



State Transportation Innovation Council (STIC)

Innovation in Motion

A newsletter with highlights from the STIC

INNOVATE
DEPLOY
EDUCATE



The STIC met in November 2017 to discuss new initiatives and learn about recent successes.

Award-Winning Excellence in Innovation

The Pennsylvania STIC recently received the American Association of State Highway and Transportation Officials (AASHTO) Innovation Initiative and the Federal Highway Administration's (FHWA) Center for Accelerating Innovation 2017 STIC Excellence Award for its local government outreach efforts.

Over the past few years, the STIC collaborated with local governments to identify, pilot and promote innovations that have the potential to improve efficiency and safety on local road networks while reducing environmental impacts. Examples of these efforts include the Salt and Snow Management Course, in which 29 on-site classes were held in 25 counties, providing training to more than 600 participants. The STIC also held a High Friction Surface Treatment Demonstration Day that attracted more than 20 local government representatives and offered an opportunity for attendees to observe an actual application.

The STIC reached out to educate local governments at several events, including the Local Government Innovation Day that was held in Washington County in November 2016 and was attended by nearly 100 individuals representing boroughs, townships, and state and federal governments. The Local Government Safety Seminar was held in July 2017, where over 200 individuals attended the seminar in person or online at remote viewing locations.

These efforts represent an important part of the STIC's commitment to foster a culture of innovation at all levels of government in Pennsylvania. The STIC Management Team would like to thank several STIC members for endorsing the award nomination: Will Clark, York County Planning Commission; Elam Herr,



STIC Co-Chairs, PennDOT Secretary Leslie Richards and FHWA Acting Division Administrator Moises Marrero, posed with the 2017 FHWA/AASHTO Excellence Award.

Pennsylvania State Association of Township Supervisors; and Edward Troxell, Pennsylvania State Association of Boroughs.

2017 STIC Incentive Funding Updates

Two projects that received 2017 STIC Incentive Program funding were showcased at the November STIC Business Meeting.



Several bridges across the state have been using the GRS-IBS technique, including a bridge project in McKean County.

GRS-IBS Bridge Specifications Update

Kristin Langer, PennDOT Assistant Chief Bridge Engineer and Randy Albert, PennDOT Municipal Services Supervisor, provided an update on the Geosynthetic Reinforced Soil-Integrated Bridge System (GRS-IBS) initiative to evaluate and revise the current specification. The GRS-IBS technique was introduced to PennDOT in 2011 and since then has been used in over 25 projects across the state. GRS-IBS allows PennDOT and municipalities to build bridges in a quick and cost-effective manner that is environmentally friendly.

Nearly all PennDOT districts have a GRS-IBS bridge, and those that do not are seeking implementation opportunities. PennDOT is in the process of updating the specifications for bridge construction that utilize GRS-IBS technology. Initially, a very conservative approach was implemented for the new technology. The acceptance and refinement of the process has necessitated the need to update and expand the specification. Areas being considered include: increasing allowable annual average daily traffic (ADT), limitations on length, and structural features; including the composition and type of the facing blocks. Future analysis will include stream velocity and scour countermeasures to expand the range of conditions for GRS-IBS technology.

Updates to the specifications are anticipated to be completed within the next two years.

Evaluating the Need for a Regional Traffic Incident Management Training and Testing Facility

Troy Truax, of Michael Baker International, highlighted the efforts underway to locate a Traffic Incident Management (TIM) training facility in Pennsylvania. This facility would not only serve but would become the premier training facility for the Mid-Atlantic states. The facility would once again place Pennsylvania on the map as a leader in safety technology as well as continue its East Coast dominance for connected and autonomous vehicles (CAV) testing grounds. The future site has the promise to house classrooms and in-the-field experiences for incident (crash) management for first responders, electronic tolling and CAVs, to name a few.



The business plan development, site identification and creation of a site development plan, which are being led by the Pennsylvania Turnpike Commission in conjunction with PennDOT, the Pennsylvania Emergency Management Agency (PEMA), Pennsylvania State Police (PSP) and the FHWA, would take the concept of blending classroom training and then applying those concepts in a simulated environment utilizing a variety of real-life crash scenarios. This concept helps support the increased attention to TIM and the national safety goal of *Toward Zero Deaths*. The optimal future site would also be capable of testing innovative technologies and equipment related to roadway safety and automation. It would provide experiential training to first responders including emergency management personnel, state police, media, tow truck drivers, etc. Similar sites exist in Tennessee and Florida, but none currently exist in the Northeast. Pennsylvania wishes to be a leader and predominate host for other states by building this facility in a centrally-located site.

The project team is aggressively pursuing this initiative and has already completed interviews with stakeholders to gather input and ideas of what the ideal site plan would look like. They are also visiting locations and identifying partners. The next step is to finalize the business plan by spring 2018.

Candidate Projects Sought for 2018 STIC Incentive Funding

With a new year fast approaching, the STIC Management Team announced that it is now accepting candidate projects to be considered for 2018 STIC Incentive Program funding. Each year, the FHWA's STIC Incentive Program makes \$100,000 available to help states fund candidate projects for further development. Anyone wishing to submit a candidate project should send the name of the project, a brief description or white paper, and estimated costs via email to Karyn Vandervoort at karyn.vandervoort@dot.gov by March 15, 2018.

STIC Business Meeting Highlights:



The STIC met in November 2017 to hold the final Business meeting of the year.

The STIC approved a white paper presented by the **Materials TAG** for the Supplying Cement Slurry for Full-Depth Reclamation (FDR) in Ready Mixed Concrete Trucks initiative. Cement slurry is a mix of cement and water that is applied in a liquid form to the ground roadway base during FDR projects to provide additional base stability. The cement slurry also provides an environmental benefit as a dust palliative. Once the cement slurry is applied, the surface is topped with a

chip seal application. Currently, cement slurry works best in small applications and on lower volume roads. In addition, local governments would see cost savings with lower bid prices for FDR projects.

The TAG is working to include this technique in Section 344 (Full-Depth Reclamation) of Publication 408 and Section MS-0370-0035 (Full-Depth Reclamation) of Publication 447. The Materials TAG is in the process of finalizing a deployment plan and will begin developing the revised construction and materials specifications to move this initiative forward. The Materials TAG was also recognized by the STIC Management Team for development of this initiative, from initiation through white paper, in less than a year.

The **Maintenance TAG** presented an update on the [LED Highway Lighting Pilot and Policy initiative](#). The pilot project used LED lights on the Clarks Ferry Bridge, which spans the Susquehanna River in Reed Township, Dauphin County. So far, estimates show that overall cost efficiency of LED lights is about 30 percent when compared to traditional high-pressure sodium (HPS) bulbs. The Maintenance TAG identified several goals for the initiative this year, including developing a design specification, a product specification and including an approved manufacturer in Bulletin 15. The TAG achieved these goals with several other manufacturers' products being tested for inclusion in Bulletin 15 as well.



Cement Slurry is a mix of cement and water that is applied in a liquid form to the ground roadway base during full depth reclamation projects to provide base stability.

Communications and Outreach

2017 STIC Accomplishments Summary Coming Soon

The STIC Management Team is currently developing the 2017 STIC Accomplishments Summary. This year, the TAGs prioritized their pending innovations and identified significant deployment milestones that could be achieved in 2017. The 2017 STIC Accomplishments Summary will highlight those major milestone accomplishments achieved by the TAGs this past year. The report will be distributed in early 2018.

New STIC Webpage Coming Next Year

The STIC Management Team is working to update the STIC webpage on PennDOT's website to improve overall functionality and user accessibility. An assessment of the current STIC webpage was conducted earlier this year via an in-depth review of existing content and webpage analytics to determine where and how user experience can be improved. The revised STIC webpage is scheduled to debut in 2018.



Fact or Fiction

Q: Is it true that LED luminaires are brighter than traditional high-pressure sodium (HPS) bulbs?

A: No. LED and HPS lights use the same wattage and cast the same amount of light. The difference is in the color of the light. LEDs cast a white light that appears brighter than the orange light cast by the HPS.



Ask the STIC

Q: When and where should supplying cement slurry for FDR projects be applied?

A: The product works better in small applications and should be used on smaller, stabilized roads that are found in more rural areas. Cement slurry can provide a real maintenance benefit to local governments looking to more efficiently utilize resources.



Upcoming Events:

Next year's STIC Business Meeting schedule will be released in early 2018.

For more information, please contact the STIC Team at ra-pdpenndotstic@pa.gov.

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