

Traffic Control Signal: Wilson Avenue and Murray Road

Date:	January 19, 2016
To:	North York Community Council
From:	Director, Transportation Services Division, North York District
Wards:	Ward 9 – Don Valley West
Reference Number:	<i>p:/2016/ClusterB/TRA/NorthYork/ny16019</i>

SUMMARY

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

The purpose of this report is to respond to a request for the installation of a traffic control signal or a pedestrian crossover at or in the vicinity of Wilson Avenue and Murray Road.

The existing traffic and roadway conditions do not warrant the introduction of traffic control signals or a pedestrian crossover at the above noted intersection.

RECOMMENDATIONS

Transportation Services recommends that:

1. City Council deny the installation of a traffic control signal or a pedestrian crossover at or in the vicinity of Wilson Avenue and Murray Road.

Financial Impact

There are no financial implications associated with this report: however, the financial cost of installing new traffic control signals is approximately \$200,000.00. Should the installation of traffic control signals be approved, installation will occur when funding and scheduling permit. The scheduling will take into account competing priorities, with priority being given to approved traffic control signals that satisfy the Traffic Control Signal Warrant criteria.

ISSUE BACKGROUND

Transportation Services was requested by the Ward Councillor, on behalf of the area residents to review the feasibility of installing traffic control signals at or in the vicinity of Wilson Avenue and Murray Road.

COMMENTS

Wilson Avenue is a five lane major arterial road consisting of two westbound and eastbound through lanes and a two-way centre left-turn lane with a regulatory speed limit of 50 km/h and a daily two way traffic flow of approximately 32,000 vehicles. Traffic control signals are located approximately 270 meters to the east at Garratt Boulevard and 520 meters to the west at Dubray Avenue.

There is a minor change in the vertical alignment of Wilson Avenue, west of Murray Road, which partially restricts sight lines for eastbound motorists approaching Murray Road. TTC bus stops with bus bays are located on the northeast corner of the intersection and on the south side of Wilson Avenue west of the intersection.

To determine the feasibility of installing traffic control signals or a pedestrian crossover this Division conducted the appropriate studies to identify the existing traffic conditions and any difficulty pedestrians are experiencing when crossing Wilson Avenue.

Traffic Control Signal Review

The most recent eight-hour turning movement count conducted on October 9, 2013 at the intersection of Wilson Avenue and Murray Road has indicated that the technical warrants for the installation of traffic control signals are satisfied to the following extent:

Warrant 1: Minimum Vehicular Volume	35%
Warrant 2: Delay to Cross Traffic	40%
Warrant 3: Collision Hazard	0%

To satisfy the installation of a traffic control signal, one of either the Minimum Vehicular Volume or Delay to Cross Traffic warrants must be 100 percent satisfied, or both must be satisfied to the extent of 80 percent. Accordingly, the installation of a traffic control signal is not justified.

It should be noted that in order for the Collision Hazard component of the warrant to be met a total of 15 collisions in a three-year period, susceptible to correction by the installation of a traffic control signal, must occur.

The following data illustrates the results of previous studies conducted at this location with regards to the feasibility of installing a traffic control signal.

Study Date	Warrant 1 Minimum Vehicular Volume	Warrant 2 Delay to Cross Traffic	Warrant 3 Collision Hazard
January 2010	33%	31%	0%
November 2007	35%	35%	0%
September 2005	34%	41%	0%

Given the study results, the installation of traffic control signals is not warranted.

Pedestrian Crossover Review

The most recent eight-hour pedestrian delay study that was conducted on November 23, 2007 indicated that the technical warrants for the installation of a pedestrian crossover were satisfied to the following extent:

Warrant 1: Pedestrian Volume 50%
Warrant 2: Pedestrian Delay 0%

In order to meet the technical requirements for the installation of a pedestrian crossover, both warrants must be 100 percent satisfied. Our study revealed that during eight hour study, 100 pedestrians crossed Wilson Avenue at or near the Murray Road. A minimum of 200 pedestrians are required in order to warrant a pedestrian crossover.

The following data illustrates the result of the previous studies conducted at this location with regards to the feasibility of installing a pedestrian crossover.

Study Date	Warrant 1 Pedestrian Volume	Warrant 3 Pedestrian Delay
September 2005	50%	0%
May 2000	26%	0%

Given the study results, the installation of a pedestrian crossover is not warranted.

When analysing the above data it would appear that the pedestrian crossing volumes have increased since 2000. Staff has reviewed the historical turning movement counts and has found that the north/south pedestrian crossing activity has remained relatively consistent during the last 10 years. Our most recent count from Wednesday, October 9, 2013 recorded 94 pedestrians crossing north/south.

Collision History

A review of Toronto Police Services collision records for the three-year period ending December 31, 2015 revealed the following history at the intersection of Wilson Avenue and Murray Road including a fatal collision on September 30, 2015 that was the result of excessive speed.

Three-Year Collision Information	2013	2014	2015	Total
Total Collision	1	2	2	5
Potentially Preventable by the Installation of TCS	0	0	1	1
Collisions Involving Pedestrians	0	0	0	0

A review of the collision history prior to 2013 dating back to 2000 has indicated that there have been four incidents where pedestrians were involved in an incident. Two of the incidents involved pedestrians within the east/west crossing area on the north side of the roadway. One involved a southbound right-turning vehicle and the other was an eastbound left-turning vehicle entering Murray Road. The other two incidents involved pedestrians crossing the main street. One occurred due to a southbound left-turning vehicle striking a pedestrian on the east leg of the intersection and the other involved a pedestrian stepping off of the curb into the path of the TTC bus departing from the eastbound transit stop.

Staff has obtained from the TTC their ridership counts at this location. The data provided by the TTC indicates that the boarding and alighting figures for transit activity at this location of Wilson Avenue and Murray Road are as follows:

Direction	Boarding	Alighting
Eastbound	116	76
Westbound	83	129

If these transit stops were to be removed, the existing pedestrian crossing activity would be either eliminated entirely or greatly reduced. The nearest westbound and eastbound transit stops are located at Wilson Avenue and Garratt Boulevard/Northgate Drive, which is controlled by traffic control signals. The transit riders would be required to walk an additional distance of 270 metres eastward, however, they would have the protection of the traffic control signals when crossing the roadway.

Pedestrian Refuge Island

Transportation Services also reviewed the feasibility of installing a Pedestrian Refuge Island (PRI) to assist pedestrian crossings at the subject location. The PRI Guidelines require that a minimum of 100 pedestrians are observed crossing the roadway and that the pavement width be a minimum of 16.4 metres wide.

In this instance the minimum threshold for pedestrian crossings has not been observed with an average of 80 pedestrians for the four previous analyses.

Wilson Avenue and Murray Road is not an appropriate environment for a pedestrian refuge island due to the presence of bus bays on both sides, high volume of turning heavy trucks, numerous access conflicts, left turn lanes and steep grades caused by the railway underpass.

Conclusion

The installation of a traffic control signal, pedestrian crossover or pedestrian refuge island cannot be justified and should not be installed at the subject intersection.

The Ward Councillor has been advised of the recommendation in this staff report.

CONTACT

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SIGNATURE

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ATTACHMENTS

Attachment 1: Map – Pedestrian Crossover/Traffic Control Signal Review:
 Wilson Avenue at Murray Road