



STAFF REPORT ACTION REQUIRED

Traffic Control Signals – King Street West at Dowling Avenue

Date:	August 3, 2011
To:	Toronto and East York Community Council
From:	Acting Director, Transportation Services Toronto and East York District
Wards:	Parkdale-High Park, Ward 14
Reference Number:	Ts2011165te.top.doc

SUMMARY

Transportation Services is requesting authority from City Council to install traffic control signals at the intersection of King Street West and Dowling Avenue.

The installation of traffic control signals at this location will replace an existing pedestrian crossover (PXO) and enhance safety for pedestrians and motorists. This installation will result in the loss of approximately thirteen parking spaces in total, eight on King Street West and five on Dowling Avenue.

RECOMMENDATIONS

Transportation Services recommends that:

1. City Council approve the removal of a pedestrian crossover (PXO) on King Street West at the west side of Dowling Avenue and, coincident with the removal of the PXO, approve the installation of traffic control signals at this intersection.

Financial Impact

The estimated cost of replacing the pedestrian crossover with traffic control signals at King Street West and Dowling Avenue is approximately \$160,000. Funds in the amount of \$2,725,000 have been allocated in the 2011 Transportation Services Capital Budget for installation of traffic control signals. This work would be subject to competing priorities and available funding.

ISSUE BACKGROUND

Transportation Services was recently requested by Councillor Gord Perks to investigate and report on the installation of traffic control signals at the intersection of King Street West and Dowling Avenue to enhance crossing safety for pedestrians.

COMMENTS

Current conditions

King Street West is a four-lane major arterial roadway with a daily two-way traffic volume of approximately 18,000 vehicles and a speed limit of 50 km/h. This section of King Street West generally operates with a single lane of traffic in each direction, with parking permitted on both sides of the street except during the rush hour periods, Monday to Friday. Toronto Transit Commission service on King Street West is provided by the “504-King” streetcar, which operates in a mixed traffic environment.

Dowling Avenue is a local roadway that operates two-way, northbound and southbound, from Lake Shore Boulevard West to King Street West on a pavement width of 10.4 metres with a speed limit of 40 km/h. Dowling Avenue is "Stop" controlled for northbound traffic at King Street West. Dowling Avenue, between King Street West and Queen Street West reverts to a one-way northbound operation on a pavement width of 6.1 metres with a speed limit of 40 km/h. The daily traffic volume is approximately 900 vehicles. There is no Toronto Transit Service provided on Dowling Avenue.

Currently, a pedestrian crossover (PXO) with enhanced lighting and pavement markings is located on the west intersection leg, providing pedestrians with a controlled crossing area across King Street West.

Investigation

Transportation Services initially undertook a study to review the operating characteristics at the PXO. During the busiest eight-hour period of a typical weekday, a total of 613 pedestrians and 63 cyclists were recorded crossing King Street West within the crosswalk. Additionally, a total of 145 pedestrians were recorded crossing King Street West outside the crosswalk.

Based on the vehicular and pedestrian traffic count data obtained at the intersection of King Street West and Dowling Avenue, the technical warrants for the installation of traffic control signals are satisfied to the following extent:

- Warrant 1: Minimum Vehicular Volume 27 percent
- Warrant 2: Delay to Cross Traffic 93 percent
- Warrant 3: Collision Hazard 40 percent

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.

While this evaluation indicates that the installation of traffic control signals is not numerically warranted at the intersection of King Street West and Dowling Avenue, the 7% deficiency in the "Delay to Cross Traffic" warrant is potentially attributable to daily traffic volume fluctuation and the time of year when the survey was undertaken. Therefore, we cannot say conclusively that this location does not warrant the installation of traffic control signals.

To satisfy the "Collision Hazard" warrant, motor vehicle accident records (MVAs) should confirm there has been an average of 5 or more collisions per year of a type potentially preventable by traffic control signals during each of the three preceding years.

Our review of the Toronto Police Service MVA records for a three-year period ending December 31, 2010 indicates a total of 12 collisions have been reported at the intersection of King Street West and Dowling Avenue. Of the 12 collisions, one involved a pedestrian crossing within the crosswalk, and one involved a cyclist crossing King Street West, and 4 others are considered potentially preventable by the installation of traffic control signals. A specific concern to us is that the collisions involving the pedestrian and cyclist occurred after installation of the PXO enhancements (larger and additional amber flashing beacons and zebra stripes).

In considering the installation of traffic control signals at this intersection as a pedestrian enhancement we undertook a further examination of the MVAs dating back to 2000 to determine if there has been a pattern of additional pedestrian/cyclist or preventable collisions over the years. This review confirmed there has been an additional 10 preventable collisions reported that involved three pedestrians within the crosswalk and seven others potentially preventable with traffic control signals.

One of the short-term initiatives identified within the Western Waterfront Master Plan is to provide improved north/south pedestrian and cycling connections between neighbourhoods north of the Lake Shore/Gardiner corridor and the waterfront. One of these short-term initiatives currently pending installation is a Pedestrian Traffic Control Signal (PTCS) on Lake Shore Boulevard West, just west of Dowling Avenue. A sidewalk link on the north side of Lake Shore Boulevard West, between the PTCS and Dowling Avenue is to be constructed in conjunction with the installation of the PTCS. Once complete we expect both pedestrian and cycling usage will increase along Dowling Avenue, between King Street West and Lake Shore Boulevard West where the installation of traffic control signals will be 100% satisfied at King Street West and Dowling Avenue.

The Toronto Transit Commission (TTC) has been advised of the proposed installation of traffic control signals at this intersection. Transit priority currently operates on King Street West. The transit priority feature will be implemented with the signal operation at the King/Dowling intersection to enhance the "504-King" streetcar operation through this intersection.

Summary

Based on the collision experience and the fact that introduction of the PXO enhancement measures has not statistically improved operational safety for pedestrians/cyclists and motorists crossing King Street West, and in addressing the short-term initiatives of the Western Waterfront Master Plan it is recommended the existing pedestrian crossover at the intersection of King Street West and Dowling Avenue be replaced with traffic control signals. Signalization will enhance intersection safety and minimize conflicts between pedestrians/cyclists and motor vehicles, but some less desirable consequences may result:

- Some increased congestion and delay to traffic on King Street West is possible;
- Signalization could promote increased traffic volume on Dowling Avenue;
- As with any installation of traffic control signals, parking will be prohibited at all times within 30.5 metres of the intersection. This will result in a loss of approximately thirteen parking spaces in total, eight on King Street West and five on Dowling Avenue; and
- Pedestrians will experience increased wait times before being able to cross King Street West.

CONTACT

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SIGNATURE

Angie Antoniou
Acting Director, Transportation Services
Toronto and East York District

LIST OF ATTACHMENTS

- (1) Drawing No. 421G-0407, dated July 2011

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