



STAFF REPORT ACTION REQUIRED

Proposed Traffic Control Signal on Lawrence Avenue East at Susan Street

Date:	April 8, 2010
To:	Scarborough Community Council
From:	Acting Director, Transportation Services, Scarborough District
Wards:	Ward 43 – Scarborough East
Reference Number:	P:\2010\Cluster B\TRA\Scarborough\sc1038 D09-3309173 Lawrence & Susan PRI to TCS Conversion

SUMMARY

This staff report is about a matter for which the Community Council does not have delegated authority from City Council to make a final decision.

The purpose of this report is to obtain approval for the installation of traffic control signals at Lawrence Avenue East and Susan Street.

Traffic studies reveal that the existing pedestrian refuge island should be upgraded to a traffic signal to improve safety. As a result, traffic control signals should be installed.

RECOMMENDATIONS

Transportation Services, Scarborough District, recommends that Scarborough Community Council recommend that City Council:

1. Approve the installation of traffic control signals at the intersection of Lawrence Avenue East and Susan Street.
2. Pass or amend the appropriate by-law(s) accordingly.

Financial Impact

The financial cost of installing these new traffic control signals is approximately \$150,000.00. The funding for these signals is available in Transportation Services Division's Capital Works Budget under Project No. CTP706-01.

ISSUE BACKGROUND

Further to a request from the public, Transportation Services staff reviewed the feasibility of replacing the existing pedestrian refuge island with traffic control signals at Lawrence Avenue East and Susan Street.

COMMENTS

The following characteristics describe the intersection of Lawrence Avenue East and Susan Street:

- This three-way intersection is located to the west of Orton Park Road and Lawrence Avenue East and is presently controlled by stop signs on Susan Street.
- Lawrence Avenue East is a six-lane major arterial roadway with left-turn storage lanes and a raised concrete pedestrian refuge island to the west of Susan Street.
- Lawrence Avenue East has a speed limit of 60 kilometres per hour (that is receiving adequate compliance) and a daily traffic volume of approximately 34,200 vehicles per day.
- Susan Street is a two-lane local roadway with a speed limit of 40 km/h.
- Toronto Transit Commission bus stops for eastbound and westbound directions along Lawrence Avenue East are located on both sides of the Susan Street.
- Traffic control signals are located approximately 266 metres east at Orton Park Road, and 188 metres west at Mossbank Drive.
- Sidewalks are located on both sides of Lawrence Avenue East and Susan Street.

Traffic Control Signal Warrant Study

Transportation Services staff conducted a Traffic Control Signal Warrant Study at the intersection of Lawrence Avenue East and Susan Street. Using pedestrian volumes recorded over the peak eight hours of a typical weekday (Tuesday, November 20, 2007), the following results were obtained:

Traffic Control Signal Warrant	Compliance Level
Minimum Vehicular Volume	28%
Delay To Cross Traffic	61%
Collision Hazard	7%

- For traffic control signals to be numerically justified, one of the “Minimum Vehicular Volume” or “Delay to Cross Traffic” warrants must be 100% satisfied or any two of the three warrants must be at least 80% satisfied.
- Our review of the Collision Hazard is based on the previous three-year (2006 – 2008) collision history.

As outlined in the above table, the traffic control signals warrants have not been satisfied.

To assess the current operation of this refuge island, an evaluation, by way of a Pedestrian Classification Study, was conducted on September 17, 2009. The results of this study indicate that the existing pedestrian refuge island has acceptable sight lines for east/west approaching vehicles. Also, there appeared to be adequate gaps in the traffic flow on Lawrence Avenue East. Staff recorded 115 pedestrians crossing in the vicinity of the island without experiencing any conflicts with approaching motorists. Pedestrians waited for a suitable safe gap in the traffic flow and then safely crossed Lawrence Avenue East. However, many pedestrians failed to use the island properly since they walked around the island.

Further review shows that the island fails to meet the Division’s current guidelines for pedestrian islands where the maximum number of lanes to install them is five lanes; Lawrence Avenue East is seven lanes wide at this location. As pedestrian crossing protection is still warranted, an upgrade to a higher form of traffic control is needed. Staff considered the installation of a Pedestrian Crossover (PXO) however, due to the wide seven lane cross section the installation of a PXO may pose a greater risk to pedestrians. Therefore, traffic control signals should be installed to provide a safe form of pedestrian crossing protection.

Although the traffic control signals warrants are not technically met, they are justified under engineering judgement to provide the best level of pedestrian crossing protection.

Collision History

A review of the Toronto Police Service collision records for the five-year period ending December 31, 2006 revealed the following history:

Five-Year Collision Information	Number of Reported Collisions			
	2006	2007	2008	Total
Total Collisions	1	0	0	1
Collisions Potentially Preventable by the Installation of Traffic Control Signals	1	0	0	1
Collisions Involving Pedestrians	0	0	0	0

In summary, to comply with Divisional guidelines with respect to refuge islands, an upgrade to a higher form of traffic control device is needed.

Accordingly, the resultant installation is expected to improve safety for pedestrians crossing at Lawrence Avenue East and Susan Street as well as motorists in the intersection and should not have a significant impact on the operation of the arterial road network. The Toronto Transit Commission staff have been consulted and concur with the conversion of the Pedestrian Refuge Island to a Traffic Control Signal.

CONTACT

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SIGNATURE

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ATTACHMENTS

1. Location Plan (Proposed Traffic Control Signals – Lawrence Avenue East and Susan Street)