

All Way Stop Safety Benefits in North Carolina



NCDOT is making a strong effort to reduce the 300 fatalities and 1,100 serious injuries that occur annually at rural NC intersections. Frontal impact crashes are a predominant crash type at these intersections and include **crash types associated with higher severities such as head-on, angle, left-turn, and right-turn crashes**. In North Carolina, 21% of frontal impact crashes occur in rural areas, but 67% of both fatal and serious injury frontal impact crashes are in rural areas.

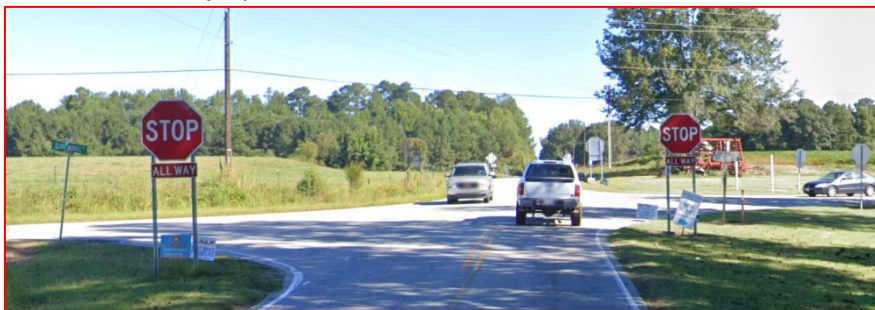
All Way Stop (AWS) is one the strongest solutions to improve safety for rural, high-speed intersections. Beginning in 2020, NCDOT magnified usage of the countermeasure to better influence safety trends. As of early 2023, roughly 450 AWS conversions have been funded as safety projects in North Carolina. Many projects have been implemented and more are underway across the state.



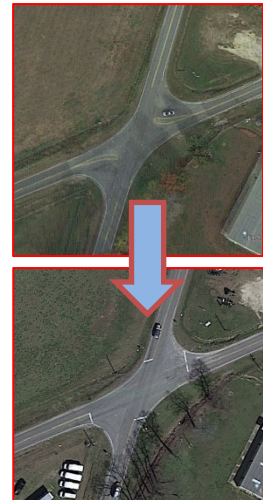
Case Study

SR 1701 (Wendell Rd) at SR 1716 (Lake Wendell Rd) in Johnston County – 2016 AWS Installation

- Total Crashes: **74% Reduction** (23 to 6 crashes)
- Frontal Impact Crashes: **76% Reduction** (21 to 5 crashes)
- Fatal and Injury Crashes: **83% Reduction** (12 to 2 crashes)



5.42 years before AWS: 0 Fatal, 2 Class-A injury, 1 Class-B injury, 9 Class-C injury & 11 PDO crashes.
5.42 years after AWS: 0 Fatal, 0 Class-A injury, 0 Class-B injury, 2 Class-C injury & 4 PDO crashes.



Before and after safety data has been compiled for all intersections converted from minor road stop control to AWS through Fall-2022 with the NCDOT safety program. The results show significant safety improvement and demonstrate AWS is providing a high safety benefit for North Carolina's rural communities.

Overall Results From 348 Intersections Indicate Significant Crash Reductions with AWS:

- Total crashes per year: **55% reduction**
- Frontal Impact crashes per year: **65% reduction**

Injury Crashes Significantly Reduced with AWS:

- Fatal and Class-A injury crashes per year: **92% reduction**
- Class-B and Class-C injury crashes per year: **72% reduction**
- Before AWS, there were 81 fatal crashes and 165 Class-A injury crashes
- **After AWS**, there were **NO fatal crashes** and 8 Class-A injury crashes

Overwhelming Effectiveness Across AWS Sites:

- 84% of intersections saw reductions in total crashes
- 89% of intersections saw reductions in frontal impact crashes
- 90% of intersections saw reductions in fatal and injury crashes

