DATE: October 27, 2016

TO: Standing Committee on Highways (SCOH) Members

FROM: Thomas D. Everett, Associate Administrator for Infrastructure, FHWA
SCOH Secretary

SUBJECT: 2016 Annual SCOH Meeting

Our 2016 Standing Committee on Highways Annual Meeting will be held in the home of the Red Sox. The SCOH meeting will take place on Sunday, November 13, 2016, at the Westin Boston Waterfront Hotel.

I am pleased to serve as your Secretary and look forward to meeting all of you as we address existing and emerging transportation challenges. To keep current on all information about the SCOH meeting it is strongly encouraged that you download the AASHTO 2016 Annual Meeting app by searching for ‘AASHTO Meetings’ in your device’s app store.

Direct links:

App Download - https://crowd.cc/s/mu5u
Web Version - https://crowd.cc/annual-mtg

Several proposed resolutions are on the table for action. In the interest of limited time allowed for discussion, please review all proposed resolutions and action items prior to the meeting.

If you are unable to attend or will be sending a substitute/alternate, please advise Marty Vitale by email (mvitale@aashto.org), if you haven’t done so already. Currently, we have well over 40 SCOH members registered.

On behalf of the officers of SCOH, we look forward to meeting with you.
Standing Committee on Highways (SCOH)
Boston, Massachusetts – Westin Boston Waterfront Hotel – Harbor Ballroom 2/3
Sunday, November 13, 2016 – 8:00 AM-5:00 PM
PRELIMINARY AGENDA

8:00 AM

I. Call to Order SCOH ................................................................. SCOH Chair Kirk Steudle, MI

II. Opening Remarks ................................................................. Chair Steudle, MI

III. Roll Call and Minutes from Des Moines, Iowa, May 25, 2016 (action/handout) ..............

...................................................................................................... SCOH Secretary, Thomas Everett, FHWA

IV. Call for Agenda Amendments ................................................................. Chair Steudle, MI

Consent Agenda: A single Motion to accept all the items on this Consent Agenda is in order. After such a Motion is made and seconded, any member may remove an item for separate action. The Consent Agenda Motion will then be voted upon for the balance of the reports (handout). After the Consent Agenda Motion for item V. and VI. has been acted upon, the items removed will be taken up in order.

V. Summary of SCOH Ballots (information/handout) .............................................. Chair Steudle, MI

VI. Subcommittee, Special Committee-Activity Reports (action/handout)............. Chair Steudle, MI

8:15 AM

VII. Executive Director’s Report ................................................................. Bud Wright, AASHTO

8:30 AM

VIII. Special Order of the Day—2016 Transportation Vanguard Award ....................... Chair Steudle, MI

Presentation by Dr. Ning Li, PE, PMP
Virginia Department of Transportation

9:00 AM

IX. Reports and Proposed Motions/Resolutions from Highways Subcommittees ..................
................................................................................................................. Chair Steudle, MI

A. Report on Fly-Ash Shortage, Subcommittee on Materials .......................Moe Jamshidi, NE

B. Report on Subcommittee on Design’s Response to the Resolution on Design Flexibility ....
............................................................................................................. Joyce Taylor, ME

C. PAR Establish a Technical Service Program for the Development and Maintenance of Transportation Design Technical Publications (action)............................... J. Taylor, ME

D. PPR MASH Resolution from Subcommittee on Design (action) ............... Carlos Braceras, UT

E. PAR Increase the LRFD TSP Contribution (action)................................. Gregg Fredrick, WY

F. PPR AASHTO SPaT Challenge (Signal, Phasing, Timing-Joint SCOTE and STSMO) (action) ................................................................................................................................. Mike Holder, NC, Blaine Leonard, UT, and Mark Luszcz, DE

G. PAR Clearview Font (action)........................................................................ Mike Holder, NC

H. PAR Control City Birmingham, Alabama on Interstate 22 (information only) ......M. Holder, NC

I. PAR Control City Tupelo, Mississippi on Interstate 22 (information only) .............M. Holder, NC

J. PAR Control City Memphis, Tennessee on Interstate 22 (information only) .......M. Holder, NC
10:00 AM – BREAK

10:15 AM

X. Comprehensive Committee Review (information) ........................................... Paul Degges, TN

10:45 AM

XI. Items for SCOH Discussion .................................................. SCOH Vice-Chair Paul Degges, TN

Round Table Topics Supplied by SCOH Members

12:00 Noon – LUNCH .............................................................. Irish American Police Bag Pipe Band (Galleria)

1:30 PM

XII. Announcement to Resume SCOH Meeting ................................................... Chair Steudle, MI

XIII. Presentation on FHWA Activities .................................................. Thomas Everett FHWA

XIV. Current National Topic: ADA Transition

Overview of Discussion ................................................................. Vice-Chair Degges

This session will focus on the challenges and opportunities faced by State DOTs in complying with requirements related to the Americans with Disabilities Act, including responsibilities related to the oversight of local public agencies. Representatives from three agencies will provide their perspectives, and then the floor will be opened for discussion by the SCOH members.

Moderator: TBD

Panel: Elizabeth Hilton, FHWA; State DOT TBD; State DOT TBD

3:00 PM – BREAK

3:15 PM

XV. Items for SCOH Discussion (continued) ........................................................ Vice-Chair Degges

Round Table Topics Supplied by SCOH Members

4:00 PM

XVI. Reports

A. NCHRP 20-7 (action) ......................................................... Paul Degges, TN, and Chris Hedges, TRB

B. Special Committee on U.S. Route Numbering (action/handout) .......... Mark McConnell, MS

C. AASHTO/ACEC Joint Committee ......................................................... Paul Mattox, WV

XVII. New Business ................................................................. Chair Steudle, MI

XVIII. Old Business ................................................................. Chair Steudle, MI

XIX. Adjourn ................................................................. Chair Steudle, MI
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<td>David Mearig</td>
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<td>Arizona Department of Transportation</td>
<td>Dallas Hammit</td>
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<td>Arkansas State Highway and Transportation Department</td>
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<td>California Department of Transportation</td>
<td>Karla Sutliff</td>
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The meeting was called to order by Chair Kirk Steudle, MI at 8:33 AM.

Roll call was taken by Acting Secretary Tom Everett, FHWA. Members or their alternates initialed the roster to get an accurate quorum count. A quorum was present with 45 of 52 member departments seated at the meeting.

Minutes from the September 25, 2015 SCOH Meeting in Chicago, IL were included in the agenda package of materials for members to review prior to the meeting. A motion was made by TN to accept the minutes as presented which was seconded by VT. The minutes were unanimously approved by voice vote. The members also approved the consent agenda as submitted which included the ballot report and all activity reports submitted by the SCOH committees and mailed to members prior to the meeting. A motion was made by MI which was seconded by MN. The consent agenda was unanimously approved by voice vote.

Presentations:

Executive Director’s Report, Bud Wright, AASHTO

The Executive Director welcomed everyone to Des Moines and thanked the committee for making AASHTO successful. He encouraged members to be sure to share knowledge and best practices, and to network during the meeting. He expressed appreciation for the leadership members have shown.

Specific comments included:

The FAST Act was enacted – AASHTO is engaged in implementation. AASHTO is on record saying that it is a good bill, but some elements lacking. Did not provide for long term revenue source. AASHTO is focusing on what we are going to do in year 2020.

The Committee is financially sound right now, but continually looking for ways to save. Will be discussing a dues increase during the board meeting this week to establish a rainy day fund in case revenue unexpectedly decreases in the future. A modest increase is under consideration.

Comprehensive review of committee structure to look at most efficient organization of AASHTO is underway. A lot has been done, but hard work remains. Will be soliciting feedback from States between now and November. It will not be a complete scrambling of all committees, but there will be major changes.

Thank you – need members to engage in robust discussion.

Comprehensive Committee Review, Carlos Braceros, UT

Current committee structure has evolved over time. It is a good time to revisit organization. Extensive information is available at Committeereview.transportation.org.

Strategic goals established in 2014-2019 strategic plan document. This presents a great opportunity for a comprehensive look. Talked to a lot of people during development of the plan. Developed objectives
for the committee, which became the evaluation criteria. Resisted drawing boxes and lines and focused on objectives. Trying to develop a structure that enables the committees to stay nimble and responsive. Need to position AASHTO to take maximum advantage of State DOT expertise. A current organizational chart was shown to demonstrate complexity.

Focused on national issues prioritized by Board of Directors. Goals were to reduce inconsistencies in operations, increase communication and collaboration, address emerging issues and sharpen focus. AASHTO is passed the time a being a prescriptive organization – need to be performance based.

Safety remains top priority.

A draft restructuring scenario was shown. Highlights of the draft: Proposing a strategic steering committee. Transportation roundtable – policy focused place for multi-modal issues (might become a reauthorization committee). Modal committees renamed to councils – adding freight and active transportation (ped/bike). Create a special committee on communications. Create Project Delivery, Transportation, and Agency Administration coordinating committees. New special committee on data management and analysis. New committee on Infrastructure Resilience. Proposal to combine performance, risk and asset management committees. New committee on knowledge management.

Also looked at procedural changes. Better definition of roles/responsibilities; every committee has a work plan and committee reports; appoint cross-cutting liaisons; encourage virtual operations. Looked at establishing communities of practice. More pro-active in establishing ad-hoc groups. Require chairs/vice chairs be members of the parent committees. Formalize role of associate members. Provide for private sector participation.

Expected Outcomes: More emphasis on other modes – our public expects it.

Asked for input from more than 2500 people. Addressing concerns at this time.

Discussion:

AL: Roles of various proposed committees. Chairs of each committee on roundtable. Jim McDonnell clarified roles of State members on each committee.

AL commented that current structure resembles organization of most State DOTs; the proposed organization does not.

OR: Questioned how things like resolutions and MASH agreements would work under new structure. Braceros – the workflow needs additional study, but there are some precedents, the work on MASH is an example of that. Members will drive the workflow, they will be empowered.

ME: Really likes focus on program and project delivery. One concern is that a chief engineer spends a small amount of time on actual highway issues. Transition between technical and policy. Final voice on engineering decisions. Dissolving SCOH is worrisome.

VA: Some councils seem to have a good fit with USDOT. Carlos – thought is to improve alignment with DOT, currently strong with FHWA but looking to strengthen ties to other modes.

CA: Active transportation is part of everything DOTs do; making it stand alone won’t work; needs to be thought of as integrated in all areas. Braceros – we wanted to be sure we didn’t lose member engagement.
MS: SCOH is important to the State. Discussions of chief engineers has benefits. Concerned that we might lose that. Also, if the roundtable councils all have 52 members how do we meet practically? At the same time? Braceros – we still need to work that out.

LA: Not clear on difference between round table and councils. Think about requirements for having chairs and vice chairs members of parent committee.

ME: Did you look at combining technical committees? Braceros: No, still needs to happen.

WV: Concerned that Chief Engineers are being taken out of the loop. Does not fit WVDOT at all. It would invert their role in the State organization. Likes the streamlining.

GA: Transportation round table represents what chief engineers do. Can you compare and contrast current SCOH to round table? How does AASHTO staff relate to this proposed organization? Braceros: Need to apply a budget to determine how this organization needs to be staffed by AASHTO. Councils would be lead technical people. Round table would address policy.

Center for Environmental Excellence, Don Arkle (AL) provided an update on behalf of Carlos Braceros (UT). The Center exists to help States with environmental challenges. Board is made up of representatives from various committees.

The Center has a website- great success! It provides information on Context Sensitive Solutions, vegetation, species, wetlands, waste management and numerous other topics.

Highlights: Recently released a Construction Stormwater field guide, January 2015 – available on website. Developed one-page handouts on various phases of a project (planning, design, construction, etc.) Held a noise practitioner’s summit – two day summit, white paper produced, and webinar held. Also held a peer exchange on multi-modal project delivery – produced a whitepaper and webinar.

Resilient and Sustainable Transportation Systems (RSTS) Technical Service Program, Leslie Richards (PA) provided an update on activities. The RSTS committee was established in 2008 to develop policy questions related to infrastructure resiliency and greenhouse gas emissions. In 2103 alone, there were nine disasters that equated to over $1B in damage each, totaling over $23B. Need to get ahead of this. Leslie will chair a group of worker-bees to begin addressing these issues. First meeting is later today. Look back at how things have worked in the past and how they can be improved in the future.

Question from ME: Two technical committees on SCOD are working on the same issues. What will be done to coordinate? Response from Richards: RSTS will make sure coordination occurs and will share the group’s objectives and status.

FHWA Activities, Tom Everett provided an update of federal activities, focusing on accomplishments and advancements since the last SCOH meeting. Tom started with an overview of Ladders of Opportunity and reviewed a proposed EDC-4 initiative known as “Community Connections.” He also covered some organization adjustments FHWA has made to further integrate innovation into its core business operations. He covered the new structure of the Office of Innovative Program Delivery and the four centers that are now part of the office: Center for Innovative Finance Support, Center for Accelerating Innovation, Center for Transportation Workforce Development, and the Center for Local-Aid Support.
He then provided an update on various rulemakings and noted that the detailed planned publication dates on significant rules are regularly updated and are available online at http://www.dot.gov/regulations/report-on-significant-rulemakings.

Tom mentioned important dates for the new NTIS regulations: August 13, 2017 – Each State should have a qualified Program Manager in place, and each highway tunnel subject to the NTIS has had an initial inspection; April 1, 2018 – All data to be submitted to National Tunnel Inventory and National Tunnel Inspection Program oversight begins. He stated that the rulemaking to update 23 CFR 625 (design criteria) and a separate notice on FHWA’s policy on the 13 Controlling Criteria were completed.

The current status of several provisions of the FAST Act was summarized and several recently released guidance documents or Q&As were highlighted. Tom also specifically mentioned that FHWA was developing guidance to help States deal with bridge load ratings for the new legal vehicles introduced by FAST Act. He covered other current focus issues including the recent adverse court decision pertaining to Buy America, Performance-Based Practical Design, safety hardware eligibility letters, bicycle and pedestrian transportation, Title VI Compliance, and ADA Section 504.

Discussion following Tom’s presentation:

TN: on Buy America and TVA’s requirements for Buy American, can you establish through rule making something that says Buy American satisfies Buy America or do we need to pursue legislation? FHWA – we understand the frustration, our position is Buy America applies to Federal-aid Highway projects funded under Title 23.

TN: Without clarification, sometimes our projects just stop.

TN: ADA transition plans – does the DOJ put FHWA into the position as the ADA Czar? Will ADA requirements for locals be saddled on State DOTs? FHWA – the State is the recipient of Federal Aid funds.

TN: It is not my role to verify transition plans for locals – will FHWA mandate it? FHWA – we will need to get back to you after discussing with our Office of Civil Rights experts.

ME: We need to discuss ADA in Boston…this is being inconsistently addressed at the FHWA Division Office level.

VT: We passed a resolution that asked FHWA to work with the Department of Labor on bridge rail heights and tie-off – will we be hearing back from FHWA soon? FHWA – AASHTO has the lead on arranging a discussion with the DOL.

OR: ADA training - when is that coming? FHWA – Not able to say at this time. We’re just getting started on development.

DC: The training would be helpful but timing is urgent for something sooner, even if it is email guidance.

PA: I hope you are also looking at criteria – I would like your guidance to cover these issues as well.

VA: We have an ADA plan and are working it – but I am concerned that a new standard will put all that work out of compliance.

FHWA Gloria Shephard: This law has been around since 1973 but DOJ is now holding our feet to the fire; they set the criteria, but there is little flexibility.

PA: DOJ has criteria for vertical construction & horizontal construction; we need horizontal criteria.
TN: I do think it is worth mentioning that we believe in an accessible network, but criteria need to make sense.

VA: Our plan involves reach out with local ADA organizations to be sure we are meeting their needs – this is a component that is missing at the national level.

**Motions/Proposed Resolutions, Chair K. Steudle, MI**

**Technical Service Program Reviews (action to continue programs):** VT made a motion to approve that was seconded by CO. There was no discussion. The motion passed unanimously by voice vote.

**FHWA/AASHTO Proposed Resolution (MOU between AASHTO and FHWA on A.I.I. and EDC):** AZ made a motion to approve that was seconded by NH. There was no discussion. The motion passed unanimously by voice vote.

**Reports**

**20-07 Proposals:** Paul Degges summarized the outcome of the 20-07 panel discussion that took place May 24th. 18 proposals discussed. Typically have about $1.2M; target spending about half in spring meeting. A total of $580k of projects in front of the committee for approval. MS made a motion to approve that was seconded by OH. There was no discussion. The motion passed unanimously by voice vote.

**Special Committee on U.S. Route Numbering (action):** Committee met the evening of May 24th. 28 applications reviewed – 23 approved, 3 conditionally approved, 2 denied. The applications consisted of 18 US routes, 1 Interstate, and 5 bicycle routes. AR made a motion to approve that was seconded by ME. There was no discussion. The motion passed unanimously by voice vote.

**Updates**

**Transportation Association of Canada, Chief Engineers’ Council Update, Mark Van Port Fleet, MI:** Mr. Van Port Fleet noted that Transport Canada released a report stating that one-third of all assets are in poor condition. They need about $9B additional per year to improve. At the last council meeting, the Canadians gave a presentation on a cable stayed bridge problem. The presentation demonstrated the problems associated with closing a major crossing when there’s no reasonable alternative route. At the same meeting, MI presented on the Gordie Howe bridge.

The meeting included discussions on “big data” (are we prepared?; who creates and maintains?) and upgrading their manuals – bringing in the human factors

Canada is considering a Road Safety Professional designation, and a corresponding requirement to have this designation in order to do any safety analysis in Canada.

**Old Business:** None.

**New Business:**

ME: Proposed a resolution on design flexibility – aligned with goal 3 of AASHTO Strategic Plan – positions AASHTO to be a leader in transportation. Committee members received a copy of the resolution for review during the meeting. DC made a motion to approve that was seconded by CA.

**Discussion:**

OR: Propose addition in title, add the word “urban” in two locations
MI: Question about use of urban; what about small towns?

OR: Suggested “urban and small communities”

CA: What about non local?

VA: Could we say “including urban and small communities”

TN: We’re rewriting Green Book now, so let’s give clear guidance to SCOD on clarifying where design flexibilities exist.

ME: Agreed with Paul. SCOD needs direction or else they will proceed with just a simple update.

NE: Mentioned FHWA’s use of speed as a dividing point for controlling criteria; should the policy use speed?

WY: Will the Green Book be delayed until completion of the proposed 20-07 project?

ME: Not sure.

MO: Hesitant to limit to urban design; want flexibility in all design; ok with “including urban and small communities”

WV, NH: agree with MO and CA

ME: Purpose is to give clear direction to SCOD to examine flexibility in Green Book and other documents and enhance Green Book where possible and appropriate.

MI: Not looking for another document. Referred to fact that FHWA adopts the Green Book. Don’t want another standard.

Chairmen reminded members that SCOH will get to see the final work that results from this proposed direction.

OR: withdrew suggestion

Following the discussion, an oral vote was taken and the motion passed unanimously.

**Additional New Business**

VT, LA: More discussion of proposed reorganization. Better understanding needed in order to assess impact on resources.

FL: Where does contracting fit in proposed reorg?

Chairman – anyone interested in chairing TC3, see Jim.

**Vanguard Award Announcement: The Chair requested members** think about candidates at their DOTs and please make nominations. AASHTO will email nomination form shortly.

Motion to Adjourn: DC

Second: TN

No discussion.

Motion passed unanimously by voice vote at 11:45am.
## Summary of SCOH Ballots 2016 (information)

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<td>Oklahoma DOT Route Numbering Applications</td>
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<td>SCOH-15-04</td>
<td>Construction and Maintenance Flipbooks (Stormwater Field Guides)</td>
<td>43 Affirmative, 1 Negative</td>
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<td>SCOH-16-09</td>
<td>AASHTO LRFD Tunnel Design and Construction Specifications, 1st Edition</td>
<td>Ballot closed due to incorrect document</td>
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Chair: Gregg C. Fredrick, Wyoming
Vice Chair: Bruce Johnson, Oregon
Secretary: Joseph L. Hartmann, FHWA
Liaison: Patricia Bush, AASHTO

Meetings
Mid-Year Meetings
- 11 technical committees held mid-year meetings to consider research and develop the necessary specification language.
- Multiple technical committees interacted via conference calls

Annual Meeting
- 2016 Annual Meeting was held in Minneapolis, MN on June 27-30, 2016.
- 47 states and over 460 registered attendees participated
- 20 technical committees conducted business over the first two days.
- 68 technical agenda items were balloted, passed, and will be incorporated into the specifications for the design, construction, evaluation, or maintenance of highway structures (a record high)
- The executive committee met to discuss budget, strategic direction and focus for the coming year.

Summary of Activities and Accomplishments Supporting the Strategic Objectives
Extend Bridge Service Life
- Continued work on NCHRP 12-100 “Guidelines for Maintaining Small Movement Bridge Expansion Joints”
- Monitored NHCRP 12-90 “Guidelines for Shielding Bridge Piers”
- Completed draft report on span lock research
- Continued work on adoption of changes to LRFD Bridge Design Specifications proposed as part of SHRP2 R19B Service Limit State Design for Bridges
- Continued work on NCHRP studies into weld acceptance criteria and acceptable limits for HAZ toughness
- Kicked off NCHRP 12-107 “Proposed AASHTO Guidelines for Use of Stainless Steel Bridge Girders”
- Supported SHRP2 R19A “Service Life Design for Bridges” and TSP2 regional bridge preservation workshops

Assess Bridge Condition
- Continued studies into timber bridge performance monitoring, load rating, field evaluation, and analytical techniques
- Continued work on NCHRP study to develop field testing and acceptance criteria for welds on existing structures
- Continued work on NCHRP 12-104 “Evaluation of Element Level Inspection Quality”
- Continued work on NCHRP 20-07 project on assessing risk for bridge management

Maintain and Enhance a Knowledgeable Workforce
- Held a series of 5 webinars to train state DOT bridge staff on new publication LRFD Standard Specifications for Highway Signs, Luminaires, and Traffic Signals
- Held webinar to present revised Section 5 of LRFD Bridge Design Specifications to state DOT bridge staff
- Partnered with FHWA to develop NHI training on Engineering for Structural Stability in Bridge Construction
- Developing showcase for Bridge Welding Code D1.5 in conjunction with NSBA and AWS

Maintain and Enhance the AASHTO Specifications
- Coordinated provisions for bridge expansion devices and bearings across multiple AASHTO and ASTM specifications
- Kicked off NCHRP 20-07 project to update the AASHTO national seismic hazard maps
- Completed update of 2 AASHTO Temporary Works publications
• Monitoring NCHRP 12-92 “Proposed LRFD Bridge Design Specifications for Light Rail Transit Loads”
• Completed wind load provisions for structures in construction as stand-alone document
• Completed new edition of *Inspection, Evaluation & Maintenance Manual for Movable Bridges*
• Kicked off NCHRP 12-112 project to update *LRFD Movable Bridge Design Specifications*
• Completed multi-year rewrite of Section 5 of *LRFD Bridge Design Specifications*
• Continued work on NCHRP 14-26 “Culvert and Storm Drain System Inspection Manual”

**Accelerate Bridge Delivery and Construction**

• Continued work on NCHRP 12-102 “AASHTO Guide Specification for ABC Design and Construction”
• Continued work on NCHRP 12-98 “Recommended Guidelines for PBES Tolerances and Dynamic Effects”
• Began developing provisions for increased shear stud spacing to promote precast deck panels with steel girders

**Optimize Structural Systems**

• Kicked off NCHRP 12-106 “Proposed Guidelines for Performance-Based Seismic Bridge Design”
• Completed NCHRP 20-07 “Guidelines for Design and Construction of Temporary Bridges”
• Continued work on NCHRP 12-111 “Evaluating the Effectiveness of Vibration-Mitigation Devices for Structure Supports of Signs, Luminaires, and Traffic Signals”
• Provided guidance on use of steel I-girders

**Model and Manage Information Intelligently**

• Ongoing coordination with AASHTOWare Bridge Management and Rating software
• Successfully transitioned to paperless ballot distribution through AASHTO Meetings App for annual meeting

**Contribute to National Policy**

• Finalizing study on smoke control in tunnels
• Participated in GAO reviews of the National Performance Measures for Bridges and FHWA Bridge Management Policy.

**Publications**

**New Editions**

• *LRFD Bridge Design Specifications, 8th Edition*
• *LRFD Tunnel and Construction Specifications, 1st Edition*
• *Movable Bridge Manual for Inspection, Evaluation, and Maintenance, 2nd Edition*
• *LRFD Bridge Construction Specifications, 4th Edition*
• *Guide Specifications for Wind Loads on Bridges During Construction, 1st Edition*
• *Guide Design Specifications for Bridge Temporary Works, 2nd Edition*
• *Construction Handbook for Bridge Temporary Works, 2nd Edition*
• *G2.2 Guidelines for Resolution of Steel Bridge Fabrication Errors, 1st Edition* (with NSBA)
• *G12.1 Guidelines for Constructability, 3rd Edition* (with NSBA)
• *S2.1 Steel Bridge Fabrication Guide Specification, 3rd Edition* (with NSBA)

**Interim Editions**


**Next Subcommittee Meeting**

• 2017 SCOBS Annual Meeting will be held in Spokane, Washington on June 12-15, 2017.
Committee Officers:

Chair: Malcolm Dougherty, Caltrans
Vice Chair: David Hoyne, VAOT
Secretary: Rob Elliott, FHWA
AASHTO Liaison: Evan Rothblatt, AASHTO

General

1. The annual meeting was held in Big Sky, Montana August 14 – August 18, 2014. Forty-three (43) State DOTs, DC and one Canadian Province (ON) were represented at the meeting, as well as representatives from AASHTO, FHWA, AGC, ARTBA, ACPA, NICET, Academia, and the consulting and contracting industry.

2. Topics included a keynote presentation on Transportation and Sustainability in Yellowstone National Park: A 144 Year Journey. The agenda included presentations on termination for default contract provisions, the New Mexico performance based contractor prequalification and procurement, ID/IQ job order contracting, a panel discussion on dispute review boards, accelerated bridge construction, ADA requirements for resurfacing projects and a panel discussion on e-Construction initiatives. This meeting continued with its strong emphasis on safety in the work zones with an update of the work zone intrusion system “AWARE”. Another area of interest, employee training and development, received considerable attention.

3. The SOC continues to participate in expert task groups, national task force, FHWA, AASHTO, industry and other joint committees.

4. The SOC received approval for the 20-7 proposal to update the AASHTO Guide Specification for Highway Construction. The goal is to complete the update by July of 2017.

5. Each of the technical sections reported on their accomplishments of the past year and developed work plans for the coming year.

Contract Administration Section

Accomplishments

1. Conducted a survey titled: “Incentive/Disincentive clauses for purposes other than timely Contract Completion”. The survey provides a summary of the use of incentive & disincentive provisions for various construction requirements including environmental, safety, maintenance of traffic, materials and the quality of construction.

2. Conducted an update of the 2008 AASHTO SOC’s “Survey on the Commodity Price Adjustment Clauses for Inflation”.

3. Conducted a survey titled “Contract Bonds and Warranty Bond Requirements”. The survey addressed questions such as the minimum thresholds, criteria for use, amounts, and deductions tied to the contractors’ bonding/bidding capacity.

4. Conducted a survey titled “Project Scheduling Survey”. The survey addressed scheduling practices, expertise, training, and procedures.

Integrated Construction Technology Section

Accomplishments

1. A survey was distributed to the SOC; 3D engineered models as a way to enhance the state transportation agencies and contractors’ ability to deliver projects better, faster and at less cost. The survey helped ascertain the current deployment status of 3D engineered models.

2. The use of UAS/UAVs and the status of their regulations along with some benefits were presented at the 2016 SOC annual meeting. The SOC supports a domestic scan proposal to further this technology.

3. Shared the Utah DOT experience with using Camera Augmented Inspection to supplement firsthand inspection and make use of technology to improve the efficiency of their workforce.

Roadway & Structure Section

Accomplishments

1. Conducted a survey of state practices regarding travel on milled surfaces.

2. Conducted a survey of state practices for risk based inspection. Based on interest in the Section, a follow up effort will be part of the 2016-2017 work plan.

3. Provided a review of NCHRP Synthesis 482 Work Zone Speed Management to the Section.

4. Developed a work plan item to update the 2003 Guide to Major Types of Transportation Construction Specifications Task Force.
Safety, Environment and Workforce Development Section

Accomplishments
1. Supporting the NCHRP Domestic Scan on inspector training and certification. Several members of the section met in Washington in February to organize the scan. The same group will spend a week in California in October interviewing states on best practices for construction inspection and certification.
2. Continued to focus on Work Zone Safety with presentations and demonstrations. Several of the Section members have piloted the use of the AWARE system in their state.
3. Continue to support the TC3 center by having a couple of members serve on the board; Mark Chaput (Michigan) and Darby Clayton (West Virginia).

Research Steering Committee

Accomplishments
1. Preparing to submit a 20-07 proposal on project insurance requirements; what are the risks to the projects, how do agencies make decisions on insurance requirements and how to understand and analyze insurance policies.
2. Preparing to submit an NCHRP proposal for developing a data streamlining and standardization framework including the use of electronic documents.
4. Preparing to submit an NCHRP proposal for the use of 2D and 3D file types.
5. Preparing to submit a 20-07 Synthesis on work zone law enforcement practices.
Committee Officers

Chair: Carlos Braceras, Utah
Vice-Chair: Joyce Taylor, Maine
Secretary: Robert Mooney, FHWA (acting)
Liaison: Patricia Bush, AASHTO

Activities

- SCOH resolution on Flexibility in Design
  - Held members-only work session in Baltimore to discuss the resolution and implementation strategies
  - TC on Geometric Design discussed plans to address flexibility in appropriate chapters of the next working draft of the AASHTO Policy on Geometric Design of Highways and Streets, 7th Edition (Green Book)
  - TC on Geometric Design provided scope guidance for the $200,000 in NCHPR funding
  - Kicked off NCHRP 20-07(398) "Flexibility in Design Guidance in Preparation for AASHTO Policy on Geometric Design of Highways and Streets (Green Book)"
  - Kicked off NCHRP 20-24(114) “Supplement to NCHRP 20-07 Project on ‘Flexible’ or ‘Urban’ Design”
- Resolutions approved
  - Policy Resolution to Establish a Technical Service Program for Design Production of Technical Publications
  - Policy Resolution Regarding the Role of FHWA in MASH Implementation and Crash Test Reviews
- Organizational changes
  - Completed creation of TC on Project Management by merging TC on Value Engineering and TC on Preconstruction Engineering Management
  - Completed creation of TC on Research
  - Began creation of TC on Alternative Project Delivery Methods and TC on Electronic Engineering Data

TC on Roadway Lighting

- Completed work on AASHTO Roadway Lighting Design Guide, 2nd Edition; sent to SCOD and SCOTE for review and balloting
- Developing NCHRP proposal on LED roadway lighting

TC on Roadside Safety

- Completed MASH 2016, successfully balloted by SCOD and SCOH
- Kicked off NCHRP 20-07 project to reorganized Roadside Design Guide
- Participated in or monitored dozens of NCHRP studies

TC on Research

- Established new technical committee to review research proposed by SCOD technical committees
- Conducted first ranking of full NCHRP proposals

TC on Project Management

- Completed merger of TC on Preconstruction Engineering Management and TC on Value Engineering
- Developed vision, mission, and goals

JTC on Pavements

- Implemented bonded concrete overlay on asphalt model in Pavement ME-Design
- Continued work on modeling

TC on Non-Motorized Transportation

- Completed work on AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities, 2nd Edition; send to SCOD and SCOTE for review and ballot
- Kicked off NCHRP 15-60 “Proposed Update of the AASHTO Guide for the Development of Bicycle Facilities”

TC on Hydrology & Hydraulics
• Kicked off NCHRP 15-61 “Applying Climate Change Information to Hydrologic and Hydraulic Design of Transportation Infrastructure”
• Continued work on NCHRP 15-55 “Guidance to Predict and Mitigate Dynamic Hydroplaning on Roadways”
• Completed NCHRP 24-20 “Design Hydrology for Stream Restoration and Channel Stability at Stream Crossings
• Continued work on NCHRP 20-07 project to develop a strategic plan for research

TC on Geometric Design
• Completed AASHTO Policy on Design Standards – Interstate System, 6th Edition; Successfully balloted by SCOD and SCOH and published
• Completed work on Guidelines for Geometric Design of Low-Volume Roads; sent to SCOD for review and ballot
• Developed work plan for AASHTO Policy on Geometric Design of Highways and Streets, 7th Edition (Green Book); completed first working draft and began work on second working draft
• Activities in response to SCOH Resolution on Flexibility in Design
  o See Subcommittee on Design Activities

TC on Cost Estimating
• Launched “Ask the TCCE” resource on AASHTO website to answer questions within 10 working days
• Participated in responding to FHWA on the OIG audit on national cost estimating practices and procedures

Meetings

Annual Meeting
• 2016 Annual Meeting was held in Baltimore, MD on June 20-23, 2016
• 46 states and 180 registered attendees participated
• The executive committee met to discuss strategic direction and focus for the coming year.
• A special members-only work session on the SCOH resolution on Flexibility in Design was well attended.

Technical Committee Meetings
• 4 technical committees met concurrently with SCOD in Baltimore – Environmental Design, Non-Motorized Transportation, Project Management, and Roadside Safety
• 4 other technical committees met separately during the year – Cost Estimating, Geometric Design, Hydrology & Hydraulics, and Pavements

The 2017 Annual Meeting will be held jointly with SCOE in Des Moines, Iowa on July 17-20, 2017.
Committee Officers:
Chair: Vacant
Vice-Chair: Jeff Honefanger, Ohio
Secretary: Vacant
Liaison: Katelyn Dwyer, AASHTO

Activities from September 2015 to November 2016:

Completion of Phase II Harmonization
The Subcommittee on Highway Transport and the Standing Committee on Highways approved, by a supermajority ballot, technical recommendations for the Oversize/Overweight Permit Harmonization—Phase II. These recommendations were developed with close input from Industry Advisory Group (IAG) who remains a critical partner to SCOHT on the Harmonization initiative. Phase I and II technical recommendations, as well as all research products, are available online at: http://highwaytransport.transportation.org/Pages/Harmonization.aspx.

AASHTO Guide to Weights and Dimensions Update
The technical recommendations, from Phase II Harmonization, have been incorporated into an updated version of the AASHTO Guide to Weight and Dimensions (Guide for Maximum Dimensions and Weights for Motor Vehicles). The last update to this guide was in 2008. The Guide is now available online at: https://bookstore.transportation.org/item_details.aspx?ID=2671

SCOHT Annual Meeting: Denver Colorado
The Subcommittee on Highway Transport met in Denver in August of this year as part of a joint meeting with STSMO and RTSMO. The meeting was hosted and organized by Colorado DOT. The meeting had strong participation from the member states, the trucking industry, commercial vehicle service providers, and consultants and researchers.

US DOT and the Federal Highway Administration (FHWA) provided briefings on the FAST Act freight provisions and the National Response Program. The agenda also included: truck parking coalition update, harmonization efforts: discussion of phase II and phase III, escort certification, oversize/overweight parking resources and border crossings, and electronic permitting.

The Subcommittee continues to seek balance between its dual mandates of highway freight policy and planning, and highway freight operations.

Work Items
Highway Freight Movement
The implementation of FAST Act (P.L. 114-94) in particular the truck size and weight provision and more generally the freight provisions, will be a high priority. Further:

• Continue to assess emerging technologies that facilitate highway freight movement efficiency and safety
• Implementation of Jason’s Law (Truck Parking)
• Assess ongoing legislative proposals in states and the Federal government related to truck size and weight
• Work with the AASHTO Standing Committee on Rail (SCORT) to improve practices for the prevention of rail-truck crashes, as well as other AASHTO freight modal committees

Permitting
Implement Board Resolution PR3-12, Actions to Reduce Impediments to Interstate Commerce: Harmonizing Requirements for Truck Permits – implementing Phase II, will be the highest priority for SCOHT in this program year. Additionally:

• Report to SCOH and BOD 2016 Annual Meeting.
• Develop best practices guide for high, wide, and heavy corridors.
• Develop guidance on coordinating permitting processes with local governments
• Monitor and provide guidance on Pilot Car Certification.
Emergency Response
SCOHT made significant revisions to the Procedures for Coordinating Oversize/Overweight Truck Movements for Emergency Response and Relief to identify the respective AASHTO and USDOT procedures.

- Continue to implement Procedures for Coordinating Oversize/Overweight Truck Movements for Emergency Response and Relief
- Monitor highway operations issues related to emergency management, including events that impact freight modal shifts

Future meetings:
SCOHT will be meeting with SCOTSEM in Houston/Galveston in Summer/Fall of 2017.
HIGHWAYS SUBCOMMITTEE ON MAINTENANCE (SCOM)

Committee Officers
Chair: Mark McConnell, MS DOT
Vice Chair: Steve Lund, MN DOT
Vice Chair: Russ Yurek, MD DOT
Research Coordinator: Jon Wilcoxson, KYTC
Secretary: Bryan Cawley, FHWA
AASHTO Liaison: Jameelah Hayes, AASHTO

SUBCOMMITTEE ORGANIZATION: The Subcommittee on Maintenance is organized into five Technical Work Groups (TWGs). The five TWGs are as follows: Bridge, Pavement, Equipment, Roadway/Roadside, and Maintenance Operations

KEY STRATEGIC FOCUS AREA WORK PLAN ACCOMPLISHMENT UPDATES

SAFETY (Goal: A safe, reliable highway system in a state of good repair.)
- Webinar on “Safety Benefits of Friction – Current Pavement Treatments for Preservation/Safety”
- Promote awareness of new equipment technologies for operations, workforce & work zone safety
- Webinar on Alternate Traffic Control Methods on Rural Roads – Less exposure of personnel
- Promoted training of Traffic Incident Management Responders from SHRP2

ASSET MANAGEMENT (Goal: Accountability and transparency through performance management.)
- Monitored FHWA Rule Making for bridge/pavement condition and for asset management systems
- Webinar on “Current Practices in Conducting Field Inspections for MQA, NCHRP Synthesis 470
- Developed and posted State DOT’s available equipment metrics to the EMTSP website
- Webinar on NCHRP 20-07, Task 357 Best Practices on Roadway Asset Inventory Data
- Promoted implementation of performance measures accountability and transparency

ENVIRONMENTAL (Goal: Environmental stewardship and ensure compliance.)
- Promoted “Synthesis for Bridge Maintenance / Preservation Practices to Minimize Env. Impact”
- Webinar on “INVEST 1.2 – Self-Evaluation Tool Supporting Roadway Sustainability”
- Promoted EMTSP website changes and research to support environmental regulatory changes
- SCOM presentation on Establishing and Preserving Pollinators Habitat Along Highways
- Promoted the Salt Best Management Practices

WORKFORCE DEVELOPMENT (Goal: A well-qualified and competent workforce.)
- Updated the BTWG Strategic Plan, posted to the AASHTO SCOM website
- Promoted the development of Contractor / Agency PP Treatments Certificate Programs
- Developed EMTSP web-based training for State Equipment Fleet Management Operations
- Support of the NHI Maintenance Leadership Academy
- Presented preliminary report – synthesis project relating to maintenance training and certification

COMMUNICATION (Goal: The communication of the value and role of maintenance.)
- Encouraged regional bridge preservation partnerships to submit proposed research needs
- Provided webinars in three focus areas
- Host EMTSP regional partnership fleet management meetings through many forums and medias
- Continued outreach by holding webinars
- Worked with SICOP including establishing relations with AASHTO STSMO

RESEARCH (Goal: Research, innovation and technology.)
- Submitted “Synthesis for Bridge Maintenance / Preservation Practices to Minimize Env. Impact”
- Assisted implementation of SHRP-2 products useful to pavement preservation and maintenance
- Conducted webinar on recently completed research
- Developed NCHRP research statement related to impact of winter maintenance LOS on economy

ANNUAL MEETING REPORT
The 2016 Subcommittee on Maintenance meeting was held in Clark County, Nevada on July 16-21. Twenty-nine states were represented during the closing business session. Technology information wash shared, research project statements developed, and a Resolution developed in support of FHWA update of the NHI Maintenance Leadership Academy.
The next annual Subcommittee on Maintenance meeting will be held in Providence, Rhode Island in July, 2017.
Committee Officers:
Chair: Moe Jamshidi, NE
Vice Chair: Curt Turgeon, MN
Secretary: Jack Springer, FHWA
AASHTO Liaison: Evan Rothblatt

Summary of Activities and Accomplishments from October 2015 to September 2016:

Annual Meeting: The SOM held its 102nd Annual Meeting in Greenville, SC, on July 31 to August 4, 2016, with participation of representatives from 45 states, FHWA, NCHRP, academia, and industry. 18 of the 19 Technical Sections; the Executive Committee and the AMRL Administrative Task Group (ATG) all met during the period. The one technical section that did not meet is a new technical section on Pavement Preservation for flexible and rigid pavements.

There were a number of items discussed during the Executive Committee (EC) meeting. The major topic of discussion was about transition planning when it comes to SOM leadership. Currently the technical section vice-chair position can be filled by a FHWA employee but this can lead to problems when a chair resigns. A decision was made to remove FHWA from the vice-chair position and to create a new position on each technical section called secretary/liaison that will be filled by an FHWA employee.

Another discussion was about the AASHTO Materials Standards (DAMS) technical service program. 33 states currently contributing to the DAMS, which is vital to the operation of the SOM. It allows the SOM to hire consultants to assist with technical writing, revisions, and balloting of standards, thereby alleviating some of the time requirements for technical section chairs, making participation more manageable. The process for scholarships seems to be working well but the question is how do we get more states to participate? A questionnaire was going to be developed and sent out asking questions about contributions to the DAMS. There was discussion of a tiered funding level.

2015 SOM Achievement Awards were presented to James Williams (MS) and Colin Franco (RI) and the SOM Innovation Award was presenting for the Design and Construction Control Guidance for Chemically Stabilized Base Layers Using the PM Device to MDOT Research Divisions and Materials Divisions; Dr. Isaac Howard, PhD, PE, Mississippi State University; William Sullivan, Mississippi Department of Transportation; and Brennan Anderson, Graduate Student, Mississippi State University

Publications: The 36th Edition of the AASHTO Standard Specifications for Transportation Materials and Methods of Sampling and Testing, which includes all of the SOM's specifications for materials, methods of testing, and specifications for testing equipment (including provisional standards) , was published and released electronically at 3 times during the year..

The AMRL's laboratory inspection and proficiency sample programs continue to grow, as does the AASHTO Accreditation Program (AAP). As of July 2016 over 1862 labs held AASHTO accreditation, which is a 2% increase over the past year. The Proficiency Sample Program, now in its 50th year, had 10,326 enrollments in the program.

Names of Other Committees Involved or with an Interest in Each Activity: Joint Technical Committee on Pavements (JTCoP), Subcommittee on Design, Subcommittee on Construction; Subcommittee on Maintenance, National Transportation Product Evaluation Program (NTPEP), AASHTO Product Evaluation Listing (APEL), Transportation Curriculum Coordination Council (TC3), AASHTO Innovation Initiative (A.I.I.)

Dates and Locations of Future Committee Meetings: The 103rd annual meeting of the SOM will be held July 30 to August 3, 2016, in Phoenix, Arizona.
Committee Officers

Chair: Randy Park, Utah
Co-Chair Matt Delong, Michigan
Vice Chair, Right of Way: Vacant
Vice Chair, Utilities: Nelson Smith, Maryland
Vice Chair, Outdoor Advertising Control: Jim Spalla, Florida
Secretary - FHWA Right of Way Liaison: Virgil Pridemore, FHWA
FHWA Utility Liaison: Ken Leuderalbert, FHWA
AASHTO Liaison: Evan Rothblatt, AASHTO

Conferences and Meetings

The Executive Board of the Subcommittee, along with representatives from the National Association of Highway Beautification Agencies (NAHBA) met in Orlando Florida from January 6-9, 2016, for the annual Subcommittee Executive Board Meeting and Conference Planning session.

The 2016 Annual Conference of the Subcommittee was held in Orlando Florida from April 25-30, 2016. The conference was once again co-located with the Annual Conference for NAHBA. The proceedings of the conference are posted on the Subcommittee website.

Activities for 2015-2016

- Continued to provide strategic communication and information exchange through the Subcommittee website, located at http://rightofway.transportation.org/, and the online “Clearinghouse” resource for query, compilation, and distribution of results from topic-specific surveys submitted by the member states.

- Continued the integrate Outdoor Advertising Control into the Subcommittee operating structure. During this reporting year, the Technical Council shifted from being comprised of the National Alliance of Highway Beautification Agencies’ (NAHBA) Board to being composed of individuals familiar with the outdoor advertising regulatory program whose focus is to address policy issues of national significance. The Council has identified 15 priority issues it is focusing on.

- Continued efforts to fully utilize the capabilities of our Technical Councils to address the more everyday issues and concerns of the members related to the responsibilities of the subcommittee and to incorporate development and refinement of research ideas within the technical council activities.

- Continued active participation in the SHRP2 including implementation efforts on R15B and beginning the implementation process for R01B (Finding Underground Utilities with Technology) and R01C (Innovations in Location of Deep Utilities).

- Continued working on bringing active members to the Subcommittee and to the Executive Board. Three new members and a new vice chair are now serving on the board.

Research Activities:

- The Subcommittee remains very active in national research through partnerships with FHWA and AASHTO. Examples of current programs include working with the SHRP2 on the implementation of R01B: Finding Underground Utilities with Technology and R01C: Innovations in Location of Deep Utilities. NCHRP 20-05/Topic 47-14: Effective Utility Investigations to Optimize Safety and Savings is kicking off in September. The Utility Technical Councils continue to propose and peruse the following topics for 20-7 research: Utility Coordination Best Practices for Design-Build and Alternative Contracting Projects; Dig Law Revisions and an Assessment of Potential Impacts to State Transportation Departments; Evaluation of the Management and Implementation of Utility Impact Analysis (UIA), Utility Conflict Matrix (UCM), and Subsurface Utility Engineering (SUE) affecting utility-related Risk on projects by State Departments of Transportation; Horizontal directional drilling within highway...
rights of way; Handling utility facilities that are taken out of service (formerly known as abandonment); Encasement requirements and allowances for water mains and pressurized sanitary sewer mains. The Subcommittee has volunteers actively participating in these and many other studies and pilots

- NAHBA was not successful in securing research funds from the National Cooperative Highway Research Program (NCHRP) and has worked during this reporting period with the OAC Technical Council in drafting a research project under the NCHRP 20-7 funding guidelines. This project will identify and collect data and facts to establish standards and practices adopted by the Federal/State Agreement in each state and to analyze that data and effective control measures utilized by the states in order to establish a consistent federal standard for effective control of the federally mandated outdoor advertising control program nationwide.

**Awards**

The following award recipients were honored at the joint AASHTO/NAHBA awards luncheon during the co-located 2016 annual conference in Orlando Florida.

**2016 NAHBA Awards of Excellence**

NAHBA Awards of Excellence is an annual awards program developed by NAHBA to honor programs that excel in the outdoor advertising control program.

**Award Recipients:**

- **Chairmen’s Award**: Brooks Glasnapp, Iowa DOT
- **Streamlining and Integration Award**: Texas DOT
- **Innovations Award**: Pennsylvania DOT

Additional Information on the NAHBA awards is available at [http://nahba.org](http://nahba.org).

**Technical Councils**

- The Outdoor Advertising Technical Council is comprised of individuals with outdoor advertising regulatory background whose focus is to address needed policy concerns of the Outdoor Advertising Control program. The Council has identified 15 issues of national significance and is currently focusing on two (2): An NCHRP 20-7 research project to collect needed data to analyze federal laws and regulations to determine what effective control means and a pilot project concept addressing the movement of nonconforming signs for transportation projects. The Technical Council works closely with the Board of Directors of NAHBA. NAHBA is very effective in the dissemination of information and discussions with the states about regulatory problems and forwards to the Technical Council the policy concerns raised by its membership.

- The Utility Technical councils continue to be the focus of communication and issue development within each of the Subcommittee’s disciplines. The Utility Technical Councils were reorganized last year to reflect current practices and issues: Utility Mapping, GIS & SUE; Utility Project Scoping and Coordination; and Utility Accommodation and Scoping. The Utility Technical Councils have been very active with holding quarterly conference calls, discussing emerging issues suggesting and submitting research topics. There are several potential proposals which will be further discussed in research activities.

- The Right of Way Technical Council is comprised of four focus councils: 1) Appraisal and Appraisal Review; 2) Acquisition, Program Management AND LPA’s; 3) Property Management; and, 4) Relocation. The Chair, Co-Chair and FHWA Representative to hold quarterly teleconferences with members from state DOT’s, local governmental agencies and consultants. Discussions on hot topics, areas of interest and ideas for conference presentations and webinars are encouraged. New technologies and innovations are a concentrated effort for working smarter and quicker due to the demands for a leaner government as we all focus on transportation funding and doing more with less.

**Next Meetings:**

- **Planning Meeting** - January 10-12, 2017 Indianapolis
- **Annual Meeting** - April 30-May 4, 2017 Indianapolis
Committee Officers

Chair       Shailen Bhatt, CO DOT
Vice Chair  John Nisbet, WA DOT
Secretary   Bob Arnold, FHWA
Liaison     Gummada Murthy and Patrick Zelinski, AASHTO

Summary of Activities and Accomplishments to Date

The 2016 STSMO Annual Meeting was held jointly with the AASHTO Subcommittee on Highway Transport (SCOHT) and the TRB Regional Transportation Systems Management and Operations (RTSMO) Committee on August 1-5 in Denver, Colorado. 182 people attended. There was representation from 29 state DOTs, as well as USDOT, universities, local transportation agencies, other associations, consulting firms, government laboratories, and the private sector. The meeting had a packed agenda with sessions that included topics, such as connected and autonomous vehicles, cybersecurity, workforce development, unmanned aerial systems, MAP-21 performance measures, NCHRP research, and secondary crash reporting and analysis.

STSMO has five technical working groups (TWGs): 1) Systems Operations Strategies, 2) Performance Measures, 3) TSM&O Research, 4) Traffic Incident Management, and 5) Connected and Automated Vehicles. Their Activities are as follows:

Technical Work Group 1: Systems Operation Strategies:
- Initiated a NCRP 20-7 Project "Framework to Assess ITS Legacy Systems With Respect to Connected Vehicles."
- Supported the NOCoE’s Workforce Development Summit by integrating workforce development focused questions into the 2016 Survey.
- Conducted 1 Webinar in the 3 part webinar series on Workforce Development in partnership with the NOCoE.
- Conducted a Hard Shoulder Running Webinar in partnership with NOCoE on July 14, 2016. This Webinar presented the recently published FHWA Primer on Hard Shoulder Running, along with 2 peer state presentations.
- Developed and supported the NCHRP 20-7 Project for the initial scoping and planning for a TSM&O standards guidebook for highway infrastructure.

Technical Work Group 2: Systems Operation Performance Measures:
- Advanced agency capacity building by hosting 3 virtual peer exchange webinars in cooperation with the NOCoE.
- Organized and completed complex review and response to the PM3 NPRM.

Technical Work Group 3: Transportation Systems Management and Operation Research:
- Has working relationship with RTSMO and TRB TSMO Committees
- Submitted two NCHRP 20-7 Problem Statements:
  - Workforce Development-Best Practices in Recruitment, Retention, Cross Training and Succession Planning
  - Transportation System Management & Operations Workforce Development-Position Descriptions and KSA’s
- Submitted one 20-24 Problem Statement:
  - TSMO Workforce Development
- Submitted two NCHRP Problem Statements:
  - Benefits and Best Practices in Implementing Decision Support Systems for Real-time Transportation Management
  - Business Intelligence for Transportation System Management and Operations and Agency Decision Making
Technical Work Group 4: Traffic Incident Management:

- Worked on developing guidelines and best practices for states to establish Secondary Crash reporting requirements, including standard definitions.
- Worked on analyzing and developing a tool to predict the probability of a secondary crash during the incident timeline.
- Developing guidelines and best practices to implement towing and recovery programs within State DOT’s.
- Continued to support SHRP 2 Training and partner with FHWA to conduct webinars to educate State DOT’s about benefits of TIM Training.
- Continued to support AASHTO ELG in TIM initiatives.

Technical Work Group 5: Connected and Automated Vehicles

- Support completion of Near-term V2I Transition project
- Support the V2I Deployment Coalition
- Develop a list of projects of interest and evaluate mechanisms for executing these projects
  - V2I Application Survey
  - SPaT Deployment Challenge
- Explore ways to improve collaboration with OEMs
- Webinars to disseminate CV/AV experience and tools
- Provide a forum for state DOTs and other AASHTO member agencies to collaborate and share information
- Developed the one resolution STSMO is submitting to SCOH: the AASHTO Signal Phasing and Timing (SPaT) Challenge, which is an AASHTO nationwide challenge to deploy Dedicated Short Range Communications (DSRC) infrastructure with SPaT broadcast in at least one corridor (approximately 20 signalized intersections) in each of the 50 states by January 2020.

Annual Meeting

The 2017 Subcommittee on Transportations System Operations and Management Meeting will be held in May in South Dakota.
Committee Officers:
Chair: Mike Holder, North Carolina
Vice Chair: Mark Wilson, Florida
Secretary: Mark Kehrli, FHWA
AASHTO Liaison: Jameelah Hayes, AASHTO

General
The annual meeting was held in Savannah, Georgia June 5 – June 8, 2016. There were 34 states represented and 16 outside organizations. A collaborative panel discussion was held on VZF research, status and opportunities. The current draft of the strategic plan was discussed and next steps outlined. There was extensive discussion and a resolution passed on clearview font. There was support and approval for the Signal Phasing & Timing (SPaT) challenge to be presented to the SCOH annual meeting in November 2016.

Subcommittee Organization

Summary of Activities and Accomplishments to date
- Assist with participation and/or support for on-going NCHRP research panels:
  - NCHRP 03-111: Effectiveness of Work Zone Transportation Management Plan (TMP) Strategies (completion end of December 2016)
  - Work Zone Crash Characteristics and Countermeasure Guidance (completion end of December 2016)
- Members of the team continued to support FHWA’s Every Day Counts 3 initiative for Smarter Work Zones through participation on national webinars, workshops and the development of case studies to advance this effort.
- Team reviewed the output of SHRP2 research regarding the need to reduce worker injuries caused by worker fatigue or by distractions with use of electronic devices within active construction and maintenance projects.
- Part I Guidelines for the Selection of Supplemental Guide Signs for Traffic Generators Adjacent to Freeways of the Guide Signing Booklet to AASHTO was successfully balloted.
- Part III List of Control Cities for Use in Guide Signs on Interstate Highways was successfully balloted.
- Placement of Interstate Control Cities list on SCOTE website.
- Drafted resolution for consideration by SCOTE regarding the January 25, 2016 Federal Register notice terminating Interim, Use of Clearview Font on Positive Contrast Legends on Guide Signs (IA-5). The resolution passed unanimously.
- In coordination with the JTC on Roadway Lighting, the draft of the next edition of the AASHTO Roadway Lighting Design Guide has been approved by the JTC. It will be balloted by SCOTE and SCOD in Fall 2016, with the goal of publication in 2017.

Research – submitted to NCHRP
- Team is considering new research topics regarding positive protection policies and practices in the work zone, and on use of use of temporary portable rumble strips and other innovative devices to combat driver distraction in the work zone.

Upcoming and Continuing Activities
- Team will work with FHWA to determine the need for a statewide survey or full research proposal regarding pedestrian accessibility in the work zone to identify challenges and best practices.
- Seek opportunities to participate in V2I research regarding the use of work zone ITS technologies and improving communication to motorists during active construction.
- Publication of Control Cities for Use in Guide Signs on Interstate Highways.
- Work in coordination with STSMO to approve a resolution for the Signal Phasing & Timing Challenge, which would encourage every state to implement connected vehicle technology that will broadcast SPaT information in at least 20 traffic signals by 2020.
**Annual Meetings**

- 2017 - SCOTE June 2017, Pittsburg, PA
- 2018 – SCOTE June 2018, Denver, Colorado
AASHTO INNOVATION INITIATIVE (A.I.I.)

Committee Officers:
Chair Rich Tetreault, Vermont  
Vice Chair Mark Van Port Fleet, Michigan  
Secretary Tom Harman, FHWA  
Liaison Keith Platte, AASHTO

Spring Meeting

The spring A.I.I (AASHTO Innovation Initiative) meeting of the Executive Committee convened on May 25 in Des Moines Iowa. This meeting focused on the future of the program. A consultant provided a complete overview of the program, both financially and administratively, of the AII program. It was decided to continue the program but at a lower operating cost. It was also decided to partner with FHWA on EDC program. With that said, here are accomplishments for 2016.

Accomplishments for 2016

1. e-Construction (nominated by Michigan)
   - This technology defines the paperless construction site currently in use by MDOT. Several additional states including Florida, Minnesota, Iowa and Texas agreed to work with Michigan on the Lead States Team to collaborate with the EDC initiative. The three submits were held in Utah, Michigan and Virginia.

2. Intelligent Roadway Information System (nominated by Minnesota)
   - The Intelligent Roadway Information System (IRIS) is an extensive Advanced Traffic Management System (ATMS) software originally developed by Minnesota Department of Transportation to control the Freeway Management System for its Regional Transportation Management Center. The Lead States Team has conducted an informational webinar. The web meeting was recorded and posted to the IRIS web page as part of the A.I.I. website. Additional outreach is planned for 2016.

3. Maryland Watershed Resources Registry WRR (nominated by Maryland)
   - The WRR is a national pilot to integrate land-use planning, regulatory, and non-regulatory decision making using the watershed approach. Developed in collaboration with the USACE and EPA, the WRR serves as a significant model of interagency cooperation and provides the DOT the ability to optimize planning and preservation of natural resources during the project development process. The WRR hosted a number of workshops, which are not online, with attendees from 5 EPA regions and 7 states. These workshops demonstrate the product and work on implementation plans for other regions across the country.

   - Automated signal performance metrics show real-time and historical functionality at signalized intersections. This allows traffic engineers to measure what they previously could only model. Accurate decision-making about signal performance and timing helps signal management personnel identify vehicle and pedestrian detector malfunctions. The team allowed states one more opportunity for assistance, and is now closing out the project.

5. Existing ROW plans Index Site
   - Plans on Demand offers two user-friendly options, either PDF or GIS Indexed plans, which provide convenient access to existing right of way plans, maps, and other documentation. The team submitted their marketing documents February and are now starting their promotion activities.

6. Carbon Fiber Reinforcing Prestressing Strands
   - CFRP is a corrosion-free option for pre-tensioning and posttensioning applications on concrete elements. It performs comparably to steel in the finished product in terms of material handling, structural erection, constructability, and other factors. CFRP’s benefits compound with its promise of lower life cycle costs, including reduced maintenance and rehabilitation work. The team submitted their marketing documents in August and will be stating promoting later this year.

7. Prep-ME (Not a full Team)
   - Prep-ME is a full production software program to store and process climate, traffic, and materials data required for the AASHTO Pavement ME Design. This software complies with FHWA Traffic Monitoring Guide (TMG) and TMAS for quality assurance and quality control (QA/QC). State highway agencies’
experience has been built into the QA/QC of traffic data collection. This information will be delivered via webinar presentations.

8. **Sandwich Plate System for Bridge Decks (Not a full Team)**
   - The SPS technology has been developed for the heavy civil engineering market and consists of two steel plates bonded to form a sandwich with a compact polyurethane elastomer core. The elastomer provides continuous support to the steel plates and precludes local plate buckling and the need for stiffeners. The flexural stiffness and strength of the sandwich plate is tailored to meet particular structural requirements by selecting appropriate thicknesses for the sandwich elements.

For further information on these technologies and all past technologies, please visit [http://aii.transportation.org](http://aii.transportation.org)

**Committee Meetings**

Executive Committee Meeting: Boston November 12th
Executive Committee Meeting: Maine, Date: TBD
SCOP-ASSET MANAGEMENT (SCOP/SCOH)
AASHTO Highway Subcommittee on Asset Management

Committee Officers:
Chair: Tim Henkel, Minnesota DOT
Vice Chair: n/a
Secretary: Steve Gaj, FHWA
Liaison: Matthew Hardy, AASHTO

Annual Meeting
The annual meeting of the Subcommittee on Asset Management was held on July 10, 2016 in Minneapolis, Minnesota. The meeting took place in conjunction with the TRB 11th National Conference on Transportation Asset Management. The annual meeting included a peer exchange on TAM implementation within the context of MAP-21 performance management requirements. Highlights of the annual meeting include the following:

- Capacity Building Activity—The subcommittee will propose a capacity building peer exchange to be funded through the SCOP Subcommittee on Capacity Building program that will take place as part of the AASHTO Performance-Based Transportation Planning, Financing and Management Conference, July 31-August 4, 2016 in Cincinnati, OH. The focus will be determined at a later date.
- Research Activities—Three research activities are currently being tracked by the subcommittee:
  - Enterprise Risk Management Guide—This NCHRP project will be published as an AASHTO publication and available in November 2016.
  - TAM Research Roadmap (ongoing)
  - Update to the AASHTO Transportation Asset Management Guide: A Focus on Implementation.
- The Subcommittee will propose a single new NCHRP project for FY2018 funding that will incorporate three smaller TAM-related research tasks:
  1. Best practices for Integrating Performance Management, Risk Management and Asset Management at Transportation Agencies
  2. A Comparison of TAM Frameworks with Case Studies of Implementation by Transportation Agencies
  3. How to Recruit, Train, and Retain a Transportation Asset Management Staff
- The subcommittee will be working closely with FHWA in organizing a series of webinars related to TAM to complement the AASHTO Transportation Asset Management Guide: A Focus on Implementation webinar series.
- The Subcommittee will continue to work with FHWA on continuing the Transportation Asset Management Expert Task Group.
- The Subcommittee continue to work with TRB in organizing the 11th National Transportation Asset Management Conference.

Completed Tasks or Activities
The Subcommittee on Asset Management had a successful year. The following summarizes key deliverables of the subcommittee:

- Developed comprehensive comments on the FHWA Transportation Asset Management Plan NPRM.
- Co-sponsored and organized a joint peer exchange with FHWA and TRB focusing on various aspects of TAM implementation that included a wide variety of participants from other sectors in July 2016.
- Worked with FHWA in hosting the bi-monthly asset management webinar series with over 500 people participating in each webinar.
- TRB Asset Management Committee—The subcommittee continues to work closely with the TRB Asset Management Committee.
- FHWA TAM ETG—The subcommittee continues to work closely with the FHWA Transportation Asset Management Expert Task Group.

Future Events
The Subcommittee on Asset Management has proposed the following future events:
- **FHWA/AASHTO TAM Webinar Series**—Working with FHWA in organizing a series of webinars over the next 2 years that will present different TAM topics. More information is available at tam.transportation.org.

- **Summer 2016 Peer Exchange**—The subcommittee is proposing a peer exchange workshop as part of the Standing Committee on Planning Capacity Building program. The peer exchange will take place as part of the 11th National Conference on TAM.

- **2017 Annual Meeting**—In conjunction with the peer exchange mentioned previously, the subcommittee will have an annual meeting to occur as part of the 2017 AASHTO Conference on Performance-Based Transportation Planning, Financing and Management.

- **Federal Regulations on Transportation Asset Management Plans**—The subcommittee will work closely with the members and FHWA on implementation of the final regulations regarding Transportation Asset Management Plans. These regulations are expected to be published in late 2016.
Committee Officers:

Chair: Joseph Olson (Wisconsin, Administrator/Chief Engineer)
Vice Chair: Chris Peoples (North Carolina, Materials Engineer)
AASHTO Liaison: Katheryn Malusk (AASHTO, Program Manager for NTPEP)

NTPEP Executive Committee:
David Kuniega (Pennsylvania)
Danny Lane (Tennessee)
Ross Metcalfe (Montana)
Todd Bennett (Missouri)
Barry Paye (Wisconsin) - APEL Chairman

Organizational and Administrative Framework

NTPEP is a pooled fund engineering technical service program which operates from AASHTO headquarters in Washington, DC. It is staffed by one full time Program Manager, one Associate Program Manager for the NTPEP Audit Programs, one NTPEP Technology Specialist, one NTPEP Product Implementation Specialist, one Administrative Specialist, and seven Contractors who are responsible for day-to-day operations, administration and coordination of the program. NTPEP coordinates testing for a wide array of highway safety devices, construction materials and maintenance products, as well as conducts audits for manufacturers of products used in highway applications. Whenever possible, cooperative agreements are entered into with Industry Associations who are experts in their respective fields. For each class of product category under NTPEP, a Technical Committee of state DOT and Industry membership convenes annually in person and quarterly on conference calls to discuss the status of the ongoing and pending evaluations/audits.

Each NTPEP Technical Committee is composed of a minimum of three members from each AASHTO member department as well as an industry member, who has expertise with utilizing the specific product(s) and thereby provides technical guidance. The Chairman and Vice Chairman of the NTPEP Committee are appointed by the AASHTO Executive Director. For administrative matters and industry appeals a NTPEP Executive Committee (EC), representing each of the AASHTO regions, is selected by the NTPEP voting members of that specific region.

Ongoing Activities and Projects:

The AASHTO Product Evaluation Listing (APEL) is a technical service program managed under the NTPEP Executive Committee with the mission of developing and conducting evaluations for new and/or proprietary products through accelerated lab testing. The program has continued to grow and develop, with modifications to the operations guidelines and clarifications to user information including an updated terms and conditions agreement and better definition of a certification versus an evaluation. The APEL Council has expanded, adding at large members to reinforce the minimum requirement of at least one representative per region as well as a contractor to develop the initial scope of work for product evaluations. The first full APEL evaluation was completed and has been posted to the web module, with additional evaluations at various stages of completion. Within the past year, the APEL module was completely redone and now has a much cleaner interface and is user-friendly. The module includes three distinct information types/reported data: AASHTO product evaluations, state DOT product evaluations, and state DOT product certifications. There is still a great deal of outreach needed to better communicate the mission and benefits of APEL to the states and industry, therefore AASHTO staff is presenting at regional and national meetings including those conducted by AASHTO, the states, and industry associations.

NTPEP has coordinated major field demonstration projects and nationally-coordinated laboratory testing in the following product categories.
<table>
<thead>
<tr>
<th>Due</th>
<th>Lead State(s)</th>
<th>Description of Activity</th>
</tr>
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<tbody>
<tr>
<td>April 2017</td>
<td>Virginia, Louisiana, Minnesota, Arizona and Missouri</td>
<td>Coordinate fabrication and install test panels for 2016-2018 cycle of testing for sign sheeting materials. Field evaluation racks are at four locations nationally. Publish previous year’s data on DataMine.</td>
</tr>
<tr>
<td>April 2017</td>
<td>Louisiana, Minnesota, Arizona and Missouri</td>
<td>Coordinate, fabricate, and install 2016 “Roll Up Signing Materials” test deck at three field locations. Evaluate products and publish reports.</td>
</tr>
<tr>
<td>August 2017</td>
<td>Tennessee</td>
<td>Coordinate, install, and perform field evaluations of Temporary Traffic Control Devices and publish reports.</td>
</tr>
<tr>
<td>October through November 2016</td>
<td>Pennsylvania, Florida, New York, Louisiana, Minnesota</td>
<td>Install and evaluate pavement marking test deck in Florida. Conduct routine readings on test decks installed in previous years (Pennsylvania and Minnesota). Perform laboratory evaluation of marking materials. Post data for completed testing for all test sites via DataMine web based data.</td>
</tr>
<tr>
<td>September 2016</td>
<td>Georgia, Florida</td>
<td>Coordinate, install, and evaluate raised pavement marker “sun country” field test deck in Georgia. Conduct laboratory testing on products. Post data for completed testing for all test sites via DataMine web based data.</td>
</tr>
<tr>
<td>September/October 2016</td>
<td>Ohio, Georgia, Florida</td>
<td>Coordinate, install, and evaluate snow-plowable raised pavement marker field test deck in Ohio. Conduct laboratory testing on products. Post data for completed testing for all test sites via DataMine web based data.</td>
</tr>
<tr>
<td>October 2016</td>
<td>Ohio</td>
<td>Coordinate, install, and evaluate rapid set concrete patch field test deck. Conduct laboratory testing on products. Post data for completed testing for all test sites via DataMine web based data.</td>
</tr>
<tr>
<td>January 2017</td>
<td>North Carolina</td>
<td>Coordinate field evaluation of portable changeable message signs and flashing arrow panels. Post data for completed testing for all test sites via DataMine web based data.</td>
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<tr>
<td>Quarterly Cycles</td>
<td>Wisconsin, Alabama, TRI Environmental</td>
<td>Quarterly solicitation and laboratory evaluation of Erosion Control Products. Post electronic test reports via NTPEP DataMine.</td>
</tr>
<tr>
<td>Continuous Program</td>
<td>TRI Environmental</td>
<td>Yearly on-site audit and laboratory evaluation of geotextiles. Post electronic test reports via NTPEP DataMine.</td>
</tr>
<tr>
<td>Continuous Program</td>
<td>University of Kentucky, KTA Tator Inc.</td>
<td>Coordinate protective coatings laboratory testing and environmental exposures. Report results through NTPEP DataMine. Coordinate with FHWA on research studies. Review, evaluate and execute contract agreements with private testing laboratories. Monitor private laboratory performance through Quality Assurance reviews.</td>
</tr>
<tr>
<td>Continuous Program</td>
<td>TRI/Environmental, Microb, Kansas, South Carolina, NTPEP Contract Auditors</td>
<td>NTPEP Audit Program is scheduled to conduct 48 audits for HDPE Plastic Pipe in calendar year 2017. Electronic reports are posted in DataMine.</td>
</tr>
<tr>
<td>Continuous Program</td>
<td>Texas, South Carolina, Illinois, NTPEP Contract Auditors</td>
<td>NTPEP Audit Program is scheduled to conduct 32 audits for Reinforcing Steel and 20 Welded Wire Reinforcement (WWR) audits in calendar year 2017. Electronic reports are posted through DataMine.</td>
</tr>
<tr>
<td>Continuous Program</td>
<td>Florida, Virginia, TRI/Environmental</td>
<td>Coordinate, sample and test geosynthetic reinforcement materials. Reports are published in DataMine.</td>
</tr>
<tr>
<td>Continuous Program</td>
<td>TRI/Environmental, University of Kentucky, Virginia, NTPEP Auditors</td>
<td>NTPEP Audit Program is scheduled to conduct 12 audits for Polypropylene Pipe in calendar year 2017. Electronic reports are posted through DataMine.</td>
</tr>
<tr>
<td>Continuous Program</td>
<td>TRI/Environmental, Indiana, NTPEP Contract Auditors</td>
<td>NTPEP Audit Program is scheduled to conduct 3 audits for PVC Pipe in calendar year 2017. Electronic reports are posted through DataMine.</td>
</tr>
<tr>
<td>Quarterly Cycles</td>
<td>Texas</td>
<td>Coordinate sampling and laboratory evaluation of Asphalt Release Agents. Reporting will follow for these products in DataMine.</td>
</tr>
</tbody>
</table>
### NTPEP TEST DECKS (MAJOR PROJECTS 2016-2018 CYCLE)

<table>
<thead>
<tr>
<th>Continuous Program</th>
<th>Missouri, Minnesota, American Engineering Testing Services, TEC</th>
<th>Conduct laboratory evaluations of concrete admixtures. Once testing is completed, data will be available in DataMine.</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 2017, September 2017</td>
<td>Minnesota, Missouri</td>
<td>Conduct laboratory evaluations of concrete curing compounds. Once testing is completed, data will be available in DataMine.</td>
</tr>
<tr>
<td>Continuous Program</td>
<td>Florida</td>
<td>Conduct laboratory evaluations of epoxy and resin bonded adhesive systems. Once testing is completed, a PDF report will be issued on the NTPEP website.</td>
</tr>
<tr>
<td>May 2017</td>
<td>Minnesota, North Carolina</td>
<td>Minnesota performs the laboratory evaluations for joint sealants. North Carolina performs the field evaluations with a 3 year interval.</td>
</tr>
<tr>
<td>May 2017</td>
<td>Vermont, Minnesota</td>
<td>Minnesota performs the laboratory evaluations for crack sealers. Vermont performs the field evaluations with a 3 year interval.</td>
</tr>
<tr>
<td>Continuous Program</td>
<td>Kansas, Ohio, Nelson Laboratories</td>
<td>Rapid Set Concrete Patch Materials are evaluated for a 3 year interval. Nelson Laboratories performs the laboratory evaluations, while Ohio performs the field evaluations.</td>
</tr>
<tr>
<td>Continuous Program</td>
<td>Texas, NTPEP Contract Auditors, Phoenix Test Lab</td>
<td>Elastomeric Bridge Bearing Pad manufacturers will be audited yearly, beginning within the first quarter of 2017.</td>
</tr>
<tr>
<td>Continuous Program</td>
<td>North Carolina, Tennessee, NTPEP Contract Auditors</td>
<td>Guardrail/Guiderail manufacturers will be audited yearly, beginning within the first quarter of 2017.</td>
</tr>
<tr>
<td>Continuous Program</td>
<td>North Carolina, Wisconsin, Florida</td>
<td>Florida conducts the NTPEP evaluations for Warm Mix Additives.</td>
</tr>
<tr>
<td>Continuous Program</td>
<td>Florida, Ohio</td>
<td>NTPEP will begin conducting evaluations for Non-Structural Spray-Applied Pipe Liners (SAPL) within the first quarter of 2017.</td>
</tr>
</tbody>
</table>

**Ongoing activities supporting NTPEP expansion and promotion:**

NTPEP staff continues to maintain and expand the dedicated informational website [http://www.ntpep.org](http://www.ntpep.org) and the online data repository DataMine, [http://data.ntpep.org](http://data.ntpep.org). A new version of the NTPEP DataMine website (Datamine 3.0) will be released to the state and industry users in January 2017. This version includes a cleaner interface, more opportunities for state and industry users (timeline, ability to pay invoice inline, etc.) The program’s success is largely due to public-private partnerships, therefore presentations are made at various regional and national conferences, while liaison reports are provided to other AASHTO committees/subcommittees.

**Goals for Next 3 Years:**

- AASHTO staff will work with AASHTO member departments and industry to maintain successful evaluation and audit programs while expanding NTPEP to include additional products states would like to have evaluated and/or audited. This process begins with the efforts of the NTPEP Implementation Task Force.
- AASHTO staff is in the process of completing a comprehensive survey to identify what NTPEP data states are or are not using the reasons why they are choosing to do so. Once the survey is completed, these results will be available on the NTPEP website.
- The NTPEP Liaison Task Force consists of members form the AASHTO Subcommittees on Construction, Materials, Traffic Engineering, and Maintenance as well as the Research Advisory Council (RAC). This Task Force works together to have NTPEP include any suggestions from these AASHTO Subcommittees and vice versa.

**Upcoming Meetings:**

2017 NTPEP Annual Meeting

- **Dates:** March 12th-16th, 2017
- **Location:** Boston, Massachusetts
The Special Committee on U.S. Routing meets by conference call on to discuss the following applications. Mark McConnell, MS the region 2 representative is appointed to chair the special committee. This appointment was approved by President John Cox, WY and the term is four years. The vacant seat for region 3 is filled by Mark Van Port Fleet from Michigan and chief engineer. He was selected and appointed by President Cox among a list of region 3 SCOH members that volunteered.

Below you will find the seven applications sent to AASHTO for review and approval from seven member departments. There will be no meeting conducted by the committee in Boston, MA. Its decisions are presented to the Standing Committee on Highways in this document and will be voted on by SCOH at its meeting on November 13, 2016 for approval and announcement to the AASHTO Board of Directors.

One application was not approved from North Carolina to establish a future Interstate Route 587. The reasons are as follows:

Region 1 Member: The interstate system is intended to connect states and this is not a loop, alternate route, or bypass

Region 2 Member: This does not appear to be a bypass, nor a spur. It does not appear to have the potential to extend across state lines. It is already using Interstate and US Highways so I don’t quite understand the need, unless this is legislated by Congress (which we didn’t receive) by the rules of the Committee it must be denied.

Region 3 Member: This does not meet the definition for interstate designation. It does not connect to another state and also is not an alternate route, bypass, or business route.

Region 4 Member: Interstate system is intended to connect states, however, this is not a loop, alternate route or bypass.

It is important to note that all applications are examined thoroughly as being compliant with the purpose and policy set forth by the Standing Committee on Highways and the AASHTO Board of Directors.
<table>
<thead>
<tr>
<th>MEMBER DOT</th>
<th>ROUTE</th>
<th>Description</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>Interstate 22-Establish (segment)</td>
<td>Between I-65 in Birmingham, AL and Coalburg Road in Birmingham, AL. Route begins at mile marker 96.480 and the junction of I-65 in Birmingham, AL from the junction of I-65 in Birmingham, AL., westerly to Coalburg Road (Exit 93) in Birmingham, AL. Traveling over existing Future Interstate 22 and continuing west to Birmingham, AL. and Jasper, AL for 2.879 miles. Route ends at mile marker 93.601 and the junction of Coalburg Road in Birmingham, AL.</td>
<td>4 Approve</td>
</tr>
<tr>
<td>Idaho</td>
<td>USBR 10-Realignment</td>
<td>This is to address a safety issue at the intersection of Leclerc Road and U.S. Hwy 2 in Oldtown, ID (just east of Newport, WA), the route has been modified to now have cyclists first travel westbound to cross US 2 at a signalized intersection with ID Hwy 41 before heading eastbound on US 2 (see rows 5-9 on attachment B)</td>
<td>4 Approve</td>
</tr>
<tr>
<td>Kentucky</td>
<td>US 431-Relocation</td>
<td>Between US 431 in Russellville and US 68 in Russellville Begins: US 431 originate south of Owensboro, Kentucky. The US 431 (Southern Russellville Bypass) will begin at its intersection with US 68 and continue on the west and south side of Russellville, concurrent with US 68 and US 79 to its intersection with US 79 and KY 2146. The route extends south concurrent with US 68 along the west side of Russellville to the junction with US 79. The route is concurrent with US 68 (Russellville Bypass). The route will head is a southwesterly direction. Russellville is the main focal point. The total number of miles over the entire US 431 designation will be approximately 84 miles. The route will end at the Tennessee State Line</td>
<td>4 Approve</td>
</tr>
<tr>
<td>Michigan</td>
<td>USBR 35-Realignment</td>
<td>Eliminate existing segment and propose a new segment designation for USBR 35 with Ottawa County, Michigan for the benefit residents and business of the county.</td>
<td>4 Approve</td>
</tr>
<tr>
<td>Minnesota</td>
<td>USBR 41-Establish</td>
<td>Connecting St. Paul (at jct. of existing USBR 45 - Mississippi River Trail Bikeway) and Grand Portage State Park at the US/Canada international border.</td>
<td>4 Approve</td>
</tr>
<tr>
<td>North Carolina</td>
<td>I-587-Establish future</td>
<td>US-64 in Zebulon (Wake County) and US-264 in Greenville (Pitt County) The proposed Future I-587 will begin at US-64 (Future I-87) in Zebulon, Wake County, and go generally southeast toward Greenville, Pitt County. The route is travelling along a multi-lane, fully access controlled facility along parts of existing I-795, US-258, and US-264. The route travels in a southeasterly direction for a total of 56 miles, with the focal point cities being the Town of Zebulon, the City of Wilson, and the City of Greenville. The route will end at the US-264/SR-1467. Interchange (Greenville Bypass) just west of Greenville.</td>
<td>4 Negative with comments below</td>
</tr>
</tbody>
</table>
Committee Officers:
Chair: Paul J. Steinman, P.E., District Secretary, Florida DOT
Vice Chair: David B. Chase (New Hampshire DOT)
AASHTO Liaison: Gummada Murthy (AASHTO) and Linda Preisen (AASHTO Contract Staff)
USDOT Liaisons: Jonathan Walker (FHWA) and Bob Arnold (FHWA)
ITE Liaison: Siva Narla, Institute of Transportation Engineers (ITE)

The SCOWCT committee continues to work toward addressing challenges regarding wireless communications to support DOT technology and operations. Some of these challenges include spectrum management for Land Mobile Radio (LMR), planning for the First Responder Broadband Network, implementing Connected Vehicle (CV) and Autonomous Vehicle (AV) infrastructure requirements and deployments, protection of the 5.9 GHz spectrum for CV/AV applications, and cybersecurity.

Major Tasks and National Presence
SCOWCT has been actively involved in tracking and responding to developments on the potential for sharing the 5.9 GHz spectrum currently dedicated for the Dedicated Short Range Communications (DSRC) for Connected Vehicle operations. Following a June 2016 FCC Proposed Rule which solicited public comments on potential options for sharing the spectrum with unlicensed devices, SCOWCT partnered with the Subcommittee on Transportation Systems Management and Operations (STSMO) to prepare and submit comments in response to the Proposed Rule. SCOWCT and STSMO also sponsored a webinar on this topic to educate AASHTO members and the broader TSMO community on this issue.

The Committee continued to represent transportation at a national level. Ferdinand Milanes of Caltrans is a representative on the U.S. Department of Homeland Security’s SAFECOM, which works to improve emergency response providers’ inter-jurisdictional and interdisciplinary emergency communications interoperability across local, regional, tribal, State, territorial, international borders, and with Federal government entities. Paul Gilbert of Texas DOT continues to serve as a member and subcommittee chair on the Project 25/34 Steering Committee, which oversees the development of standards for public safety digital radios. Mr. Gilbert also serves as AASHTO’s representative to the National Public Safety Telecommunications Council (NPTSC) Governing Board.

SCOWCT recently issued a survey to collect information about activities and needs for communications that support DOT operations and technology. The survey results will help SCOWCT identify and prioritize activities to be undertaken by the committee through its Technical Working Groups.

Activities of the Technical Working Groups
The Committee’s four Technical Working Groups (TWGs) are: 1) Legacy Programs; 2) Spectrum Management; 3) Cyber Security; and 4) Future and Emerging Technologies. Each group convenes once every other month via conference call to carry out initiatives in support of defined strategic objectives. TWG meetings have featured technical presentations and peer exchange on topics including resources to support agency planning and deployment of Connected Vehicles, Telecommunications Industry Association (TIA) Project 25 standards development, practices for securing ITS cabinets, and statewide interoperable emergency radio systems. Other efforts have included education and outreach regarding the status of the 5.9 GHz spectrum for DSRC use.

Future Events and Activities
The 2016 SCOWCT Annual Meeting will be held in October at the Florida DOT District 7 Headquarters in Tampa, FL. Technical presentations will cover topics ranging from future considerations for managing radio spectrum, CV/AV operations, and cybersecurity. The TWGs will continue to meet regularly to share information and advance committee initiatives. SCOWCT members will represent AASHTO at the 2017 IWCE Conference and Exhibition and at meetings of the National Public Safety Telecommunications Council, Land Mobile Communications Council, P25/34 Steering Committee, and DHS SAFECOM.
TRANSPORTATION CURRICULUM COORDINATION COUNCIL (TC3)

Officers
Chair: Vacant
Vice Chair: Mark Chaput (Michigan)
AASHTO Liaison: Keith Platte, Program Manager
TC3 Executive Board: Christine Anderson (Iowa) (MTRAC Rep)
Jeff Saddler (Utah) (WAQTC Rep)
James Feda (South Carolina) (SCOM Rep)
Chris Peoples (North Carolina) (SOM Rep)
Darby Clayton (West Virginia) (SOC Rep)
Ron Stanevich (West Virginia) (Mid-Atlantic QAW Rep)
John Grieco (Massachusetts) (NETTCP Rep)
Victoria Beale (Ohio) (At Large Rep)
Howe Crockett (FHWA) (FHWA Rep)
Nicole Majeski (Delaware) (AASHTO Region 1 Rep)
Emily Elliott (Virginia) (AASHTO Region 2 Rep)
Bill Stone (Missouri) (AASHTO Region 3 Rep)
Said Ismail (California) (AASHTO Region 4 Rep)

Organizational and Administrative Framework

Transportation Curriculum Coordination Council (TC3) is a relatively new AASHTO Engineering technical service program. It is staffed by one AASHTO employee who allocates 1/3 of their time to the program. The Executive Board directs the day-to-day operations, administration and coordination of the TC3 program. The program develops, maintains and delivers training for the technical transportation professionals in three focus areas: Construction, Materials and Maintenance. This work is conducted through the Executive Board and the 6 technical committees (Committee for Course Development and Distribution, Committee for Core Curriculum Matrix Implementation, Committee for Communications/Marketing and Resource Advancement, Committee for Performance Measurements, Committee for Technology Initiatives, and Committee for Partner Outreach) under TC3.

The goal of TC3 is have at least one member from each AASHTO member department. These member would provide technical guidance to the program. Chairman and Vice Chairman of the TC3 Committee are appointed by the AASHTO Executive Director. For administrative matters and other items, TC3 has an Executive Board, with representation from three SCOH Subcommittees (Materials, Construction, and Maintenance), the five regional training groups, the four AASHTO regions, FHWA, and one at large member. The TC3 Committee regularly communicates with the stakeholder and industry partners on technical guidance and input.

Activities Accomplished this Year:

- Updated the TC3 website: http://tc3.transportation.org/
- Launched 25 new courses
- Continued the development of 30 hours of new courses
- 34 Contributing States, which eclipsed the goal of 30
- Expanded the scope of the training to Design and Operations
- Increased organizational awareness and course participation among private industry through focused Roads & Bridges outreach efforts

Upcoming Meetings:

TC3 2017 annual meeting
- Dates: April 9-12, 2017 – Location: Annapolis Maryland
WHEREAS, The AASHTO Highways Subcommittee on Design (SCOD) aspires to be the national voice and leading resource of design innovation and technical guidance for transportation design projects, programs, and publications; and

WHEREAS, SCOD and its technical committees have been charged with developing and keeping current guidelines, standards, and specifications pertaining to all aspects of transportation design, including but not limited to geometry, roadside safety, bicycle & pedestrian facilities, public transportation facilities, hydrology & hydraulics, environmental considerations, project management, cost estimating, pavements, and roadway lighting; and

WHEREAS, Design titles outsold all other categories of AASHTO publications in 2015, making up 36% of AASHTO’s total publication sales and exceeding sales for both the bridge/structure publications as well as the materials publications; and


WHEREAS, The need to create, review, and revise these design guidelines, standards, and specifications in a robust and timely manner is essential, as they are relied upon by the transportation community nationally and abroad, and

WHEREAS, Collectively, AASHTO member departments provide the knowledge and expertise to produce the technical documents that benefit the members at all levels; and

WHEREAS, Attendance at SCOD and technical committee meetings, which is critical to the development and oversight of AASHTO’s design guidance, continues to decline due to state budget restrictions; and

WHEREAS, There are fewer member department technical staff available to provide the time and manpower needed to develop and updates these guidelines, standards, and specifications; and

WHEREAS, The erosion of the ability of SCOD and its technical committees to produce and maintain guidelines, standards, and specifications has resulted in longer periods of time between updates; and

WHEREAS, The inability to update and maintain guidelines, standards, and specifications in a timely manner can result in outdated guidance to states and the transportation industry; now therefore be it

RESOLVED, That the AASHTO Highways Subcommittee on Design recommends to the Standing Committee on Highways and the AASHTO Board of Directors the establishment of a voluntary AASHTO Technical Service Program for the Development and Maintenance of Design Technical Publications with the purpose of regularly updating the critical design guidance
provided by SCOD, creating new guidance on emerging design issues, and ensuring a cohesive philosophy across all AASHTO design guidelines, standards, and specifications; and further be it

**RESOLVED**, That AASHTO Member Departments will be asked to sponsor this Technical Service Program by contributing a voluntary assessment of $15,000 per member department annually to fund the establishment and ongoing technical activities of the program.
A. PURPOSE OF TECHNICAL SERVICE PROGRAM

The proposed Technical Service Program (TSP) will provide a resource to the Subcommittee on Design (SCOD) and its Technical Committees (TCs) to facilitate in the development, production, and maintenance of the design publications under the purview of the Subcommittee.

B. CURRENT ACTIVITIES

SCOD and its TCs cover a breadth of design issues and topics that make up the core technical expertise for state DOTs. The 12 TCs are:

1. Cost Estimating
2. Environmental Design
3. Geometric Design
4. Hydrology & Hydraulics
5. Non-Motorized Transportation
6. Pavements (joint with Subcommittee on Materials)
7. Project Management
8. Research
9. Roadside Safety
10. Roadway Lighting (joint with Subcommittee on Traffic Engineering)
11. Electronic Engineering Data (formation underway; joint with Subcommittees on Bridges & Structures and Construction)
12. Alternative Project Delivery (formation underway; joint with Subcommittees on Bridges & Structures and Construction)

These 12 TCs are solely or partially responsible for the production and maintenance of over 30 publications, with several new titles under development. Some of this work is done through NCHRP projects. While this does get the bulk of the publication written, frequently the scope of work does not include incorporating comments from the multiple reviews conducted as part of the AASHTO process. This leaves TC members to address the comments themselves, on a volunteer, as available basis. This can significantly lengthen the amount of time between publications, and preclude the TC from working on other projects.

Other publications are written by the TC members themselves, on this same volunteer, as available basis. Depending on the level of technical detail and amount of new research, this can take years. For example, the TC on Geometric Design is reviewing over 120 studies and outside publications for possible inclusion in the next edition of the Green Book. This takes time and attention that many state DOT employees are no longer able to consistently provide.

These factors are combining to increase the amount of time between publication updates and leaving the TCs challenged to produce new publications on timely issues on which state DOTs need guidance.
C. PROPOSED TSP ACTIVITIES

The proposed Design TSP would be comprised of three components:

1. Member Travel to Meetings
2. Publications Support
3. AASHTO Staff Expenses

The TSP would be directed by a Steering Committee, proposed to be the SCOD Executive Committee, to prioritize and manage the funding and publication prioritization.

1. Member Travel to Meetings

The development, production, and maintenance of publications requires in-person meetings of SCOD and the TCs to conduct business. Attendance at these meetings can be spotty, and is sometimes determined by the member’s state DOT budget decisions made 12-18 months in advance. Most TCs are utilizing conference calls and web meetings to move things along, but are at their most productive while focused on committee work in person for 2-4 days at a time.

Agencies who participate financially will have access to travel funds for up to 4 people to attend SCOD or TC meetings.

- Estimated cost per person: $1,000 to $1,500
- Estimated cost for member travel (30 agencies): $120,000 to $180,000
- Estimated cost for member travel (52 agencies): $208,000 to $312,000

2. Publications Support

Publications must be maintained and updated on a regular basis for these documents to remain relevant and useful for member agencies, and the industry in general. SCOD and the TCs are currently reviewing the list of Design publications to determine the most appropriate update intervals. Once those are established, meeting those intervals requires assistance on both a management and technical level. A proposed framework aimed at helping SCOD manage all of the Design publications includes:

- **Document Scheduling and Management**
  A consultant with both program and document management expertise would be needed to assist SCOD and the TCs in developing and meeting document update schedules, assist in the ballot process for new and updated documents, and provide general support. It is estimated that a consultant to provide these services would cost $75,000 to $100,000 per year.

- **Technical Writing Assistance and Project Management**
Consultant resources would be used to assist TCs with the production and revision of publications. These activities would include producing updates to publications and assisting with revisions generated during the review and balloting process. The TCs would be tasked with providing oversight, direction, and control of all documents produced under this model. These resources would be on a publication by publication basis, and involve subject matter experts focusing on publications as prioritized by the TSP Steering Committee.

Depending on the prioritization of the publications, it is estimated that this task would cost between $200,000 and $375,000 per year.

3. AASHTO Staff Expenses

It is estimated that the level of effort needed to manage the travel coordination and reimbursements, as well as the consultant contracts for the publications support, would cost $30,000 to $40,000 per year.

D. CONCLUSION

Based on the amounts estimated for these activities and the number of participating agencies in other Engineering TSPs, it has been determined that the appropriate contribution level would be $15,000. This would allow for some level of activity with as few as 25 participating states, but would provide sufficient funding for several years with higher levels of participation.

In return, each contributing state would receive up to $6,000 in travel costs. A more structured and regular production of updated publications will provide high quality and timely technical specifications, standards, and guidance on a wide variety of topics related to the core mission of state DOTs.
WHEREAS, The sunset dates for NCHRP 350 hardware were jointly developed between AASHTO and FHWA, and with significant outreach to additional stakeholders, including private industry and academia; and

WHEREAS, These dates were established with the assumption, as stated in the implementation agreement, that FHWA “will continue its role in issuing letters of eligibility of highway safety hardware for federal-aid reimbursement”; and

WHEREAS, Historically, as part of its role in determining whether to issue a letter of approval/acceptance/eligibility, FHWA has also provided technical expertise to the roadside safety community; and

WHEREAS, In addition to reviewing crash tests to confirm a lab’s assessment of the test results, FHWA staff have provided guidance to states, manufacturers, and laboratories regarding technical details of performing tests; and

WHEREAS, FHWA’s continued technical support is critical to the success of the roadside safety community in meeting the sunset dates delineated in the joint agreement; and

WHEREAS, Without technical support being provided to those developing roadside hardware, including an approved test matrix that, if passed by a device, will lead to a positive eligibility determination, manufacturers and laboratories have slowed or stopped their development and testing to MASH standards; and

WHEREAS, At least most states do not have the technical expertise needed to conduct reviews of crash tests to determine appropriate use of roadside hardware, and the AASHTO Technical Committee on Roadside Safety does not have the time, expertise, nor jurisdiction to determine eligibility for use on the NHS; and

WHEREAS, No other organization besides FHWA has the expertise, capacity, or objectivity needed to serve in this role; and

WHEREAS, Due to the lack of assistance and technical expertise that has traditionally been provided by FHWA to manufacturers, laboratories, and state practitioners, AASHTO is not confident that appropriate MASH-approved hardware will be available by the sunset dates agreed to in the joint agreement.

NOW, THEREFORE, BE IT RESOLVED, AASHTO requests that FHWA reaffirm its role, as agreed to in the joint implementation agreement, of providing objective technical expertise and resources to the roadside safety community and issuing eligibility determinations for safety hardware on the NHS.
Highways Subcommittee on Bridges and Structures  
Proposed Administrative Resolution  
Title: Increase the Contribution to the Load and Resistance Factor Design (LRFD) Specification Maintenance Technical Service Program

WHEREAS, The AASHTO Highways Subcommittee on Bridges and Structures (SCOBS) is the national voice and leading resource of policy and technical guidance for bridges and structures throughout the world; and

WHEREAS, The Load and Resistance Factor Design (LRFD) methodology was developed into specifications through NCHRP beginning in 1988, and was approved by AASHTO as specifications in 1993; and

WHEREAS, A Pooled Fund was started in 2002 to continue the maintenance and development of these specifications, with a voluntary state contribution level of $20,000 annually; and

WHEREAS, The AASHTO Board of Directors and Standing Committee on Highways approved the transition of this pooled fund into a Technical Service Program (TSP) for FY2010, setting the voluntary state contribution level at $10,000 annually; and

WHEREAS, The AASHTO LRFD Bridge Design Specifications is the second highest selling AASHTO publication (second only to the Green Book); and

WHEREAS, The AASHTO bridges and structures catalog now consists of over 30 titles with revenues exceeding $1 million per year; and

WHEREAS, Collectively AASHTO member departments provide the knowledge and expertise to produce these technical documents that benefit members and the industry as a whole; and

WHEREAS, There are fewer member department technical staff available to provide the time and manpower needed to develop and updates these guidelines, standards, and specifications, leading to an increasing reliance on consultants; and

WHEREAS, The ability to attend technical committee meetings, where much of this work is done, is increasingly constrained by state budgetary limitations; and

WHEREAS, The LRFD TSP has one of the highest rates of voluntary state participation, with 45 states contributing in both FY2015 and FY2016; and

WHEREAS, the original $10,000 contribution amount is no longer adequate to provide the necessary consultant assistance and travel expenses to meet the identified needs; and

WHEREAS, The inability to update and maintain guidelines, standards, and specifications in a timely manner can result in outdated guidance to states and the transportation industry, and hamper efforts to implement new and emerging technologies and to comply with new federal regulations; now therefore be it

RESOLVED, That the AASHTO Highways Subcommittee on Bridges and Structures recommends to the Standing Committee on Highways and the AASHTO Board of Directors an increase in the voluntary contribution to the LRFD TSP from $10,000 to $15,000 per member department annually.
Proposed Administrative Resolution on Load and Resistance Factor Design (LRFD) Specification Maintenance Technical Service Program Background Information – October 12, 2016

A. Background of LRFD Technical Service Program (TSP)

The Long-Term Maintenance of Load and Resistance Factor Design (LRFD) Technical Service Program (TSP) was established in 2009 to support the continued maintenance and updating of all of the LRFD Design Specifications. The LRFD Bridge Design Specifications were originally developed by an NCHRP project in the late 1980’s, and first adopted by AASHTO in 1993. When NCHRP funding ceased, the need for continued development and maintenance of the LRFD specifications was met by the establishment of a Transportation Pooled Fund. This pooled fund was set up by the Iowa Department of Transportation, with an annual member contribution amount of $20,000. In 2009, the AASHTO Board of Directors and Standing Committee on Highways authorized the establishment of the LRFD TSP, and established an annual member contribution of $10,000. Assets from the pooled fund were transferred to the TSP, and served as carryover reserves for several years as the state contributions steadily increased.

The LRFD TSP allows for continued work on maintaining, updating, and developing new LRFD bridge specifications. The TSP is managed by the Executive Committee of the Subcommittee on Bridges and Structures (SCOBS), which is made up of the Chair, Vice-Chair, and chairs of the 20 technical committees of SCOBS. Funding is used to cover mid-year meetings for technical committees working on publication changes, special studies on various design issues, and AASHTO staff support to the Subcommittee on Bridges and Structures and LRFD TSP.

B. Past Finances

Between 2003 and 2009, the Iowa DOT collected pooled fund contributions, and by agreement sent the money to AASHTO to fund the LRFD specification maintenance activities. During this time, $1.7 million was transferred to AASHTO. When the Technical Service Program was established, this money transferred into that program. Because expenditures during these early years were much lower than the revenues, a sizable carryover reserve built up. As the specifications aged and maintenance activities increased, consultant and mid-year meeting expenses started to rise. Beginning in FY2013, expenditures exceeded the annual revenues. The difference was covered by the carryover reserve, which averaged around $350,000 going into FY2014, FY2015, and FY2016.

C. Current Activities and Finances

The LRFD TSP covers 3 types of expenses –

- **Professional Services** – The primary annual expenditure from LRFD is the contract with Modjeski and Masters, who provides technical assistance on LRFD publications, manages the SCOBS ballot submittal and review process for changes to all bridge publications, and incorporates the interims into the base publication files in preparation for new editions.
The assistance provided by this contract is invaluable in keeping the 5 month ballot process running smoothly, and allows technical committee chairs the ability to request technical assistance on some issues without needing a separate contract in place.

In addition to the annual contract with Modjeski and Masters, LRFD funded contracts with 17 consultants over the last three fiscal years. These consultants provided specific technical expertise and support for developing and maintaining the bridge publications.

- **Member Travel** – The LRFD TSP makes funding available to the 20 SCOBS technical committees to hold mid-year meetings, should their workload require it. These meetings, held between the annual meetings, are used to discuss research and proposed changes to current standards and specs, or to develop new ones. Many of these meetings are held in conjunction with other conferences or events, allowing travel costs to be partially covered by other organizations as well. During the last 3 years, LRFD funded travel for 244 SCOBS members to attend 43 mid-year meetings. Attendance at these meetings was funded almost exclusively by the TSP, or other non-state sources as appropriate and permitted. Funding was also provided to send liaisons to meetings of the American Welding Society, Subcommittee on Maintenance, and AASHTOWare.

- **Administrative** – AASHTO staff costs related to work on the specifications, as well as administering the LRFD TSP, are covered by this budget.

FY2016 saw an unprecedented amount of work from SCOBS. Eight new publications were completed and balloted, requiring consultant assistance and mid-year meetings by 14 of the 20 technical committees. As a result, the carryover reserve was reduced to approximately $70,000 going into FY2017.

The SCOBS Executive Committee has looked at 3 scenarios for FY2017. The first is to continue as in the past, with consultant assistance and meeting attendance for existing projects currently underway, as well as starting beginning new projects to update various specifications and standards. The second is to continue work on existing projects (even if additional funds are required), but to delay work on newly proposed updates. Neither of those resulted in a balanced budget. The third option, which is currently being implemented, is to delay all work with consultants not currently under contract, to not add funds to those existing contracts, and to stop all update work outside of those current contracts. Specification development activities under NCHRP funding will continue, but implementation will be delayed if additional AASHTO work is required to get them to ballot, and then to publication. With these severe cuts, it is anticipated that LRFD will break even this year. With no carryover reserve, however, future fiscal years will remain similarly constrained.
D. Future Finances

Without an increase in the voluntary contribution, the annual LRFD budget will remain in the $400,000 to $450,000 range. Only 2 other TSPs have a similar number of contributing members, and it appears that participation has plateaued at 45 members. At this level of funding, consultant expenditures will be severely restricted, and the core contract with Modjeski and Masters would be reduced. In addition, further limits on travel funding for mid-year meeting attendance will have to be instituted.

These actions will severely constrain the level of work currently conducted by SCOBS and its technical committees. Updates to most of the standards and specifications will be delayed, some for years as member staffs are unable to pick up the additional workload. Efforts related to new federal regulations, pressing safety concerns, and implementation of new and emerging technologies will be prioritized to the maximum degree possible, although the ability to meet those needs will be hampered as well.

An increase of the voluntary annual contribution from $10,000 to $15,000 would provide between $525,000 and $675,000 annually. This would allow activities to continue at their previous levels of effort by providing sufficient funding for consultant activities and continued support for member attendance at mid-year meetings. SCOBS will continue to make full use of all available NCHRP funds, as well as leveraging outside funding sources to offset some of the special study and meeting expenses.
WHEREAS, The U.S. Department of Transportation’s (DOT) National Highway Traffic Safety Administration (NHTSA) has released an advance notice of proposed rulemaking (ANPRM) to create a new Federal Motor Vehicle Safety Standard (FMVSS) to require vehicle-to-vehicle communication capability for light vehicles; and

WHEREAS, The automobile manufacturers are preparing the hardware and software components that will achieve vehicle-to-vehicle (V2V) communications using Dedicated Short Range Communications (DSRC) in anticipation of the proposed rulemaking, with some deployments as early as the 2017 model year; and

WHEREAS, The DSRC capabilities being developed by the automobile manufacturers for vehicle-to-vehicle communications can also be leveraged and expanded to enable a two-way communication that is capable of delivering data and information from the roadside to the vehicle and from the vehicle to the roadside (commonly referred to as vehicle to infrastructure [V2I] Applications); and

WHEREAS, A number of V2I Applications have been identified and defined in detail in the USDOT Connected Vehicle Reference Implementation Architecture (CVRIA) that will provide safety, mobility, and environmental benefits once they are deployed and a network of DSRC equipped automobiles are operational; and

WHEREAS, The USDOT has asked the American Association of State Highway and Transportation Officials (AASHTO), the Institute of Transportation Engineers (ITE), and the Intelligent Transportation Society of America (ITSA) to work together to create and manage the Vehicle-to-Infrastructure Deployment Coalition (V2I DC) as a single point of reference for stakeholders to meet and discuss V2I deployment related issues; and

WHEREAS, Through various funding sources, including USDOT, state, and local funding, there have been multiple pilot deployment sites that have demonstrated the functionality and benefits of V2I Applications in multiple locations throughout the United States; and

WHEREAS, Beyond the pilot deployments and a limited number of early adopter deployment sites, the majority of state and local infrastructure owners and operators have not yet begun large scale deployment of V2I Applications even though solutions are now available to problems that were hindering deployments.

WHEREAS, The automobile manufacturers are developing at least three V2I applications and are looking for some indications from the infrastructure owners and operators about the timeline for deploying the roadside infrastructure to support V2I applications; and

WHEREAS, Most infrastructure owners and operators have corridors of signalized intersections that are interconnected and use modern controllers to coordinate signal timing along the corridor; and

WHEREAS, The “signal phase and timing” (SPaT) message is relatively simple to deploy and fundamental to a number of V2I applications, and can be obtained from a traffic signal controller via a standard query protocol and can be broadcast by most DSRC roadside devices as a standardized data message; and

WHEREAS, The SPaT broadcasts are typically accompanied by the broadcast of the map data message (MAP), and global positioning system (GPS) correction information as standardized by the Radio Technical Commission for Maritime Services (RTCM), to enable vehicle equipped applications to interpret the SPaT information being broadcast; and

WHEREAS, The SPaT, MAP, and RTCM functionality can be deployed in phases, but are all identified as necessary to support communication with vehicles for the purposes of V2I Applications; and

WHEREAS, Deploying the SPaT, MAP, and RTCM data message broadcasts in a number of locations around the country will provide state and local transportation agencies with a tangible first step for deploying V2I Applications, promote future more advanced V2I applications, and demonstrate a commitment to the DSRC-based V2I deployments that are needed by automobile manufacturers; and

WHEREAS, The net result of deploying SPaT will be to accelerate V2I application deployment by the automobile manufacturers, the private sector, and the public sector; now therefore be it

RESOLVED, That AASHTO is challenging the state and local public sector transportation infrastructure owners and operators to cooperate together to achieve deployment of DSRC infrastructure with SPaT, MAP, and RTCM broadcasts in
at least one corridor or network (approximately 20 signalized intersections) in each of the 50 states by January 2020 (referred to as the “AASHTO SPAT Challenge”); and therefore be it

RESOLVED, That the AASHTO-led V2I Deployment Coalition, AASHTO Highways Subcommittee on Transportation Systems Management and Operation (STSMO) Connected and Automated Vehicle Working Group, AASHTO Highways Subcommittee on Traffic Engineering (SCOTE), and National Operations Center of Excellence (NOCoE) will develop resources and lead implementation of the SPaT Challenge with public sector transportation agencies; and therefore be it further

RESOLVED, SCOH approves this resolution and forwards it to the AASHTO Board of Directors for final approval and implementation.
WHEREAS, The U.S. Department of Transportation’s (DOT) National Highway Traffic Safety Administration (NHTSA) has released an advance notice of proposed rulemaking (ANPRM) to create a new Federal Motor Vehicle Safety Standard (FMVSS) to require vehicle-to-vehicle communication capability for light vehicles; and

WHEREAS, The automobile manufacturers are preparing the hardware and software components that will achieve vehicle-to-vehicle (V2V) communications using Dedicated Short Range Communications (DSRC) in anticipation of the proposed rulemaking, with some deployments as early as the 2017 model year; and

WHEREAS, The DSRC capabilities being developed by the automobile manufacturers for vehicle-to-vehicle communications can also be leveraged and expanded to enable a two-way communication that is capable of delivering data and information from the roadside to the vehicle and from the vehicle to the roadside (commonly referred to as vehicle to infrastructure [V2I] Applications); and

WHEREAS, A number of V2I Applications have been identified and defined in detail in the USDOT Connected Vehicle Reference Implementation Architecture (CVRIA) that will provide safety, mobility, and environmental benefits once they are deployed and a network of DSRC equipped automobiles are operational; and

WHEREAS, The USDOT has asked the American Association of State Highway and Transportation Officials (AASHTO), the Institute of Transportation Engineers (ITE), and the Intelligent Transportation Society of America (ITSA) to work together to create and manage the Vehicle-to-Infrastructure Deployment Coalition (V2I DC) as a single point of reference for stakeholders to meet and discuss V2I deployment related issues; and

WHEREAS, Through various funding sources, including USDOT, state, and local funding, there have been multiple pilot deployment sites that have demonstrated the functionality and benefits of V2I Applications in multiple locations throughout the United States; and

WHEREAS, Beyond the pilot deployments and a limited number of early adopter deployment sites, the majority of state and local infrastructure owners and operators have not yet begun large scale deployment of V2I Applications even though solutions are now available to problems that were hindering deployments.

WHEREAS, The automobile manufacturers are developing at least three V2I applications and are looking for some indications from the infrastructure owners and operators about the timeline for deploying the roadside infrastructure to support V2I applications; and

WHEREAS, Most infrastructure owners and operators have corridors of signalized intersections that are interconnected and use modern controllers to coordinate signal timing along the corridor; and

WHEREAS, The “signal phase and timing” (SPaT) message is relatively simple to deploy and fundamental to a number of V2I applications, and can be obtained from a traffic signal controller via a standard query protocol and can be broadcast by most DSRC roadside devices as a standardized data message; and

WHEREAS, The SPaT broadcasts are typically accompanied by the broadcast of the map data message (MAP), and global positioning system (GPS) correction information as standardized by the Radio Technical Commission for Maritime Services (RTCM), to enable vehicle equipped applications to interpret the SPaT information being broadcast; and

WHEREAS, The SPaT, MAP, and RTCM functionality can be deployed in phases, but are all identified as necessary to support communication with vehicles for the purposes of V2I Applications; and

WHEREAS, Deploying the SPaT, MAP, and RTCM data message broadcasts in a number of locations around the country will provide state and local transportation agencies with a tangible first step for deploying V2I Applications, promote future more advanced V2I applications, and demonstrate a commitment to the DSRC-based V2I deployments that are needed by automobile manufacturers; and

WHEREAS, The net result of deploying SPaT will be to accelerate V2I application deployment by the automobile manufacturers, the private sector, and the public sector; now therefore be it

RESOLVED, That AASHTO is challenging the state and local public sector transportation infrastructure owners and operators to cooperate together to achieve deployment of DSRC infrastructure with SPaT, MAP, and RTCM broadcasts in
at least one corridor or network (approximately 20 signalized intersections) in each of the 50 states by January 2020 (referred to as the “AASHTO SPAT Challenge”); and therefore be it

**RESOLVED,** That the AASHTO-led V2I Deployment Coalition, AASHTO Highways Subcommittee on Transportation Systems Management and Operation (STSMO) Connected and Automated Vehicle Working Group, AASHTO Highways Subcommittee on Traffic Engineering (SCOTE), and National Operations Center of Excellence (NOCoE) will develop resources and lead implementation of the SPaT Challenge with public sector transportation agencies; and therefore be it further

**RESOLVED,** SCOH approves this resolution and forwards it to the AASHTO Board of Directors for final approval and implementation.
I. PURPOSE OF RESOLUTION

The purpose of this resolution is to approve an AASHTO nationwide challenge to deploy Dedicated Short Range Communications (DSRC) infrastructure with Signal Phase and Timing (SPaT) broadcast in at least one corridor (approximately 20 signalized intersections) in each of the 50 states by January 2020.

II. INTRODUCTION

Connected and Automated Vehicle technology is advancing rapidly and many state and local agencies are wondering what they can do to support or be part of the deployment of these transformational transportation technologies. While the concept of autonomous vehicles has been around for 50 years, the reality of vehicle automation and fully autonomous driving has only recently emerged. This technology, however, has captured the imagination of the public. Autonomous vehicles are eagerly anticipated and skeptically feared, in about equal proportions. The potential of autonomous driving is in the public forum, but connected vehicle technology is less known or understood. For the most part, these two technologies will roll out in tandem, incrementally, as connected automation.

Anticipating the NHTSA DSRC mandate, automakers are busily preparing the hardware and software components of vehicle to vehicle (V2V) systems. Cadillac will deploy DSRC on at least one model in late 2016, with an estimated production of 40,000 vehicles. Other automakers will likely follow suit in the next year or two.

Pilot Deployment sites, and a few others, are developing Vehicle to Infrastructure (V2I) applications, mostly anticipated for use by fleets of cars which can be outfitted with DSRC devices as part of the deployment. Automakers are also developing V2I applications, funded, at least in part, by the US DOT through the Crash Avoidance Metrics Partnership (CAMP). Without infrastructure, these V2I applications will not function, and it is unlikely that the automakers will deploy them until there is a larger scale deployment of roadside DSRC. Car owners in various parts of the county need to see and appreciate these new features on roads where they live and drive.

In testimony before a Congressional Committee in March, 2016, Delphi Automotive Vice President Glen De Vos stated, "In an automated future, cars will need to be able to communicate not just with their owner but also the surrounding environment, other vehicles and infrastructure. Knowing when traffic signals are going to change and where traffic is heaviest not only adds to the safety of the vehicle but allows cars to be driven, or drive themselves, more efficiently." His argument for the synergy between connected vehicle infrastructure and the new driverless paradigm is compelling.

While there is a clear interest in these new technologies, and a solid case for the role of connected vehicle infrastructure in both the connected and automated space, agencies are not prepared for deployment. In many cases, in this rapidly evolving and sometimes complex environment, they simply don’t know where or how to start. An additional challenge is the fact that very few, if any, connected vehicle applications are ready for deployment. Today’s emerging deployments involve considerable software engineering effort. Further, many of those who are currently planning to deploy are working on a variety of applications. To incentivize the deployment of V2I applications in new cars, we need a consistent and uniform deployment across the nation, at least at some level and density.
Fortunately, there is one fairly basic connected vehicle element which is relatively simple to deploy and fundamental to a number of applications, the “signal phase and timing” (SPaT) message. SPaT defines the actions of a traffic signal. It is obtained from a traffic signal controller via a standard query protocol and is broadcast by most DSRC roadside devices as a standardized data message. In addition to the SPaT broadcast, V2I Applications rely on two supporting data broadcasts to enable vehicle equipped applications to interpret the SPaT broadcast:

- the broadcast of the Map Data Message (MAP), a detailed data file that describes the physical intersection; and

- the broadcast of Global Positioning System (GPS) correction information as standardized by the Radio Technical Commission for Maritime Services (RTCM), to achieve accurate vehicle positions.

The SPaT, MAP, and RTCM functionality can be deployed in phases, but are all identified as necessary to support V2I Applications.

Deploying this SPaT, MAP, and RTCM data message broadcast in a number of locations around the country will accelerate V2I application deployment by the automakers, the private sector, and the public sector. A bold and measurable goal is needed to bring this about; it is the next logical step to a connected vehicle reality.

The AASHTO SPaT Challenge will provide a bold and measurable goal that allows the V2I community to join together and collectively work towards a near term milestone for V2I deployment. To the automobile equipment manufacturers, the AASHTO SPaT Challenge will demonstrate a commitment to DSRC-based V2I infrastructure deployment, enable individual application developments to occur in upcoming vehicle releases, and allow for testing and validation of the SPaT, MAP, and RTCM deployments using V2I Applications such as Red Light Vehicle Warning (RLVW).

The AASHTO SPaT Challenge will include the following provisions and details:

- The goal is to achieve DSRC infrastructure deployment of SPaT, MAP, and RTCM broadcasts in at least 20 signalized intersections in each of the 50 states by January, 2020, and to commit to operating the SPaT broadcasts for a minimum of 10 years. To this extent:
  
  o It is recognized that the 20 intersections may include either state, county, or local city intersections, as decided by each location.

  o In situations where the local technical or financial environment can only support a smaller number of intersection deployments, this is still encouraged. The most important aspect is to achieve some deployment within each state.

  o In some situations, agencies may decide to begin with the SPaT broadcast alone, and add MAP and RTCM as funding is allowed. This is recognized as a valid approach as long as the understanding is that MAP and RTCM will be required before vehicle equipped applications recognize the benefits of the broadcast.

  o In some cases, agencies will choose to deploy applications beyond the SPaT, MAP, and RTCM broadcasts. While this will be encouraged, it will not be expected. To maintain a uniformity around the country, and provide a base for broad-scale
application deployment, the SPaT, MAP, and RTCM messages needs to be an element of every deployment.

- State and local agencies responding to the challenge will have access to resources developed by the V2I Deployment Coalition and the AASHTO Connected and Automated Vehicle Working Group (CAV WG) within the Subcommittee on Transportation Systems Management and Operations (STSMO). Additional technology transfer is expected to include webinars.

III. PURPOSE OF THE AASHTO SPaT CHALLENGE

The primary purposes of the AASHTO SPaT Challenge are:

- To provide state and local departments of transportation with a tangible first step for deploying V2I technology and operations. The benefits of this will be valuable experience and lessons learned regarding procurement, licensing, installation, and operations of DSRC infrastructure.

- To promote future, more advanced, V2I applications. As state and local transportation agencies select subsequent V2I applications to deploy, they will understand and feel more comfortable committing to these deployments having been through the process. To show a commitment to DSRC-based V2I deployments that the automobile original equipment manufacturers (OEMs) need to enable them to commit to deploying in-vehicle V2I technologies.

- To enable some level of testing and validation of DSRC broadcasts using the RLVW V2I Application, therefore expanding the understanding of the interoperability of V2I Applications as vehicles travel between states and interact with intersections operated by different DOTs.

- To bring the V2I community together to foster cooperation and coordination in deployment of an initial level of DSRC-based V2I infrastructure.

IV. CONTEXT

AASHTO, working with the Institute of Transportation Engineers (ITE) and ITS America under FHWA guidance, has created and currently leads the Vehicle to Infrastructure Deployment Coalition (V2I DC). V2I DC membership exceeds 200 members and includes representatives from state and local infrastructure owners and operators, automobile OEMs, after-market suppliers, private sector contractors, USDOT, and members and staff from ITE, ITS America, and AASHTO. The V2IDC has selected four focus areas for the coalition as areas with the highest potential safety benefits. One of these focus areas is “Intersections” (signalized and non-signalized) where the majority of crashes and congestion occur. As noted in the introduction, OEMs are beginning to sell DSRC equipped vehicles. While there are infrastructure deployments of DSRC based broadcasts equipped to communicate with the “connected vehicles” in Arizona, California, Michigan, and other locations, these deployment sites represent the only locations where DSRC equipped vehicles could currently communicate with the infrastructure. V2I DC members recently identified a priority focus on Red Light Violation Warning (RLVW) Applications and believe the outcome of the SPaT Challenge will enable multiple agency testing and validation of RLVW functionality and eventually a nationwide rollout of RLVW. Finally, V2I DC members believe the SPaT Challenge is the initial step in the long term vision of wide scale deployment of DSRC broadcasts nationwide, enabling vehicles
to be connected to the infrastructure.

As the V2I Deployment Coalition transitions into Phase 2, V2I DC members, with confirmation from the V2I DC Executive Committee, have identified the AASHTO SPaT Challenge as one of the highest priorities. In addition to the V2I DC, the AASHTO CAV WG members are also committed to supporting the SPaT Challenge. As such, Technical Working Group 1 of the V2I DC will lead this initiative, with support from other TWGs and the AASHTO CAV WG.

A number of technical reference documents will be available as resources to be used by state and local agencies that accept this challenge and participate by deploying SPaT broadcasts. In addition, a series of topic specific webinars will be conducted in cooperation with the AASHTO National Operations Center of Excellence (NOCoE) to help increase the likelihood of success.

V. Benefits of SPaT Deployments

Immediate and Short-term Benefits of SPaT Deployments

As noted earlier, SPaT is very much an entry-point into V2I deployment and operations. The immediate and short term benefits of deploying SPaT broadcasts will largely be internal benefits to the agencies in the form of lessons learned and overall knowledge gained about deploying DSRC based V2I infrastructure (e.g. understanding the DSRC licensing process, gaining experience with site selection, deployment, and operations). The experiences deploying SPaT now will benefit agencies as they deploy more complex DSRC V2I deployments in the years to come. In addition to the increased knowledge about DSRC, agencies participating in the SPaT Challenge will also be deploying the early stages of their eventual V2I infrastructure. The benefits of this are best understood in the context of early fiber optic installations. Some DOTs installed fiber backbones years before there were technologies on both ends of the fiber to benefit from the data communications. In these early years, a benefit/cost analysis of the fiber deployments would have been negative, however as technologies have been deployed on both ends of the fiber backbones, fiber is now critical to communicating data and video. With SPaT broadcasts, the financial, safety, and mobility benefits will come later, as agencies deploy V2I Applications at SPaT equipped intersections and as the percentage of vehicles equipped with DSRC increases. The intent of the SPaT Challenge is to serve as an ‘enabler’ to help agencies eventually reach positive benefit/cost situations with regards to V2I deployments.

Finally, automakers will be able to see the progress of the deployment and use this in their consideration of when to install V2I applications in their cars. Private application developers will respond similarly.

Long-term Anticipated Benefits of SPaT Deployment and Operation

Ultimately, the mobility, safety, and efficiency benefits of DSRC SPaT broadcasts will be recognized as infrastructure owners and operators, public sector fleets (e.g. transit and emergency response), and OEMs deploy specific V2I Applications (i.e. SPaT is a technology required to support multiple V2I Applications), and as the percentage of vehicles with DSRC communications increases. Some examples of the V2I Applications supported by SPaT broadcasts, and the anticipated benefits of these applications are summarized as follows:

- **Transit Signal Priority Applications** operating in areas with SPaT broadcast equipped intersections could be enhanced, allowing more sophisticated decisions regarding priority requests and ultimately reducing delay of all vehicles at these intersections. An advantage to this would be the inclusion of local transit agencies with fleets already equipped with V2I communications.

- **Red Light Violation Warning (RLVW) Applications** could warn drivers of an
approaching signalized intersection when a potential of running the red light is determined based on the SPaT, MAP, and RTCM data received from the infrastructure and the vehicle data, creating the opportunity to reduce red light running related crashes.

- **Intelligent Signal Systems (ISIG) Applications** would require DSRC broadcasts from the vehicles as well as the SPaT broadcasts from the infrastructure. However, when achieved, the benefits would be improved signal timings for reduced congestion and delay for all vehicles traveling through SPaT equipped intersections.

- **In-vehicle displays of countdowns** describing green or red time remaining could be developed as in-vehicle or mobile hand-held applications informing the drivers approaching intersections of when the green light phase will end. Similarly, drivers stopped at intersections could see a countdown to the light change from red to green.

These are just a few examples of the types of additional applications that agencies, OEMs, or after-market providers may decide to add to the SPaT functionality.

VI. **KEY SERVICES OFFERED BY THE AASHTO SPaT Challenge**

As state and local agencies assess whether they will deploy SPaT, they will require some level of technical guidance and support. Similarly, those agencies that decide to accept the challenge and deploy the SPaT broadcast will need additional technical support and resources throughout the process.

While a dedicated funding source is not available, the V2I Deployment Coalition (led by AASHTO, ITE, and ITS America) and the AASHTO CAV WG both have the resources of volunteer members and funded technical support to develop resources to be used as reference materials as the infrastructure owners and operators deploy SPaT broadcasts. The resources that are expected to be developed to support the challenge include:

- Guidelines to assist agencies in selecting corridors for deployment;
- Procurement guidance;
- DSRC licensing information;
- Implementation guidance (including additional information about the role of MAP and RTMC and deployment dependencies for successful SPaT deployment);
- Estimated costs for installation, operations, and maintenance; and
- Identification of existing funding sources that agencies may consider.

To measure progress against this goal, and to provide a forum to encourage other locations to participate, the AASHTO National Operations Center of Excellence (NOCoE) web site will be used to track all of the deployment locations. The map will indicate which locations have committed to this challenge, and which have operational systems. Details of the deployment will also be described. Best practices can also be shared on this site.

VII. **EFFECTIVE DATE**

The Policy Resolution for the AASHTO SPaT Challenge will be jointly supported by the Subcommittee on Transportation Systems Management and Operations (STSMO) and the Subcommittee on Traffic Engineering (SCOTE), and shall become effective upon approval by at least a two-thirds majority of the AASHTO Standing Committee on Highways (SCOH).
WHEREAS, On January 25, 2016, the Federal Highway Administration (FHWA) announced in the Federal Register, Vol. 81, No. 15, pg. 4083-4084, the termination of an alternative letter style, Clearview™, on traffic control devices effective 30 days from publication; and

WHEREAS, The use of this alternative letter style was authorized on September 2, 2004, under the provisions of the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD) for Interim Approval for the Use of Clearview Font on Positive Contrast Legends on Guide Signs (IA-5); and

WHEREAS, The FHWA Handbook for Designing Roadways for the Aging Population (June 2014) states that Clearview Font in conjunction with microprismatic retroreflective sheeting should be considered because it may further enhance positive contrast legends if used appropriately; and

WHEREAS, The FHWA has set a high standard for expecting thorough and well-designed research before considering the modification of specific traffic control devices or elements of said devices; and

WHEREAS, The Interim Approval for the Use of Clearview Font on Positive Contrast Legends on Guide Signs (IA-5) cites four studies showing benefit of Clearview while the Federal Register notice references only one study citing Clearview provides no benefit; and

WHEREAS, Some research has demonstrated increased legibility distances and improved legibility for older drivers during the night time when challenges increase for drivers through the use of Clearview Font, without increasing font size or significantly the overall sign size; and

WHEREAS, Clearview font reduces the halation of highway sign legends when using brighter retroreflective sign sheeting; and

WHEREAS, The Federal Register notice implies inconsistent sign design practices are caused by Clearview although no evidence was provided; and

WHEREAS, During any sign implementation, inconsistencies can be found in the sign design process; and

WHEREAS, The Federal Register notice cites research of Clearview font in negative contrast color orientations (dark legend on lighter background, such as for regulatory and warning signs) showing no improvement and significantly degraded legibility of the sign although the Interim Approval did not allow the use of Clearview on negative contrast signs; and

WHEREAS, Some roadway agencies have invested and used Clearview font for over ten years with no known negative impacts on the motoring public; now therefore be it

RESOLVED, AASHTO respectfully requests FHWA to reinstate the Interim Approval for the Use of Clearview Font on Positive Contrast Legends on Guide Signs (IA-5) and be it further,
RESOLVED, AASHTO requests FHWA to establish a task force to address the concerns cited in the Federal Register and provide a recommendation for each; and be it further

RESOLVED, AASHTO requests FHWA to fully examine any potential termination of an Interim Approval, in coordination with other interested stakeholders.
WHEREAS, The State of Alabama in response to the provisions of the AASHTO Guidelines for Listing Control Cities for Use in Guide Signs on Interstate Highways has requested that the City of Birmingham be established as the control city destination along the interchange of Interstate Route I-22, and

WHEREAS, The City of Birmingham lies at the interchange with Interstate 65 and the official designation of Interstate 22 within the State of Mississippi; and

WHEREAS, Birmingham is the largest city in Alabama and is already listed as a control city for Interstates 20, 59, and 65, and

WHEREAS, Motorists destined for the interchange of Interstate 22 would benefit by signing the city at this location as a Control City, and

WHEREAS, Most states use this criteria when determining Control Cities in an effort to provide good directional guidance to the motorist, and

WHEREAS, The request of this designation has been reviewed and determined to meet the requirements of the AASHTO guidelines, now therefore be it

RESOLVED, It is recommended that the request of the State of Alabama to designate Birmingham, as the control city destination along the interchange of Interstate Route I-22 be approved by the AASHTO Board of Directors.
Standing Committee on Highways
Proposed Administrative Resolution
Title: Control City Request from Mississippi Department of Transportation

WHEREAS, The State of Mississippi in response to the provisions of the AASHTO Guidelines for Listing Control Cities for Use in Guide Signs on Interstate Highways has requested that the City of Tupelo be established as the control city destination along the interchange of Interstate Route I-22, and

WHEREAS, The City of Tupelo is the official designation of Interstate 22 within the State of Mississippi that lies at the interchange with SR 304 (Future I-269) to the Alabama State Line; and

WHEREAS, Tupelo, the hub of several nationally significant highways and routes, is the State’s 7th largest city and the 2nd largest city in the State north of the I-20 corridor city in Mississippi and is already listed as a control city for Interstates 20, 59, and 65; and

WHEREAS, Tupelo is the largest city on the US 78/I-22 corridor between Birmingham & Memphis and is already being used as a control city on US 78 (which runs concurrently with I-22); and

WHEREAS, Motorists destined for the interchange of Interstate 22 would benefit by signing the city at this location as a Control City, and

WHEREAS, Most states use this criteria when determining Control Cities in an effort to provide good directional guidance to the motorist, and

WHEREAS, The request of this designation has been reviewed and determined to meet the requirements of the AASHTO guidelines, now therefore be it

RESOLVED, It is recommended that the request of the State of Mississippi to designate Tupelo as the control city destination along the interchange of Interstate Route I-22 be approved by the AASHTO Board of Directors.
Standing Committee on Highways
Proposed Administrative Resolution
Title: Control City Request from Tennessee Department of Transportation

WHEREAS, The State of Tennessee in response to the provisions of the AASHTO Guidelines for Listing Control Cities for Use in Guide Signs on Interstate Highways has requested that the City of Memphis be established as the control city destination along the interchange of Interstate Route I-22, and

WHEREAS, The City of Memphis is a major destination in Tennessee and is already listed as a control city for Interstates 40 and 55; and

WHEREAS, Motorists destined for the interchange of Interstate 22 would benefit by signing the city at this location as a Control City, and

WHEREAS, Most states use this criteria when determining Control Cities in an effort to provide good directional guidance to the motorist, and

WHEREAS, The request of this designation has been reviewed and determined to meet the requirements of the AASHTO guidelines, now therefore be it

RESOLVED, It is recommended that the request of the State of Tennessee to designate Memphis as the control city destination along the interchange of Interstate Route I-22 be approved by the AASHTO Board of Directors.
<table>
<thead>
<tr>
<th>Arizona</th>
<th>Hammit, Dallas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topic(s):</td>
<td>How are other states dealing with &quot;4F&quot; eligibility vs &quot;4F&quot; listed</td>
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<thead>
<tr>
<th>Arkansas</th>
<th>Banks, Emanuel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topic(s):</td>
<td>Advancements, current trends, in pavement preservation techniques (overlays, chip seals, ultra-thin bonded wearing courses, etc.)</td>
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<thead>
<tr>
<th>California</th>
<th>Sutliff, Karla</th>
</tr>
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<tbody>
<tr>
<td>Topic(s):</td>
<td>Complete streets implementation. California is realizing that &quot;Road Diet&quot; paints the wrong picture (It's not about making everything smaller.) We are trying to instead focus on the concept of a &quot;Re-allocation of Space&quot; or &quot;Facility Fitness&quot;. Thoughts? Property management - after buying property for a project how do other states manage the inventory? What about homes or businesses where the State becomes the landlord?</td>
</tr>
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<tr>
<th>Colorado</th>
<th>Laipply, Joshua</th>
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<tbody>
<tr>
<td>Topic(s):</td>
<td>How are states investing freight mobility dollars from the FAST Act?</td>
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<tr>
<th>Delaware</th>
<th>McCleary, Rob</th>
</tr>
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<tbody>
<tr>
<td>Alternate: David Nicol</td>
<td></td>
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<tr>
<td>Topic(s):</td>
<td>Innovation development - How do other States foster the development of new innovations? How are they funded? Every Day Counts (EDC) focuses on deployment of innovations that have already been developed and implemented in at least one State. It does not consider development of new innovations.</td>
</tr>
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<tr>
<th>Illinois</th>
<th>Loete, Paul</th>
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<tbody>
<tr>
<td>Topic(s):</td>
<td>With the interstate system roughly 60 years old, what are the states doing about their similarly aging rest area system? Nothing or removing them? Simply maintaining them? Replacing or otherwise improving them? Expanding them? Additional truck parking to help truckers get their rest?</td>
</tr>
</tbody>
</table>
Indiana
Poturalski, Jim
Topic(s):
- For major interstate reconstruction projects, there have been some conflicting guidance from FHWA positions relative to performance based practical design and recommendations for more than minimum standards (for example, 12 foot right shoulder width for roads with truck volumes greater than 250 DHV). The Indiana Division office of FHWA is seeking guidance nationally from their headquarters and other states. I would like to get some feedback on how others are handling this situation.

Maine
Taylor, Joyce
Topic(s):
- Update on approval of products meeting MASH standards.

Massachusetts
Leavenworth, Patricia
Topic(s):
- How do other states use consultant evaluations to effectively improve design quality
- Do any of the other states have a policy on hanging flags from bridges
- MassDOT has started transitioning to MASH and has already move to MASH for Temporary Barrier. Have any other states started implementing MASH requirements and if so, what are the lessons learned.

Missouri
Hassinger, Ed
Topic(s):
- Update on roadway design guide.
- AASHTO reorganization.
- Update from group working on The Interstate of the future

New Hampshire
Cass, William
Topic(s):
- Thin lift paving, preservation or maintenance (and eligibility)
- Sidewalk maintenance and ADA transition plans

Ohio
Barna, James
Topic(s):
- TSMO
- Asset Management
- Knowledge Management Strategies

Oklahoma
Shell, Casey
Topic(s):
• State DOTs perspective on the deployment of cellular networks / boosters on state owned R/W (Mobilitie) Are the states competitively bidding/selling R/W space?
• How many states still have a fully functioning 2 way radio system? Have they been able to invest in the necessary technology to stay up to date?

Pennsylvania
Christie, Scott
Topic(s):
• Update from FHWA on MASH - and specifically how they intend to handle the tolerances from the testing - will the tolerance be realistic?

Utah
Park, Randy
Topic(s):
• Drone use by DOT’s - What successes and challenges are being experienced

Vermont
Tetreault, Richard
Alternate: Kevin Marshia
Topic(s):
• Brief update on Fall Protection Resolution discussions with DOL.

Wisconsin
Olson, Joseph
Topic(s):
• NEPA assignment experiences to date. Would like to hear from States that have taken on NEPA and their perspective on successes and challenges, as well as approach to resourcing.