pennsylvania DEPARTMENT OF TRANSPORTATION

PennDOT Local Technical Assistance Program

movingforward

FALL 2014

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

PennDOT's New Goal: Reduce Highway Deaths and Major Injuries by 50 Percent in Two Decades

Earlier this year, the Pennsylvania Department of Transportation (PennDOT) reported that 2013 saw the lowest number of highway deaths on record



PennDOT's goal is to reduce the average number of fatalities and major injuries by 50 percent over the next two decades.

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since recordkeeping began in 1928. While this is great news, PennDOT believes these numbers can go even lower. The department recently announced a goal to reduce the average number of fatalities and major injuries by 50 percent over the next two decades.

"The year 2013 represented great safety

improvements," says Gary Modi, chief of Highway Safety, Risk Management and Crash Data Analysis in PennDOT's Bureau of Maintenance and Operations. "But we still lost more than 1,200 lives, including 182 on local roads. We have to ask ourselves, how do we continue to improve?"

To improve highway safety, PennDOT plans to develop, improve, and implement a variety of education, enforcement, engineering, and emergency medical service strategies.

Paying for Safety Improvements

Pennsylvania uses federal funding made available through the state's Highway Safety Improvement *Continued on page 5*

LTAP Seeks Safer Roads, Too

As part of its goals, LTAP also strives to make local roadways safer for motorists and pedestrians. Two of the most visible programs for doing this are the Local Safe Roads Communities Program and the Walkable Communities Program in which LTAP engineers visit a community, assess problem areas, and make recommendations for solutions.

The Local Safe Roads Communities Program provides engineering recommendations for improving local road safety. To date, LTAP engineers have provided assessments and reports for 86 communities. The Walkable Communities Program provides engineering recommendations for improving pedestrian mobility and safety. To date, LTAP engineers have provided assessments and reports to 36 communities.

The reports from both these community programs can be used to qualify for Automated Red Light Enforcement Program grants available through PennDOT.

To find out more about these programs and how your community can benefit from them, contact LTAP at ltap@pa.gov or 1-800-367-5827.

Salt Brine for Winter Services

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

State and local governments across America continue to face shrinking budgets and rising prices along with the need to provide higher levels of service as they battle dangerous winter road conditions. Traditionally, these service providers have used plowing combined with materials, such as rock salt, anti-skid, and other abrasives, to clear the roadways and provide traction during winter storms.

Many states and industries alike have performed research on the use of a wide variety of chemicals and materials to achieve improved deicing results. The most commonly used chemical across the



Brine maker

Snowbelt states is rock salt. This is primarily due to its availability, melting ability, cost, and ease of storage and handling. Rock salt has many advantages as an effective winter material in both the solid form and as a liquid brine.

Over the past 20 years, there has been growing acceptance of using salt

brine for prewetting solid materials, deicing accumulated snow and ice, and providing anti-icing treatments before a winter storm begins. For these purposes, rock salt is blended with water to achieve a 23.3 percent brine solution. In other words, the brine is blended at a rate of 2.33 pounds of salt per gallon of water. The brine solution is easily manufactured using commercially available brine-making systems. These systems, which vary in size, cost, and capacity, economically

produce salt brine when blended by trained road crews. Once processed, salt brine can be transferred to storage tanks or pumped into a tank-mounted truck equipped to perform antiicing or deicing operations.

The same rock salt that is used for road applications can be processed into brine; as an option, solar salt can also be used. The advantage of using solar salt is that it is 100 percent pure, whereby rock salt specifications require a minimum 95 percent purity. This means that up to 5 percent mineral residue from the rock salt will remain settled at the bottom of the brine maker. This mineral residue must be periodically removed from the brine maker so that it continues processing salt brine.

Phase Diagram for Salt



Prewetting

The most common use of salt brine entails prewetting rock salt as it is spread onto snow-covered roadways. Prewetting is the addition of a liquid chemical to winter materials prior to spreading the materials onto the road surface. The benefits of prewetting include the following: less scatter and loss of salt from the road surface due to bounce; faster and more effective melting capacity for the salt; and reduced amounts of salt used, resulting in lower costs and less impact on the environment due to chloride runoff.

Typically, 20 to 30 percent of dry rock salt bounces off the road surface before it begins to melt snow and ice. Prewetting makes the salt crystals stick to the pavement, thus reducing scatter and providing a more uniform application with less waste. Since rock salt is a solid

chemical, it needs to accumulate moisture to form a brine solution before it begins to melt snow and ice. By providing that "prewet" jumpstart, the salt begins to melt immediately due to more brine being present.



Through use of a spray bar, salt can be wetted after a load is on a truck.

Other advantages for

using salt combined with prewetting include decreased manpower costs since the time to control snow and ice back to dry pavement conditions is reduced. A second advantage would be increased driving speeds because more salt sticks to the road. Finally, using prewetted salt alone greatly reduces cleanup costs of residual antiskid materials in the spring. All of these factors relate to a more efficient operation, a higher level of safety for the motorist, and a more environmental friendly approach to providing winter services in Pennsylvania.

> Several options exist for prewetting salt either by the load or directly at the spinner. Dump trucks or V-boxes can be retrofitted with on-board storage tanks, which are typically mounted on the tailgate or in saddle tanks fitted between the truck sides and the V-box. For prewetting purposes, the tanks should be sized to prewet the entire load of rock salt. Typically, the on-board tanks hold approximately 120 to 180 gallons of salt brine.

> The brine is then metered to prewet the salt at the spinner as the operator is spreading. If on-board prewet equipment is not available, the brine can be applied to the loader bucket as the truck is loaded or to the entire load after it is on the truck. Wetting the load can be

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Prewetting the rock salt makes the salt crystals stick to the pavement, thus reducing scatter and providing a more uniform application with less waste.

done by a hose or a spray bar. For an effective prewetting operation, the amount of brine needed varies between 6 to 12 gallons per ton of dry salt.

Pennsylvania, where most of our winter storms occur at or above 20° F, is a good match for the effective temperature range for rock salt and salt brine. Although rock salt can melt snow and ice down to -6° F, more material is required when the temperatures drop below 20° F. Refer to the "Phase Diagram for Salt" on previous page as a guide for the concentration of salt in the brine solution.

Basically, once the salt brine is diluted to less than 23.3 percent, it has a declining effect with the drop in temperature. More has to be applied to achieve the same effect. Although salt brine can be stored in tanks over the summer months, it should be recirculated on a regular schedule.

Anti-icing

Another use of salt brine to improve the efficiency and effectiveness of winter services is to treat the roadway with an application before a storm begins. From a conventional perspective, we tend to react to the storm with plowing and the addition of chemicals and abrasives after the storm arrives — a reactive approach called deicing.

Anti-icing is the process of applying a liquid chemical to the roadway surface before precipitation begins to prevent the formation



or development of bonded snow and ice to the pavement surface. This proactive approach can be performed when precipitation is expected to begin in the next two to 48 hours. The effectiveness or desirable results are dependent

3,000-gallon anti-icing tank

upon applying the right amount at the right time and under the right weather conditions. Research has shown that timely applications of anti-icing brine can cut the cost of maintaining a safe road surface by up to 90 percent.

As shown on the Phase Diagram, salt brine is only effective at certain concentration rates when compared to the ambient air temperature. As the brine becomes diluted, it is more likely that the pavement surface will refreeze. For this reason, careful consideration must be given to the approaching weather conditions.

Anti-icing with salt brine is most effective when the air temperature is 25° F and higher. Salt brine may be applied as low as 15° F as long as air temperatures are predicted to rise rapidly. Avoid anti-icing below 15° F because the first snow can cause bonding to the pavement surface.

Another element to take into consideration is whether the pavement is wet or dry. If the pavement is dry under these temperature conditions.

anti-icing will be effective; however, if the pavement is wet, the brine will become diluted rapidly and a refreeze is likely. Do not anti-ice if the pavement is wet.

For an effective

anti-icing



Tandem-axle dump truck retrofitted with 1,000-gallon insert

application, the rate of brine application should be between 45 and 64 gallons per lane mile. Truck speed should be limited to 40 to 50 miles per hour. Streamer or pencil nozzles can be used on the spray bar.

The many advantages to using anti-icing include that the road surface returns to normal much quicker after the storm, making it easier for snow fighters to maintain a safe roadway as the storm progresses. At the recommended application rates, the brine sticks to the road surface where it is needed, which provides the initial melting action. Once melting has started, additional applications of rock salt will activate more quickly with the need for less material overall.

If the storm is delayed, the salt residue remains on the road surface and will be present when the storm does arrive. Since the time of application is before the storm arrival, pretreatments can be performed during normal shifts rather than as emergency operations.

Increased efficiency results in less manpower and material consumption, which result in lower costs and less impact on the environment from excessive use of chlorides and abrasives.

Reference

The Salt Institute provides significant information on safe and sustainable snow fighting in its *Snowfighter's Handbook*. The handbook features guidance on a wide range of snow-fighting



practices, including training guidelines, materials, equipment, best practices, planning, and operations. The handbook is available online at saltinstitute.org.

Planning Partner Perspective

Traffic Sign Workshops Prove Highly Successful

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by Steve Herman, Transportation Planner, SEDA-COG



Steve Herman is the newest member of the LTAP Advisory Committee where he represents metropolitan planning organizations and rural planning organizations (MPOs/RPOs). As a transportation planner and the LTAP coordinator for the SEDA-COG planning region, he markets and administers LTAP activities for nine counties in central Pennsylvania. With this issue, he provides a PennDOT planning partner perspective as a regular feature for the Moving Forward newsletter.

With my first article contribution, I would like to highlight the successes of recent Traffic Sign Assessment and Inventory workshops. These 1.5-hour workshops are typically held as part of PSATS' Annual Educational Conference & Trade Show in Hershey, but this year they were extended to other parts of the state throughout the spring and summer.

During my involvement in the May 8 workshop in Montour County, it was clear that attendees appreciated the content and format of the workshops. Patrick Wright of Pennoni Associates first provided students with background on sign inventory management (SIM) worksheets, which are available for free through LTAP, and then covered key traffic sign retroreflectivity compliance points from the Manual on Uniform Traffic Control Devices. Following the brief classroom introduction and after answering some municipal questions, Patrick led participants on a field demonstration by walking along nearby streets to discuss proper sign placement and usage in accordance with federal and state requirements. Attendees learned how to complete the SIM field inventory worksheet, noted problematic sign applications along the walking routes, asked technical questions about other trafficcontrol devices, and shared examples of existing issues in their own municipalities.

The many positive comments from participants emphasized the value of these Traffic Sign Assessment and Inventory workshops for efficiently satisfying municipal needs for sign information and best practices. Knowing other areas of the state would also benefit from this information, LTAP is offering a Traffic Sign Assessment and Inventory webinar this fall to help more municipalities understand the requirements. Your municipality can also request a tech assist on sign inventory management (SIM) by contacting LTAP.

Traffic Sign Assessment and Inventory Webinar Monday, October 20

9 a.m. and 1 p.m.

Go to the "News" on the LTAP website homepage for the link to register for the webinar.

Antrim Township in Franklin County, which had several crashes over the last several years at a

particular curve along Shanks Church Road, reached out to LTAP for a tech assist. After making a site visit, LTAP engineers suggested the township add warning signs with accurate advisory

speeds, a large arrow, and curve warning pavement markings in advance of the curve. Since

LTAP SUCCESS STORY Before & After





following the recommendations, the township reports no crashes have occurred to date at the site.

Want to make your streets safer?

Schedule a FREE Tech Assist with LTAP today!

CRASH SCENE

BEFORE

AFTER

Upcoming 2014 Classes

Asphalt Roads

September 18, Crawford County October 3, Cumberland County

Drainage

October 2, Venango County October 28, Lycoming County December 12, Cumberland County

Engineering & Traffic Studies

October 22, Huntingdon County December 9, Northumberland County

Full Depth Reclamation October 31, Cumberland County

Intersections October 23, Union County

Liquid Bituminous Seal Coat October 9, Warren County

Managing Utility Cuts October 17, Cumberland County December 9, Lancaster County

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.

Pavement Markings

November 13, Northumberland County December 4, Lycoming County

Posting & Bonding September 18, Lycoming County

Risk Management Strategies October 28, Luzerne County

Roadside Vegetation Control September 19, Blair County

Safe Driver

October 16, Montgomery County November 20, Monroe County December 9, York County

Traffic Calming October 2, Montgomery County October 7, Adams County

Traffic Safety Development Plan September 24, Cumberland County November 6, Lycoming County

Traffic Signs September 25, Somerset County October 7, Mercer County

Warm Mix Asphalt October 16, Crawford County

Winter Maintenance

September 18, Montgomery County September 23, Carbon County October 7, Centre County October 7, York County October 8, Lycoming County October 22, Lancaster County October 30, Mercer County November 12, Adams County

Congratulations to the following Roads Scholar recipients:

- Greg Clayton, Wolf Township, Lycoming County
- Mike Condo, Antrim Township, Franklin County
- Jason Crawford, Woodcock Township, Crawford County
- Edward Culp, West Whiteland Township, Chester County
- Justin Cwynar, Potter Township, Beaver County
- Anthony Demarzio, Upper Merion Township, Montgomery County
- Travis Eppley, Elizabethtown Borough, Lancaster County
- Charles Hill, Upper Leacock Township, Lancaster County
- Curtis MacBeth, Franklin Township, Adams County

PennDOT's New Goal continued from page 1

Program to pay for safety improvement projects with priority given to high-crash locations. The funding is dispersed primarily by a formula through planning organizations across the state. In fiscal year 2013, \$47 million was distributed; in fiscal year 2014, \$57 million was distributed.

To add projects to the state's Transportation Improvement Program (TIP) lists, PennDOT is looking for projects that have high benefitcost ratios and employ system-wide, proven, low-cost improvements.

- Andrew Moletzsky, Upper Merion Township, Montgomery County
- Dave Parthemore, North Newton Township, Cumberland County
- Benjamin Popelik, Upper Merion Township, Montgomery County
- Jephrey Rebert, City of York, York County
- Robert Rissler, Upper Leacock Township, Lancaster County
- Jeffery Schuchart, Penn Township, York County
- Sterling Shuyler Jr., Carroll Valley Borough, Adams County
- David Tashner Sr., Moore Township, Northampton County
- John Williams, Elizabethtown Borough, Lancaster County

Encouraging a Regionalized Approach

Currently, there is no procedure or system in place for using safety funds on regionalized local road projects. PennDOT hopes to change that by encouraging improvements from multiple jurisdictions within a region be grouped together into a single project.

To meet that end, PennDOT plans to propose a new initiative to the State Transportation Innovation Council (STIC) in October to establish a clear process for implementing regionalized local road projects. If approved, a pilot project will soon follow.

For more information on STIC, see the article on page 6 or visit www.moderndot.pa.gov. 🐔

LTAP introduces a new course: Traffic Safety Development Plan

Looking for training to help improve traffic safety in your community? Then, check out LTAP's new course, Traffic Safety Development Plan.

This course will help participants understand how to develop a safety program for roads and intersections in their community and will provide the tools necessary to begin such a process. It will present methods to identify safety problem areas and countermeasures for common safety issues.

The following steps for developing a traffic safety plan will be reviewed in depth:

- 1) Gather data,
- 2) Identify hazardous locations,
- 3) Conduct road safety studies,
- 4) Develop potential countermeasures,
- 5) Implement safety improvements, and
- 6) Evaluate safety improvements.

The course will go through the development steps and provide real-world case studies where improvements were made. It will provide many examples of countermeasures designed to increase safety for those using the roadways. **Note:** This course was previously titled the Roadway Safety Improvement Program. The course has been updated with the addition of many examples demonstrating countermeasures and showing real-world case studies.

To schedule a course near you, contact LTAP at 1-800-FOR-LTAP (367-5827) or ltap@state.pa.us.



The SLOW curve pavement marking is an example of a roadway safety improvement.

STIC Update



STIC Wins Innovation of the Year Award

Since 2011, Pennsylvania's State Transportation Innovation Council (STIC) has been studying and implementing initiatives that save time and money, improve traffic safety, and enhance transportation services. This summer, the overall success of Pennsylvania's STIC was recognized at the Governor's Second Annual Innovation Expo.

Following a state-agency competition, PennDOT received the Governor's Innovation of the Year Award for a presentation delivered by Renee Sigel, STIC co-chair, FHWA; Barry Schoch, STIC co-chair, PennDOT; Barry Hoffman, STIC member, American Society of Highway Engineers; and Michael Bonini, STIC manager, PennDOT. The presenters emphasized the national recognition of Pennsylvania's STIC and mentioned its accomplishments as well as goals to be better stewards of taxpayer dollars.

In 2010, the Federal Highway Administration (FHWA) introduced the State Transportation Innovation Council (STIC) concept to state transportation departments to implement proven ideas, techniques and processes quickly and proficiently. In 2011, PennDOT and FHWA formed Pennsylvania's STIC, which is a unique forum that blends together the expertise and experience of various stakeholders who reflect the diversity of the state's transportation industry.

Over the last three years, Pennsylvania's STIC has accepted nearly 25 initiatives designed to improve traffic safety and enhance transportation services. For example, the Geosynthetic Reinforced Soil Integrated Bridge System (GRS-IBS) uses alternating layers of geotextile and compacted stone to create bridge superstructure units, which are combined with beams and a deck. A GRS-IBS can be built more quickly, at a 25 to 60 percent lower cost and in an environmentally friendly manner. GRS-IBS is a great solution to address either structurally deficient bridges on low-volume roadways or over low-velocity streams.



Accepting the award with contest judge Mike Gossert of M&T Bank (far left) are (left to right) Bob Snyder, PennDOT; Jennifer Horn, McCormick Taylor; Michael Bonini, PennDOT; Kenita Honesty, PennDOT; Brian Walter, PennDOT; Joe Deklinski, Governor's Office of Innovation; Kelly Powell Logan, Governor's Office of Administration; and Nolan Ritchie, PennDOT.

State Transportation Innovation Council (STIC) (717) 772-4664 ra-pdpenndotstic@pa.gov www.moderndot.pa.gov

PennDOT Publication Updates

A summary of recent updates made to PennDOT Publications 213, 221, 447, and 9

Temporary Traffic Control Guidelines – Publication 213

The June 2014 version of Publication 213 has been uploaded to the LTAP website.

The beginning of the publication contains a link to the changes regarding temporary traffic control, including changes that affect municipalities.

The new Publication 213 represents more than a year of changes to streamline and update the guidelines to be more in line with the recent federally adopted Manual for Uniform Traffic Control Devices (MUTCD). Publication 213 takes precedence over information found within the MUTCD.

Among the many changes to the publication, workers, flaggers, visitors, and others present in an official capacity at a work site must wear a hard hat and high-visibility ANSI Class 2 or 3 safety garments. In addition, emergency and incident responders and law enforcement personnel within a temporary traffic control zone should wear high-visibility public safety vests labeled ANSI 207-2011.

Other changes include the following:

Stop/slow paddle – The flagger must hold the stop/slow paddle under control at all times. The paddle cannot be supported by inserting the shaft into a channelizing device, cart, or other device not listed in Publication 35, Bulletin 15, as an approved paddle support device.

Flagger location – The flagger stations have been relocated to a point typically 40 feet before the nearest channelizing device used in a taper.

Channelizing devices – The new guidelines expand on the details of channelizing devices, which are used to alert drivers of conditions created by work activities and to provide for smooth and gradual traffic movement from one lane to another. Rail stripes for Type I, II, and III barricades now identify both left and right stripe patterns. In addition, the placement of channelizing devices along a conventional highway (any highway not designated as freeway or expressway) has also changed. Devices should be placed on the same side of the double yellow line as the work space; this should reduce the impact to motorists traveling on the opposite side of the roadway.

As per Title 67, Chapter 212.402, work exempted from the requirements of Publication 213 and the MUTCD include snow and ice control, leaf pickup, street cleaning and sweeping, local deliveries involving mail, newspaper, and home fuel, and mowing operations on roads with less than 10,000 vehicles per day where equipment does not encroach on the roadways.

Questions about Publication 213 should be directed to Matthew Briggs at mabriggs@pa.gov or (717) 783-6268.

Posting and Bonding for Local Roadways – Publication 221

The June 2014 version of Publication 221 has been uploaded to the LTAP website. In the latest version, an outdated model excess maintenance agreement was removed and substituted with a sample of the first page of the new PennDOT-approved agreement. A link to the full agreement is provided.

The latest publication reflects changes resulting from Act 89 of

Workers, flaggers, visitors, and others present in an official capacity at a work site must wear a hard hat and high-visibility ANSI Class 2 or 3 safety garments.

2013, last year's transportation funding bill. Changes to the Vehicle Code clarify which hauling activities are exempted or are required to enter into an excess maintenance agreement and provide security to obtain a permit to exceed a posted weight limit. Under Act 89, traffic to and from sites where minerals, natural gas, and natural resources are developed, harvested, or extracted are not exempted from posting and bonding regulations, unless the local traffic is to and from permanent forest product mills or permanent coal reprocessing or preparation plants.

The bureau continues to update Publication 221 to be in concert with the department's Publication 23, Chapter 15, Posting & Bonding requirements. Publication 221 streamlines the information that local governments need to know about posting and bonding without burdening the reader with all the department processes and nomenclature found in Publication 23.

As updates are made, the newest version of Publication 221 is shared with LTAP instructors so that the LTAP Posting & Bonding classes contain the most up-to-date information.

Questions about posting and bonding should be directed to Dave Mallin at damallin@pa.gov or (717) 787-3090.

Approved Products for Lower Volume Local Roads – Publication 447

The April 2014 version of Publication 447, which contains a listing of approved products or processes that meet the Bureau of Municipal Services' specification requirements and are eligible for Liquid Fuels Funds for use on municipal maintenance and construction projects, has been updated and placed on the Department of Transportation website.

The newest added specification is for the geosynthetic reinforced soil-integrated bridge system (GRS-IBS). Also updated is the specification for Driving Surface Aggregate and FB 3 Wearing Course. In addition, a wooden-timber bridge, municipal anti-skids (ash from coal-burning plants), and a new product, DustClearG by COLAS, have been approved and will be added to Publication 447 in late 2014.

The Bureau of Municipal Services is responsible for adding newly approved products for use on lower volume, local roads to the publication. So that Pub 447 products continue to be suitable for local governments' use, the bureau contracts with the Pennsylvania State University to review the existing products in the publication to ensure the specifications are updated and appropriate for use. Penn State also tests potential new products through its team of subject matter experts so the products that appear in the publication have been fully evaluated for local governments' uses and comply with Publication 447.

PennDOT Publication Updates continued from page 7

Although Publication 447 provides municipalities with a listing of products that are eligible for Liquid Fuels Funds, by no means are these the only products available to municipalities. Products or processes listed in other PennDOT Publications (Publication 408 and Bulletin 15, for example) may be eligible as well. If you have any questions about approved products or processes available to municipalities, please contact your local PennDOT municipal services representative.

Please note that PennDOT will no longer print Publication 447 and make it available to municipalities. By providing access to an electronic version of the publication instead, PennDOT will be able to make approved changes easier.

The online publication can be accessed at ftp://ftp.dot.state.pa.us/ public/PubsForms/Publications/PUB%20447.pdf. Questions about Publication 447 should be directed to Tom Welker at twelker@pa.gov or 717-783-3721.

Policies and Procedures for the Administration of the County Liquid Fuels Tax Act of 1931 and Act 44 of 2007 and the Liquid Fuels Tax Act 655, dated 1956 and as amended – Publication 9

Sometimes referred to as the "do's and don'ts of Liquid Fuels," Publication 9 is undergoing revisions and is expected to be completed by December 2014. The latest version is available on the department's website; it was updated with the newest prevailing wage information from the passage of Act 89.

The streamlined processes, additional Act 89 language changes, and other information to be updated in late 2014 will help local governments continue to use this publication to answer questions about the use of liquid fuels.

Questions about Publication 9 should be directed to Kristen Sims at ksims@pa.gov or (717) 214-6161.

Meet the LTAP Advisory Committee

The PennDOT LTAP Advisory Committee is comprised of an appointed group of 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:

- Paul O. Wentzler, Chair; Muncy Township, Lycoming County, muncytwp@comcast.net
- Donald G. Sirianni Jr., Springfield Township, Montgomery County, dsirianni@springfieldmontco.org
- Larry Bowers, Gaskill Township, Jefferson County, ljdabowers@yahoo.com
- Glenn A. Coakley, Patton Township, Centre County, gcoakley@twp.patton.pa.us
- David E. Dodson Jr., Borough of Ebensburg, Cambria County, ddodson@ebensburgpa.com
- **Steve Herman**, MPO/RPO Representative, SEDA-COG, Union County, sherman@seda-cog.org
- Mark T. Hoke, East Stroudburg Borough, Monroe County, esbmaint@frontier.com
- Jeffrey K. Kinsey, Elizabethtown Borough, Lancaster County, publicworks@etownonline.com
- Douglas A. Roth, Penn Township, Butler County, droth@penntownship.org
- Daniel Strausser, Wellsboro Borough, Tioga County, wellsboromanager@frontier.com
- David A. Williams, Ross Township, Luzerne County, dawills@epix.net

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

You can also direct them to the electronic version available at www.ltap.state.pa.us.



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