



Engineering Services Division

Traffic Operations Committee

Meeting Minutes – June 18, 2013

Attendees: Rob Mack, PE, PTOE, Engineering Services
Ed Roberge, PE, Engineering Services
Greg Taylor, Concord Police Department
Rick Wollert, Concord Fire Department

A. Regular Discussion Items

1) Overview of city-wide accident data, including prior-month accident summary and discussion of select accident locations, circumstances and potential action.

DISCUSSION / ACTIONS: Traffic accident data for May 2013 was reviewed. There were 93 reportable accidents in May 2013. This compares with 84 and 82 reportable accidents in May 2012 and 2011, respectively. 18 accidents resulted in total of 29 people injured. There was one reported fatality which appeared to medically related, involving a driver off the road and slumped over.

There was one accident involving a pedestrian: a pedestrian aged 24 years crossing N. Main Street in the crosswalk at Court Street and being struck by a driver aged 78 years travelling southbound on N. Main Street (minor injury, driver at fault, possible impaired vision/sun glare).

There were no accidents involving bicyclists.

2) City Council meeting update.

DISCUSSION / ACTIONS: At its June 10, 2013 meeting, City Council set a July 8 public hearing on the Heather Lane STOP sign changes and approved the area parking restrictions around the Abbot-Downing School area.

3) Transportation Policy Advisory Committee (TPAC) update.

DISCUSSION / ACTIONS: TPAC did not meet last month.

B. On-going Discussion and Action Items.

1) Referral from City Council regarding a driver concern on traffic conflicts between Centre Street vehicles and traffic turning left at the driveways to the Prescription Center and TD Banknorth. (Council: 05/13/13).

DISCUSSION / ACTIONS: Following up on TOC's discussion of this request last month, staff introduced this concern to the Main Street Complete Street design team which is considering traffic control modifications to the Main/Centre/Loudon intersection. Ed Roberge noted that he will be meeting with the

Prescription Center and TD Banknorth regarding the Main Street project and would discuss the Centre Street driveway access concerns with them, including feasibility of potential driveway access changes. Ed will report back to TOC.

2) Referral from City Council regarding resident concerns on safety at the S. State/Thorndike intersection and a request to consider further parking restriction, installation of multi-way STOP and/or conversion of Thorndike to one-way operation (Council: 05/13/13).

DISCUSSION / ACTIONS: At issue is a concern for intersection safety and a request to consider traffic control changes pursuant to several motor-vehicle crashes that occurred there with injuries early this spring. Requested is consideration of: installation of multi-way STOP to also stop all cars on S. State Street; prohibition of parking near the intersection to improve sight lines to traffic crossing from Thorndike Street; consideration of making Thorndike Street one-way to reduce traffic turning at the intersection; relocation of utility poles on Thorndike Street near the intersection; and consideration of constructing a speed table at the intersection to slow traffic.

Through the month of May, four crashes had been reported at the intersection in 2013. This is atypical of recent crash history as there had only been one reported crash at the intersection for each of the previous three years since 2010. Such variability in crash numbers from year to year is not uncommon at intersections city-wide. All seven crashes since January 2010 involved Thorndike Street vehicles colliding with S. State Street vehicles; Thorndike Street vehicles either did not stop at the STOP sign or stopped first but did not yield to traffic approaching from S. State Street. The predominant crash pattern (five of the seven crashes) involved westbound Thorndike Street vehicle movements coming from S. Main Street. Four of the seven crashes at the intersection involved injuries, all of which were attributed to westbound Thorndike vehicles. Considering the last three and a half years, the seven reported crashes reflect a rate of about two crashes per year, which in comparison to similar intersections city-wide, is not indicative of a high-crash history. However, the four crashes that occurred this spring are notable and justify additional investigation.

Engineering services conducted an engineering evaluation of the intersection including traffic operation review, traffic and speed counts, and review of crash history and potential causative factors. The intersection is currently controlled by STOP signs on the two Thorndike Street approaches, with S. State Street having the right-of-way. S. State Street is classified as a minor collector street, and similar side-street traffic control occurs along its length except at traffic signal intersections. Traffic counts conducted for a two-day period in May indicate average vehicle speeds along this section of S. State Street to be 22-23 mph and 85th percentile speeds to be 25-28 mph. With a posted speed limit of 30 mph, these measured traffic speeds appear quite reasonable. Over 5,000 vehicles per day approach the intersection on S. State Street, while daily traffic approaching on Thorndike Street is about 1,300 vehicles from the east (from S. Main Street) and about 450 vehicles from the residential area to the west. In the vicinity of the intersection, there is no parking along the east side of S. State Street resulting in unobstructed sight lines for Thorndike Street vehicles turning from the east. On-street parking is allowed along the west side of S. State Street except within about 30 feet of the intersection, a condition typical at many downtown-area intersections.

Rob Mack examined the intersection with particular regard to crash history related to westbound Thorndike Street vehicles. Intersection traffic control devices were appropriately located, sight lines for westbound vehicles were adequate, and there were ample gaps in peak period traffic on S. State Street for turning movements to/from Thorndike Street. The visual identity of the intersection for westbound drivers approaching from several hundred feet in advance, however, appeared to be potentially affected by the 'canyon effect' of building faces looking westbound along Thorndike Street as well as a slight dip in Thorndike Street pavement alignment as it crosses S. State Street. A westbound driver, particularly if

distracted (talking, cell phone use, etc), might not fully react to the intersection STOP condition until it was too late. This was reportedly the case in at least one of this year's crashes when the Thorndike Street driver admitted to being distracted during a conversation and did not react to the STOP condition. As an initial measure to enhance advance visibility of the intersection for westbound traffic approaching from Main Street, General Services recently replaced the existing STOP sign with a new highly-reflective panel and trimmed nearby vegetation further back. Stop lines and crosswalks, faded from the winter months, were also recently repainted. Staff will continue to monitor traffic operation at the intersection to ascertain the effectiveness of this enhancement. Consideration of additional advance signage or pavement markings is a future option if deemed appropriate.

While the traffic control measures suggested in the residents' referral are well intended, TOC concurs with staff findings that such measures are either inappropriate at this location or potentially ineffective in mitigating the predominant crash pattern at the intersection. Regarding the potential for multi-way STOP, traffic volumes at the intersection are insufficient to meet the Federal thresholds for such traffic control. Furthermore, the intent of the City's STOP sign policy is to minimize the use of STOP signs along collector and arterial streets. Regarding the potential use of an intersection speed table, the City's Traffic Management Policy does not support use of vertical deflection for traffic calming along the collector/arterial street network. It is further noted that measured traffic speeds along S. State Street are substantially lower than the posted 30 mph speed limit and do not constitute an overall speeding concern. Existing parking along the west side of S. State Street is appropriately set back about 30 feet from the intersection per city Ordinance and typical of many intersections in the downtown area. Further setback of these parking areas, while a convenience for Thorndike Street eastbound traffic, would not significantly affect the westbound crash potential. The option of converting Thorndike Street to one-way eastbound (from S. State Street to Main Street) would certainly act to reduce crashes by removing the westbound traffic approach from the intersection. This would, however, substantially complicate access to St. John the Evangelist Church by requiring all traffic to approach the church from S. State Street and depart via Main Street. In addition, this one-way eastbound conversion would only serve to relocate the Thorndike Street westbound traffic movement to another nearby intersection such as Concord or Thompson Street. Converting Thorndike Street to one-way westbound does not alone mitigate the predominant crash concern, although TOC has considered the merits of such a conversion in the past, coupled with alternating one-ways on parallel streets to the north. Lastly, potential relocation of the utility pole on the southeast corner (church corner) of the intersection, although functionally desirable, would be complicated by lack of place to put the pole without blocking the sidewalk or the need to get an easement. In any event, the subject utility pole does not appear to have any relation to the crash history noted at this intersection.

Staff contacted St. John the Evangelist Church to discuss the planned relocation of the parochial school to the former Rumford School site. Discussion items included potential modifications to the school zones currently signed at each school, potential student walking routes along Thorndike Street, bus drop-off areas, and planned improvements at the church site. The school relocation appears to be at least a year away. As that time nears, staff will work with the school to update school zone and school crossing areas as appropriate.

TOC concurred that the recent signing and marking enhancements on the westbound Thorndike Street approach were an appropriate and reasonable first step in response to recent intersection crash history. Staff will continue to monitor traffic operation at the intersection to ascertain the effectiveness of the measures. If additional intersection identity is needed on the westbound Thorndike approach, consideration of adding an advance sign or painted legend indicating the STOP AHEAD condition could be an appropriate next step. TOC will present its findings to the Parking Committee, including the residents' request to further restrict parking along the west side of S. State Street.

- 3) **Request from an employee at 125 N. State Street to prohibit parking on the north side of Franklin Street between the roundabout and the driveway to #125 to improve sight lines. (*Engineering: 05/28/13*).**

DISCUSSION / ACTIONS: At issue is a concern that on-street parking on the north side of Franklin Street between the roundabout and the driveway to #125 limits sight lines between driveway traffic and traffic approaching from the east on Franklin street (from the roundabout). Rob Mack and Dave Florence visited the site but did not observe any parked vehicles along the north side of Franklin Street. 2010 aerial photographs of the roundabout area indicate a variable-width white edge line along the north side of Franklin Street from the roundabout exit to approximately the driveway at #125; adequate space would not be available within the lined area to appropriately park a car. To the west of the driveway, the edge line appeared to have appropriate width for on-street parking. At the present time, this edge line is fully worn off to the east of the driveway, giving the impression that space is available to park a vehicle or two (anticipated to be an occasional occurrence). Rob Mack will notify General Services of the condition and ask if the former white edge line can be repainted in this area. TOC concurred that this former edge line, installed as part of the roundabout construction, would act to preclude any on-street parking in this area. Staff will continue to monitor the situation.

C. New Discussion and Action Items

- 1) **Discussion of Weeble locations.**

DISCUSSION / ACTIONS: Rob Mack introduced the topic and noted that recent school consolidations and upcoming changes to Main Street have or will result in changes to a number of regular weeble locations. A TOC overview of city-wide weeble locations is appropriate. Discussion was deferred to the next meeting.

D. Open Discussion Items

- 1) **Staff response to miscellaneous inquiries (refer to correspondence in agenda packet).**

DISCUSSION / ACTIONS: None.

Respectfully submitted,

Robert J. Mack, PE, PTOE, Traffic Engineer
Chair, Traffic Operations Committee

***The next Traffic Operations Committee meeting will be held on
Tuesday, July 16, 2013 @ 12:00 PM in the 2ND Floor Conference Room.***