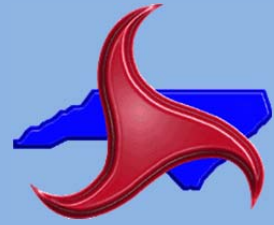


# NCDOT Traffic Safety Unit Programs



## Flashing Yellow Arrow Evaluation

NCDOT completed a safety study of over 200 signalized intersections in North Carolina where Flashing Yellow Arrow (FYA) has been implemented for left turn displays.

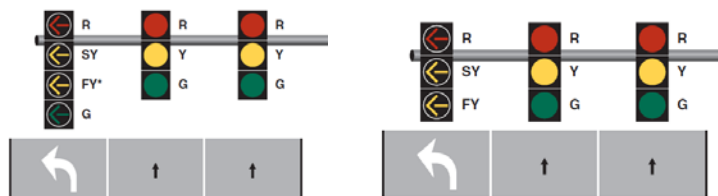
### Background

In the 2009 Manual of Uniform Traffic Control Devices (MUTCD), FYA was formally approved as the recommended configuration for protected/permissive and permissive left turn displays. As a result, NCDOT approved FYA as the preferred installation for new protected/permissive left turn installations.

Two types of FYA are used in North Carolina for left turn displays:

4-section FYA – Protected/Permissive Left Turns

3-section FYA – Permissive Only Left Turns



Left: 4-section FYA; Right: 3-section FYA (Image Source: 2009 MUTCD)

The purpose of the evaluation was to measure changes in total intersection crashes; fatal and injury crashes; and left turn crashes on approaches where the left turn display was converted to FYA.

### Results

The results were broken down into four categories based on the prior left turn display and which type of FYA was implemented. The largest category included 105 intersections where at least one left turn display was converted from a 5-section “doghouse” protected/permissive left turn to a 4-section FYA protected/permissive left turn. In this category, the signal phasing remained unchanged, only the left turn display(s) changed.

The results for this particular FYA category indicate a:

- 7% Reduction in Total Crashes,
- 15% Reduction in Fatal and Injury Crashes, and
- 22% Reduction in Left Turn Crashes on Approaches Treated with FYA.



Top: 4-section FYA; Bottom: 3-section FYA