

Traffic Control Signals - Bay Street and Grenville Street

Date: May 17, 2018
To: Toronto and East York Community Council
From: Acting Director, Transportation Services, Toronto and East York District
Wards: Ward 27, Toronto Centre - Rosedale

SUMMARY

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

The Bay Cloverhill Community Association (BCCA) and local Councillor requested staff to investigate the feasibility of installing traffic control signals at the intersection of Bay Street and Grenville Street.

A traffic control signal evaluation and pedestrian crossover evaluation was undertaken and in both instances the warrant requirements were not met. Given this, the installation of traffic control signals at the intersection of Bay Street and Grenville Street is not recommended.

RECOMMENDATIONS

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

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

FINANCIAL IMPACT

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

DECISION HISTORY

This report addresses a new initiative.

COMMENTS

Transportation Services, Toronto and East York District, was requested by the Bay Cloverhill Community Association (BCCA) and Councillor Kristyn Wong-Tam to investigate the feasibility of installing traffic control signals at the intersection of Bay Street and Grenville Street.

Existing Conditions

Bay Street is a major arterial road which operates two-way traffic. It has a pavement width of about 16.5 metres, a regulatory speed limit of 50 km/h and a daily two-way traffic volume of about 27,000 vehicles. It provides a traffic lane, a shared bus and bicycle lane, and a left turn storage lane in each direction. The "6 Bay" bus route provides TTC service on Bay Street and there are no transit stops provided at the intersection with Grenville Street. Thirteen pay-and-display parking spaces are located on Bay Street within 30 metres of the intersection with Bay Street.

Grenville Street is a local road which operates two-way traffic. It has a pavement width of about 12.2 metres, a posted speed limit of 30 km/h and a daily two-way traffic volume of about 2,500 vehicles. Six pay-and-display parking spaces are located on Grenville Street within 30 metres of the intersection with Bay Street.

Adjacent traffic control signals to this intersection on Bay Street are located about 85 metres to the south at College Street, and about 105 metres to the north at Grosvenor Street.

Collision Review

Collision statistics provided by the Toronto Police Services for the three-year period ending December 31, 2017 disclosed that ten collisions were reported at the intersection of Bay Street and Grenville Street. Of these ten collisions, none involved a pedestrian and four were considered to be potentially preventable by the installation of the traffic control signals which can be summarised as:

- A northbound straight-through cyclist and an eastbound straight-through motorist collided.
- A northbound straight-through motorist and an eastbound straight-through motorist collided.
- A southbound straight-through motorist and an eastbound straight-through motorist collided.
- A southbound straight-through motorist and a westbound left-turning motorist collided.

Traffic Control Signal Evaluation

Traffic counts were undertaken at the intersection of Bay Street and Grenville Street on March 28, 2017 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:

- Justification 1: Minimum Vehicular Volume 76 percent
- Justification 2: Delay to Cross Traffic 98 percent
- Justification 3: Collision Hazard 33 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 Grenville Street have not been satisfied at this time.

Pedestrian Crossover (PXO) Evaluation

A study was also undertaken to review the feasibility of installing a PXO at the intersection of Bay Street and Grenville Street on March 28, 2017. While it is generally Toronto operating policy to not install pedestrian crossovers on major arterial roads if such a crossing were warranted, then the full signalization of an intersection or installation of mid-block pedestrian traffic control signals would usually be implemented. During the busiest eight-hour period of the day, 219 pedestrians were recorded crossing Bay Street at Grenville Street.

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

- Pedestrian Volume Justification: 90% Not Met
- Pedestrian Delay Justification: 100% 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 above results, the installation of a PXO is not justified at the 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, volume of turning movements and the substandard spacing to adjacent traffic control devices on Bay Street.

Summary

Transportation Services does not support the installation of traffic control signals based on the above noted information. Were traffic control signals to be installed, 13 pay-and-display parking spaces on Bay street and 6 pay-and-display parking spaces on Grenville Street would need to be removed.

Councillor Kristyn Wong-Tam has been advised of the recommendation of this staff report.

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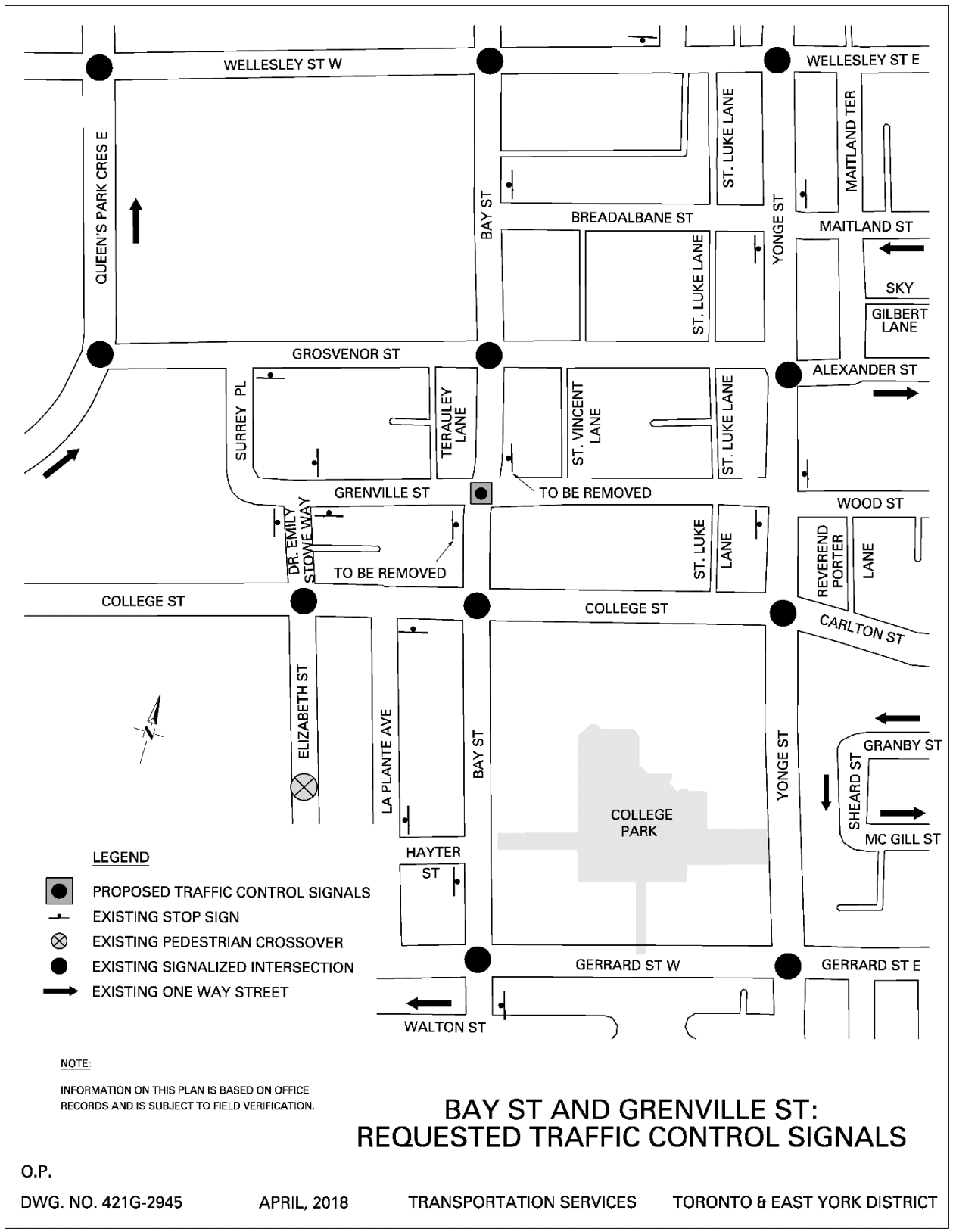
SIGNATURE

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

ATTACHMENTS

1. Drawing No. 421G-2945, dated April 2018
2. Appendix A - Pedestrian Crossover Audit

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Appendix "A"
Pedestrian Crossover Audit

Bay Street and Grenville Street

Standard	Comments	Standard Met / Not Met
<i>Speed</i> - Vehicle operating speed less than 60 km/hr	Bay Street has a regulatory speed limit of 50 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 at Grenville Street has four lanes and a left turn storage lane	Not Met
<i>Volume</i> - Traffic Volume less than 35,000 vehicles per day	This section of Bay Street has a daily two-way traffic volume of about 27,000	Met
<i>Turns</i> - No significant volume of turning movements which interfere with PXO	EBLT & WBRT have about 550 vehicles for 8 hours; EBRT & WBLT have about 300 vehicles for 8 hours.	Not 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 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)	TCS on Bay St. at College St., about 70 metres to the south; TCS on Bay St. at Grosvenor St., about 90 metres to the north	Not Met