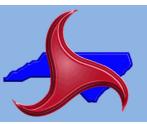
NCDOT Traffic Safety Unit Programs



Long-Life Markings & Wider Edge Lines on Rural 2-Lane Roadways

NCDOT completed a safety study of long-life pavement markings on rural 2-lane roads. The pavement marking material used on this project are what NCDOT considers "long-life markings" because they are generally more durable materials. The Department's primary interest in the long-life marking initiative was the anticipated improved safety performance on the treated corridors. Other benefits for long-life markings include long-term cost savings associated with material durability, reduced exposure of workers applying pavement markings, and planning for the use of autonomous vehicles.

Background

The new markings were installed on over 400 miles across 11 of 14 Divisions between 2014 - 2017. Four variations of center line and edge line pavement markings were studied:

- Standard Width (4" Wide) with Highly Reflective Elements
- Standard Width (4" Wide) with Standard Beads
- Wider Width (5"-6" Wide) with Highly Reflective Elements
- Wider Width (5"-6" Wide) with Standard Beads



6" Wide Markings with Standard Beads SR 1004/ Island Creek Rd in Jones County



6" Wide Markings with Highly Reflective Elements SR 1306/Beautancus Rd in Duplin County

Results

- √ 13% reduction in lane departure crashes after long-life markings (statistically significant)
- ✓ All groups saw crash reductions, but **best safety results for wider markings** with standard beads, which saw a 19% reduction in lane departure crashes (statistically significant)
- ✓ Long-life markings maintained adequate levels of retro reflectivity for years and are expected to provide 5 to 7 years or more of enhanced roadway delineation
- ✓ The significant safety results inspired a **statewide safety initiative** to invest millions of dollars to systemically apply long-life markings to thousands of miles of rural 2-lane roadways in North Carolina.
- ✓ Wider long-life markings are being deployed as a low-cost safety countermeasure on select secondary roads with concentrations of lane departure crashes.