



## NEW HAMPSHIRE DOT

ISSUE	STRATEGIES	TAKEAWAYS
<ul style="list-style-type: none"> <li>Legacy speed limits</li> <li>Setting credible speed limits</li> <li>Supporting local agencies</li> </ul>	<ul style="list-style-type: none"> <li>Coordination between DOT and local agencies</li> <li>Engineering, enforcement, and educational approach</li> <li>Team effort</li> </ul>	<ul style="list-style-type: none"> <li>Alignment of speed limits with roadway context</li> <li>Working together with enforcement</li> <li>Support for local agencies</li> </ul>

### Background

New Hampshire DOT (NHDOT) is working to promote “reasonable and safe” speed limits for conditions and in a number of instances found that raising the existing speed limit was the appropriate solution.

Establishing and managing credible speed limits impacts safety. Community safety often suffers when we reduce speed limits in reaction to an event without considering the context and operations of the roadway. Educating the public one town or one highway segment at a time takes a lot of effort and it is not always received well. However, when explaining why a speed limit should fit the character of the roadway, the NHDOT has been pleasantly surprised by the number of people that seem to “get it.” (B. Lambert, interview with the author, December 30, 2019).

### The Challenge

There is a general consensus that where traffic speeds are a concern, lowering the speed limit is the perceived solution even if it is understood that the requested speed limit value is well below what is considered “reasonable and safe” for conditions.

Decades of questionable speed limit practice have resulted in a network of speed limits that are not always credible with respect to actual conditions thus contributing to a culture that treats the speed limit as a minimum, not a maximum value.

This culture is often reinforced through the actions of the courts where law enforcement is rumored to be forced to include a tolerance of as much as 10-15 mph over the posted speed limit to secure speeding convictions. (B. Lambert, letter to DOS/Chiefs of Police, November 5, 2019).

NHDOT has worked with a number of communities to address locations where posted speed limits were out of character for the conditions thus creating both safety and enforcement concerns. Table 1 shows the excessive speeds observed where posted speeds were ultimately increased.

**Table 1. Spot speed study examples**

Roadway	Speeds (mph)		
	Posted	85th Percentile	Difference
US Route 3 at NH Route 28	40	58	18
Wakefield NH 153	35	49	14
Wakefield NH 153	35	46	11
Wakefield NH 153	35	47	12
Hancock, US Route 202	45	55	10
Hancock, US Route 202	40	56	16
Candia, NH Route 27	35	48	13

# Setting Credible Speed Limits



**Curve warning signage in Wakefield, NH.**

*Image Source: Bill Lambert, NHDOT*

When NHDOT presents this information to communities, they also show how speed limits have a relationship with other traffic control devices. For example, required passing sight distance and curve warning signage are a function of the posted speed limit and mid-block crosswalks are not allowed where posted speed limits are greater than 40 mph (see Curve warning signage photo).

NHDOT also emphasizes to communities that speed limits need to be credible for the character of the road, including horizontal and vertical geometry, lane widths, on-street parking, roadside amenities, adjacent land uses, and all roadway users.

A credible speed limit should result in voluntary compliance by the majority of drivers based on these criteria. They note that if there is a desire to have lower speeds, it can only be achieved if the character of the road is also changed.

## Working with Communities

One thing that NHDOT always points out to communities is that by recommending an increase in the speed limit, they are not advocating that traffic speeds be increased beyond existing conditions, they are advocating that speed limits reflect the true nature of the segment so they are more likely to be respected as a reasonable and safe maximum.

NHDOT has reviewed—and where appropriate—increased speed limits within a number of communities based on traffic and engineering investigations. For example, within the communities of Wakefield and Candia, the posted speeds were changed from 35 to 45 mph.

Specific to Candia, records indicated that the 35 mph speed limit was established at approximately the same time as when traffic signals were installed (roughly 1967). Current practice would not consider the presence of a traffic signal as a reason for reducing the speed limit. The Bureau of Traffic conducted an engineering and traffic investigation with the MUTCD practice for determining credible speed limits being that they are set within 5 mph of the measured 85th percentile speed. NHDOT also used a web-based program produced by FHWA, USLIMITS2, to compare the results. This considered several other factors, including traffic volume, road character, and crash history to determine a recommended speed limit.

On review of the engineering and traffic investigation with enforcement, there was agreement that increasing the posted speed limit through the traffic signal controlled intersection to 45 mph would be more credible, and therefore more enforceable, than the current 35 mph speed limit. The new 45 mph posted speed required that the nearby traffic signals adjust for “dilemma zone” protection.

In Wakefield, the local police chief struggled to enforce the 35 mph speed limit. If motorists were stopped and ticketed at 45-50 mph, they were essentially penalized for traveling at a speed that was reasonable and safe for conditions; however, if they were stopped and ticketed at 60-65 mph, a speed that was considered marginally excessive, they were required to appear in court and faced a much stiffer penalty due to the fact that they were stopped at 25 mph over the posted speed limit. The DOT worked cooperatively with local police to complete an engineering and traffic investigation that supported increasing the speed limit to 45 mph.

Prior to replacing the speed limit signs, the DOT evaluated the horizontal alignment signing and passing zones based on the proposed speed limit and determined that an additional 200 horizontal alignment signs were added over approximately 12 miles, arguably providing additional safety information for the majority of drivers<sup>1</sup>.

## Key Takeaways and Lessons Learned

- **Legacy Speed Limits** –There is a lot of attention given to highway speed and related safety concerns. In some cases, agencies are faced with legacy speed limits which were lowered in reaction to a safety event without consideration of motorists' compliance, the roadway setting, and multiple years of crash history.
- **Culture** – The collective challenge is to develop a culture where the posted speed limit is recognized and respected as the maximum safe and reasonable speed for the subject highway segment, especially when there are examples of locations where that is not the case.
- **Engineering** – The effort begins with engineering as speed limits need to be credible for the character of the road, including horizontal and vertical geometry, lane widths, on-street parking, roadside amenities, and adjacent land uses. Enforcement presents a different set of challenges. Speed studies completed by the Department of Transportation routinely demonstrate that the majority of motorists operate at speeds in excess of the posted speed limit. Education may be the broadest category and the least defined as there are a number of areas where education can be applied to address speed management.
- **Team Effort** – NHDOT recommends that effective speed management be a joint effort between the State DOT, Office of Highway Safety, Division of Motor Vehicles and Public Safety, and the New Hampshire Chiefs of Police with a focus on engineering, enforcement, and especially education. There may be additional highway safety advocates that could also be effective partners in this effort, many of whom are identified as stakeholders in the state Strategic Highway Safety Plan.

1 Lambert, William. *Speed Limits and Setting State Speed Zones: Selectmen's Meeting* [Presentation]. Candia, NH, November 14, 2016.