

All Way Stop Control Evaluation

NCDOT completed a safety study of over 50 intersections in North Carolina converted from two-way stop sign control to all-way stop sign control.

Background

All-way stop control is a countermeasure that can be used to help alleviate crash problems at intersections with a pattern of high severity frontal impact crashes. The conversion to all-way stop control is relatively low cost, and in many cases the treatment can be quick and easy to implement.

The study includes a diverse group of four-leg intersections converted to all-way stop control in urban, suburban, and rural areas. Intersections with a range of volumes and approach speeds are included. The study is comprised of locations both with and without overhead and/or sign mounted flashing beacons.

The purpose of the evaluation is to measure changes in total intersection crashes; fatal and injury crashes; and frontal impact crashes after intersections were converted to all-way stop control.

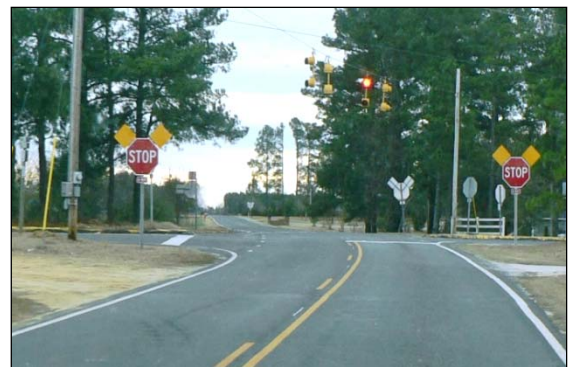
Results

The overall results from all study locations indicate a:

- 68% Reduction in Total Crashes,
- 77% Reduction in Fatal and Injury Crashes, and
- 75% Reduction in Frontal Impact Crashes.

Other key points of the study:

- There appears to be an even greater crash reduction at the higher speed (45-55 mph) treatment sites.
- The groups with flashing beacons appear to have performed better than those without.
- The conversion to all-way stop control is consistently effective at reducing crashes for a wide range of intersection volumes, and can be as effective at higher volumes as it is at lower.
- There is no evidence to suggest that approach volumes have to be nearly equal for the countermeasure to be effective from a safety perspective.



Study intersections converted to all-way stop control
Top: Aerial View; Bottom: Site Photo