

Best Practices for Pavement Markings
To Aid in Meeting the Requirements of Technical Memorandum 08-10-T-02
FINAL DRAFT April-May 16, 2008

The following shall be considered during project development:

1. How pavement marking material selection impacts **BOTH** maintenance and program delivery.
2. Strategies to extend pavement marking service life such as offsetting the centerline joint of the final lift on all bituminous pavements 0.3m (**1 ft**) (e.g., one 3.3m (**11 ft**) lane and one 3.9m (**13 ft**) lane on a 7.2m (**24 ft**) wide pavement). The purpose of this offset is to separate the pavement joint and pavement markings so preventive maintenance activities do not interfere with the pavement marking performance.
3. Making an effort to select materials that are compatible with adjacent roadway sections. This may include extending project limits for pavement marking portions so transitions in material types are logical. For example, a short segment with short life materials 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 material segments are logical. Examples include exit and entrance ramps within projects and extension of long life materials to major intersections or other logical termini.

Relation of Pavement Marking Material Selection and Preventive Maintenance

The implementation of preventive maintenance practices effects the type of pavement markings materials and processes used. Preventive pavement maintenance plans should include measures to protect viable in-place durable pavement markings during preventive maintenance operations. If the District has a formal preventive maintenance plan, exceptions to the materials listed in the pavement marking policy will be considered for the use of tape on specific projects.

Recessing Markings

Recessing of pavement marking below the surface became necessary with the advent of thicker high performance pavement markings that are damaged or destroyed by snow plowing operations. The first of these markings was poly-preformed tape. New wet reflective markings also require recessing to insure wet weather performance after snow plowing activities. Two commonly used methods to accomplish recessing of these materials are:

- embedding the pavement marking tape into the road surface while the asphalt is still warm and
- grooving the pavement surface to provide a recess for installation of the marking material.

Care must be taken when selecting the particular method to recess the markings. The following table shows the advantages and disadvantages of inlaying and grooving:

Issue	Inlaying	Grooving
Traffic Disruption	Can be done during paving so additional lane closure is not required.	Requires additional lane closure after paving is completed.
Interim Markings	Does not require interim pavement markings.	Requires interim pavement markings for new construction.
Performance	Has reduced durability of tape due to 50-60% embedment.	Has improved durability to tape due to 100% embedment.
Control of Work	Is difficult to measure adequate embedment during construction, is generally evident only after snow and ice operations and pavement marking failure	Is easier to control work and achieve 100% embedment.
Material	Can only be used to recess poly-preformed tape on fresh HMA pavements (inlay temperature approx. 120-150F).	Can be used to recess any pavement marking material on any pavement surface.
Late Season Marking	Inlaying poly-preformed tape on fresh HMA pavements is difficult during late season applications due to the rapid cooling of the HMA	Application of any pavement marking material during late season applications is difficult and not recommended.
High Traffic Volume HMA mixes	HMA mixes for high traffic volume roadways utilize a high degree of crushed material to reduce rutting of the pavements. This makes it difficult to inlay poly-preformed tape at any pavement temperature.	Can be used to recess any pavement marking material on any pavement surface including high traffic volume HMA mixes.