



Engineering Services Division

Traffic Operations Committee

Meeting Minutes - December 20, 2011

Attendees: Rob Mack, PE, PTOE, Engineering Services
Ed Roberge, PE, Engineering Services
Steve Henninger, Planning Division
Jim Major, General Services
Greg Taylor, Concord Police Department
Bill Dexter, Concord Police Department
Sean Brown, Concord Fire Department
Rick Wollert, Concord Fire Department
Dick Lemieux, TPAC Chair

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 November 2011 was reviewed. There were 88 reportable accidents in November 2011. This compares with 110 and 127 reportable accidents in November 2010 and 2009, respectively. 13 accidents resulted in total of 15 people injured, with 5 of those injuries occurring on Loudon Road. There were no fatalities

There were two accidents involving pedestrians: a pedestrian aged 45 years walking southbound on N. State Street and crossing Court Street in the crosswalk and being struck by a vehicle turning left out of Court Street (minor injury, driver fled scene); and a pedestrian aged 21 walking northbound on the sidewalk along S. Main Street and crossing Pillsbury Street in the crosswalk and being struck by a vehicle turning right out of Pillsbury Street (minor injury, driver fled scene).

There were two accidents involving bicyclists: a bicyclist aged 18 years traveling northbound along South Street on the shoulder and crossing Perley Street and being struck by a southbound vehicle turning left into Perley Street (minor injury, driver at fault for failing to yield and bicyclist at fault for not using a headlight, no helmet worn); and a bicyclist aged 46 years traveling along the northbound-side sidewalk of Water Street under the I-93 Exit 13 overpass then attempting to cross to the southern side of water Street mid-block and being struck by a northbound vehicle (minor injury, bicyclist at fault, helmet worn).

Rob Mack noted enhanced enforcement efforts being conducted at the newly opened Manchester Street/Airport Road/Integra Drive intersection. The realigned intersection was opened to traffic in early November, but completion of left-turn lane widening on Manchester Street as well as installation of traffic signals is anticipated in the spring. Some drivers have reported difficulty in crossing the intersection during peak traffic periods. There were two crashes reported in November. Bill Dexter noted that CPD performed about 10 directed patrols at the intersection; a concern is the speed of traffic coming northbound from Pembroke even though the Urban Compact speed limit transition to 30 mph was recently relocated to just south of the intersection. Engineering and CPD will continue to

monitor.

2) **City Council meeting update.**

DISCUSSION / ACTIONS: At their December 12, 2011 meeting, Council accepted the TOC report revising the speed limit on Penacook Street to 30 mph from Merrimack Street to Abbott Road.

3) **Transportation Policy Advisory Committee (TPAC) update.**

At TPAC's November 17, 2011 meeting, NHDOT presented options for reconstructing the I-93 Exit 12 Interchange as were presented to TOC last month. TPAC indicated its preference for the shorter bridge option with roundabouts on S. Main Street. NHDOT staff indicated that a public information meeting on this project would be planned in Concord in the coming weeks. TPAC also discussed its first-quarter progress report on Concord Area Transit (CAT).

B. **On-going Discussion and Action Items.**

1) **Follow-up discussion on Rockingham Street 9-foot lane markings.**

DISCUSSION / ACTIONS: TOC continued discussion of the narrow-lane pavement markings utilized on Rockingham Street from 2009 through the construction of sidewalk in 2011. The marking of 9-foot travel lanes and roughly 3-foot shoulder areas was implemented in 2009 as a measure to potentially suppress traffic speed as well as provide some delineated space for pedestrians and bicyclists prior to the construction of sidewalk in 2011. The markings were not repainted by General Services following the sidewalk construction; there are currently no pavement markings along Rockingham Street except for a short double yellow centerline near the intersections with South Street and Broadway, the condition that existed prior to 2009.

Rob Mack presented historic traffic speed data compiled before implementation of the 9-foot lanes (August 2008), during the use of 9-foot lanes June 2009), and following the construction of sidewalk and curb with return to no pavement markings (November/December 2011). East of Donovan Street, average and 85th percentile speeds were 28-29 mph and 34-35 mph, respectively, before, during and after the narrow lane markings, with no significant change. In the dip in the road west of Bow Street, average and 85th percentile speeds were about 33 mph and 38 mph, respectively, before and after the narrow lane markings; with the 9-foot lane markings there was a small drop in eastbound speed to 31 mph and 37 mph, respectively. A recent article in the Institute of Transportation Engineers' September 2011 edition of the *ITE Journal* addressed a study on the use of narrow lane striping as a traffic calming measure and indicated a significant speed reduction when used at elevated 85th percentile speeds of about 40 mph and higher. Smaller to no reduction was measured on streets where speeds were already closer to 30 mph.

Positive aspects of the narrow-lane striping on Rockingham Street included: very positive resident feedback (no negative comments received); use of shoulder area by both bicycles and pedestrians; minor speed reduction in the dip west Bow Street; and reduction in the tendency of vehicles to be parked on the street pavement blocking pedestrians and cyclists. Negative aspects include the added annual cost of maintaining the lane markings. Jeff Warner had solicited some limited feedback from the bicycling community regarding the narrow lane and shoulder markings along Rockingham Street with mixed response; about half like the markings and half would rather have no shoulder marking.

With the sidewalk and a few crosswalks now in place, TOC felt that the character of Rockingham Street had been modified and the needs of pedestrians addressed. Staff will continue to monitor the street now that the shoulder markings are not there.

Jim Major noted that General Services has been restriping some additional streets with 9-foot lanes where centerlines and edge lines are used. A list of those streets will be provided to Engineering Services so that follow-up monitoring on those streets can be implemented.

2) **Update on Loudon Road lane-conversion study (CIP19).**

DISCUSSION / ACTIONS: Rob Mack presented an update of Engineering Services' ongoing study for the Loudon Road Corridor Improvement project. The current study is an update/follow-up of the 2001 Loudon Road Corridor Study which considered the potential conversion of the 4-lane roadway to a 3-lane section generally between the intersections of Hazen Drive and D'Amante Drive. Experience nationally is that such lane conversions are generally workable where corridor volumes are about 20,000 ADT or less and that a crash reduction of about 25 percent can be realized. Recent counts conducted along the Loudon Road corridor indicate daily volumes around 20,000 ADT. These volumes reflect a reduction of 4,000 to 5,000 ADT (in the vicinity of Grover Street) following the opening of Regional Drive in 2004; a similar volume increase has been realized on Old Turnpike Road. About 400 annual crashes (roughly one-quarter of the city's annual reported crashes) are reported along Loudon Road with about 100 crashes per year occurring on the corridor segments between (but not including) the signalized intersections at Hazen Drive/Airport Road, East Side Drive/Canterbury Road and D'Amante Drive. Preliminary discussions with NHDOT indicate that potential crash reduction on these corridor segments makes such a lane-conversion project potentially eligible for funding under the state's Highway Safety Improvement Program (HSIP).

Between signalized intersections, Loudon Road is about 44 feet wide and provides four, 11-foot travel lanes with no curb offset. Left turns to numerous uncontrolled curb cuts and side streets occur from the left lane and may be delayed during heavy traffic periods causing through traffic to concentrate in the right lane. Left turns from Loudon Road are also complicated by the 'double threat' of two opposing traffic lanes: an approaching vehicle in the far opposing lane being shadowed by a stopping vehicle in the near opposing lane. Left-turn exits from side streets and driveways can experience long delays and often turn right and negotiate a left turn downstream in order to change directions. Bicycle travel is challenging, with cyclists either occupying the right travel lane or using the sidewalks. Sidewalk is available along both sides of the corridor and pedestrian crossings are accommodated at the three primary signalized intersections as well as at five mid-block signalized pedestrian crossings.

The potential lane conversion would provide one through-travel lane in each direction and a center two-way left turn lane (TWLTL). All left turns would occur from the TWLTL and would not impede through traffic flow. The TWLTL would also be available to assist side-street traffic to turn left onto Loudon Road by allowing a two-stage crossing: first by crossing traffic flow from the left and stopping in the TWLTL, then waiting for a gap in traffic coming from the right before moving from the TWLTL into the traffic stream from the right. The reduction in number of lanes also allows a 5-foot safety shoulder along each through lane that will both increase lateral clearance for through vehicles and allow for bicycle travel. The five-lane cross sections at the three currently-signalized intersections would be retained to maintain capacity for heavy turning traffic flows. The five signalized pedestrian-only crossing locations would generally be maintained; either traffic signals or other form of pedestrian-assisted crossing beacon would be used. Raised islands would be placed at regular intervals along the TWLTL, for example at pedestrian crossing locations, to discourage drivers from trying to use the

TWLTL as a passing lane.

Rob Mack presented Synchro traffic simulations of peak-period traffic operation along the corridor operating as either the current 4-lane facility or a converted 3-lane facility. The simulations were based on extensive traffic count data compiled at all intersections and most driveways along the corridor. Engineering is in the process of developing a concept layout plan for the corridor indicating the revised lane markings, island locations, and potential driveway adjustments as might be needed at select locations to minimize turning conflicts to/from closely-spaced existing driveways. This would be a first phase improvement that essentially incorporates the lane-conversion along with minor curb or crosswalk improvements as may be needed. A future second phase project would include full replacement of pedestrian crossing signals, significant driveway/access management, and relocation of Branch Turnpike to a new, signalized intersection opposite Northeast Village drive. Engineering is coordinating the first-phase project with NHDOT with respect to an application for HSIP funding (10% local match). Construction of phase 1 improvements is currently anticipated in FY2014 to follow completion of the ongoing water main reconstruction.

C. **New Discussion and Action Items**

- 1) **None.**

D.

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

DISCUSSION / ACTIONS: None.

- 2) **Follow-up discussion the December 8, 2011 public information meeting on McKee Square Intersection Improvements.**

DISCUSSION / ACTIONS: Rob Mack and Ed Roberge shared some of the public comments and feedback received from the December 8 meeting, including comments solicited by the Concord Monitor.

Respectfully submitted,

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

***The next Traffic Operations Committee meeting will be held on
Tuesday, January 17, 2012 @ 12:00 PM in the 2ND Floor Conference Room.***