



KEEPING YOU UP  
TO DATE WITH ALL  
OF PENNDOT'S  
PROJECTS AND  
INNOVATIONS  
THROUGHOUT  
THE YEAR.

# DIVERGING DIAMOND INTERCHANGE OPENS, IMPROVING SAFETY AND EFFICIENCY

WINTER 2022

Photo: Southern York County Drone Photography (sycdrone.com)

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This quarterly newsletter highlights our latest efforts to improve mobility and quality of life in Pennsylvania.

As always, feel free to send story ideas or requests for information you want to see. If you’re involved in an interesting or innovative project or initiative, have ever wondered about other parts of PennDOT’s operations or have other suggestions, email the Communications Office at [DOTcomm@pa.gov](mailto:DOTcomm@pa.gov).

**We hope you enjoy this latest issue!**

# PENNSYLVANIA: HOME OF INGENUITY

By PennDOT Secretary Yassmin Gramian, P.E.



Photo courtesy of Locomotion



While the idea of vehicle automation can seem more at home in a science fiction movie than in the real world, the truth is that real progress is being made every day, right here in Pennsylvania.

Technology and innovation in our field presents us with an opportunity to reinvent transportation in a way that is smarter, cleaner, safer, more equitable and more efficient than ever before.

Our second-largest city, Pittsburgh, is not only the cradle of vehicle automation, but also one of the global epicenters of its ongoing research and development. Currently, eight companies are authorized to test automated vehicles in 56 Pennsylvania counties. I'm proud that PennDOT is at the forefront of these efforts and has been nationally recognized for our leadership as a DOT in this space.

I recently had the opportunity to visit four automated vehicle technology companies in Pittsburgh: Argo AI, Aurora, Locomotion and Motional.

I was incredibly impressed by all these companies – not only by the technologies that they're testing and developing, but by their focus on safe deployment. At each visit, team members from each company discussed how beneficial their open and collaborative relationship with PennDOT has been. It has been gratifying that the testing community has been supportive and willing participants in PennDOT's process, and has provided input and insight.

This technology will continue to grow regardless of PennDOT's involvement, and it's certainly in the Commonwealth's interest to help ensure that this industry continues to call Pennsylvania home. In fact, we're already seeing the benefits. A report issued in September by Pittsburgh's Regional Industrial

Development Corporation and the Greater Pittsburgh Chamber of Commerce found that "the estimated direct employment footprint of Pittsburgh's autonomy sector totals over 6,300 jobs" with "...an additional 8,604 full- or part-time indirect jobs" in the region dependent on the industry. The direct-employment footprint alone provides "an estimated \$651 million in labor income, [and] \$34.7 million in state and local tax revenues."

And while there are clear economic benefits to be had through the advancement of this technology, PennDOT sees our role as helping to strike the delicate balance of helping to foster innovation and encourage growth while prioritizing the safety of all users. From a technology standpoint, companies submit notices of testing and a safety plan for PennDOT review prior to receiving authorization to test. We want to see a demonstrated safety culture and high-level safety requirements at these companies, to progress technology and the industry to a future deployment stage, legislative and policy changes will need to allow vehicle-only testing to create a pathway to the safe deployment of these vehicles. We are excited to see recent legislative interest in advancing this technology in our state. While these discussions occur, we are committed to transparency with the public – an important component of public and community trust and awareness.

As equally important as the economic aspects, AV have the potential to eliminate driving-related injuries and crashes that occur on our roadways. We are optimistic about automation's potential positive impact on our society's future of safe travel. Here in Pennsylvania, we are doing everything possible to bring you the benefits of these industry changes while keeping your safety and quality of life at the forefront.

# NEW DIVERGING DIAMOND INTERCHANGE OPENS IN YORK COUNTY

By Dave Thompson, Community Relations Coordinator, District 8



The diverging diamond interchange (DDI) at Interstate 83 Exit 4 (Route 851) in Shrewsbury Township, York County, is open to traffic and nearly complete. It's the second DDI to open in the district and only the third such interchange in the state.

While controversy seems to go with the turf with many large-scale transportation projects, there was a local consensus that Exit 4 was well designed, managed and coordinated. Local officials were happy with how the approximately \$30 million project progressed and the department's responsiveness to issues that arose during construction.

"It was a long project, but I was impressed with how smoothly it went," Southern Regional Police Chief James S. Boddington said. "We have been extremely happy with the process."

"I don't think it could have gone any better," said Art Rutledge, Shrewsbury Township Board of Supervisors' chair.

Shrewsbury Volunteer Fire Company Assistant Fire Chief Brad Dauberman, offered kudos to PennDOT, its consultants and prime contractor.

"Throughout the project, all parties involved kept the fire department well advised of closures that would affect our response. This was very helpful and allowed us to plan ahead in case we had to travel through or around the closures," Dauberman said.

He added, "As a resident, I have been very impressed with the speed and amount of personnel on site working at all times. We all knew there would be growing pains during the construction, but (the contractor) really tried to minimize that pain. We cannot thank them enough for getting the job done as quickly as possible."

Mr. Dauberman took on the role of unofficial project historian. He also chronicled it from start to finish – taking aerial drone photos that resulted in a stunning and thorough visual record. His meticulous work began just before the project began and continued through substantial completion. He shared these photos so friends, neighbors and other interested parties could see the interchange take shape.



"My goal was to post weekly or every couple of weeks, showing the progression of the project," he said. He began posting the photos on social media then created a website specifically for the drone photos ([sycdrone.com](http://sycdrone.com)).

"Brad provided a great service that kept everyone updated on the progress of the project," said Assistant Construction Manager Mike Reeder, who took over the project from original ACM Vaughn Schlachter.

"Brad's photos are spectacular," said Mark Malhenzie, District 8 design project manager. "They provide an excellent and unique view of the interchange layout that really can't be seen from ground level."

There was an old school component in the project, as well. Project staff had a scale model of the new interchange to refer to during construction. Created by consulting inspector Lynn Groff's husband Steve Groff, the model was completed in the spring of 2019, soon after the project began.

Steve said he made the model with household cardboard and materials found at a local crafts store. It took about 150 hours over several months to create.

"I simply wanted to test my artistic side, along with the challenge of maybe giving the project staff a 3D model to refer to," he said. "I was not assigned to the project, nor asked to build a model of it."

The actual project looks impressive and achieves the department's goal of improving safety and efficiency at the interchange. According to Mr. Dauberman, some commenters on his social media page predicted the new interchange design would result in highway mayhem. Those predictions simply did not come true – the interchange opened to traffic in late June and as of early September, no major crashes were reported, he said. Check out this time lapse video on PennDOT's Facebook page to see the DDI in action.

"Both diverging diamond interchange projects in District 8 – the Exit 4 DDI in York County and the Route 322/222 DDI in Lancaster County – were well designed, well managed and involved responsive contractors and consultants," acting District 8 Executive Chris Drda said. "With those ingredients, the success of both projects was inevitable."

# A CAREER INSPIRED BY A FASCINATION WITH HISTORY

By Dave Thompson, Community Relations Coordinator, District 8



District 8's Jeremy Ammerman's fascination with history began at a very young age. As a child he spent time on his great-grandparents Bellefonte, PA farm, where he took interest in the old photographs displayed in the farmhouse, the 1800s-era farm buildings, and the family history discussed over a Sunday meal.

"My family had a 250-acre farm they had settled in around 1865. We didn't live on the farm, but I spent time there as a kid," Jeremy said. "Sundays after church we always had a brunch at the farm and there were 35 or 40 people. I'd hear stories, look at photos – that sparked my interest."

While his interest in history never waned, after graduating from Bellefonte High School Jeremy decided to study computer engineering at Penn State University's York campus. He continued his studies at the university's main campus, but after two years of computer engineering, Jeremy decided he wanted to take a completely different path – he changed his major to History with a minor in American Studies. He graduated with a degree in history in 2005.

"After graduating I was trying to figure out what to do with this wonderful piece of paper," Jeremy said. "I decided to get a master's degree, hoping it would open up doors." Jeremy attended Shippensburg University and received his master's degree after a year and a half.

As a graduate student he worked for Pennsylvania Historical and Museum Commission and interned at PennDOT evaluating historic features of old farmsteads. He worked as a freelance consultant and worked in northwest Pennsylvania evaluating the historic features of 1,500 farms.

He then took a flood recovery position with FEMA/HUD historic preservation office reviewing and assessing flood-damaged property and structures.

This path eventually led him to a full-time job at PennDOT, where he was hired 11 years ago. He serves as a historic preservation specialist.

He works to mitigate the impacts of PennDOT construction projects on historical resources. In this capacity, for example, he assisted Elizabethtown University in developing a walking tour of historic downtown Elizabethtown as part of the mitigation of a PennDOT bridge project.

Jeremy said his past experience – especially when it comes to agricultural resources – is helpful in his work with the department. He is often the go-to person when questions arise statewide about historic agricultural resources.

Some of the gratifying things about his job entail finding obscure historical oddities in out-of-the-way places – a stone turnpike marker, an old cemetery, unique architecture, or an old out-of-the-way motor lodge invisible to most passersby.

"I do love what I do," he said. "Most people don't associate the department with historic resources or the preservation of historic resources. Every day I come to work I don't know what piece of material culture I'm going to interact with – it could be a building or something as simple as a fork or a bone – something left behind by a previous culture that tells a story."

## MEET WINNIE OKELLO: SENIOR CIVIL ENGINEER

“It's not just about commuting –  
It's about community.”

- Winnie O.  
Senior Civil Engineer



National STEM/STEAM Day is celebrated annually on November 8. This year, we had the privilege of speaking with Winnie Okello, P.E., Senior Civil Engineer who oversees our statewide Municipal Separate Storm Sewer System (MS4) permit compliance.

Ms. Winnie Okello has been a member of the PennDOT team since 2013, starting through our Civil Engineer Trainee (CET) program. Born in Kenya, she moved to the United States in middle school. She is an alumna of Whitehall High School who went on to Lehigh Carbon Community College then studied civil engineering at Bucknell University. Prior to joining our department, she worked in the private sector and for the Oregon Department of Transportation.

Within a few minutes of meeting her, you can tell that Winnie Okello isn't married to the status quo. She's always seeking opportunities for improvement within the transportation industry and her community, considering how her skills can contribute to lasting positive changes.

"My biggest push is how we impact people. For me, that's really the passion – it's the human element of engineering that drives me to do everything that I do," Winnie said. "You can have great designs and do great research, but we need to consider people's lived experiences."

It's clear that engineering is more than just numbers and formulas to Winnie. She is very keen on how transportation impacts communities, not just neighborhoods, especially related to longevity and how society moves forward. She's not afraid to acknowledge that in the historic context of the transportation sector, our infrastructure hasn't always been built and designed equitably. Therefore, this means we have ample opportunities for improvement, particularly in transportation restorative justice practices.

"If we don't adapt, we'll become the Blockbuster of the transportation industry," she said. "And as much as we talk about innovation, we have to allow innovators to thrive."

She made the point that efficiency improves when we all work together. Otherwise, we might end up with implementation and maintenance issues that could've been addressed in the planning or design phase.

"The best part of my job is getting to develop symbiotic relationships with other professionals – both at PennDOT and in other organizations across the state," Winnie said.

When it comes to decision-making about transportation initiatives, Winnie is also a strong advocate for making sure the community feels engaged in the process from start to finish. She also understands that we need to look at what's good for people and communities while simultaneously considering environmental needs.

"As we envision the future of transport, whether electric vehicles or other smart mobility options – the more technologically advanced society becomes, we see this greater need for genuine human connection," she said. "As transportation professionals, we absolutely have to keep that in mind."

When people are anticipating progress in society, they say to look at where the road is built. That sentiment is more literal in developing countries, but it also rings true right here in Pennsylvania.

"The transportation sector and transportation professionals play such a key role in how society develops and progresses, or regresses," Winnie said. "The thing that really inspires me about the future is the untapped potential, and I pray that it becomes a reality."

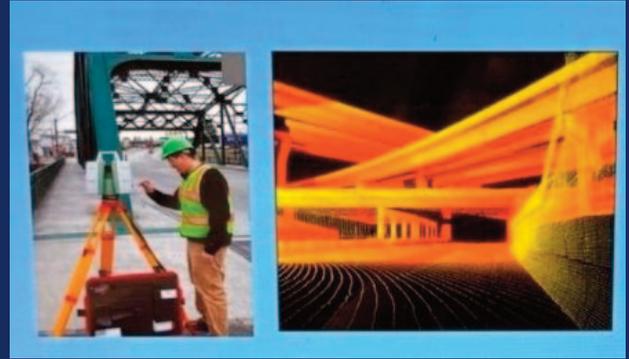
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# PENNDOT SPEAKS TO PENNSYLVANIA COLLEGE OF TECHNOLOGY STUDENTS

On Friday, October 22, approximately 25 students from the Pennsylvania College of Technology's Technical Drawing-Related Disciplines class took an online tour of the Pennsylvania Department of Transportation (PennDOT) Engineering District 3's office in Montoursville.

The students heard a presentation by Jonathan Richardson, Survey Technician with PennDOT Engineering District 1 about the current use of drones within the department. The second presentation was given by Scott McMasters, Highway Designer with PennDOT Engineering District 1, which discussed how PennDOT uses LiDAR and photogrammetry to create 3-D models of areas to map out a project's specifications.

"It is very beneficial for students to connect their classroom experience to real-world applications," said Katherine A. Walker, assistant professor of engineering design technology. "Although an on-site visit was not possible due to the pandemic, we are grateful for the opportunity to tour virtually."



The tour was coordinated by Ronald A. Newcomer, Contract Management Supervisor with District 3, who is also a Pennsylvania College of Technology graduate. Newcomer graduated in 1983 in welding and in 1998 in computer aided drafting technology.

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Winnie is actively engaged in her community – particularly in the Harrisburg area. She has a strong passion for volunteering, especially for organizations that focus on civic issues and education.

Even when she isn't busy with her work at PennDOT, transportation topics are still on her mind. When looking at certain social problems, Winnie sees how potential solutions could lie in transportation system improvements.

She is involved with the Transportation Research Board (TRB), and Winnie was published in their May–June 2019 issue of TR News about street and transit harassment, a global problem that disproportionately affects women and girls. The Greater Harrisburg Young Professionals of Color (YPOC) and the HARP (Harassment & Assault Reporting Platform) are other organization she volunteers with. This year, Winnie also wrote the PennDOT blog for Juneteenth National Freedom Day.

Winnie was recently nominated and honored to receive the Women Breaking Barriers Award as part of this year's Whitaker Center Women in STEM Awards. Studies have shown that both women and people of color tend to be underrepresented in engineering/STEM careers. Winnie recently authored a book that shares her experiences of navigating professional spaces as a Black woman of complex intersectionality. Her goal was to encourage readers to have moments of self-reflection as they too navigate society, possibly helping them see things from a different perspective.

"My greatest accomplishment is feeling like I'm finally beginning to own my voice. I'm beginning to see the world for what it is and figuring out my role in it," she said.

You might be wondering how Winnie has enough energy to be so involved in her career, passion projects and the community at large.

"Sharing my time, skills and talents with others in a meaningful way helps me unplug from work," she said. "It might seem like it's more work, but it helps me stay centered."

As Winnie advances in her own career, she's very mindful about keeping the metaphorical door held open for others. For any young person interested in STEM careers, Winnie's best advice is to stay curious and continue thinking outside the box. Never stop asking questions and using your imagination.

For folks of complex intersectionality, STEM careers can have additional barriers. Her best advice for them is to continue working toward big goals despite the odds. She noted: "If you can tough it out, you get to make a difference in the lives of so many people."

For Winnie Okello, PennDOT is more than just building roads and fixing potholes; it's about opportunities. Working for PennDOT can give people access to this greater world of transportation and community.

As the transportation industry continues to evolve in the future, there's no doubt that Winnie will adapt accordingly. Not one for stagnation, her mindset is focused on innovation and how we adapt as the world changes. We can't resist real change, especially when it comes to inefficiencies in the system.

Although she enjoys having quiet moments for self-reflection, Winnie's bubbly, outgoing personality lights up a room. She is thoughtful, open-minded, and considerate of others. These might not be traits that are typically required for engineers, but they are virtues that undoubtedly elevate her work to a higher level.

# LINKING TRANSPORTATION AND AGRICULTURE: DISCUSSING PROGRESS AND NEEDS ON LOWER-TRAFFIC ROADWAYS

In late 2021 Secretary Yassmin Gramian joined Secretary Russell Redding at a media event to discuss transportation and agriculture's important link to the state economy.

As part of that discussion, we highlighted our Road Maintenance and Preservation (Road MaP) initiative progress. This included improvements on lower traffic roadways like those used by much of the state's agriculture industry.

"We need reliable transportation solutions at the federal and state levels to keep our economy moving and to support the roadways that connect our farmers and our communities," Gramian said. "We've been forced to move funding from lower-traffic roadways to interstates or other high-traffic roads, and we're doing what we can to address this problem."

It's important to note that 26 percent of the PennDOT-owned roads that aren't Interstates or on the National Highway System are rated as "Poor" on the International Roughness Index. On roadways with the least amount of traffic (fewer than 2,000 vehicles) that number increases to 33 percent.

There are 21,000 miles of PennDOT-owned, low-volume bituminous roadways maintained with seal coating (oil and chip) and resurfacing, mostly in rural areas. Due to available resources, 27 percent of these roadways have not seen more than basic maintenance in up to 20 years.

As a reminder, part Road MaP's focus on rural roadways involves alternative treatments such as recycled asphalt paving (RAP). It repurposes roadway millings, either by central plant mix or by cold-in-place; higher RAP mixes of warm mix asphalts; and Flexible Base (FB) paving which mixes new aggregate with a liquid bituminous oil and places it through a paver.

As an agency, we have saved \$42 million, and completed 604.7 miles of secondary road improvements from 2018 through the end of June 2021. That's 247 more miles improved using alternative treatments department-force, and contract work than through traditional approaches.

These methods allow the paving and reinforcing of surfaces and roadway shoulders that would have seen shorter-term fixes due to available funding. Roadway conditions and access, along with bridge safety, are vital to farmers' bottom lines and efficiency.

"Investing in transportation infrastructure strengthens competitiveness across the agriculture industry. It ensures farmers, agribusinesses and food processors can safely navigate and transport items to market and into a global economy," Agriculture Secretary Russell Redding said. "Safe and reliable roadways help preserve farmers' bottom-lines and ensure consumers are guaranteed timely goods at a cost savings."

It's also important to note that Pennsylvania's multimodal transportation system carries approximately \$1.6 trillion of goods into, within, out of, and through the state annually. With agriculture as the state's largest industry, farmers see an impact from poor roadway conditions and detours.



Without additional investment, farmers will see increased costs to repair their vehicles as wear and tear from poor roadway conditions worsen. Without continued and expanded focus on bridges, more weight restrictions, and potentially lengthy detours to and from farms may be necessary.

When farmers must deal with longer delivery times, or if their goods are damaged on the way to distribution, their costs go up. Delays could also increase the number of trucks businesses need to meet delivery schedules, diverting money that could be otherwise invested in the business and employees.

Additionally, Pennsylvania has roughly 25,400 state-maintained bridges and the department and industry partners have made progress on improving conditions. The number of state-owned bridges in poor condition has decreased from a high of 6,034 in 2008 to fewer than 2,460.

However, approximately 250 of the state-maintained bridges move into the "poor-condition" category each year due to their age and deterioration. With an aging system and without increased investment, the rate is anticipated to increase, leading to the need for full replacements or more extensive repairs.

The media event built on the recently completed work of the Transportation Revenue Options Commission, (TROC) where Secretary Gramian served as Chair and Secretary Redding was among the more than 40 members.

The TROC included transportation, economic, and community stakeholders from the public and private sectors and was tasked with developing comprehensive funding recommendations for Pennsylvania's vast transportation network.

On July 30, 2021, the TROC report was submitted to the Governor and General Assembly, presenting an overview of transportation funding in Pennsylvania and outlining the commission's review of several potential revenue sources including road user charges, tolling, redirection of funding, fees, and taxes.

Analysis of each option was provided including potential revenue options, concerns raised by commission members, and suggested next steps. Presentations and materials developed during this process can be found on the TROC page.

For more information about transportation funding in Pennsylvania, visit [www.penndot.pa.gov/funding](http://www.penndot.pa.gov/funding).

# BRIDGE LIGHTING STUDY RESULTS IN A SCIENTIFIC RESEARCH PAPER ON MAYFLY ACTIVITY

By Dave Thompson, Community Relations Coordinator, District 8

A mayfly study conducted last year on a Susquehanna River bridge connecting the boroughs of Columbia in Lancaster County and Wrightsville in York County has resulted in something rare in highway and bridge construction – a scientific research paper.

Last year's study on the 1.26-mile Route 462 Veterans Memorial Bridge (Columbia-Wrightsville Bridge) was initiated to help designers of a major bridge rehabilitation project pinpoint potential solutions to eliminate or reduce swarms of mayflies on the bridge. Mayfly swarms have been so intense in recent years local municipalities have been forced to turn off the bridge lights during the summer when mayflies were hatching on the river.

"It was like a blizzard effect," said District 8 Senior Design Project Manager Mark Malhenzie. "It was nature at its weirdest."

Even without the mayfly swarms, the bridge and the proposed improvements to it are unique. Opened September 30, 1930, the multiple span, reinforced concrete arch bridge is an engineering landmark listed on the National Register of Historic Places. The proposed rehab project includes intersection improvements at both ends of the bridge and enhanced pedestrian and bicycle connectivity to local parks and trails.

"Both the bridge and the project are unique. The bridge is the world's largest concrete arch span bridge, which is amazing in itself," Mark said. "It connects two historic towns, the bike and pedestrian stuff – it just has a lot of interesting pieces. The mayflies are just one more thing that makes it unusual."

The mayfly issue came to the fore during the summer of 2015 after replica period lighting was installed on the bridge. Mayflies attracted to the lighting swarmed the bridge like an ancient plague, resulting in slippery conditions and poor visibility. This resulted in several vehicle crashes and the temporary closing of the bridge to traffic. Mayflies lay in piles on the bridge and locals said they smelled like rotting fish.

Shutting off the bridge lights during mayfly season helped reduce swarms, but also limited visibility for motorists and pedestrians on the bridge. It clearly was not an ideal solution.

"When they shut off the lights, it's dark," said Mark Malhenzie. "You can't even see your hand in front of your face. It is pitch black."

"Pedestrians were literally walking across the bridge in sheer darkness," said Brad Burford, a member of the district Environmental Unit who served on the study team due to his expertise with aquatic insects.

Fast forward to the summer of 2020. District 8 launched the study with the idea of identifying mitigation measures that could be incorporated into the rehabilitation project. This included the potential use of shielding, different colors or intensities of lights



and installing lights under the bridge to keep the mayflies where they were supposed to be (under the bridge).

"This was a unique opportunity because we'd be working on the bridge and under the bridge," Mark said. "If we were going to put lights under the bridge, that would be the time to do it."

PennDOT staff discovered the firm previously involved with the period bridge lighting – Brinjac Lighting Studio – and brought them on board as a subcontractor to consulting firm RK&K due to their familiarity with the bridge lighting. It was soon discovered during discussions that Shawn Good of Brinjac was an adjunct faculty at Penn State University. It was Shawn who suggested a research team from the university analyze data collected from the study for a scientific paper. The PennDOT team agreed with the caveat that the paper made no recommendations – those would be laid out in the department's internal documents.

The team was comprised of Mark Malhenzie, Brad Burford, Jeremy Ammerman from the district Environmental Unit, and design consultant engineering firm RK&K of Philadelphia.

"The whole scientific research paper connection fell into our lap by accident," Brad said. "It just came up in discussions. Shawn (Good) suggested doing a bridge lighting scientific paper. It was an extra bonus."

The field work was performed by Brinjac with assistance from the PennDOT team. The Penn State researchers developed a scientific paper that presented the results of the field work. The team reviewed the paper and offered some tweaks to it before it was published in the university's online scientific journal "Energies".

Titled "The Effect of Electric Bridge Lighting at Night on Mayfly Activity," the paper goes where no researcher has gone before in analyzing how mayflies are attracted to bridge lighting.

According to Brad Burford, this research could set the bar for how bridge lighting designers approach their work in the future. And while the mayfly swarms created a hazard on the bridge, the presence of them is indicative of good water quality and a healthy ecosystem, he said.

The project is currently heading to final design, and work is anticipated to take place between the 2023 and 2027 construction seasons.

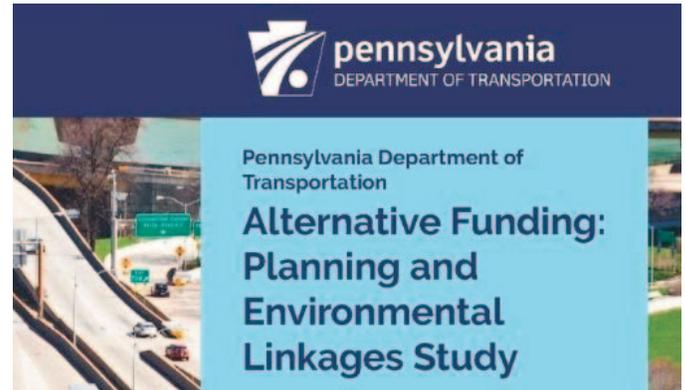
## PENNDOT RECEIVES CONCURRENCE ON PATHWAYS TRANSPORTATION FUNDING STUDY

After many months, PennDOT has finalized its PennDOT Pathways Planning and Environmental Linkages (PEL) Study after receiving concurrence from the Federal Highway Administration (FHWA). A PEL Study is a collaborative and integrated approach to transportation decision-making that considers several factors, including the environment, community, and economic goals.

PennDOT conducted the study to identify possible near-term and long-term solutions to the funding gap our transportation system faces. The PEL Study evaluated the feasibility of various funding options for near- and long-term implementation and established a methodology for evaluating environmental justice effects associated with each.

The study will serve as a guide as PennDOT pursues and implements alternative funding strategies to help support our entire transportation system. The most near-term funding needs are in PennDOT's highway and bridge programs, but there are significant needs across all transportation modes. The findings of the PEL Study will help guide the implementation of future funding strategies and can be modified as needs evolve.

The PEL Study is designed to bridge the National Environmental Policy Act (NEPA) process and the planning process for a project or initiative. FHWA provided its concurrence with the study's findings, which is an important step to advancing the alternative funding initiatives.



A draft of the PennDOT Pathways PEL Study was made available for public review and comment in Spring 2021. PennDOT received 342 comments during the public comment period, which lasted from April 29 – June 1, 2021. These comments are captured in Appendix D of the final PEL Study and will be used to inform decisions moving forward.

The Transportation Revenue Options Commission (TROC), which was established by Governor Tom Wolf's Executive Order on March 12, 2021, received a briefing on the draft PEL Study. The draft PEL Study was also used as a resource for the Commission's report on potential options that will reduce Pennsylvania's reliance on state and federal gas taxes to fund transportation, presented to Governor Wolf on July 30, 2021.

## PENNDOT, PA TURNPIKE COMMISSION, PA STATE POLICE REINFORCE MOVE OVER LAW

PennDOT, the Pennsylvania Turnpike Commission (PTC) and the Pennsylvania State Police (PSP) continue to remind motorists to move over or slow down as required by the state Move Over Law.

Pennsylvania's Move Over Law requires drivers approaching an emergency response area who are unable to safely merge into a lane farther away from the response area to "pass the emergency response area at a speed of no more than 20 miles per hour less than the posted speed limit and reasonable for safely passing." An emergency response area is where an emergency vehicle has its lights flashing, or where road crews or emergency responders have lighted flares, posted signs, or try to warn travelers.

Drivers must move over or slow down for all responders, including police, fire, and ambulance crews, as well as stopped tow trucks and maintenance vehicles. The Move Over Law also mandates drivers change lanes or slow down when approaching disabled vehicles when at least two emergency displays, such as vehicle hazard lamps, road flares, and/or cones or caution signs are present.



Failure to move over or slowdown will result in a citation that carries a fine of \$500 for first-time offenders, \$1,000 for a second offense, and \$2,000 and a 90-day license suspension for a third or subsequent offense. Penalties are increased for incidents that seriously injure or kill another person.

On average in the United States, two emergency responders are struck daily while working along the roadway. These incidents cause property damage, injuries, and in some cases fatalities.

In Pennsylvania, 152 emergency responders have been struck and killed while assisting on Pennsylvania roadways.

For more information on the Move Over Law, visit [www.PennDOT.pa.gov/Safety](http://www.PennDOT.pa.gov/Safety).

# COLLABORATIVE PILOT PAVES ROADWAY WITH RECYCLED PLASTIC



In fall 2021 Pennsylvania Department of Transportation (PennDOT), Department of Conservation and Natural Resources (DCNR), Department of Environmental Protection (DEP), and Department of General Services (DGS) paved part of a Ridley Creek State Park roadway with an asphalt and recycled plastic mixture.

This pilot project, coordinated through PennDOT's Strategic Recycling Program, which is funded through DEP, includes two quarter-mile roadway stretches surfaced with an asphalt/recycled plastic mix. The material is intended to strengthen the roadway surface without leaching plastic material into the surrounding environment.

"Transportation is integral in our communities and we are always evolving our operations," PennDOT Acting Deputy Secretary for Highway Administration Mike Keiser said. "We are very pleased when we can pursue innovations bringing benefits to the public, our transportation assets, and our environment."

The material being tested supports interagency goals to increase the commonwealth's sustainability in operations while supporting deployment in the state overall. Potential benefits include:

- Extended useful life of asphalt pavements;
- Diverting waste plastics from landfills and helping to establish a viable market for these plastics; and

- Continued ability to reuse asphalt millings in future recycled-asphalt pavement applications.

The pilot project location was chosen in coordination through collaboration between all agencies and supports increased emphasis on sustainable practices.

It was incorporated into a 1.5-mile reconstruction project within the park from the entrance to Pavilion 14. The rest of the roadway will be paved with a standard asphalt mixture to provide a comparison for the new material over the five-year evaluation period.

Through the Pennsylvania Department of General Services, the GreenGov Council is responsible for developing and implementing strategies to ensure that state government agencies play a lead role in energy sustainability, conservation, and greenhouse gas emissions reduction.

Among their goals are efforts to integrate sustainability and energy high-performance standards in building construction, lease, or renovation through the DGS Public Works deputate which is responsible for all state government non-highway construction projects.

Information about the state's infrastructure and results the department is delivering for Pennsylvanians can be found at [www.penndot.pa.gov/results](http://www.penndot.pa.gov/results).

# PENNDOT, GOVERNOR WOLF, LOCAL OFFICIALS BREAK GROUND ON THE NEW COATESVILLE TRAIN STATION



In October 2021 Governor Tom Wolf joined the PennDOT, federal, economic, elected, and Coatesville city officials to break ground on the new Coatesville train station.

The project is looking to revitalize the surrounding community with a modern accessible train station and improve connections to the Amtrak Keystone Corridor.

"Today's groundbreaking is a significant milestone for the revitalization project that PennDOT is leading here in the City of Coatesville," said Gov. Wolf. "The project will improve equity, accessibility, and reliability in transportation and that's exactly what Coatesville needs to continue growing and thriving."

The new station will improve ADA accessibility and provide level boarding platforms, elevators, ramps, site lighting and security, improved drainage, and surface parking for local and regional commuters. Additionally, the project will enhance multimodal connectivity and ensure that freight movements through the new station area are maintained.

"As infrastructure is debated at the federal level, this project is a reminder that these investments are needed, and they work," said PennDOT Secretary Yassmin Gramian. "Additional federal investment will help us complete more projects like this across the state."

"This is an exciting day, as we literally get our hands dirty to bring this long-anticipated train station and commuter parking lot to Coatesville," said Chester County Commissioners' Chairwoman Marian Moskowitz. "The restored regional rail service will go a long way to help in Coatesville's revitalization, boost economic opportunities, and most important, bring equitable transportation to the people of this city. I look forward to seeing these channels of transportation allow people to come here and explore the city's culture and strength."

Prior to project design, the department led multiple planning efforts with the Coatesville community to identify strategies that would revitalize the area surrounding the proposed train station. Streetscape projects on 3rd Avenue and 4th Avenue completed in 2019 and 2020 improved access from Coatesville's downtown area to the proposed new train station location.

"We are extremely happy to see so many agencies and organizations coming together to help build and support the planned ADA compliant station. The station will attract new riders, residents, and businesses to our great City," said President of the Coatesville City Council Linda Lavender-Norris. "We have begun preparing for the gradual transformation that will help in the City's rebirth. Our journey with PennDOT's leadership has been incredible one, and we hope to build on that relationship over the next few years."

The project contractor – Wickersham Construction of Lancaster – could begin construction later this year (weather permitting) with completion anticipated in 2025.

"As the Chairperson of the Coatesville Redevelopment Development Authority (RDA), we are pleased to see this project beginning to come to fruition. The new train station is key to reinvigorating and revitalizing the city," said Coatesville Redevelopment Authority Chairperson Joseph DiSciullo. "It will draw from the surrounding geographical areas and provide our youth and adult workforce access to jobs in the outlining region and later return home on a reliable transportation system supported by Amtrak and SEPTA."

The \$65 million project is made possible with \$52 million from the Federal Transit Administration, \$13 million in state transportation funds, and \$700,000 from Chester County.

"The Coatesville Train Station creates a new Front Door to our region, a 'welcome to Chesco West invitation,'" said Western Chester County Chamber of Commerce President Elect Justin Chan. "Individuals and businesses will want to locate here, to be a part of the continued economic growth in our region."

Additionally, Gramian also noted that "following the work of the Governor's Transportation Revenue Options Commission, and through our ongoing PennDOT Pathways initiative, we are committed to getting transportation funding on a sustainable path."

More information on PennDOT's efforts to improve intercity passenger rail in Pennsylvania is available on the Plan the Keystone website, [www.planthekeystone.com/](http://www.planthekeystone.com/).

## PENNDOT WINS APA AWARD FOR ACTIVE TRANSPORTATION PLAN

PennDOT recently won an award for its Pennsylvania Active Transportation Plan from the Pennsylvania Chapter of the American Planning Association.

The plan was created with the assistance of Johnson, Mirmiran and Thompson, Inc.; Alta Planning + Design, Inc.; Kittelson and Associates, Inc. & Stokes Creative Group, Inc.

Deputy Secretary for Multimodal Transportation Jennie Louwerse, and Angela Watson, director for the Bureau of Rail, Freight, Ports & Waterways, accepted the award during the association's annual awards luncheon, held Oct. 19, 2021, in Pittsburgh.

The Pennsylvania Active Transportation plan is the comprehensive resource for planning, design, implementation and evaluation of bicycle and pedestrian programs and policies.

The current plan builds upon a history of active transportation planning in Pennsylvania, beginning in 1976. The plan brought together three additional state agencies — the Department of Community and Economic Development, the Department of Conservation and Natural Resources and the Department of Health — to function as an advisory group.

Public outreach included an interactive live webcast throughout the Commonwealth and a statewide survey completed by more than 13,000 individuals. Included is a how-to guide for developing active transportation plans to serve as



a resource for Metropolitan Planning Organizations (MPOs), Rural Planning Organization (RPOs), counties and local municipalities.

The Active Transportation Plan provides a framework for collaboration among state, federal and local agencies to identify key issues and strategize how to advance improvements at all levels, with an emphasis on underrepresented Pennsylvania communities that walk and bicycle out of necessity.

Success of the plan is placed upon the Steering Committee, which to date has implemented eight specific strategies. This well-developed process and statewide outreach culminated in a plan transferrable to every user.

## GRAND OPENING: PENNDOT'S PIKE COUNTY MAINTENANCE FACILITY

By Jessica Ruddy, Community Relations Coordinator, District 4

Pike County celebrated the grand opening of their new county maintenance facility on October 15, 2021. At over 100 years old, the former facility was oldest working facility in all of Pennsylvania. However, it was not centrally located, did not have storage for salt and was simply not adequate for the county's maintenance needs.

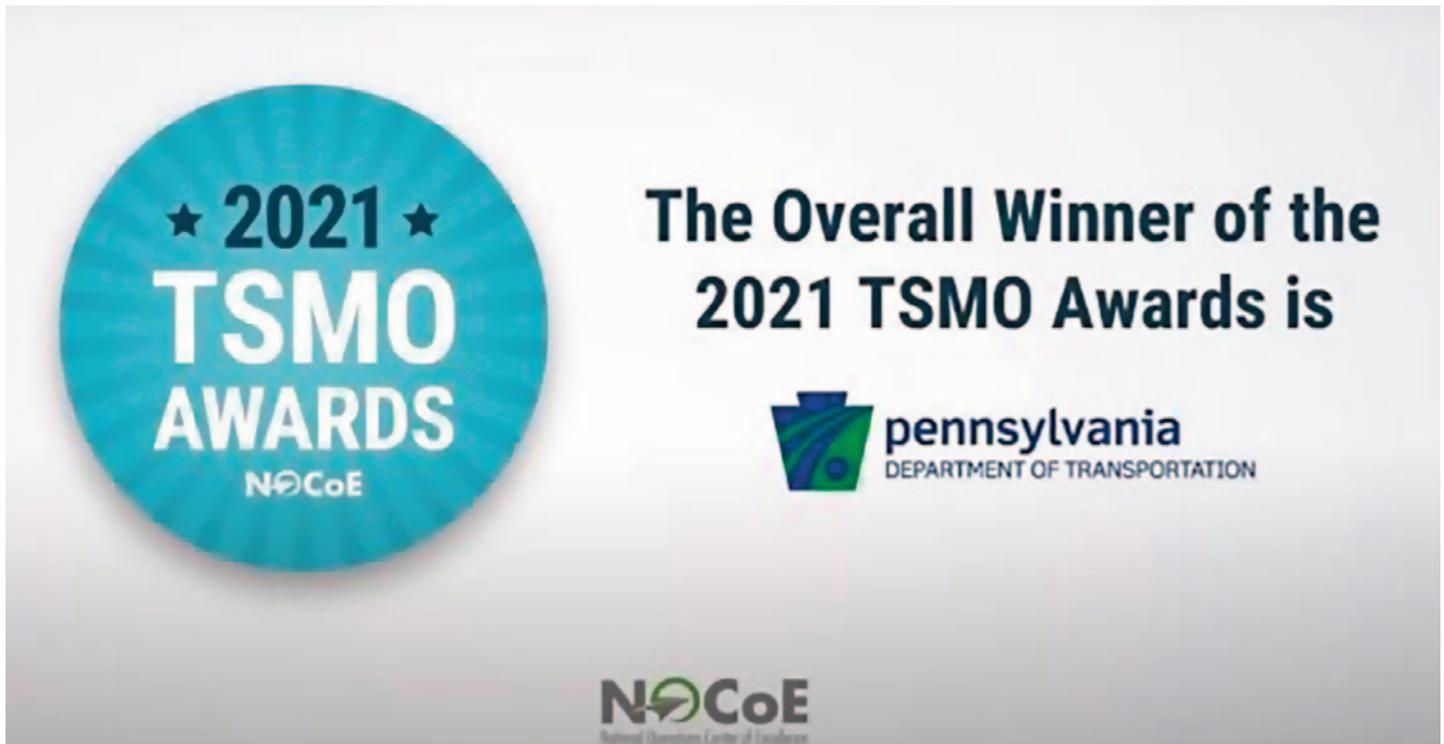
The new facility was over 20 years in the making and includes a centrally located building located in Lords Valley. The building is nearly 30,000 square feet and includes just under 9,500 square feet of office space and 1,500 square feet of conference/training rooms, a more modern garage which can be used for training, wash bay and storage for salt and anti-skid to name some of the upgrades.

We also worked out an Agility agreement with Pike County to access water for the building in exchange for road maintenance leading to the Pike County administrative building over the next five years. The agreement is beneficial for all and we are thankful to Pike County for being partners with PennDOT's District 4.



The grand opening ceremony included the elected officials Representative Michael Pfeifer, Representative Rosemary Brown, Pike County Commissioner Ronald R. Schmalzle and Commissioner Steve Guccini, District Executive Rich Roman, Assistant District Executive of Maintenance Jonathan Eboli and PennDOT employees for Pike County.

# PENNDOT NAMED NATIONAL TSMO AWARDS BEST OVERALL WINNER



PennDOT was recently recognized as the 2021 National Operations Center of Excellence (NOCoE) TSMO Awards Overall Winner.

PennDOT was selected Overall Winner from among 30 entries and four finalists, each of whom had already been selected as a category winner in the annual awards. The award celebrates the expanding discipline of transportation systems management and operations (TSMO), which aims to get the most out of the existing transportation system by managing and operating networks in an efficient manner that emphasizes safety and mobility and provides a clear benefit to the traveling public.

"I am so proud of the department and the national recognition that we've received," said PennDOT Secretary Yassmin Gramian. "This award showcases the dedication and passion of our Operations team to continually seek to improve our business with data-driven strategies."

TSMO is a set of integrated strategies to optimize the performance of operations on existing infrastructure through implementation of multimodal, cross-jurisdictional systems, services, and projects designed to preserve capacity and

improve security, safety, and reliability of a transportation system. Simply put, TSMO is focused on improving how roadways operate within the restraints of PennDOT's existing roadway infrastructure.

PennDOT's overall winning program titled "TSMO Performance Program and Traffic Operations Analytics (TOA) Tool" brings together internal and external information allowing data-driven outcomes for improved safety on our roadways, congestion planning, and optimizing resources for core business. The Performance Program created the first ever, data-backed "congestion pie chart," which allows planning partners and PennDOT to better understand the cause of congestion on certain roadways, thus allowing more tailored solutions to meet the needs of motorists across the state. This program has already led to safer solutions for work zones, an application for automated queue protection messaging, and the continual improvement of how PennDOT communicates on changeable message signs along the side of the road, leading to a reduction in secondary crashes.

PennDOT won the Best TSMO Project and Project Selection and Prioritization categories before becoming the program's Overall Winner.

# PENNDOT PARTICIPATES IN ROUNDTABLE DISCUSSION WITH TEENS ON SAFE DRIVING

By Craig Yetter, Community Relations Coordinator, Driver and Vehicle Services



Representatives from the Pennsylvania Department of Transportation (PennDOT), State Police, Department of Education and local education and law enforcement representatives held a face-to-face forum at Cedar Cliff High School in New Cumberland October 19, 2021, sharing their collective knowledge with students from Cedar Cliff and Red Land high schools to mark Teen Driver Safety Week in Pennsylvania.

"We can all do our part to make highways safer by working together to help new drivers gain valuable experience and knowledge," said PennDOT Secretary Yassmin Gramian.

"Parents and teachers are an integral part of establishing a mentality of safety behind the wheel amongst teen drivers."

The forum was held to call attention to teen driver safety and share important information directly with teen drivers during the nationwide observance October 17-23. The question-and-answer format gave teens a chance to glean valuable information from knowledgeable sources they may not otherwise interact with. Motor vehicle crashes are a leading cause of death for teens.

From 2016 to 2020, there were 82,066 crashes in Pennsylvania involving at least one 16-to-19-year-old driver resulting in 530 fatalities. Of those crashes, 45.6 percent involved the driver driving too fast for conditions (18,635 crashes), driver inexperience (7,988), driver distraction (8,574) or improper/careless turning (7,490). A total of 39,399 crashes included one or more of these factors.

The risk of a crash involving any of these factors can be reduced through practice, limiting the number of passengers riding with a new driver, obeying all rules of the road, and using common sense.

"Parents and caregivers should encourage safe driving behavior long before their teen gets a learner's permit by consistently modeling good habits behind the wheel," said Colonel Robert Evanchick, commissioner of the Pennsylvania State Police. "Set a positive example by ensuring everyone in the car is buckled up, eliminate distractions in the vehicle, obey the speed limit and remember to drive defensively."



PennDOT suggests that parents consider the following recommendations to help their children become safe and responsible drivers:

- Set a good example with your own driving habits.
- Have regular conversations with your teen about safe driving skills before they get their learner's permit.
- Establish a parent/teen driving contract.
- Ride with your teen occasionally after they receive their license to monitor driving skills.
- Enforce observance of speed limits and other rules of the road.
- Strongly encourage your teen to avoid distractions behind the wheel, such as talking or texting on their cell phone.
- Limit the number of passengers they have in their vehicle.
- Limit dawn, dusk, and nighttime driving until your teen gains more experience and enforce a curfew. Remember, state law prohibits 16- and 17-year-olds with a junior license from driving between 11:00 PM and 5:00 AM
- Gradually increase the amount of time/distance your teen is permitted to drive.

"Driving a car requires experience, skill, and undivided attention," said Department of Education Secretary Dr. Noe Ortega. "Driver education training programs are invaluable in preparing teenage drivers to get behind the wheel, keeping themselves, their passengers, and fellow drivers safe on the road."

As part of ongoing efforts to educate and assist teen drivers, PennDOT invites teens, their parents, teachers, and others to share video messages on Instagram about the personal costs of a crash, close calls, and advice on avoiding crashes. Anyone can join in this important conversation by using the hashtag #PATeenDriver.

## DEPUTY SECRETARY LOUWERSE HONORED AS AN OUTSTANDING LEADER IN TRANSPORTATION



As part of the 'Women in Rail Awards' program, PennDOT's own Deputy Secretary Jennie Louwerse was recognized for 24 years of progressive public- and- private sector experience in all facets of management and technical knowledge of multimodal transportation development.

Since 2017, Railway Age, an online transportation publication has been honoring women railroaders from the freight, transit, and supplier sectors as well as government and trade organizations.

The awards program honored 25 other outstanding leaders for driving businesses forward while making a difference in the industry, and the communities they live in.

"Jennie is smart, intelligent with vast experience in Transportation," PennDOT Secretary Yassmin Gramian said. "Her resume speaks volume of her qualifications, but what distinguishes Jennie in this position is her passion for people – serving the underserved population by providing access and mobility to jobs, healthcare, education, and a better life and a better future."

Railway Age Publisher Jonathan Chalon added:

"Our annual awards program keeps getting stronger," Chalon said. "Our honorees this year were drawn from close to 100 applicants. They are making their mark on the industry with their outstanding leadership, vision, innovations, community service involvement and accomplishments." In addition to the 26 honorees, five women received honorable mention in 2021.

The judges for the event included Barbara Wilson, President and CEO of RailUSA LLC, and KellyAnne Gallagher, KAG Strategic Advisory and Founding Executive Director of the Commuter Rail Coalition.

## THE ALTERNATIVE FUEL CORRIDOR PROGRAM IN PENNSYLVANIA

By Larry Shifflet, Deputy Secretary for Planning



Since 2016, PennDOT has worked with the federal government and several stakeholders to designate numerous interstates for the Federal Highway Administration's (FHWA) Alternative Fuel Corridor (AFC) Program.

The AFC Program is designed to expand the nation's alternative fueling network for electric, hydrogen, propane, and natural gas vehicles. PennDOT has been particularly interested in increasing the availability of electric vehicle (EV) charging infrastructure by taking our corridors from "pending" to "ready." A corridor is marked as pending when public DC fast charging (DCFC) stations are separated by more than 50 miles and is marked as ready when those DCFC gaps are within 50 miles of one another. Locations must also be within five miles of the highway exits. Currently, our state has 692 Interstate miles in "ready" status and 1,051 miles in "pending" status.

To move more miles from pending to ready, Pennsylvania was selected by FHWA to participate in two AFC Deployment Grant projects along the I-78/I-81 and I-80 corridors. Analysis has been completed for the I-81/I-78 project to identify gaps between existing infrastructure and prioritize locations to ensure those gaps are filled.

Since charging an EV can take 30 minutes or more, analysis of potential charging sites included locations that have amenities of interest to travelers, such as dining, retail, and convenience shopping. In addition, funding opportunities and outreach materials were developed to leverage external stakeholders and private partners to develop charging infrastructure. The I-80 project is ongoing with Illinois DOT leading the project with the I-80 states from New Jersey to the Iowa/Nevada border.

# SUPPORTING THOSE WHO SERVED: PENNDOT RESOURCES FOR VETERANS



Pennsylvania is home to nearly 800,000 veterans, the fourth largest veteran population in the country. As a small token of our overwhelming gratitude, PennDOT is proud to offer services that benefit PA veterans every day.

## Veterans Designation

Veterans have the option to request a Veterans Designation on their driver's license or identification card. Visit <https://tinyurl.com/yaqsjkfx> to learn how.

To qualify, a person must self-certify and have received a Certificate of Release or Discharge from Active Duty/DD214 or equivalent for service in the United States Armed Forces, including a reserve component or the National Guard. Once the Veterans Designation has been added to a license or ID, it will automatically appear each time that product is renewed. There is no fee for the Veterans Designation itself; however, qualified applicants must pay any applicable initial issuance, renewal, or duplicate driver's license or identification card fees.

The Veterans Designation identifies the bearer as a veteran who honorably served their nation and the Commonwealth of Pennsylvania. Please note that other recognition, such as discounts and other tokens of appreciation, are determined by individual businesses and organizations.

## Registration Plates

In Pennsylvania, you can replace your standard-issued registration plate with a Special Fund Registration Plate, which benefit a variety of organizations. Fifteen dollars from every Honoring our Veterans or Honoring Our Women Veterans registration plate sold aids the Veterans Trust Fund.

PennDOT also offers a variety of Military Registration Plates, available for veterans who served our country in a specific capacity or received certain honors. Please visit our website to see all available military registration plates and learn how to receive one.

## Military Commercial Driver's License Testing Waiver

Commercial Driver's License (CDL) Knowledge and/or Skills Test can be waived for Pennsylvania residents who are on active or reserve military duty or recent honorably discharged veterans providing those service members have at least two

years of experience operating a commercial motor vehicle as part of their military job requirements.

The waiver applies to CDL applicants who wish to operate vehicles similar to those they operated in the military. Therefore, those who drove combination type commercial (Class A) motor vehicles in the military will be eligible in Pennsylvania for a waiver to drive a combination type vehicle and those who drove a single motor vehicle of commercial type (Class B) in the military will be eligible in Pennsylvania for the waiver to drive that type of vehicle. Subject to the limitations and requirements of 49 CFR 383.77 (Refer to [www.fmcsa.dot.gov](http://www.fmcsa.dot.gov)) relating to substitute for knowledge and/or driving skills test, you must certify that you meet all the certifications required for a waiver under 49 CFR 383.77.

To determine if you qualify for the Military CDL Knowledge and/or Skills Test Waiver in Pennsylvania, please visit our website at: <https://www.dmv.pa.gov/Information-Centers/Military-Veterans/Pages/Military-Personnel.aspx>.

## Additional Resources

Some veterans will find themselves eligible for PennDOT's retired status registration. Find out if you qualify at: <https://tinyurl.com/ydfvmqzp>. Customers who qualify pay a \$10 per year processing fee instead of the full registration renewal fee. There is no minimum age to qualify for this program.

In Pennsylvania, public transit is available, in some form, in all 67 counties. See our Public Transportation Services and Programs Map at: <https://gis.penndot.gov/transitmap/> to find local options, including programs and services for older Pennsylvanians and persons with disabilities.

The PA Veterans Registry is an online application that allows veterans, family members and people who work with veterans to connect with the Department of Military and Veterans Affairs (DMVA) to request information related to the valuable state benefits, programs and services offered. Take a moment to register at the link above.

Please share these resources with your friends and loved ones. To Pennsylvania's veterans and their families – thank you for your service and your sacrifice.

# MOVING FORWARD WITH STEM: A CONVERSATION ABOUT THE FUTURE OF TRANSPORTATION, MENTORS AND MORE

By PennDOT Secretary Yassmin Gramian, P.E.



Access to transportation is the keystone of Pennsylvania's economy and critical to our quality of life. We rely on a complex transportation network- a modern convenience often taken for granted- to ensure goods, services and people get to where they need to be.

Professionals in science, technology, engineering, and mathematics (STEM) provide the backbone of our transportation infrastructure. Drawing on some of the most basic math and engineering principals, combined with cutting-edge technology and innovations, STEM workers do everything from designing structurally sound roads and bridges, to determining the most effective way to transport goods and people. The COVID-19 pandemic turned all of that on its head, prompting us to rethink how we connect, work and travel.

Recently, I was joined by leaders at Slippery Rock University to launch PennDOT's "Moving Forward with STEM" event series to start the conversation about the future of transportation. Engaging with the next generation of STEM leaders is critical as we plan for a transportation future that is safer, more sustainable, and more equitable than the system we have today.

The series will bring together transportation leaders with college and high school students across Pennsylvania to discuss how to reimagine transportation, introduce safety innovations, and increase diversity and equity in transportation, government, and STEM fields. And I will share my own career story to encourage more women and people of color to pursue careers in STEM.

It was particularly prescient timing to host this event at Slippery Rock University ahead of two observances that define my own career journey in STEM and transportation- National

Mentoring Day (October 27) and National Immigrants Day (October 28). You see, I immigrated to the United States from Iran as a young woman who dreamed of becoming an engineer. I found my way to the engineering school at the University of Michigan where I earned Bachelor's and Master's degrees in civil engineering.

I am grateful to every mentor along the way who helped to shape my career progression- including serving as the first female bridge engineer on the staff of an engineering firm in New Jersey, and later progressing to positions as a design engineer and in project management and business leadership in Pennsylvania. I am a huge proponent of mentorship, as well as supporting foreign-born workers who make up a growing share of the United States' STEM workforce. In fact, the National Science Foundation that as of 2019, foreign-born workers accounted for 19 percent of the STEM workforce and 45 percent of a subset of STEM workers (i.e., mathematical and computer scientists, physical scientists, life scientists, social scientists, and engineers) with doctoral degrees.

This all came full circle during the recent student session, as I was joined by an impressive group of leaders from PennDOT, Slippery Rock University, and the Erie-Western Pennsylvania Port Authority- including Dr. Xinchao "Steven" Wei, SRU professor of physics and engineering and director of the School of Engineering, and a native of China- who are inspiring the next generation of STEM leaders to help devise solutions to our transportation challenges.

As Dr. Wei said, "Technology and innovation are key to the future of Pennsylvania." I am excited for the next step in our "Moving Forward with STEM" tour and hope you will follow along with me on this journey.

# PENNSYLVANIA LAUNCHES NEW DRIVER LICENSE PROGRAM, EXPANDING ELIGIBILITY TO IMPROVE INDEPENDENCE FOR VISUALLY IMPAIRED

Visually-impaired Pennsylvania residents can now use bioptic telescope lenses to obtain a learner's permit and ultimately earn a driver's license.

Act 131, which was signed into law by Governor Wolf in December, took effect September 27 and directed the establishment of a safe program for eligible individuals to use bioptic telescope lenses that can help them meet visual acuity standards to qualify for and obtain a driver's license. These bioptic telescope lenses, with authorized use in at least 46 other states, are designed to help certain individuals who otherwise wouldn't be able to obtain a license meet visual acuity standards. PennDOT has developed the program's training and licensing process and has now implemented the program.

The law amends Title 75- the Pennsylvania Vehicle Code- by allowing drivers with a visual acuity less than 20/100 combined but at least 20/200 visual acuity in the best corrected eye, to be eligible to apply for a Bioptic Telescope Learner's Permit.

In order to be eligible, the individual must:

- Pass a complete vision examination completed by an optometrist or ophthalmologist;

- Have possessed a Bioptic Telescope Lens for at least 3 months;
- Undergo a minimum of 10 hours of front seat passenger-in-car instruction with a Low-Vision Rehabilitation Professional; and
- Provide the Department a letter of enrollment with a PennDOT approved Certified Driving Instructor (CDI) or Certified Driver Rehabilitation Specialist (CDRS).

Once all requirements have been met, the applicant may apply for a Bioptic Telescope Learner's Permit. Upon successful completion of PennDOT's knowledge test, the applicant must complete a minimum of 20 hours behind-the-wheel driver training using the Bioptic Telescope with a PennDOT approved (CDI) or (CDRS), plus 45 hours of observed driving hours with a licensed person who is age 21 or older in order to complete the 65 hours of accompanied driving required and reassessed by a PennDOT approved CDI or CDRS before taking the skills exam.

Bioptic telescope drivers may only drive during daylight hours, are limited to roads other than freeways and may only drive passenger vehicles weighing no more than 10,000 pounds.

For more information on Driver and Vehicle Services, please visit the website, [www.dmv.pa.gov](http://www.dmv.pa.gov).

## AGENCIES WORK TOGETHER TO HELP ADDRESS SCHOOL BUS DRIVER SHORTAGE

To help address the bus driver shortage, PennDOT mailed a letter from Pennsylvania Department of Education (PDE) reaching out to approximately 376,000 individuals with Commercial Driver's Licenses (CDL). The letter included information about a survey for individuals who had an interest in exploring potential employment opportunities as school bus drivers. To date, more than 1,600 individuals have completed the survey. Those individuals were contacted by their local school districts to discuss next steps in licensure.

Individuals may schedule a CDL skills test by visiting PennDOT's Driver and Vehicle Services website, selecting our Schedule a Driver's Exam under Driver Vehicle Services, or they may call (717) 412-5300.

The Pennsylvania School Bus Association (PSBA) has been working to address the driver shortage as well, through a multi-faceted Driver Recruitment Campaign, which they have been running since July. This campaign includes a content microsite, YouBehindTheWheel.com, that is designed to educate individuals on the school bus industry, walk them

through the process of school bus driver training, and to get them interested in applying. From there, the interested individual can access SchoolBusHero.com, which is a public job board that will put these people in touch with local PSBA members who have vacancies. In order to further drive audiences to these websites and raise public awareness of the school bus industry, the PSBA ran a digital ad campaign that encompasses Facebook, YouTube, and the general internet. For more information, please contact the PSBA Office at [office@paschoolbus.org](mailto:office@paschoolbus.org) or at (717) 975-1951.

The Pennsylvania School Bus Association consists of over 300 school transportation contractors and industry partners who have come together to be a strong voice for school transportation safety and the school transportation contracting industry. Its mission is to provide programs, education, and services to promote and foster the highest degree of safety in the transportation of school children and strengthen the quality of student transportation through professional management.

# MEET TODD KRAVITS: DISTRICT TRAFFIC ENGINEER

By Steve Cowan, Press Officer, District 11



Todd Kravits began his PennDOT District 11 career in June of 1984 as a Civil Engineer Trainee (CET). After completing his CET rotation, and later being promoted to a Senior Civil Engineer in the Plans Unit, in 1999 Todd went on to become a Senior Civil Engineer Manager within the Design Unit. Since 2004, he has led the Traffic Division as the District Traffic Engineer.

Managing the traffic engineering and operations while helping to maintain safety for the traveling public, Todd believes it is important to provide great customer service to everyone using our transportation system. Taking the time to listen to customers and do everything possible to resolve their concerns, are goals he strives for every day. As a representative of the department, he understands the value of public perception and serving the public the best way possible.

Over the years, there have been great colleagues who have taken Todd under their wing and mentored him as he took on new roles within the department. From former designers, engineers, district executives and even deputy secretaries, these people have shared their wisdom, contributing to Todd's motivation and experience throughout his career. Some of the projects he is most proud of include the collaborative effort between PennDOT and four other agencies to construct a \$40 million Liberty Tunnel Interchange and culvert replacement, in 2001 the Design Unit let 61 projects (45 of which were designed in-house) for \$231 million, the five mile reconstruction of Interstate 79 and two rest stops almost 30 years ago in Lawrence County, and the beginning of the 24-hour/7 days a week/365 days a year operations of the Regional Traffic Management Center in 2007. "However, what really made all these moments special and what I'm especially proud of, was the collaboration and teamwork displayed by both our internal and external partners," said Kravits. "And that's one of the things I've been most proud of over these past 37 and a half years – the people that I've had the privilege to get to know, work with and the friendships that have resulted."

Considering the many projects he has worked on, along with his expertise in traffic safety, Todd has become a District 11

"go-to" person for media interviews. While not everyone is comfortable in front of the camera, Todd keeps a cool, calm, and collected attitude when interviewed. He attributes this to being prepared and asking for the information the reporters are looking for ahead of time, to ensure he has what they need. "Also, over the years, I've built some good relationships and trust with the reporters, which is essential to feeling comfortable," said Kravits.

As insight comes with experience, when asked what advice he has for younger engineers starting their careers, Todd responded: "Take advantage of any and all opportunities for trainings, cross trainings and rotations to other units to broaden your skills and knowledge. There's an old saying, 'A man's gift opens the way for him, it gives him access to great people.' Use your gift, talents, abilities and knowledge to help others and you'll truly benefit from all the great people you'll meet along the way, making the work you do will be much more enjoyable."

When thinking about hanging up his PennDOT hard hat and making the move into retirement, Todd appreciates the variety of projects he has been able to play a role in and that there has never been a dull moment in District 11. However, more than anything else he will certainly miss the people. "Over the years I have had the opportunity to work with a lot of great people both inside and outside of PennDOT. Each of them has their own story," said Kravits.

Although he is leaving his options open for the next chapter of his life, Todd is excited for more opportunities to travel to the beach, spend time with friends and family and continue to volunteer within his religion.

Todd Kravits has been a great asset to PennDOT for many years. Although he will be missed greatly for his wealth of knowledge, dependability, and team player attitude he brings to the department, his colleagues will wish him well once he starts his journey of retirement.

# PENNDOT HOSTS VIRTUAL INNOVATION DAYS

By PennDOT Bureau of Innovations



Reflecting its 50 years of embracing and pursuing the latest in transportation innovations, PennDOT hosted a Virtual Innovations Days event in early November.

Twelve sessions were held virtually over three days between Nov. 2 and 4, drawing nearly 850 participants, which included PennDOT and Pennsylvania Turnpike employees as well as federal and municipal government, local planning partner and public transportation agency representatives.

Session topics focused on making roadways and bridges last, technology and project delivery, maintenance equipment, techniques and materials, enhanced design and construction approaches, multimodal transportation planning and tools to reduce traffic congestion and enhance safety.

In addition, a Virtual Exhibit Hall was featured during the event, showcasing nearly 100 innovative equipment, tools, materials, applications and technologies that have been implemented at the state and local levels.

In her welcoming remarks, PennDOT Secretary Yassmin Gramian, P.E., noted that since its founding in 1970, the agency has grown leaner and more efficient.

"The reality we must deal with every year is the struggle to deliver the very best in transportation while coping with chronic underfunding," she said. "From some, we have heard the refrain that we must become more efficient before additional resources will be provided. The sessions over the next three days will show we have taken innovation and efficiency responsibility very seriously."

Secretary Gramian also paid tribute to the late George McAuley, PennDOT executive deputy secretary, who had a 32-year career at the agency.

"He was passionate about our mission of innovation and setting us on a positive course during these challenging times with an eye on the future," she said. "His influence was felt far beyond PennDOT."



Keeping pace with the ever-changing digital landscape, PennDOT showcased programs it has underway to embrace this new technology to save money and improve efficiency.

PennDOT's vision is that by 2025, all construction projects will be bid using 3D technology rather than paper-based construction plans.

"The key to success will be managing the pace of change," said Allen Melley, P.E., the digital delivery lead in the Bureau of Project Delivery. "We can't go too fast or too slow."

PennDOT has established a three-phase strategy to start to implement 3-D technology over the next four years. In Phase 1, PennDOT will refine its strategy first adopted in 2020 and reach out to industry and consultant partners on the best way forward while doing several pilot projects. In Phase 2, more pilot projects will get underway and in Phase 3 in 2024, procedures and standards will be updated.

A roadway modeling requirement will be adopted in 2022, while bridge construction modeling will follow in 2023 and 2024 will see drainage and advanced asset management projects incorporated into the new processes.

Other topics during the Digital Delivery session focused on the use of Unmanned Aerial Systems (UAS) or drones to assist with collecting data for inputting into digital software. Examples of UAS deployment covered a bridge replacement and roundabout project in Allegheny County, according to John Myler, assistant construction manager in PennDOT's District 11.

Augmented reality headsets are helping with design of bridge, culverts and other infrastructure features, and new technology has been applied for remote visual inspections and ultrasonic testing of bridge elements on Interstate 95 in southeastern Pennsylvania. The headsets mean cost savings, reduced travel times for inspectors, instantaneous communications and enhanced safety by reducing the need for inspection staff at work zones, said Nicholas E. Shrawder, senior civil engineer in the Bureau of Project Delivery.

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PennDOT received funding from the Federal Highway Administration in 2021 to test the Simulated Location and Mapping (SLAM) system, an easily transported LIDAR system for collecting physical characteristics along project routes. One benefit is to save time and enhance safety by not having individual inspectors going out to collect the data in person, said Stephen Moore, PLS, chief of PennDOT's photogrammetry and surveys section.

Keeping pavements smooth is an ongoing, challenging goal for PennDOT and municipal governments, and Innovation Days presenters reviewed the ways that challenge is being tackled.

The choices are myriad, with periodic preservation the most viable approach that can save more than \$1 million a mile in costs. PennDOT is weighing the benefits of such innovations as Highly Polymerized Modified asphalt, fiber reinforced concrete and geotextile fabric overlays as part of repaving projects.

Faced with severely constrained funding, PennDOT is counting more on more aggressive asset management strategies to stretch scarce dollars even further, according to Justin Bruner, P.E., bridge asset management section chief.

"Lower cost treatments earlier in the life cycle makes the asset last longer," he said during the Making Bridges and Roadways Last Longer session.

He said PennDOT is focusing more on such bridge deck life extenders as epoxy and latex treatments that cost \$25 and \$75 per square foot compared to \$250 a square foot for a full rehabilitation.

Without such measures, PennDOT could again lose ground on the state of bridges. Efforts over the last decade cut the number of structurally deficient bridges from 6,039 to 3,280. But with constrained funding, the percent of the roughly 25,000 bridges on the state system in poor condition could again rise to more than 50 percent by 2046, Bruner said.

At the same session, Tim Carre, P.E., PennDOT assistant chief bridge engineer; Bryan Miller, P.E., assistant bridge engineer for design in PennDOT District 3 based in Lycoming County, and Shane Szalankiewicz, PennDOT District 11 (Pittsburgh region) district bridge engineer, reviewed various innovative bridge deck overlay applications.

"We must find ways to make bridges last longer," Miller said. "The only way to go is to invest in low-cost preservation work."

Coordinated by PennDOT's Bureau of Innovations, other event presentations covered the following innovation advances:

A fall 2019 project streamlined traffic signal management agreements and updated signal policies to improve traffic signal operations and keep traffic moving smoothly. The project made the agreement process more efficient and further ensures municipalities are operating their signals according to permit specifications. Roughly 100 municipalities have enacted a new Traffic Signal Maintenance Agreement to date.

The development of smarter work zones by using new technologies to monitor traffic flow and anticipate problems to keep work zones safe for employees while minimizing congestion impacts.

Opening of 62 roundabouts on state routes and another 15 on local roads with 20 more under construction and 30 in design. Use of roundabouts has resulted to a 100 percent reduction in intersection fatalities at the installed locations, a 67 percent reduction in injuries and 22 percent cut in crashes.

Improvements in the FindMyRide application process have been made to help transit providers and riders more efficiently take applications for shared ride services and allow riders an online process for booking rides. The system is in place for 64 of the state's 67 counties.

Development of a new management tool that helps PennDOT better manage more than \$500 million a year in Multimodal Capital projects. The web-based, dynamic and interactive system connects multiple users and facilitates communications between PennDOT and its partners.

Assembling of a Trail Crossing Inventory pilot program in northeastern Pennsylvania to assist with the advancement of community biking and pedestrian facilities. Sixty-four crossings have been identified in the six-county region of PennDOT's District 4.

Efforts by Lehigh County and the Pennsylvania Downtown Center to implement elements of Active Transportation Plans to develop safe and accessible biking and pedestrian routes as part of an effort to create accessibility and options for better health. Lehigh County's Future LV plan entails elements of protecting natural resources, preserving farmland, developing connections to parks and recreation, enhancing transportation options and managing general land use.

Updates on PennDOT's effort to recycle materials, such as the nearly \$1 million saved in PennDOT's District 11 by buying recycled asphalt and hauling millings back to the asphalt manufacturer, the use of recycled glass for fill and PennDOT's strategic recycling program, a 20-year effort to work with partners to enhance steps to improve the environment.

Several transportation technology advances including an improved process for tracking environmental mitigation commitments on construction projects, called the Environmental Mitigation Tracking System as well as improvements to federal rain gage equipment and tracking on bridges to better inform the public and emergency management agencies of potential flooding events.

Improvements to managing utility-related issues during construction projects with creation of the Utility Relocation Management System. The result is better communication and coordination with utilities to prevent project delays and costly settlements.

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# CUTTING THE RIBBON ON THE LIMEKILN PIKE BRIDGE

By: Brad Rudolph, Deputy Communications Director, District 6

On November 5, PennDOT Acting District 6 Executive Louis Belmonte was joined by local and elected officials to celebrate the completion of the project to replace the bridge carrying Limekiln Pike (Route 152) over SEPTA tracks in Cheltenham and Abington townships, Montgomery County.

"Today marks a real milestone in our ongoing mission to reduce the backlog of poor condition bridges across Southeast Pennsylvania," Belmonte said. "Maintaining our transportation network takes strong partnerships among the department, federal and local governments, planning partners, and our communities."

The new bridge replaced the poor condition structure that previously carried Limekiln Pike (Route 152) over SEPTA. The existing structure had a 12-ton weight limit due to the deteriorated condition of the pre-stressed, post-tensioned, non-composite, adjacent box beams. The new structure does not have any weight restrictions and will safely transport the motoring public, cyclists, and pedestrians for the next 50 to 75 years.

New features on the project include a new traffic signal support installed at the Limekiln Pike and Mt. Carmel Avenue intersection. In addition, a new mast arm was installed to support lane designation signs for traffic traveling eastbound on Limekiln Pike (Route 152). The



existing post-mounted signs have been replaced throughout the project.

The project included the installation of ornamental lights at each of the four corners of the structure. With input from Abington Township, these light poles were selected to provide additional lighting for pedestrian traffic. The LED luminaries provide adequate lighting while consuming minimal energy.

"Thank you to everyone for their hard work completing this project. This new bridge is a valuable investment in our area's infrastructure and contributes to our community's viability and businesses," said Rep. Ben Sanchez.

Neshaminy Constructors, Inc., of Feasterville, Bucks County, was the general contractor on the \$3.3 million project, which was financed with 100 percent federal funds.

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An agreement with the State Correctional Institution at Forest County for a state-of-the-art repair facility that helps PennDOT extend the life of its heavy equipment while giving inmates real-life work experience.

Several smart upgrades including additional advances in LED lighting to conserve energy, improve brightness on roadways and save money as well as advances in camera and vehicle location data in plow trucks with the goal of giving the public and PennDOT managers more real-time information including views from the trucks during storms. A pilot program is planned this winter in two western Pennsylvania PennDOT districts in which 30 to 40 forward facing cameras will be installed in plow trucks.

New training programs for PennDOT maintenance staff to better prepare them to monitor and maintain PennDOT's 2,800 Stormwater Control Maintenance locations and meet federal stormwater control regulations.

A multi-agency program that recruits homeless and other disadvantaged people into \$10 an hour temporary jobs picking up litter in Monroe County. The program, started in June 2019, has engaged 221 individuals who cleaned up 500 miles of roads and collected 7,500 trash bags, making a huge difference for the county with litter pick-up efforts.

PennDOT maintenance innovations such as enhanced communication between managers and field staff to resolve

safety issues; use of a vacuum attachment by bridge maintenance crews to prevent water used in flushing from impacting sensitive streams; a crew-inspired innovation to move the hose reel to the front of the dump truck for safer crack sealing operations; the successful transition to virtual Incident Command operations during the COVID-19 pandemic; successful job fairs to recruit winter maintenance workers, and the Build a Better Mousetrap competition that encourages roadway management innovations by municipal governments.

Innovations in bridge design and construction including flex beams, enhanced water flow assessment, modular foundation pieces, innovative steel girder designs, a University of Pittsburgh research project to get more detailed stress and condition data from bridges, and use of robots for rebar installation in bridges, saving time and money.

Improved tools to enhance traffic safety, including interactive maps to help manage traffic congestion due to planned events, incidents or weather; an enhanced system for the routing of overweight and oversized truck movements; an enhanced multi-state and multi-agency camera network for improved incident management; enhancements to PennDOT Crash Reporting System; and efforts by local planning agencies to use data to better manage congestion.

Full recordings of each session are available on the PennDOT Virtual Innovation Days event website at: <https://tinyurl.com/yap3hlse>.

# PENNSYLVANIA'S FIRST-EVER LITTER ACTION PLAN CALLS FOR ACTION STATEWIDE



The Wolf Administration released the state's first-ever Litter Action Plan which reflects the work of more than 100 stakeholders from state and local government, businesses, the legislature, and more—and includes both current initiatives and recommendations to clean up the more than 500 million pieces of litter scattered throughout the commonwealth.

Demonstrating the cost of litter to communities and the commonwealth, PennDOT Secretary Yassmin Gramian noted that the agency's annual \$14 million cost to clean up litter makes litter prevention especially important.

DEP has funded "Pick Up Pennsylvania" community litter cleanups and illegal dump site cleanups for over two decades, supporting volunteers in removing many tons of trash from the land and waters. As littering has persisted, DEP sponsored with PennDOT the first comprehensive state study to inform development of the Litter Action Plan, with a focus on changing littering behavior.

In addition to examples and suggestions for the General Assembly, local governments, businesses, and the public, the report outlines 16 recommendations for the commonwealth. Examples of actions state agencies are taking to support the higher-level recommendations in the plan include:

- PennDOT, the Department of Community and Economic Development, and DEP collaboration on an anti-litter campaign anticipated for spring 2022.
- PennDOT analysis of where and how to ensure it has the right litter-reducing tools in place in its public facing facilities.
- DEP work underway on a new rulemaking to provide convenient and affordable access to waste disposal and recycling services in rural areas of Pennsylvania where trash collection and recycling services are currently not economically feasible.

- The Department of Conservation and Natural Resources (DCNR) is complementing their "Leave No Trace" program with working to update their concessionaire agreements to include language aimed at combatting litter, such as requiring food providers to minimize paper straw and disposable utensil use. And when onsite composting is available at a state park, concessionaires will be required to work with DCNR to convert as many of their food service products to compostable, paper-based forest product alternatives and then compost them with the food waste.
- State Police continuing Operation Clean Sweep, which launched this summer and reinforces a zero-tolerance mindset with litter enforcement, while sharing anti-litter messages year-round. This complements their assistance with enforcing Litter Enforcement Corridors that – under a 2018 law – can be designated by the department and local governments to combat litter.
- The Department of Education's review of opportunities to further incorporate anti-litter curriculum into their environmental programming standards.
- Fish and Boat Commission pilot projects, in coordination with DCNR, to properly dispose of fishing line.

The plan's recommendations for the General Assembly feature several proposed changes to existing laws and three new proposed laws. Recommendations for businesses and the public will be continually shared through the workgroup participants moving forward.

DEP identifies many ways Pennsylvanians can be anti-litter at [www.dep.pa.gov/litter](http://www.dep.pa.gov/litter).

PennDOT provides litter information and many additional litter cleanup volunteer opportunities, including Adopt-A-Highway, Litter Brigades, and more on its Roadside Beautification page, [www.penndot.pa.gov/about-us/RoadsideBeautification](http://www.penndot.pa.gov/about-us/RoadsideBeautification).

# TRANSIT AGENCY AUTOMATED COMPLIANCE TRACKING SYSTEM

By: JoEllen Clapsadl, Bureau of Public Transportation



PennDOT's Bureau of Public Transportation (BPT) is required to conduct compliance reviews on vehicles purchased with awarded Federal 5310 and 5311 funds on a regular basis. Staff have manually tracked the findings and due dates for these compliance reviews for years on a separate spreadsheet that has to be maintained and tracked separately from other systems BPT has in place.

Years ago, BPT developed a Capital Planning Tool (CPT) that is an asset tracking and planning system for vehicles and capital assets. Both transit agencies and Department staff have access to the CPT. We determined there to be value in housing all capital asset information in one location. Therefore, we have created a compliance section in the CPT.

The Compliance tool is essential to develop and track findings in our federally required compliance reviews for 5310 and 5311 reviews as well as our Shared Ride and Performance reviews. The system automatically generates letters such as notification, findings, action plans, and closeout letters. Findings are assigned due dates and the dates are automatically put on a calendar to notify BPT staff when follow-up is due. Since these schedules are dependent on a myriad of factors, the system factors in the parameters and notifies BPT when scheduled compliance reviews are due.

In the new compliance section, when a review of an agency starts, a review template is created for each individual agency. Each agency template houses that agency's information and documents:

- Maintenance Plans;
- Title VI Plans;
- Financial Management;
- EEO Plans;
- Agency Procurement Procedures; and
- ADA Policy.

BPT can use this information to conduct its reviews and develop findings. Since Title VI Plans are required to be updated every three years and EEO Plans every four, templates are created for tracking the due dates for each system and put onto a master calendar to allow BPT staff to work with agencies to update plans on schedule to meet federal requirements. The master calendar will improve our efficiency when conducting reviews and ensure that we are not overburdening agencies with multiple reviews in a single year. Additionally, this will allow us to ensure all agencies are compliant and prepared if selected by the FTA for review during PennDOT's State Management Review.

# WHAT IS A LIVING SNOW FENCE?

By Jan Huzvar (Central Office), Tara Callahan-Henry (District 9)



At one time, PennDOT had a robust snow fence program throughout the Commonwealth. Snow fence was a common sight across the landscape. This process was costly and labor intensive and the state began to phase out the process. Today, you can still travel some areas and see snow fence dotting the landscape in areas of high winds and drifting snow, but its use has been drastically reduced.

Among PennDOT's 11 districts two of them, Districts 3 and 9 are teaming up with mother nature to help mitigate issues caused by blowing snow by using Living Snow Fence.

What is Living Snow Fence? Living Snow Fence can be made from many species of trees or shrubs. However, some species are more well suited to be used to trap snow. A species of shrub willows, which grow quickly and perform well in both poor growing conditions and harsh environments, works well alongside the roadside environment in areas subject to drifting snow.

These willows can be purchased as live stakes and are easy to plant, inexpensive and maintenance free! Planting them is as simple as pushing the 20-inch rebar-sized stakes into the ground in early spring. There is no root ball, therefore there is no hole to dig! Two rows of plants spaced two feet apart soon provide a fence capable of trapping snow.

"The great thing about Living Snow Fence is that despite the world slowing down due to the pandemic, the willow shrubs just keep getting bigger and increasing their snow catching ability. We plant them and let nature take care of the rest. The sites we have are looking good and doing well" said Thomas R. Yocum, Environmental Manager, PennDOT District 9.

According to Yocum, *Salix purpurea* is the genus and species of willow that we most often use in our Living Snow Fence program. We have used different cultivars however the most commonly used is *Salix Purpurea* L. 'Streamco' or more commonly known as Streamco Willow. This cultivar was developed and released by New York Natural Resources Conservation Service and is available many places. Some of the plant material used was purchased from nurseries in New York, where specific cultivars were selected based on the plant's characteristics, as well as availability.

Streamco willow is a "male" plant and does not produce seed, so it stays put which is a desirable trait when planting off right-of-way. The Streamco Willow is adaptable to a variety of soil conditions which makes it great for the poor soils or drainage conditions often found in our right-of-way.

Living Snow Fence may last twice as long as standard snow fence and the installation cost of Living Snow Fence is 4 to 7 times less than standard snow fence.

Currently, District 9 only has Living Snow Fence installed in Cambria and Somerset counties, but they are continually evaluating areas in other counties as well.

In District 3, the Living Snow Fence planting area is located at an interchange along Interstate I-180 in Lycoming County. This interchange area is a main artery for traffic heading to and from the Lycoming Mall.

# I-579 URBAN CONNECTOR RIBBON CUTTING HIGH- LIGHTS COLLABORATION

By Steve Cowan, Press Officer, District 11



On Monday, November 15 Governor Tom Wolf joined federal, county, and local officials for the ribbon cutting of the I-579 Urban Connector project. The I-579 "CAP" project is a unique Sports and Exhibition Authority sponsored project located in the City of Pittsburgh. The project has constructed a "cap" structure spanning I-579, recreating a link between downtown Pittsburgh and the Hill District. In part, the project will create a new three-acre public greenspace. This project is an excellent example of multi-organizational collaboration with funding from the Federal Highway Administration, construction oversight by PennDOT and the City of Pittsburgh owning and maintaining the park and recreation area upon completion.

The Hill District was once a densely populated area with over 50,000 residents in 1950. The historic Lower Hill District neighborhood was declared blighted after World War II and by 1956, 413 businesses and over 8,000 residents were forced to relocate. Over 1,300 buildings on 95 acres of land were demolished for the Civic Arena, an apartment building and an apartment/hotel complex with most of the remaining property becoming surface parking. The connection of the Hill District and downtown Pittsburgh was severed in the 1950's when I-579 was constructed, further compounding the problems for the community. This separation had significant impacts to residents and businesses in the Hill District creating barriers to employment, education, and services in downtown. The CAP project looks to reestablish connectivity and support private development.

The CAP structure is located over Interstate 579 bounded by Washington Place, Centre Avenue, Chatham Street, Bigelow Boulevard, as well as property to the north of Bigelow Boulevard. The structure is approximately 52,000 square feet and consists of pre-stressed concrete adjacent box- beams. The bridge deck is an 8-inch-thick reinforced concrete slab. The surface of the CAP will become a public urban open space which will include pedestrian pathways, bicycle routes, rain gardens for stormwater management, and design elements from neighborhood artists.

In his remarks, the Governor noted the importance of collaboration, investment, and community. "This project is a fantastic example of what we can accomplish when we come together to invest in our infrastructure," said Governor Wolf. "An investment in infrastructure is an investment in communities and the people who bring them to life. This project has turned a space of division into a space of connection."

## PENNDOT ANNOUNCES NEW 511PA FEATURES: EV CHARGING STATIONS AND LOW-BRIDGE LOCATIONS, MORE CUSTOMIZABLE TRAVEL ALERTS

511PA allows motorists to set up personalized travel alerts for specific roadways, days of the week, and times of the day. New to this feature, users can now select the type of alerts they would like to receive, rather than receiving all alerts. Categories include incidents, roadwork, general travel information, travel restrictions, and weather-related alerts.

Additionally, motorists can now use just an email or mobile phone number for speed and vehicle restrictions or full roadway closures without creating a personalized account.

Commercial vehicle drivers can also benefit from two enhancements tailored to their needs. 511PA now includes locations for all bridges under legal height (<13'6") over state roads to enhance information that drivers may be receiving from third-party navigation systems. This information can be viewed on the web map and is also available as an alert that can be heard in drive mode on the mobile app.

Additionally, the 511PA mobile app now allows drivers to specify vehicle type – either commercial or passenger vehicle. If commercial vehicle is selected, vehicle restrictions and low-bridge data is turned on in drive mode by default.

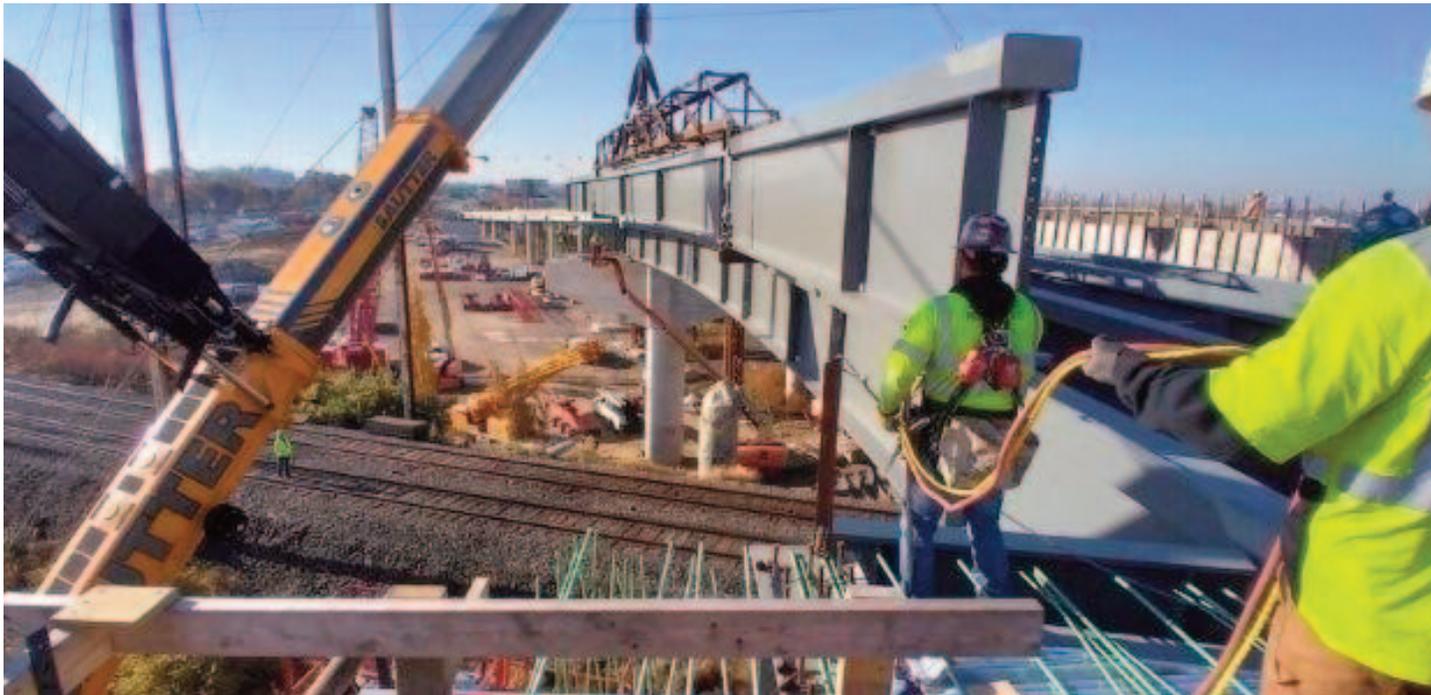
To enhance traveler information for the growing number of electric-vehicle (EV) drivers, 511PA now also includes EV charging station locations as an option on its traffic map. Using data from the U.S. Department of Energy, the map shows locations across the state by connector type, including CCS, J1772, CHAdeMO, Tesla, and NEMA.

While PennDOT recommends not traveling during winter storms, motorists can check conditions on more than 40,000 roadway miles, including color-coded winter conditions on 2,900 miles, by visiting [www.511PA.com](http://www.511PA.com). 511PA, which is free and available 24 hours a day, provides traffic delay warnings, weather forecasts, traffic speed information and access to more than 1,000 traffic cameras.

511PA is also available through a smartphone application for iPhone and Android devices, by calling 5-1-1, or by following regional Twitter alerts.

# PENNDOT CONSTRUCTS FIRST CURVED STEEL TUBULAR FLANGE GIRDER BRIDGE IN THE U.S.

By Daryl St. Clair, Special Assistant to Deputy Secretary



On Interstate 95 in southeastern Pennsylvania, we are constructing the first curved steel tubular flange girder bridge in the United States. The use of a tubular flange in place of a standard plate increases structural performance while reducing fabrication and erection material, as well as erection time compared to standard plate flange curved girders.

The use of steel plate flanges has been the standard for straight and most curved girder bridge applications. Lehigh University performed research supporting the design of curved steel girder bridges with tubular flanges. PennDOT developed a design and is constructing this innovation as part of an interchange project on Interstate 95 in District 6. The site constraints for erection are very challenging with overhead utility lines and rail lines below the bridge. Therefore, this type of design is a good fit.

This design was submitted to the American Association of State Highway and Transportation Officials (AASHTO) for

consideration as a 2021 focused technologies candidate and for the additionally selected technologies. There were 41 candidates submitted to AASHTO overall. At the AASHTO Innovation Initiative (AII) annual meeting on October 26, 2021, the group evaluated the 41 candidates. The curved steel tubular flange girder bridge did make the list of 12 finalists out of the 41 but was not selected for the focused technologies or additionally selected technologies.

The tubular top flange concept was developed by Dr. Richard Sause of Lehigh University. In 2010, PennDOT funded research and built a state girder bridge with tubular top flange- also the first in the nation. Dr. Sause continued research (not funded by PennDOT) to extend the concept to a curved girder, as we see in this project.

The Contractor is Buckley and Company, Inc. Congratulations to our team in the southeast for the successful erection of this innovative bridge system!