

Traffic Control Signals - Bay Street and St. Mary Street

Date: August 28, 2019
To: Toronto and East York Community Council
From: Acting Director, Traffic Management, Transportation Services
Wards: Ward 13, Toronto Centre
Ward 11, University - Rosedale

SUMMARY

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

Transportation Services is requesting that Council not authorize the installation of traffic control signals at the intersection of Bay Street and St. Mary Street as the technical justification for the installation of traffic control signals is not satisfied.

RECOMMENDATIONS

The Acting Director, Traffic Management, Transportation Services, recommends that:

1. City Council not authorize the installation of traffic control signals at the intersection of Bay Street and St. Mary Street.

FINANCIAL IMPACT

There is no financial impact resulting from the adoption of the recommendation in this report.

Notwithstanding, the estimated cost associated with the installation of traffic control signals at the intersection of Bay Street and St. Mary Street is \$200,000.

Should council approve the installation of traffic control signals at this intersection, an estimated cost of \$164,000 will be borne upon the University of Toronto's St. Michael's College, and St. Joseph and Bay Land Corporation, as part of section 4.15 of the Section 37 Agreement, Planning Act. The remaining \$36,000 will require additional funding from the developer or an alternative funding source.

The installation of the traffic control signals would also result in the loss of 12 pay-and-display parking, totalling estimated loss of parking revenue of \$370,000 per year.

DECISION HISTORY

City Council on March 3, 4 and 5, 2008, adopted Item TE13.10 entitled "Final Report - Official Plan Amendment and Rezoning Application - Part of 50 St. Joseph Street" and, in so doing, directed that before introducing the necessary Bills to City Council for enactment, City Council authorize the appropriate City officials and require the owner to execute an Agreement pursuant to Section 37 of the Planning Act satisfactory to the Chief Planner and Executive Director, City Planning Division, and the City Solicitor, such agreement be registered on title to the lands in a manner satisfactory to the City Solicitor, to secure the costs associated with the installation of a new traffic control signal at St. Mary Street and Bay Street intersection.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2008.TE13.10>

COMMENTS

Transportation Services, as part of the Site Plan Application for No. 1080 Bay Street, has reviewed the traffic impact assessment provided by the developer's consultant, dated January 2008.

However, it should be noted that as a condition of the section 4.14 to 4.16 of the Section 37 Agreement of the Planning Act, for the development of No. 1080 Bay Street, Rattling Chain Investments Inc., on behalf of The University of Toronto's St. Michael's College, requested Transportation Services to install traffic control signals at the intersection of Bay Street and St. Mary Street.

Existing Conditions

Bay Street is a major arterial road with two lanes of travel in each direction and a shared centre lane for northbound/southbound left turns. The curb lanes are shared with cyclists. It has a posted speed limit of 40 km/h, a pavement width of 18 metres and a daily two-way traffic volume of about 22,000 vehicles. Pay-and-display on-street parking machines operate on both sides of the road.

St. Mary Street, east of Bay Street, is a collector road with a regulatory speed limit of 50 km/h and a pavement width of about 10 metres. St. Mary Street, west of Bay Street, is a local road with a posted speed limit of 30 km/h and a pavement width of about 7.5 metres. St. Mary Street has one travel lane in each direction and a daily two-way traffic volume of about 1,900 vehicles. Pay-and-display on-street parking machines operate on the south side of the road.

Currently, northbound and southbound traffic on Bay Street is free-flow while eastbound and westbound traffic on St. Mary Street is controlled by stop signs. Adjacent traffic control signals on Bay Street are located about 85 metres to the north at Charles Street West, and about 210 metres to the south at St. Joseph Street. The "6 Bay" bus route travels through this intersection without bus stops.

Collision Review

Collision Statistics provided by Toronto Police Services for the three-year period ending December 31, 2019 disclosed that 15 collisions were reported at the intersection of Bay Street and St. Mary Street. Of these 15 collisions, one involved a pedestrian and seven were considered to be potentially preventable by the installation of traffic control signals which can be summarised as:

- In three collisions, an eastbound straight-through motorist/cyclist and a northbound straight-through motorist collided.
- A southbound straight-through motorist and an eastbound left-turning motorist collided.
- An eastbound straight-through motorist and a southbound cyclist collided.
- A northbound straight-through motorist and a westbound left-turning motorist collided.
- A northbound straight-through motorist and a westbound pedestrian collided.

Traffic Control Signal Review

Based on the January 2008 traffic impact study conducted for the intersection of Bay Street and St. Mary Street, the consultant's analysis, based on forecasted future background traffic volumes, concluded that the technical warrant for the installation of signals would be achieved. In addition, vehicle queue lengths would also warrant for the installation of a dedicated eastbound left-turn lane.

City Staff undertook traffic counts at the intersection of Bay Street and St. Mary Street on May 8, 2019 during the busiest eight-hour period of the day. Based on the eight-hour vehicular and pedestrian counts and the collision history, the technical justifications for the installation of the traffic control signals are satisfied to the following extent:

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|--------------------|--------------------------|------------|
| • Justification 1: | Minimum Vehicular Volume | 71 percent |
| • Justification 2: | Delay to Cross Traffic | 94 percent |
| • Justification 3: | Collision Hazard | 47 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 warrant criteria for the installation of the traffic control signals at the intersection of Bay Street and St. Mary Street have not been satisfied at this time.

Pedestrian Crossover (PXO) Evaluation

A study was also undertaken on May 8, 2019 to review the feasibility of installing a PXO at the intersection of Bay Street and St. Mary Street. While it is generally Toronto operating policy to not install pedestrian crossovers on arterial roads, if such a crossing is warranted, then full signalization of an intersection or installation of mid-block pedestrian traffic control signals would usually be recommended. During the busiest eight-hour period of the day, 112 pedestrians were recorded crossing Bay Street at St. Mary Street.

The technical justifications for the installation of a PXO are satisfied to the following extent:

- Pedestrian Volume Justification: Not Met
- Pedestrian Delay Justification: Not Met

To meet the technical requirements for the installation of a 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 this intersection.

In addition to the PXO warrant evaluation, a Pedestrian Crossover Audit was also conducted to assess operational and physical suitability for a PXO. This considers provincially adopted environmental standards to determine whether a PXO would operate under acceptable conditions. Appendix A details the standards and comparative characteristics at this location.

Based on the audit results, this location would be unsuitable for a PXO on the basis of the road width and the substandard spacing to adjacent traffic control devices on Bay Street.

Section 37 Agreement

The traffic impact assessment for 1080 Bay Street dated January 2008, prepared by Entra Consultants, concluded that traffic control signals are justified at the intersection of Bay Street and St. Mary Street, which was part of the section of 4.14 to 4.16 of the Section 37 Agreement of the Planning Act between the University of St. Michael's College, Rattling Chain Investments Inc. and City of Toronto, made as of August 29, 2008.

According to the consultant's analysis, site traffic levels trigger the technical warrant for the installation of the new traffic control signals. As a result, the applicant must pay for all costs associated with the installation of these signals.

The implementation of the proposed traffic control signals will result in the loss of 12 pay-and-display on-street parking spaces which will result in an estimated loss of revenue of \$370,000 annually. The detailed on-street parking spaces lost are as follows:

- 3 spaces on the east side of Bay Street, south of St. Mary Street;
- 3 spaces on the west side of Bay Street, south of St. Mary Street;
- 3 spaces on the west side of Bay Street, north of St. Mary Street;

- 2 spaces on the south side of St. Mary Street, west of Bay Street; and
- 1 space on the south side of St. Mary Street, east of Bay Street.

As the loss of revenue associated with the removal of pay-and-display parking was not included as part of the Site Plan Agreement, the total sum of \$370,000 will not be borne onto the University of Toronto's St. Michael's College.

Councillor Mike Layton and Councillor Kristyn Wong-Tam have been advised of the recommendation of this staff report.

CONTACT

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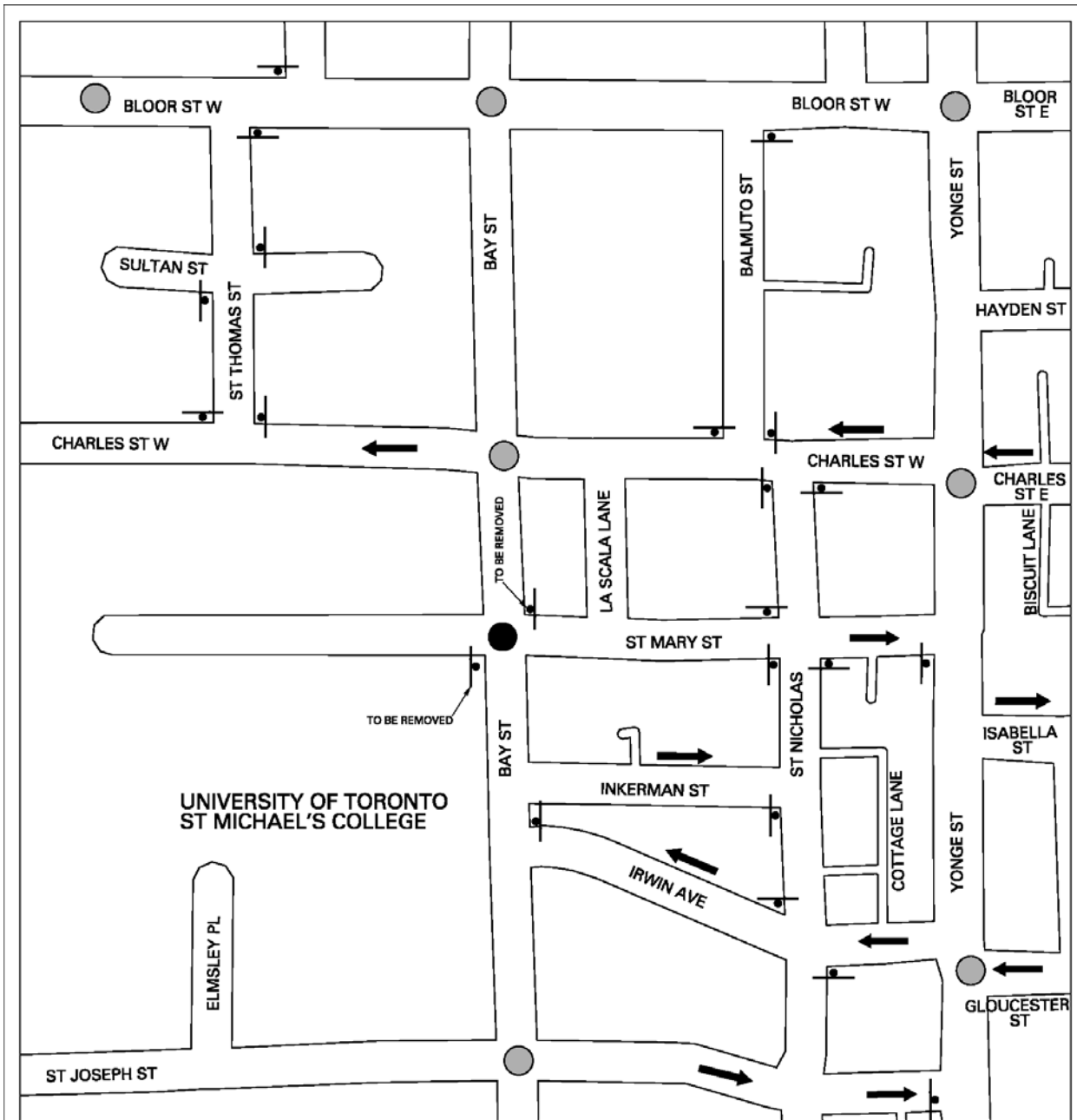
SIGNATURE

Roger Browne, M.A.Sc., P.Eng.,
Acting Director,
Traffic Management
Transportation Services

ATTACHMENTS

1. Drawing No. 421G-3316, dated February 2019.
2. Appendix A - Pedestrian Crossover Audit

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TRAFFIC CONTROL LEGEND

- PROPOSED SIGNALIZED INTERSECTION
- EXISTING SIGNALIZED INTERSECTION
- ⊥ STOP SIGN
- ← ONE-WAY

NOTE:
INFORMATION ON THIS PLAN IS BASED ON OFFICE RECORDS AND IS SUBJECT TO FIELD VERIFICATION.



**BAY ST AND ST MARY ST:
PROPOSED SIGNALIZED INTERSECTION**

T.J.A.
DWG. NO. 421G-3316 FEBRUARY, 2019 TRANSPORTATION SERVICES TORONTO & EAST YORK DISTRICT

**Appendix "A" - Pedestrian Crossover Audit
Bay Street at St. Mary Street**

Standard	Comments	Standard Met / Not Met
<i>Speed</i> - Vehicle operating speed less than 60 km/hr	The posted speed limit on Bay Street is 40 km/hr	Met
<i>Width</i> - Not more than four lanes wide on two-way street or more than three lanes wide on a one-way street.	Bay Street operates with two lanes of traffic in each direction and a shared left-turn lane (total 5 lanes).	Not Met
<i>Volume</i> - Traffic Volume less than 35,000 vehicles per day	Bay Street carries approximately 22,000 vehicles per day in both directions.	Met
<i>Turns</i> - No significant volume of turning movements which	No significant turning movement counts	Met
<i>Visibility</i> - No visibility problems exist for either pedestrians or motorists	None	Met
<i>Loading</i> - No loading zones (including TTC) in the immediate	None (No nearside TTC stops)	Met
<i>Driveways</i> - No driveways or entrances nearby	None	Met
<i>Spacing</i> - Not less than 200 metres to another pedestrian crossover or traffic control signal (TCS)	There are traffic control signals on Bay Street at Charles Street, 85 metres to the north, and at St. Joseph Street, 210 metres to the south.	Not Met