

TORONTO TRANSIT COMMISSION REPORT NO.

MEETING DATE: July 14, 2010

SUBJECT: TRANSPORTATION OF INFLAMMABLE LIQUIDS OVER
SUBWAYS – CITY OF TORONTO BY-LAW EXEMPTION

ACTION ITEM

RECOMMENDATION

It is recommended that the Commission:

1. Request Toronto Council to approve the recommendation of the Public Works and Infrastructure Committee to amend the former Municipality of Metropolitan Toronto By-law No. 72, regulating the transportation of inflammable liquids on roads over subways:
 - a. to provide an exemption to the general prohibition such that the transportation of inflammable liquids would be permitted along or upon Finch Avenue West from Tangiers Road to Romfield Lane over the proposed LRT station and
 - b. along or upon Keele Street from St. Regis Crescent to The Pond Road over the proposed subway, would be permitted.”
2. Forward this report and its recommendations to Toronto City Council for its consideration with Public Works and Infrastructure Committee report PW34.8 at its August 25/26, 2010.

FUNDING

There is no financial impact associated with the adoption of the recommendations contained within this report. The exemption would result in changes to the design of Murray Ross Parkway and the road network within the Shell site that would result in project cost savings.

BACKGROUND

In March 1954, the former Municipality of Metropolitan Toronto enacted By-law No.72, “To regulate the transportation of inflammable liquids on Metropolitan roads over Rapid Transit subways”. This by-law, as amended, remains in effect and Section 1 of this by-law states that, “No person shall transport any inflammable liquids along or upon any portion of a road included in the Metropolitan Road System under which is located any part of a subway of the Rapid Transit system of the Toronto Transit Commission or upon which is located any entrance or exit to such a subway.” By-law No. 72 does provide exemptions to the Section 1 prohibition. However, the exemptions are not applicable in the case at hand.

The Toronto-York Spadina Subway Extension (TYSSE) project will have a portion of its

infrastructure under Keele Street, between St. Regis Crescent and The Pond Road, including the Finch West subway station located under Keele Street just north of Finch Avenue West. The location of the subway under Keele Street along with the subway station was illustrated in the EA and was approved by Toronto Council and the Commission in September 2006 and subsequently by the Minister of the Environment in March 2007.

The approved subway alignment is shown in Figure 1 attached.

The subway extension and Finch West station will restrict fuel truck operations to and from the Shell Canada storage depot (commonly called a tank farm) located north of the Finch Hydro Corridor, east of Keele Street. In order to provide alternatives, the design for the subway station includes additional access routings for fuel trucks to new public roads, Murray Ross Parkway extension and Tangiers Road extension (shown in Figure 1). These new roads require the acquisition of property from Shell, Suncor and Imperial Oil and modifications to the current access arrangements to the Shell tank farm. Toronto Council has authorized the expropriation of the required property and Toronto staff is in the final stages of acquiring the necessary property. As a result of the need to expropriate property, the City of Toronto is exposed to business loss claims from all three tank farm property owners.

In addition to the new Shell access to the Murray Ross Parkway extension, opposite Tangiers Road extension, an alternative access for fuel trucks travelling north on Keele Street, to avoid the subway tunnel alignment, is also required from the Suncor property. This requirement would result in significant changes to the Shell tank farm internal operations as well as to the Suncor operation (directly north of the Shell tank farm as shown in Figure 1).

TYSSE staff has been working with Shell, Suncor and City of Toronto staff for the past year to develop alternative access designs and internal site modifications to accommodate the necessary fuel truck movements, resulting from the fuel truck prohibition in a safe and efficient manner.

More recently, the Etobicoke-Finch West LRT project preferred design has been approved by both Toronto Council (January 2010) and the Commission (December 2009) and Minister of the Environment (May 2010). The preferred design of the Etobicoke-Finch West LRT at Keele Street includes an underground LRT station to interface directly with the TYSSE Finch West Subway Station. This design accommodates the forecast high volume of transit riders transferring between the LRT and subway at this location by providing a high quality and safe transit connection at this key location. Finch Avenue West above the underground LRT station at this location would also be affected by the prohibitions of By-Law No. 72. The combination of prohibitions along both Keele Street and Finch Avenue West would result in the Keele/Finch intersection being entirely off-limits to loaded fuel trucks.

Recognizing the implications of the recommended transit designs and the by-law prohibitions, staff conducted extensive research into the background of By-Law No. 72, the nature and history of accidents involving tanker trucks and its relevance to the physical characteristics of the Keele-Finch area, developments in tanker truck technology since the 1954 inception of the by-law, and quantitative and qualitative assessments of the risks involved.

At its meeting of June 15, 2010, Toronto Public Works and Infrastructure Committee approved the report from the GM of Transportation Services “Transportation of Inflammable Liquids Over Subways”, dated May 31, 2010, recommending that “City Council amend former Municipality of Metropolitan Toronto By-law No. 72 to provide an exemption to the general prohibition such that the transportation of inflammable liquids would be permitted along or upon Finch Avenue West from Tangiers Road to Romfield Lane over the proposed LRT station.” (A copy of the staff report is attached as Attachment 1). The recommendations in this report also directed that a second report on the Toronto-York Spadina Subway Extension be brought forward directly to Council; this report was to request a similar amendment for the subway project for the section of Keele Street under which the subway will operate. The second report titled “Transportation of Inflammable Liquids Over Subways”, dated June 28, 2010, was submitted directly to Council (a copy of this report is attached as Attachment 2).

The two reports were considered at Toronto Council at its meeting of July 6/7/8, 2010, the result of which was Council’s decision to defer consideration of the reports until its August 25/26, 2010 meeting. This deferral has implications on some urgent work related to the TYSSE project.

DISCUSSION

Prior to the recommendation by the GM Transportation Services to City Council for an amendment to By-law No. 72, TTC staff, in consultation with City of Toronto staff, undertook a series of studies to assess the implications of by-law amendments for the two transit projects and determine if such a request was appropriate. The following summarizes the analysis completed:

- Legal opinions from City of Toronto Legal and TTC Legal staff to determine if By-law No. 72 applies to the Etobicoke-Finch West LRT Project. Both City and TTC Legal departments determined that the by-law would apply to an underground LRT station such as the one proposed for the Etobicoke-Finch West LRT project at Keele Street. The advice of external legal counsel was also consulted and their opinion confirmed the City/TTC staff opinions with the additional qualification that if the circumstances that caused the by-law to be enacted in the first place no longer existed, then the by-law should be repealed or amended.

- Tanker Truck By-Law Study Report (February 2010) – Delcan Corporation. This study examines by-laws in other jurisdictions, extensive database review of statistics relating to frequency and severity of tanker truck accidents, tanker truck technology, site risks, TTC design standards (safety measures), operational risks (TTC operational controls). The conclusions of this study support the further examination of a by-law exemption through a comprehensive risk assessment. This study also provides much of the background data to support a risk assessment.
- TTC Finch West LRT Risk Assessment Report (April 2010) – DMA Technical Services Inc. This study examines the potential risks comparing the Etobicoke-Finch West LRT with the recommended underground station versus an at-grade LRT station at the Keele/Finch intersection. The study provides a qualitative and quantitative analysis of not only the comparative risks but the mitigating factors resulting from the design of the LRT station and TTCs approach to risk assessment and management. (An Executive Summary of this report is attached as Attachment 3).
- TTC TYSSE Finch West Station Risk Assessment Report (June 2010) – DMA Technical Services Inc. This study examines the potential risks comparing the Finch West Subway Station operations with and without the by-law exemption. The study provides an analysis of not only the comparative risks but the mitigating factors resulting from the design of the subway station and TTCs approach to risk assessment and management. (An Executive Summary of this report is attached as Attachment 4).
- City of Toronto Transportation Services and Legal staff and TTC staff (from both projects as well as TTC Safety Department) participated in these studies and reviewing the approach, analysis and results. Importantly, both Risk Assessment reports were signed off by City of Toronto, Transportation Services and TTC Safety Department.

Summary of Risk Assessment Findings

On the basis of the results of these studies and agreement of both staff, City of Toronto, the GM Transportation Services submitted reports to Public Works and Infrastructure Committee (PWI) and Council requesting amendments to the by-law as follows:

- City Council amend former Municipality of Metropolitan Toronto By-law No. 72 to provide an exemption to the general prohibition such that the transportation of inflammable liquids would be permitted along or upon Finch Avenue West from Tangiers Road to Romfield Lane over the proposed LRT station.

- City Council amend former municipality of Metropolitan Toronto By-law No. 72 to provide an exemption to the general prohibition such that the transportation of inflammable liquids along or upon Keele Street from St. Regis Crescent to The Pond Road over the proposed subway, would be permitted.

TTC staff support these two recommendations as appropriate and necessary to implement the design of the underground facilities for both the Etobicoke-Finch West LRT and TYSSE projects at this location. Furthermore, there would be cost savings to the TYSSE Project as noted below and mitigate business loss claims from the oil companies.

Immediate Impact of Council Deferral to TYSSE Project Advance Contract

Detailed design of the subway project is well advanced with the design of the Murray Ross Parkway/Tangiers Road Extensions and new Shell accesses having been put out to tender as an advance contract. The advance contract for the road extensions and utility relocations is ready to be awarded, having received all of the necessary TTC approvals. The award of this contract is time-critical as the road extensions must be completed by year-end to maintain overall project schedule. These roads must be completed regardless of the outcome of the Council decision in August. TYSSE staff will be awarding this contract the week of July 12, 2010 to ensure that the road work can be completed by November 2010.

The seven week deferral by Toronto Council in making a decision on the by-law amendment has resulted in the following implications to the TYSSE project advance contract:

- Any changes that will need to be made to the Shell accesses onto Murray Ross extension if the by-law amendment is approved at the Toronto Council meeting on August 25/26, 2010 will be done through a contract change order and will result in additional costs to the project;
- Modifications must be made to the Shell tank farm site in order to accommodate the changes to vehicular access. This work must be started within the next month to allow this work to be completed at the same time as the road works. A portion of this work is not required if the by-law amendment is approved and would result in cost savings;
- Modifications must be made to the Suncor tank farm site in order to accommodate changes to vehicular access required to allow trucks from the Shell site to travel north on Keele Street. This work must be done in conjunction with the work on the Shell site. None of this work is required if the by-law amendment is approved and would also result in cost savings.

For the Etobicoke-Finch West LRT, the deferral delays the advancement of the preliminary design for the LRT station at Keele Street. The project team is attempting to advance design of all civil elements to 30% before project activity is interrupted in early 2011. Failure to advance the design to the 30% milestone will result in additional work to be undertaken when project activity resumes in 2013 and could delay the planned 2015 construction start date.

JUSTIFICATION

TTC staff from both the Etobicoke-Finch West LRT and TYSSE projects have undertaken, in consultation with City of Toronto staff, an extensive analysis of the implications of a by-law amendment that would allow fuel trucks to transport fuel along both Finch Avenue West and Keele Street in the vicinity of the two new transit facilities. The conclusions of the risk analysis support the request for the amendments as the lowest risk option available for the two projects taken in combination.

July 12, 2010

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Attachments:

Figure 1 – Finch West Station & Finch West LRT Site Area

Attachment 1 – Transportation of Inflammable Liquids Over Subways – May 31, 2010

Attachment 2 – Transportation of Inflammable Liquids Over Subways – June 28, 2010

Attachment 3 – TTC Finch West LRT Risk Assessment Executive Summary – April 2010

Attachment 4 – TTC TYSSE Finch West Station Risk Assessment Executive Summary – June 2010