



This edition of the STIC Innovation in Motion e-Newsletter provides an overview of the five Federal Highway Administration (FHWA) **Every Day Counts Round 7 (EDC-7)** innovations that Pennsylvania is championing as part of this round. These include:

- Nighttime Visibility for Safety
- Next Generation Traffic Incident Management (TIM): Technology for Saving Lives
- Strategic Workforce Development
- Enhancing Performance with Internally Cured Concrete (EPIC²)
- EPDs for Sustainable Project Delivery

This edition also features updates on two FHWA **Every Day Counts Round 6 (EDC-6)** innovations that Pennsylvania championed – Crowdsourcing for Advancing Operations and Next Generation TIM.

Nighttime pedestrian fatalities are three times higher than daytime rate fatalities, resulting in 76% of pedestrian fatalities occurring at night. Increasing [nighttime visibility](#) can reduce crashes at rural and urban intersections by 38% using well-designed lighting. A key focus of this innovation is lighting, including the design, maintenance, and technology advancements to improve pedestrian crossings near activity locations, such as schools, parks, transit stops, and sports complexes. Enhancing visibility in these high-activity areas with cost-effective and proven lighting and traffic control device countermeasures can save lives.

Next Generation TIM: Technology for Saving Lives

More than 6 million reportable crashes occur each year in the United States, resulting in 2 million injuries and more than 30,000 fatalities. Additionally, there are more than 32 million disabled vehicles and countless incidents of roadway debris. These events put responders and motorists at risk of secondary crashes. [Next Generation Traffic Incident Management \(NextGen TIM\)](#) programs promote emerging technologies to advance safety and mitigate incident impacts to clear incidents collaboratively, safely, and quickly. NextGen TIM feeds a larger TIM role in the Safe Systems approach, by creating a safe working environment for vital first responders and preventing secondary crashes through robust TIM practices. This innovation aims to provide new tools, data and training mechanisms to protect everyone on the road.

Strategic Workforce Development

The demand for highway construction, maintenance, and operations workers is on the rise while the industry is also seeing a rise of emerging technologies that will require new skills. The [Strategic Workforce Development](#) approach aims to attract and retain workers in highway construction jobs and provide them with the necessary training to fill these vital jobs. Increasing the highway construction workforce can help communities thrive while solving one of today's most persistent national transportation problems, and offers an opportunity to recruit underrepresented groups, including minorities and women, to jobs that can change their lives.

Enhancing Performance with Internally Cured Concrete (EPIC²)

Cracking in concrete is a limiting factor in achieving long-term concrete performance. When this cracking occurs at an early age, it leaves the concrete and embedded reinforcement exposed to degradation, reducing the service life of the structure. Unlike conventional curing, where water is supplied on the concrete's surface, internal curing provides a source of moisture from inside the concrete mixture, improving its resistance to cracking and overall durability. [Internally cured concrete](#) aims to alleviate shrinkage cracking, and has the potential to substantially extend the service life of concrete bridge decks and enhance the performance of pavements and repairs.

EPDs for Sustainable Project Delivery

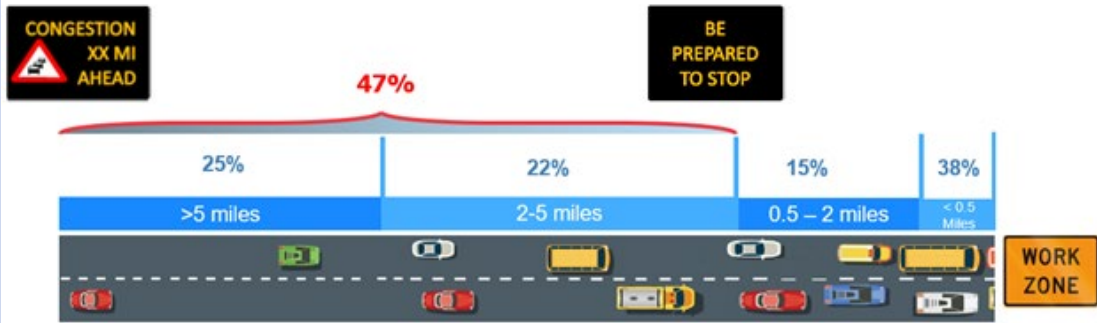
[Environmental Product Declarations](#), or EPDs, document the environmental impacts of construction materials such as concrete and asphalt during their life cycle. This tool helps support procurement decisions and quantify embodied carbon reductions using life cycle assessments for sustainable pavements. It also helps agencies reduce greenhouse gas (GHG) emissions in their construction projects. EPDs provide an opportunity to reduce negative environmental impacts by transforming the project delivery process and encouraging the supply and demand of products that promote more sustainable use of resources and create less stress on the environment. Agencies can leverage the use of EPDs to support decision-making throughout the project delivery process, such as requesting EPDs at material installation to establish and develop benchmarks for current designs and projects.



Every Day Counts (EDC-6) Updates: Crowdsourcing for Advancing Operations and Next Generation Traffic Incident Management (TIM)

PennDOT is building on its commitment to ease traffic congestion through two innovations it championed as part of Federal Highway Administration's Every Day Counts Round 6 (EDC-6) – Crowdsourcing for Advancing Operations and Next Generation Traffic Incident Management (TIM): Integrating Technology, Data and Training. [Learn More](#)

956 Crashes in Work Zone Congestion on the Core Network in 2022



**For more information on these and other STIC innovations,
email penndotstic@pa.gov.**