

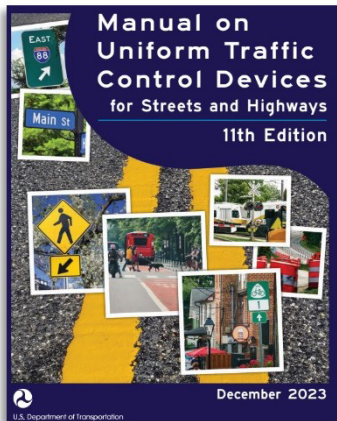


# *moving* FORWARD

SPRING 2024

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

## FHWA Publishes the MUTCD 11th Edition



The United States Department of Transportation, Federal Highway Administration (FHWA) published the 11th Edition of the national Manual on Uniform Traffic Control Devices (MUTCD) (<https://mutcd.fhwa.dot.gov/>). Among other purposes, the MUTCD establishes uniform national criteria for the use of traffic control devices, such as signs, pavement markings, and traffic signals, to help promote safety, inclusion, and mobility for all roadway network users. The MUTCD applies to all public roads, including local roads. The MUTCD was last updated in 2009, and the FHWA considered over 100,000 comments from public and private agencies regarding the updated version. Effective January 18, 2024, as broadcast in the Federal Register by FHWA Final Rule (<https://www.federalregister.gov/documents/2023/12/19/2023-27178/national-standards-for-traffic-control-devices-the-manual-on-uniform-traffic-control-devices-for>), the new MUTCD includes significant technical and administrative changes. For example, enhanced guidance is now provided for vulnerable road users and automated vehicles. Practitioners are encouraged to read the Final Rule and 11th Edition of the MUTCD to evaluate impacts.

Agencies such as PennDOT have two years to achieve substantial conformance to the new

MUTCD, as determined by the FHWA. In Pennsylvania, this conformance is codified by law and regulation. Specifically, by 75 Pa C.S Vehicle Code and 67 Pa Code §212 Official Traffic Control Devices respectively, Pennsylvania must publish a supplement to the MUTCD, entitled PennDOT Publication 212 Official Traffic Control Devices, detailing the Pa.-specific requirements, such as deviations from the national MUTCD. That publication, as well as other policies, standards and specifications, will be updated accordingly, following the typical reviews by internal and external stakeholders. To ensure a comprehensive review and proper adaptation of the new, 1,161-page MUTCD, PennDOT published a PA Bulletin Notice on January 6, 2024 (<https://www.pacodeandbulletin.gov/secure/pabulletin/data/vol54/54-1/54-1.pdf>) declaring the amendments and modifications in the MUTCD 11th Edition will not apply until a future PA Bulletin notice is posted. Until that time, the 2009 MUTCD (10th Edition) shall continue to provide the applicable Pennsylvania standards for public roads, including local roads. Looking forward, the FHWA plans to update the MUTCD every four years to more-quickly adapt to the roadway user needs. 🚧

### ALSO IN THIS ISSUE

Trucks.....	2
STIC.....	3
Success Stories.....	4
RAP Q&A.....	6
Roads Scholar Success Story.....	7
Upcoming Training.....	8
Roads Scholars.....	8

# Trucks

## A Tale of Two Municipalities

Marvin Ta, P.E., ENV SP

### The Problem

“There are too many trucks using my road” is unfortunately an all-too-common phrase heard throughout Pennsylvania. Although the truck issues may be slightly different when going from a borough to a township, they still lead to various safety issues as well as affect the quality of life of the community. Take Mechanicsburg Borough for instance: trucks frequently go through the borough’s downtown as seen in Figure 1. Mixed with the pedestrian traffic crossing Main Street (including some uncontrolled crossings), this reduces the level of safety and comfort for pedestrians of all ages and abilities.



Figure 1: Trucks are shown passing in the downtown area of Mechanicsburg Borough. Photo: PennDOT LTAP

In addition to trucks causing safety concerns and discomfort for nonmotorized users, the borough has tight intersections that cannot accommodate the turning radii of most trucks. This makes it difficult for trucks to navigate borough intersections without encroaching onto the sidewalk or even the opposing lane as seen in Figure 2. A lot of times, trucks are simply



Figure 2: A truck encroaches upon an opposing lane in Mechanicsburg Borough. Photo: PennDOT LTAP



Figure 3: A truck is towed after becoming stuck in Newberry Township. Photo: PennDOT LTAP

following their GPS leading them through the “shortest route” onto roadways and intersections.

Another example is in Newberry Township: a truck was cutting through a rural residential street and unfortunately got stuck trying to turn off the road as seen in Figure 3. Not only did this cause temporary closures to two roadways, but the truck also caused pavement damage in the process as seen in Figure 4.

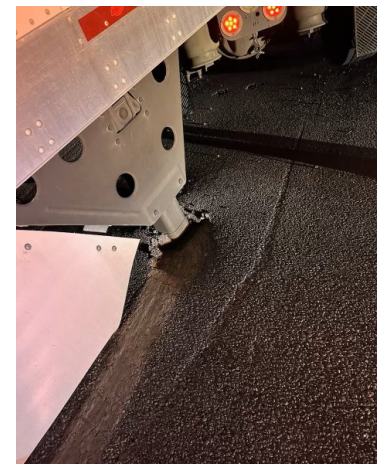


Figure 4: Damage to pavement from a stuck truck in Newberry Township. Photo: PennDOT LTAP.

At LTAP, we hear that many communities all over the state are having similar issues with truck traffic. But what can you do about it?

### Solutions

One common and relatively easy solution to implement is to ensure the proper studies and ordinances are in place to restrict truck traffic on local roads that cannot accommodate them. This can be accomplished through either weight or length restrictions. This authority to restrict truck traffic is granted in the [Pennsylvania Vehicle Code, Title 75, Section 4902](https://www.legis.state.pa.us/cfdocs/legis/LI/consCheck.cfm?txtType=HTM&ttl=75&div=0&chpt=49&sctn=2&subctn=0) (<https://www.legis.state.pa.us/cfdocs/legis/LI/consCheck.cfm?txtType=HTM&ttl=75&div=0&chpt=49&sctn=2&subctn=0>).

The proper studies and ordinances are critical for enforcement as well as mapping applications that may not be updated with the restriction information. Both Mechanicsburg Borough and Newberry Township did just that, but the borough still has issues with trucks complying with the posted signs. The next step then could involve more conspicuous signs/markings, increased



## STIC Spotlight

# Pavement Solutions Help Improve Performance, Lessen Traffic Impacts

Targeted Overlay Pavement Solutions (TOPS) build on conventional overlay methods and include new overlay materials and techniques. TOPS, a Federal Highway Administration (FHWA) Every Day Counts Round 6 (EDC-6) innovation that [Pennsylvania championed](https://www.penndot.pa.gov/about-us/StateTransportationInnovationCouncil/Innovations/Pages/Targeted-Overlay-Pavement-Solutions.aspx) (<https://www.penndot.pa.gov/about-us/StateTransportationInnovationCouncil/Innovations/Pages/Targeted-Overlay-Pavement-Solutions.aspx>), offers 13 options to help ensure safe, longer-lasting roadways.

Of the available options, PennDOT has piloted Highly Modified Asphalt and Bonded Concrete on Asphalt. Additionally, PennDOT has already adopted the use of Unbonded Concrete Overlay on Concrete, High-Performance Thin Overlay, Stone Matrix Asphalt, Asphalt Rubber Gap-Graded, and Ultra-Thin Bonded Wearing Course.

In August 2023, PennDOT received a \$700,000 grant from FHWA's [Accelerated Innovation Deployment \(AID\) Demonstration](https://www.fhwa.dot.gov/innovation/grants/) (<https://www.fhwa.dot.gov/innovation/grants/>) program to improve the long-term resiliency of pavement on roads throughout the state. The funding will be used to deploy solutions like Stone Matrix Asphalt and Highly Modified Asphalt in several PennDOT districts. These pavement solutions are more durable and cost-effective than traditional overlay methods and extend the lifespan of a roadway in a relatively short timeframe. This reduces the need for long-term lane closures and continuous roadway reconstruction projects. In addition, these solutions increase skid resistance.

TOPS is already being used on many projects throughout Pennsylvania. Recently, PennDOT piloted Bonded Concrete on Asphalt Overlay with Fibers on State Route (SR) 28 in District 10, which is located in the northwestern region of the state. The project used a special provision, which included the newly drafted language for using fibers.

In District 6, in the southeastern region of the state, Highly Modified Asphalt was used during the paving of a high-traffic area on Interstate 95. In District 1, in the northwestern corner of the state, Highly Modified Asphalt was used as part of a larger pilot project on approximately one mile of Interstate 79.



Construction workers apply a Targeted Overlay Pavement solution to a roadway.  
Photo: PennDOT STIC

Additionally, Asphalt Rubber Gap-Graded was tested along sections of four different roadways: SR 15 in Adams County, District 8; I-78 in Berks County, District 5; I-376 in Lawrence County, District 11; and SR 15 in Snyder County, District 3.

Municipalities interested in piloting TOPS options on their roadways may contact their PennDOT [municipal services representative](https://www.penndot.pa.gov/Doing-Business/LocalGovernment/MunicipalServicesRepresentatives/Pages/default.aspx) (<https://www.penndot.pa.gov/Doing-Business/LocalGovernment/MunicipalServicesRepresentatives/Pages/default.aspx>) or email STIC at [penndotstic@pa.gov](mailto:penndotstic@pa.gov). 📧



**State Transportation  
Innovation Council (STIC)**  
(717) 772-4664

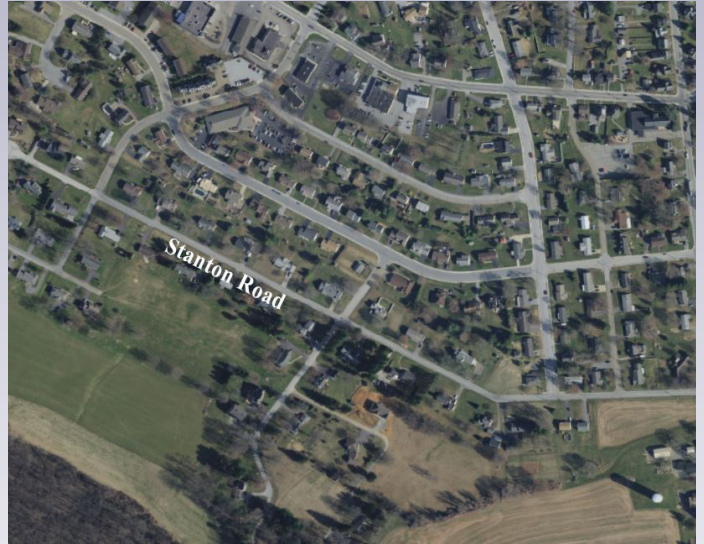
RA-pdPennDOTSTIC@pa.gov  
[www.penndot.pa.gov/about-us/PennDOT2020](http://www.penndot.pa.gov/about-us/PennDOT2020)

## LTAP SUCCESS STORY

# Quarryville Borough, Lancaster County

In July 2022, LTAP met with Scott Peiffer, borough manager, and Bill Lamparter, maintenance superintendent, to help with a traffic calming study for Stanton Road. The borough expressed safety concerns related to speeding and inquired about potential speed humps for Stanton Road as seen in Figure 1. Stanton Road is a borough residential road where pedestrians often walk in the roadway. Therefore, following guidance from PennDOT's Pennsylvania's Traffic Calming Handbook, Publication 383, counters were installed to collect traffic speed and volume data.

From the collected data, the 85th percentile speed in both directions was 41 mph, and the average daily traffic (ADT) was 396 vehicles per day (vpd) in both directions. The posted speed limit is 25 mph. A street view of Stanton Road can be seen in Figure 2. Per Publication 383, the 85th percentile speed should exceed 10 mph over the



This is an aerial view of the study area. Photo: PennDOT/PEMA

### BEFORE



Stanton Road before the new signs were put up. Photo: PennDOT LTAP

### AFTER



Stanton Road after the new signs were installed. Photo: PennDOT LTAP

posted speed limit, and/or the ADT should exceed 1,000 vpd to be a candidate for traffic calming. In addition to collecting traffic data, the borough distributed surveys to affected residents to acquire their approval as suggested by Publication 383. Publication 383 recommends using a range between 50% to 70% community approval.

As a result of this study, the borough installed five speed

humps, including the associated pavement markings and signs as seen in Figure 3.

**Need help with traffic calming in your municipality?** Call 1-800-FOR-LTAP or email us at [LTAP@pa.gov](mailto:LTAP@pa.gov). For more information on traffic calming, check out our Traffic Calming Course. 📄



## LTAP SUCCESS STORY

# Robeson Township, Berks County

In July 2022, LTAP met with Ryan Rhode, township engineer, to examine a curve on White Bear Road (T396) as seen in Figure 1. The township has safety concerns at the curve and wants to ensure proper signage is installed. Existing signage can be seen in Figure 2. White Bear Road is a township collector road that is posted at 35 mph and has an average daily traffic (ADT) of 745 vehicles per day (vpd). Recent crash data has shown that there were four curve-related crashes within the most recent five years in the study area.

Therefore, a curve study was conducted following the requirements in the MUTCD, Section 2C.08 and PennDOT's Traffic Engineering Manual, Publication 46. The study is conducted by making several trial runs through the curve in a vehicle equipped with a ball-bank indicator. The readings from the ball-bank indicator are then used to determine the appropriate advisory speed, if necessary, as



Figure 1: An aerial view of the study area. Photo: PennDOT/PEMA

### BEFORE



Figure 2: Existing warning signs shown prior to improvements being made. Photo: PennDOT LTAP

well as other countermeasures such as signs, markings, and other roadway improvements.

As a result of this study, the township established an advisory speed of 20 mph and updated its curve signage as seen in Figure 3. In addition to the revised signage, the township also treated the road with a double application of Type B micro-surface to increase the friction characteristics of the pavement surface.

### AFTER



Figure 3: New warning signs were among the improvements implemented by the township. Photo: PennDOT LTAP

"The LTAP program provides a wealth of knowledge and expertise, which is incredibly useful in evaluating problems and potential solutions to both common and unique municipal issues," said Rhode.

#### Need help with curves in your municipality?

Call 1-800-FOR-LTAP or email us at [LTAP@pa.gov](mailto:LTAP@pa.gov). For more information on curves, check out our Curves on Local Roads Course. 🚧

# Recycled Asphalt Pavement (RAP) Questions and Answers

## Q1: What is Recycled Asphalt Pavement (RAP)?

A1: RAP is a material obtained from existing asphalt pavements. Existing asphalt pavements are milled, removing either a single layer or full pavement section, and screened to ensure a uniform consistency. The obtained material can then be used in a variety of ways, with the most common and efficient use being its incorporation into new asphalt mixtures.

## Q2: Why should we use RAP?

A2: The use of RAP has a wide range of positive benefits with the most notable of these benefits being reduced material costs and improved sustainability. By incorporating RAP into pavement mixtures, the amount of new asphalt cement and aggregates needed are reduced. This reduction in the need for new material helps to lower production costs. The National Asphalt Pavement Association noted for the national average RAP content of 21.1%, there is a savings of \$7.80 per ton.

## Q3: Does the use of RAP mean a lower quality pavement?

A3: RAP has been regularly used in pavement mixtures since the 1970s. RAP is consistently utilized in asphalt mixtures without comprising quality. Past research has shown mixes produced with up to 30% RAP perform as well as mixes without RAP. Ninety percent of PennDOT-approved asphalt mixes have some amount of RAP in them. While the average RAP content of 19% in PennDOT mixes is not considered a high amount, other state DOTs routinely use high contents of RAP in their mixes and have reportedly found the overall performance of their network has improved. Currently, PennDOT permits the inclusion of up to 50% RAP for maintenance mixtures on low-volume roadways and it has been happy with the performance of these mixes. Additionally, technologies have been developed and are being studied in the field in Pennsylvania which allow for even higher RAP percentages while maintaining a high quality, safe, and durable pavement. 🚧

## Save the Date Roadway Management Conference -2024



The RMC is relevant to practitioners who manage, design, construct, and maintain state, county, and municipal roads and streets.

roadwaymanagementc.wixsite.com/home

**October 23-25, 2024**

**Atlantic Sands Hotel & Conference Center  
Rehoboth Beach, Delaware**



**Trucks** *continued from page 2*

enforcement, and physical traffic calming treatments, like bump outs, to make it physically impossible for trucks to turn at intersections or go down a specific road.

Looking to learn more about trucks? LTAP is developing a new course, "Trucks on Local Roads: Issues and Solutions" that will be available in the summer of 2024.

**Draft Course Description:** Truck traffic on local roads is a difficult balancing act for many municipalities in Pennsylvania. While trucks need access to pick up and deliver the goods that are necessary for everyday life and the economy, many local roads are not suitable for truck travel of certain classes, lengths, widths, or weights. Furthermore, recent changes to State Law in Act 31 of 2018 add more complications.

### **This class will:**

- Review current state laws and regulations on truck access and restrictions.
- Discuss the traffic study requirements and options for restricting truck traffic.
- Examine real local truck traffic issues, problems, and solutions.
- Explore planning approaches for trucks, including land use, the roadway network, and ordinances.

**Audience:** All municipal employees involved with trucks on local roads. While the primary audience is road crews and roadmasters, everyone involved with trucks in the municipality should attend, including public works employees, street superintendents, elected officials, law enforcement personnel, municipal managers, office staff, planning staff, and engineers. 🚧



# Roads Scholar Graduate Credits Flexible Schedule with Accelerated Timeline

By Chris Brady / PSATS Assistant Editor

Continuing education can be a challenge for those with full-time careers. The Local Technical Assistance Program (LTAP) and its Road Scholar Program provides options flexible enough to cater to those who want an in-person educational experience as well as those seeking options to fit their already-busy schedules.

With a desire to rise in the ranks, Brian Rogers saw the Road Scholar Program as an opportunity to expand his knowledge and seek out those advancements available along his career path. He was also anxious to get the work done and reap the rewards.

“I joined my township just about 10 years ago, so I had known about the Road Scholar Program and always had the intent to complete it,” he says. “I wanted to achieve (Road Scholar) 1 and 2 so I could move up in my career and gain more knowledge. It was such a great opportunity to take online courses. It was very flexible for me as my vacation time is limited. I could take morning classes and still get to work in the afternoon.”

Rogers started as a laborer in Horsham Township in Montgomery County. He is now a truck driver, though now as a Roads Scholar graduate, he hopes to again rise through the ranks and attain more of a leadership role. With the availability of virtual courses, he was able to complete Roads Scholar 1 and 2 in just 17 months and is now seeking that career advancement.

“I looked more into it and saw it as an amazing opportunity,” says Rogers. “Had this not been offered, I probably would not have been able to achieve it in time.”

## Educational and informative

Rogers still marvels at the fact such courses are offered free of charge through LTAP. He still monitors the website ([gis.penndot.pa.gov/ltap](https://gis.penndot.pa.gov/ltap)) and hasn't ruled out additional educational opportunities. Rogers credits the Roads Scholar Program with putting him in a position to achieve his goals.

“Having an opportunity to get a lot of information and resources available through LTAP, I wanted to take advantage of that so going into the next months I'll have the knowledge to be a crew leader here,” he says. “Advancing my career is something I always wanted to do.”

The Roads Scholar Program provides an opportunity for municipal employees to be trained by LTAP's professional team in the latest road-related technologies and innovations. The program provides a professional certification to municipal employees and officials who attend a certain number of courses within a three-year period. Courses are offered throughout the commonwealth



Brian Rogers completed his Roads Scholar 1 and 2 in just 17 months thanks to the flexibility of virtual classes. LTAP provides Roads Scholar courses at convenient locations across the commonwealth and virtually. Visit the website ([gis.penndot.pa.gov/ltap](https://gis.penndot.pa.gov/ltap)) for more information. Photo: Brian Rogers

with virtual options available as well. Students can track their progress using the “View My Schedule” feature on the website.

All LTAP courses are Road Scholar eligible. The LTAP website (<https://gis.penndot.pa.gov/LTAP/default.aspx>) has a full list of courses under “Training Descriptions”.

“My favorite courses involved learning about the laws and regulations,” says Rogers. “They were some of the courses that stood out for me. I do some of the sign making [with the township] and we make all our signs in-house. Those courses were cool because it's something I do here, and I was able to learn more about it.”

Rogers credited the Worker Safety courses with providing him with additional information on what is being done to secure worker safety and how the latest technologies are working to improve safety at job sites.

“I would tell anyone that wants a deeper understanding of roadway maintenance to take courses,” he adds. “There are locations throughout the state. There are so many opportunities to take advantage of. It's a perfect tool for someone who wants to advance their career or learn more.”

“I'm very grateful for the opportunity LTAP has presented,” he continues. “I want to be a better worker and when I stumbled upon this I was fascinated by it. And, it's free! I can't believe not everyone is taking advantage of this.” 🚧

# Upcoming LTAP Training

Classes are being held in person and virtually. Check the website, [gis.penndot.pa.gov/LTAP](https://gis.penndot.pa.gov/LTAP), for the latest listing. If you would like to receive email alerts about upcoming training, send a request to [ltap@pa.gov](mailto:ltap@pa.gov). Here is a sampling of upcoming scheduled classes. **All classes are free!**

## Erosion and Sedimentation Control

April 30, 2024 – Lycoming County  
May 7, 2024 – Bedford County

## Local Road Safety Plan

April 18, 2024 – Blair County

## Micro-Surfacing and Ultra-Thin Friction Course (UTFC)

May 14, 2024 – Lycoming County

## Pavement Markings: Application and Maint. V.II

May 8, 2024 – Cambria County  
May 14, 2024 – Berks County

## Public Works Safety

April 23, 2024 – Virtual

## Road Surface Management

June 14, 2024 – Blair County

## Temporary Traffic Control (Work Zones) Workshop

April 3, 2024 – Virtual  
April 23, 2024 – Lancaster County

## Traffic Signals Basics

April 16, 2024 – Lycoming County

Check the website for new courses or reach out to your Planning Partner or LTAP to schedule a class at your facility.

## Archived Training: Catch up online!

Recorded sessions and handouts from previously held drop-ins and webinars are available on the LTAP website, [gis.penndot.pa.gov/LTAP](https://gis.penndot.pa.gov/LTAP). Sessions cover a variety of topics from asset management to truck restrictions. Check out the full list online and take advantage of this free training from the comfort of your home or office.

## Course Handouts Are Now Online

Did you misplace a workbook or handout from a course? Do you wish you had the handouts in an electronic format? All the handouts from LTAP courses are now online and available for download. Go to [gis.penndot.pa.gov/LTAP](https://gis.penndot.pa.gov/LTAP) and under the Course Descriptions tab, click on the course and then scroll to the bottom of the course information to see a list of course handouts.

## Congratulations to the following Roads Scholars!

The following scholars were certified between October 1, 2023, and December 31, 2023.

### Roads Scholar I:

- Neil Beerhle – Fleetwood Borough, Berks County
- James M. Koger – Caernarvon Township, Berks County
- Scott C. Remolde – Caernarvon Township, Berks County
- Chuck L. Beck – Halfmoon Township, Centre County
- Chris Mumma – West Hanover Township, Dauphin County
- Anthony J. Dastra – Lancaster Township, Lancaster County
- Daniel J. Yelito – NEPA-MPO, Luzerne County
- Joeseeph Reeder – Mill Creek Township, Lycoming County
- Stephen J. Monahan Jr. – Horsham Township, Montgomery County

### Roads Scholar II:

- Seth Pulver – City of Pittsburgh, Allegheny County
- Ryan Yerkes – London Grove Township, Chester County
- Eric Bemdeserfer – Upper Allen Township, Cumberland County
- Anthony J. Dastra – Lancaster Township, Lancaster County

### Roads Scholar Administrative:

- David A. Tomko – Doylestown Township, Bucks County
- Matthew T. Vanlew – East Brandywine Township, Chester County
- Anthony J. Dastra – Lancaster Township, Lancaster County
- Stan Cupp – Lower Macungie Township, Lehigh County
- William E. Spotts – North Manheim Township, Schuylkill County

**Roads Scholars, Share the News!** LTAP has a press release you can modify and use to announce your accomplishment to your local media. To obtain a copy of the release, go to [gis.penndot.pa.gov/LTAP](https://gis.penndot.pa.gov/LTAP) and look for the release under "Roads Scholar Program."

### LTAP Contact Information:

400 North Street, 6th Floor, Harrisburg, PA 17120  
1-800-FOR-LTAP (367-5827) Fax: (717) 783-9152  
Email: [ltap@pa.gov](mailto:ltap@pa.gov) Web: [gis.penndot.pa.gov/LTAP](https://gis.penndot.pa.gov/LTAP)

All LTAP services are free to municipalities.