

Traffic Control Signals - Queen Street West and McCaul Street

Date: June 13, 2018
To: Toronto and East York Community Council
From: Acting Director, Transportation Services, Toronto and East York District
Wards: Ward 20, Trinity-Spadina

SUMMARY

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

Transportation Services is requesting approval to install traffic control signals at the intersection of Queen Street West and McCaul Street. The installation is recommended based on pedestrian crossing activity in the vicinity and spacing to adjacent pedestrian crossing protection. Traffic control signals will enhance safety for pedestrians, cyclists and motorists using this intersection.

RECOMMENDATIONS

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

1. City Council authorize the installation of traffic control signals at the intersection of Queen Street West and McCaul Street.

FINANCIAL IMPACT

The estimated cost of installing traffic control signals at the intersection of Queen Street West and McCaul Street is \$180,000.00. This installation would be subject to the availability of funding and competing priorities.

DECISION HISTORY

This report addresses a new initiative.

COMMENTS

Transportation Services, Toronto and East York District, was requested by Councillor Joe Cressy to report on the feasibility of installing traffic control signals at the intersection of Queen Street West and McCaul Street to address safety concerns for pedestrians.

Queen Street West is a major arterial roadway with two lanes in each direction. It has a posted speed limit of 40 km/h and a daily two-way traffic volume of about 16,645 vehicles. TTC service on Queen Street West is provided by the "501 Queen" streetcar.

McCaul Street is a collector roadway that intersects the north side of Queen Street West to form a "T" type intersection. It has a stop sign control at Queen Street West. The roadway operates two-way with a daily traffic volume of about 4,350 vehicles. There is a regulatory speed limit of 50 km/h on this roadway and a pavement width of about 11 metres. TTC service on McCaul Street is provided by the "502 Downtowner" streetcar.

Adjacent pedestrian crossing is provided approximately 83 metres east of Queen Street West and McCaul Street, at the signalized intersection of Queen Street West and St. Patrick Street. Crossing protection is also provided approximately 106 metres west of Queen Street West and McCaul Street, at the signalized intersection of Queen Street West and John Street.

Collision Review

Collision statistics provided by Toronto Police Service for the three-year period ending December 31, 2017 disclosed that twenty-seven collisions have occurred at the intersection of Queen Street West and McCaul Street. Of these twenty-seven collisions, nine were potentially preventable by the installation of traffic control signals. Four involved a pedestrian and one involved a cyclist.

Pedestrian Crossover (PXO)

Transportation Services conducted a pedestrian volume and delay study on September 14, 2017, and reviewed the collision records to determine if the installation of a pedestrian crossover is justified at the intersection of Queen Street West and McCaul Street.

Pedestrian delay and classification studies were undertaken during the busiest eight-hour period of a typical weekday at the intersection of Queen Street West and McCaul Street. The counts recorded the number of pedestrians crossing Queen Street West, as well as the number of these that experienced delays more than ten seconds in crossing. During the busiest eight-hour period, 2,484 pedestrians were recorded crossing Queen Street West. Of the 2,484 pedestrians crossing, 2,105 pedestrians (85 percent) were delayed greater than 10 seconds in crossing. The 2,484 pedestrians crossing were classified as follows:

- 2,398 youth and adult (96 percent);
- 10 assisted child (1 percent);
- 76 senior citizens (3 percent);

Based on these pedestrian volumes and delays, the technical justifications for the installation of a PXO are as follows:

Pedestrian Volume Justification: Met

Pedestrian Delay: Met

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 pedestrian volumes and delays, the installation of a PXO is technically justified at the intersection of Queen Street West and McCaul Street.

Pedestrian crossovers (PXOs) are often not appropriate on arterial roadways in the City of Toronto. However, traffic control signals are considered at locations where pedestrian crossovers are technically justified, but their installation would be unsuitable or unsafe due to provincially established “environmental standards”.

Traffic Control Signals

On September 19, 2017 traffic studies were undertaken at the intersection of Queen Street West and McCaul Street during the busiest eight-hour period of a typical weekday. Based on the eight-hour vehicular and pedestrian traffic counts conducted at this intersection, and the collision history, the technical justifications for the installation of traffic control signals are satisfied to the following extent:

Justification 1:	Minimum Vehicular Volume	44 percent
Justification 2:	Delay to Cross Traffic	93 percent
Justification 3:	Collision Hazard	60 percent

To meet the technical requirements for the installation of traffic control signals, one of the Minimum Vehicular 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 controls signals is not justified.

However, despite the fact that signalization is not technically warranted, in view of the numerous pedestrian generators in the area, Transportation Services further considered the installation of traffic control signals at the intersection of Queen Street West and McCaul Street for the following reasons:

- Ontario College of Art and Design University (OCAD U) - located at 100 McCaul Street, OCAD U is approximately 260 metres north of Queen Street West and McCaul Street. It is within the Grange Park neighbourhood, and adjacent to the Art Gallery of Ontario. The school is Canada's largest and oldest educational institution for art and design. In 2017/2018 OCAD U recorded a student enrollment of 4,500 undergraduates/graduates and 600 part-time/full-time faculty and staff.
- Grange Park - a 1.8 hectare park located west of McCaul Street, and north of Queen Street West. It features playground facilities, off-leash area for dogs, public washrooms and walking paths.

- Art Gallery of Ontario (AGO) - an art museum in downtown Toronto. The gallery has 45,000 square metres (480,000 sq. ft.) of physical space, making it one of the largest galleries in North America. In 2015/2016 the AGO reported an attendance of 718,200 visitors.
- Osgoode Station - located at the intersection of Queen Street West and University Avenue, Osgoode is a subway station on Toronto Transit Commission's (TTC) Line 1 Yonge–University. There subway entrances provided on each corner of the intersection. The station has an annual subway ridership of approximately 22,490 passengers (2015).

Considering the above, Transportation Services is recommending the installation of traffic control signals at the intersection of Queen Street West and McCaul Street to enhance safety for pedestrians, motorists and cyclists under existing and future conditions.

Councillor Joe Cressy has been advised of the recommendations of this staff report.

CONTACT

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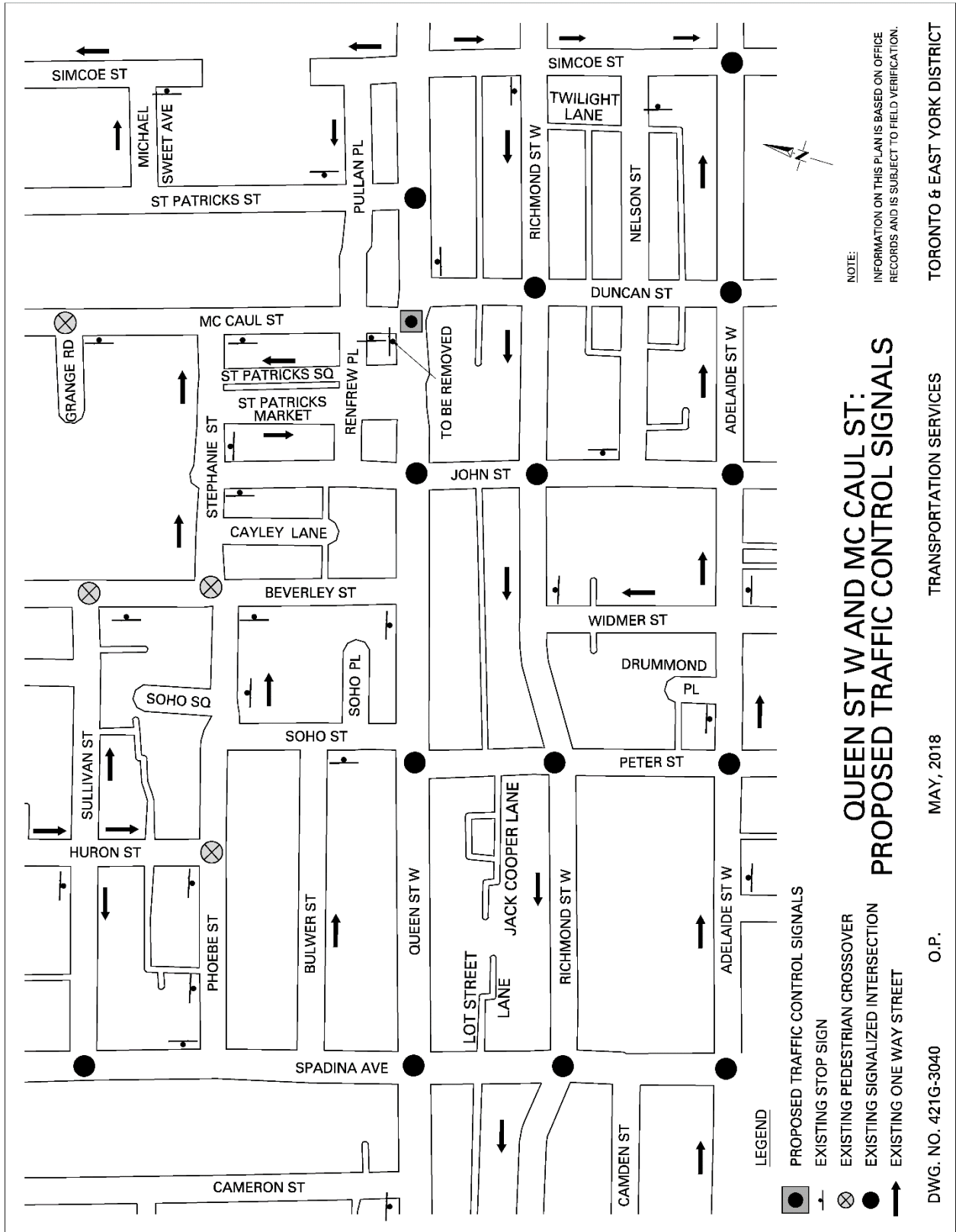
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Dave Twaddle, C.E.T.
Acting Director, Transportation Services
Toronto and East York District

ATTACHMENTS

1. Drawing No. 421G-3040, dated May 2018
2. Appendix A - Audit of Pedestrian Crossover

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Appendix 'A'

Spadina Road, between Lowther Avenue and Bloor Street West

Audit of potential pedestrian crossover

Standard	Comment	Standard Met/ Not Met
Speed – Vehicle operating speed less than 60 km/h	The posted speed limit on Spadina Road is 40 km/h.	Met
Width – Not more than four lanes wide on a two-way street, or more than three lanes wide on a one-way street	Spadina Road generally operates with two lanes of traffic in each direction.	Met
Volume – Traffic volume less than 35,000 vehicles per day (total of both directions)	Spadina Road carries approximately 17,000 vehicles per day in both directions.	Met
Turns – No significant volume of turning movements which interfere with PXO	Low turning movement counts across the proposed PXO from surrounding parking lots and driveways.	Met
Visibility – No visibility problems exist for either pedestrians or motorists	There are no visibility problems.	Met
Loading – No loading zones in the immediate vicinity	There are no commercial loading zones or TTC stops in the immediate area.	Met
Driveways – No driveways or entrances nearby	There are private driveways located on Spadina Road, north and south of the potential pedestrian crossover.	Not Met
Spacing – Not less than 200 metres to another pedestrian crossover or traffic control signal (TCS)	Adjacent traffic control signals are located about 128.5 metres to the north at Lowther Avenue and about 128.5 metres to the south at Bloor Street West from the proposed mid-block pedestrian traffic control signal.	Not Met