



State Transportation Innovation Council (STIC)

Innovation in Motion

A newsletter with highlights from the STIC

INNOVATE

DEPLOY

EDUCATE



This edition of the STIC *Innovation in Motion* e-Newsletter highlights the Federal Highway Administration (FHWA) Every Day Counts Round 6 (EDC-6) innovation, Targeted Overlay Pavement Solutions (TOPS) and recent pilot projects where it has been used. It also announces this year's recipients of FHWA STIC Incentive Program funding.

Using Innovative Solutions, PennDOT Creates Safer, Longer-Lasting Roads

Targeted Overlay Pavement Solutions (TOPS) build upon more traditional overlay methods by using new materials and techniques to lay concrete or asphalt over existing deteriorated pavements. Compared to reconstruction, overlays can be a cost-effective solution to extend pavement life by improving road durability and performance, increasing load-carrying capacity and improving safety, mobility and user satisfaction. TOPS, a Federal Highway Administration's (FHWA) Every Day Counts Round 6 (EDC-6) innovation, championed by Pennsylvania, offers 13 options to create safer and longer-lasting roads.



In its efforts to maintain nearly 40,000 miles of Pennsylvania highways, PennDOT is utilizing Stone Matrix Asphalt, Highly Modified Asphalt, Thin-Bonded Concrete on Asphalt, Asphalt Rubber Gap-Graded, High-Performance Thin Overlay, Enhanced Friction Overlay, Ultra-Thin Bonded Wearing Course, and various bonded and unbonded concrete overlays for asphalt, concrete or composite pavements. These pavement solutions enhance performance for both asphalt and concrete pavements, reduce maintenance, maximize previous investments through extended service life of pavement structures, reduce congestion through the need for less work zones, increase skid resistance, improve resiliency in flood-prone areas and reduce noise.

In August 2023, PennDOT received a \$700,000 grant from FHWA's [Accelerated Innovation Deployment \(AID\) Demonstration](#) program to improve the long-term resiliency of pavement on roads across the state. The funding is being used to deploy Stone Matrix Asphalt with Highly Polymer Modified Asphalt on projects in PennDOT Engineering Districts 2, 5, 9 and 11.

In addition, TOPS has already been used on many projects throughout Pennsylvania. In October 2022, PennDOT piloted a Thin Bonded Concrete Overlay with Fibers on Asphalt on a ramp off State Route 28 in Armstrong County. The project used a special provision, which included the newly drafted language for using fibers. In the southeastern region of the state, Highly Modified Asphalt is being used during paving of high-traffic areas on Interstate 76 from Route 1 to Interstate 676, Philadelphia County and Interstate 476 at the Interstate 76 Interchange to Interstate 95, Delaware County. In the northwestern corner of the state, Highly Modified Asphalt was used as part of a larger pilot project on approximately one mile of Interstate 79.

Additionally, Asphalt Rubber Gap-Graded was tested along sections of four different roadways: State Route 15 in Adams County, I-78 in Berks County, I-376 in Lawrence County and State Route 15 in Snyder County.

Thanks to innovative methods, such as TOPS, Pennsylvania can maintain and preserve an extensive network of roadways that connect travelers each day to the people and places they love. For more information on TOPS, visit the [TOPS page](#) on PennDOT's website.

Looking Ahead



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?

2024 STIC Incentive Program Funding Recipients

FHWA STIC Incentive Program offers up to \$125,000 per state annually, with a 20% non-federal match to support or offset costs of standardizing innovative practices in a state transportation agency or other public sector STIC stakeholder.



This year, the funding is being used to support two innovations. The first project, Cold Central Plant Recycling (CCPR), received \$93,000 to update the existing CCPR standards and specifications for use on high volume routes, with the goal of piloting the innovation on a high-volume route in one of PennDOT's urban districts, where the largest Reclaimed Asphalt Pavement (RAP) stockpiles are located. CCPR is the process in which a base or binder asphalt pavement layer is produced at a centrally located mobile/stationary plant using RAP from an existing stockpile or millings from an ongoing project, either emulsified asphalt or foamed asphalt and sometimes an active filler such as cement. After the CCPR is produced, it is loaded onto trucks and hauled to the project for placement using conventional paving and compaction equipment. CCPR lends itself to significant reductions in greenhouse gas emissions and global warming potential.

The 2024 STIC Incentive Program funding in the amount of \$32,000, will also be used to advance the EDC-7 innovation Next Generation Traffic Incident Management (Next Gen TIM) and purchase two Debris Removal Systems (DRS) to improve safety and expedite debris removal in PennDOT's District 11 tunnel maintenance organization. PennDOT selected DRS as a focus area for the FHWA EDC-7 Next Gen TIM: Technology for Saving Lives innovation. PennDOT will evaluate the DebrisClear push bumper and Missouri DOT's JAWS & SWIPER for roadway cleanup after roadway incidents. The anticipated benefit includes safer and quicker roadway cleanup without exposing individuals to the hazards of live traffic. Following evaluation of the two systems, PennDOT will determine possible benefits of statewide implementation of DRS. Learn more about other STIC Incentive Program funding projects [here](#).

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

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