meeting was sustainability, and this theme was supported with presentations on Rubberized Chip Seals by Dan Quire of Wright Asphalt Products, Use of RAP in Pavement Preservation Surface Treatments by Greg Duncan of Applied Pavement Technology and a Discussion on Longer Lasting Pavements by Kevin Hall of University of Arkansas. Another outstanding feature of the meeting was a roundtable discussion that included states and industry and covered such topics as failures, training, material sources, working cooperatively with industry, research, and calibration.

Pennsylvania DOT hosted the Northeast Pavement Preservation Partnership (NEPPP) in Harrisburg, PA. The meeting always begins with an agencies only open discussion that touched on questions of assuring quality materials, limited number of competitors for some treatments in some areas, 4.75 mm mix issues and performance, methods of funding and programming projects and training for inspectors. Agencies and industry came together for a panel discussion on quality in preservation treatments and projects. Among the technical presentations were topics on Micro Surfacing, High Friction Surface Treatments in New Jersey, Life Cycle of Thin Surface Treatments, Best Construction Practices for Chip Seals, Best Practices for Ultra-Thin Bonded Wearing Course, Concrete Pavement Life Extension, and Thin Lift Asphalt.

The Southeast Bridge Preservation Partnership meeting was held in Baton Rouge, LA and hosted by Louisiana DOT. Among the many technical sessions were notable presentations by Graham Bettis, of TxDOT on Following up on Routine Safety Inspections, by Basil Yap of NCDOT on use of Unmanned Aerial Systems for Hurricane Florence Flooding, by Jeff Milton of VDOT on Laser Coating Removal Research, and by Jarrett Lambert and Jason Michiels, both of LaDOTD, on Preservation of Moveable Bridges. Bridge National Working Group Reports were presented on Bridge Coatings, Social Media, Bridge Deck Chloride Testing, Bridge Management Systems, Innovative Technology Deployment and FHWA BPETG Pocket Guides. The hospitality couldn’t have been warmer, and with 222 people in attendance, the meeting was a great success.

The Western Bridge Preservation Partnership meeting will be held in Reno, Nevada in mid-May, hosted by Nevada DOT.

The TSP2 Oversight Panel also met in Baton Rouge, LA just before the SEBPP meeting. Chairman George Conner welcomed both returning panel members and new members to the group. The meeting focused on the Triennial Review that will occur at the Maintenance Committee meeting in Grand Rapids, Michigan in July 2019, on the annual work plan for TSP2, and on an initiative to provide local agencies with partnership membership that includes travel reimbursement through the National Center for Pavement Preservation.
The Federal Highway Administration (FHWA) construction and maintenance activities are highlighted below:

**e-Construction and Partnering – Chris Schneider, FHWA Office of Infrastructure.**

Through round four of Every Day Counts (EDC-4), the FHWA is promoting the integrated practice of e-Construction and Construction Partnering (eCP) joined together to help deliver transportation improvements smarter and faster. Recent activities include:

- An e-Construction & Partnering Regional Workshop hosted by PennDOT on April 17-18, 2019, in Pittsburgh with over 200 participating in the event. Information, including speaker presentations, can be accessed at the following website: 2019 e-Construction & Partnering (eCP) Regional Workshop.

**Pavement Preservation.**

FHWA has completed seven Concrete Clips videos that are ready for viewing on YouTube, which are posted on the FHWA's YouTube Channel, under the playlist “Concrete Clip.” FHWA plans to develop a total of 17 videos in the series.

FHWA is currently implementing Pavement Preservation (Where, When, and How) under the fourth round of Every Day Counts (EDC-4) through the following deployment activities:

1. **When & Where – Jason Dietz, FHWA Resource Center**
   - The following are links to the Federal-aid Essentials (flexible and rigid pavements):
     - Asphalt Pavement Preservation
     - Concrete Pavement (PCCP) Preservation
   - FHWA delivered 28 training workshops on Integrating Pavement Management to Selecting Pavements for Preventive Maintenance to the following states: OK, LA, FL, WA, MO, IL, NM, CO, HI, CA, ID, WI, UT, Navajo, DE, with 1,015 individuals participating.

2. **How – Antonio Nieves, FHWA Office of Infrastructure**
   - EDC-4 – Pavement Preservation (How) – Completed Peer Exchanges:
     - KY, DE, ND, LA, MN, IN, OR, AZ, GA
   - EDC-4 – Pavement Preservation (How) – Completed Training Workshops:
     - WA, ID, OR, FL, NH, UT, WI, MI

**Unmanned Aerial Systems (UAS) – James Gray, FHWA Office of Infrastructure.**

The highway industry is using UAS as a proven technology to view, operate, and construct transportation infrastructure from a different perspective. Some of the more common UAS data collection attachments include high definition cameras, Light Detection and Ranging (LiDAR), hyperspectral images, and radar. The FHWA EDC-5 UAS Deployment Team is actively working on efforts to accelerate the adoption of UAS in the fields of Structural Inspection, Construction Inspection, and Emergency Response. FHWA will:

- Bring States together to build UAS programs collaboratively through Peer Exchanges
- Share resources and the state of the practice through webinars and corresponding Tech Briefs
- Host Regional Workshops to bring together key UAS practitioners
- Facilitate locally hosted workshops to share subject matter expertise with locals
- Develop informational videos to host on the FHWA YouTube channel
- Introduce UAS as a practical tool through college curriculum

**Project Bundling – Romeo Garcia, Office of Infrastructure**

Featured in FHWA Every Day Counts Round 5 (EDC-5) innovation of the month of April is an advanced approach to Project Bundling. It addresses the growing need to address aging infrastructure in a way that can expedite project delivery, reduce costs, and improve contracting efficiency.

You can learn more about Project Bundling in this Innovation Spotlight video.

**Maintenance Leadership Academy – Antonio Nieves, Office of Infrastructure.**

The Maintenance Leadership Academy (MLA) provides an intensive training program to individuals who hold positions as State, district, and county maintenance supervisors. FHWA with its partners in industry are updating six different modules that form part of this intense course.

- Modules A, B, and C (Maintenance Administration, Pavement and Bridge Preservation, and Roadside Maintenance and Drainage respectively) will be completed and piloted in early 2020.

**Weather Responsive Management Strategies (WRMS) – Roemer Alfelor, FHWA Office of Operations.**

The round five of Every Day Counts (EDC-5) WRMS initiative focuses on maximizing the use of mobile and vehicle-based observations to support traffic and maintenance management during weather events. Twenty-three States have signed up to deploy the WRMS solution. FHWA is now working with those States to understand their implementation plans and to identify the types of technical support they need. Fact sheets and case studies on WRMS implementation are also being developed to provide information and guidance. For more information, visit: Weather-Responsive Management Strategies.
Maintenance and preservation research and development work continues at TFHRC, and we have several notable projects in the pipeline:

**Pavement Maintenance Techniques: Best Practices.** This project involves developing a comprehensive best practices field reference guide and an accompanying set of techbriefs for the specified maintenance activities, techniques, and materials. The target audience for this effort is state and local highway maintenance managers and field crew leaders. As part of the project, apps will be developed so that the information may be viewed on mobile electronic devices. We have recently received draft versions of the final products, and are reviewing them before accepting them for publication.

**Determining Agency Rules for Bridge Preservation: Develop A Decision Methodology.** The contractor conducted a webinar regarding the outcomes of the project; the link to the recording is here: [Webinar on Bridge Preservation Actions](https://www.transportation.org). The final steps in the project are to produce the spreadsheet tool, final draft report and Techbrief, which is expected by the end of summer 2019.

**Recycled Asphalt Pavement (RAP) Use in Pavement Preservation Surface Treatments:** The contractor will be hosting a webinar for this project soon, date and time to be determined. We should have interim deliverables for this project soon and expect its completion this year.

**Determining Highway Asset and Data Inclusion in an Asset Management System:** This project developed a procedure that outlines the path forward to develop a flexible methodology to best determine the inclusion of highway assets and their data. A webinar is scheduled for this project on June 10, 2019.

**The AV Impacts to Highway Infrastructure** project is moving along well and, of note, the contractor will be holding a workshop at the AASHTO Maintenance Committee Annual Meeting in July. This workshop will provide key input to the project, and we’re excited to gather information from the wide range of experts and stakeholders that are present at this meeting.

**Collection, Analysis, and Interpretation of Data Obtained from UAS for Bridges:** We expect to receive the draft final report in mid-May. The contractor is presently working on the case study Techbriefs, and the bridge inspection Techbrief was received by FHWA and subsequently sent to panel members for comment.

Any questions regarding this or any other research and development-related work at TFHRC may be directed to Morgan Kessler, PE, [Morgan.Kessler@dot.gov](mailto:Morgan.Kessler@dot.gov).

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**NCHRP Corner**

Amir N. Hanna, NCHRP

**NCHRP Research Reports**

**NCHRP Project 14-34, Performance Measures in Snow and Ice Control Operations** has been published as NCHRP Research Report 889; it is available at [Performance Measures in Snow and Ice Control Operations](https://www.trb.org/). The report presents approaches for monitoring the performance of snow and ice control activities by public agencies and proposes a core set of performance measures that can be customized and used by agencies to meet their snow and ice control objectives. The report also includes a guide document to facilitate implementation of these performance measures, and explores the capabilities required by public agencies to adequately monitor these measures and use relevant information to support decision-making processes and report on the effectiveness of snow and ice control operations. In addition to the report, the project produced a macro-based Microsoft Excel (2013) spreadsheet tool that outputs a customized report providing insight into which performance measures an agency can potentially assess, given its current capabilities. A guide to use the tool is also included in the report. TRB conducted a webinar on Wednesday, May 15, 2019, from 2:00 PM to 3:30 PM ET that features this research report. Information is available at [TRB Webinar: Guide to Snow and Ice Performance Measures: Key Findings & Recommendations](https://www.transportation.org).

**NCHRP Research Projects**

A 24 month contract was recently awarded to the Research Foundation for The State University of New York for NCHRP Project 13-06, Guide for the Formulation of Long-Range Plans for Replacement Needs and Budget of Highway Operations Equipment. The research will develop a guide for the formulation of long-range plans (20-25 years) for replacement needs and budget of highway operations equipment, and will include processes and tools for consideration in making investment decisions.

A 30 month contract was recently awarded to Texas A&M Transportation Research Institute for NCHRP Project 05-24, Guidelines for Vehicle and Equipment Color, Marking, and Lighting. The research will develop guidelines, for the selection and application of color, retroreflective markings, and lighting to vehicle and equipment that will effectively identify vehicles and equipment, and communicate their activities to the motoring public, and thus enhance safety. This research will deal with transportation-agency roadway-operations vehicles and equipment used for construction, maintenance, incident response, and other similar activities. These guidelines are intended for adoption/publication by AASHTO to supersede the 2009 AASHTO Guidelines for the Selection and Application of Warning Lights on Roadway Operations Equipment.

A contract is being processed for NCHRP Project 06-18, Guide for Snow and Ice Control Operations. This project will develop a guide that will serve as the primary source for guidance on all aspects of snow and ice control operations. The guide is intended for adoption/publication by AASHTO and will supersede the 1999 AASHTO Guide for Snow and Ice Control, and other guidance on snow and ice control operations.
FY 2020 NCHRP Research Projects

The AASHTO Committee on Research and Innovation recently selected 58 projects for funding as part of the NCHRP FY 2020 Program. Several of these projects will address specific maintenance issues:

NCHRP Project 14-43, Guide Construction Specifications for Cold-in-Place Recycling (CIR) and Cold Central Plant Recycling (CCPR).

NCHRP Project 14-44, Construction Specifications for Pavement Treatments: Slurry Seals and Tack Coats.

NCHRP Project 14-45, Model Procedures for Post-Event Bridge Damage Assessment and Engineering Evaluation.

NCHRP Project 23-08, Guidelines for incorporating Maintenance Costs into a Transportation Asset Management Plan.

NCHRP will soon seek nominations for panel members; we look forward to receiving expressions of interest from members of the AASHTO Committee on Maintenance.

For information on NCHRP research related to maintenance (reports, projects, problem statements, process, etc.), please contact Amir N. Hanna ahanna@nas.edu; 202/334-1432.

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