



moving FORWARD

SUMMER 2018

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

Understanding the Pennsylvania Crash Information Tool

Online resource provides data on crashes, fatalities, and injuries

by Janice R. Mills, Crash Program IT Analyst, PennDOT Bureau of Maintenance and Operations



reports, for example, can provide crash data about such commonly requested categories of highway safety as handheld or hands-free phones, motorcycles, distracted drivers, and drivers under the influence. Statistics on seatbelt and restraint usage can also be obtained. The data from these reports may be displayed in a variety of table and chart forms, which users may download and save.

With the “custom query” tool, users may retrieve crash data based on criteria they specify. The data can be filtered and displayed as a table, map, or crash history report. By drawing on the map, users may identify specific areas of local or state roadways for their crash data reports. For example, drawing with a point or an intersection circle allows users to select a specific location or intersection that may be prone to reportable crashes, while drawing with a circle, polygon, or rectangle allows users to select a specific geographic area around their neighborhood, school, or other location.

Users interested in analyzing the details of crash records should visit the Public Crash Datasets section of the site, where raw crash data is made available for download and analysis. This section is especially helpful for further analyzing crashes by county or region.

Questions about the online tool may be directed to the PennDOT Crash Unit at pcithelp@pa.gov.

Check out the Pennsylvania Crash Information Tool at www.dotcrashinfo.pa.gov.

Local officials can learn about traffic crashes that occur on roads in their municipalities as well as on other roads they may travel in their county or across the state with the help of the Pennsylvania Crash Information Tool (PCIT). This online resource, available at www.dotcrashinfo.pa.gov, is designed to be a public gateway providing information about reportable traffic crashes, fatalities, and serious injuries.

The website also includes access to a variety of reports for displaying related statistics. Users may search, request, and view customized crash data reports and may filter the data by county. Featured

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How Asset Management Can Keep Your Road Improvement Program Humming Along

by Amy Bobb, PSATS

When it comes to managing roads and bridges, municipal officials may sometimes feel like they must be both a part-time detective and soothsayer.

The sleuthing involves walking or riding the roads or bridges to observe conditions, and the predicting comes in when deciding which of these assets to repair and when. Throw in a bad Pennsylvania winter, with its numerous freeze-thaw cycles, and things can get downright complicated.

“The condition of the roads can vary so much,” Doug Roth, a supervisor and the director of public works in Penn Township, Butler County, says. “You may think your roads look pretty good in the fall, but then a cold spell comes along in December and January, and now they don’t look so good anymore.”

Just what is a municipality to do? Enter asset management to save the day.

Touted by transportation experts as an effective way to systematically prioritize road projects, asset management helps to take the guesswork out of where to focus road dollars and efforts and strives to provide the best bang for the buck.

“It’s a great concept, especially with limited funding,” Tony Mento, director of project management and engineering for Pennsylvania’s division of the Federal Highway Administration (FHWA), says. “Think of it as concentrating on preservation instead of worst first.”

With its focus on prioritizing and planning, asset management encourages municipalities to be proactive when dealing with roads, and thanks to recent advancements in technology, this strategy has become easier, more accessible, and more affordable for municipalities to undertake.

The Latest Buzzword

Asset management has become a buzzword in the transportation world since regulations developed out of MAP-21, the 2012 surface transportation law known as Moving Ahead for Progress in the 21st Century, were developed, mandating that the strategy be used on the national highway system. In a nutshell, asset management involves taking an inventory of assets, identifying priorities, and matching funding with needs to make better informed and more knowledgeable decisions about which assets to tackle year to year.

“For many years, we have let our roads fall apart until they have become a crisis,” Mento says. “With asset management, we are employing a long-term strategy of preserving our assets as work is needed. In this way, we can hope to get the maximum life out of our pavements and bridges.”

PennDOT has embraced the philosophy and uses it to decide where to focus funding and manpower for rehabilitating its road network. Although asset management is not required at the local level, Mento notes, “We think it’s a great idea, and the same philosophies would apply to municipal roads.”

With asset management, municipalities do their homework first and establish priorities to maximize their funds and over time, incrementally improve their road surfaces.

With its focus on prioritizing and planning, asset management encourages municipalities to be proactive when dealing with roads.

“Instead of running out to fix your worst problems first, think of it as managing for performance,” he says. “What does it take to keep everything in fair to good condition? Now, set goals to attain that.”

Inventory, Assess, Analyze

To better understand and embrace asset management, Sam Gregory, a technical expert for PennDOT’s Local Technical Assistance Program (LTAP), suggests that municipalities break it down into manageable tasks — inventory, assess, and analyze — and take advantage of technology to help.

The Federal Highway Administration (FHWA) lays out the following general steps for transportation asset management:

1) Inventory your roads and bridges.

“You want to start with a good inventory,” Mento says. “What roads and bridges do you have and what are their conditions? That will give you the baseline to start your other calculations.”

Knowing your roads is an important aspect of understanding them, Gregory agrees, and with asset management, you get to go deeper. In the transportation world, asset management begins with an inventory and assessment of a community’s roads, bridges, and related assets, including curbing, inlets, signs, manholes, and pipes.

Some of that information may be available from PennDOT reports that are used to determine a municipality’s share of liquid fuels funds, he says, but otherwise, you just have to go out and measure and count. An inventory can be done on paper or with the help of technology that uses global positioning systems (GPS) and then enlists Geographic Information System mapping technology (GIS).

A roadway condition survey provides critical information a municipality needs to prioritize assets and make decisions on road projects.

“This involves evaluating an asset’s distress level, severity, and extent to determine its useful life and what repairs are needed at what cost,” Gregory says.

Using the results of a survey, the roads are rated or scored. FHWA defines roads using a good, fair, or poor condition rating. Some municipalities use a 0-5 or 0-10 scale. GIS will produce color-coded maps that show the condition of the roads in green (good), yellow (fair), or red (poor).

Once again, technology can help with this task. Municipalities that convert their asset management system to a digital format, Gregory says, will find it easier to inventory assets, rate their conditions, and calculate “what if” scenarios showing what happens if money is spent

here versus there. Municipalities may either purchase software to help with these calculations or take advantage of the growing number of consultants and GIS-based products that offer such services at a surprisingly affordable price. The cost to hire consultants to collect data and analyze road conditions can range from under \$100 to \$500 per mile. (See sidebar on page 4.)

2) Establish objectives and goals for your road and bridge system.

If your objective is to maintain your network in good repair over the long haul, come up with goals for meeting that objective.

“It might be keeping 90 percent of your roads in good or fair condition while allowing 10 percent to remain poor,” Mento says.

The goals can be based on what the public or the municipal officials think is important, he says, but they should also be tied to funding.

“Of course, everyone wants all their roads to be in good condition,” he says, “but there likely isn’t enough money for that initially.”

With research and data at their fingertips, municipalities can develop a long-term plan and decide which roads to prioritize for maintenance and rehabilitation based on available funds.

“Municipalities should create a multi-year plan that will give them an idea of what streets and roads to pave or repair,” Gregory says.

Keep in mind that the plan must remain fluid because conditions and priorities are bound to change year to year.

3) Perform gap and life-cycle analyses.

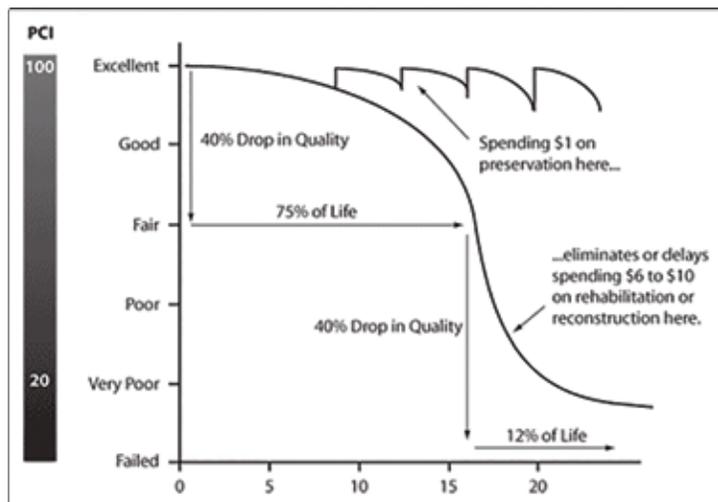
A gap analysis involves figuring out where your roads are today versus where you want them to be tomorrow. Then determine the expected life cycle of your assets by calculating how much longer your roads and bridges will last.

Mento advises municipalities to consult with their PennDOT district offices for help in figuring out life expectancies. In general, a concrete pavement has a 40-year life cycle, while an asphalt road’s life expectancy is much shorter, maybe 15 years before a mill and overlay are necessary.

“To do a life-cycle analysis, you must figure out what is the remaining life of a structure or pavement and what must be done to preserve it with crack sealing, pothole patching, and other preservation repairs along the way,” he says.

4) Do a risk assessment of your road system.

“What roads and bridges can your community not live without?”



By treating roads before there is major damage, municipalities can prolong pavement life in a cost-effective manner.

It will take time to go through the cycles and become good at asset management. It’s not something that happens overnight.

Mento says. “Identify your priorities and fund them before anything else.”

For example, he says, a pothole on a major road to the biggest school should be given priority on repairs over one on a secondary road with less traffic.

Ultimately, the final decision of which road projects will be undertaken rests with the elected officials, but asset management can help these leaders make better informed decisions, instead of merely reacting to complaints or problems.

5) Introduce a funding strategy and match your funding with your needs.

Figure out what you can afford to do based on your budget and revenues earmarked for your roads. Then compare that number with what you have gleaned after evaluating your roads through the gap, life-cycle, and risk analyses.

“Once you look at your budget, you may have to adjust your goals,” Mento says. “Instead of trying to attain a 90:10 good-to-poor ratio on your roads, you may have to go to an 80:20 mix. Then, what work do you need to perform to maintain that?”

As part of their road network analysis, municipalities are advised to try a “mix of fixes” that prioritizes keeping their good roads in tiptop shape and rehabilitating those in poor condition as funding is available.

Most municipalities may never have enough money to get done what is needed when it comes to improving all their roads, Gregory says.

“But if you don’t use asset management to get a good handle on your assets and the condition they’re in, you will never get ahead,” he says. “You’ll just be spinning your wheels.”

6) Finally, communicate your plan to your residents.

“To reduce complaints, be sure to educate your residents as to what your funding priorities are when it comes to roads,” Mento says.

When following asset management, a municipality’s decisions on which roads get fixed first may not always make the most sense to the traveling public. Mento suggests using the municipal newsletter or website to explain the concept and lay out the municipality’s philosophy.

Do Your Research

The FHWA website, www.fhwa.dot.gov/asset, has resources on asset management, including how to conduct gap, risk, and financial analyses. Just keep in mind, Mento says, that this information is geared to the federal highway system so the scope is bigger than most municipalities can do.

“My advice to municipalities is to take the best available information you have and think long-term,” he says. “Remember, it will take time to go through the cycles and become good at asset management. It’s not something that happens overnight.”

Continued on page 4

Asset Management *continued from page 3*

Start with a good inventory, decide on the performance goals for your assets, and then figure out how to best allocate your dollars to maintain and preserve your good roads and bridges first.

“If you know where you are today and where you want to be tomorrow and you have a funding strategy figured out to start

accomplishing the work that needs done,” Mento says, “then, really, you’re off and running with asset management.”

This article was adapted from one that ran in the May 2018 issue of the Pa. Township News, the monthly magazine of the Pa. State Association of Township Supervisors. 📌

Putting Technology to Work

Today, many electronic options, including laptops, tablets, smartphones, and handheld geospatial devices, are available that take advantage of GPS to help photograph and keep track of assets while out in the field. As technology continues to advance, the tools for inventorying a road network are becoming more sophisticated, accessible, and affordable.

Road inventories can be done more quickly and safely with the help of technology, Dominic Passanita, a project manager with Stahl Sheaffer Engineering in State College, says. His company created Linear Referencing System, which uses a vehicle equipped with a rooftop camera to conduct a 360-degree Light Detection and Ranging (LiDAR) imagery and laser scan of a community’s roads, much like Google Earth does.

“The camera takes pictures every 20 feet in every direction while driving down the road,” he says. “With this technology, we can operate at speeds up to 60 miles per hour and obtain data for 100 miles of road per day depending on the terrain.”

In Pittsburgh, technology that has spun out of Carnegie Mellon University puts a smartphone to use in monitoring road conditions.

“The idea behind our technology is that cellphones are cheap and have good sensors,” Benjamin Schmidt, chief technology officer for RoadBotics, says. “We put the cellphone on the windshield and collect data by taking an image of the road every 10 feet.”

Both options are touted as being fast and safe since the vehicles gathering the data travel at average road speeds and no one has to get out of the car to do an evaluation manually. After the

images are collected, they are taken back to the office for analysis. Reports and maps are then generated to provide details on the conditions of the roads and rank them according to their need for maintenance and repair.

GIS helps a municipality to streamline its data collection and present the information in a visually appealing and user-friendly manner, Beth Uhler, a project manager with CEDARVILLE Engineering, says. In the past, information gathered in the field would likely be stored on individual spreadsheets that were not as convenient and accessible for different employees and departments to view.

“With GIS, the data you accumulate basically becomes a digital spreadsheet that provides access to a wide range of assets,” Uhler adds. “For example, GIS enables you to rate your roads in terms of their pavement condition and overlay it on a map to see where your 1- and 10-rated roads are. By analyzing this data, you can then set up a plan as to what segments of roads you want to address that year.”

As roads are paved or repaired, that information can be continually updated in the system.

“Visually, you will be able to chart the progress by seeing it on the map,” she says. The map also becomes a good communication tool for use with the public.

“Put the map on the website, where you can share as much or as little information as you like, and residents can see which roads are going to be repaved or repaired and will develop a better understanding of your priorities,” she says. 📌



Photo courtesy of RoadBotics.

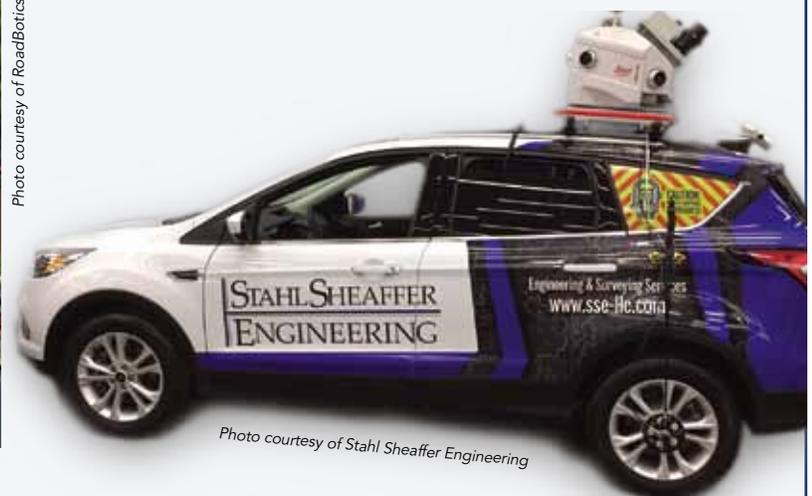


Photo courtesy of Stahl Sheaffer Engineering

The collection of road conditions for asset management has become easier than ever thanks to recent developments in technology, including (left) a smartphone mounted on a dashboard and (right) a camera installed on a vehicle’s roof.

Transportation News Briefs

LATEST INFORMATION FROM PENNDOT & OTHERS

Rectangular Rapid Flashing Beacons Allowed Once Again

Pedestrian-actuated rectangular rapid-flashing beacons may once again be used to supplement standard pedestrian or school crossing signs at uncontrolled marked crosswalks under new interim approval by the Federal Highway Administration (FHWA). Interim approval



Rectangular rapid flashing beacons have been approved once again by FHWA now that patent issues with the device have been resolved.

allows their use, pending official rulemaking. PennDOT also received approval by the FHWA for statewide use of the beacons. This approval follows on the heels of FHWA terminating interim approval of the beacons at crosswalks last December because the concept was patented. Federal regulations prohibit the use of patented traffic-control devices within the Manual on Uniform Traffic Control Devices (MUTCD). However, the patents on the device have been expressly abandoned, and the concept is now in the public domain.

The rectangular-shaped, high-intensity LED-based beacons, which flash rapidly in a wig-wag “flickering” pattern, are mounted immediately between the crossing sign and the sign’s supplemental arrow plaque. These user-actuated amber signals supplement warning signs at unsignalized intersections or mid-block crosswalks and can be activated manually by pedestrians pushing a button or passively through a pedestrian-detection system.

The device has been used effectively and safely throughout the United States, including in many locations in Pennsylvania.

PennDOT Expands Use of LED Lighting Fixtures

LED roadway lighting fixtures, which have been piloted in Pennsylvania over the past few years, are quickly becoming the most common installation for highway lighting, replacing the conventional, high-pressure, sodium light fixtures that have been used for decades.

These LED fixtures use slightly less energy than traditional lights and provide additional cooler or “white” light. With lower maintenance needs, they also save time, labor, and the hassle of setting up work zones to maintain highway lighting.

LED roadway lighting fixtures are five times as efficient as traditional household fixtures and slightly more efficient than the conventional roadway fixtures PennDOT has been using for decades.

However, when the LED light fails, a complete replacement of the fixture is necessary since the LED is integrated with the power supply into the light housing and is not as simple as a bulb replacement.

PennDOT has approved three manufacturers’ LED products for purchase with Liquid Fuels monies, and the approved list can be found in Section 1101 of the Bulletin 15 (Publication 35). For further assistance, contact a PennDOT District Municipal Services representative.

As LED technology continues to replace conventional lighting, PennDOT will remain at the forefront incorporating new installations and retrofits of older less efficient lighting to our state’s highway system.

Revisions Made to Seal Coat and Fog Seal Specifications

PennDOT has made changes to the seal coat design and application process and implemented a new specification for applying fog seal over new seal coat treatments.

Under a complete rewrite of Appendix E in Bulletin 27 (Publication 27), the seal coat design charts process has been replaced with an equation-based design process. The change also corrects an error in the previous design charts that will yield higher emulsion application rates. These changes take effect immediately.

Major changes to the seal coat specification in Section 470 of Publication 408 include a preference to use polymer-modified emulsions, the option to use high-float emulsions, the addition of a more cubical seal coat aggregate option, and enhanced seal coat compaction requirements between the wheel paths.

In addition, Section 472 of Publication 408 now allows the option of fog sealing bituminous seal coats within 45 days of placement to enhance performance of seal coat treatments. These revisions to Publication 48 take effect October 5, 2018. Fog seals may also be used as a special provision on projects bid after March 30, 2018.

Keep in mind that another recent change in Publication 447 means AASHTO #9 may be used as an application over AASHTO #8 aggregate; however, fog seals may not be applied.

Questions about these changes should be directed to Neal W. Fannin, P.E., at (814) 496-6144 or nfannin@pa.gov or Tom Welker at (717) 783-3721 or twelker@pa.gov.

List of Dust-Control Products Revised

The list of approved dust-control products for dirt and gravel roads has been revised based on updated testing procedures made by Penn State’s Center for Dirt and Gravel Road Studies, which is required to provide upgrades and products that cause no harm to streams and the environment. All providers had to submit their products to the center for new testing to be included on the list.

To see the new list of approved products, go to www.dirtandgravel.edu and click on “Products” under “PA Program Resources” at the top of the page. Then, click on “Approved Products List.”

REGISTRATION OPEN!

17th Annual Roadway Management Conference

Sponsored by the Mid-Atlantic (Delaware, Maryland, Pennsylvania, Virginia, and West Virginia) Transportation Technology Transfer (T2) Centers and Local Technical Assistance Programs (LTAP)

When: October 15-17

Where: Eisenhower Hotel, Gettysburg

What: Educational sessions, demonstrations, exhibits, and networking

Who should attend: Practitioners who manage, construct, and maintain state, county, and municipal roads and streets, including elected and appointed officials, managers, engineers, technicians, supervisors, and contractors.

For more information: roadwaymanagementc.wixsite.com/home

Stay tuned for more details!

Become a Roads Scholar II This Fall

Go online to www.ltap.state.pa.us and register today to complete the Roads Scholar II designation. All eight classes will be available this fall. Each graduate will receive a Roads Scholar II hat.

To complete the Roads Scholar II program, participants must complete eight approved workshops within a three-year period and pass an in-class quiz consisting of 12 questions at the end of each workshop. Successful completion of an approved CPR training also earns one workshop credit.

Roads Scholar II Classes:

- Conducting Sign Retroreflectivity Inspections
- Bridge Inspection and Maintenance
- Salt and Snow Management
- Stop Signs and Intersection Traffic Control
- Curves on Local Roads: Issues and Safety Tools
- Speed Management and Speed Limits **Available Fall 2018**
- Road Safety Audit **Available Fall 2018**
- Project Oversight – Monitoring Quality by Asking the Right Questions **Available Fall 2018**

MARK YOUR CALENDAR FOR UPCOMING WEBINARS

Speed Limits on Local Roads

Thursday, August 23, 9 a.m.

This webinar gives municipal officials and public works employees the tools they need to post appropriate speed limits, including identifying speed issues, conducting appropriate speed limit studies, determining appropriate and legally enforceable speed limits, installing signs at the proper locations, and implementing appropriate solutions to manage speed issues.

Register at www.ltap.state.pa.us (under "Testimonials") or here: <https://psats.webex.com/psats/onstage/g.php?MTID=e9f9d8f9960397957064b41a833a62db2>

Stop Signs and Intersection Traffic Control

Thursday, October 25, 9 a.m.

This webinar focuses on STOP signs that are used for intersection traffic control by examining the components of STOP sign placement and offering suggestions for accommodating uncommon challenges. The webinar will also review other features, such as pavement markings and additional signs, often used to enhance the visibility of the STOP condition at intersections.

Register at www.ltap.state.pa.us (under "Testimonials") or here: <https://psats.webex.com/psats/onstage/g.php?MTID=e1196c294056007945f943d477d6e424c>

Become trained as a Roads Scholar...and be a valuable part of your municipality's team

Through the Roads Scholar Program, municipal employees and officials are trained by LTAP's professional team in the latest road-related technologies and innovations and receive recognition as a certified Roads Scholar.

The Roads Scholar Program consists of two designations – Roads Scholar I and Roads Scholar II – and provides a professional certification to municipal employees and officials who attend a certain number of LTAP courses within a three-year period (10 courses for Roads Scholar I and 8 for Roads Scholar II). During these courses, participants are educated on up-to-date maintenance and safety topics so that they become even more valuable members of their municipal team.

Courses eligible for Roads Scholar credit are conducted at convenient locations throughout the commonwealth. To learn more, go to www.ltap.state.pa.us and click on "Roads Scholar Program."

Use your CPR training as class credit toward your Roads Scholar designation

Successful completion of an approved CPR training course accepted by your employer or the Pennsylvania Department of Health earns you one workshop credit toward Roads Scholar certification. A copy of a completion certificate must be forwarded to the LTAP office in Harrisburg within the three-year training window.

Upcoming 2018 Classes

To Register:

PHONE: 1-800-FOR-LTAP (367-5827)

WEBSITE: www.ltap.state.pa.us

This represents some of our scheduled courses. Look for updates on the website.

Americans With Disabilities Act (ADA)

August 16 – Warren County

Drainage **Updated Course**

September 17 – Cumberland County
October 24 – Bucks County
November 5 – Crawford County
November 6 – Columbia County
November 7 – Tioga County
November 8 – Susquehanna County

Project Oversight: Monitoring Quality by Asking the Right Questions **New Course**

August 30 – Cumberland County
September 7 – Clearfield County
September 13 – Lehigh County
September 14 – McKean County
September 28 – Lackawanna County
October 11 – Northumberland County
November 2 – Clarion County
November 9 – Blair County

Risk Management Strategies

August 15 – Blair County
October 10 – Montgomery County

Road Safety Audit **New Course**

September 11 – Lehigh County
October 9 – Cambia County
October 23 – Adams County
November 14 – Union County
November 29 – Erie County

Salt & Snow Management

August 7 – Lehigh County
September 17 – Centre County
September 18 – Montgomery County
September 25 – Chester County
September 26 – Susquehanna County
September 27 – Crawford County
October 2 – Lebanon County
October 4 – Warren County
October 10 – Bradford County
October 12 – Beaver County
October 23 – Blair County
October 25 – Tioga County
November 8 – Indiana County
November 13 – Lehigh County

Speed Limits and Speed Management **New Course**

September 6 – Adams County
September 27 – Tioga County
October 10 – Blair County
October 16 – Lehigh County
October 17 – Wyoming County
November 13 – Bradford County
November 15 – Chester County
November 15 – Union County
November 20 – Clarion County

Stop Signs and Intersection Traffic Control

October 4 – Schuylkill County
October 25 – Chester County

Stormwater Facility Operation and Maintenance **Updated Course**

September 18 – Bradford County
October 19 – Lehigh County
November 12 – Chester County

Congratulations to the following Roads Scholar recipients

(Certified between January 1 and May 31, 2018)

- Tina Enderlein, Hollidaysburg Boro, Blair Co.
- Michael J. Stack, Warrington Twp., Bucks Co.
- Chris Mather, Warwick Twp., Bucks Co.
- Eric M. George, Penn Forest Twp., Carbon Co.
- Steve Senn, Wallace Twp., Chester Co.
- Jared Hockenberry, East Pennsboro Twp., Cumberland Co.
- Barbara Jean R. Storm, Harrisburg City, Dauphin Co.
- Jeff L. Hann, Upper Tyrone Twp., Fayette Co.
- Criag Whipkey, Upper Tyrone Twp., Fayette Co.
- Roger L. Cummins, White Twp., Indiana Co.
- Kenneth S. Deabenderfer, White Twp., Indiana Co.
- Anthony Donatelli, White Twp., Indiana Co.
- Bill Lyons, White Twp., Indiana Co.
- John Berry, Conestoga Twp., Lancaster Co.
- David A. Salley, Mt. Joy Boro, Lancaster Co.
- Joel Guisepppe, Upper Leacock Twp., Lancaster Co.
- Robert Bealer, Hanover Twp., Lehigh Co.
- John T. Gramling, Muncy Boro, Lycoming Co.
- Francis P. Paolone, Lower Merion Twp., Montgomery Co.
- Tom Vance, New Hanover Twp., Montgomery Co.
- Thomas J. Buck, Philadelphia City, Philadelphia Co.
- James Gartland, Philadelphia City, Philadelphia Co.
- Edward Grabon, Philadelphia City, Philadelphia Co.
- Kevin Mcginley, P.E., Philadelphia City, Philadelphia Co.
- Charles Saunders, Philadelphia City, Philadelphia Co.
- Harry P. Wilson, PE, Philadelphia City, Philadelphia Co.
- Dave Tressler, Murrys ville Boro, Westmoreland Co.
- Fran R. Eyler Jr, Dover Twp., York Co.
- Gerald W. Lighty, Dover Twp., York Co.
- Martin F. Smith, Dover Twp., York Co.

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 www.ltap.state.pa.us and look for the release under "Roads Scholar Program."

Lancaster County Borough Wins Build a Better Mousetrap Contest

Elizabethtown Borough in Lancaster County received first-place honors in PennDOT LTAP's 2018 Build a Better Mousetrap Contest, and Bath Borough, Northampton County, and Milton Borough, Northumberland County, placed as runners-up.

LTAP awarded the top honor to Elizabethtown for a truck-mounted sign puller that removes stubborn sign channels easily. Built for less than \$1,000 in materials, plus labor and equipment, the device mounts in the snowplow mounting brackets and uses the power supply on the truck to pull out sign channels.

As the first-place winner, Elizabethtown's invention will be entered in a regional competition with winners from Delaware, Maryland, Virginia, and West Virginia, as well as in the national LTAP/TTAP competition.

Bath and Milton boroughs were named runners-up in the contest in recognition of their innovative inventions for more effectively cleaning storm grates.

Sign puller, Elizabethtown Borough



Bath spent about \$150 in materials to adapt a 1,000-pound crane that can be mounted on the rear of its street sweeper and used to hoist a storm sewer grate. The crane, which only requires one person in one vehicle to operate, makes it easier and safer to access storm sewer basins for cleaning.

Milton designed a mobile hitch-mounted hydraulic lift that safely and efficiently lifts storm grates for cleaning and repair of catch basins. Using spare steel and recycled snow plow parts, the borough spent less than \$100 for hitch pins and a hydraulic hose to create the lift, which comes apart in three pieces for ease of use and storage.

LTAP sponsors the Build a Better Mousetrap competition each year to recognize municipalities that build innovative gadgets or develop improved ways of doing a transportation-related job. The winning entry is submitted in the national competition. Look for more details later this year in how you can enter the 2019 contest. 🚧

Storm sewer grate hoist, Bath Borough



The grate solution, Milton Borough



LTAP Contact Information: