October 1, 2013

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DESIGN

CONFERENCE REPORT

PROJECT: Fitzwilliam
16211
NH 12/ NH 119 intersection safety improvements

DATE OF CONFERENCE: September 24, 2013

LOCATION OF CONFERENCE: Fitzwilliam Town Hall

ATTENDED BY: Mike Dugas
Trent Zanes
Steve Babalis
Paula Thompson – Fitzwilliam Town Administrator
Approx. 20 residents

SUBJECT: Public informational meeting

M. Dugas began with a recap of the September 2012 public informational meeting. Alternatives that had been discussed included the following:

1. Realign the NH 119 intersection approaches to improve the angle of the crossing, thereby improving sight lines and turning paths. This option was shown to be costly and to severely impact the abutting properties.
2. Realign NH 119W along Jaffrey Road and slightly improve NH 119E to create two separate stop sign controlled 'T' intersections on NH 12: It was agreed that this design would create inefficient east/west traffic movements, and the 400' intersection spacing would be inadequate to provide safe deceleration distance and queue storage for the northbound and southbound left turns on NH 12. In addition, the NH 119 improvements could impact historic properties, and the design of NH 12 would do nothing to slow through traffic.
3. Install traffic signals in the existing intersection configuration: Traffic volumes are marginally high enough to support the installation of signals; however, the attendees generally felt that signals would do little to reduce speeds through the intersection on NH 12.

The outcome of the meeting was that none of the three alternatives was supported by those gathered. The consensus was that the Department should focus on identifying

improvement alternatives that could calm NH 12 traffic and reduce speeds through the intersection.

As a means of refocusing the design effort, M. Dugas listed the key deficiencies that had been identified by the 2009 Road Safety Audit. The key deficiencies included the high speeds on NH 12, the skewed angle of the intersection, the sight distance obstructions created by vegetation and side-by-side vehicles on NH 119, poor traffic operations at the stop signs, and the congestion caused by the driveways near the intersection. The attendees confirmed that these issues remain, and that the high speed of traffic is the most serious concern. They felt that if we could effectively control speeds, other safety concerns would be lessened.

M. Dugas reviewed some new design alternatives meant to calm traffic along NH 12.

1. Alternative 1: Install speed reduction medians. Short medians would be installed on NH 12 north and south of the intersection to deflect the path of vehicles headed toward the intersection. A similar design is planned for NH 101 in Dublin. To be effective the medians would need to be curbed rather than simply painted. Unfortunately, the median south of the intersection would need to be roughly 1,200' south of NH 119 in order to not interfere with driveways. This placement would likely reduce its effectiveness in slowing northbound traffic. This alternative could be accomplished within the existing right of way, and could be used in combination with other intersection improvement alternatives.
2. Alternative 2: Provide two-way left turn lane near intersection to accommodate left turns at driveways. The existing NH 12 pavement width could be reallocated to provide a two-way left turn lane by narrowing the existing wide shoulders. The narrower shoulders and the turn lane could result in some traffic calming by showing that the nature of the road near the intersection (three lanes with narrow shoulders) is different than the high speed design that exists away from the intersection (two lanes with wide shoulders). It appears that this alternative could be accomplished within the right of way.

Several roundabout alternatives were developed and discussed. While a roundabout would certainly calm traffic and would provide satisfactory traffic operations, these alternatives would be much more costly than other options; this level of project cost would be difficult to justify in the Highway Safety Improvement Program. The concept study made it clear that in order to serve the skewed approaches of NH 119, a standard generally circular roundabout design would need to be large and would unavoidably impact private property. The need to avoid, or at least minimize, property impacts resulted in some 'unconventional' roundabout designs.

1. Roundabout alternative 1: Elongated 'peanut' design – this alternative would minimize property impacts and retain access to driveways. The northbound right turn would be difficult for trucks, as it is today. It is recommended that Old Jaffrey Road be made one way toward NH 119 to prevent its use as a shortcut.
2. Roundabout alternative 2: Create oval roundabout at NH 119 east intersection and relocate NH 119 west to Old Jaffrey Road where it would meet NH 12 at a stop sign controlled intersection. Some property impacts would be likely along

Old Jaffrey Road and near the roundabout. The commercial driveway on NH 119 west would remain, but on the remnant segment of NH 119.

3. Roundabout alternative 3: Similar to alternative 2, but realign NH 119 west to meet roundabout. This alternative would avoid property impacts along Old Jaffrey Road, but would impact to two commercial parking lots on the west side of NH 12 at the intersection.
4. Roundabout alternative 4: Similar to alternative 2, but with the roundabout positioned at NH 119 west. NH 119 east would join NH 12 at a stop sign controlled intersection just south of the roundabout.

The alternative designs were generally well received, although the attendees understood that the high cost of the roundabouts as well as their unconventional design could be difficult obstacles to implementation. It was agreed that the DOT would continue to validate and refine Alternative 1, compile rough cost estimates for the range of alternatives, and post the drawings to the project web page (all agreed that Roundabout alternative 4 was not feasible and didn't need to be posted). M. Dugas asked the Town to provide whatever crash records they have for the intersection so that the project team can strengthen the case for safety investments.

Submitted by:

/s/ Steven J. Babalis

Steven J. Babalis, P.E.
Preliminary Design Engineer

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