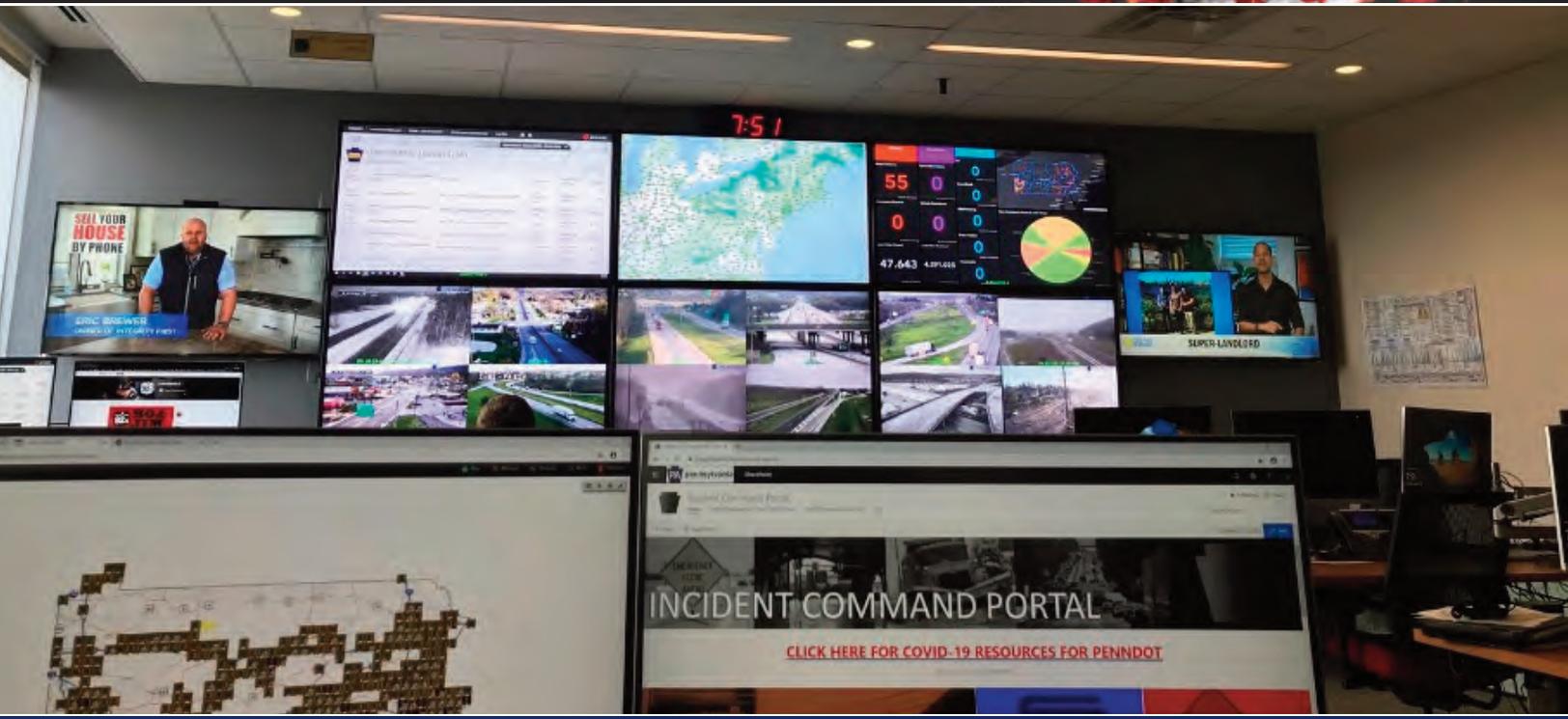
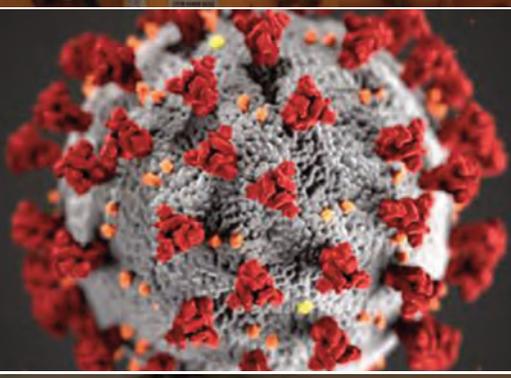
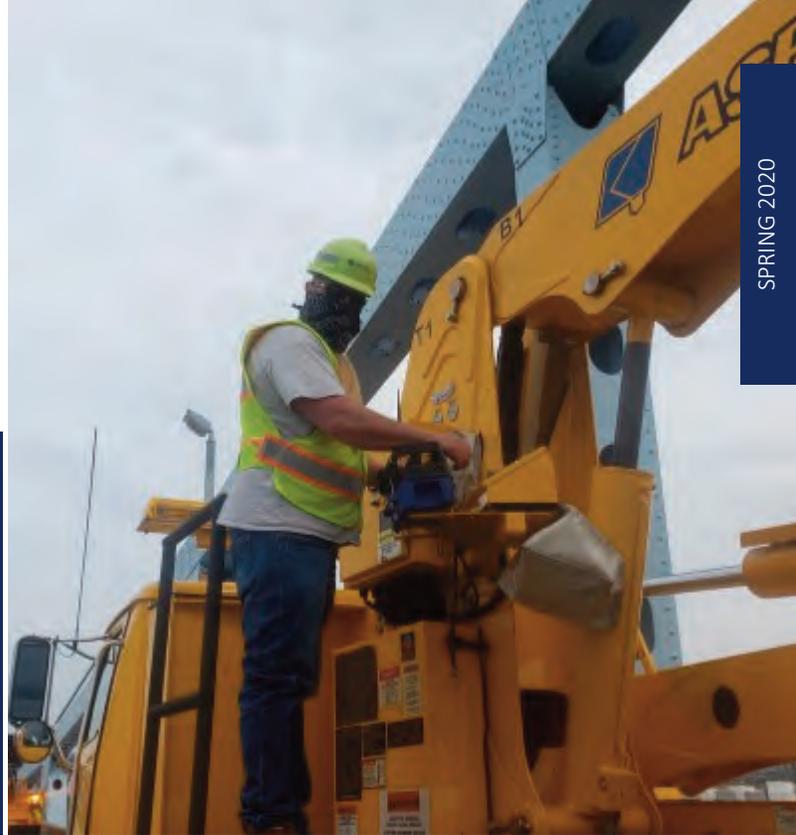




KEEPING YOU UP
TO DATE WITH ALL
OF PENNDOT'S
PROJECTS AND
INNOVATIONS
THROUGHOUT
THE YEAR.

SPRING 2020

PENNDOT RESPONDS TO COVID-19 PANDEMIC



WELCOME TO THE DOTcom!

TABLE OF CONTENTS

PennDOT COVID-19 Updates, Resources Available3

Safety, Management Operations Successfully Transition to New Reality4

Project Planning and Public Input During a Pandemic6

Public Transportation Response to COVID-197

From Musings to Spreading Concept: The Diverging Diamond Interchange Moves Across PA9

Developing a Better Way to Control Traffic During Projects10

A Virtual Public Meeting Keeps Pennsylvanians Informed in Bridgeville-Based District 1111

ICYMI: Highway Safety Law Awareness Week Annually Highlights Driver Safety Laws that Matter13

Adding to The Bridge Tool Box: PennDOT Spreads the Word On the Low-Cost, Effective Geosynthetic Reinforced Soil-Integrated Bridge System14

Pennsylvania State Transportation Innovation Council Working to Enhance Concrete Finishing16

District 9 Partners with Local Municipalities to Tackle Ms4 Requirements17

Embracing Innovations: Making a Dent in Resistance to Roundabouts; PennDOT’s Journey to Safer Routes18

PennDOT: Doing Our Part to Keep Pennsylvania Beautiful20

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

This issue features PennDOT’s response to COVID-19 including; bridge inspection during shut-down; operating traffic management centers remotely; project planning and public input during pandemic; public transportation response; Virtual Public Meetings, and much more.

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 Press Office at ra-penndotpress@pa.gov.

We hope you enjoy this latest issue!

BRIDGE INSPECTION FIELD TEAMS ARE ADAPTING TO COVID-19

By Richard Gill, Bridge Engineer, District 10



Crane Operator/Inspector Steve Cochran in bucket by himself. Operator Tim Kunselman standing on crane deck.

Social distancing has presented a few obvious challenges for bridge inspection activities. How is distancing to be accomplished when the work area for three inspectors is a 5-foot-wide bucket? Just arriving at the bridge site in vans and trucks that only have front seats presented a challenge. The ingenuity and creativity of the talented workforce, that we are all a part of, came up with strategies and protocols to get the job done – safely!

In Indiana-based District 10's situation, the bridge inspection teams drive in separate vehicles to the bridge sites and perform inspection operations together but practice social distancing and remain at least 6 feet apart from one another. Masks/face coverings are worn at all times. The inspectors return to their respective vehicles and move on to the next bridge site. Inspection documentation is compiled either at the bridge sites or retained for editing and submission through teleworking at home.

Similar practices are utilized for inspection crane operations with some additions: during inspection of the structures only one crane bucket operator is in the bucket at a time. This bucket operator is a Certified Bridge Safety Inspector and visually performs the inspection by relaying information by intercom, walkie talkie, mobile phone or simply verbal communication, if the distance is close enough, to the inspector on the ground. The crane driver and bucket operator also drive separately to the bridge sites and never come within 6 feet of one another during daily operations including setup of traffic control.

Social distancing doesn't end at the field operation. The inspection report review process begins with the online bridge system coordinator teleworking to compile information from the field inspectors into report format and entering it into the district's document routing system. Once the report is entered into the document routing system the report is distributed to everyone that must review that report. The document routing system sends each reviewer an email notification when a review is needed, and the attached link will take the reviewer directly to the pdf inspection report. Once all reviewers have approved the report and all comments are addressed the report will be filed electronically and uploaded.

The department shares its sincerest appreciation for the entire bridge inspection section along with the County Maintenance, IT staff and the District Executive Staff that have supported the inspection activities during this time.



NEW PENNDOT SECRETARY SHARES OPTIMISM FOR DEPARTMENT'S ROLE IN PENNSYLVANIA'S FUTURE

Yassmin Gramian, P.E., Secretary of Transportation

"If our mission depended only on people...there's almost nothing we couldn't do."

This sentiment was shared by now-Secretary Yassmin Gramian during her confirmation hearing before the Senate Transportation Committee. Days prior to her May 27, 2020, confirmation, she outlined not only the landscape of our current challenges but also enthusiasm for PennDOT's role in the future of Pennsylvania.

While COVID-19 has changed many things for PennDOT and Pennsylvanians – some temporarily and some possibly for the long term – the virus has magnified the department's strengths and challenges alike. As outlined in her Dec. 23, 2019, introductory blog message, our funding needs and also our commitment to every Pennsylvanian were established well before the pandemic occurred.

Despite continuing concerns with sustainable revenues, Secretary Gramian described her optimism for the path forward. During her May 26 hearing, she said:

"We are finding opportunities and innovations for our operations and workforce moving forward. We are implementing and exploring new ways of doing business that will benefit our customers. These innovations should also attract and keep talent in the agency. As we work through and eventually emerge from today's reality, I am committed to continuing our focus on diversifying our business opportunities as well as our team.

"I am inspired by the grit and persistence our employees have shown in the face of this virus. I truly believe we will be improved in many ways when the dust settles. We are committed to continuous support in our recovery of Pennsylvania's path forward."

Learn more about Secretary Gramian in her bio at www.penndot.gov/about-us/DepartmentExecutives.

For more information please visit our website: www.PennDOT.gov. Or find us on social media at:



www.facebook.com/PennsylvaniaDepartmentofTransportation

www.facebook.com/penndotsec/



www.instagram.com/pennsylvaniadot



www.twitter.com/PennDOTnews

twitter.com/penndotsec



www.linkedin.com/company/penndot

PENNDOT COVID-19 UPDATES, RESOURCES AVAILABLE



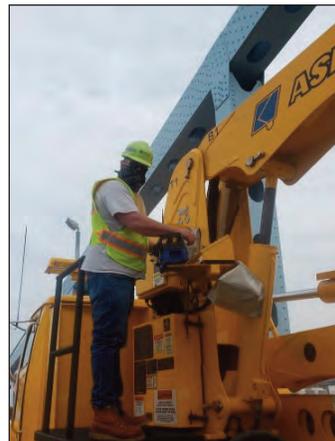
The onset of COVID-19 has meant some degree of change in all Pennsylvanians' lives, and it's no different for businesses and agencies like PennDOT. While we're providing many critical services and performing essential operations in different ways, you may have questions on what actions we've taken and how they may affect you. We've compiled resources for you to answer some of these questions, and we're also sharing stories from the front lines of our operations during this unusual time.

You can find a comprehensive summary of changes and actions to date on our COVID-19 page here. The page also provides access to our COVID-19 blog series where we're sharing stories of personal generosity, how we're innovating operations, and how routine business is continuing in non-routine times.

Another feature you'll find on the blog is information on our new student activity page. With many children at home for an extended time, we're offering many artistic, educational and STEM-related resources. And if you're an adult who likes coloring, crosswords and projects, this is for you too!

Additionally, we know that a picture can say a thousand words, right? The COVID-19 media center includes images answering our most common frequently asked questions on everything from license expirations to how we're handling road repairs.

We look forward to more "normal" days in the future, but in the meantime, we hope these resources help you navigate or answer PennDOT-related questions during this pandemic.



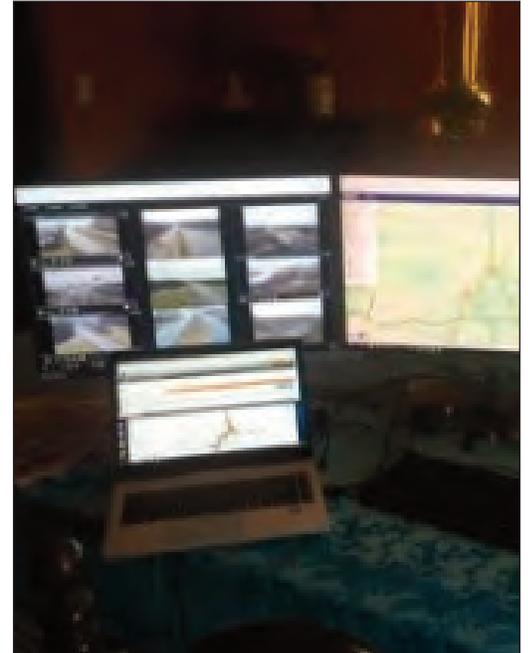
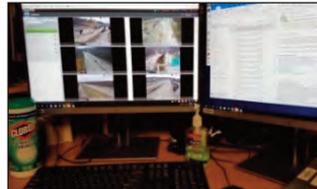
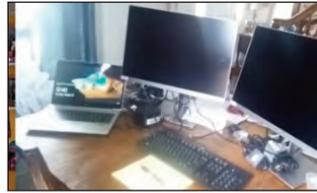
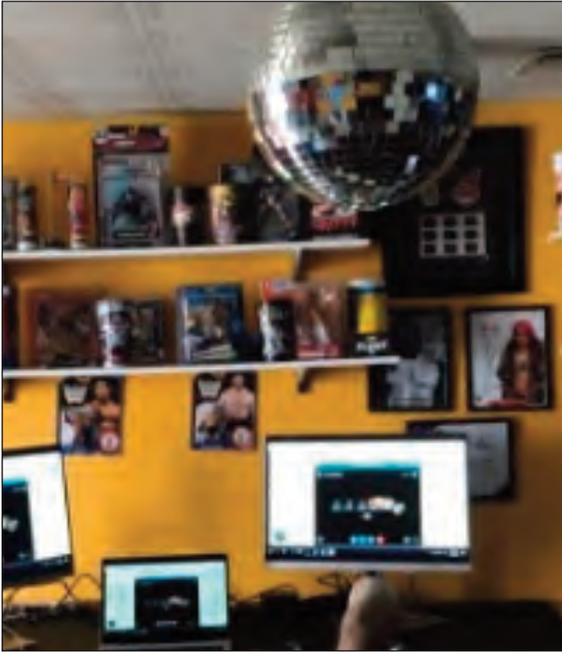
Above: Masks are the new normal for our bridge crane crews. Pictured: Matt Lynch and Jim Wotring.

Below: Area Command has been very active during the COVID-19 pandemic. They remain activated from 8 a.m.-8 p.m., 7 days a week at PEMA headquarters, and they are on call 24/7.



SAFETY, MANAGEMENT OPERATIONS SUCCESSFULLY TRANSITION TO NEW REALITY

By Daniel Farley, Bureau of Maintenance and Operations



PennDOT Traffic Management Centers are a 24/7 service the department provides to monitor the health of Pennsylvania's roads for crashes, disabled vehicles, and emergency scenarios that could impact the overall safety and mobility of motorists.

As PennDOT moved to remote operations due to COVID-19, our Traffic Management Centers (TMCs) transitioned from highly technical facilities to home-based operations with minimal disruption to service. While best practices and lessons learned continue to be captured, PennDOT anticipates it is becoming a national leader for remote TMC operations. Various challenges have been presented and overcome in these critical operations which monitor traffic conditions and incidents, coordinate with emergency responders, among other critical functions. Teamwork from staff across the state has made operational transitions to remote operations possible thanks to extensive coordination and collaboration between IT, district and central office staffs, and the robust set of traffic management tools we have available.

These changes began on March 13 when restrictions in Montgomery County began and the Statewide Traffic Management Center (STMC) had to take over operations for the Philadelphia-based District 6 Regional Traffic Management Center (RTMC). Prior to this, the STMC had only taken over operations for a regional center for short periods of time. It was clear that this was a different scenario and the STMC would need to perform 24/7 operations the most congested part of the state with no end in sight. A few days later, the scope of the pandemic started to take shape and we soon

learned that the entire state would go into a mitigation state. This meant a plan for full remote 24/7 TMC operations would be needed. Staff from all TMCs across the state immediately said they'd do whatever was needed. In some cases, that meant transitioning a business hours TMC to 24/7 operations with limited staff.

The first challenge was access to the necessary equipment. This included things like laptops, headsets, monitors, and internet hot spots. TMCs in District 1, 2, 4 and 5 coordinated with their IT staff on equipment needs, while maintenance staff coordinated with Central Office IT to configure and distribute 52 remote TMC setups for staff around the state. Guidance was developed for workstation setup, file and communication tool usage, and other traffic operations tools. Central Office and District Traffic Operations managers assisted TMC personnel with setting up equipment and troubleshooting any issues.

Check-in meetings continue to be held every few days with the Traffic Management Centers and very few issues have been identified. There have been many success stories noted to date including TMCs monitoring districts typically in other regions, amazing IT support and 24/7 service, and the use of Skype meeting to ensure operators have good communication with their coworkers. Many of these best practices are expected to continue once we return to normal operations.

This story of our TMC operations is just one of many of the success stories being documented during this very challenging time. It's a great example of the dedication of PennDOT staff and our ability to quickly adapt to challenging circumstances.

DISTRICT 1 REPORTS ON THEIR TRANSITION TO NEW REALITY

By Jill Harry, Community Relations Coordinator, District 1



It was nearing the end of the season for the District 1 Traffic Management Center (TMC) employees when the COVID-19 pandemic hit Pennsylvania. Instead of winding down the seasonal crew, they geared up to help the district maintenance facilities transition to telework.

When TMC manager Ed Orzechowski arrived at work on March 16, he was tasked with one mission – get the TMC ready to work remotely. "Normally our contingency plan is to shift duties to the Regional TMC in Pittsburgh," Orzechowski said. "It was certainly never thought about what we would do if the whole state had to leave the office on nearly the same timeline."

For District 1, that meant coordinating with IT employee Conrad Nason to obtain needed computers and accessories, determining how phones could be forwarded among the operators, assessing which functions could be handled remotely, and calling in employees for training and equipment pickup on short notice.

"It was pretty incredible what they were able to do in just one day," said Michele Morningstar, maintenance services engineer. By the time the office was closed that evening, a plan was in place and the TMC staff was fully on board to run things in shifts from their homes. Each was assigned a laptop, headset and mouse. One operator would work each eight-hour shift instead of the traditional two or three.

"The operators were very flexible and accommodating," Orzechowski said.

In the end, it was determined operators would be able to change the interstate message boards, input RCRS information into the state system, watch for incidents on the TrafficAlerts.com and 511PA.com, relay emergency information as needed, and answer the phones for all six counties in the district.

The maneuver not only kept the District TMC open until its original seasonal closure on April 3, but it also helped relieve some of the pressure on the counties that were trying to get

their own contingency plans in place. Though some of the operators were previously unfamiliar with answering calls for the county facilities, all were willing to learn the process as needed.

"We were able to lift a burden off the counties while at the same time not passing that burden on to the regional or state TMCs at a time when they were scrambling as well," Morningstar said.

Beyond the operators' helpful attitudes, the pair were quick to point to other factors that made the transition to TMC remote work more achievable - the winter weather season winding down, the recent transition to a Skype phone system, and a decrease in overall traffic as people throughout the district adhered to Governor Wolf's stay-at-home recommendation.

"From March 4 to April 1, the District 1 core roadway network saw an 11 percent reduction in truck traffic, a 53 percent reduction in passenger vehicle traffic and a 32 percent overall education in traffic," Orzechowski said.

The Skype system made it possible for a phone group to be created, which shortened the process of forwarding calls among the group, including eliminating cumbersome daily steps.

By the time the operators had concluded their seasonal employment, the counties had plans in place to resume accepting calls to their general phone numbers, and the regional TMC in Pittsburgh was prepared to take traffic management tasks for District 1.

In a message to the TMC operators on their last day, Michele acknowledged the important role they played in helping District 1 transition to remote working. "Every year our TMC gets better and supports our counties when they need us most," she said. "And that is because of you and your dedication. It is an honor to work with all of you and you should be proud of the service you provide to your coworkers and the traveling public."

PENNDOT EMPLOYEE IN DISTRICT 12 MAKES AND DONATES MASKS TO HELP LOCAL COMMUNITY

By District 12 Staff



When the overwhelming need for masks hit the local community, local sewers and quilters didn't disappoint in their efforts to step up and help those in need. Among them is Amy Costabile of District 12's Construction unit and her mom, Sandy. Work has been keeping Amy busy with an Emergency Slide project working full time now, but she continues to donate her time and materials as she can. Amy enjoys making quilts in her free time and had plenty of supplies to help this need.

Since the middle of March, Amy has generously donated numerous bolts of stabilizer, countless yards of high-quality cotton fabric and hundreds of yards of elastic to many local sewers to create masks. After getting the materials together, the work of sewing the masks began.

Amy and 10 of her quilting friends have been making masks and have collectively made and donated over 1,000 masks to family, friends and the community. The masks are made of various prints from simple to fun and most recently she has also personalized many as requested. Since April 5, Amy's mom has made well over 1,300 masks herself, and while she does still make them for family and friends as needed, she is now taking larger orders for companies who have requested to purchase masks for their employees.

"Our story is just one of so many who have come to together to help one another and our community," Amy said. "There have been so many sewers and quilters who have been making masks and we are happy to be even a small part of this contribution. Whether it's donating the materials, sewing the masks or helping local business by providing masks they need to protect their employees – we enjoy doing our part to help protect our community from the COVID-19 virus."

PROJECT PLANNING AND PUBLIC INPUT DURING A PANDEMIC

By Planning Deputate Staff



Here are some photos of PennDOT workers from the Planning Deputate, all working under our "new normal" of home offices.

In response to mitigation guidance regarding COVID-19, we've had to make operational changes with safety and essential services in mind. These changes have altered the way PennDOT staff is providing services for Pennsylvanians. Here's an update on how our Planning Deputate is adapting to the changes.

The Planning Deputate works with the federal government and local planning organizations to develop the Twelve-Year Transportation Program, which serves as the blueprint for highway, bridge, aviation, rail freight and mass transit improvements. Planning also manages the cash flow of improvement projects and has sections working on long-range research and map making.

"Like all of you, I'm adjusting to the 'new normal' of life during COVID-19," said Deputy Secretary for Planning, Larry Shifflet. "It's been incredible to watch so many facets of our operation adapt to these changes – it's a testament to the dedication of our PennDOT team to serving the people of Pennsylvania."

The office has been able to process over 134 federal authorizations through electronic signature. This allows projects to continue to move forward as well as positions projects to be available for bid when lettings get started again. Also, our municipal partners, in coordination with the Bureau of Planning and Research, have continued some Local Technical Assistance Program (LTAP) courses through webinars.

Research projects continue to be coordinated and are moving forward, and payments to our municipalities continue to be reviewed and processed daily. Our P3 office continues to coordinate efforts with the Rapid Bridge Replacement (RBR) project, ensuring things are in place for a smooth transition when construction begins again. Also, they are coordinating with District 4 and other interested constituents on the I-81 P3 project in Luzerne County.

With guidance from the Program Center, our Planning Partners have been able to continue business and hold virtual board, commission and/or coordinating committee meetings. In fact, the Delaware Valley Regional Planning Commission utilized Zoom to hold a virtual Board meeting on March 26, 2020, and had 88 participants join the meeting, with active participation from many who joined.

While it is not business as usual, we have been able to adapt to the new teleworking model and continue to provide services to our customers. This is all due to the incredible work ethic and can-do attitude of not only those in the Planning Deputate, but all PennDOT employees, as well as, our municipal partners and MPOs/RPOs.



PUBLIC TRANSPORTATION RESPONSE TO COVID-19

By Susan Heimberger, Executive Assistant to Deputy for Multimodal Transportation

Public transportation agencies in Pennsylvania have continued operating through the COVID-19 pandemic. Although services are limited, transit is considered part of the public health response to COVID-19, transporting essential workers to their jobs and providing access to essential services, like healthcare.

In addition to reducing service, transit agencies have responded to the pandemic by:

- Some fixed route agencies have implemented free fares to reduce driver interactions with riders;
- Shared ride continues to provide essential trips. PennDOT has provided the ability for agencies to offer free fares, alter service areas temporarily, and have same-day service in some places to make it easier for those who really need it to use the service;
- Many agencies are asking drivers and passengers to wear face coverings;
- Agencies are limited the number of passengers on busses and requiring rear door entry.

All systems are following CDC guidelines regarding cleaning and trying to enforce social distancing.

Information on schedules can be found on individual agency websites or social media. See our Public Transit page for details about public transportation in Pennsylvania, including a Public Transportation Services and Programs Map.

THE CARES ACT

On Friday, March 27, 2020, President Trump signed the Coronavirus Aid, Relief, and Economic Security (CARES) Act into law. The CARES Act provides emergency assistance and health care response for individuals, families, and businesses affected by the COVID-19 pandemic and provide emergency appropriations to support Executive Branch agency operations during the COVID-19 pandemic.

FTA is allocating \$25 billion to recipients of urbanized area and rural area formula funds, with \$22.7 billion to large and small urban areas and \$2.2 billion to rural areas. Funding will be provided at a 100-percent federal share, with no local match required, and will be available to support capital, operating, and other expenses generally eligible under those programs to prevent, prepare for, and respond to COVID-19.

Pennsylvania will receive \$1.1 billion in federal CARES Act funding for public transportation. The department is working with the transit agencies and the Federal Transit Administration to apply for and make sure the funding is in the hands of the agencies. More than \$900 million of that funding will go directly to transit agencies in urban and small urban areas. PennDOT is working with rural transit

systems to distribute \$64 million in funding to them to cover increased expenses and lost revenues due to COVID-19.

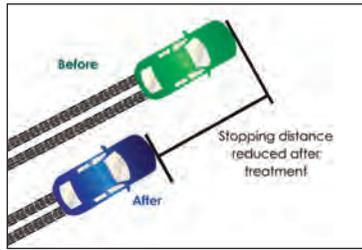
The CARES Act provides \$10 billion in funds to be awarded as economic relief to eligible U.S. airports affected by the prevention of, preparation for, and response to the COVID-19 pandemic. The Bureau of Aviation administers 40 general aviation airports that are eligible to receive federal funding and are part of the State Block Grant Program. Based on the CARES Act formulas which take into account an airport's classification in the FAA National Plan of Integrated Airport Systems 2018 report, FAA is allocating \$1.647 million to these 40 general aviation airports. Funding will be provided at a 100 percent federal share, with no local match required, and will be available to support an airport's operational and maintenance expenses or debt service payments.

Additionally, FAA is allocating approximately \$1.198 million in CARES Act Supplemental AIP funding to the Bureau of Aviation for Non-Primary Entitlement Grant supplements and State Apportionment Grant supplements. This funding will increase the federal share for sub-grants issued to the 40 general aviation airports and is available for airport developmental capital projects only.

HIGH FRICTION SURFACE TREATMENT HELPS PENNDOT IMPROVE HIGHWAY SAFETY

By Richard Kirkpatrick, Bureau of Innovations

In PennDOT's ongoing mission to reach the national highway safety goal of zero fatalities, the agency's use of the innovative High Friction Surface Treatment (HFST) is having a significant impact.



Beginning in 2007 with the first application on Pennsylvania Route 611 in Northampton County, High Friction Surface Treatment has been used more than 250 locations across the state.

PennDOT has seen impressive results.

PennDOT performed a crash data analysis of 47 locations and found that for an investment of just over \$3 million, the return in reduced fatalities, injuries and property damage was more than \$8.5 million.

"A safety countermeasure that results in significant crash reductions like HFST is excellent," said Jason Herschok, PennDOT's manager for safety engineering and risk management. "This innovation supports PennDOT's efforts to address safety on Pennsylvania highways."

Follow-up crash data analysis at 47 locations, where crash data was available for at least three to five years after HFST installation, showed a significant crash reduction in wet road, run-off-road, hit fixed object and all crashes. Fatalities at these locations went from eight to zero and injury crashes went from 190 to 71, a 63 percent decrease.

The difference ingredient-wise in HFST is the use of an epoxy binder and calcined bauxite aggregate, which is laid on top of the surface.

"The bauxite aggregates are small in size and contains mostly alumina content that results in higher friction compared to traditional pavement," Herschok noted.

Its use is based in part on crash analysis of curves and intersections, where there is a need to help drivers stay on the road and reduce stopping distances to avoid crashes due to running stop signs or traffic signals and avoiding rear end crashes.

A Federal Highway Administration (FHWA) Every Day Counts innovation, championed by the Pennsylvania State Transportation Innovation Council, this treatment can also help PennDOT deal with safety issues where there are unusual environmental challenges.

"High Friction Surface Treatment has been successfully used on a number of sites in District 8," said Mike Keiser, district executive for PennDOT Engineering District 8, which covers south central Pennsylvania. "In each case, crash rates have been decreased."

For example, in 2013, District 8 was looking for a safety upgrade on Route 147 in Halifax, where 90-year-old historic sycamore trees planted to commemorate World War I veterans were being hit by vehicles departing the roadway resulting in fatal crashes. Knowing the trees could not be removed and guiderail was not the best option, the district turned to High Friction Surface Treatment as well as other safety improvements. As a result, fatal crashes have been eliminated at this location to date.

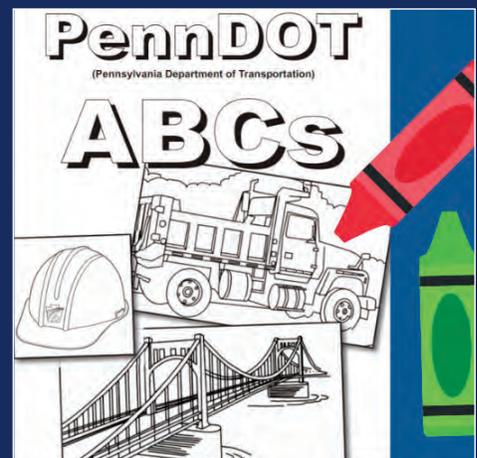
"On rural, low-volume, roadways with higher speed limits, this treatment is a very viable alternative compared to an expensive long-term construction effort to modify the roadway alignment," noted Keiser.

LEARNING FROM HOME: ACTIVITIES FOR KIDS ARE NOW AVAILABLE

To help mitigate the spread of COVID-19 in Pennsylvania, school buildings remained closed for the remainder of the school year. The adjustment to at-home learning meant there was a need for virtual resources, so kids could continue their education in a new learning environment.

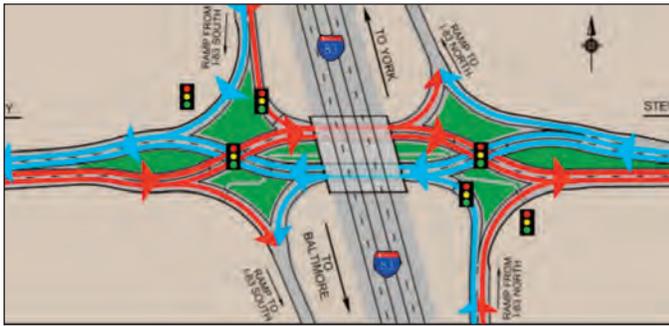
For activities and learning materials related to transportation and STEM, visit our new Activities for Kids page! Here, you'll find coloring activities, word games, safety facts and hands-on experiments to try at home.

Up-to-date information on COVID-19 in Pennsylvania is available on the Department of Health website. Visit PennDOT's coronavirus page at www.penndot.gov to learn more about our operational changes in response to COVID-19. You may also be looking for new activities outside of schoolwork.



FROM MUSINGS TO SPREADING CONCEPT: THE DIVERGING DIAMOND INTERCHANGE MOVES ACROSS PA

By Richard Kirkpatrick, Bureau of Innovations



What started out as some musings by a University of Maryland engineering graduate student in 2000 has swept the country and is now spreading across Pennsylvania. The transportation innovation is the Diverging Diamond Interchange (DDI) and is among the Federal Highway Administration's innovations championed by the Pennsylvania State Transportation Innovation Council (STIC).

PennDOT's District 12 opened the first DDI in Pennsylvania in September 2016 at the Interstate 70/ U.S. 19 interchange in Washington County. The second is now under construction in PennDOT's District 8 at the Shrewsbury interchange of Interstate 83 in York County, and a third is planned for the U.S. 222/U.S. 322 interchange in Lancaster County. District 12 is also designing its second DDI at the Interstate 70/State Route 51 in Westmoreland County.

Graduate student Gilbert Chlewicki, who had been drawing sketches of highways since he was in elementary school, had to do a term paper and wanted to come up with an innovative design as the subject. He was inspired by an existing interchange at Interstates 95 and 695 north of Baltimore and, using that as a starting point, developed the design for what became the DDI. The first one was installed in Springfield, Mo., in 2009, and the I-70/U.S. 19 was the seventy-third to open. There are now 98 across the country.

Safety is the big benefit of the DDI design.

"Compared to a conventional diamond interchange, the DDI reduces vehicle-to-vehicle conflict points by nearly 50 percent and eliminates many of the most severe crash types," according to FHWA.

The key is the elimination of left turns across oncoming traffic. At the interchange, traffic in both directions is transitioned or crossed over to the left side at a signal-controlled point and then transitioned back to the right side at a second signal-controlled point. At the second point, left turns can be made without crossing oncoming traffic.

"As these have become more popular, we're seeing results that are good across the country," Governor Tom Wolf told the media at the ceremonial ribbon cutting for the I-70/U.S. 19 DDI.

Added then PennDOT Secretary Leslie S. Richards: "It is improving safety by reducing traffic contact points."

Driver reaction was positive as well.

"At first, it did (confuse me) because you think you're on the wrong side of the road when you're going to the left, but now it's fine," Janie Gilbert of Claysville told WTAE-TV. "It makes the traffic flow quicker."

District 12 Executive Joe Szczur said the project was a long-standing priority. Besides the added safety, the DDI required less space and reduced property takes than a traditional interchange, he noted.

PennDOT took special care as the design moved forward, involving its maintenance staff to ensure the design could accommodate snow removal, closely following Missouri's "DDI Lessons Learned" document, and developing a video to take to public meetings to gain driver acceptance.

District 12 Project Manager and Designer Barry Lyons noted that a brochure and animated video the district deployed played a key role in building public support.

"The brochure and video were displayed at public meetings and placed on the I-70 project," he said.

Lyons added that the district incorporated peer reviews in its planning and, in fact, engaged Mr. Chlewicki in the process.

"As far as buy-in and support for innovations, the key is communication," said Rachel Duda, District 12 assistant district executive for design.

She added that the district engaged through public meetings, private clubs and organizations, conferences, and news media, created brochures for both DDI and roundabouts and offered driving simulations on its website.

"The driving simulations ... helped immensely," she said. "People understood the project better when they were watching how easily it could be done."

Added District 8 Executive Mike Keiser:

"The DDI concept not only provides for improved capacity, now and in future years, but also improves safety by eliminating several points of conflict compared to traditional signalized intersections. We are also appreciative for the support from our Metropolitan Planning Organization (MPO) partners and local municipalities, including emergency responders, regarding the selection of the DDI alternative. We are looking forward to the successful completion of the [Shrewsbury interchange] project so that area motorists can begin to experience all the benefits associated with the DDI."

Moving forward, PennDOT will continue to look for ways to advance the DDI concept across Pennsylvania.

DEVELOPING A BETTER WAY TO CONTROL TRAFFIC DURING PROJECTS

By Richard Kirkpatrick, Bureau of Innovations



Successful highway and bridge projects depend on a high level of collaboration between PennDOT and its partners. Championed by the Pennsylvania State Transportation Innovation Council, the innovative Design-Build Traffic Control Plan (DBTCP) aims to improve project delivery by exploring ways to provide greater contractor flexibility in constructing a project.

Design-Build Traffic Control recently saw success on the Interstate 70 improvement project in PennDOT District 12. The new process allowed general contractor Golden Triangle Construction Company, to better use its experience and innovation to deliver a more efficient traffic control plan that saved time and money.

"By giving the contractor responsibility for developing the traffic control plan, PennDOT allowed us to take what we know and take our ideas and incorporate them into the plan we could construct and fit within our systems and methods," said Eric Klimas of Golden Triangle Construction Company.

He added that the project went well and the process moving forward will be even more streamlined and leave the door open to even more innovation. Delivering an exceptional traffic control plan "ensures construction can be expedited and carried out in a way that is safe for the contractor and the traveling public," Klimas said.

The I-70 project involved improving the interstate in Westmoreland County from east of Interchange 49 at Smithton Borough to east of Interchange 51 in South Huntingdon Township. The work included rebuilding Interchange 51, replacing a bridge over Route 31, adding a 10-foot median and 12-foot shoulders and improving the sight distance for two horizontal curves. Additional improvements were also made to Routes 31 and 3061 and Smithton Pike.

The DBTCP allows the contractor and designer to work closely on the final design of the traffic control plan. The revised process allows for flexibility in selecting materials, construction methods, and available resources. Also, the revised process reduces the need for change orders because the construction team is

responsible for the completeness and quality of the final traffic control plan. The construction team can explore cost savings, respond to schedule changes, and receive input from other members involved in the construction of the project.

"We used to provide a final traffic control plan," said Rachel D. Duda, P.E., assistant district executive for design in District 12. "If the contractor needed to change it, they had to go through a process that created work orders and required time for reviews and approvals."

With DBTCP, "we just do a conceptual plan, and they (contractors) have the ability to finalize it. That creates efficiencies," Duda said. "...There is a lot more flexibility to figure out materials and construction methods and available resources. It means savings in design and construction."

Duda leads the STIC's Design Technical Advisory Group that worked on the DBTCP innovation.

"It was a good partnering process," added Sean P. Sepe, P.E., PennDOT's project manager. "Overall, it was a good experience."

Lessons learned were applied to a subsequent I-70 project in the district. For example, according to Duda, the district found that providing conceptual cross sections at critical locations, such as grade separations, is beneficial to contractors, in addition to releasing the unofficial plans as early as possible.

"By releasing the unofficial plans early, including design build special provisions and maintenance and protection of traffic, or MPT, restrictions, allowed contractors to develop their own work zone traffic control (WZTC) plans and estimates," said Duda.

Duda added that by making improvements to the design build special provisions, the district was able to incorporate the improved special provisions into future projects with Design Build WZTC, resulting in considerably less questions during the advertisement phase of these newer projects.

"There were much fewer questions, and we had a better transition," Sepe noted.

RAPID BRIDGE REPLACEMENT PROJECT WINS ' TRANSPORTATION PROJECT OF THE YEAR' AWARD

The Rapid Bridge Replacement (RBR) project is a Public-Private Partnership (P3) project that complements the traditional bridge delivery and replacement program administered by PennDOT in an effort to reduce the number of poor bridges in our portfolio. Plenary Walsh Keystone Partners (PWKP) has been selected by PennDOT to replace 558 bridges across the state. Commercial Close (execution of the contract) was achieved on January 9, 2015. The team, which includes over 50 Pennsylvania-based companies, began construction of the bridges in June 2015 and is currently finishing the Design and Construction term of the project.



The commonwealth retains ownership of the bridges, but PWKP is responsible for maintaining each bridge for 25

years after its replacement. The team manages bridge design, construction and maintenance under the contract. The team is responsible for financing the effort and PennDOT will make performance-based payments based on the contractor's adherence to the contract terms. PennDOT will be responsible for routine maintenance, such as snow plowing and debris removal.

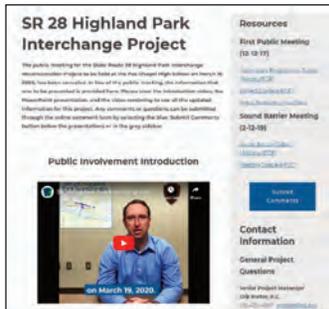
As of the end of March 2020, 556 bridges have been replaced and are open to traffic. The remaining 2 bridges are currently under construction, though they have been impacted by the COVID-19 stoppage of work activities. It is still expected that these 2 bridges will be open to traffic by the end of June.

The project was awarded "Transportation Project of the Year" by the Central Pennsylvania March of Dimes at a recent Transportation and Construction awards ceremony. The P3 Office accepted the award on behalf of PennDOT and the project team.

A VIRTUAL PUBLIC MEETING KEEPS PENNSYLVANIANS INFORMED IN BRIDGEVILLE-BASED DISTRICT 11

By Steve Cowan, Press Officer, District 11

Amid the growing concerns of COVID-19, PennDOT District 11 acted quickly to cancel the State Route 28 Highland Park Interchange Reconstruction Project public meeting just one week prior to the scheduled March 19, 2020 date. However, in lieu of the public meeting, the project information that was to be presented was made available electronically on PennDOT's website.



The final resources for the public to view online were an introduction video to explain the information and reason for canceling the in-person meeting, a presentation of the final designs of the project, a video rendering of the current and future configurations of the roadway, and a comment form for the public to submit feedback.

"I believe the public involvement was still very successful in spite of cancelling the scheduled public meeting at such short notice and providing the information electronically on our website for the public to view," Project Manager Erik Porter said. "This was a huge effort to cancel the meeting where we had to notify several hundred residents, legislatures, and municipalities, as well as get

the message out to the general public and the news media."

"Additionally, we had to work diligently to get the project information onto the website in a timely fashion, all while teleworking away from the office," Porter added. "This could not have been possible without the extraordinary people in our office that pulled this together in such a short timeframe."

Analytics revealed that 289 individuals visited the page within the first week of the information being posted, with many more viewing the different resources and providing feedback through the comment form.

"Public involvement and outreach to obtain comments from the community on transportation projects has been progressing for years," Environmental Manager Mark Young said. "Expanding on the way we reach out to our customers through social media and other means continues to evolve. Although the COVID-19 crisis has been challenging in so many ways, we have been able to use the Highland Park Interchange project as an opportunity to improve the way we present information as well as receive feedback from the public."

The solution which District 11 arrived at affirms PennDOT's commitment to providing the highest level of customer service. All teams involved overcame unique and unforeseen challenges to provide a realistic solution to the current situation the commonwealth is facing today.

PENNDOT DISTRICT 11 TUNNEL MAINTENANCE ORGANIZATION WORKS TO KEEP ROADWAYS SAFE AND SECURE

By Ben DeVore, County Maintenance Manager, District 11



While much of PennDOT has transitioned to remote operations, some critical operations have to continue work in the field to keep the motoring public safe. District 11's Tunnel Maintenance Organization is one of those areas that is essential to PennDOT and the City of Pittsburgh.

Tunnel employees have continued to staff the Fort Pitt, Squirrel Hill, and Liberty Tunnels 24/7 since the COVID-19 crisis began. The duties performed by tunnel employees include responding to traffic incidents inside the tunnels and on Interstate 376, I-279, I-579 and other associated highways, performing necessary maintenance of electrical systems and mechanical ventilation systems, monitor tunnel conditions for fire, carbon monoxide and over height vehicles, and staff the I-279 Freeway Service Patrol. Tunnel employees have to be able to respond to inside the tunnels quickly, as a few minutes can be the difference between life and death for motorists if a serious incident were to occur. Maintaining safe conditions inside the tunnels is critical to movement of people and goods into and out of the City of Pittsburgh. If these conditions couldn't be maintained, major routes from the west, east, and south would have to be closed off and paralyze the city. Employees are also being vigilant in social distancing and cleaning common areas and equipment to help prevent the spread of COVID-19.

While traffic has been considerably lighter since the Stay-at-Home Order for Allegheny County was put in place by Governor

Wolf, tunnel staff have been needed to provide assistance to motorists in need by changing tires, towing disabled vehicles, and protect first responders at incident scenes. The lighter traffic volume has caused higher vehicle speeds approaching incident scenes, making tunnel crash trucks even more critical for protecting tunnel staff and first responders. One particularly moving incident last week was when an 8-year old boy walked into the inbound tube of the Squirrel Hill Tunnel and hid inside one of the cross passages. Tunnel Maintainers Al Csorba and Greg Cox found him and got him to safety with help from Aaron Dancho and Supervisor Scott Johnson. Had tunnel staff not been there this incident may have turned out very differently.

Additionally, tunnel staff cleared debris that was covering inlets on the Fort Pitt Bridge and Greentree Hill that were causing water to pond on I-376 during heavy rains on a weekend morning. Tunnel staff were there at night when the Monongahela River rose quickly and the sluice gates needed to be closed to prevent I-376 from flooding. The Tunnel Maintenance Organization is critical to keeping the public safe and essential in keeping the roads open.

We are very thankful for these caring tunnel employees in District 11, as well as all of our field staff working days and nights to keep our roadways safe and secure for the traveling public, health care workers, truck drivers and other essential employees throughout Pennsylvania.

ICYMI: HIGHWAY SAFETY LAW AWARENESS WEEK

ANNUALLY HIGHLIGHTS DRIVER SAFETY LAWS THAT MATTER

Each year, PennDOT raises awareness of laws that are important to the safety of our motorists through education, social media and outreach with our partners, like the Pennsylvania State Police, in hope that it creates behavioral change.

Safety is everyone's responsibility. By obeying the rules of the road, everyone can do their part to reduce the number of crashes and fatalities on Pennsylvania roads. Always wear your seat belt and never drive aggressively, distracted or impaired.

Here are the laws highlighted in 2020 and their common-sense explanations.

Steer Clear Law

Pennsylvania's "Steer Clear" law was enacted to help prevent injuries and save lives of first responders. It requires drivers to move over or slow down when they encounter an emergency scene, traffic stop or disabled vehicle. 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. In 2018, a similar law went into effect to protect trash and recycling workers. Drivers must slow down and move one lane away (if possible) when approaching a stationary trash or recycling truck.

Automated Work Zone Speed Enforcement (AWZSE)

Established by the Pennsylvania General Assembly in Act 86 of 2018 to reduce work zone speeds, change driver behavior, and improve work zone safety for workers and motorists, AWZSE uses portable, vehicle-mounted systems to detect and record motorists exceeding posted work zone speed limits by 11 miles per hour or more using electronic speed timing devices. The program entered a mandatory pre-enforcement period on January 4, 2020 and will begin enforcement on March 4, 2020. During the pre-enforcement period, automated speed enforcement units will be deployed in active work zones, but violations will not be issued. Work zones are selected to maximize the effectiveness of the systems and will be marked with signage in advance of the enforcement area. AWZSE systems are only operational in active work zones where workers are present. Once enforcement begins on March 4, registered owners will receive a warning letter for a first offense, a violation notice and \$75 fine for a second offense, and a violation notice and \$150 fine for third and subsequent offenses. These violations are civil penalties only; no points will be assessed to driver's licenses.

Motorcycle Helmet Laws

Pennsylvania law requires that any person who operates or rides a motorcycle (including an autocycle) must wear protective headgear unless he or she is 21 years of age or older and has either two years of riding experience or has completed a motorcycle safety course approved by PennDOT or the Motorcycle Safety Foundation. In addition, the operator or an occupant of a three-wheeled motorcycle or autocycle equipped with an enclosed cab is exempt from wearing a helmet. The Pennsylvania Motorcycle Safety Program offers free motorcycle

safety courses to Pennsylvania residents and active-duty military with a valid Pennsylvania driver's license and motorcycle permit.

Bicycle Helmet Laws

Pennsylvania law requires everyone under the age of 12 to wear a helmet when riding a bicycle. This applies to anyone operating the bicycle, riding as a passenger, or riding in an attached restraining seat or trailer. The Pennsylvania Department of Transportation strongly recommends that all bicyclists wear helmets whenever they ride. You can ensure a proper helmet fit using these guideline (PDF).

Seat Belt Laws

Pennsylvania's primary seat belt law requires drivers and passengers under 18 years of age to buckle up anywhere in the vehicle. Under Pennsylvania's primary "Child Passenger Safety" law, children under the age of four must be properly restrained in an approved child safety seat anywhere in the vehicle and children ages 4-8 must be restrained in an appropriate booster seat. The "Child Passenger Safety" law update, which went into effect in August 2016, states that children are required to be buckled into a rear-facing car seat until they are age 2 or meet the maximum weight or height requirements set by the manufacturer of the seat.

Pennsylvania's secondary seat belt law requires drivers and passengers 18 years and older wear a seat belt when behind the wheel or in the front passenger seat. If you are a driver 18 or older and police pull you over for another violation, you will receive a second ticket if you and/or your front-seat passengers aren't wearing seat belts.

School Bus Stopping Law

Pennsylvania law requires all drivers to stop when meeting or overtaking a stopped school bus with red signal lights flashing and stop arm extended. You must also stop when approaching an intersection where a school bus is stopped with red signal lights flashing and stop arm extended. If in doubt, stop! You must stop at least ten feet away from the school bus until the red lights have stopped flashing and the stop arm has been withdrawn. Do not move until all the children have reached a place of safety. If you are convicted of violating Pennsylvania's school bus stopping law, you will receive a 60-day driver's license suspension, five points on your driving record, and a \$250 fine. Annually, more than 700 drivers are convicted for passing a stopped school bus with its red lights flashing.

As for school bus speed cameras, Act 159 of 2019 permits side stop signal arm speed enforcement systems (SASES) for failure to stop for a school bus with flashing red lights, creates a surcharge for illegally passing a school bus, and establishes the School Bus Safety Grant Program Account. The stop arm cameras start recording once the side stop signal arm and red signal light is deployed. The recording captures violations and, after review by law enforcement, citations for violations can be issued.

For more information on highway safety, visit [PennDOT.gov/Safety](https://www.penn.gov/dot/safety).

ADDING TO THE BRIDGE TOOL BOX: PENNDOT SPREADS THE WORD ON THE LOW-COST, EFFECTIVE GEOSYNTHETIC REINFORCED SOIL-INTEGRATED BRIDGE SYSTEM

By Richard Kirkpatrick, Bureau of Innovations

Faced with upkeep of thousands of bridges on their local roads, municipal officials can turn to PennDOT for a cost-effective solution: the Geosynthetic Reinforced Soil-Integrated Bridge System (GRS-IBS). The system is also a viable alternative for low-volume, PennDOT-owned structures.

A method that can be traced back hundreds of years and was in use to build parts of the Great Wall of China, GRS-IBS is a Federal Highway Administration's (FHWA) Every Day Counts innovation championed by the Pennsylvania State Transportation Innovation Council (STIC).

"We are going back to looking at what worked in the past and bringing it to the forefront using modern materials," said Kristin Langer, one of PennDOT's assistant chief bridge engineers. "It reflects our constant search for cost-effective bridge replacement options. This method has the added bonus that it doesn't require specialized equipment or skilled craftspeople, keeps the workforce efficient and manage resources well."

GRS-IBS is a low-cost alternative for short-span structures that local work forces or district maintenance forces can construct using readily available materials and without expensive construction equipment. The bridge can be completed in weeks instead of months. Costs are 25 to 60 percent less than conventional methods.

PennDOT, through its municipal services offices in the districts and presentations at municipal conventions such as for the Pennsylvania State Association of Township Supervisors and the County Commissioners Association of Pennsylvania, has been working with municipalities and counties on advancing use of GRS-IBS.

"They were quick to embrace it," said Randy Albert, municipal services supervisor in District 2 based in Clearfield. "They saw the economy of the process and the ease of construction."

Albert was the first to bring GRS-IBS to PennDOT and is the agency's resident subject matter expert on the topic.

Thirty-three GRS-IBS bridges have been built or are in design across the state so far to PennDOT's knowledge. Since GRS-IBS has been fully implemented and used widespread, some municipalities have become proficient at building GRS-IBS on their own without PennDOT input.

Nationwide, according to FHWA, more than 200 bridges in 44 states, Puerto Rico and the District of Columbia have been selected for construction using GRS-IBS since the innovation was first championed in 2010.

According to FHWA, the technology consists of three main components: the reinforced soil foundation, the abutment, and the integrated approach. Alternating layers of compacted granular fill, blocks and geosynthetic reinforcement provide support for the bridge. The closely spaced reinforcement and



granular soil create an efficient composite material that is internally stable and capable of carrying bridge loads significantly higher than designed with predictable and reliable performance.

The designer places the superstructure directly on the GRS-IBS substructure, creating a seamless and smooth transition between the bridge and approach roadway without joints, deep foundations, approach slabs, or waiting for cast-in-place concrete to cure. The smooth transition from the roadway to the bridge helps alleviate the "bump at the end of the bridge" problem caused by differential settlement between the bridge abutment and the approaching roadway.

Current constraints in Pennsylvania call for use of GRS-IBS only when the traffic volume on the bridge is 400 vehicles or fewer, the span is no more than 70 feet and the water velocities passing beneath the structure are no more than 12 feet per second.

"We are doing a research project with Penn State University to study what other DOTs and entities are doing with an eye to increasing the limits for span length, facing durability, and scour countermeasures," Langer and Albert said.

Support for the research came through STIC Incentive Program funding. Langer is project manager and Albert provides technical support and expertise.

"There were tight constraints originally set to make sure the system works well and is viable," she added. "Within Pennsylvania, we have a lot of scour and flooding concerns. The idea was to try it on small structures and in locations where there wouldn't be heavy impacts or safety concerns to the travelling public should it not perform the way we anticipated. Now that GRS-IBS has been in place for six years and the bridges seem to have weathered heavy water volumes and velocities during storms, we are looking to expand the design limitations by comparing our criteria to what other states are doing."

Lessons learned so far include ensuring the first layer of the foundation is level and true and making sure approach guiderail driving needs are addressed in between the wing walls and the roadway, Langer said.

The program reflects PennDOT's ongoing emphasis on reducing the backlog of pressing bridge maintenance needs across Pennsylvania, an issue that impacts mobility of many of the state's residents.

"We are a national leader," Albert noted.

WOLF ADMINISTRATION RECOGNIZES SULLIVAN COUNTY PENNDOT FOR SAFETY MILESTONE

By Maggie Baker, Community Relations Coordinator, District 3



Governor Tom Wolf recognized the Pennsylvania Department of Transportation (PennDOT) Sullivan County Maintenance Organization, part of PennDOT's District 3, for reaching a significant safety milestone. PennDOT District 3 includes: Bradford, Columbia, Lycoming, Montour, Northumberland, Snyder, Sullivan, Tioga, and Union Counties.

On January 14, 2020, the county maintenance organization reached 3,500 days (9 years, 7 months) without a disabling employee injury. This currently is the longest active streak of its kind in the department. A disabling injury is any injury that results in an employee missing one or more days of work.

"Workplace safety should be the number one priority for any employer. I commend Sullivan County on their dedication to a safe work environment that allows employees to return home each day injury-free," Governor Wolf said.

"PennDOT employees are the department's greatest resource. Their focus to adhering to safety standards is commendable," said

Acting PennDOT Secretary Yassmin Gramian, P.E. "This accomplishment shows the dedication Sullivan County employees have to safety in the work place."

"A workplace injury impacts more than just the injured employee," said District Executive Sandra Tosca, P.E. "An injury can disrupt life at home and at work. It causes needless suffering to the worker, but also creates hardships for family members and co-workers."

County employees perform a wide range of road and bridge maintenance activities throughout the year. All work is done with a strict adherence to the concepts of safety.

"I'm extremely proud to be part of a team of men and women who embrace the department's philosophy of safety, 24/7," said Sullivan County Maintenance Manager Kenneth Pochatko. "This county makes accountability and responsibility for employees a priority."

PENNSYLVANIA STATE TRANSPORTATION INNOVATION COUNCIL WORKING TO ENHANCE CONCRETE FINISHING

By Richard Kirkpatrick, Bureau of Innovations



Nothing beats a new, smooth finish on a just-completed sidewalk, and the Pennsylvania State Transportation Innovation Council (STIC) is working on an innovation that will enhance the quality of concrete finishing across Pennsylvania.

The STIC's Construction and Materials Technical Advisory Group (TAG) Leader, Harold Hill, and the Pennsylvania Aggregates and Concrete Association's (PACA) Director of Technical Services, James Casilio, are leading the effort to update PennDOT specifications to include a requirement for certification for concrete finishers.

Hill, who is assistant district executive for construction in PennDOT's District 4 in northeastern Pennsylvania, became aware of an issue with sidewalk finishing work when a local project sponsor noted that newly finished concrete sidewalks were losing their top finish prematurely.

This issue is not confined to Pennsylvania. Maryland's Highway Administration has done research on the issue, and the Delaware Department of Transportation has added certification requirements to its project specifications.

Using the collaborative power of the STIC, PennDOT and PACA are working together to introduce new certification courses for concrete finishers with an eye on adopting the requirement as part of PennDOT specifications by the end of 2021. This certification course, which includes classroom and hands-on training, aims to eliminate mistakes in concrete finishing that can result in costly repairs or reconstruction.

"So far, we conducted certification courses in six engineering districts in Pennsylvania," Hill said. "Throughout the next several months, we will go to the central and western portions of the state."

The full-day course features three to four hours of classroom instruction with a test and then two to three hours of hands-on practical concrete finishing work. The courses were developed by the National Ready Mixed Concrete Association and taught in Pennsylvania by the members and staff of PACA.

An additional session was held to gather local government feedback in February 2020. Local governments recommended potential changes to municipal specifications and that this training should be made available through PennDOT's Local Technical Assistance Program (LTAP).

"The goal of the course and the emphasis is field practices to reduce the occurrence of scaling," Casilio noted. He added that the issue seems to show up more on sidewalk work rather than on concrete pavements or bridge decks. "By focusing on what goes into quality concrete flatwork, this course will lead to longer lifespan, among other things," he said.

Hill said the effort includes outreach to contractors and unions to let them know about the courses.

"Ultimately, we are telling them by the end of 2021, they will be required to be certified," Hill said. "We are giving them a timeframe to get their people certified. It will be a life-time certification."

DISTRICT 9 PARTNERS WITH LOCAL MUNICIPALITIES TO TACKLE MS4 REQUIREMENTS

By Tara Callahan-Henry, Community Relations Coordinator, District 9

When District 9 was charged with creating projects designed to reduce pollutants carried by stormwater that flows to the Chesapeake Bay, they reached out to a group of local municipalities faced with same daunting task.

Sediment reduction commitments aren't unique to District 9, they are part of PennDOT's statewide Municipal Separate Storm System or MS4 - National Pollutant Discharge Elimination System (NPDES) Permit administered by the Department of Environmental Protection. All Districts have a share of the responsibilities to reduce pollutants entering the five major watersheds across the Commonwealth.

Similarly, many municipalities within urban areas must also reduce the pollutants entering the stormwater which drains to the streams, lakes and rivers.

In Blair County, the Blair County Intergovernmental Stormwater Committee (Blair ISC) was developed to consolidate the resources of several municipalities and meet the requirements of their MS4 NPDES Permits.



Partnering with other MS4 permittees such as the Blair ISC is an effective way to share the costs associated with constructing stormwater control measures since both groups can obtain credit for their individual pollutant reduction plans. Partnering also expands the search area for suitable sites to include land outside of PennDOT's right-of-way. Design, construction, maintenance and monitoring tasks are shared between the parties.

In the coming months, District 9 and the Blair ISC will be developing a stream restoration project on private land aimed at reducing pollutants which enter the stormwater. This kind of partnership is a win for both parties and a good reminder of what we can accomplish when we team up with others.

MINE VOID GROUTING HELPS SAVE DISTRICT 12 INFRASTRUCTURE

By Raymond Deep, Community Relations Coordinator, District 12

The heart of Pennsylvania's coal production, the Pittsburgh coal seam underlies a majority of District 12. Over the years, a significant amount of this coal has been extensively mined, leaving large, open voids in its place. As these voids begin to collapse and the ground above sinks, the infrastructure in District 12 sinks along with it. Old unmarked mines under the roadway can create large voids and cause numerous problems for construction projects. This mining can create many different roadway hazards, including sinkholes and large dips, as well as cracking and degradation of pavement structures.

To combat these collapses, the district practices mine treatments in construction projects as necessary. During planning for new construction projects, when a mine void is encountered, a grouting plan is often set in motion. This method includes drilling holes down into the void and taking video footage to determine its extent. A grout mixture is then placed in the drilled holes to fill the void and prevent any future collapse. These mine void treatment practices are a key component in keeping the district's roadways stable and keeping the drivers of our state safe.

KING'S COLLEGE AND PENNDOT'S DISTRICT 4 CREATE A NEW RELATIONSHIP

By Michael Taluto, Community Relations Coordinator, District 4



PennDOT Engineering District 4 met with King's College, Wilkes-Barre, to discuss recruitment with the college's newly formed School of Civil Engineering. Michael Taluto, CRC/SPO in District 4, reached out to King's College and set the meeting to formally discuss recruitment options.

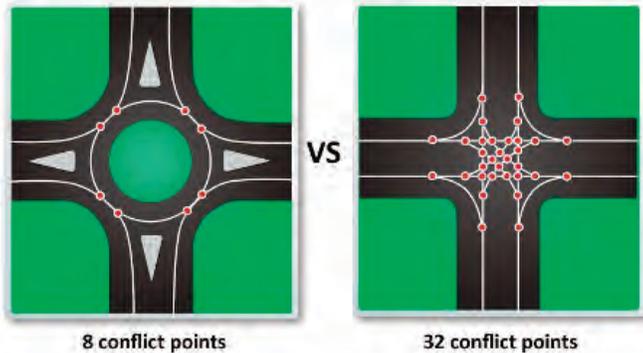
King's college is interested in working with PennDOT to create a relationship that will be beneficial to the students. With the addition of the School of Civil Engineering to the college's program, their students will have more avenues to participate in PennDOT's summer internship program (ESTI). King's College will also have pool of students eligible for PennDOT's CET (Civil Engineer Trainee) program upon graduation.

King's College requested that PennDOT schedule engineers as guest lecturers to provide students' insights into the civil engineering profession, as well as taking students on current construction project tours.

EMBRACING INNOVATIONS: MAKING A DENT IN RESISTANCE TO ROUNDABOUTS; PENNDOT'S JOURNEY TO SAFER ROUTES

By Richard Kirkpatrick, Bureau of Innovations

Roundabouts reduce vehicle conflicts



Moving innovation to reality poses a challenge, perhaps no more so than in preparing and convincing drivers that roundabouts are a welcome traffic improvement.

Far too many drivers in Pennsylvania remember their trips to the New Jersey shore and other Garden State points and encountering dreaded traffic circles, a mishmash of fast moving, seemingly crazed drivers who appeared bent on creating traffic mayhem.

The people at PennDOT have been working hard for several years to make the point that the modern roundabout is as far removed from Jersey traffic circles as Erie is from the Atlantic Ocean.

"The general feedback we get from the public is similar to what other states are getting: People oppose them until they're built, and then they want us to build more of them," said Jeff Bucher, P.E., PennDOT's Central Office roundabout coordinator.

"The main issue with initial public acceptance is the misconception that they are similar to the old traffic circles in New Jersey, many of which have been removed," Bucher said. "The primary differences are that in roundabouts, the entering traffic yields to the circulating traffic, and that they are as small as practical for the design vehicle (typically a semi-tractor trailer), thus making them low speed, and there is no pedestrian access to the center island."

The reaction from the borough manager in Saegertown Borough, Crawford County, is typical of what PennDOT hears.

"While it was painful at times during construction, the wait has certainly been worthwhile," said Borough Manager Charles T. Lawrence Jr., in a letter to PennDOT District 1 after the roundabout in the town was completed. "The 'nay-sayers' and skeptics have been reduced to minimal now that traffic is flowing so smoothly through town."

PennDOT built two roundabouts simultaneously in Saegertown, and the community adjusted to the innovations very successfully.

McMahon Associates prepared a video charting the reaction to a roundabout project it managed in Swarthmore Borough, Delaware County. The video is replete with borough officials and the police chief talking about their initial concerns only to see them cleared away as the project developed. "It filled in a missing piece (in the borough) and is very successful all around," one citizen is quoted as saying.

PennDOT's former District 4 Community Relations Coordinator James May handled public and media reaction during construction of three adjacent roundabouts on the road approaching Wilkes-Barre/Scranton International Airport. He fielded a call from a senior citizen in Archbald Borough, Lackawanna County, who offered an idea to help ease initial driver confusion on the airport approach through the roundabouts. She said, "Why not paint airplane motifs on the roadway?"

"I told her it was a neat idea," May said. "We did that ... A grandmother had an idea, and it resulted in a really positive story."

May also arranged with a WNEP-TV reporter to try out the roundabouts in a golf cart, explaining how they worked, which resulted in very positive coverage.

PennDOT's District 5 encountered a unique challenge while working on plans for a roundabout at the intersection of U.S. 222 and PA 662 in Richmond Township, Berks County.

The intersection to be replaced was heavily used by local Amish and Old Order Mennonite communities. To ease their concerns, PennDOT District 5 Community Relations Coordinator Ron Young helped organize a special outreach meeting with the communities' members. The meeting was held at the Fleetwood Grange.

"The Amish and Old Order Mennonites were a bit leery, as they need to travel the roundabout using horse and buggies, bicycles and on foot at the same time as passenger vehicles and large trucks," Young said. "The design team found a video of a busy roundabout in Canada with horse and buggies, cars and trucks using it - and showed them the video."

The team also fully explained how the design speed inside a roundabout of 18 to 24 miles per hour is about the same speed as a horse and buggy, so they will travel roughly the same speed as the rest of the traffic in the circle. They also

Continued on page 19

PLANNING TO INSTALL AN ELECTRIC VEHICLE CHARGER? GET A REBATE FROM DEP!

Organizations and businesses around the state are increasingly installing electric vehicle (EV) charging stations to support clean energy transportation choices. If you're planning to install an EV charger for employee, fleet, and/or public use, be sure to apply for a rebate from the Pennsylvania Department of Environmental Protection (DEP).

Government offices, nonprofit organizations, educational institutions, businesses, planning organizations and parking authorities are eligible. Up to \$4,500 per plug is available for Level 2 EV chargers installed in a workplace, public space or multi-unit residential building. Funding comes from Pennsylvania's share of the Volkswagen settlement.

For application information and details on qualifying project costs and charging equipment, visit www.depgis.state.pa.us/DrivingPAForward/ or email DEP at RA-EPVWMITIGATION@pa.gov. Please spread the word!



Continued from page 18

fully explained how a bicyclist has the option of riding through the roundabout, or they can dismount and walk through as a pedestrian.

The \$6.6 million project replaced a signalized intersection with a modern roundabout, along with widening U.S. 222 to four lanes at the roundabout approaches. Since its opening in May 2018, the roundabout has seen no major crashes.

Bucher noted that PennDOT's public involvement outreach varies from project to project, but PennDOT has produced three roundabout brochures (Pubs. 578, 579, 580) as well as videos located on PennDOT's YouTube channel.

"We are currently working on developing additional standard public involvement materials, including a scale model of a typical roundabout for use at public meetings," he added.

PennDOT conducted a crash data analysis last year of the first 11 roundabouts on state routes where there previously were stop signs or signals.

"The data shows them performing even better than the national studies," Bucher said.

A more recent analysis showed that fatalities, injuries and crashes decreased overall at 19 roundabouts at 16 locations.

The key safety benefits to roundabouts are that vehicle speeds are geometrically restricted to below 30 mph, thereby

virtually eliminating high speed impacts, which cause the most severe injuries and fatalities, Bucher said.

That translates into a safer environment for pedestrians as well, since a pedestrian has an 80 percent chance of being killed if hit by a vehicle traveling at 40 mph, but only a 40 percent chance of getting killed if hit by a vehicle traveling at 30 mph.

Roundabouts have been supported and encouraged by the Federal Highway Administration (FHWA) since the early 1990s based on their significant safety and operational benefits over traditional intersections, Bucher said. Roundabouts are a feature of the FHWA's Every Day Counts initiative and reflect the innovations being championed by the State Transportation Innovation Council (STIC). There are now over 4,000 roundabouts throughout the country.

PennDOT built its first roundabout in 2005 and currently has nearly 50 open to traffic on state routes and more than 40 are expected to go to construction in the next three years.

"We seem to be gaining some headway, especially with local governments, but they typically go along with their constituents' perceptions," Bucher said. "The news media has been slowly coming around as well with more positive articles as they start to realize how well they work. They are also endorsed by AARP."

PENNDOT: DOING OUR PART TO KEEP PENNSYLVANIA BEAUTIFUL



In February, PennDOT was given the opportunity to address attendees of the Keep America Beautiful National Conference in Memphis, Tennessee as part of a panel featuring the Tennessee, Texas and Pennsylvania Departments of Transportation. The focus: the pivotal role that DOTs can play in the prevention of litter.

The department jumped at the opportunity to talk about the great things the administration was undertaking to address littering behaviors in the commonwealth.

In 2017, Keep Pennsylvania Beautiful (KPB) approached PennDOT and Pennsylvania Department of Environmental Protection (DEP) to conduct a statewide litter behavior study using the methodology being used by Keep America Beautiful (KAB). A series of monthly meetings spanning two years led up to the results of the first ever comprehensive litter behavior and attitude study in the commonwealth.

The results of the study were issued in a statewide press release on February 4.

Field research results indicate there are more than 502 million pieces of trash littered Pennsylvania's roads. The most common items are cigarette butts (37 percent) and plastics (30 percent), with plastic film and beverage containers most prevalent. There are estimated 29.3 million beverage containers alone on the roads. Motorists and pedestrians are

leading sources of litter, followed by improperly secured truck loads.

In a dual presentation in Memphis, PennDOT Policy Director Natasha Fackler and Deputy Communications Director Jan Huzvar told attendees about the study, and the importance of DOT's relationships with KAB affiliates. Fackler went on to address the department's current and planned approaches to combating litter.

PennDOT's efforts were so impressive that the department's study was featured in a keynote address stressing the importance of research. Shortly thereafter, Fackler and Huzvar took the stage to accept the agency partner of the year award for our department-funded Adopt-A-Highway program.

The PennDOT/DEP/KPB study has served as a springboard for a commonwealth-wide exploration of littering prevention. This newly created workgroup includes agencies via the governor's and agencies' policy offices, stakeholders, industry representatives and local governments.

PennDOT has spent on average nearly \$10 million dollars per year to pick up litter. This multi-agency effort represents the first concerted attempt to take a scientific approach through data to address littering in Pennsylvania. Most importantly, with a new and very important emphasis on behavior change.

MEET STEVE LUBANOVIC; HIGHWAY FOREMAN FROM BUTLER COUNTY

By Jamie Arehart, Community Relations Coordinator, District 10



Steve Lubanovic is all about his community. In fact, Lubanovic believes his community in Chicora represents the ideal American hometown. "I like the fact that it is still a small town filled with people who support each other," he explains. "We still have a Memorial Day parade, the streets are lined with veterans' pictures, everyone supports local businesses and there is still a sense of community--I live in modern-day Mayberry!"

Lubanovic also cares about keeping his community safe, not only in Chicora, but all of Butler County, through his work at the Pennsylvania Department of Transportation (PennDOT), where he has worked for 32 years, currently as a Highway Foreman. Lubanovic and his five-person maintenance team perform all mowing and snow removal along State Routes in Butler County.

As winter approaches, Lubanovic makes clear his three priorities for Butler County:

"Number one priority is snow removal for public safety," he says. "We determine how much salt we may use, when to apply it, monitor it's application and effectiveness, and to make adjustments if necessary."

After preparing and acquiring winter materials, such as salt, sand and brine, comes Lubanovic's second priority: Ensuring winter equipment is operational throughout the season. "After winter storms, we wash the equipment, perform repairs if needed, replenish our materials and it's back on the road."

"Third priority: correcting water problems that create ice hazards," explains Lubanovic. "Some problems need a simple

correction to eliminate water from coming onto roadways, such as cutting a high shoulder or cleaning out a catch basin. However, some issues require more complex repairs, such as installing subsurface drainage."

Lubanovic is an active member of his community, past and present. In his spare time, he volunteers as a reenactor for the Rangers of the Ohio Company, a trading company formed in 1748 with posts around present-day Allegheny and Butler Counties. "Our group attends different battlefields and forts from the era of the French and Indian War, such as Bushy Run Battlefield, Fort Fredrick, Fort Ligonier, Fort Henry, and Old Hannastown and reenact the battles that took place there," Lubanovic explains. "The main reason I joined this group is that it all centers around my community."

When he isn't steeped in his community's past, he is very much in the present. Lubanovic is currently in the midst of preparing Butler County motorists for upcoming winter weather and he asks only one thing in return: "We are people working out there, with families and friends, just like you, so please pay attention, be patient while we perform snow removal," says Lubanovic. "I was injured years ago when I worked on the Interstate crew and a tractor trailer hit us, so I respect the danger when we work on the roadway. But the families of our crew members, they only know hardship when something happens."

CONSTRUCTING THE JUDGE J. FRANK GRAFF BRIDGE IN ARMSTRONG COUNTY

By Jamie Arehart, Community Relations Coordinator, District 10



An issue of The Allegheny Review from 1976.

The Judge J. Frank Graff Bridge is a truss bridge that carries SR 422 and SR 28 across the Allegheny River, connecting Manor Township and North Buffalo Township.

The bridge is 2,708 feet in length. It was constructed in 1974 as part of a freeway bypass of Kittanning, Pennsylvania, allowing much-needed economic growth within Armstrong County.

The structure is named for Frank Graff, an Armstrong County Court of Common Pleas Judge who later rose to become a member of the Pennsylvania Superior Court. In 1915, his career began in Kittanning as a lawyer before he was called to fight in Germany in World War I where he saw heavy combat. Upon returning to his hometown, Graff went on to run and win a seat on the Court of Common Pleas in Armstrong County, which he held for almost 50 years. His is one of the longest judicial tenures ever to be held in the state. An issue of The Allegheny Review from 1976.

This year marks the 46-year anniversary of the bridge's completion.



July 23, 1973 - A "raising gang" from US Steel's American Bridge Division, with the aid of twin 100-ton capacity crawler cranes, is in the process of fitting a steel girder in place on one the bridge's west bank foundation peers.



July 23, 1973 - A 150 foot-length steel girder is being carefully hoisted in place over the Allegheny River.

PENNDOT RAISES \$439,549 FOR CHARITY THROUGH THE SECA CAMPAIGN

By Yassmin Gramian, P.E., Secretary of Transportation

It seems like not long ago we were fundraising for the State Employee Combined Appeal (SECA) Campaign. This year has been a trying time with some of the biggest hurdles we have faced as a Department and the Commonwealth due to factors well beyond our control, a situation that we are not alone in.

Our employees have not ceased to amaze me with their overwhelming sense of community and duty to the betterment of the Commonwealth. I am ecstatic to announce that PennDOT exceeded our SECA Fundraising Goal during this year's campaign as we raised an astounding \$439,549 for charity, adding to the Commonwealth's total of \$2,975,982! Not only did we surpass our goal, we were also recognized by the Office of Administration for the highest percentage of campaign participation among XL Agencies (over 10,000 employees). These donations will be going to successfully impact 1,000 deserving organizations that right now need our support more than ever. If you want to learn more about SECA, charities or dedications, go to: seca.pa.gov. No matter what organization received these donations, all the money raised will assist those in need with services, support, and essential care items.

To the employees who gave through direct payroll donation, bought from a fundraiser, donated time and resources, volunteered, and came together as a community – I thank you. It is because of you that our PennDOT team continues to accomplish the amazing things that we do not just professionally, but personally.



PENNDOT MULTIMODAL TEAM RESPONDS TO COVID-19 NEED

Recently PennDOT Deputy Secretary of Multimodal Transportation Jennie Granger and other department team members worked to ensure our state's transportation workers receive the support they need during COVID-19. Five thousand cloth face coverings provided by the Federal Emergency Management Agency and coordinated through the Federal Transit Administration (K. Jane Williams) were packed by department staff and distributed to Pennsylvania's rural and small urban transit agencies. The washable coverings will be shared with employees, passengers, or other members of the public to limit the spread of the virus as local economies reopen. Pennsylvania's 12 rural and six small urban transit agencies are among the 2,200 transit agencies being assisted nationwide.

