REPORT FOR ACTION

Traffic Control Signals - College Street and Gladstone Avenue

Date: March 8, 2017
To: Toronto and East York Community Council
From: Acting Director, Transportation Services, Toronto and East York District
Wards: Ward 18, Davenport

SUMMARY

As the Toronto Transit Commission (TTC) operates a transit service on College Street, City Council approval of this report is required.

Transportation Services is requesting approval to deny the installation of traffic control signals at the intersection of College Street and Gladstone Avenue. The technical justification for the installation of traffic control signals is not satisfied. Therefore, the installation of traffic control signals at the intersection of College Street and Gladstone Avenue is not recommended.

RECOMMENDATIONS

The Acting Director, Transportation Services, Toronto and East York District recommends that:

1. City Council deny the installation of traffic control signals at the intersection of College Street and Gladstone Avenue.

FINANCIAL IMPACT

There is no financial impact resulting from the adoption of the recommendation in this report.
This report addresses a new initiative.

College Street is a four-lane major arterial roadway, with a daily two-way volume of about 20,000 vehicles and a posted speed limit of 40 km/h. College Street provides sharrows in each direction and there are streetcar tracks in the median lanes on College Street. TTC service is provided by the "506-Carlton" street car and the "306-Carlton" bus route which operates in a mixed traffic environment. Pay-and-display parking is in effect on both sides of College Street at Gladstone Avenue.

There is a horizontal curve in this section of College Street which restricts sight lines for motorists. Curve warning signs and advisory speed tabs are installed to caution east-west motorists on College Street of the existing geometric condition.

Gladstone Avenue is a local road that operates one-way northbound, north of College Street. It operates with two-way traffic, south of College Street and is 'Stop' controlled at the intersection with College Street. It has a pavement width of about 7.3 metres, a posted speed limit of 30 km/h and a daily traffic volume of about 1,400 vehicles. Speed humps are installed on Gladstone Avenue, north of College Street. Additionally, eastbound left turns are prohibited from 7:00 a.m. to 10:00 a.m., Monday to Friday and westbound left turns are prohibited from 3:30 p.m. to 6:30 p.m., Monday to Friday at this intersection.

Adjacent traffic control signals are located about 110 metres to the west at Dufferin Street and a pedestrian crossover is located about 100 metres to the east at Rusholme Park Crescent/Havelock Street.

Analysis
Transportation Services has previously reviewed this intersection in March 2003, May 2006 and February 2011 to analyze the operating characteristics of a pedestrian crossover and technical justification for the installation of traffic control signals. Councillor Bailão has requested that we report based on these studies.

Pedestrian Crossover (PXO) Evaluation
Traffic studies recorded the number and type of pedestrians crossing at College Street during the busiest eight-hour period of a typical weekday. There were 151 and 229 pedestrians recorded crossing during May 2006 and February 2011 studies, respectively.
The technical justifications for installing a pedestrian crossover on College Street at Gladstone Avenue were satisfied to the following extent:

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<tr>
<th></th>
<th>May 2006</th>
<th>February 2011</th>
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<tr>
<td>Total pedestrian volume</td>
<td>151</td>
<td>229</td>
</tr>
<tr>
<td>Total pedestrian delays more than 10 seconds</td>
<td>38</td>
<td>101</td>
</tr>
<tr>
<td>Pedestrian Volume justification</td>
<td>Not Met</td>
<td>Not Met</td>
</tr>
<tr>
<td>Pedestrian Delay Justification</td>
<td>Not Met</td>
<td>Not Met</td>
</tr>
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</table>

To meet the technical requirements for the installation of PXO, both technical justifications of pedestrian volume and pedestrian delay must be satisfied. Based on the above results, the installation of a PXO is not justified at the intersection.

Additionally, a review to assess any deficiencies in the operational and physical suitability of the PXO was carried out. By comparing the operation of the potential PXO to provincially adopted environmental standards it was determined whether a PXO would operate under acceptable conditions. The standards and the comparative characteristics at this location are described in more detail in the attached appendix.

In addition to these environmental standards, it is generally Toronto operating policy to not install pedestrian crossovers on major arterial roads. Instead, staff would consider either full signalization of an intersection or installation of mid-block pedestrian traffic control signals where pedestrian crossing volumes and quantified crossing difficulties justified installation of a controlled crossing measure.

Based on the audit results, this location for a potential PXO would be unsuitable on the basis of visibility concerns and the substandard spacing to adjacent traffic control devices on College Street.

**Traffic Control Signal Evaluation**

Traffic studies for the installation of traffic control signals at this intersection were undertaken in March 2003 and February 2011 and the warrant criteria are satisfied to the following extent:

<table>
<thead>
<tr>
<th>Justifications</th>
<th>March 2003</th>
<th>February 2011</th>
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<tbody>
<tr>
<td>Vehicular Volume</td>
<td>33 %</td>
<td>27 %</td>
</tr>
<tr>
<td>Delay to Cross Traffic</td>
<td>71 %</td>
<td>70 %</td>
</tr>
<tr>
<td>Collision Hazard</td>
<td>33 %</td>
<td>47 %</td>
</tr>
</tbody>
</table>

To meet the technical requirements for the installation of traffic control signals, one of the "Minimum Vehicle Volume" or "Delay to Cross Traffic" justifications must be 100 percent satisfied, or any two of the three justifications must be at least 80 percent satisfied.
Based on the above results, the installation of traffic control signals is not justified and overall traffic volumes have remained consistent at the intersection of College Street and Gladstone Avenue.

Collision Review
Transportation Services have updated the collision data for the most recent three years. The "Collision Hazard" warrant requires at least five or more collisions of a type of potentially preventable by traffic control signals during each of the three preceding years. Collision statistics provided by Toronto Police Service for the three-year period ending July 1, 2016 disclosed that 25 collisions have occurred at the intersection of College Street and Gladstone Avenue. Of these 25 collisions, none involved a pedestrian and seven were considered to be potentially preventable by the installation of traffic control signals.

Conclusions
Transportation Services does not support the installation of traffic control signals based on the above noted information. Additionally, the visibility concerns and the considerable substandard spacing between adjacent traffic control devices would make this installation potentially unsuitable. Furthermore, the installation of traffic control signals at this intersection would result in the following negative impacts:

- Loss of Parking:
  - As many as eight pay-and-display parking spaces may need to be removed on each side of College Street; and
  - As many as seven overnight permit parking spaces may need to be removed on Gladstone Avenue (four spaces on north leg and three spaces on south leg).
- There may be an increase in delays to pedestrians, who will be required to wait for a "Walk" signal, rather than crossing with gaps in traffic.
- The potential for increase in delays to transit service on College Street; and
- Non-local traffic volumes on Gladstone Avenue could increase as it become easier for motorists to enter/cross College Street.
Councillor Ana Bailão has been advised of the recommendations in this report.

CONTACT

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SIGNATURE

Dave Twaddle, C.E.T.
Acting Director, Transportation Services
Toronto and East York District

ATTACHMENTS

1. Drawing No. 421G-2400, dated February 2017
2. Appendix A – Pedestrian Crossover Audit
COLLEGE ST AND GLADSTONE AVE: REQUESTED SIGNALIZED INTERSECTION

T.J.A.

DWG. NO. 421G-2400    FEBRUARY, 2017    TRANSPORTATION SERVICES    TORONTO & EAST YORK DISTRICT
### Appendix 'A'

**Pedestrian Crossover Audit**

**College Street and Gladstone Avenue**

<table>
<thead>
<tr>
<th>Standard</th>
<th>Comments</th>
<th>Standard Met / Not Met</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Speed</strong> - Vehicle operating speed less than 60 km/hr</td>
<td>The posted speed limit on College Street is 40 km/hr</td>
<td>Met</td>
</tr>
<tr>
<td><strong>Width</strong> - Not more than four lanes wide on two-way street or more than three lanes wide on a one-way street.</td>
<td>College Street operates with two lanes of traffic in each direction.</td>
<td>Met</td>
</tr>
<tr>
<td><strong>Volume</strong> - Traffic Volume less than 35,000 vehicles per day</td>
<td>College Street carries approximately 20,000 vehicles per day in both directions.</td>
<td>Met</td>
</tr>
<tr>
<td><strong>Turns</strong> - No significant volume of turning movements which</td>
<td>The turning volume of traffic to/from Gladstone Avenue is moderate (approximately 500 over eight-hours)</td>
<td>Met</td>
</tr>
<tr>
<td><strong>Visibility</strong> - No visibility problems exist for either pedestrians or motorists</td>
<td>Visibility issues due to the horizontal alignment on College Street</td>
<td>Not Met</td>
</tr>
<tr>
<td><strong>Loading</strong> - No loading zones (including TTC) in the immediate</td>
<td>There are no TTC stops or commercial loading zones in the immediate area</td>
<td>Met</td>
</tr>
<tr>
<td><strong>Driveways</strong> - No driveways or entrances nearby</td>
<td>None</td>
<td>Met</td>
</tr>
<tr>
<td><strong>Spacing</strong> - Not less than 200 metres to another pedestrian crossover or traffic control signal (TCS)</td>
<td>Dufferin Street (TCS) – 110 metres; and Rusholme Park Crescent/Havelock Street (PXO) – 100 metres</td>
<td>Not Met</td>
</tr>
</tbody>
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