State Transportation Innovation Council (STIC)

Innovation in Motion
A newsletter with highlights from the STIC

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This edition of the STIC *Innovation in Motion* e-Newsletter highlights the Federal Highway Administration (FHWA) Every Day Counts Round 4 (EDC-4) innovation, Automated Traffic Signal Performance Measures (ATSPM). ATSPM use data to analyze and optimize the performance of traffic signals to improve the safety, mobility and efficiency of signalized intersections for all users. This e-newsletter also highlights the three regional America's Transportation Awards PennDOT recently received from the American Association of State Highway and Transportation Officials (AASHTO).

PennDOT Utilizes Automated Traffic Signal Performance Measures (ATSPMs) to Improve Traffic Signals

With tens of thousands of traffic lights in Pennsylvania, it's important that traffic signals are timed correctly to keep Pennsylvanians moving efficiently and safely. With the adoption of Automated Traffic Signal Performance Measures (ATSPM), a Federal Highway Administration [Every Day Counts Round 4](#) (EDC-4) innovation, PennDOT is able to collect traffic signal data continuously to improve traffic signal timing and optimize the flow of traffic.

ATSPM is a suite of resources for collecting data on traffic signals, including overall equipment health, vehicle detection, traffic flow and more. The data is collected and analyzed to produce graphic visualizations of the signal performance, which allows PennDOT to understand how traffic signals are meeting safety and mobility objectives. With the use of ATSPM, PennDOT can get a direct analysis of traffic signal operations, optimize signal timings, evaluate equipment performance and more. The data provides engineers with information needed to proactively identify and correct deficiencies.

Prior to the implementation of ATSPM, the signal retiming process was limited to manual, labor-intensive data collection, which only captured a short period of time. Maintenance and operations also relied heavily on inconsistent feedback from the public to know if signal detection was working properly. Now, with ATSPM, PennDOT receives continuous data via electronic collection from data-logging controllers located within traffic signals.

PennDOT recently began a pilot ATSPM program using Miovision Traffop, a software program that gathers signal operations data from 110 traffic signal intersections from across Pennsylvania. The program then compares the information and condenses the data to a scalable report, which allows PennDOT employees and other traffic signal stakeholders to analyze the data to see what changes can be made to optimize traffic signal efficiency. With the success of the pilot program, PennDOT hopes to expand the use of ATSPM throughout the state.

Since there are over 100,000 settings within the traffic signal controller that determine how the signal operates, ATSPM provides the benefit of looking to see if the signal is configured correctly, or if the detection for vehicles and pedestrians is

working properly. Modern traffic signal infrastructure, in conjunction with ATSPM, allows for a proactive approach to traffic operations and signal management. Without the use of this new technology and ATSPM, there could be an extensive delay in knowing that signalized intersections are not operating efficiently.

PennDOT's goal is for all Pennsylvanians to travel efficiently and safely to their destinations. The use of ATSPM helps PennDOT meet that goal, while also reducing traffic delays, fuel consumption and crashes.

More information on ATSPM is available on PennDOT's website.

Looking Ahead

Low-Carbon Transportation Materials Grant Funding Now Available for Non-State DOTs!

FHWA recently released details for the Low-Carbon Transportation Materials (LCTM) Notice of Funding Opportunity (NOFO). The LCTM Program, aims to increase the use of materials that have "substantially lower levels of embodied greenhouse gas emissions" as defined by the Environmental Protection Agency. Grant funding, totaling $800 million, is available to eligible non-State Departments of Transportation, including local governments, political subdivisions of a state, U.S. territories, federally recognized tribes, Federal Land Management Agencies, Metropolitan Planning Organizations, and special purpose districts or public authorities with a transportation function. NOFO applications must be submitted through grants.gov by Nov. 25, 2024.

An informational webinar is scheduled for September 25, 2024, from 2 p.m. to 3 p.m. Registration is required. To register click on the button below.

Register for the LCTM webinar

INNOVATION IN MOTION
Webinar Series

Want to learn more about innovative initiatives happening across PennDOT? Join us for our 2024 *Innovation in Motion* Webinar Series to hear about innovative practices, tools and technologies being used to help move transportation forward in Pennsylvania. All webinars will be held from 10 a.m. to 11 a.m.

- **Sept. 10 - Innovating Winter Maintenance**
- **Dec. 10 - PennDOT's Digital Transformation**

If you missed any of our previous *Innovation in Motion* webinars, they are available for viewing at www.penndot.pa.gov/innovation. Select the blue "Innovation in Motion Webinar Series" tile on the right-hand side of the page.

Did You Know?

PennDOT Receives Three Regional AASHTO Awards

The Pennsylvania Department of Transportation (PennDOT) is the recipient of three regional America's Transportation Awards from the American Association of State Highway and Transportation Officials (AASHTO). PennDOT was recognized for its efforts during the Interstate 95 Cottman Avenue collapse in the category of Best Use of Technology & Innovation (small project).

The project utilized an innovative temporary mechanically-stabilized wall system, consisting of recycled foamed glass aggregate manufactured in Eddystone, Pa. PennDOT also received an award for its Automatic Queue Protection System, an innovative approach to mitigating congestion, in the category of Operations Excellence (small project). The system collects and uses crash data to reduce additional crash risk by automatically detecting congestion and relocating traffic to unaffected lanes and supports the FHWA Every Day Counts Round 6 (EDC-6) innovation, Next-Generation TIM: Integrating Technology, Data and Training, which Pennsylvania continues to champion. Finally, PennDOT received an award for traffic-signal and interchange upgrades in Washington County in the category of Safety, (medium project).

Upon completion of regional competitions, the three highest scoring projects from each region will be named the "Top 12" and will go on to compete for the top two national prizes, which will be announced at the 2024 AASHTO Annual Meeting in Philadelphia later this year. Learn more about these projects here.

For more information on these and other STIC innovations visit
www.penndot.pa.gov/stic or email penndotstic@pa.gov.