pennsylvania
DEPARTMENT OF TRANSPORTATION
LOCAL TECHNICAL ASSISTANCE PROGRAM

moving FORWARD

WINTER 2017

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

Pavement Preservation: When, Where, and How?

by Jennifer A. Albert, Ph.D., P.E., Federal Highway Administration

*Applying the **right pavement preservation treatment** at the **right time**, on the **right pavement**, with quality materials and construction is a critical investment strategy for optimizing infrastructure performance.*

When applied at the right time, a preservation treatment can extend the life of the pavement an average of five to 10 years or more.

Whether highway pavement is constructed using asphalt, concrete, or a composite system, traffic loads and environmental elements contribute to its deterioration over time.

Pavement preservation treatments can slow this structural decline. A proper pavement preservation program offers a proven, cost-effective approach to extending the overall service life of pavements and achieving smoother, safer roads with fewer costly repairs.

Pavement preservation includes work that is planned and performed to improve or sustain the condition of the pavement in a state of good repair. Preservation activities generally do not add capacity or structural value, but they do restore the pavement's overall condition.

Just as pavements differ, so do pavement preservation treatments. Infrastructure owners have many different treatments and construction methods available, such as crack sealing, chip seals, microsurfacing, thin asphalt overlays, diamond grinding, and dowel bar retrofits. When applied to a pavement at the right time, a preservation treatment can extend the life of the pavement an average of five to 10 years or more.

Pavement preservation is one of the Federal Highway Administration's (FHWA) Every Day Counts Round 4 (EDC-4) initiatives. The initiative is broken into two parts:

This 6.3-mm thin asphalt overlay is applied on SR 220 in Lycoming County. The specification for this pavement preservation technique was recently approved for incorporation into PennDOT Publication 408 and will take effect April 2018.

1) The ***When and Where*** component supports preserving highway investments by managing pavements proactively. It focuses on applying the "right treatment to the right pavement at the right time."

2) The ***How*** component promotes quality construction and materials practices, including treatment options that apply to both flexible and rigid pavements.

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PennDOT has selected to pursue this EDC-4 initiative and, through this effort, will continue to develop and implement a successful pavement preservation program. Many PennDOT districts are choosing to apply microsurfacing or thin asphalt overlays to extend the life of their asphalt pavements. A specification for 6.3-mm thin asphalt overlays was recently approved for incorporation into the next change of PennDOT Publication 408. The new Section 412 will take effect April 2018.

It is important to remember that pavement preservation is a ***proactive*** approach to maintaining a roadway network in a state of good repair. To achieve the cost- and performance-related benefits of pavement preservation, the treatment must be applied before the pavement reaches a state of deterioration that requires more costly and time-consuming rehabilitation or reconstruction.

Additional information on pavement preservation can be found at the following resources:

- EDC-4 Pavement Preservation (*When, Where, and How*): **www.fhwa.dot.gov/innovation/everydaycounts/edc_4/pavement.cfm**
- EDC-4 Pavement Preservation (*When and Where*): **www.fhwa.dot.gov/asset/**
- EDC-4 Pavement Preservation (*How*): **www.fhwa.dot.gov/pavement/preservation/**

Remember, pavement preservation is a ***proactive*** approach to maintaining a roadway network in a state of good repair.

Benefits of an Effective Pavement Preservation Program

Safety	•Treatments are typically installed in shorter work zones and during off-peak hours, reducing the likelihood of work zone incidents. •Improved skid resistance.
Performance	•Successful construction practices contribute to improved performance, providing smoother, safer roads and delaying the need for costly rehabilitation.
Flexibility	•Retaining a mix of successful treatments in the preservation toolbox provides agencies greater flexibility in placing the right treatment to the right pavement at the right time.
Savings	•Improved performance and fewer failures keep a pavement network in a state of good repair at a lower cost.

Meet the LTAP Advisory Committee

The PennDOT LTAP Advisory Committee is comprised of an appointed group of state and municipal government (elected and/or appointed) officials who serve a critical role as program advocates and assist PennDOT by attending training courses, reviewing course materials and content, and functioning in an advisory role on a variety of LTAP issues. The following officials currently serve as members of the Advisory Committee:

- **Jeffrey K. Kinsey, Chair** Elizabethtown Borough, Lancaster County, publicworks@etownonline.com
- **David A. Williams, Co-Chair**, Ross Township, Luzerne County, dawills@epix.net
- **Larry Bowers**, Gaskill Township, Jefferson County, ljdabowers@yahoo.com
- **Glenn A. Coakley**, Patton Township, Centre County, gcoakley@twp.patton.pa.us
- **Chris Goetz,** PennDOT District 4, Lackawanna County, cgoetz@state.pa.us
- **Steve Herman**, MPO/RPO Representative, SEDA-COG, Union County, sherman@seda-cog.org
- **Douglas A. Roth**, Penn Township, Butler County, droth@penntownship.org
- **Glenn Rowe,** PennDOT, Dauphin County, growe@pa.gov
- **Donald G. Sirianni Jr.**, Springfield Township, Montgomery County, dsirianni@springfieldmontco.org
- **Valerie Temino,** PennDOT District 6, Montgomery County, vtemino@pa.gov
- **Allen Williams,** PennDOT District 10, Indiana County, allwilliam@state.pa.us

Certified Pesticide Applicators – Why We Need Them

by Robert M. Peda, P.E., Navarro & Wright Consulting Engineers, Inc.

Federal and state laws recognize the benefits of pesticides but regulate them to prevent adverse effects on human life and the environment. The laws govern labeling, distribution, storage, transportation, use, application, and disposal of pesticides.

To carry out the requirements of these laws at the local level, the state has established regulations that require training, certification, and ongoing education of certified pesticide applicators, who are responsible for applying pesticides in the public environment.

To become a certified pesticide applicator, an individual must pass a two-part written examination for both core and category and be employed by a pesticide application business.

How does this work?

Federal law sets the framework of pesticide use at the national level, but the states carry out the details of the law. The **Pennsylvania Pesticide Control Act of 1973**, which finds that pesticides are valuable to our state's agricultural production and to the protection of man and the environment, regulates all aspects of pesticides, including:

- Labeling, distribution, storage, and registration
- Certification of pesticide applicators and registration of pesticide applicator technicians
- Licensing of pesticide dealers and pesticide application businesses
- Classification of restricted-use pesticides
- Notification procedures for pesticide applications

State regulations provide specific direction for the Department of Agriculture (PDA) to implement provisions of the state law. Specifically, the department's Bureau of Plant Industry prescribes policies and procedures to enact regulations of the Pennsylvania Pesticide Control Act of 1973, relating to:

- Commercial and public applicators
- Pesticide application businesses
- Public pesticide applicator fees
- Recordkeeping
- Pesticide hypersensitivity registry

How does one become and stay certified?

To become a certified pesticide applicator, an individual must pass a two-part written examination for both core and a category related to their operations and be employed by a pesticide application business. Study materials are available at Penn State's Publications Distribution Center, and arrangements for testing may be made through the PDA regional offices or the PaPlants website, **www.paplants.pa.gov**.

To maintain a pesticide certification, applicators must take update training during three-year intervals by accumulating PDA-approved category-specific credits in addition to six core credits. Each certified applicator is mailed an annual statement of credits, which outlines credit requirements and the recertification renewal date. If the recertification credits are not met by the specified date, the applicator's license will expire, and the individual will no longer be able to apply pesticides until the license is reinstated. The individual may be reinstated if training is completed within one year of expiration; otherwise, the individual must retake the two-part written exam.

There are 25 certification categories. However, municipal-certified pesticide applicators are typically certified for Category 10 – Right of Way and Weeds and/or Category 23 – Park and School Pest Control.

What about pesticide application businesses?

A pesticide application business, which must obtain a license, applies to both commercial and public entities, including municipalities. To apply pesticides on roadway rights-of-way or in public parks, the pesticide applicator must be employed by a pesticide application business. A municipal government is required to maintain a pesticide application business license for its employees to apply general or restricted-use pesticides.

To obtain the pesticide application business license, a municipal government must do the following:

- ✓ Identify the category or categories it wishes to operate in;
- ✓ Provide comprehensive general liability insurance with appropriate endorsements for pesticide applications;
- ✓ Keep records within 24 hours of application;
- ✓ Maintain records for three years; and
- ✓ Display its business license number with three-inch letters and numerals on vehicles involved in pesticide applications.

A municipality must obtain a minimum of $100,000 comprehensive general liability insurance per occurrence and $100,000 property damage liability insurance per occurrence with a maximum deductible of $2,500. Insurance coverage must include a statement that pesticide applications are included, or endorsement #CG26160194 or #CG26160798.

Pesticide application technicians may apply pesticides under the responsible supervision of a certified pesticide applicator as long as the certified applicator can be on site within five hours if necessary. To

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Certified Pesticide Applicators *continued from page 3*

become a registered technician, annual training must be conducted as required under Subsection 128.51 of the Pennsylvania Pesticides Rules and Regulations. Training must be completed by a certified pesticide applicator with at least one year's experience in the category of training, and the registered technician may only apply pesticides in line with the specific training received. Registered technicians may work independently, but they need to take update training and re-register annually.

Non-certified pesticide applicators may apply pesticides if the certified applicator is physically present and within sight when the application is made. The certified applicator is directly responsible for the applications being made by a non-certified technician.

What are the costs involved?

The cost of taking the two-part exam is $50 for the core exam and an additional $10 for each category tested. So if a municipal employee is seeking certification for Category 10 – Right of Way and Weeds and Category 23 – Park and School Pest Control, the exam cost would be $70. Once certified, the public applicator renewal fee is $10 every three years and is due September 30. The municipality must apply for its business license, which costs $35 annually and is due by December 31.

If a certified pesticide applicator trains and registers a pesticide application technician, the technician is subject to a $20 annual fee due February 28.

What about recordkeeping?

Each time pesticide is applied, the pesticide application business must keep records that include:

- Date of application
- Address, identification (specific location), and location of the application site
- Brand name of the pesticide
- EPA product registration number
- Total amount or volume of pesticide for the treatment area
- Application rate of pesticide
- Names and certification numbers of all involved in the application
  - Applicator number
  - Pesticide business license number

A pesticide application record must be completed within 24 hours of the application, and records must be maintained for at least three years.

What about the pesticide hypersensitivity registry?

The Pennsylvania Department of Agriculture maintains a list of individuals who have been verified as hypersensitive to pesticides. The hypersensitivity must be verified by a physician, and written verification must be provided to the PDA.

The individual must provide his or her name and primary residence, county, daytime and nighttime phone number, and an alternate phone number where information may be conveyed. Individuals must notify the PDA annually in the month of October if they intend to remain on the list for the next 12 months. The PDA will distribute the list to pesticide application businesses on or before March 1 and July 15 each year.

Prior to a pesticide application, the business must notify every individual on the list whose property line is within 500 feet of an application site and provide information, including the date, application site, earliest possible start and latest possible finish time of application (range no greater than 24 hours), brand name, EPA number and active ingredient of the pesticide, and the name, telephone number, and license number of the pesticide application business. In addition, a copy of the pesticide label being used must be provided within 10 days of a written request.

Notification must be made by telephone, personal contact, certified mail, email, or fax between 12 and 72 hours before the pesticide is applied. If contact has not been made within two attempts, a written notification may be left on the front door. A record must be kept of all notifications detailing the method of notification. Records, which must be made within 24 hours of the application, must be maintained for at least three years.

Reference materials

- Pennsylvania Pesticide Control Act of 1973
- Pennsylvania Department of Agriculture, Pesticide, Certified Applicators, and Registered Technicians
- Penn State Extension, Certification and Study Materials

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."

Did you know...

you can use your CPR training for a class credit toward Roads Scholar designation?

Details: 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.

*Visit **www.ltap.state.pa.us** for more information.*

Integrating NEPA and Permitting into Projects Can Avoid Lengthy Delays and Costly Changes

by Camille Otto, FHWA-PA Environmental Program Manager

If your municipality is faced with the question of using federal or state funds for a local road project, you may have heard horror stories about the time it takes to complete the federal environmental clearances. But take heed, as there are ways to make this seemingly daunting task achievable within both time and budget.

Integration requires coordination early on from both within the project team and externally with the permitting agencies.

As the adage goes, *a single dollar from the federal government "federalizes" your project*. This means the funding source, whether in whole or in part, dictates which laws and regulations must be followed to be eligible for reimbursement. If your project is coined a "federal" project, expectations will be higher, but the payoff is higher, too.

Because the federal government has more money, you can expect more expensive projects to likely be "federal." For example, a full-depth reclamation on a National Highway System road or bypass or streetscape may be a "federal" project, which would require more time *(and thus more money)* to process the myriad of laws and regulations protecting our natural, human, and cultural environment.

All federal-aid projects are subject to the National Environmental Policy Act (NEPA). In addition, many of these projects require permits from various other resource agencies. Projects often follow a separate, sequential process to get through NEPA and then permitting. However, this system can lead to project delays if permits require a design, a scope change, or studies that were not accounted for during the NEPA process. By integrating NEPA and permitting, such delays and changes can be avoided.

Integration requires coordination early on from both within the project team and externally with the permitting agencies. One key to success is determining who to coordinate with and when. The following steps can help with this:

- **Form an internal multidisciplinary team** – This team will help identify constraints and concerns across a broad spectrum of subjects. The team should include members from environment, design, hydraulics, pavement, stormwater design, and geotechnical areas.
- **Identify internal roles and responsibilities** – Use the multidisciplinary team to determine what permits are needed and which permitting and resource agencies must be involved. Determine which subject areas will come into play in making those decisions.
- **Develop a timeline or flowchart** – Describe when certain NEPA and permitting activities need to be initiated, who is involved, and what are the coordination requirements. List milestones and dates.
- **Coordinate with the appropriate resource/permitting agencies early and often** – These agency members may know of a concern or requirement for the permits that could alter the design. By identifying these items early on, the project team can incorporate them from the beginning, eliminating a need to go back and revise the design or scope late in the project.

All this may sound complicated, but the state Department of Transportation (PennDOT) has a framework already developed to help with some of these tasks. For instance, PennDOT has funded positions within many of the resource agencies to provide a single point of contact whose primary focus is on transportation projects. Such positions are funded for the U.S. Army Corps of Engineers (USACE), the U.S. Fish and Wildlife Service (USFWS), PA Department of Environmental Protection (DEP), PA Fish and Boat Commission (FBC), PA Game Commission (GC), PA Department of Conservation and Natural Resources (DCNR), and the PA State Historic Preservation Office (SHPO). The contacts at these agencies are available for consultation and can provide valuable insight into NEPA as well as permitting.

Coordination with the funded resource agencies should occur early on. These meetings are generally coordinated through the PennDOT district offices. Follow the plan devised for the project as to how often and at what steps to involve the agencies. By doing so, you can identify key issues early on, give the project team time to figure out how to work through the issues, and find solutions that are acceptable to the permitting agencies.

Follow the plan devised for the project as to how often and at what steps to involve the agencies. By doing so, you can identify key issues early on.

For example, stormwater is often an issue not addressed until the final design, and then it is included in a permit application. Often the USACE and DEP have requirements for managing stormwater that could affect the extent of studies, as well as the design and alignment of a roadway or bridge. By discussing such requirements early, you can incorporate them into the NEPA analysis, and the required level of detail for both NEPA and the permitting alternatives analysis can be done simultaneously.

In addition to office meetings, both the USACE and DEP are available for pre-application meetings, which are another great time to review designs and resources and identify constraints and options. These meetings can also help expedite the review for the permitting agency representative, who will already be familiar with the project and the alternatives considered.

The overall goals of integrating NEPA and permitting are to:

- Identify permitting responsibilities,
- Reduce scope and design changes, and
- Deliver projects on time and within budget.

Q&A

Q. May plywood be used as a temporary sidewalk?

A. Yes. If treated and installed correctly, plywood may be used as a temporary sidewalk at a construction site. The Americans with Disabilities Act (ADA) guidelines require that surfaces be "firm, stable, and slip resistant." Untreated plywood can be slippery when wet, so the surface should be treated to provide traction when wet. ADA guidelines also require sidewalk elevation differences to be less than a quarter-inch. Thus, if you are using half-inch plywood, which exceeds the quarter-inch requirement, a transition would be required.

Plywood will work as a temporary sidewalk as long as the surface is firm, stable, and slip-resistant and the elevation difference is less than a quarter-inch.

Q. If we close a road for maintenance work, do we have to create a detour?

A. Yes. Federal standards in the Manual on Uniform Traffic Control Devices and state standards in PennDOT Publication 213, Temporary Traffic Control Guidelines, require that detours are in place before a road is closed. This applies to all roads, including local roads, and to work projects classified as either long term *(such as a bridge being closed for months)* or short term *(those that last less than a day)*. Publication 213, PATA 116, "Road Closure with a Detour," provides information on the signs, detours, and other devices for closing a local road.

Before a road can be closed, a detour must be in place.

LTAP SUCCESS STORY

Eliminating Rutting on a Road

LTAP worked with East Pennsboro Township, Cumberland County, to solve a problem of severe rutting on a road. The rutting and surrounding base failure were most evident in the outmost lanes and appeared to be from subgrade failure (limited surface deformation). Drainage appeared to contribute to the base failure.

LTAP recommended that the township conduct additional testing to determine the cause and extent of the failure, as well as determine existing pavement depths. The township road crew decided to mill the curb line, scratch the ruts, and overlay the intersection. The repair work extended about 200 feet on either side of the signal. While the inlet tops were replaced, traffic was maintained on the roadway. A detour was used during the repair of the traffic loops and the surface paving.

BEFORE: East Penn Drive in the vicinity of the former Giant shopping center shows severe rutting caused by subgrade failure.

AFTER: The East Pennsboro Township road crew used a milling machine to remove the existing asphalt and subgrade soils and laid down new materials to fix the problem.

Need help with a transportation-related problem?
Schedule a FREE Tech Assist with LTAP today!

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.

Asphalt Roads Common Maintenance Problems
February 28 – Adams Co.
March 21 – Chester Co.

Bridge Maintenance & Inspection
March 6 – Lehigh Co.

Conducting Sign Retroreflectivity Inspections
February 1 – Berks Co.
February 8 – Mercer Co.

Curves on Local Roads: Issues and Safety Tools *(New class)*
February 13 – Adams Co.
February 22 – Montgomery Co.
February 27 – Lancaster Co.
March 1 – Erie Co.
March 29 – Lehigh Co.

Engineering and Traffic Studies
January 17 – Chester Co.
March 27 – York Co.

Equipment & Worker Safety
March 29 – Erie Co.

Geosynthetics
February 16 – Warren Co.

Intersections
January 18 – Montgomery Co.
February 14 – Chester Co.
February 14 – Lebanon Co.

Pavement Markings: Applications and Maintenance
February 22 – Montgomery Co.
March 20 – York Co.
March 21 – Lebanon Co.

Posting & Bonding of Local Roads
March 13 – Clarion Co.

Principles of Paving
February 13 – Chester Co.

Project Estimating Using Mathematical Principles
March 20 – Lebanon Co.

Roadside Safety Features
March 8 – Montgomery Co.

Safe Driver
January 18 – Allegheny Co.
February 15 – Lehigh Co.
March 13 – Indiana Co.

Stop Signs and Intersections Traffic Control *(New class)*
January 16 – Adams Co.
January 31 – Lancaster Co.
February 1 – Chester Co.
February 6 – Lehigh Co.
March 29 – Lancaster Co.

Traffic Signs Basics
January 23 – Dauphin Co.

Work Zone (Temporary) Traffic Control
March 14 – Warren Co.

Congratulations to the following Roads Scholar recipients
(Certified between August 1 and October 31, 2017)

- Nate Kissell, City of Altoona, Blair Co.
- Greg Hertzler, Monroe Township, Cumberland Co.
- Don Kizak, Hermitage City, Mercer Co.
- Patrice L. Nuble, City of Philadelphia
- John Yocum, City of Philadelphia

SAVE THE DATE

Road Maintenance and Safety Symposium

April 22-24, 2018

Hershey Lodge

More information to come out soon!

Have You Built a Better Mousetrap? Show It Off by Entering PennDOT's Annual Contest

Has one of your township employees recently built an innovative gadget or come up with a better way to do a particular job? If so, now is the time to show it off by entering the **2018 Build a Better Mousetrap Competition.**

PennDOT is looking for projects that municipal employees or road crews designed and built. It can be anything from the development of tools and equipment modifications to processes that increase safety, reduce costs, or improve efficiency or the quality of transportation.

If you have a project that qualifies, submit your entry by **March 9, 2018.** PennDOT will choose a state winner in March and announce it at the annual conference of the winner's respective municipal association. Entries will be judged by a committee of municipal road employees on cost savings/benefits to the community, ingenuity, transferability to others, and effectiveness.

LTAP will submit the winning entry into a regional and national competition for prizes and, of course, bragging rights. Winners of the national competition will be announced at the annual LTAP/TTAP national conference this summer. All entries at the national level will be posted on the LTAP/TTAP website and compiled into an electronic booklet.

Entry forms for the 2018 Build a Better Mousetrap Competition may be downloaded at **www.ltap.state.pa.us**; click on "News Items." Complete the entry form and return it by March 9 to PennDOT-LTAP, c/o PSATS, 4855 Woodland Drive, Enola, PA 17025 or email it to **katkinson@psats.org**. For more information, call Karen Atkinson at PSATS at (717) 763-0930, ext. 156.

Need ideas for what to enter?

Check out these innovative winning entries from the last couple years:

This salt shed entrance curtain keeps rain from getting inside a salt shed and contaminating stormwater runoff. *Whitehall Township, Lehigh County, 2017 First Place Winner*

This system of heavy-duty shelving with a sliding mechanism makes it easier to store a tailgate spreader and install it onto a truck without having to put it down and lift it again. *South Manheim Township, Schuylkill County, 2017 Runner-up*

This lift assist makes it easier to mount heavy wheels onto equipment. *Horsham Township, Montgomery County, 2017 Runner-up*

This high-pressure undercarriage sprayer removes corrosive salt and residue from the underside of trucks and equipment. *Swatara Township, Dauphin County, 2016 First Place Winner*

This road ditch cleaner can blow a ditch clean of leaves and debris without removing the beneficial vegetation that holds soil in place. *Armstrong Conservation District, 2016 Runner-up*