



moving FORWARD

SUMMER 2023

A quarterly review of news and information about Pennsylvania local roads.

LTAP Celebrating 40 Years of Service to Municipalities



It's a milestone year for the Local Technical Assistance Program (LTAP). Over the past four decades, LTAP has logged the miles and provided transportation knowledge to improve road maintenance and safety and put research and new technology into practice at the municipal level.

LTAP is celebrating 40 years of partnership with Pennsylvania municipalities, a partnership that makes the tens of thousands of miles of roadways local governments are responsible for safer. Over the decades, much has been learned and the future shows plenty of promise as advances come quickly and changes to transportation continue to evolve on a near daily basis.

The program is run by the Pennsylvania Department of Transportation (PennDOT) and is one of 52 LTAP centers across the nation. Each year, on average, the PennDOT LTAP Program trains and assists nearly 5,000 municipal employees and local officials in effective and efficient maintenance procedures, essential safety practices, and infrastructure management processes at no cost to municipalities.

Pennsylvania was among the first centers created in the 1980s. The program's first name was the Pennsylvania Local Roads Program, then changed to Pennsylvania's Rural Transit Assistance Program (RTAP), and in the early

'90s became LTAP. In the beginning the main focus was maintenance of local roads.

It all began with Wade Gramling, a PennDOT research engineer and pavement technology expert. Through the Federal Highway Administration (FHWA), Gramling had become aware of a program in California where an engineer was traveling around the state doing highway training work for municipalities. He reached out to Walt Kilaeski, who was a professor at Penn State, to discuss the viability of a program in Pennsylvania. Kilaeski and Gramling worked together along with the FHWA to establish one of the first centers in the country. PennDOT managed the program and Penn State provided the training and technical assistance. Training started with two classes – drainage and work zone traffic control – which were presented with slide projectors and VCRs (video cassette recorders – if you remember those).

In 1989 Pennsylvania LTAP's Roads Scholar program was developed to recognize municipal staff who participated in LTAP training. The program has helped participants improve their road and bridge maintenance and safety skills with the latest methods and procedures. Municipal employees and local officials participating in the Roads Scholar Program

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Make Christmas in July a Reminder that Snow and Ice Control is a Year-Round Chore

Winter Maintenance Preparation

By: Sam Gregory, LTAP Technical Expert

Summer is the time when most people's thoughts are going to the beach or sitting around a campfire. Christmas in July may bring certain thoughts to some but quite often for public works employees it conjures up memories of last winter and what needs to be done before the snow flies in October or November. It has long been known that an effective winter maintenance program is a year-long process. So while you may be enjoying the view on the way to the beach, don't be surprised if the minds of those in the public works arena drift to the work that needs to be done to prepare for winter as you pass by a salt storage building.

Preparing for winter starts as soon as it is obvious the last event is over. Aligning routine maintenance activities with winter preparation can go a long way toward contributing to an efficient and effective winter maintenance program.

So, what should we be doing now?

Typical summer roadway activities center around projects like paving, seal coating, and keeping our roadsides mowed, but we can't lose track of the fact that winter operations are a year-round activity. The obvious chore is preparing bids for material and contracted services. Winter service agreements with PennDOT need to be renewed. Municipal ordinances dealing with emergencies and parking restrictions need to be discussed. But what else should we be working on?



Does your salt storage building have room for the salt to be delivered for the upcoming winter season? Photo: LTAP



The Jefferson Township, Butler County, road crew reviewing the After-Action Review Report from last winter. Photo: LTAP

For starters, as major roadway projects wind down you should be fixing the items that caused you grief last winter. Minimal effort now can eliminate a lot of headaches this winter.

If you performed a postseason After-Action Review, check the notes for areas that gave you problems last winter. Plan your drainage projects to eliminate ice problems your operators dealt with last winter. What about the shaded areas of the roadways that needed additional attention? Can the roadways be daylighted to allow Mother Nature's help with melting the snow? Is this work scheduled?

When you are out reviewing the summer projects or simply going to and from work, look for items that can be addressed before winter. Check the areas where your operators experience problems. What about mailboxes? Can they be set back or altered in any way to keep from getting knocked down? Do any driveways need attention to keep from contributing to icing on your roadways? Have manhole covers been adjusted to make plowing easier? Inclement weather that interferes with the scheduled maintenance activities provides an opportunity to erect delineators and mark inlets, fire hydrants, and other structures. Re-establishing the crown on rural gravel roads provides positive drainage for snowmelt in the winter.

A quick trip around the maintenance yard reinforces the

STIC Spotlight

PennDOT Innovation in Motion Webinar Series

PennDOT is hosting the 2023 Innovation in Motion webinar series offering an inside look at how technology is transforming the future of transportation in Pennsylvania.

Through these webinars, participants will hear about innovative practices, tools, and technologies being used to help move transportation forward in Pennsylvania. Presentations from PennDOT employees will feature how and where these innovations are being used, best practices identified, as well as challenges faced and lessons learned.

Join us and let these webinars inspire and spark new ideas for your next great innovative initiative!

Sept. 12, 2023 at 10 a.m. – Leveraging Technology to Transform the Customer Experience

Learn how PennDOT's Driver and Vehicle Services is working to enhance and transform the customer experience through a variety of technology-driven initiatives.



INNOVATION IN MOTION

Webinar Series



Dec. 12, 2023 at 10 a.m. – PennDOT's Digital Transformation

Learn how PennDOT is leading the way in the digital transformation of project development and electronic construction management.

Interested in participating in these webinars? Please email DOTInnovations@pa.gov for more information.

Specification Update Aims to Improve Concrete Durability

Pennsylvania, like many other states, recognizes that in order to provide for the long-term durability of



sidewalks and exterior concrete flatwork, both the material specifications and the quality of the work in placing and finishing the concrete are of equal importance.

To support municipalities in Pennsylvania, which are most often the specifier, and many times the owner of sidewalks placed in commercial and residential developments across the commonwealth, a new Class S Sidewalk Concrete Mix Specification went into effect in 2023, along with improvements to the construction methods noted in Section 676 of PennDOT Publication 408.

This update goes hand in hand with the Certified Concrete Finishers Course, which has required finishers to acquire certification through a nationally recognized program since April 2022.

A [fact sheet](#) with additional information is now available on PennDOT's website.



**State Transportation
Innovation Council (STIC)**

(717) 772-4664

RA-pdPennDOTSTIC@pa.gov

www.penndot.pa.gov/about-us/PennDOT2020

2023 PA Build a Better Mousetrap

FIRST PLACE

Inlet Replacement Tools

London Grove Township
Chester County, PA

Contact:

Shane Kinsey, Director of
Public Works
skinsey@londongrove.org



London Grove Township came up with a lift to ease repairs associated with inlet tops and risers in decades-old developments in the township.

What was the challenge?

With our infrastructure starting to age, we were seeing a significant number of inlet top and riser failures in 20- to 30-year-old developments. In many of these cases the inlet box and associated stormwater piping was in excellent condition. In one development alone we identified the need to replace inlet tops and/or risers on over 90 inlets. We wanted to limit any curb and roadway repairs beyond what was absolutely necessary, while attempting to save money as well. We quickly realized that we needed a solution to lift the inlet tops from the inside as opposed to the traditional lifting methods from the outside of the inlet top. We attempted to find a commercially available safe solution but could not locate anything.

How did you develop and implement your solution? Our public works crew brainstormed to develop a lifting mechanism that could lift the inlet from the inside of the inlet top in a safe manner. We wanted a solution that would allow the inlet to be rotated during installation and would keep the inlet level. While the focus of our immediate needs was lifting “S” tops utilized with rolled curbs, we also wanted to make the lifting device compatible with “M” and “C” type tops which have a different center of gravity. A “paper napkin” sketch of the design was created, and the crew worked to create the lift. We later identified the need for a simple way to keep debris from falling into the inlet boxes as we worked on replacing risers and/or tops. An additional pan was developed to sit inside the inlet and the pan was set up to allow it to be lifted out with debris by a backhoe or excavator and dumped into a dump truck.

What labor, equipment, plans, or materials did it take to make the solution work? The project went fairly quickly, and more time was spent brainstorming the design than actually constructing the lift. Most of the materials for the project were metal leftovers from other projects. The only material purchased specifically for the project was a length of round stock for the

lifting pins. In the construction process we utilized both MIG and Stick Welders and a Plasma Cutter along with basic hand tools.

What was the cost of implementation? The majority of the materials for this project were leftover materials from other projects. The only “new” materials utilized were four bolts, washers, and nuts from our bolt bins and a piece of round stock for the lifting pins. The total cost of the project was under \$200.

What was the positive impact/results/ outcome of your efforts? Being able to lift the inlets from the inside has allowed us to replace

most inlet tops without the need to remove adjacent rolled curb. We have also been able to decrease the size of associated asphalt repairs. This resulted in significant cost savings in both material and labor. We feel that the lift has resulted in a safer solution for inlet top installation and has led to less disruptions to vehicular and pedestrian traffic.

RUNNERUP

Truck Tamper Transporter

Delaware Township
Pike County, PA

Contact:

Rich Baio, Roadmaster
roadmaster@delawaretownship.pa.gov

What was the challenge? Our biggest concern is safety as some of our roads are narrow and very busy. This makes it difficult when we need to bring the tamper around from behind the truck. Lifting the tamper from the back of a truck and/or trailer and then dragging it around the truck is not the easiest task and it time consuming.

How did you develop and implement your solution? We decided that there was another way. An old plow frame would be ideal for holding the tamper directly behind the truck with the asphalt making it a safer zone as no one needs to leave the area between the two trucks.

What labor, equipment, plans, or materials did it take to make the solution work? Labor took about two days. We used



Delaware Township's innovation saves time and energy when the road crew is patching potholes.

an old Western Ultra-mount 1, some scrap metal, a welder, and torch. We purchased one trailer jack for the front to store the tamper. We also welded eye hooks to the tamper frame to tie it down securely.

What was the cost of implementation? The cost was about \$100 to create, and well worth every penny.

What was the positive impact/results/outcome of your efforts? This innovation creates a safer working environment for the road crew, less time wasted dragging a tamper from the back of the truck, and we don't have to lift the tamper as high to place in the back of the truck. This also saves us time now as we just pull the truck up and lock it in and go. When we are done, we just pull it in and leave the tamper on the holder, place the trailer stand, release plow, and drive the truck away.

RUNNERUP

Tar Kettle Turned Hydroseeder Project

Warwick Township
Lancaster County, PA

Contact:

Brian Harris, Township Manager/Municipal Authority
Administrator
BHarris@warwicktownship.org



Warwick Township crafted a hydroseeder which made restoration and seeding after projects much easier.

What was the challenge? Warwick Township maintains over 89 miles of roadway, over 80 acres of parkland, and over five miles of trails. The township annually schedules road improvement projects and park maintenance projects to ensure the safety of its residents and visitors to our parks. Following these improvements, restoration work is scheduled for any disturbed areas. Historically, the Public Works Department would seed and straw these areas by hand, which took several crew members an inordinate amount of time away from other projects and was also labor intensive. The township needed a solution for a more efficient process for restoration and seeding post township paving projects as well as reseeding associated with recreational projects involving earth disturbance.

How did you develop and implement your solution? Warwick Township had considered purchasing a commercial hydroseeder. However, after comparing prices and realizing these pieces of equipment are costly, the township then considered whether it could retrofit existing equipment that could be used to construct a hydroseeder. The township had a 1995 Crafcro EZ Pour 100 Crack Sealing machine, which was well past its prime, and discussed converting it to a commercial hydroseeder. This would be much more efficient and reliable for restoration work than hand spreading seed and covering it with hay. It was decided that the Public Works employees were skilled enough with engines and welding so that they decided to tackle the project.

What labor, equipment, plans, or materials did it take to make the solution work? It was determined that the 1995 Crafcro had a structurally sound frame and a strong 17HP Isuzu diesel engine. The Public Works crew disassembled the unit and stripped it down. The engine was thoroughly cleaned and refurbished with great results. It was decided that a 300-gallon water tank would provide the best option to cover large areas efficiently. After that decision, a commercial pump was added that accommodated the tank size. The necessary hoses and fittings were added to the unit for it to be operational. The frame and associated parts were taken to be sand blasted, and the equipment was brought back to the township garage for painting and finishing work. It took roughly 70 hours to convert the sealer to a hydroseeder.

What was the cost of implementation? The cost of materials was roughly \$1,500, which consisted of a commercial pump, necessary hoses, clamps, fittings, and steel. The township custom fabricated the frame and most of the labor hours were spent welding and fabricating the frame. This work was done with welding equipment that the township already owned. The engine cleaning and restoration work was done in house by the township. Additional hours were spent painting the unit with equipment already in the township garage. The installation of the water tank and pump and the necessary valves and fittings were all done by the township crew.

What was the positive impact/results/outcome of your efforts? This piece of equipment is much more efficient than hand seeding and spreading hay. At times the seed could dry out and the hay would blow around. Now the township can simply drive along an area and spray the seed. Warwick Township recycled a nearly 30-year-old piece of equipment to efficiently reseed and restore disturbed areas. Township staff no longer need to purchase straw bales and seed and cover by hand. This drastically reduces staff time to half of the hours previously associated with restoration projects and improves seeding efficiency. This also saved thousands of dollars in expense to purchase a commercial hydroseeder. 🚧

Celebrating 40 Years *continued from page 1*

are trained by LTAP technical experts in the most up-to-date technologies and innovations and are provided tips on how to stretch their transportation budgets. In addition to obtaining information to help their communities, those who take the courses and complete the program receive a valuable professional development certification.

The newsletter *Moving Forward* got its name from Kilareski. He got it from an expression used by his commanding officer in Vietnam who always talked about moving forward!



Walt Kilareski, a professor at Penn State, worked with PennDOT to begin an LTAP program in Pennsylvania. Photo: PennDOT LTAP

In the 1990s, the program expanded beyond the traditional maintenance focus when the first safety engineers, including Mark Hood, were hired to handle the traffic and safety classes and technical assistance. To provide additional support, the program launched the LTAP website and the LTAP Advisory Committee was also formed to support the program and provide guidance. Many new classes were added as the program expanded in the '90s.

Traditionally, LTAP centers have been housed in a university setting. In the 2000s, PennDOT wanted to increase local government participation in the program. The department looked for a group that had established trust with local governments. PennDOT recognized the efforts the Pa. State Association of Township Supervisors (PSATS) had invested in training local governments and in 2006 PSATS began to manage the program. Pennoni joined the team to lead the safety technology transfer, and instructors with backgrounds from PennDOT and municipal work provided technical expertise for the maintenance topics.



Patrick Wright giving the Advisory Committee a walkability audit in 2019 in State College. Photo: PennDOT LTAP

Mike Bonini from PennDOT said in the 2000s PennDOT was looking for a group that had an established credibility with local governments to encourage more municipalities to use the free resources LTAP offered.

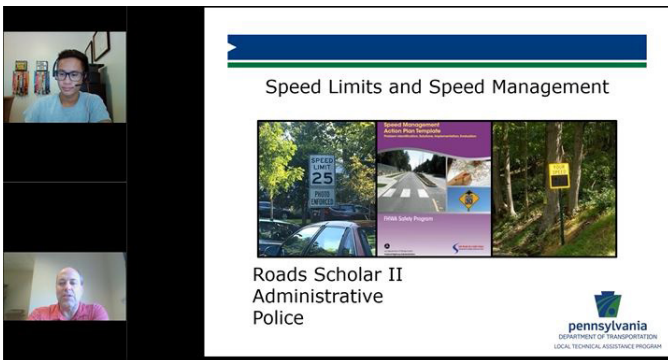
In the 2010s, LTAP participants were asking when there would be another Roads Scholar level. Many other states had two levels and in general there was a focus on continuing education. In response, Pennsylvania's LTAP began developing eight Roads Scholar II classes and by 2018 there were three graduates under the new Roads Scholar II designation.



Greg Hertzler of Monroe Township, Cumberland County, was the first graduate to receive the new certification in 2018. Photo: PennDOT LTAP

In 2019, the first of several LTAP informational videos were produced, providing a short introduction to a variety of safety topics. LTAP also started to develop course workbooks with more content to make them a resource after the class. Now all courses have a resource workbook that is available on the website for download.

In the early 2020s, COVID presented new challenges. A program that had operated for decades in person was forced, essentially overnight, to move to virtual offerings for an extended time. However, PennDOT's LTAP program proved resilient and creative as classes and other trainings were quickly moved online. And if there's a silver lining to the challenges that COVID provided for training and technology transfer, it's that LTAP was able to access new customers. A new "from your home or office" training option was born and has improved LTAP's outreach by removing previous barriers, such as time and travel costs. The demand for virtual training remains strong and allows LTAP to continue bringing training and technical support to you, whether in person or on your computer screen.



Mark Hood and Marvin Ta instructing virtual training. Photo: PennDOT LTAP

Along with the move to virtual training, LTAP introduced monthly drop-ins. These one-hour virtual training sessions on safety and maintenance topics are recorded for viewing any time (perfect for rainy days). A somewhat similar offering, a webinar, is a concise overview of a topic, whereas drop-ins are short, informational sessions on emerging topics followed by Q&A and group discussion. A full list of both offerings is on the LTAP website.

Through the years, police officers and municipal staff in management roles indicated their difficulties in completing the Roads Scholar I and/or II certifications. Police could only justify taking safety-related classes and management was challenged with the time away from the office. In 2021, LTAP expanded the Roads Scholar program to include Police and Administrative certifications in addition to Roads Scholars I and II. Both new certifications require the completion of six classes in three years.

The Pennsylvania LTAP program has grown over the last 40 years from two courses and a few technical experts to over 40 courses and over 40 technical experts. It started with one Roads Scholar designation and has expanded to four. LTAP services have always been available at no cost to municipalities, from the days of paper-only communication to the development of a website that contains multiple resources for municipalities on numerous maintenance and safety topics. The goal has remained the same, to help municipalities provide a safer, more efficient transportation system in Pennsylvania. 🚧

Snow and Ice Control *continued from page 2*

concept of winter operations being a year-round function. Plows and spreaders are being repaired, the brine maker has been cleaned out, and storage buildings have been repaired. Left-over material should be stored to allow room for the upcoming winter deliveries. Check the areas where material mixing and loading takes place. Schedule the necessary repairs and improvements as your routine summer projects end. Make sure you look for items that could have a negative environmental impact and make the necessary corrections.

Even the weekly staff meeting can center around winter functions. This is a good time to ensure the winter planning meeting, spreader calibrations, and dry runs for the operators are being scheduled for the fall. It will not be long. Remember it is best practice to receive 100% of your normal salt usage before winter. Discuss how you are going to make regular, and any necessary timely deliveries of anti-skid happen.

Hopefully you have implemented a file for citizen concerns. Review the concerns expressed by residents last winter and start a plan to address them. A little community outreach now will make your job easier once the snow flies.

For a comprehensive look at winter maintenance planning and preparation, register for an LTAP Winter Maintenance Planning course.

How many can you check off?

Winter Preparation Checklist

SUMMER	✓
Specifications and bids for equipment, material, and contracted services prepared	
PennDOT Winter Service Agreements renewed	
Drainage projects include work to eliminate ice problems	
Manhole covers adjusted to proper elevation	
Trees have been trimmed and roadways daylighted	
Plows and spreaders repaired	
Storage buildings have been repaired and material restocked	
Buildings and grounds evaluated for environmental issues	
Ordinances pertaining to winter operations reviewed	
Citizen complaints/community outreach	

Upcoming LTAP Training

Classes are being held in person and virtually. Check the website, gis.penndot.gov/ltap, for the latest listing. If you would like to receive email alerts about upcoming training, send a request to ltap@pa.gov. Here is a sampling of upcoming scheduled classes. **All classes are free!**

Archived Training: Catch up online!

Recorded sessions and handouts from previously held drop-ins and webinars are available on the LTAP website, gis.penndot.gov/ltap. Sessions cover a variety of topics from asset management to truck restrictions. Check out the full list online and take advantage of this free training from the comfort of your home or office.

Course Handouts Are Now Online

Did you misplace a workbook or handout from a course? Do you wish you had the handouts in an electronic format? All the handouts from LTAP courses are now online and available for download. Go to gis.penndot.gov/ltap and under the Course Descriptions tab, click on the course and then scroll to the bottom of the course information to see a list of course handouts.

New Courses

- Municipal Stormwater Facilities Program, Roads Scholar I
- Stormwater Control Measures O&M, Roads Scholar II
- Traffic Signals Basics, Roads Scholar II
- Winter Maintenance Planning, Roads Scholar II
- Public Works Safety, Roads Scholar I

All new courses have a PowerPoint workbook you can download from the website. These have the PowerPoint slide with the workbook content below the slide. They are designed to make it easy to follow the virtual classes.

Check the website for new courses or reach out to your Planning Partner or LTAP to schedule a class at your facility.

Asphalt Roads CMP
October 17 – Lancaster County

Bicycle Facilities Selection Guide Workshop
September 26 – Virtual

Curves On Local Roads: Issues and Safety Tools
September 19 – Lycoming County

Drainage: The Key to Roads that Last
October 18 – Berks County
November 1 – Lancaster County

Micro-Surfacing and Ultra-Thin Friction Course
September 13 – Berks County

Municipal Stormwater Facilities Program
September 28 – York County

Public Works Safety
September 15 – York County
September 26 – Cambria County

Roadside Vegetation Control
September 13 – Lebanon County

Stormwater Control Measures O&M
October 3 – York County
October 10 – Lycoming County

Traffic Signals Basics
September 12 – Centre County
September 21 – York County

Unpaved and Gravel Roads Common Maintenance Practice
September 11 – Huntingdon County

Winter Maintenance
October 4 – Lancaster County
October 31 – Lycoming County
November 15 – Lancaster County

Winter Maintenance Planning
September 21 – Lancaster County
October 12 – Blair County

Congratulations to the following Roads Scholars!

The following scholars were certified between February 1, 2023 to May 31, 2023

Roads Scholar I:

- Carl Liptak, Borough of Womelsdorf, Berks County
- Devin Ashba, Lancaster Township, Lancaster County
- John M. Hagan, Lower Milford Township, Lehigh County
- Brian W. Rogers, Horsham Township, Montgomery County
- Warith Muhammad, Philadelphia City, Philadelphia County
- Michael W. Inners, Dover Township, York County

Roads Scholar II:

- Brian P. Sullivan, Pittsburgh City, Allegheny County
- Robert Deeds III, Hamburg Borough, Berks County
- Justin Gathercole, East Fallowfield Township, Chester County
- David B. Madden, Monroe Township, Cumberland County
- Michael J. Dudrich, PennDOT

Roads Scholar Administrative:

- Robert Deeds III, Hamburg Borough, Berks County
- Carl Liptak, Borough of Womelsdorf, Berks County

Roads Scholar Police:

- Peter Byrne, Montgomery Township, Montgomery County

Roads Scholars, Share the News! LTAP has a press release you can modify and use to announce your accomplishment to your local media. To obtain a copy of the release, go to gis.penndot.gov/ltap and look for the release under "Roads Scholar Program."