Pedestrian Crossing Protection –
Bellamy Road North and Eastpark Boulevard

Date: April 22, 2014
To: Scarborough Community Council
From: Director, Transportation Services, Scarborough District
Wards: Ward 38 – Scarborough Centre
Reference Number: P:\2012\Cluster B\TRA\Scarborough\sc1434.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. As a result, Traffic Control Signals should not be installed. In addition, neither a pedestrian crossover nor refuge island are feasible.

RECOMMENDATIONS

Transportation Services recommends that:

1. City Council not approve the installation of Traffic Control Signals at the intersection of Bellamy Road North and Eastpark Boulevard.

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 for which funding is not available in the Capital Budget at this time.
ISSUE BACKGROUND
At its meeting of February 7 & 8, 2011 City Council requested the Director, Transportation Services, Scarborough District, to report back to the Scarborough Community Council in two years providing an update on the traffic situation at Bellamy Road North and Eastpark Boulevard, as per the following decision:


This report is the earliest opportunity that staff have had to provide such an update.

COMMENTS
The following characteristics describe the intersection of Bellamy Road North and Eastpark Boulevard:

- Bellamy Road North is classified as a four lane minor arterial road, with a posted speed limit of 50 km/h.
- Eastpark Boulevard is classified as a two lane local road with a regulatory speed limit of 50 km/h.
- This "T-type" intersection is presently controlled by a westbound "STOP" sign on Eastpark Boulevard.
- This intersection is enhanced by a flashing "Red" beacon for westbound motorists on Eastpark Boulevard and a flashing "Amber" beacon for both northbound and southbound motorists on Bellamy Road.
- A northbound Toronto Transit Commission (TTC) transit stop is located on the west side just south of the intersection.
- A southbound TTC stop is located on the east side of Bellamy Road North just south of the subject intersection.
- Adjacent Traffic Control signals are located approximately 250 metres to the north at Lawrence Avenue East and approximately 770 metres to the south at Amarillo Drive.
- Land uses on this section of both Bellamy Road North and Eastpark Boulevard consists mainly of single family residential family dwellings.
- Sidewalks are located on both sides of Bellamy Road North and Eastpark Boulevard.
Traffic Control Signal Justification

Transportation Services staff conducted a Traffic Control Signal Justification Study at the intersection of Bellamy Road North and Eastpark Boulevard. Using traffic volumes recorded over the peak eight hours of a typical weekday (Tuesday April 4, 2013) the following results were obtained:

<table>
<thead>
<tr>
<th>Traffic Control Signal Warrant</th>
<th>Monday, November 3, 2008 Compliance Level</th>
<th>Tuesday, April 4, 2013 Compliance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Vehicular Volume</td>
<td>25 %</td>
<td>24 %</td>
</tr>
<tr>
<td>Delay To Cross Traffic</td>
<td>56 %</td>
<td>52 %</td>
</tr>
<tr>
<td>Collision Hazard</td>
<td>7 %</td>
<td>7 %</td>
</tr>
</tbody>
</table>

For the traffic control signals to be numerically justified, either of the following criteria need to be satisfied:

- To satisfy the installation of traffic control signals, one of either the Minimum Vehicular Volume or Delay to Cross Traffic warrants must be 100 percent satisfied, or both must 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). 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.

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.
Collision History

Three-year review period for which we have complete data: January 1, 2010 to December 31, 2012

<table>
<thead>
<tr>
<th>Three-Year Collision Information</th>
<th>Number of Reported Collisions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2010</td>
</tr>
<tr>
<td>Collisions Potentially Preventable by the Installation of Traffic Control Signals</td>
<td>1</td>
</tr>
<tr>
<td>Collisions Involving Pedestrians Crossing Bellamy Road</td>
<td>0</td>
</tr>
</tbody>
</table>

As outlined in the table, these values failed to justify traffic control signals at this intersection at this time. In addition, traffic control signals might encourage traffic infiltration along Eastpark Boulevard.

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 (Tuesday April 4, 2013), the following results were obtained:

<table>
<thead>
<tr>
<th>Pedestrian Crossover Warrant</th>
<th>Monday, November 3, 2008 Compliance Level</th>
<th>Tuesday, April 4, 2013 Compliance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pedestrian Volume</td>
<td>36 %</td>
<td>22 %</td>
</tr>
<tr>
<td>Pedestrian Delays</td>
<td>37 %</td>
<td>14 %</td>
</tr>
</tbody>
</table>

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

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 northbound and southbound, 85th percentile speed of 72 km/h) on Bellamy Road North. In addition, stopped buses potentially block motorist sightlines to pedestrians due to the proximity of the Toronto Transit Commission 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 52 pedestrian crossings were recorded, and a minimum of 100 pedestrian crossings are required. In addition, Bellamy Road North is not wide enough (15.2 metres) to accommodate a PRI, since the minimum required width is 16.4 metres. A PRI is not feasible at this location.

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.

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SIGNATURE

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DBS:pz

ATTACHMENTS

1. Location Plan (Pedestrian Crossing Protection - Bellamy Road North and Eastpark Boulevard)