Roads Scholar Program Expands to Include Police and Administrative Certifications

Municipal police officers, administrative staff, and elected officials will have the opportunity to become Roads Scholars under two new certifications recently added to the LTAP training program.

The new certifications in police and administration are designed to encourage new groups to attend LTAP training and learn about road-related safety and maintenance topics. Both certifications require the successful completion of six courses within a three-year period. Successful completion means attending the course and passing a quiz consisting of 12 questions. Any classes taken in the last three years will qualify. In addition, successful completion of an approved CPR training can earn the participant one training credit toward certification.

 Anyone interested in obtaining the certifications must sign up ahead of time. Either email LTAP@state.pa.us or mark the program you are interested in the next time you are taking a Roads Scholar quiz during a course. When emailing LTAP, please provide your name, title, municipality, county, and the program you are interested in completing, and the LTAP Team will sign you up for the certification.

The first graduates will be announced in December. To learn more, go to the “Roads Scholar Program” tab (click “Read more” in the description) on the LTAP website, gis.penndot.gov/ltap/.
Every municipality has transportation assets that help to keep its community moving along efficiently, quickly, and safely. These assets include pavements, bridges, signs, traffic signals, lighting, guiderail, pavement markings, maintenance facilities, sidewalks/trails, and intelligent transportation system (ITS) devices.

By better managing these assets and making smart decisions about how to fund them, a municipality will improve its local infrastructure and meet its transportation goals and objectives. Transportation asset management, or TAM, is a tool that can help.

The American Association of State Highway and Transportation Officials (AASHTO) defines TAM as a “strategic and systematic process of operating, maintaining, upgrading, and expanding physical assets effectively throughout their life cycle. It focuses on business and engineering practices for resource allocation and utilization, with the objective of better decision making based upon quality information and well-defined objectives.”

For its part, PennDOT defines asset management simply as performing the right treatment at the right time. The department’s transportation asset management plan (TAMP), completed in June 2019, covers pavements and bridges on the National Highway System, and PennDOT is prepared to add more assets to future editions of this plan.

By creating their own TAMP, municipalities can develop a listing, typically in summary form, of their various assets, from roads and bridges to signals and pavement markings. For each asset class, this document should describe the physical extent of the asset and its current asset conditions.

Benefits of TAM

- Improved asset condition, performance, resilience, and longevity
- Improved accountability
- Increased efficiency and effectiveness
- More benefit for each dollar invested
- Reduced risk exposure
- Improved coordination and communication

Source: AASHTO Transportation Asset Management Guide

Data Collection

Before starting a formal inventory of your transportation assets, consider the ways you collect and maintain asset data now. On which assets do you currently have data? Is this data reliable? Are there assets for which you have no data? In what format does the existing data exist?

These types of questions will be useful to answer as you proceed with an asset management plan. Keep in mind that while some data elements will require regular updates, other information will hardly change at all. For example, the right-of-way width of a roadway segment will stay the same for a long time, but the condition of pavement markings will change regularly. Recognizing these kinds of differences may dictate how information is gathered and stored.

Data collection can be costly and time-consuming. Therefore, you should start with your most critical transportation assets. Develop a plan for how to collect data, recognizing that not all information can be gathered at one time. In addition, decide what level of accuracy you want or need and what tools you have or need to collect data.

Larger municipalities may want to use geographic information systems (GIS) based tools to collect data. Other communities will rely more on their own staff and municipal expertise. If your plan to collect...
data is beyond the capability of current staff, you will want to consider the cost of hiring a consultant or expert.

Avoid collecting data that is too costly to maintain or is not effective in helping to make decisions. It is better to do a good job collecting a small amount of data than develop a comprehensive list of data that is expensive to maintain and soon becomes out of date. (Reference: Indiana Local Roads – An Asset Management Guide for Cities, Towns, and Counties)

Assessment

LTAP encourages using objective condition ratings on your assets. Doing so allows you to better monitor the condition of assets over time and report asset performance to your leadership and elected officials.

For example, gathering and maintaining the retroreflectivity values of your signs and pavement markings through objective measurement is far better than having the roadmaster or highway foreman assess sign and pavement markings. With objective ratings, you can see how the assets deteriorate over time. Furthermore, if your personnel changes, you will not be relying on a different individual to make their own subjective assessments.

There are various state and federal standards and guidelines for asset management data collection and assessment. For example, the National Bridge Inspection Standards (NBIS) govern all publicly owned bridges, including those on local roads, and require bridges to be inspected every two years. The Minimum Inventory of Roadway Elements (MIRE) is a federal standard for collecting roadway data that state DOTs must meet for all public roads. The Manual for Uniform Traffic Control Devices (MUTCD) contains minimum retroreflectivity standards for highway signs.

Local officials should be aware of these and other standards when making decisions about data collection and assessment.

Programming

Effective asset management will help you plan and program your road work more efficiently. Knowing which assets need to be repaired or replaced can help you decide what projects to tackle first.

For example, PennDOT has begun to use an asset management tool called life-cycle cost analysis (LCCA) to program its paving projects. (See graphic below.) The pavement deterioration curves show that it is more cost effective to pay for periodic preventive maintenance every 10 to 15 years than full rehabilitation after 25 years.

Knowing which assets need to be repaired or replaced can help you decide what projects to tackle first.

Another example of decision-making based on effective asset management is the use of light-emitting diodes (LEDs) in highway lighting. PennDOT and other states use LEDs because they have proven to cost less over their life than the traditional incandescent light bulb.

Adjusting for Your Municipality

While there are a wide range of transportation assets that can be included in your asset management efforts, your municipality may not need to include all of them. Identify those assets that pertain to your jurisdiction or decide which assets are most important to include. Later, you can include additional assets as time and resources allow.

Technology available for asset management can range from simple spreadsheets to software, both in the public and private domain, that can be specifically tailored to a municipality. According to a recent survey of transportation agencies in Minnesota, the most common tools used for asset management are Microsoft Excel, ESRI GIS database, and good old-fashioned pencil and paper. LTAP encourages local governments to start small and expand their efforts as they move forward.

Asset management helps local governments make better use of their limited resources. Put simply, it improves the condition, performance, resilience, and longevity of the local transportation system. Learn more about this valuable tool and make it a priority to employ asset management principles in your municipality.

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**TAM RESOURCES**

LTAP – A new training course on asset management is now available. Virtual classes will be held November 10 and December 8 from 8 a.m. to noon. Register for this free training at gis.penndot.gov/ltap.

PennDOT – The Asset Management Division of the Bureau of Maintenance and Operations has resources available to local governments. Contact J. Michael Long or Steven Koser at 717-787-6899. The June 2019 version of PennDOT’s TAMP can be found at www.penndot.gov/ProjectAndPrograms/Asset-Management/Documents/PennDOT-TAMP.pdf.

American Association of State Highway and Transportation Officials – AASHTO’s transportation asset management portal at www.tam-portal.com contains the AASHTO TAM Guide and many links to other resources on transportation asset management in the United States and abroad.
LEARNING FROM MISTAKES

Undetected Corrosion of Traffic Signal Poles Could Create a Liability for Municipalities

by Timothy A. Carre, PennDOT

When something goes wrong, steps must be taken to keep it from happening again. Here is what happened when a traffic signal pole fell in a Pennsylvania community earlier this year.

Investigating the Failure

On the morning of April 13, 2020, a traffic signal pole was found lying in the road. Fortunately, the road had been closed prior to the failure, and there were no injuries. PennDOT assigned a staff engineer to investigate.

A visual inspection of the pole determined that it had corrosion and steel section loss to the cross-section at the point of failure. The steel had rusted away to a knife edge most of the way around, offering little support to the pole.

The cause of the failure was clear. At some point, the base of the pole had been encased in concrete, which completely obscured the anchor bolts and base plate and covered the first 6 inches of the pole. Covering these components prevented proper inspection and accelerated corrosion of the pole. The concrete prevented free drainage and provided an excellent spot to trap water and salts.

Further research determined the pole to be at least 40 years old although deterioration of the pole was not typical for this age. Using Google Street View to examine photos of the site through the years, the engineer determined that the pole had spent approximately 12 years encased in concrete where it was subjected to repeated wet, dry, and salty conditions that would have caused accelerated corrosion.

Learning from Mistakes

Accelerated, undetected corrosion of signal poles could create an unnecessary liability for municipalities, which are responsible for maintaining and operating traffic signals within their limits, including on both state- and municipal-owned roads. Municipalities are advised to inventory and inspect their existing poles and repair or program replacements before they fail. Inspections can reveal damage and deficiencies, including poor drainage conditions, exposed wires, and missing nuts, bolts, or cover plates.

More extensive damage may require temporary shoring and further evaluation. For example, to inspect for corrosion, focus on the bottom section of the pole where deicing salts can gather and poor drainage may occur. A simple test for corrosion and section loss is the hammer test, which is performed by striking the pole with a lightweight ball peen hammer, listening for poor-sounding metal, and locating holes in the metal. All defects should be documented, and if any excessive corrosion is found, a more in-depth inspection should occur.

Municipalities can use the results of the inventory and inspection to develop an asset management program. (For more on asset management, see the article on page 2.) Poles nearing the end of their useful life must be programmed. Any pole with excessive corrosion will require more immediate action.

Municipalities may contact their PennDOT Engineering District for additional guidance.

Key Takeaways:

1. Understand that municipalities are responsible for the traffic signals in their jurisdiction, regardless of who owns the road.
2. Know what you own and generate an inventory of traffic poles on local routes. Traffic poles on state routes are already inventoried. Enter the inventory into TSAMS to simplify data collecting later. (See resources box below.)
3. Inspect the traffic poles and identify defects and damage.
4. Repair or take immediate action when required.
5. Plan and program aging poles for replacement.
6. Contact your local PennDOT Engineering District for guidance.

Traffic Signal Resources

PennDOT has various resources to help municipalities with traffic signal maintenance, including Publication 191, Guidelines for the Maintenance and Operation of Traffic Signals. PennDOT has also established the Traffic Signal Asset Management System (TSAMS) to assist municipalities with managing traffic pole inventory. TSAMS currently contains traffic assets on state routes, although municipalities are invited to record traffic assets on local routes as well. Information on obtaining access to TSAMS can be made by emailing signals@pa.gov. Once a traffic asset is in TSAMS, the municipality can have a query to assist with planning.
PennDOT Monitors Use of Microsurfacing with Fibers

PennDOT has been monitoring a project that uses microsurfacing with fiber in West Manchester Township, York County. Microsurfacing is widely used for pavement preservation in areas around Pennsylvania. The hope is that adding fibers to this already approved process will extend the time until the next required treatment is necessary.

The product was applied in July to a section of Kenneth Road between Loucks Road and Trolley Road in an area with an average daily traffic count of 3,000 vehicles. One travel lane was treated with microsurfacing only, while the center turn lane and the other travel lane received microsurfacing with fibers added. A side-by-side comparison will be evaluated over the next three years to determine if the fibers do add benefit to the treatment.

The process was overseen by representatives of PennDOT’s Bureau of Planning and Research, the PennDOT lab, and a researcher from Penn State University. Penn State will conduct laboratory testing on the products, aggregate, emulsion, and fibers obtained from the project.

To learn more, contact Tom Welker of PennDOT at twelker@pa.gov or 717-783-3721.

Toolkit Targets Rural Communities Seeking Infrastructure Grants

Rural municipalities that find navigating the federal transportation grant system to be overwhelming may want to check out a new toolkit developed by the U.S. Department of Transportation. The toolkit, which is part of the Rural Opportunities to Use Transportation for Economic Success (R.O.U.T.E.S.) initiative, was created to help improve rural access to federal grant funds. The publication provides user-friendly information and resources to enhance rural applicants’ familiarity with the department’s discretionary grant programs and the funding process for rural transportation projects.

While one-fifth of Americans live in rural areas, 70% of America’s road miles are in rural areas and carry nearly 50% of the nation’s truck traffic. Look for more information about the R.O.U.T.E.S. initiative and the toolkit at www.transportation.gov/rural/toolkit.
PennDOT Engineering District 1 Transportation Planner Lyndsie DeVito reveals how the PennDOT Connects process helped multimodal amenity projects in her district succeed.

**What was the issue in your district?**

PennDOT’s Engineering District 1 (Crawford, Erie, Forest, Mercer, Venango, and Warren counties) is a significantly rural district, where multimodal projects, specifically bike and pedestrian, can be difficult to connect and implement. Many of our roads are not conducive for recreational riding, and we did not believe that families would feel safe to cycle on them. Was it even possible to complete a bike and pedestrian project this area?

**How did the PennDOT Connects process factor into your projects?**

In conversations with PennDOT’s Bicycle and Pedestrian Coordinator Roy Gothie and Brian Hare, director for the Center for Program Development and Management, we explored the opportunity to increase multimodal amenities within District 1. Through a study funded by PennDOT Connects, we became aware of just how many communities would like to add these kinds of facilities and how many already had bike/ped master plans or had included such aspects in their comprehensive plans.

Through many discussions, we learned how important multimodal amenities are to everyday activities, such as getting to work, walking children to school, or getting to a hospital or a park. Discussing these kinds of projects even in smaller communities helps to identify multimodal wants and needs and allows PennDOT to provide direction on how to begin to turn them into realities.

**How did PennDOT senior management support this initiative?**

The original concept of completing a bike study came from our then-District Executive James Foringer, who is an avid cyclist and saw the need to increase bicycle amenities in our communities. Our current District Executive Brian A. McNulty was also very supportive and provided a bigger vision of what the district could become and what economic and recreational opportunities could be created. This is vast potential for our customers, municipalities, and governments to collaborate. Through this effort, they may identify additional or alternative opportunities, better leverage available funding, and identify design obstacles early in the process.

**What suggestions do you have for others who may want to apply the same process to a specific project in their community?**

Do not be afraid to contact your MPO/RPO representatives and county planners to begin discussions on the wants and needs of your community. Take the time to be involved in the region’s Long-Range Transportation Plan (LRTP) updates every five years. PennDOT updates the state’s Transportation Improvement Plan (TIP) every two years.

Continued on page 8
Upcoming Webinars

The following LTAP webinars will be repeated on two consecutive days. Registration is free and will open 30 days prior to the webinar; email notifications will be sent. Register at www.gis.penndot.gov/ltap (under “Webinars”).

Municipal Responsibilities on State Roads
November 19 or 20, Noon

PennDOT and municipalities share responsibilities for maintaining and operating roads for the traveling public. While some responsibilities are obvious, there are many intricacies as to who is responsible for what traffic control devices, permits, sight distances, drainage, and others. This webinar will review the state laws and regulations that define these responsibilities and discuss scenarios to help clarify them. Ultimately, this webinar will help municipalities and PennDOT seamlessly maintain the public roadway system.

Emergency Preparedness from the Road Crew Perspective
December 10 or 11, Noon

Public works departments across the commonwealth must be ready at a moment’s notice to react to any number of threats facing their community. This session will review disaster preparedness strategies for public works agencies and road crews.

Virtual Drop-In Sessions: FALL 2020

LTAP Virtual Drop-ins are centered on various safety and maintenance topics. These sessions are not virtual classes; they are informal one-hour live sessions focused on networking and sharing information with other municipal roadway personnel. Whether you’re new to the virtual world or have lots of experience, you will enjoy meeting up online with LTAP staff and other municipal staff to learn and discuss information critical to your job.

Note: The drop-ins are not eligible for Roads Scholar credits.

Upcoming Sessions:
October 2 – Salt Brine: Does using salt brine before a storm really work?
November 5 – Speed Limits: Have your residents said, “We have a speeding problem”? 
December 3 – Accident Reporting for CDL and Non-CDL Drivers
December 17 – Sign Inventory Management: Where are they now?

Archived Virtual Drop-in Sessions:
Recorded sessions and handouts from previously held drop-ins are available at connect.psats.org/trainingevents/ltapresourcepage. There is also a link under “Bulletin Board” at gis.penndot.gov/ltap/.

- Asset Management
- Curves
- Traffic Calming
- Trail Crossings
- Trucks
- COVID-19
- Mastics
- Traffic Poles
- Safety Tips for Flagging
- COVID-19 and Special Events/Needs on State Routes: How to work with PennDOT

V. II: If a class has a V. II in the title, it is a new class for Roads Scholars. The class recently went through a major update.

NOTE: Calendar subject to change. Classes will be added as there is demand. Check website for new classes.
EVENT UPDATE

Roadway Management Conference
Virtual Format
October 26-27, 8 a.m. - noon

2020 RMC Hosted by
Delaware T2/LTAP Center
Maryland Transportation T2 Center
Pennsylvania Local Technical Assistance Program
UVA Transportation Training Academy (VA LTAP)
West Virginia Local Technical Assistance Program

This year’s event to be held virtually.
FREE EVENT. REGISTRATION IS OPEN.

Visit the Conference website for more information. https://roadwaymanagementc.wixsite.com/home

PennDOT Connects continued from page 6

years in coordination with the MPOs/RPOs and county planners. During that time, projects from the regional LRTPs are reviewed and may be added to the TIP.

Find out about the problems and concerns in your area that only residents know about. Ask them about their wants and needs in the multimodal realm. Participate in PennDOT surveys and meetings. We do listen. Many things have changed at PennDOT, and it is worth it to collaborate and work with us to provide the best projects for all. Understand that there are many funding pots that are only allowed to be used on certain types of projects based on the acts they were passed under. It is important to apply for funding opportunities that will either combine with the PennDOT project funds or can be used as a standalone project. Any funding that the municipalities are willing to contribute toward the requests is also looked upon favorably. When applying for funding, collaborate with the county and other municipalities to tie into existing bike or pedestrian amenities or consider a joint project. Applicants are encouraged to request funding for the full project and provide information if the project can be split into phases. Finally but perhaps most important, engage the MPOs/RPOs and PennDOT district planners to help develop studies, plans, and projects that you may be considering submitting an application for.

If you have any questions or would like to discuss any projects or potential projects, email me at idevito@pa.gov or find your local District Planner at www.penndot.gov/ProjectAndPrograms/Planning/Pages/PennDOT-Connects-Planners.aspx.

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.”

Congratulations to the following Roads Scholar I recipients (Certified between May 1 and August 31, 2020)

- Donald A. Bottles Jr., City of Pittsburgh, Allegheny Co.
- Justin L. Klingenberg, Ohio Township, Allegheny Co.
- Eli Kosanovich, West Mayfield Borough, Beaver Co.
- Jennifer L. Kellogg, Athens Township, Crawford Co.
- Jared Comp, East Pennsboro Township, Cumberland Co.
- Bryan S. Cumberledge, Waynesburg Borough, Greene Co.
- Jacob A. Houck, Mount Joy Borough, Lancaster Co.
- Edgar F. Stark, Wilkes Barre City, Luzerne County
- Domenic Marcellino, City of Philadelphia, Philadelphia Co.

Congratulations to the following Roads Scholar II recipients (Certified between May 1 and August 31, 2020)

- Donald A. Bottles Jr., City of Pittsburgh, Allegheny Co.
- Larry Piersol, Exeter Township, Berks Co.
- Brian K. Fogal, Borough of Chambersburg, Franklin Co.
- Dennis M. Flynn, New Hanover Township, Montgomery Co.
- Jay A. Smith, New Hanover Township, Montgomery Co.
- Jeffrey Zavinski, Warren City, Warren Co.
- Fran Eyler, Dover Township, York Co.
- Gerald W. Lighty, Dover Township, York Co.
- Richard Rudacille, Dover Township, York Co.
- Martin F. Smith, Dover Township, York Co.

Did you find the information in this newsletter useful? Do you know others who will, too?

Please share this newsletter with others, including:

- Road supervisors/roadmasters
- Public Works Department
- Road crew
- Elected officials
- Managers and secretaries
- Engineers

You can also direct them to the electronic version available at gis.penndot.gov/ltap.