Traffic Control Signals – Yonge Street and Yorkville Avenue

Date: July 11, 2014
To: Toronto and East York Community Council
From: Transportation Services Toronto and East York District
Wards: Toronto Centre–Rosedale, Ward 27
Reference Number: Ts2014140te.top

SUMMARY
Transportation Services is requesting approval from City Council to remove the existing mid-block signal on Yonge Street, between Yorkville Avenue and Asquith Avenue and to install traffic control signals at the intersection of Yonge Street and Yorkville Avenue 30 metres further north.

RECOMMENDATIONS
Transportation Services recommends that:

1. City Council approve the installation of traffic control signals at the intersection of Yonge Street and Yorkville Avenue in conjunction with the removal of the pedestrian mid-block traffic control signal on Yonge Street, between Yorkville Avenue and Asquith Avenue.

Financial Impact
The estimated cost of removing the pedestrian mid-block traffic control signal on Yonge Street, between Yorkville Avenue and Asquith Avenue and installing traffic control signals at the intersection of Yonge Street and Yorkville Avenue is approximately $220,000.00. Funds are available in the Transportation Services Division's Capital Works Budget under Project No. CTP714-01.

ISSUE BACKGROUND
At the request of Councillor Kristyn Wong-Tam, on behalf of the Toronto Fire Services (Fire Hall 312) and area residents, Transportation Services staff investigated the need to
install traffic control signals at the intersection of Yonge Street and Yorkville Avenue by removing the pedestrian signals just north of Asquith Avenue.

The proposed new location will provide a safe and convenient crossing for pedestrians, cyclists and side-street vehicles. Installing traffic control signals at Yonge Street and Yorkville Avenue will also provide Fire Hall 312 (located at 34 Yorkville Avenue) with improved access to Yonge Street when responding to an emergency.

**COMMENTS**

**Intersection Characteristics**

Yonge Street, in the vicinity of Yorkville Avenue, is a four lane major arterial roadway that operates north-south, has a daily two-way traffic volume of approximately 18,000 vehicles, and a speed limit of 50 km/h. The TTC operates the 97 Yonge bus route on this part of Yonge Street.

Yorkville Avenue, in the vicinity of Yonge Street, is a two lane collector roadway that operates east-west, has a daily two-way traffic volume of approximately 4,600 vehicles, and a speed limit of 50 km/h. The TTC operates the 6 Bay bus route on this part of Yorkville Avenue. Toronto Fire Services (Fire Hall 312) is located on the north side of Yorkville Avenue, between Yonge Street and Bay Street. The intersection of Yorkville Avenue and Bay Street is controlled by a traffic control signal, while the intersection of Yorkville Avenue and Yonge Street is stop controlled and forms a T-type intersection.

The current traffic control signal on Yonge Street, in the vicinity of Yorkville Avenue, is considered a mid-block pedestrian signal. This traffic control signal is located on Yonge Street, approximately 30 metres south of Yorkville Avenue and approximately 40 metres north of Asquith Avenue. Adjacent traffic control signals on Yonge Street are currently located approximately 126 metres to the north at Davenport Road/Church Street and approximately 153 metres to the south at Bloor Street East.

**Study Results**

Collision statistics provided by the Toronto Police Service for the three-year period ending December 31, 2013 disclosed that 15 collisions occurred on Yonge Street at Yorkville Avenue. Six of these may have been preventable with the installation of traffic control signals. Of the six, none involved pedestrians or cyclists.

We applied the results of our traffic study conducted in June 2014 on Yonge Street at Yorkville Avenue to the warrant criteria for the installation of traffic control signals.
Based on an eight-hour traffic survey, the technical warrants for the installation of traffic control signals are satisfied to the following extent:

Warrant 1: Minimum Vehicular Volume 35 per cent
Warrant 2: Delay to Cross Traffic 78 per cent
Warrant 3: Collision Hazard 40 per cent

To meet the technical requirements for the installation of traffic control signals, one of the “Minimum Vehicular Volume” or “Delay to Cross Traffic” warrants should be 100 percent satisfied, or any two of the three warrants should be at least 80 percent satisfied. Based on our evaluation, the technical requirements for the installation of traffic control signals cannot be justified at the intersection of Yonge Street and Yorkville Avenue.

Transportation Services estimates that the majority of pedestrians currently crossing at the mid-block traffic control signal on Yonge Street (approximately 1000 pedestrians a day) will shift further north and cross at Yonge Street and Yorkville Avenue when the new traffic control signal is implemented. Based on these projected pedestrian volumes, the "Delay to Cross Traffic" warrant would be 100 percent satisfied. This would technically justify traffic control signals at the intersection of Yonge Street and Yorkville Avenue.

Operational Safety Concerns

Over the years, Transportation Services has received numerous complaints/concerns from the general public with the placement of the mid-block traffic control signal on Yonge Street, between Asquith Avenue and Yorkville Avenue. Side-street traffic entering Yonge Street (from Asquith Avenue or Yorkville Avenue) have, on occasion, proceeded through the traffic control signal without stopping and placing pedestrians at risk. It would seem that due to the close proximity of this mid-block traffic signal to Asquith Avenue (40 metres) and to Yorkville Avenue (30 metres), some drivers are not expecting to see a traffic control signal immediately after making their turn onto Yonge Street and proceed through the crossing on a red signal.

Transportation Services have made improvement to the pavement markings at this location and added advisory signage "Turning Traffic Must Yield To Pedestrians" in an attempt to help mitigate this operational safety concern. However, staff continues to receive complaints. Numerous field investigations have been conducted by staff in this area confirming that this operational safety issue continues to occur.
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Toronto Fire Service Concern

At the request of Toronto Fire Services (Fire Hall 31), Transportation Services was asked to investigate the feasibility of relocating the existing mid-block traffic control signal on Yonge Street (Asquith Avenue and Yorkville Avenue) 30 metres further north to the intersection of Yonge Street and Yorkville Avenue in order to improve access to Yonge Street from Yorkville Avenue.

Traffic congestion on this section of Yonge Street can be quite heavy at times. Southbound motorists waiting at the mid-block traffic control signal on Yonge Street, often block Yorkville Avenue, making it difficult for the Fire Department to access Yonge Street when responding to an emergency. This was confirmed by Transportation Services staff during the course of numerous site visits.

Transportation Services staff have installed "Do Not Block Intersection" advisory signage on Yonge Street at Yorkville Avenue, however motorists disobey the signage and continue to block this intersection.

Conclusion

Removing the existing mid-block signal on Yonge Street, between Yorkville Avenue and Asquith Avenue to install new traffic control signals at intersection of Yonge Street and Yorkville Avenue should help enhance intersection safety and minimize conflicts between pedestrians, cyclists and motor vehicles. This proposal should improve the pedestrian environment in this area of Yonge Street by mitigating current vehicular side-street conflicts from Asquith Avenue and Yorkville Avenue. Traffic operations at Yonge Street and Yorkville Avenue should be improved and would also provide Toronto Fire Services vehicles unobstructed access to Yonge Street, not negatively impacting emergency response times.

The new traffic control signals at the intersection of Yonge Street and Yorkville Avenue should also make adding a pre-emption feature more feasible than the current mid-block location. A pre-emption is a type of system that allows the normal operation of traffic lights to be pre-empted to assist emergency services, in this case Toronto Fire Services (Fire Hall 312). The most common use of these systems is to manipulate traffic signals in the path of an emergency vehicle, stopping conflicting traffic and allowing the emergency vehicle right-of-way, to help reduce response times. A pre-emption feature is currently installed at the intersection of Yorkville Avenue and Bay Street.

Relocating the existing mid-block traffic signal on Yonge Street to this intersection should help improve pedestrian safety and traffic operations in this area for all road users. Transportation Services is recommending that the existing mid-block signal on Yonge Street, between Yorkville Avenue and Asquith Avenue be removed and that traffic control signals be installed at the intersection of Yonge Street and Yorkville Avenue.
No on-street parking spaces will be eliminated as a result of this proposal.

CONTACT
Joe Gallippi, Transportation Technologist
Traffic Operations, Toronto and East York District
Phone: (416) 338-5404
Fax: (416) 392-1920
e-mail: jgallipp@toronto.ca

SIGNATURE

Jacqueline White, P.Eng.
Director, Transportation Services
Toronto and East York District

LIST OF ATTACHMENTS
(1) Drawing No. 421G-1490, dated July 2014

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