

Reviewed By:

R.F. Cauley
 R.F. Cauley, P.E.
 Materials and Research
 Engineer



Prepared By:

C. Graham
 C. Graham
 December 20, 1996
 Page: 1 of 4

RESEARCH UPDATE

Update U96-15

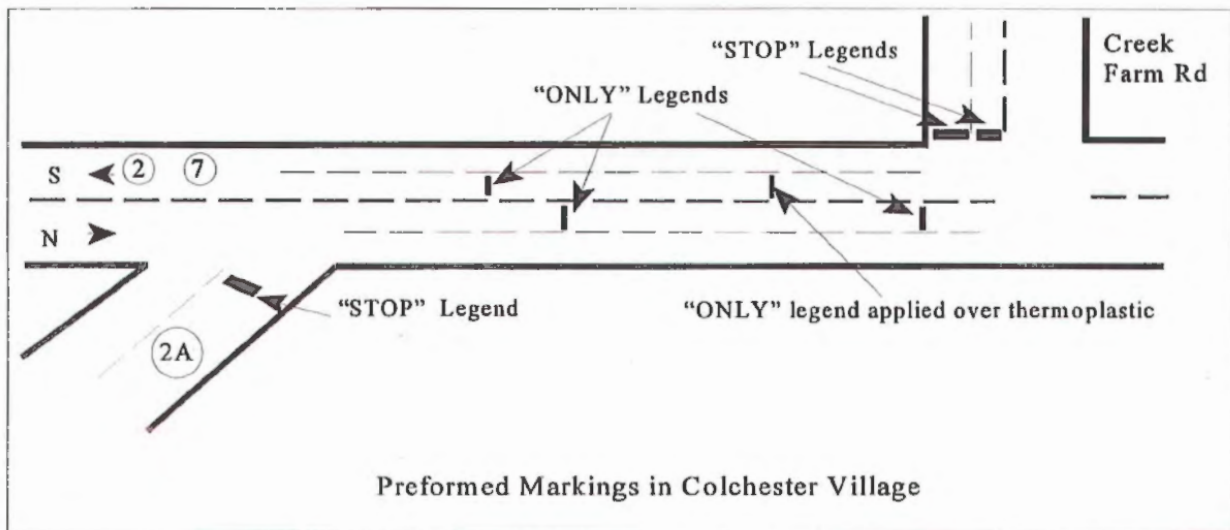
PREFORMED THERMOPLASTIC PAVEMENT MARKINGS

REFERENCE:

Research Updates U93-7, U94-6, U95-9

HISTORY:

On September 14, 1993, preformed thermoplastic pavement markings were installed as legends on Routes 7 and 2A in Colchester. The material was supplied by Flint Trading, Inc. of Thomasville, NC. Four legends were installed over pavement that had been ground to a depth of 6mm. Another was placed over an existing thermoplastic legend. The five legends were placed on the pavement and heated with a propane torch to adhere them to the asphalt.



These legends were rated as good in March, 1994. When they were inspected again on August 23, 1995, the markings had suffered a great deal of loss.

STATUS:

These markings were resurveyed on June 4, 1996, with little thermoplastic remaining. Figures 2 and 4 show this loss quite well. Almost all of the failure can be attributed to traffic wear from approximately 6500 vehicles a day. Other factors could be poor initial heating of the material and moisture in the pavement at the time of application. It should be noted that an adjacent thermoplastic edge line (Fig 1 and 2) suffered wear loss as well. In one instance, it appears that the legend material lasted just as long as the edge line.

COST:

Current cost for installation of these markings is as follows:

<u>Premark</u>		<u>Paint</u>		
Materials:	"STOP" (2) @ 138.60 ea.	\$277.20	5 gallons waterborne Paint @ \$6.00/gal	\$30.00
	"ONLY" (4) @ 138.60 ea.	\$544.40		
Equipment:	Propane	\$7.00	Paint Hand Cart 16 hours @ \$14.00/hour	\$224.00
Labor:	3 people @ 8 hours @ \$10.45/hour	\$250.80	2 people @ 16 hours @ 10.45/hour	\$334.40
Cost		\$1079.40	Cost	\$588.40
Recoat Interval		3 years	Recoat Interval	1 year
Cost per year		\$359.80	Cost per year	\$558.40

The Premark markings, although initially more expensive, were more cost effective than regular traffic paint at this intersection.

FOLLOW-UP:

During an inspection in August, 1996, it was discovered that all markings, except for the 2 STOP markings on Creek Farm Road had been painted over with waterborne traffic paint. Due to this and the fact that these particular markings have failed to achieve the expected life (6 to 8 times that of painted lines), it is recommended that this study be terminated.

Figure 1.

**Intersection
US 7 and Creek Farm Road**

August 23, 1995



Figure 2.

Same as above

June 4, 1996



Figure 3.

Left Turn Lane
US 7 and VT 2A

August 23, 1995



Figure 4.

Same as above

June 4, 1996

