

## **Transportation Impacts: Toronto York Spadina Subway Extension**

<b>Date:</b>	June 6, 2011
<b>To:</b>	North York Community Council
<b>From:</b>	Director, Transportation Services Division, North York District
<b>Wards:</b>	<b>Ward 8 – York West</b>
<b>Reference Number:</b>	<i>ny11099</i>

### **SUMMARY**

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As the Toronto Transit Commission (TTC) operates a transit service on Keele Street, Finch Avenue West and Sheppard Avenue West, City Council approval of this report is required.

To obtain approval for the installation of the traffic control signals, roadway modifications (road alterations by-law), and traffic by-laws associated with Toronto York Spadina Subway Extension (TYSSE) construction activities that will occur in the Summer of 2011.

The installation of the above-noted traffic control measures includes a detour route that will be available for traffic in the vicinity of the intersection of Keele Street and Finch Avenue West . This detour route will be in place for approximately four years during which time there will be significant lane reductions on Keele Street.

### **RECOMMENDATIONS**

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Transportation Services Division, North York District recommends that:

1. Subject to the dedication as public highways of the extensions of Murray Ross Parkway and Tangiers Road as described in this report;

- (a) City Council approve the installation of traffic control signals at the intersection of Murray Ross Parkway and Shell West Access/TTC Parking Lot, and in conjunction with the installation of these traffic control signals;
  - (i) City Council prohibit pedestrian crossings on Murray Ross Parkway , from a point 30.5 metres west of the west curb line of the Shell West Access/TTC Parking Lot to a point 30.5 metres east of the east curb line of Shell West Access/TTC Parking Lot;
  - (ii) City Council prohibit northbound left turns at all times, from Shell West Access/TTC Parking Lot to westbound Murray Ross Parkway; and
  - (iii) City Council prohibit westbound left turns at all times, from Murray Ross Parkway to the TTC Parking Lot.
- (b) City Council prohibit stopping at all times on both sides of Murray Ross Parkway from Keele Street to Tangiers Road;
- (c) City Council designate the westbound curb lane at Murray Ross Parkway and Keele Street as a right turn only lane from Keele Street to a point 35 metres east;
- (d) City Council approve the installation of traffic control signals at the intersection of Tangiers Road and York University Busway, and in conjunction with the installation of these traffic control signals;
  - (i) City Council prohibit northbound and southbound left and right turns at all times, from Tangiers Road to the York University Busway, “Public Transit Vehicles” excepted; and
  - (ii) City Council prohibit westbound and eastbound entry, “Public Transit Vehicles” excepted, at all times, from Tangiers Road to the York University Busway;
- (e) City Council rescind the existing parking prohibitions from 2:00 a.m. to 6:00 a.m. on both sides of Tangiers Road from a point 30.5 metres north of Finch Avenue West to a point 180 metres northerly thereof;
- (f) City Council prohibit stopping at all times on both sides of Tangiers Road from Murray Ross Parkway to a point 90 metres north of Finch Avenue West;

- (g) City Council prohibit parking from 2:00 a.m. to 6:00 a.m. on both sides of Tangiers Road from a point 30.5 metres north of Finch Avenue West and a point 90 metres north of Finch Avenue West;
  - (h) City Council rescind the existing 60 Minute Permitted Parking restriction on the west side of Tangiers Road from the northerly limit of Toro Road to a point 112.0 metres south of the southerly limit of Finch Avenue West;
  - (i) City Council prohibit parking at all times on the west side of Tangiers Road from Toro Road to Finch Avenue West;
  - (j) City Council designate the southbound curb lane at Finch Avenue West and Tangiers Road as a right turn only lane from Finch Avenue West to a point 40 metres north;
  - (k) City Council designate the westbound curb lane at Finch Avenue West and Tangiers Road as a right turn only lane from Tangiers Road to a point 60 metres east; and
  - (l) City Council approve the installation of traffic control signals at the intersection of Tangiers Road and Toro Road; and
2. City Council direct the City's Legal Division to introduce the appropriate "Road Alteration By-laws" to permit the reconfiguration of the roadways as illustrated on Attachment 7.

## **Financial Impact**

All costs associated with the implementation of the roadway improvements, new traffic control signals, and associated traffic by-laws contained in this report, will be borne by the Toronto Transit Commission – Toronto York Spadina Subway Extension Department (TTC – TYSSE).

The only exception to the funding being provided by TTC – TYSSE is the incremental funding required to install traffic control signals permanently at the intersection of Tangiers Road and Toro Road . The estimated cost difference between the temporary installation of traffic control signals at Tangiers Road and Toro Road and the permanent installation, is estimated at \$33,250. These funds have been included in Transportation's 2012 Capital Budget estimates.

## ISSUE BACKGROUND

In August , 2010 North York Community Council approved a report which enacted the necessary road alteration by-laws to allow for the extension of Murray Ross Parkway and Tangiers Road with the intention of using these roads as part of a detour route to allow traffic to avoid the vicinity of Keele Street and Finch Avenue West during construction of the Toronto York Spadina Subway Extension ( TYSSE ). The detour is required given that Keele Street in the vicinity of Finch Avenue West will be reduced to one lane per direction during this period. Murray Ross Parkway will be extended easterly from the existing Keele Street to the northerly extension of Tangiers Road. Tangiers Road will be extended northerly from the existing cul-de-sac on Tangiers Road to meet the extension of Murray Ross Parkway. (See Attachment 1). It is anticipated that the extensions of Murray Ross Parkway and Tangiers Road as describe above will be dedicated as public highway upon completion of the transfer of ownership.

In 2011, Transportation Services Division, North York District, was requested by staff of TTC-TYSSE to report on the roadway improvements, new traffic control signals, and traffic by-laws associated with the TYSSE construction that will be initiated in the Summer of 2011.

The TYSSE project will extend the Yonge-University-Spadina Subway line by 8.6 kilometres and will add six stations, four of which will be within the City of Toronto. The development of the station designs and associated traffic plans has been undertaken through close liaison between staff from various City of Toronto divisions and TTC-TYSSE.

In the vicinity of the proposed Finch West Subway Station, advanced utility and watermain works continue on Keele Street north of Finch Avenue West and on Murray Ross Parkway west of Keele Street. Construction of the above-noted extensions of Murray Ross Parkway and Tangiers Road is also underway. It is intended that these roadways will be open to the public and will serve as a detour for the Keele/Finch vicinity starting this Summer.

In the vicinity of the proposed Sheppard West Subway Station , the tunnel boring machine ( TBM ) launch shaft was recently completed and it is anticipated that boring operations will begin early this Summer. Geometric improvements along Sheppard Avenue West associated with the station construction will continue through the Summer as well.

This report focuses on upcoming construction activities in the vicinity of the Finch West and Sheppard West stations and the implications for area traffic operations.

## **COMMENTS**

### **Existing Conditions**

Keele Street and Finch Avenue West are both four-lane major arterial roadways. The section of Keele Street between Four Winds Drive and Steeles Avenue West, is divided by a grassed centre median. The daily two-way traffic flow on Keele Street is approximately 37,000 vehicles per day and on Finch Avenue West is approximately 44,000 vehicles per day, and the posted speed limit on both roadways is 60 km/h.

Currently, Murray Ross Parkway is designated as a collector roadway and consists of two inbound lanes and three outbound lanes and intersects with Keele Street on the west side. The intersection of Keele Street and Murray Ross Parkway is currently controlled by traffic control signals. The east leg of the intersection is presently a private driveway servicing the Shell Canada Oil Depot. A fifth leg to the intersection was constructed last year which functions as the York University Busway. Tangiers Road is also designated as a collector roadway from Toro Road to its termination north of Finch Avenue West. The intersection of Finch Avenue West and Tangiers Road is controlled by traffic control signals. The current lane configuration on the north leg of the intersection consists of three outbound lanes and one inbound lane. Parking is permitted on both sides of the roadway. The south leg of the intersection consists of two inbound and outbound lanes, immediately south of the intersection the roadway narrows to a single lane of traffic per direction.

Sheppard Avenue West in vicinity of Bakersfield Road is a four-lane major arterial roadway with a raised centre median and a posted speed limit of 60 km/h. The average daily two-way traffic flow on this section of roadway is approximately 26,000 vehicles. The intersection of Sheppard Avenue West and Bakersfield Road forms a "T" intersection with Bakersfield on the north side Sheppard Avenue West.

The nearest traffic control signal to this intersection are located 500 metres east at Chesswood Drive and 270 metres west at Tuscan Gate. It should also be noted that immediately east of Bakersfield Road is the Canadian National Railway overpass.

The following sections describe the transportation impacts in the vicinity of the proposed Finch West and Sheppard West stations that will occur as a result of TYSSE construction beginning later this month:

### **Murray Ross Parkway – Keele Street to Tangiers Road**

Murray Ross Parkway from Keele Street to Tangiers Road will serve as part of the detour route to allow traffic to avoid the vicinity of Keele Street and Finch Avenue West during the subway construction. In addition, traffic control signals will be installed at the intersection of Murray Ross Parkway and Shell West Access/TTC Parking Lot. The north leg of the intersection will be the main access/egress for tanker trucks serving the Shell Oil Depot. As part of the Finch West Station construction, a commuter parking lot operated by TTC will be constructed on the south side of Murray Ross Parkway. The south leg of the subject intersection will provide right-in/right-out access to this parking lot. It is necessary to prohibit pedestrian crossings of Murray Ross Parkway at this intersection given the heavy volume of tanker truck turning movements and given the signalized crossing opportunity provided approximately 85 metres to the west at Keele Street.

In order to prevent pick-up and drop-off activity in the curb lanes of this section of Murray Ross Parkway, which would create congestion and delays, it is recommended that stopping be prohibited on both sides.

The ultimate westbound cross-section at the intersection of Keele Street and Murray Ross Parkway, upon completion of the subway construction, will include an exclusive right turn lane, a through lane and an exclusive left turn lane. It is recommended that in the ultimate configuration, the westbound right turn lane be designated for right turns only in order to prevent unsafe merging on the far side of the intersection. During the various construction stages, the configuration of the westbound approach will be modified a number of times and appropriate construction signage will be provided.

The proposed changes to the roadway are detailed in Attachments 2 and 3.

### **Tangiers Road – Murray Ross Parkway to Toro Road**

Tangiers Road from Murray Ross Parkway to Toro Road will serve as part of the detour route to allow traffic to avoid the Keele/ Finch vicinity during the subway construction. In addition, traffic control signals will be installed at the intersection of Tangiers Road and the York University Busway. The extension of Tangiers Road to Murray Ross Parkway will result in an intersection with the existing York University Busway. In order to permit buses using the busway to safely cross Tangiers Road during the period of construction of the Finch West subway station, it is recommended that traffic signals be installed at the intersection of Tangiers Road and the York University Busway. Upon completion of the Finch West subway station and associated commuter parking lot, the section of the York University Busway west of Tangiers Road will be eliminated. At that point, buses will be required to make westbound left turns and northbound right turns at the subject intersection.

Currently, 60 Minute Permitted Parking exists on the west side of Tangiers Road, adjacent to the existing commercial establishments. Three-hour parking is permitted on the east side of the roadway. In order to prevent pick-up and drop-off activity in the curb lanes of the section of Tangiers Road from Murray Ross Parkway to a point 90 metres north of Finch Avenue West, which would create congestion and delays, it is recommended that stopping be prohibited on both sides at all times.

At the intersection of Tangiers Road and Finch Avenue West, during the construction period and in the ultimate configuration, the cross-section of the southbound approach will consist of exclusive left and right turn lanes and a single through lane, while the westbound approach will consist of exclusive left and right turn lanes and two through lanes. It is recommended that the westbound and southbound right turn lanes be designated for right turns only in order to prevent unsafe merging on the far side of the intersection.

Currently, the intersection of Tangiers Road and Toro Road is controlled by a stop control in the southbound direction only. Given the additional traffic volumes that will use this intersection as part of the detour route during subway construction, it was concluded that the installation of traffic control signals during this period would be necessary to ensure that diverted and existing traffic, particularly tanker trucks generated by the nearby tank farms, can safely and efficiently navigate this intersection.

Since the detour route will be in place for an extended duration (approximately four years), it is expected that many motorists including tanker truck drivers will make permanent changes to their routes to include this intersection. It is for this reason that it is being recommended that the subject traffic control signals be installed on a permanent, not temporary basis. Since TTC-TYSSE was only committed to covering the costs associated with the detour, the City will be responsible for the incremental costs between the temporary and permanent installations. This cost is estimated at \$33,250.

Given the distance of Tangiers Road south of Finch Avenue West from the proposed Finch West Station, passenger pick-up and drop-off activity is not as much of a concern relative to the section north of Finch Avenue West. As a result, it is recommended that parking, as opposed to stopping, be prohibited on the west side of Tangiers between Finch Avenue West and Toro Road. This parking prohibition currently exists on the east side of this section of Tangiers Road.

The proposed changes to the roadway are detailed in Attachments 4, 5 and 6.

## **Sheppard Avenue West at Bakersfield Road**

The Sheppard West station will be located on Parc Downsview Park lands south of Sheppard Avenue West between Bakersfield Road and Chesswood Drive. The south leg of the Sheppard/Bakersfield intersection will provide passenger pick-up and drop-off access for private vehicles. In order to accommodate the proposed traffic operations in conjunction with the station opening, the installation of traffic control signals as well as several geometric modifications are required. A widening of Bakersfield north of Sheppard is required to accommodate two outbound lanes ( a shared right turn and through lane and an exclusive left turn lane) plus one inbound lane. Also , a local widening of Sheppard Avenue is required in order to accommodate eastbound and westbound left turn lanes.

The proposed changes to the roadway are detailed in Attachment 7.

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

## **CONTACT**

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## **SIGNATURE**

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Myles Currie  
Director

## **ATTACHMENTS**

- Attachment 1: Map – Finch West Station – (Toronto York Spadian Subway Extension Project) – Proposed Detour Route
- Attachment 2: Map – Finch West Station – Murray Ross Parkway Extension at Shell West Access – Traffic Control Signals

- Attachment 3: Map – Finch West Station – Murray Ross Parkway Extension at Keele St – Traffic Control Signals
- Attachment 4: Map – Finch West Station – Tangiers Road at Finch Avenue West – Traffic Control Signals
- Attachment 5: Map – Finch West Station – Tangiers Road Extension at Bus Rapid Transitway – Traffic Control Signals
- Attachment 6: Map – Finch West Station – Tangiers Road at Toro Road – Traffic Control Signals
- Attachment 7: Map – Sheppard West Station – Sheppard Avenue West at West Driveway and Bakersfield Street – Traffic Control Signals