Piermont: NH 10 at NH 25/NH 25C

Discussion of safety concerns and possible countermeasures (including all-way stop)

August 12, 2025

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OUR MISSION

Serving and connecting New Hampshire through transportation

OUR VISION

A safe, reliable, connected, and multimodal transportation system, effectively managed by a dedicated and skilled workforce

OUR VALUES

We are **LEADERS**	*who achieve results by applying knowledge, acting with integrity and demonstrating excellence and accountability.*
We are **COLLABORATIVE**	*with our team members, partners, and customers in bringing responsible transportation solutions to and enhancing the quality of life in New Hampshire.*
We are **ADAPTABLE**	*As a public workforce, anticipating and responding to evolving customer needs.*
We are **CREDIBLE**	*—trusted by our communities and partners to maintain and enhance our transportation system with safety as our first priority.*

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CORE PRIORITIES

SAFETY	*Strive to eliminate fatalities and serious injuries on public roads and in our workplaces through innovation, investment, education, and partnerships.*
WORKFORCE DEVELOPMENT	*Empower, develop, and sustain a mission-oriented workforce that is proud to build and sustain careers at NHDOT.*
SYSTEM MANAGEMENT	*Leverage data, strategic insight, and tactical thinking to manage assets and transportation systems, building resilience in all circumstances.*
MOBILITY INNOVATION	*Support and encourage advanced technologies, operational enhancements, diverse transportation options, and provide information to support a connected multimodal system.*
CUSTOMER SERVICE	*Build trust and credibility by delivering clear, consistent, and accurate information, ensuring timely and well-informed responses.*

Overview/Agenda

- Introductions
- Safety concerns with subject intersection
- Previous measures to address concerns
- Discussion of possible countermeasures
- All-way stop control
  - Recent NHDOT implementations
  - ASWC as a systemic intersection safety countermeasure
- Discussion/Questions

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Safety Concerns at subject intersection

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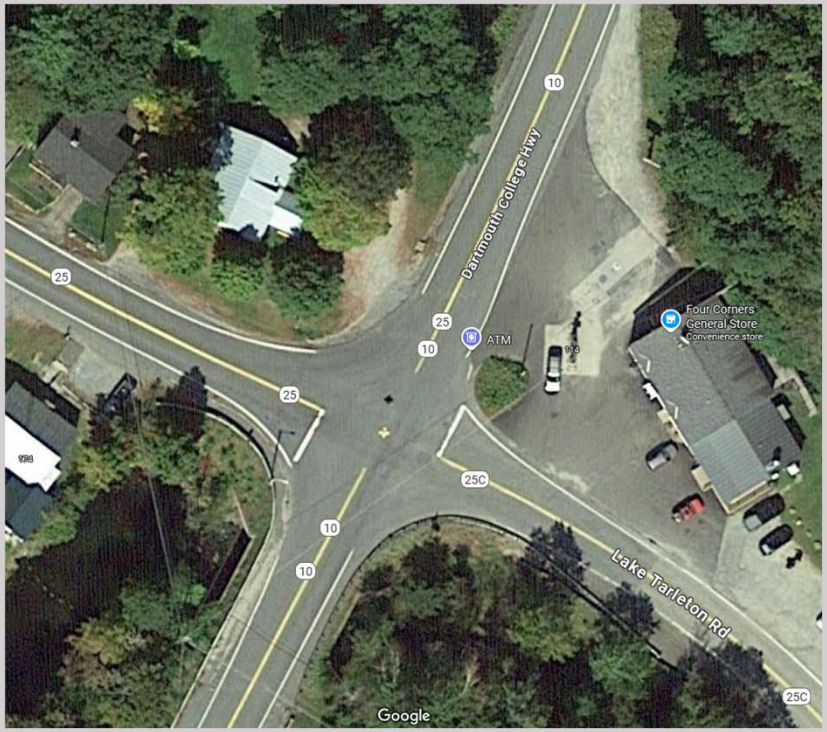
Safety concerns with subject intersection

- Intersection crashes, including right angle crashes
- NH 10 speeds
  - Northbound 85th percentile = 42 mph
  - Southbound 85th percentile = 47 mph
- Limited sight distance, especially looking left from NH 25
- Lack of access control, northeast corner



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Safety concerns with subject intersection

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- NH 10 speeds
  - Northbound 85th percentile = 42 mph
  - Southbound 85th percentile = 47 mph
- Limited sight distance, especially looking left from NH 25
- Lack of access control, northeast corner
- Visual clutter distracting drivers

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Previous measures to address concerns

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Previous measures to address concerns

- Reduce speed limit through intersection

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Previous measures to address concerns

- “CROSS TRAFFIC DOES NOT STOP” plaques on STOP signs

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Previous measures to address concerns

- Overhead intersection control beacon

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Paradigm shift

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Possible countermeasures What's left?

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Possible countermeasures, what's left?

- Further STOP sign enhancement?
  - Flanking signs at intersection
  - Flanking STOP AHEAD signs
  - Attached flashing beacons or LED enhanced STOP signs (and STOP AHEAD signs)

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Possible countermeasures, what's left?

- Traffic signal control?
  - Traffic volumes do not likely meet "warrants" for traffic signal control
  - Significant capital improvement that would need to compete with other needs
  - Likely requires widening and related right-of-way acquisition
  - Generally trades crash severity for crash frequency

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Possible countermeasures, what's left?

- Roundabout (or compact/mini)
  - Significant capital improvement that would need to compete with other needs
  - Likely requires widening and related right-of-way acquisition
  - Would require access control of adjacent commercial property

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All-way Stop Control

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All-way Stop Control

- Two states recognized for converting 2-way stops to all-way stops, Delaware and North Carolina
  - "2023 National Roadway Safety Awards recognize innovations to protect pedestrians, cyclists, and motorists as pandemic spike in road fatalities continues mostly unabated"
  - **"Ten innovative highway safety projects, representing the very best of the nation's roadway safety practices,…honored with National Roadway Safety Awards…"**
  - **Delaware Department of Transportation (DelDOT)** for converting 20 low-volume intersections from two-way to all-way stops.
  - **North Carolina Department of Transportation (NCDOT)** for significantly reducing the number of fatal and serious crashes at rural intersections

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Delaware

- Systemic project initiated in 2021 with 15 intersections
  - 5 intersections added in 2022 (2-years of “after” crash data available)
  - 5 intersections added in 2023 (1-years of “after” crash data available)
- On average, all types of crashes (angle, rear-end, single vehicle, and “others”) decreased
- On average, frequency of all severities of crashes (PDO, injury, and fatal) also decreased
- Local roads and collector roads saw reductions in annual crashes
- **12/25 locations did not meet MUTCD crash criteria**

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Delaware

Table 2. Annual Crashes at 25 Newly Converted AWSC Intersections

Total Annual Crashes from All Study Intersections	Crash Type					Severity		
	Total	Angle	Rear End	Single Vehicle	All Others	PDO	Injury	Fatal
Before	120.67	67.33	17.00	19.33	17.00	70.33	48.67	1.67
After	52.33	22.67	12.17	11.33	6.17	43.67	8.67	0.00
% Change	-57%	-66%	-28%	-41%	-64%	-38%	-82%	-100%

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North Carolina

- Safety study evaluated 50 intersections (four-leg, 2-way stop control to all-way stop control)
  - 68% reduction in total crashes
  - 77% reduction in fatal and injury crashes
  - 75% reduction in frontal impact crashes
  - Benefit to cost ratio of 83:1 (at estimated $20,000 per location)
    - Based on 36 locations where there were 26 fatal and serious injury crashes before, zero after
- “Where there is a demonstrated safety problem and a pattern of crashes at an intersection, AWSC should be considered.”

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North Carolina

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All-way stop control

- Opportunities
  - Promotes safer speeds on major route
  - Requires all drivers to stop, reduces odds of two drivers entering intersection at the same time
  - Slower/stopped traffic provides a safer environment for pedestrians
  - Does not require long-term commitment to flashing beacons or other STOP sign enhancements
  - Can be implemented almost immediately
- Challenges
  - Requires short-term re-education of familiar drivers (enhanced conspicuity for new STOP signs and short-term deployment of changeable message signs)
  - Introduces new delay for Major street traffic
    - May need to conduct intersection analysis to determine scope
  - Cultural and institutional resistance to change and/or inconvenience

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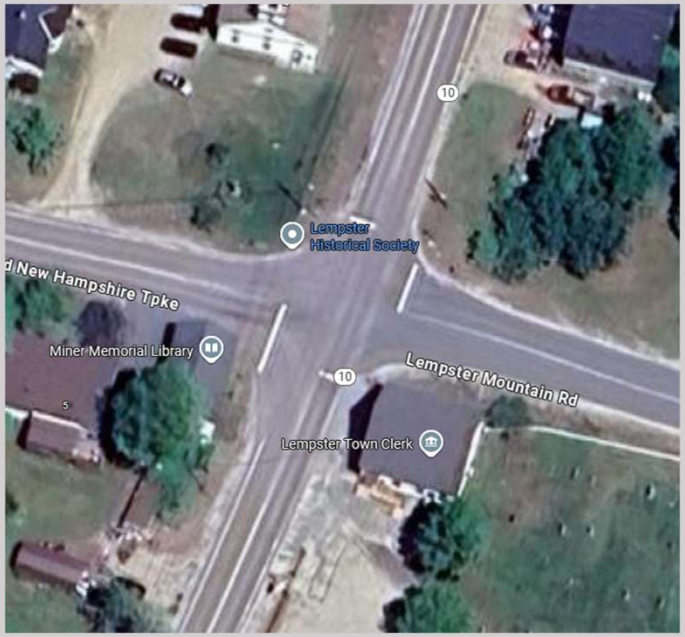
All-way stop control – recent examples

- Lempster, NH 10 at 2nd NH Tpk



- Salisbury, US 4 at NH 127

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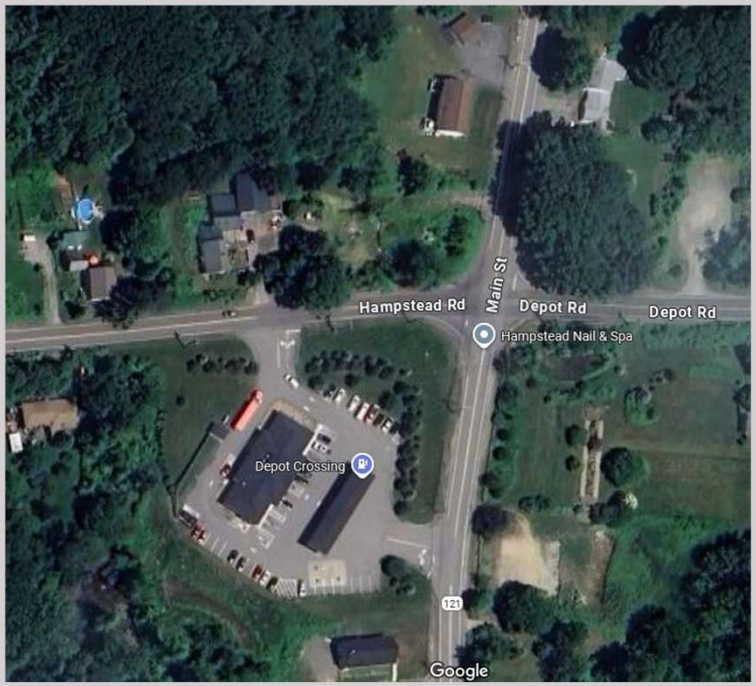
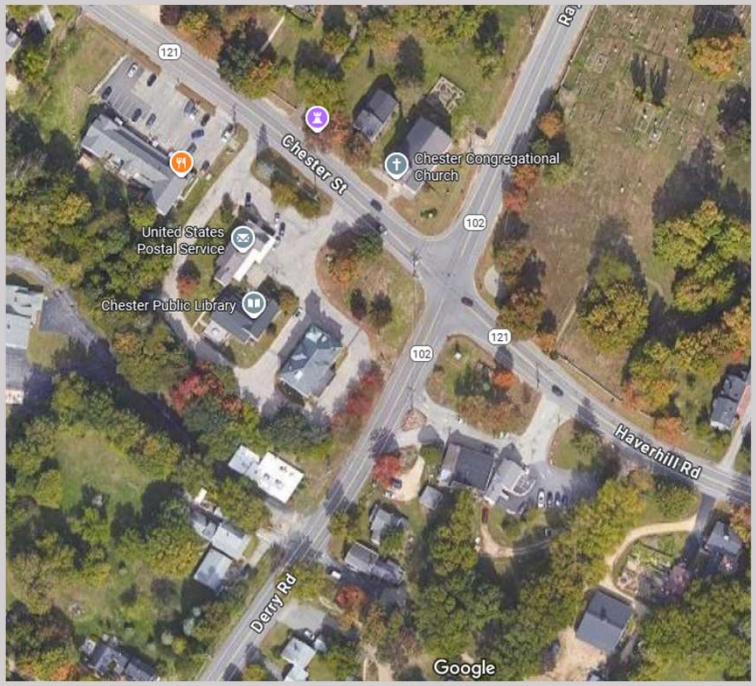
All-way stop control – recent examples

- Hampstead, NH 121 at Derry Rd



- Chester, NH 102 at NH 121



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Change is hard…

- *"You're an absolute idiot for putting a 4 way stop intersection at the CENTER OF CHESTER?! Have you ever lives (sic) in this town or are you just some dumb*** bureaucrat that thinks things look good on paper? I personally will look into what can be done to get you fired. Dumb*** piece of sh** f***ing up everyone's daily lives, go f*** yourself"*
  - E-mail from angry resident after public announcement of change to AWSC

- *"I will say that even with the icy and snowy weather we've had for the past week or so I've heard zero complaints about/from people coming up the hill from Derry and stopping at the 4-way stop. Zero!"*
  - From town administrator four months after implementation

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All-way Stop Control

- NHDOT Systemic intersection safety project based on network screening and intersection ranking of predicted annual crashes
  - 5,300 intersections considered based on:
    - Cross road with two through routes
    - Cross road with 1 thru route, 2 end routes
    - Cross road with 4 end routes
  - Deleted intersections with negligible minor road traffic volumes
  - Deleted intersections with greater than 13,000 vpd total for all approaches
  - Deleted intersections near intersections controlled by traffic signals
  - Deleted intersections with turn lanes, intersections other than 4-leg, one-way approaches
- Final result was a ranked list of 102 intersections

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All-way stop control - Piermont

- Subject intersection was not included in final intersection ranking
- Traffic volumes and other conditions suggest all-way stop control could be a viable intersection safety countermeasure

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All-way stop for subject intersection

- With local support?
  - Intersection will be flagged for implementation as opportunity and resources allow
  - May be included in future systemic, highway safety funded, capital project, or possibly by NHDOT forces
- Without local support?
  - NHDOT would not pursue all-way stop control
  - Town of Piermont would need to pursue alternative intersection improvement (e.g. mini-roundabout) through the Ten-Year Plan

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Questions?

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