

## Contact Us...

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Local Technical Assistance Program



# LTAP

## Course Descriptions





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### ASPHALT ROADS: COMMON MAINTENANCE PROBLEMS

This course provides relevant information to individuals who have to maintain asphalt pavements. The course material reviews the importance of preventive maintenance to the life of an asphalt pavement. The material will help the student identify common asphalt distress, the cause of the distress, and the appropriate treatments. The latest techniques, materials, and equipment will be reviewed with an emphasis on repairing the asphalt distress properly the first time. Current industry standards to properly repair problems such as cracking and potholes will be presented in detail. The basics of treatments such as seal coats, micro surfacing, and overlays will be presented. A review of the latest treatments included in Penn DOT Publication 447 Approved Products for Lower Volume Local Roads, will be covered. **Intended Audience:** Individuals who are involved in the planning and execution of maintenance work on asphalt pavements, including: street superintendents, roadmasters, public works directors, foreman, and select crew members.

### BRIDGE MAINTENANCE & INSPECTION

This program identifies the responsibilities of municipalities that own bridges, particularly spans less than 20 feet. Knowledge of preventive maintenance practices for preserving bridges will be discussed. A review of Bridge Inspection Reports with emphasis on maintenance recommendations will be presented. **Intended Audience:** Individuals who are involved in the maintenance of locally owned bridges (particularly spans less than 20 feet), including: elected officials, public works directors, roadmasters and bridge foremen/crew leaders.

### CHAINSAW SAFETY

Forest Applications and Nationally known instructor Cary Shepherd will be conducting a chainsaw safety workshop. The morning will be classroom safety instruction and in the afternoon a chainsaw demonstration will be conducted outside. The following topics will be covered in the presentation - What are Safety, Training and an Accident?; Personal Protective Equipment; Saw Check; Reactive Forces; the Notch & Hinge; Planning; Felling; Plan Before Limbing; Limbing Techniques; and Springpoles. Who should attend? Any municipal employees who are involved with removing trees.

### COMMON SENSE SOLUTIONS TO INTERSECTION PROBLEMS

This course provides participants with 1) a basic understanding of intersection safety issues, 2) "How to" information for common safety tasks and low cost safety improvements that do not require an engineer, and 3) background information on safety tasks that DO require an engineer. This workshop also outlines areas where non-engineers can assist traffic engineers in the safety process, and help them to understand when an engineer needs to be consulted to make a safety related change at an intersection. This workshop is only intended to address existing roads; proposed roads are not considered because it is assumed that an engineer will be involved in design and planning of those. This program is not intended to make traffic engineers out of the general public. **Intended Audience:** Individuals conducting engineering and traffic studies and those responsible for identifying safety problems and potential solutions including: law enforcement personnel, roadmasters, and street superintendents. Others who would benefit from this course include: elected officials, public works employees municipal managers. Engineers are welcome to attend, but the focus is on the non-engineer.



### TRAFFIC SIGNALS: HOW TO STUDY, INSTALL AND MAINTAIN THEM IN PA

Municipalities in Pennsylvania have the responsibility to install, operate and maintain traffic signals on all highways in their jurisdiction. Many municipalities rely on PennDOT, engineering consultants and contractors to assist in this area, however having a basic understanding of the subject is important to work effectively with these partners. This course will provide the municipal manager, engineer or public works director the basic knowledge of why traffic signals are needed, how they are designed, the process to bid and construct them and the needed maintenance procedures. In addition, the course will cover the municipal role in the design and construction of traffic signals by others such as PennDOT or a developer. It is comprehensive overview off all aspects traffic signals. **Intended Audience:** Public works employees, roadmasters, street superintendents, and law enforcement personnel. Others who would benefit from this course include: municipal managers and elected officials (to understand the importance and for budgeting purposes). Engineers are welcome to attend, but the focus is on the non-engineer.



### TRAFFIC SIGNS

This course reviews the basic regulations and guidelines for properly establishing and posting regulatory, warning and guide signs. It presents examples of improper signing so participants can better understand the basic concepts and principles associated with sign selection and placement. It also discusses the installation and maintenance of signs and supports, along with sign management techniques. (Note: The course does not cover work zone signing; see Work Zone Traffic Control course description.) **Intended Audience:** Individuals who are making decisions regarding what signs to install and where, and those actually installing the signs, including: public works employees, roadmasters, street superintendents, and law enforcement personnel. Others who would benefit from this course include: municipal managers and elected officials (to understand the importance and for budgeting purposes). Engineers are welcome to attend, but the focus is on the non-engineer.

### UNPAVED & GRAVEL ROADS: COMMON MAINTENANCE PRACTICES

This course addresses basic maintenance techniques for unpaved and gravel roads. Topics include the importance of good drainage, surface aggregate and dust control materials, and operational techniques. These techniques include blading, reshaping, regravelling and dust control. Driving Surface Aggregate (DSA) specifications and use are reviewed. Factors used to determine when to upgrade a gravel road by paving or seal coating the roadway are discussed. **Intended Audience:** Individuals involved in the maintenance of unpaved or gravel roadways such as: Street supervisors, roadmasters, crew foremen, and equipment operators.

### WINTER MAINTENANCE

This course covers all aspects of winter maintenance operations. Topics include planning and organizing, public relations, material usage and application rates, equipment types and calibration as well as various operational procedures such as plowing and spreading. Other topics include CDL regulations, safety and environmental awareness. Also covered are the latest techniques in pre-wetting materials and anti-icing procedures for a more effective and economical operations. **Intended Audience:** All public works employees engaged in winter maintenance operations including: Street supervisors, public works directors, roadmasters, crew foremen and equipment operators.



### WORK ZONE TRAFFIC CONTROL

This course identifies the work zone set-up requirements, traffic control devices, and flagging procedures through a review of the regulations in PennDOT Publication 213, Temporary Traffic Control Guidelines, and the Manual on Uniform Traffic Control Devices (MUTCD). The course covers development of traffic control plans, use of typical layout figures from the publication, and inspection of established work zones. The course emphasizes teaching work zone traffic control guidelines and set-ups for typical municipal work, from grading a gravel road to painting crosswalk lines to repairing pavement. **Intended Audience:** Individuals who are performing maintenance, construction, or traffic control on municipal roadways including: public works employees, roadmasters and street superintendents. Others who would benefit from this course include: law enforcement personnel (for enforcement purposes), municipal managers and elected officials (to understand the importance and for budgeting purposes). Engineers are welcome to attend, but the focus is on the non-engineer.

## MANAGING UTILITY CUTS

One of the most aggravating occurrences undermining the structural stability of a newly reconstructed or resurfaced road is the utility repair cut. This course covers the management of roadway excavations by contractors and utilities through local ordinances, permits, fees, specifications and inspection. It compares local ordinances with state procedures for state roads. It also discusses PA One Call, trenching and shoring, work zone traffic control, and liability. **Intended Audience:** Individuals who are involved in the ordinance, permitting, and monitoring process to effectively manage utility excavations on locally owned roads and streets, including: elected officials, public works directors, road masters, foremen, and select crew members.

## PENNDOT DRAINAGE POLICY UPDATE

The Pennsylvania Department of Transportation (PennDOT) on June 24, 2010 released policy regarding who can be a Highway Occupancy Permit (HOP) applicant for stormwater facility modification or construction within Commonwealth right-of-way. This Webinar will discuss certain categories of HOPs involving: driveways, surface drainage, subsurface facilities connected to existing drainage facilities that accommodate the roadway, and construction of new stand alone subsurface facilities, and specifically who PennDOT can legally issue a HOP to under each category. The update with this policy is that PennDOT will no longer accept a developer as sole HOP driveway applicant for proposed facilities being attached onto existing drainage facilities within the right-of-way. Municipalities will now be responsible for coordinating these applications. It is strongly encouraged by PennDOT that local government managers and engineers attend this Webinar as to avoid delays in the permitting process. PennDOT will make available local viewing sites at their district offices for those who do not have high-speed Internet access.

## POSTING & BONDING OF LOCAL ROADS

Many rural roads and urban streets were not built to carry today's heavy loads. This course reviews laws governing posting and bonding, requirements for developing and implementing a posting and bonding program, and ways to monitor a program. Participants examine a sample bonding agreement. **Intended Audience:** Individuals responsible for posting weight limits on municipal roadways and issuing permits to haul in excess of those weight limits including: elected officials, municipal secretaries, roadmasters, and street superintendents. Others who would benefit from this course include: law enforcement personnel, engineers, and municipal managers



## PRINCIPLES OF PAVING

This course is for municipal employees who are involved in the planning, inspecting and placement of asphalt paving operations. The course will provide the information needed to properly plan and monitor a hot mix asphalt paving project. Basic knowledge of hot mix asphalt materials and construction specifications will be provided. The importance of proper roadway preparation to obtain a long lasting product will be discussed. A basic understanding of the delivery, placement, and compaction process in paving operations will be provided. **Intended Audience:** Public Works employees who pave with hot mix asphalt, particularly roadmasters, foremen and equipment operators that operate rollers, pavers, distributors, and dump trucks on the job. Others who would benefit from this course include: inspectors, and street supervisors involved in monitoring hot mix asphalt paving projects for local governments.

## PROJECT ESTIMATING USING MATHEMATICAL PRINCIPLES

**CALCULATOR IS NECESSARY FOR THIS COURSE.** This course provides an understanding of practical applications for performing estimates on typical construction and maintenance projects. Various mathematical rules necessary to perform basic computations and formulas to perform cost and quantity calculations are reviewed. The participants perform material estimating, problem solving, and dealing with cost and quantity estimates. **Intended Audience:** Individuals who are involved in collecting roadway measurements and compiling estimates for roadway maintenance and construction projects, including: public works employees such as street supervisors, directors, and roadmasters.

## RISK MANAGEMENT/TORT LIABILITY

This course is directed at the importance of maintenance crews and their operations in reducing municipal liability. The course helps participants understand and assess their major liability exposures by identifying high tort areas in roadway activities. It explains tort liability and the tort trial process, and presents the basics of implementing and maintaining a risk management program. **Intended Audience:** As this course is directed at the importance of roadways and roadway maintenance operations in reducing municipal liability, the primary audience is everyone involved in municipal roadways. This includes: public works employees, roadmasters, street superintendents, elected officials, law enforcement personnel, municipal managers, engineers.



## ROAD SURFACE MANAGEMENT

This course provides the basics for developing a road surface management program to help local governments manage their pavements by providing an understanding of the concept and importance of road surface inventories and condition surveys. A review of the basic components of flexible and rigid pavements is discussed. Pavement condition evaluations and how to recognize common pavement distress is presented. Sample pavement ratings are performed by the participants. Repair strategies at the system and project level are discussed using the information presented in the course. **Intended Audience:** Individuals responsible for performing roadway inventory and condition surveys as well as planning and programming functions such as: public works directors, street supervisors, roadmasters and crew foremen.

## ROADSIDE SAFETY FEATURES

Roadside Safety Features will provide information and resources for municipalities to understand the importance of roadside safety and to be able to determine the most appropriate countermeasures. This class is not a design class but will focus on practical applications of roadside safety concepts. For example, it will follow the common theme for roadside hazard identification and improvement: hazard removal, relocation, make breakaway, shield, and delineate. Therefore, it will cover low cost improvements (pavement markings, delineators, chevrons) and higher cost (barriers). Information on guiderail warrants, types, and end treatments will be presented. **Intended Audience:** Individuals responsible for maintaining roadsides and identifying safety problems and potential solutions, including: roadmasters, street superintendents, public works employees. Others who would benefit from this course include: law enforcement personnel, and elected officials. This is not a design class, so engineers are welcome to attend, but the focus is on the non-engineer.

## ROADSIDE VEGETATION CONTROL

This course provides the knowledge and understanding needed to establish an efficient and effective roadside vegetation control program. It is based on the concept of an Integrated Vegetation Management philosophy that utilizes manual, mechanical, and chemical control methods to manage roadside vegetation. It also reviews laws and regulations regarding required applicator certification. Due to the emphasis placed on chemical application, this course has been approved by the Pa. Department of Agriculture for Continuing Education Unit credits for those who have received pesticide applicator certification. Certified applicators can receive 3 core credits and 6 credits in each of the following categories: 10, 14, 18, 23, upon successful completion of this course. **Intended Audience:** Individuals who are certified pesticide applicators and registered technicians. Public works employees in charge of managing roadside vegetation programs who are interested in using chemical applications in their program should also attend.



## ROADWAY SAFETY IMPROVEMENT PROGRAM

Participants will learn how to develop a Road Safety Improvement Program (RSIP) for their community. Course content includes road safety basics, and instruction on the process, tools, data, analysis and effort necessary for development of a RSIP. This course also includes information on methods for improving safety, including identifying and implementing safety countermeasures as well as typical costs. **Intended Audience:** Individuals conducting engineering and traffic studies and those responsible for identifying safety problems and potential solutions including: law enforcement personnel, roadmasters, and street superintendents. Others who would benefit from this course include: elected officials, public works employees, and municipal managers. Engineers are welcome to attend, but the focus is on the non-engineer.

## SPRING ROAD MAINTENANCE

As winter comes to a close, municipalities need to start planning for the upcoming spring season. This session will help everyone identify some of the major areas of concern for the upcoming maintenance season. The topics covered will provide the class with policies and procedures to help them work smarter and more cost effectively. Worker safety is a key component of any project. Some simple precautions, related to seasonal challenges will be discussed during this session. These precautions will keep your crew healthy and projects on schedule. Also during this session, your peers will lead conversations with industry professionals to provide information to help you select and correctly use the right products and techniques for the projects on your work plan. Participants are encouraged to join conversations so that everyone can learn from actual municipal experiences. Representatives from the Pennsylvania Association of Asphalt Material Applicators (PAAMA), the American Concrete Pavement Association (ACPA), and the Pennsylvania Aggregates and Concrete Association (PACA), and the Center for Dirt and Gravel Road Studies will participate in most sessions. This inclusive program provides elected officials and working road crews with comprehensive information to aid municipalities in the development of a successful and healthy maintenance program.



## STORMWATER MANAGEMENT

This course covers a variety of topics associated with the management and control of storm runoff as it relates to the establishment of local policies and ordinances, and the operation and maintenance of stormwater management facilities. The course provides an overview of the storm runoff process; a discussion of current regulatory requirements for new development as well as municipal storm sewer systems (MS4's); identifies elements of sustainable stormwater management systems and how existing municipal regulations may create barriers to responsible stormwater management; and discusses operation and maintenance of stormwater facilities. **Intended Audience:** Individuals who are involved in establishing local stormwater policies, reviewing development plans, inspecting construction of stormwater facilities, and operation and maintenance of stormwater facilities, including: elected officials, planners, public works directors, engineers, and operations and maintenance personnel

## TRAFFIC CALMING

This course introduces an engineering tool whose purpose is to address excessive traffic speed and/or cut-through traffic on residential streets. The course provides information that can help municipalities establish a rational traffic calming program for their roadways. Detailing information in PennDOT's Publication 383, Pennsylvania's Traffic Calming Handbook, the course defines traffic calming, describes various traffic calming devices, outlines potential positive and negative impacts on a neighborhood, and reviews a sample traffic calming program. It also investigates related issues, such as impacts of traffic calming devices on liability, roadway maintenance, and emergency service. Participants perform case studies, applying traffic calming measures to address traffic concerns. **Intended Audience:** Individuals who receive complaints about speeding and cut through traffic and want to respond appropriately to address these problems, including: law enforcement personnel municipal managers, elected officials, planners, roadmasters, and street superintendents. Others who would benefit from this course include: public works employees. Engineers are welcome to attend, but the focus is on the non-engineer.

## DRAINAGE: THE KEY TO ROADS THAT LAST

This course covers the affect water has on roadways. Emphasis is on problems caused by poor drainage with discussion on various ways to handle these problems. Basic roadway drainage systems and their usage are reviewed. Industry standard procedures for replacing cross pipes are presented in detail. Regulatory agency policies and permit requirements are presented. The importance of performing routine inspection of drainage system assets is discussed with emphasis on the relationship to planning and Federal Aid reimbursement in the case of a disaster. **Intended Audience:** Individuals who are involved in the planning and execution of maintenance work on asphalt pavements, including: street superintendents, roadmasters, public works directors, crew foremen, and select crew members.



## ENGINEERING & TRAFFIC STUDIES

How do you legally establish speed limits on municipal roads? How do you properly place Stop signs? What are the problems associated with improper use of multiway Stop signs? This course answers these questions and more, by demonstrating how to conduct basic engineering and traffic studies for establishment of regulatory signs on municipal roads. It reviews applicable laws, ordinances, regulations and required study procedures for establishing, revising and removing traffic restrictions, as presented in PennDOT Publication 212, Official Traffic Control Devices. Participants also complete exercises in which they perform common engineering and traffic studies using real data. **Intended Audience:** Individuals conducting engineering and traffic studies and those responsible for identifying safety problems and potential solutions including: law enforcement personnel, roadmasters, and street superintendents. Others who would benefit from this course include: elected officials, public works employees. Engineers are welcome to attend, but the focus is on the non-engineer.

## EQUIPMENT & WORKER SAFETY

This course provides a basic understanding of common safety factors and practices associated with public works road maintenance operations. Specific operations discussed include trench excavation, crack sealing with hot asphalt, mowing and chain saw use, as well as winter maintenance. It provides an overview of why accidents happen and how to protect personnel through the use of personal protective equipment. Work place awareness is stressed with emphasis on chemical safety, environmental hazards and vehicle and equipment safety issues. The importance of having a formal safety program in place and how to establish an effective program is discussed. **Intended Audience:** Individuals who are performing maintenance, construction, or traffic control on municipal roadways including: roadmasters, crew foremen, equipment operators and laborers. Others who would benefit from this course include: municipal managers and elected officials to understand the importance and for budgeting purposes.

## EQUIPMENT OPERATOR TRAINING

Led by certified equipment trainers, this full-day workshop will be split into two sections; classroom time will be combined with hands-on training. Both segments will focus on the backhoe, grader and RT front-end loader. Technical information will be presented in conversational language by instructors who handle the machines every day.

## GEOSYNTHETICS

This course identifies various types of geosynthetic materials used in road maintenance operations. Attendees will gain the knowledge and understanding of the common types of geosynthetic materials as well as their applications and functions. Instructors will review the cost benefits in using geosynthetics in the preventive maintenance of roadway structures. Such uses of geosynthetics as subsurface drainage, subgrade stabilization, soil reinforcement, erosion and sedimentation control, and paving fabric will also be discussed. **Intended Audience:** Individuals who are involved in the planning and execution of maintenance work on asphalt pavements, including: elected officials, public works directors, roadmasters, crew foremen, and select crew members.