

EDGE-LINE PAVEMENT MARKINGS ON TWO-LANE, TWO-WAY LOCAL ROADS

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Edge-line markings provide important guidance and information for road users. Edge lines delineate the edge of a roadway and/or travel lane. They can be used as a safety feature to provide road users with additional guidance around curves or over hills and are useful in adverse weather conditions, such as rain, snow, and fog. They can also be used to establish shoulders, parking lanes, and bike lanes and to indicate areas where travel is not permitted on the side of a paved surface.

The authority for municipalities to place pavement markings is granted in Title 75, the Pennsylvania Vehicle Code, along with a requirement to follow both federal and state regulations. The federal regulations for edge-line pavement markings (as well as other traffic-control devices) are contained in the 2009 edition of the *Manual on Uniform Traffic Control Devices (MUTCD)*. PennDOT has two publications with guidelines for pavement markings: Publication 46, *Traffic Engineering Manual*, and Publication 111M, *Pavement Markings and Signing Standards*.

Let's examine the requirements and applications of edge lines on a typical two-lane, two-way local road.

Use of Edge Lines

The MUTCD has specific criteria for when edge lines are required, recommended, or optional. The table below provides a summary of these requirements. For typical lower-volume, two-lane, two-way local roads, edge lines will likely be optional. They are also not typically placed on curbed

roads, especially if there are parking spaces or other markings. However, edge lines can be placed on any road where engineering judgment or study indicates a need.



A solid-white line delineates the edge of a two-lane, two-way road. The line is broken at an intersection.

	Area Type	Road Class	Average Daily Traffic	Travel Width (ft)
Required	Any	Freeways and expressways		
	Rural	Arterial	6,000	20+
Recommended	Rural	Arterial	3,000	20+
	Any	Any	Based on a study	
May Consider	Any	Any	Based on a study	

The MUTCD states that edge-line markings may be placed on any paved two-way, two-lane road with or without center-line markings. Further, edge-line markings should not be used where a study or engineering judgment indicates that they are likely to decrease safety.

Edge Line Criteria and Standards

Edge lines are solid-white lines that are not to be broken for driveways. However, the lines are broken for intersections. Edge lines can also be used to minimize driving on shoulders and paved surfaces that have less structural strength than the adjacent roadway.

It should be noted that roads do not have to have continuous edge lines. Short sections can be marked with edge lines for safety or additional guidance, such as around curves, over hills, at railroad crossings, and at bridges.

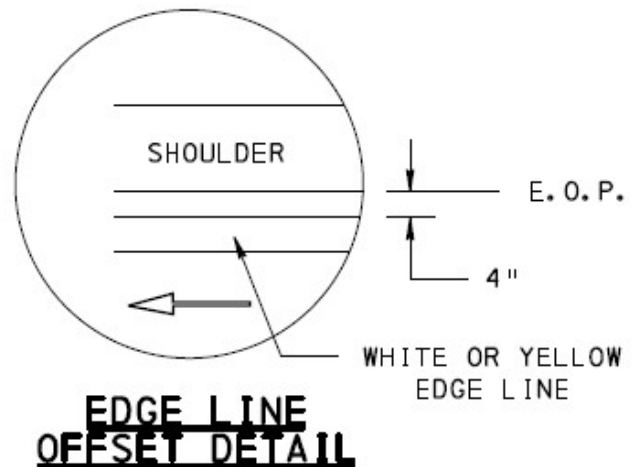


Edge lines and diagonal hatching can be used to help keep vehicles off a shoulder.

White edge lines on local roads are 4 inches wide. Wider edge lines (twice the normal width at 8 inches) can be used for additional emphasis, traffic calming, and safety applications.

Municipalities may use a variety of materials for edge-line markings although waterborne paint is commonly used on paved roads. Durable pavement markings (e.g., epoxy, thermoplastic, or polyurea) can also be used, although they are typically more expensive to apply.

In special situations, the edge lines can be supplemented with raised pavement markers (RPMs) or edge-line rumble strips. These treatments are countermeasures for safety problems, and their use should be based on an engineering study. Both measures can be helpful to provide motorists with additional guidance around curves and to reduce run-off-the-road crashes, according to the Federal Highway Administration in its publication, *Low-Cost Treatments for Horizontal Curve Safety* (FHWA-SA-07-002, 2006).



Edge-line requirements in PennDOT Pub 111M.



Placing longitudinal rumble strips along an edge line helps to increase safety although their use should be based on an engineering study.