ALL-WAY STOP-CONTROLLED INTERSECTIONS

UNDERSTANDING ALL-WAY STOP-CONTROLLED INTERSECTIONS IN NEW HAMPSHIRE

An all-way stop-controlled (AWSC) intersection is a type of intersection where traffic on every approach must come to a complete stop. These intersections are marked by stop signs in all directions, and the first vehicle to arrive has the right-of-way. Unlike two-way stops where only the minor road stops, AWSC applies a uniform rule for all drivers, improving predictability and adding a layer of safety redundancy consistent with the Safe System Approach, since it would now take mistakes by two drivers, rather than one, to result in a crash.

WHY AWSC? A SHIFT IN INTERSECTION SAFETY STRATEGY

Historically, many of New Hampshire's low-volume intersections were managed with two-way stop control. When safety concerns emerged, agencies often implemented enhancements such as:

- Large stop signs
- "Cross Traffic Does Not Stop" plaques
- Flashing beacons
- Sightline improvements

However, in some locations, these upgrades were not sufficient to reduce crashes. Recent safety initiatives have prioritized AWSC installations—even at locations that do not meet traditional volume warrants outlined in the *Manual on Uniform Traffic Control Devices (MUTCD)*—as part of a broader Safe System approach. This strategy acknowledges human error and focuses on reducing the severity of consequences when mistakes occur.

Photo Credit: New Hampshire Department of Transportation (NHDOT)

EVIDENCE FROM OTHER STATES

New Hampshire's interest in AWSC installations is informed by the success seen in other states:

North Carolina converted 53 intersections to AWSC and documented **an 83:1 benefit-to-cost ratio** as well as **zero fatal/serious crashes at 36 high-risk sites post-conversion**. In addition, their work showed:

- 68% reduction in total crashes
- 77% reduction in fatal and injury crashes
- 75% reduction in frontal-impact crashes
- $20,000 average cost per intersection

Delaware converted 20 intersections on local and collector roads and achieved a significant drop in severe crashes—demonstrating that AWSC is effective even outside high-traffic areas.

These outcomes support AWSC as a cost-effective, scalable solution for improving intersection safety.

AWSC IN NEW HAMPSHIRE: EARLY RESULTS

New Hampshire has begun to apply this strategy to intersections with known safety concerns, and early data shows promise.

- **NH 121 at Hooksett Rd in Auburn (2015)**
  Previously a 90-degree turn with visibility challenges. Conversion to AWSC resulted in lower crash rates.

- **NH 18 at NH 116 in Franconia (2021)**
  Site of frequent crashes prior to AWSC. Since conversion: *zero crashes reported*.
- **NH 153 at Ridge Rd & Glines Hill Rd in Eaton (2020)**
  Averaged six crashes over five years before AWSC. Since conversion: *no crashes reported*.
  Speed reductions on formerly uncontrolled approaches measured as high as 10 mph.

These examples illustrate the benefits of AWSC in rural and mixed-use settings—particularly in locations with crash histories, speed concerns, or poor geometry.

Photo Credit: New Hampshire Department of Transportation (NHDOT)

CONSIDERATIONS AND APPLICATION

AWSC is not universally appropriate, and agencies must assess each site's:

- Traffic volumes
- Geometry and sight distances
- Proximity to other controlled intersections
- Potential for diversion or driver frustration

However, when applied judiciously, AWSC can significantly enhance safety with modest investment.

KEY TAKEAWAYS FOR NH COMMUNITIES

- AWSC supports a safer, more predictable traffic environment
- Cost-effective solution, particularly for low- to moderate-volume intersections
- Strong evidence base from other states and emerging success in NH
- Aligns with New Hampshire's Safe System and data-driven roadway safety priorities

Photo Credit: New Hampshire Department of Transportation (NHDOT)

FOR MORE INFORMATION

Municipal and regional agencies interested in evaluating intersections for AWSC suitability should consult MUTCD guidance, coordinate with NHDOT, or contact UNH T2 Center for technical assistance.

UNH T2 is pleased to provide free and customized Technical Assistance to local road agencies on a variety of road maintenance and transportation infrastructure-related topics, including bridge and pavement preservation, gravel roads, winter operations, worker safety, and maintenance activities. Please reach out to t2.center@Unh.edu for additional resources, support, or technical assistance, or visit https://t2.unh.edu/.

UNH T2 Center
35 Colovos Rd., Durham, NH 03824
https://t2.unh.edu/ T2.Center@unh.edu
603.862.1362

University of New Hampshire
T2 Center