



## STAFF REPORT ACTION REQUIRED

### Traffic Operations – Carlaw Avenue, vicinity Lake Shore Boulevard East

<b>Date:</b>	October 29, 2008
<b>To:</b>	Toronto and East York Community Council
<b>From:</b>	Director, Transportation Services Toronto and East York District
<b>Wards:</b>	Toronto-Danforth, Ward 30
<b>Reference Number:</b>	Ts08181te.top.doc

#### SUMMARY

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In order to reduce northbound congestion and delays on Carlaw Avenue, approaching Lake Shore Boulevard East, Transportation Services is seeking authority from City Council to prohibit left turns from the Esso Gas Station driveway, located on the west side of Carlaw Avenue, south of Lake Shore Boulevard East, to Carlaw Avenue; amend the parking controls on Carlaw Avenue, between Commissioners Street and Lake Shore Boulevard East; and designate the southbound curb lane on Carlaw Avenue, north of Lake Shore Boulevard East for right turns only (Toronto Transit Commission (TTC) buses excepted).

#### RECOMMENDATIONS

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**Transportation Services recommends that City Council:**

1. Prohibit eastbound left turns from the service station driveway, located on the west side of Carlaw Avenue, 40 metres south of Lake Shore Boulevard East, to Carlaw Avenue from 6:30 a.m. to 6:30 p.m., Monday to Friday, except Public Holidays.
2. Amend the times of the existing “No Stopping, 6:30 a.m. to 9:30 a.m. and 3:30 p.m. to 6:30 p.m., Monday to Friday, except Public Holidays” regulation, on both sides of Carlaw Avenue, between Commissioners Street and Lake Shore Boulevard East, to be in effect from 6:30 a.m. to 6:30 p.m., Monday to Friday, except Public Holidays.

3. Rescind the existing “No Parking, 6:00 a.m. to 6:00 p.m.” regulation, on the east side of Carlaw Avenue, between a point 45 metres south of Lake Shore Boulevard East and a point 130 metres further south.
4. Rescind the existing “No Parking, 4:00 p.m. to 6:00 p.m., except Saturdays, Sundays and Public Holidays” regulation, on the east side of Carlaw Avenue, between a point 130 metres south of Lake Shore Boulevard East and Commissioners Street.
5. Rescind the existing “No Parking, 4:00 p.m. to 6:00 p.m., except Saturdays, Sundays and Public Holidays ” regulation, on the east side of Carlaw Avenue, between Lake Shore Boulevard East and a point 45 metres further south.
6. Designate the westerly southbound lane of Carlaw Avenue from Lake Shore Boulevard East to a point 72 metres north of Lake Shore Boulevard East, for right turns only, TTC buses excepted.
7. Prohibit stopping at all times on the west side of Carlaw Avenue from Lake Shore Boulevard East to a point 72 metres further north.

### **Financial Impact**

<b>Type of funding</b>	<b>Source of funds</b>	<b>Amount</b>
Available within current budget	Transportation Services 2008 Operating Budget	\$3000.00

### **DECISION HISTORY**

Toronto and East York Community Council, at its meeting on July 7, 2008, adopted Item TE17.88, entitled “Prohibition of left turns – west side of Carlaw Avenue, South of Lake Shore Boulevard East and Streetscape Improvements on Carlaw Avenue, between Commissioners Street and Eastern Avenue”, requesting Transportation Services staff to:

- (i) report to Toronto and East York Community Council, in the Fall of 2008, on the feasibility of prohibiting left turns from the Esso Gas Station driveway, located on the west side of Carlaw Avenue, south of Lake Shore Boulevard East, to Carlaw Avenue; and
- (ii) review traffic operations at the intersection of Carlaw Avenue and Lake Shore Boulevard East with a view to enhancing pedestrian and cyclist safety, and, in consultation with the Ward Councillor, Waterfront Secretariat and Urban Design, to develop options for streetscape improvements on Carlaw Avenue between Commissioners Street and Eastern Avenue.

## **COMMENTS**

### **Existing Conditions**

Lake Shore Boulevard East is a six-lane major arterial road operating two-way in an east/west direction. Carlaw Avenue is a four-lane collector road operating two-way in a north/south direction. Traffic signals control right-of-way at the intersection of these two streets. A railway crossing bisects the intersection from the north side of Lake Shore Boulevard to the median. Toronto Transit Commission operates Pape Bus Route 72A from the Bloor Danforth Subway at Pape Station via Carlaw Avenue to the Portlands. A bike trail crosses Carlaw Avenue on the north side of Lake Shore Boulevard East. The northbound and southbound approaches of Carlaw Avenue to the intersection consist of a shared through/left-turn lane and a shared through/right-turn lane. Northbound and southbound right turns on red are prohibited from Carlaw Avenue to Lake Shore Boulevard East. “U-turns” are prohibited on Carlaw Avenue, between Commissioners Street and Lake Shore Boulevard East. Stopping is prohibited on both sides of Carlaw Avenue, between Commissioners Street and Lake Shore Boulevard East, from 6:30 a.m. to 9:30 a.m. and from 3:30 p.m. to 6:30 p.m. on weekdays and parking is prohibited at various times and locations in this section.

In 2005, an Esso Gas Station with Tim Horton’s drive-thru was opened on the southwest corner of the intersection. The service station has right-in/right-out only access from Lake Shore Boulevard East and full access to Carlaw Avenue (approximately 40 metres south of Lake Shore Boulevard East). There are two driveways to the major Toronto Hydro facility on the east side of Carlaw Avenue between Lake Shore Boulevard East and Commissioners Street.

### **Left-turn Prohibition from Driveway**

After the station opened, Transportation Services received complaints from Toronto Hydro that vehicles making eastbound left-turns onto Carlaw Avenue from the service station have increased northbound left-turn delays at the intersection during peak times and also during the off-peak period (9:30 a.m. to 3:30 p.m.) on weekdays.

The results of a traffic study conducted in October 2008 disclosed that 1300 motorists exited the Carlaw driveway of the service station during the peak 8 hours of a typical weekday. Of these, 924 motorists made a left turn. During the same period, 180 motorists were recorded making northbound left turns and 500 made southbound right turns into the Carlaw driveway, respectively. Further, over 1100 northbound left turns occur from Carlaw Avenue to Lake Shore Boulevard East.

The proximity of the service station driveway to Lake Shore Boulevard East is a prime contributing factor to the congestion motorists are experiencing. Because of the short spacing, there are insufficient gaps in northbound traffic flow to accommodate left turns exiting from the service station. Most of the left-turning vehicles from this driveway must force their way into the northbound queue. Further, we note that competing movements at Carlaw Avenue and Lake Shore Boulevard East during peak times of the

day prevent northbound left turns from clearing the intersection efficiently and effectively.

Implementing an eastbound left-turn prohibition from the driveway to Carlaw Avenue is feasible and would be beneficial in reducing delays. As a result, motorists exiting the service station would be required to turn right and travel south to Commissioners Street.

The effectiveness of this proposed turn prohibition would be contingent upon Police enforcement.

### **Amendment to Parking Controls**

Observations by staff at various times of the day indicate that when vehicles park on Carlaw Avenue, between Commissioners Street and Lake Shore Boulevard East, traffic is reduced to a single lane resulting in significant delays, especially near the service station driveway.

Amending the times of the existing “No Stopping” prohibition, to be in effect on both sides of Carlaw Avenue, from 6:30 a.m. to 6:30 p.m., on weekdays should contribute to an overall improvement in traffic flow and a corresponding reduction in congestion. At other times, traffic is light and allowing parking on Carlaw Avenue should not be problematic.

### **Southbound Carlaw Avenue Lane Designation**

The southbound approach of Carlaw Avenue at Lake Shore Boulevard East is two lanes consisting of a shared left-turn/through lane, and a shared through/right-turn lane. Southbound right turns are prohibited on a red signal indication. Two separate driveways, serving a private business and a laneway, are located 26 and 72 metres respectively north of the intersection on the west side of Carlaw Avenue. A southbound TTC bus stop is located 25 metres further north of the laneway.

To further reduce northbound left-turn delays, it is feasible to designate the southbound curb lane on Carlaw Avenue, north of Lake Shore Boulevard as a right-turn only lane. Presently, almost 1800 southbound right turns are made during the peak 8 hours of a typical weekday. During the morning peak period the curb lane operates almost exclusively as a de facto right turn only lane. TTC buses would be allowed to proceed southbound through the intersection after serving the stop on the west side of Carlaw Avenue, north of Lake Shore Boulevard East.

Designating the southbound curb lane as a right-turn only lane could result in some improvement in the level of service of that movement. It may also improve the ability for northbound left-turning vehicles to clear as there would be no opposing southbound through traffic in the southbound curb lane proceeding south of Lake Shore Boulevard East.

There would be no significant negative impacts to traffic operations on Carlaw Avenue with this change.

## **Other Considerations**

### **Median Installation**

To complement the proposed driveway left-turn prohibition, Transportation Services considered two options for installing a raised median to physically prevent left turns. One scenario would have the median run from Lake Shore Boulevard to just south of the driveway. The second option would have the median run 81 metres further south to discourage u-turns south of the driveway. A median island would reduce northbound congestion at the intersection and eliminate conflicts between northbound vehicles on Carlaw Avenue and vehicles exiting the service station.

The installation of the median would require the widening of Carlaw Avenue on the west side. In addition, a further widening would be required to accommodate the turn radii of large trucks. However, we are aware that there are dual underground culverts buried on the west side boulevard of Carlaw Avenue, which can not be disturbed. This prevents any widening on the west side of Carlaw Avenue. Also, widening Carlaw Avenue on the east side of the roadway is not recommended as a hydro vault would need to be relocated and the costs associated with any widening of Carlaw Avenue would be very prohibitive. Further, the Carlaw alignment on both sides of Lake Shore Boulevard East would be skewed.

### **Traffic Signal Operation**

Staff undertook a left-turn study in both the a.m. and p.m. peak periods to determine if conditions warrant the installation of a northbound left-turn green arrow indication. Warrants were only completed for the a.m. and p.m. peak periods as they represent the greatest volume of competing traffic.

Although the study results indicate, this feature is warranted during both the a.m. and p.m. peak periods, a northbound left-turn green arrow indication should not be introduced at the Carlaw Avenue/Lake Shore Boulevard intersection at this time. Our capacity analysis found that the signal timing modifications required for a northbound left-turn arrow would significantly increase delay for the predominant east-west traffic movements at the intersection. The benefits of this feature cannot be justified in light of the corresponding reduction in level of service provided to heavier competing movements. High volumes on Lake Shore Boulevard East during weekday peak periods would result in very significant delays if east-west green time is reduced.

### **Pedestrian and Cyclist Safety**

Transportation Services staff have confirmed that the operational safety of the intersection is acceptable from a pedestrian and cyclist perspective. Sufficient pedestrian walk times are provided to cross at the intersection. The traffic signal hardware (including pedestrian displays for all crossings) is properly installed, in good order and clearly visible for all intersection users. Bike displays exist to assist cyclists crossing on the north side of the intersection.

**Streetscape Improvements**

Transportation Services has consulted with Waterfront Secretariat and Urban Design staff regarding the request to develop options for streetscape improvements on Carlaw Avenue between Commissioners Street and Eastern Avenue. Presently, Waterfront Toronto has no streetscape construction project planned for Carlaw Avenue, but a streetscape guidelines study for the Port Lands is being prepared. The Waterfront Toronto study should be finished in the near future.

**CONTACT**

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**SIGNATURE**

Andrew Koropeski, P. Eng.  
Director, Transportation Services

**ATTACHMENTS**

Drawing Nos. 421F-9476, 421F-9477 and 421F-9478, dated October 2008

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