Pedestrian Crossing Protection Follow-up – McLevin Avenue and Malvern Street

Date: July 21, 2014
To: Scarborough Community Council
From: Director, Transportation Services, Scarborough District
Wards: Ward 42 – Scarborough-Rouge River
Reference Number: P:\2014\Cluster B\TRA\Scarborough\sc1454.docx

SUMMARY

Traffic studies reveal that all warrants for pedestrian crossing protection, specifically, traffic control signals, pedestrian crossover or a pedestrian refuge island are not warranted at this location at this time, including on Fridays. As a result, traffic control signals should not be installed since they are not warranted. Similarly, neither a pedestrian cross over nor island are feasible.

RECOMMENDATIONS

Transportation Services recommends that:

1. City Council not approve the installation of Traffic Control Signals at the intersection of McLevin Avenue and Malvern Street at this time.

Financial Impact
There is no financial impact associated with this report; however, should City Council approve installation of Traffic Control Signals, the estimated cost would be approximately $150,000.00.

ISSUE BACKGROUND
At its meeting of September 12, 2011, Scarborough Community Council deferred consideration of the report (August 12, 2011) from the Director, Transportation Services, Scarborough District, until its meeting to be held on October 4, 2011, to allow the local Councillor to consult with residents, as per the following link:

At its meeting of October 4, 2011, Scarborough Community Council deferred consideration of the item until its meeting to be held in April 2012 to allow the local Councillor to consult with the community, as per the following link:


At its meeting of April 17, 2012, Scarborough Community Council deferred consideration of the item until its meeting on June 13, 2012, as per the following link:

http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2012.SC15.4

At its meeting of June 13, 2012, Scarborough Community Council deferred consideration of the item until its meeting in April, 2013, as per the following link:

http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2012.SC17.8

At its meeting of June 11, 12 & 13, 2013, City Council received the report (August 12, 2011) from the Director, Transportation Services, Scarborough District, for information, and requested the Director, Transportation Services, Scarborough District, to conduct a new Pedestrian Crossing Protection Study at McLevin Avenue and Malvern Street as soon as practical and report back to Scarborough Community Council, as per the following link:


A community petition was subsequently received by Councillor Cho from 33 community members seeking Traffic Control Signals at McLevin Avenue and Malvern Street. By requesting these controls, area residents envision enhanced pedestrian protection as well as a control to better facilitate northbound left turns from the community.

At its meeting of May 13, 2014, Scarborough Community Council deferred consideration of the item to allow the Ward Councillor to consult further with the community and the Director, Transportation Services, Scarborough District, to conduct further appropriate studies and report back to Scarborough Community Council as soon as possible, as per the following link:


A review of the logger recording of the debate surrounding this item in order to determine the further appropriate studies revealed Community Councillor concerns about the need for signals at this intersection during Fridays for services at a nearby place of worship (Islamic faith), parking related to this nearby place of worship in the neighbourhood, potential turning prohibitions at this intersection, heavy truck concerns and speed issues along Malvern Street, and traffic flows along Markham Road.
COMMENTS
The following describes the intersection of McLevin Avenue and Malvern Street:

- McLevin Avenue is a four-lane minor arterial road. Malvern Street is a two lane collector road.
- A northbound stop sign on Malvern Street presently controls northbound traffic at this three-way intersection.
- McLevin Avenue has a speed limit of 50 kilometres per hour (km/h), a daily traffic volume of approximately 11,500 vehicles per day, and an operating speed of approximately 61 km/h.
- Toronto Transit Commission (TTC) bus stops for eastbound and westbound commuters are located on McLevin Avenue on the west side of the intersection.
- Traffic Control Signals are located approximately 310 metres west at Markham Road and McLevin Avenue. Approximately eighty-six percent of all pedestrian crossings were TTC patrons.
- Land uses on this section of McLevin Avenue is a mix of industrial/commercial along the north side and residential along the south side.
- Sidewalks are located on both sides of McLevin Avenue and Malvern Street.
- An Islamic Mosque is located on the west side of Markham Road, in the southwest quadrant of the Markham Road/McLevin Avenue intersection, in excess of 310 metres away.

Traffic Control Signal Justification

Transportation Services staff has conducted Traffic Control Signal Justification Studies at the intersection of McLevin Avenue and Malvern Street. A comparison of the most recent study at this intersection recorded over the peak eight hours of a typical weekday (Friday May 30, 2014) and earlier studies are shown in this table:

<table>
<thead>
<tr>
<th>Traffic Control Signal Warrant</th>
<th>Tuesday, March 24, 2009</th>
<th>Thursday, April 14, 2011</th>
<th>Wednesday, October 16, 2013*</th>
<th>Friday May 29, 2014**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Vehicular Volume</td>
<td>53 %</td>
<td>57 %</td>
<td>57 %</td>
<td>57 %</td>
</tr>
<tr>
<td>Delay To Cross Traffic</td>
<td>73 %</td>
<td>78 %</td>
<td>77 %</td>
<td>82 %</td>
</tr>
<tr>
<td>Collision Hazard</td>
<td>27 %</td>
<td>27 %</td>
<td>7 %</td>
<td>13 %</td>
</tr>
</tbody>
</table>

*Note: Data for October 16, 2013 was not available.*

**Note: Data for May 29, 2014 is preliminary.**
For the traffic control signals to be numerically justified, the following results need to be obtained:

- One of the "Minimum Vehicular Volume", "Delay to Cross Traffic" or "Collision Hazard" justifications must be 100 per cent satisfied, or the first two must both be satisfied to the extent of 80 percent.

- Our review of the Collision Hazard is based on the previous three-year collision history at the subject intersection (January 1, 2010 – December 31, 2012) collision history (this warrant is based on the number of collisions susceptible to correction by the installation of traffic control signals, and must be 100 percent satisfied.

- *Study conducted to coincide with Islamic holiday "Eid al Adha" which ran from Tuesday October 15 to Friday October 18, 2013.

- ** Study conducted during morning, mid-day (includes mid day prayer services at the place of worship) and afternoon peak period.

As outlined in the above table, the traffic volumes do not satisfy the requirements to install traffic control signals at this intersection at this time. In addition, traffic control signals might encourage traffic infiltration along Malvern Street.

**Collision History**

Five-year review period for which we have complete data: January 1, 2009 to December 31, 2013.

<table>
<thead>
<tr>
<th>Five-Year Collision Information</th>
<th>Number of Reported Collisions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2009</td>
</tr>
<tr>
<td>Collisions Potentially Preventable by the Installation of Traffic Control Signals</td>
<td>3</td>
</tr>
<tr>
<td>Collisions Involving Pedestrians Crossing McLevin Avenue</td>
<td>0</td>
</tr>
</tbody>
</table>

As outlined in the previous study table, these values fail to justify traffic control signals at this intersection at this time.
Pedestrian Crossover Warrant Study

Transportation Services staff also conducted a Pedestrian Crossover Warrant Study at the subject intersection. Using pedestrian volumes recorded over the peak eight hours of a typical weekday (Friday May 30, 2014), the following results were obtained:

<table>
<thead>
<tr>
<th>Pedestrian Crossover Warrant</th>
<th>Tuesday, March 24, 2009</th>
<th>Thursday, April 14, 2011</th>
<th>Wednesday, October 16, 2013*</th>
<th>Friday May 30, 2014**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pedestrian Volume</td>
<td>24 %</td>
<td>17 %</td>
<td>23 %</td>
<td>30 %</td>
</tr>
<tr>
<td>Pedestrian Delays</td>
<td>42 %</td>
<td>35 %</td>
<td>19 %</td>
<td>19 %</td>
</tr>
</tbody>
</table>

- For a pedestrian crossover to be numerically justified, both the “Pedestrian Volume” and “Pedestrian Delays” warrants must be 100% satisfied.

- *Study conducted to coincide with Islamic holiday “Eid al Adha” which ran from Tuesday October 15 to Friday October 18, 2013.

- ** Study conducted during morning, mid-day (includes mid day prayer services at the place of worship) and afternoon peak period.

As outlined in the above table, both warrants have not been satisfied. Furthermore, a review of the design standards, or “environmental standards” for pedestrian crossovers, which prescribe a roadway environment and exposure factors suitable for this type of control, revealed that a pedestrian crossover would not be a suitable form of pedestrian crossing protection at this location. This is due primarily to the operating speeds (average of eastbound and westbound, 85th percentile speed of 61 km/h) on McLevin Avenue. In addition, stopped buses potentially block motorist sightlines to pedestrians due to the proximity of the TTC bus stops at this intersection; therefore, a PXO is not feasible at this location.

Pedestrian Refuge Island Warrant Study

As an alternative, staff reviewed the feasibility of installing a Pedestrian Refuge Island (PRI); however, the warrant was not met as 76 pedestrian crossings were recorded, and a minimum of 100 pedestrian crossings are required. In addition, McLevin Avenue is not wide enough (13 metres) to accommodate a PRI, since the minimum required width is 16.4 metres. A PRI is not feasible at this location.

Other Matters

Random checking of the parking situation in the neighbourhood revealed that only the northwest area of Robbinstone Drive north of Lenthall Avenue appears to have a parking
pressure related to the nearby place of worship, with parking on both sides and the heaviest time being on Friday afternoons. This appeared due to the proximity of this location to a walkway that leads to the intersection of Markham Road and McLevin Avenue where the place of worship is located. However, staff have no record of citizen concerns about such parking. Should citizens wish to restrict parking on Robbinston Drive, they can submit a petition to the Councillor.

Staff reviewed the collision history at McLevin Avenue and Malvern Street and could find no record that would justify mitigation through turn prohibitions. In addition, any such prohibitions would apply to both through and local traffic; any proposal for such turn-prohibitions should be supported by citizen petition or Councillor canvassing of the larger local neighbourhood.

Regarding heavy trucks and speeding, Malvern Street is already regulated and signed as a No Heavy Trucks street with a 40 km/h speed zone. Should citizens see either through trucking or speeding behaviour by drivers, they may contact the Toronto Police Service at 416 808-2222 to request enforcement.

Finally, regarding traffic flows on Markham Road, a co-ordination study is being conducted along all of Markham Road this year, with the traffic control signal timing being updated to improve traffic flows in all periods.

In summary, studies indicate that there are insufficient pedestrian crossing volumes to justify the installation of pedestrian crossing protection, and insufficient vehicle volumes to justify the installation of Traffic Control Signals at this location.

**CONTACT**
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**SIGNATURE**

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**ATTACHMENTS**
1. Location Plan (Pedestrian Crossing Protection Follow-up – McLevin Avenue and Malvern Street)