



# moving FORWARD

SUMMER 2011

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

## As Marcellus shale industry moves into state, PennDOT Remains Committed to Protecting Infrastructure

by Steven Koser P.E., PennDOT Bureau of Maintenance and Operations

As the Marcellus shale industry expands across Pennsylvania, PennDOT remains committed to protecting roads from damage caused by increased truck traffic.

Pennsylvania's rich natural gas reserves coupled with recent advancements in drilling technology have resulted in a rapid expansion of the Marcellus shale industry across Pennsylvania. Between 2009 and 2010, the number of Marcellus wells drilled in Pennsylvania increased from 768 to 1,386, an 80-percent increase. With this increase in the industry, PennDOT is committed to remaining an active partner in maintaining Pennsylvania's infrastructure.

Marcellus shale is a black shale formation located primarily in Pennsylvania, Ohio, West Virginia, and New York.

Site well development involves several stages, including pad construction, drilling activities, and hydraulic fracturing or "fracking" operations. A typical pad contains four to six wells and on average, approximately 1,400 heavy trucks are anticipated to serve each well. The large influx of heavy vehicles over short durations can reduce the life cycle for roads and bridges.

PennDOT has made it its mission to not allow the existing conditions of the state's roadways and bridges to deteriorate from these heavy hauling activities. To protect the roadways from heavy vehicle damage, more secondary roads are posted to a specific weight (tonnage) limit based on the results of a traffic and engineering study. Users wishing to operate vehicles in excess of the posted weight limit are required to sign an excess maintenance agreement and provide surety or bond the road.

Approximately 4,000 miles of roads were posted in the last three years, and approximately 2,544 miles are bonded by the Marcellus shale industry. As part of the excess maintenance agreement, the road conditions are documented weekly, and necessary road improvements are completed by the Marcellus industry.

Before the arrival of the 2010-11 winter season, PennDOT worked diligently with the industry to complete roadway repairs. Hundreds of repairs and roadway upgrades were completed last summer and fall to fix previous damage and to prepare the roads for the upcoming winter when roads are more vulnerable due to the freeze/thaw cycle and the limited availability of materials to complete repairs. In addition, PennDOT informed the industry that



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# Safe Routes to School

## Municipalities join schools in creating safer pedestrian routes

by Amy Bobb, Pennsylvania State Association of Township Supervisors

As municipalities look for ways to tighten their belts in today's tough economic climate, a federally funded initiative that local road departments should be aware of is the Safe Routes to School program, part of a nationwide push to make walking and bicycling to school a safe and routine activity for children.

In Pennsylvania, the Department of Transportation distributes Safe Routes to School funding for a wide variety of community activities and projects, from building safer street crossings to promoting activities that enable and encourage children to walk or bicycle to school. The Safe Routes to School program offers opportunities for road crews to work with municipal and school officials to find low-cost, high-impact ways to improve pedestrian safety, reduce traffic congestion, and expand the local infrastructure, all while encouraging children to become more active.

"The Safe Routes program fits into today's tougher economic environment by providing low-cost alternatives that ultimately expand healthy and sustainable transportation options for an entire community," says Chris Metka, the state's Safe Routes to School coordinator.

### Municipalities and Safe Routes to School

Safe walking and bicycling routes benefit all residents, Metka says, especially when schools and municipalities team up to address infrastructure needs.

"I see great potential for participation and cooperation with this project," he says. "Our goal is to forge a bond between schools and municipalities that results in the creation of accessible and sustainable pedestrian and bicycle routes. A school with a walk to school policy, for example, will find its efforts more effective if it coordinates with the municipality to address crosswalks, sidewalks, and road striping.

"Likewise, municipalities will recognize that schools are experts in student needs and transportation, including walking, bicycling, parent pickup and drop-off, and busing, all of which influence land development, transportation route use, and traffic congestion," he continues. "That's why these issues should be an essential part of a greater local planning effort led by the municipality."

In Beaver County, Center Township was a logical partner to join Central Valley School District in its Safe Routes to School efforts. The township building and a township park

are located across the street from the district's elementary school and border the area's unofficial educational complex, which includes another elementary school, the high school, the intermediate unit, and Beaver County Community College.

In 2009, PennDOT awarded Center Township \$967,309 in Safe Routes to School infrastructure money to construct sidewalks along two priority streets that would help to connect the elementary school with other areas of the educational campus and the surrounding neighborhoods.

It makes absolute sense for municipalities to be involved in school infrastructure projects, says Frank Vescio, development coordinator for Center Township.

"Schools understand the need to keep all students safe," he says. "But schools do not usually know the construction end of things as well. Every day our township deals with engineers and developers, and we have a good concept of what is required to make sure a construction project like this is successful."

Center Township officials believes participation in the infrastructure proposal is a win-win-win for the township, the school district, and ultimately the residents.

"All municipalities should have a good working relationship with their school district," Vescio says. "It improves the quality of life for all residents. The trails and sidewalks that will be developed from this joint project will benefit the entire community."



Safe walking and bicycling routes benefit all residents, especially when schools and municipalities team up to address infrastructure needs. Photo courtesy of National Center for Safe Routes to School.



*Students and parents walk to school in Tredyffrin Township, Chester County, along a stretch of road without sidewalks. A walkability audit conducted last year through the SRTS program identified ways to make routes to school safer for pedestrians and bicyclists. Photo by Pennoni Associates Inc.*

### Walkability audits: First step toward safer routes

During uncertain economic times, it becomes even more critical that municipalities do upfront planning and preparation before going after scarce state and federal funds or making decisions about how to stretch their own limited dollars.

The Safe Routes to School program in Pennsylvania can help by providing walkability audits, a useful planning tool that municipalities can build upon to create safe pedestrian and bicycle routes around schools. The Pennsylvania Safe Routes to School Resource Center, which is administered by the Pennsylvania State Association of Township Supervisors (PSATS) under contractual agreement to PennDOT, offers a limited number of free walkability audits to schools. These assessments of walking and bicycling routes identify barriers that may hinder safe walking, and a final report from the audit provides recommendations for improvements.

For starters, these audits are an important first step to take before applying for funding available through PennDOT. Metka, who is on the committee that reviews applications for Safe Routes infrastructure funds, says that participation in a walkability audit shows the applicant's commitment to finding practical solutions for addressing barriers to walking and bicycling in a community.

"An audit tells me that the applicant has done its homework and has conducted background research to back up its request for the funding," he says. "It shows they have brought in engineers and a multidisciplinary team from the community to look at their situation and make recommendations. It means they have reached out to the right people to get the job done right."

Having a walkability audit conducted in and around schools provides ideas on how to improve their routes and make them more inviting for children to walk and bike to school, says Mark Hood, an engineer for Pennoni Associates, Inc., who has conducted Safe Routes to School walkability audits in dozens of communities in the past few years.

By participating in the audit with their school, municipalities can explore a variety of solutions for improving pedestrian and bicycling routes.

"When budgets are tight," Hood says, "municipalities can take advantage of this free technical help to get a handle on some low-cost, high-value infrastructure improvements they can easily implement."

Last June, Hood led a two-day walkability audit at Hillside Elementary School in Tredyffrin Township, Chester County, with about 20 participating stakeholders, including parents and township and school representatives.

Walking the routes to identify problem areas was an eye-opening experience, says Stephen Burgo, Tredyffrin Township's engineer, who participated in the audit. The stakeholders group was divided into three teams, each of which traversed a different route to the school and identified challenges that may hinder safe walking, from gaps in sidewalks to low-hanging vegetation.

"We looked at connectivity between neighborhoods and the school," Burgo says. "We observed crossing guards and talked to them about problems that they see. Some really good issues came up."

When the group reconvened, they were armed with photographs and notes about what they saw and experienced. The end result was

## Marcellus Shale

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*Black shale outcrop*

it would not allow deterioration of roads below current conditions and it would suspend permits if a road is damaged and not repaired in a timely manner.

PennDOT's priority is to maintain a safe transportation network that is dependable and continues to meet the needs of all users. Through collaborative efforts with the Marcellus shale industry combined with planning for future areas of growth, PennDOT is confident that the commonwealth can continue

to experience the economic benefits of the industry without compromising the integrity of the state's infrastructure. ♦



*A well site location (top) and water storage (bottom) as part of a Marcellus shale operation in Pennsylvania.*

## Mousetrap Contest Winner



Richland Township, Allegheny County, was the 2011 winner of PennDOT's Build a Better Mousetrap competition seeking innovative gadgets and improved transportation. For a cost of \$350 in materials and labor, Richland Township created its own curbing attachment and fashioned it to form a wedge curb that would match the township's other asphalt curbs. The device is attached to the township's skid steer. The result is nicely shaped and straight curbs for the fraction of the cost and materials. Receiving the award at the convention of the Allegheny County Association of Townships are (left to right) township supervisors George (Skip) Allen, Herb Dankmyer, and Mike Dennehy Jr. and Richland Township manager Dean Bastianini.

## Safe Routes

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a final report, prepared by Pennoni, which identified problems and recommended varying levels of solutions, from low-cost simple fixes, such as alerting property owners to trim bushes and trees, to major infrastructure improvements, such as constructing sidewalks or improving sight visibility along a roadway.

Although Tredyffrin Township has no immediate plans to implement any of the major improvements recommended in the report, Burgo recognizes the value the audit report will have as a future planning tool should the township ever move forward with a sidewalk project.

"The audit was an excellent way for the township and the school district to join forces and effort and figure out how to make the community's walking routes as safe as possible," he says.

For more information about the Safe Routes to School program, visit [www.saferoutespa.org](http://www.saferoutespa.org) or call PSATS at 717-763-0930. ♦

# LTAP Introduces New Courses, Updates Others to Better Meet Participants' Needs

Pavement markings and the Americans with Disabilities Act are the focus of two new training courses now available from LTAP. Two other existing courses, Risk Management Strategies and Stormwater Management, have been updated with information more applicable to municipal public works employees.

These new and updated courses help to further round out the full lineup of LTAP training courses targeting more than 25 various road maintenance and safety-related topics applicable to municipalities and their road crews.

“For nearly 30 years, LTAP has been providing road-related training and technical assistance to Pennsylvania’s municipalities,” says Louis Ferretti, PennDOT’s LTAP program manager. “By continually updating and expanding the training offerings, LTAP is helping to ensure that municipal officials and road crews are kept up-to-date on and familiar with trends, regulations, and programs affecting their roadways.”



A new LTAP course teaches how to apply the Americans with Disabilities Act to local roadway maintenance and operations.

## New Courses: Pavement Markings and ADA

***Pavement Markings: Applications and Maintenance.*** The consistent application and maintenance of pavement markings are paramount to motorists’ safety. This four-hour course covers all aspects of pavement markings from their purpose and application to their installation and maintenance on roadways.

***Americans with Disabilities Act: Requirements for Municipal Transportation Facilities.*** The Americans with Disabilities Act (ADA) prohibits discrimination based upon disability, including barriers to access of public accommodations. Under the ADA, all new construction must meet the ADA guidelines. This four-hour course teaches attendees how to apply the specific requirements of the law to local roadway maintenance and operations.

## Updated Courses: Risk Management Strategies and Stormwater Management

Based on survey and verbal feedback about existing training, LTAP has refocused the curriculum of two existing courses to better target the needs of the audience in attendance, whether it’s roadmasters and road crews or municipal officials.

***Risk Management Strategies for Roadmasters and Road Crews.*** This course takes a more narrow approach to risk management strategies from the point of view of roadmasters and work crews and

how they can reduce liability risk while building a safer municipal roadway system. The overarching theme of this four-hour course is that liability risk is best reduced by making roadways as safe as possible. Attendees develop an understanding of liability and learn strategies for mitigating the risk and improving roadway safety.

***Stormwater Management.*** This course provides an overview of the storm runoff process, discusses regulatory requirements, identifies elements of sustainable stormwater management systems, and provides details on operation and maintenance of stormwater facilities.

But to better meet the differing needs of two separate audience targets, the course has been divided into two sessions, one focused on municipal operations and maintenance staff and the other more applicable to municipal officials. Dividing the material into more focused content for a narrower audience also reduces the time of the course, which in turn allows for more flexible scheduling.

Although there is some overlap of material in both versions, the option targeting operations and maintenance staff, **Stormwater Facilities Operations and Maintenance**, includes more detailed information on the operation and function of individual stormwater best management practices. This course is four hours long. The other version, **Stormwater Management for Municipal Officials and Other Decision Makers**, covers updated regulatory information more thoroughly but is shorter in length at approximately two and a half hours.

## Scheduling the Courses

As with all LTAP training, these courses are offered for free and are eligible for Roads Scholar credit. To attend or schedule one of these new sessions or any other course in the LTAP training menu, do one of the following:

**Check out already scheduled courses** – Visit [www.ltap.state.pa.us](http://www.ltap.state.pa.us) to see a schedule of upcoming courses to be held at locations throughout Pennsylvania. You can also view a list of upcoming training sessions on the back page of this newsletter.

**Schedule a course in your area** – If you have a minimum of 10 people who will attend the training, you may schedule a course at your specific facility. You can make this request through the LTAP website, by email at [ltap@state.pa.us](mailto:ltap@state.pa.us), or by phone at 1-800-FOR-LTAP (367-5827). ♦

Looking for free, expert transportation-related advice?

# Ask for an LTAP Tech Assist

Did you know that LTAP offers the individualized services of technical experts at no charge to your municipality?

LTAP Tech Assists, which provide one-on-one expert assistance with maintenance and safety issues, are just one more way that LTAP strives to improve local roads. If your municipality has a specific transportation-related issue that it would like to see improved, then consider calling LTAP and asking for a tech assist. Since 1983, LTAP technical experts have been visiting municipalities and providing the personal guidance municipalities need to confidently handle such issues as posting of traffic signs, operation of traffic signals, intersection improvements, traffic data collection, calibration and repair of road equipment, and dust control on unpaved roads.

When Upper Chichester Township in Delaware County wanted to solve a traffic-flow problem in its community, township manager Judy Lizza knew just who to call: LTAP.

“We had been using LTAP to provide training to our highway workers,” she says, “so we had a relationship with the instructors and we were confident that they could help.”

The township faced an issue with traffic from state roads cutting through an older established neighborhood. The LTAP representative visited Upper Chichester, looked at the problem, and listened to the solutions that the township was proposing.

“He did a survey of the residents affected by this traffic,” Lizza says. “And then he looked at what we were proposing as well as other options that we may not have thought of. He took the time to study the geometry of the situation and really understand the issue.”

The LTAP technical expert was able to confirm that the township was indeed on the right track with its proposed solution to close off one of the roads into the neighborhood to through-traffic. “His assistance provided a good independent review of the issue and

Do tech assists work?  
**You bet.**

At **no cost** to the municipality,  
a tech assist provides  
a **quality solution**  
from a **technical expert**

confirmed to the township commissioners that we were pursuing the best option,” she says.

“Do tech assists work? You bet,” says Lizza. “At no cost to the municipality, you are able to get a quality solution from an expert. Having someone else look at the problem may result in an answer that is outside the box of what you were thinking. Bringing fresh, expert eyes to a problem is always an excellent idea.”

To schedule a tech assist in your municipality, contact LTAP at 1-800-FOR-LTAP (367-5827). You may also make a request at [www.ltap.state.pa.us](http://www.ltap.state.pa.us). Log in under your UserName (or select “Create Account” at the bottom of the screen if you are a first-time user). Select “Submit New Request” and then “Technical Assistance.” Once you complete and submit the form, LTAP will be in touch about setting up your tech assist. ♦



LTAP Tech Assists provide municipalities with free, one-on-one, technical advice on a specific transportation-related issue or problem. To schedule a tech assist for your municipality, call 1-800-FOR-LTAP. Photo by Pennoni Associates Inc.

# Upcoming Workshops

To Register:  
**PHONE: 1-800-FOR-LTAP (367-5827)**  
**WEBSITE: [www.ltap.state.pa.us](http://www.ltap.state.pa.us)**

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

**August 16, 2011**  
**Cumberland County**  
**Drainage: The Key to Roads That Last**

**August 17, 2011**  
**Delaware County**  
**Work Zone (Temporary) Traffic Control**

**August 18, 2011**  
**Tioga County**  
**Unpaved & Gravel Roads Common Maintenance Practices**

**August 25, 2011**  
**Delaware County**  
**Equipment & Worker Safety**

**August 31, 2011**  
**Chester County**  
**Equipment & Worker Safety**

**August 31, 2011**  
**Chester County**  
**Geosynthetics (RS-M05-A1)**

**September 7, 2011**  
**Cumberland County**  
**Asphalt Roads Common Maintenance Problems**

**September 7, 2011**  
**York County**  
**Risk Management Strategies**

**September 8, 2011**  
**York County**  
**Bridge Maintenance & Inspection**

**September 9, 2011**  
**Warren County**  
**Bridge Maintenance & Inspection**

**September 13, 2011**  
**Cumberland County**  
**Road Surface Management**

**September 13, 2011**  
**Bedford County**  
**Traffic Signs**

**September 14, 2011**  
**Clarion County**  
**Unpaved & Gravel Roads Common Maintenance Practices**

**September 14, 2011**  
**Westmoreland County**  
**Work Zone (Temporary) Traffic Control**

**September 15, 2011**  
**Montgomery County**  
**Project Estimating Using Mathematical Principles**

**September 22, 2011**  
**Crawford County**  
**Unpaved & Gravel Roads Common Maintenance Practices**

**September 22, 2011**  
**Lehigh County**  
**Roadside Safety Features**

**September 22, 2011**  
**Blair County**  
**Winter Maintenance**

**September 28, 2011**  
**Bradford County**  
**Winter Maintenance**

**September 29, 2011**  
**Bucks County**  
**Stormwater Facility Operation and Maintenance**

## Congratulations to the following Roads Scholar recipients:

- Charles Farley, Dover Township
- John Bean, York City
- Ed Brensinger, North Lebanon Township
- Joe Hammers, Windsor Borough
- John Klim, Muncy Creek Township
- Robert Meminger, East Berlin Borough
- Dennis O'Leary, Benner Township
- Pete Rodriguez, York City
- Pete Spitler, North Lebanon Township
- Rick Morton, Elizabethtown Borough

## PennDOT Publication Changes

**New Publication 9** – A new version of Publication 9, *Policies and Procedures for the Administration of County Liquid Fuels Tax Act of 1931 and Act 44 of 2007 and the Liquid Fuels Tax Act 655*, has been completed and posted on PennDOT's website. This April 2011 version supersedes all previous editions. The changes in this latest edition include clarification of the need for PennDOT approval for bridge work, a new chapter on the administration of county Act 44 funds, Liquid Fuels mileage additions in first class townships, and clarification on municipal boundary changes. The updated publication is available at <ftp://ftp.dot.state.pa.us/public/PubsForms/Publications/PUB%209.pdf>.

**Changes to Publication 408** – Changes have been posted to the following sections of Publication 408:

- Section 206 – Embankments: Changes to aggregate gradation and compaction
- Section 210 – Subgrade: Subgrade compaction is the same as embankment compaction
- Section 2XX – Geocell: For subgrade construction and stabilization
- Section 350 – Subbase: Compaction changes, and Class 4 Geo added to approved materials
- Section 704 – Cement concrete: Use of smaller aggregate
- Section 706 – Load-bearing concrete applications
- Section 737 – Geocell: Material specification
- Section 1001 – Curing of concrete: concrete strengths moved to section 704; specs for bounding compound overlooked the availability of nonepoxy bonding material; specs call for longer wet cure on bridge decks

## 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:

- **Ann Simonetti**, Chair; Marysville Borough, Perry County, [asimonetti@comcast.net](mailto:asimonetti@comcast.net)
- **Glenn A. Coakley**, Cochair; Patton Township, Centre County, [gcoakley@twp.patton.pa.us](mailto:gcoakley@twp.patton.pa.us)
- **Jeff Evans**, Ebensburg Borough, Cambria County, [jevans@ebensburgpa.com](mailto:jevans@ebensburgpa.com)
- **Michael H. Fleming**, Fairview Township, York County, [mike@twp.fairview.pa.us](mailto:mike@twp.fairview.pa.us)
- **Mark T. Hoke**, East Stroudsburg Borough, Monroe County, [hokie1113\\_ii@verizon.net](mailto:hokie1113_ii@verizon.net)
- **James J. McGowan**, Wilson Borough Public Works, Northampton County, [loulourules11@verizon.net](mailto:loulourules11@verizon.net)
- **Marlin D. Moore**, Coudersport Borough, Potter County, [coudyboro@zitomedia.net](mailto:coudyboro@zitomedia.net)
- **Douglas A. Roth**, Penn Township, Butler County, [droth@penntownship.org](mailto:droth@penntownship.org)
- **Donald G. Sirianni Jr.**, Springfield Township, Montgomery County, [dsirianni@springfield-township.org](mailto:dsirianni@springfield-township.org)
- **Paul O. Wentzler**, Muncy Township, Lycoming County, [muncytwp@comcast.net](mailto:muncytwp@comcast.net)

### Want Off the Mailing List?

If you do not want to receive a copy of this newsletter, please send an email to [tholtzman@psats.org](mailto:tholtzman@psats.org). The newsletter is available electronically on the LTAP website under **Public Resources and Documents**.

### LTAP Contact Information:

400 North Street, 6th Floor  
Harrisburg, PA 17120  
1-800-FOR-LTAP (367-5827)  
Fax: (717) 783-9152  
Email: [ltap@state.pa.us](mailto:ltap@state.pa.us)  
Website: [www.ltap.state.pa.us](http://www.ltap.state.pa.us)

## Reminder: Liquid Fuels Funds

PennDOT's Bureau of Municipal Services has encountered several recent instances where Liquid Fuels audits by the state Auditor General's Office cited municipalities for using 2A Modified aggregate purchased with Liquid Fuels funds. **2A Modified is not a PennDOT approved material**, and there is no specification for it. Please remember that Liquid Fuels funds may only be used for PennDOT-approved materials and products. If you have any questions about whether the product or material you are purchasing is PennDOT approved, please contact your district municipal services representative prior to purchasing the material.

## Did you know... you can register your employees for workshops using the LTAP website?

Because of the need to track individuals attending LTAP workshops, municipal employees cannot be registered for class sessions under one municipal account. Instead, you must first create a separate LTAP account for each person who wants to attend a session.

To create an individual account for each of your employees, follow these steps:

- Go to the LTAP website, [www.ltap.state.pa.us](http://www.ltap.state.pa.us).
- Select the "Create Account" traffic sign (located in the center of the page).
- Complete all the necessary information for an individual on the "User Account" screen.
- Select "Submit" to create the account.