

PAVEMENT MARKING PROGRAMS

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Many communities have important decisions to make about which pavement markings to install, which to maintain, and which ones should be handled by contractors. This tech sheet discusses the different aspects of a municipal pavement marking program in Pennsylvania.

The Value of Pavement Markings

Pavement markings are a common and expected component of the highway system. Their primary purpose is to provide clear visual information so that road users can navigate the

transportation system in a variety of situations. Markings help to define the intended travel path during daylight and nighttime hours and in various weather conditions.

Pavement markings have an important safety function and help communicate vital information to the road user without requiring them to take their eyes off the road. In some cases, they are used to supplement other traffic control devices, such as signs and signals. Other times, markings are used alone to effectively convey regulations, guidance, or warnings in ways not attainable with other devices.



One of the first considerations of a pavement marking program is how much time and staff you have to devote to the effort.

Standards and Guidelines

The main resources for the standards and guidelines to apply pavement markings are in PennDOT's Publication 111, *Traffic Control—Pavement Markings and Signing Standards* and Publication 46, *Traffic Engineering Manual*. These PennDOT Publications build upon the information in the *Manual on Uniform Traffic Control Devices* (MUTCD), which can be found at mutcd.fhwa.dot.gov. Chapter 3 of the MUTCD

discusses pavement markings of all types: longitudinal lines, transverse lines, curb markings, colored pavements, delineators, and channelizing devices.

Other resources, all of which can be accessed online, include:

- Title 75 PA Vehicle Code
- Title 67, Chapter 212, Subchapter C (also known as Publication 212, *Official Traffic Control Devices*)
- Publication 35, *Qualified Products List for Construction* (also known as Bulletin 15)
- Publication 408, *Construction Specifications*
- Publication 648, *Pavement Marking Handbook*

Key Considerations for a Pavement Marking Program

Any community considering a pavement marking program should discuss and assess several key questions or critical program elements. These include:

- What pavement markings should be installed and maintained?
- What pavement markings can be applied in-house versus contracted out?
- What materials will be used?
- What personnel are available to implement the program?
- What equipment is available or needed?
- Where will equipment and materials be stored?
- What annual budget is available for pavement markings?

Pavement Marking Responsibilities

Pavement markings are typically divided into two main categories: longitudinal lines and transverse markings. Longitudinal lines include those markings that are parallel to and go along the roadway, such as center lines, lane lines, and edge lines. Transverse markings include most other marking types, such as stop lines and crosswalks that are perpendicular to the roadway, as well as

symbols, legends, parking space markings, curb painting, and others.

Title 67, Chapter 212, Section 212.5, details who is responsible for installing and maintaining traffic control devices, including pavement markings. Municipalities are responsible for all pavement markings on local roads, as well as several pavement markings on state roads, including:

- Any transverse markings shown on the permit for a traffic signal
- Crosswalk markings at unsignalized intersections across a state route and at mid-block crosswalks

Many municipalities paint the transverse markings and use contractors for longitudinal markings. Available personnel and equipment may dictate the choices you make for which markings to apply and which to contract out. Remember that you will need the appropriate level of traffic control to install pavement markings, especially at busy intersections. One other key issue when using contractors is deciding on the methods you will use for quality control and assurance.

Equipment Needs

Your equipment needs will vary depending on the types of materials and markings you choose to apply. Most transverse markings can be applied with small paint machines or thermoplastic application equipment. Longitudinal lines require special trucks or truck-mounted equipment. You may be able to pool resources with neighboring municipalities or through councils of governments to jointly purchase more expensive and specialized equipment.

For some special projects, equipment can be leased or rented.

Material Storage

Pavement marking materials require space and may have unique storage requirements. For example, sections of thermoplastic markings must be stored flat and at appropriate temperatures. Paint totes also require shelter for storage and may

have special storage drums and disposal needs. Always follow manufacturers' guidance

Developing a Work Plan

There are many factors and variables to consider when establishing a formal pavement marking program. Life expectancies for the different styles and types of pavement marking materials are affected by weather, traffic, and other factors. Developing an annual work program and evaluating the materials, personnel, equipment, and other needs is a useful exercise for optimizing limited resources.



An option for some projects may be to rent specialized equipment.