Introduction

Pavement markings have different life expectancies and costs. Low cost pavement markings, such as paint, do not last, and must be replaced frequently. Pavement marking locations and traffic volumes are also determining factors that contribute to the life expectancy of the pavement marking.

The goal is to provide an appropriate pavement marking for all highways, 365 days per year.

Purpose and Definition

The purpose is to establish a statewide approach for pavement marking installation and material life.

An acceptable pavement marking is one that conforms in all respects to the principles and standards set forth in the Manual on Uniform Traffic Control Devices (MUTCD). During snow and ice operations pavement markings should provide delineation after bare pavement is attained.

Guidelines

Every effort shall be made to select pavement marking materials that are compatible with the anticipated life of the surfacing section, before the next surface treatment is performed, or are compatible with the expected life of the existing pavement marking materials on adjacent roadway sections. Pavement markings on projects shall be extended, as necessary, so transitions in material types are logical. For example, a short segment with short life material should not separate two road segments with longer life markings. Pavement marking portions of projects should also be extended so termination points of long life materials segments are logical. Examples include exit and entrance ramps within projects and extension of long life materials to major intersections or other logical termini. **The termini for longer life markings should be determined on a project prior to Project PS&E, between the District, Designer, and Design Traffic Safety Engineer.**

All pavement marking materials shall be installed according to the manufacturer's specifications. This may include removal of existing pavement markings and other surface treatments as recommended by the manufacturer.

Four tables are provided for guidance of pavement marking material selection based on rural or urban location, type of roadway, and anticipated surface life. If the use of a longer lasting pavement marking material, than what is shown, can be justified, then it would be acceptable to install this material.

The type of pavement markings should be determined as follows.

The designer should determine if the location is rural or urban, type of roadway and what the anticipated life of the surface pavement will be before the next surface treatment is performed.

The pavement marking material selected should have an anticipated life expectancy that is the same or less than the anticipated life expectancy before the next surface treatment is performed. **The Traffic Safety Section would be able to assist in this selection.**

Example: The expected life of the new pavement surface on a rural two lane two way highway is 20 years, but the pavement is to be seal coated in 1 to 4 years, therefore the anticipated life of new pavement is 1 to 4 years before the next surface treatment. This section of highway has a present ADT of <1500. Therefore, the pavement marking centerline should be paint and the edgelines should be paint.

Example: The expected life of a new pavement surface on a rural two lane two way highway is 20 years and the pavement will be seal coated in 2 to 4 years and the ADT is 1500 to 4000, therefore the pavement marking centerline should be epoxy and the edgelines should be paint.

Example: An asphalt surface having an expected life of 20 years on a rural two lane two way highway and the ADT is 1500 to 4000 is to be seal coated. It is determined that the seal coat has an anticipated life of 8 years. The centerline should be grooved epoxy and the edge line should be epoxy. The centerline could be placed and then have tape with masking placed just before the seal coat is placed. The masking shall be removed when the seal is completed. Edgelines should be marked using epoxy after the seal is placed.

Example: The expected life of a new concrete surface on a rural two lane roadway is 40 years and the pavement will be rehabilitated in 15 years, and the present ADT is over 4000, therefore the pavement markings that will meet these requirements is grooved epoxy for both centerline and the edgelines.

Pavement Marking Life Expectancy

Materials	**ADT**		
	<1,500	**1,500 - 4000**	**>4000**
Paint	1 yr.	1 yr.	<1 yr.
Epoxy	> 5 yr.	4-5 yr.	3-4 yr.
Grooved Epoxy	> 5 yr.	> 5 yr.	> 5 yr.
Tape	> 5 yr.	> 5 yr.	> 5 yr.
Grooved Tape	> 8 yr.	> 8 yr.	> 8 yr.

Rural
Pavement Marking Goals
Two Lane Two Way Highways

Anticipated Surface Life[1] (years)		ADT					
		< 1,500		1,500 - 4,000		> 4,000	
		Edgeline	Centerline	Edgeline	Centerline	Edgeline	Centerline
0 - 2		Paint	Paint	Paint	Paint	Paint	Paint
2 - 4		Paint	Paint	Paint	Epoxy	Epoxy	Epoxy
4 - 6	Asphalt	Paint	Paint	Epoxy	Epoxy	Epoxy	Epoxy
	Concrete	Paint	Paint	Epoxy	Epoxy	Epoxy	Epoxy
6+	Asphalt	Paint	Paint	Epoxy	Epoxy	Grooved Epoxy (A)	Epoxy
	Concrete	Paint	Paint	Epoxy	Epoxy	Grooved Epoxy (A)	Epoxy

(A) If grooved epoxy and rumble strips coincide, grooved epoxy should not be used and epoxy should be applied. Shoulder widths of less than 4', edgeline should have epoxy.

[1] Anticipated life of the surface is based on the design life of the new pavement or the anticipated time before the next surface treatment.

Rural
Pavement Marking Goals
Multilane Divided and Undivided Highways

		< 1,500		1,500 - 4,000		> 4,000	
		Edgeline	Centerline	Edgeline	Centerline	Edgeline	Centerline
0 - 2		Paint	Paint	Paint	Paint	Paint	Paint
2 - 4		Paint	Paint	Paint	Epoxy	Epoxy	Epoxy
4 - 6	Asphalt	Epoxy	Epoxy	Epoxy	Grooved Epoxy (A)	Epoxy	Grooved Epoxy (A)
	Concrete	Epoxy	Epoxy	Epoxy	Grooved Epoxy (A)	Epoxy	Grooved Epoxy (A)
6+	Asphalt	Epoxy	Epoxy	Epoxy	Grooved Epoxy (A)	Grooved Epoxy (A)	Grooved Epoxy (A)
	Concrete	Epoxy	Epoxy	Epoxy	Grooved Epoxy (A)	Grooved Epoxy (A)	Grooved Epoxy (A)

(A) If grooved epoxy and rumble strips coincide, grooved epoxy should not be used and epoxy should be applied. Shoulder widths of less than 4', edgeline should have epoxy.

[1] Anticipated life of the surface is based on the design life of the new pavement or the anticipated time before the next surface treatment.

Urban
Pavement Marking Goals
Two Lane Two Way Highways

Anticipated Surface Life[1] (years)		ADT					
		< 1,500		1,500 - 4,000		> 4,000	
		Edgeline	Centerline	Edgeline	Centerline	Edgeline	Centerline
0 - 2		Paint	Paint	Paint	Paint	Paint	Paint
2 - 4		Paint	Paint	Paint	Epoxy	Epoxy	Epoxy
4 - 6	Asphalt	Paint	Paint	Epoxy	Grooved Epoxy	Grooved Epoxy	Grooved Epoxy
	Concrete	Paint	Paint	Epoxy	Grooved Epoxy	Grooved Epoxy	Grooved Epoxy
6+	Asphalt	Paint	Paint	Epoxy	Grooved Tape	Grooved Tape	Grooved Tape
	Concrete	Paint	Paint	Epoxy	Grooved Tape	Grooved Tape	Grooved Tape

[1] Anticipated life of the surface is based on the design life of the new pavement or the anticipated time before the next surface treatment.

Urban
Pavement Marking Goals
Multilane Divided and Undivided Highways

Anticipated Surface Life[1] (years)		ADT					
		< 1,500		1,500 - 4,000		> 4,000	
		Edgeline	Centerline	Edgeline	Centerline	Edgeline	Centerline
0 - 2		Paint	Paint	Paint	Paint	Paint	Paint
2 - 4		Paint	Paint	Paint	Epoxy	Epoxy	Epoxy
4 - 6	Asphalt	Epoxy	Epoxy	Epoxy	Grooved Epoxy	Grooved Epoxy	Grooved Epoxy
	Concrete	Epoxy	Epoxy	Epoxy	Grooved Epoxy	Grooved Epoxy	Grooved Epoxy
6+	Asphalt	Epoxy	Epoxy	Epoxy	Grooved Tape	Grooved Tape	Grooved Tape
	Concrete	Epoxy	Epoxy	Epoxy	Grooved Tape	Grooved Tape	Grooved Tape

[1] Anticipated life of the surface is based on the design life of the new pavement or the anticipated time before the next surface treatment.