

MAST ROAD INTERSECTIONS PROJECT

Steering Committee Meeting No. 2 Summary of Discussion

The Steering Committee met to discuss the Mast Road Intersections Project. The proposed project is intended to improve two intersections along Main Street (NH Route 114) at High Street (NH Route 13) and Elm Street and at Pleasant Street (NH Route 13).

When: Tuesday, June 25, 2013
6:00 PM – 9:00 PM

Where: Goffstown Town Hall, Room 106
16 Main Street
Goffstown, NH

Committee Members (Full Committee)

In Attendance: Larry Brown – Community At Large Representative
Don Ball – Community At Large Representative
Ray Taber – Community At Large Representative
Beverly Powden – Community At Large Representative
Dave Smith – Community At Large Representative
Cynthia Boisvert – Main Street Program Representative
Ruth Gage – Historic District Commission Representative
Collis Adams - Selectmen Representative
Brian Hansen - Planning Board Representative

Staff Members and Others

In Attendance: Rich O'Brien – Fire Chief
Brian Rose – Town Planner
Meghan Theriault – Town Engineer
Carl Quiram – Public Works Director
Representative of the Library Board of Trustees
Michael Long - McFarland Johnson (MJ)
Brian Colburn – MJ

1. Meeting Summary and Purpose and Need Statement – MJ opened up the meeting by asking if anyone had any comments regarding the previous meeting summary and the purpose and need statement. No additional comments were received and so those items are considered closed.
2. Pleasant Street Alternatives Discussion – MJ presented a matrix summarizing the characteristics of the three alternatives developed at this intersection: traffic signal, roundabout, and “no-build”. The roundabout and traffic signal were presented at the previous meeting and the No-build alternative was presented at this meeting. The No-build alternative essentially maintains the existing intersection configuration but reduces

MAST ROAD INTERSECTIONS PROJECT

the pavement area, confining drivers to more defined lanes. These changes should eliminate some confusion at the intersection, making it safer than the existing layout. It would look similar to a roundabout, however it does not include two critical elements of the modern roundabout. It does not include horizontal deflection of the through vehicles or yield on entry. Without these elements it will not function as safely as a modern roundabout. The figures and matrix are attached to this meeting summary.

- a. There was much discussion about all three options but it should be noted that both the roundabout and traffic signal create long queue lengths on South Mast Road/Main Street during the peak hour of the design year (2034), with the roundabout queues being the longest. It is apparent that there are just too many vehicles utilizing NH 114 to travel to and from the communities to the west during the normal commute times (approximately 7 to 8 AM and 4:30 to 5:30 PM). The high volume of vehicles will cause any intersection configuration to function poorly during these times without increasing the number of through lanes. It was also made clear to the committee that any vehicles trying to access NH 114 from a side road (including Pleasant Street/NH 13) will have difficulty during the peak hour. Consequently, any intersection configuration that restricts travel on NH 114 to allow side road vehicles to enter the traffic stream will cause delays on the main route. The No-build alternative maintains the use of stop signs for Pleasant Street traffic, thus it does not impact traffic flow on South Mast Road/Main Street.
- b. Fire Chief Richard O'Brien emphasized that he has some concerns about roundabouts with regard to how emergency vehicles travel through them on their way to a call. He feels that his vehicles lose less time traveling through traffic signals as they are equipped with a signal pre-emption device, allowing the emergency vehicle to control the function of the signal, stopping all vehicles not moving in the same direction as the emergency vehicle. MJ agreed that there may be some additional delay using a roundabout versus a traffic signal, but that the difference is small. MJ will investigate further to see if there is any research on the subject that quantifies the delay differences.
- c. The Chief also questioned the crash data from the Police Department, suggesting that there may be more crashes at the Wallace Road roundabout than were reported. He promised to send the data that he has for comparison. In general, most roundabouts across the United States have shown significant reductions in crashes after installation.
- d. The Chief and some other members of the Committee also expressed some concern that if long queues were created at the

MAST ROAD INTERSECTIONS PROJECT

intersection, vehicles would try to bypass the intersection using East Union Street. If this occurs, it may be necessary to implement some traffic calming devices on East Union Street to keep vehicle speeds down.

- e. MJ recommended eliminating the pedestrian crossing at East Union Street and relocating it in some way, ideally to the intersection with Pleasant Street. The No-build option created essentially a “mid-block crossing” that could incorporate an actuated signal to provide a safer crossing. Mr. Taber, who lives close to the Union Street intersection, stated that the crossing sign that was located in the street helped alert vehicles to the presence of the crosswalk.
 - f. After much discussion, Selectman Adams suggested that the Committee go forward with the roundabout option. He felt that the safety benefits and the fact that traffic signals do not fit the context of the village were critical factors in his recommendation. After additional discussion, it was decided to hold one additional meeting to allow the Committee to consider the options and come to a consensus.
3. North Mast Road/High Street/Elm Street/Main Street Intersections Alternatives Discussion – As with the Pleasant Street Intersection, MJ presented a matrix illustrating pertinent information about each of the alternatives developed at this intersection. In addition, MJ added two of the alternatives developed by the NHDOT in 1998. The alternatives developed are listed below.
- a. Traffic Calming Option – This option was refined from that presented at the previous meeting. This option attempts to improve pedestrian safety by slowing motor vehicles utilizing narrower lanes as well as providing traffic islands and curb “bump-outs” to also slow traffic and reduce crosswalk lengths. However, once truck turning templates were developed it became apparent that this option would not provide the traffic calming advantages envisioned by the Village Planning Committee that developed it in 2008. The traffic islands and curb extensions would need to be mountable to allow large trucks to make normal movements, thus greatly reducing the safety benefits to pedestrians.
 - b. Traffic Calming Option with Signals – This option has the same issues regarding turning vehicles. The traffic signal has an acceptable level of service during the morning peak hour, but fails during the evening peak. In both cases long queues will result. Some members of the Committee expressed concern about having traffic signals in the village center due to the context issue. It was also noted that the traffic signal would operate as one coordinated system. Due to the distance between High Street and Elm Street, it would be necessary to have long “all-red” times between phases to

MAST ROAD INTERSECTIONS PROJECT

avoid trapping vehicles in the area between the intersections. This would cause the signal to run inefficiently, but would not totally preclude operational safety issues.

- c. Roundabout Options – Three roundabout options were developed further. They were a signal roundabout, a dual mini-roundabout, and a single roundabout at High Street with stop control on Elm Street. In addition, two options were developed to illustrate the single roundabout alternative – a “peanut” shape and a circular roundabout with “slip” lanes. Each option had long queues due to the same issues that were apparent at the Pleasant Street intersection – too much volume on Main Street/North Mast Road. The differences between the roundabout options are apparent in that the single roundabout option would have large property impacts, requiring the relocation of the library (included in the cost estimate) and causing impacts to the bank, while the mini-roundabout option would essentially fit into the existing pavement area.
- d. NHDOT Options – In 1998, the Town asked NHDOT to evaluate the High and Elm Street intersections and propose a solution. In researching the NHDOT options it was found that these intersections met the warrants for a traffic signal as far back as 1987. In 1998 both a three lane option and a four lane option were developed, with both options having traffic signal control. Using the NHDOT hard copies, MJ created drawings that illustrated these alternatives. The design traffic volumes used at that time are similar to those projected by MJ for 2034. Both of these options eliminate parking along the street and function poorly during the design year, as well as suffering from the same concerns about “trapping” vehicles between the intersections and not fitting the village context. In 1998 the Selectboard decided that there was insufficient support to move forward with either alternative.
- e. As with Pleasant Street it was decided to defer a decision until the next meeting.

4. Requirements for Next Meeting

- a. Chief O'Brien will provide addition crash data at Wallace Road
- b. MJ will develop the following items
 - i. Check Cost Estimates
 - ii. Research emergency response through roundabouts versus traffic signals

5. Next Meeting will be July 9, 2013 at 7:15 PM

These notes were prepared by MJ