

**TORONTO TRANSIT COMMISSION**

**REPORT NO.**

**MEETING DATE:** June 13, 2007

**SUBJECT:** Spadina Subway Extension To The Vaughan Corporate Centre -Estimated Operating Costs And Revenues

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**RECOMMENDATION**

It is recommended that the Commission receive this report and provide any necessary direction noting that:

(1) Staff will report back to the Commission with a more detailed report on the estimated costs/revenues of the Spadina Subway Extension (SSE) project no later than November 2007 including updated demand/passenger ridership forecasts for the entire project to the Vaughan Corporate Centre;

(2) In consultation with City Planning staff, TTC staff will proceed to prepare updated demand/passenger forecasts for the entire SSE project as input to the revised net operating forecasts to be included in the November report to the Commission;

(3) The Chief General Manager, in consultation with the City Manager, will request transitional operating subsidies for the SSE project from the Province of Ontario as outlined in this report;

(4) The Chair, in conjunction with the City Manager, will meet with the Provincial Minister of Transportation with respect to the importance of transitional operating subsidies for the project; and

(5) TTC staff will be initiating negotiations with the Province of Ontario and York Region with respect to a possible revenue sharing agreement that would result in students travelling between York Region and York University on the Spadina Subway continuing to pay a single fare in each direction as occurs today.

## **FUNDING**

As outlined in the proposed Memorandum of Understanding on operating issues approved by City Council on May 22, 23 and 24, 2007, the TTC/City will be fully responsible for the gross operating cost of the SSE to the Vaughan Corporate Centre (including commuter parking) and will receive all passenger, retail leasing, in-vehicle and station advertising, commuter parking and other ancillary revenues associated with the line.

As estimated in this report, the net operating cost of the portions of the project north and south of Steeles West Station are as follows:

<u>Segment of Line</u>	<u>Operating Costs</u>	<u>Operating Revenue</u>	<u>Estimated Net Operating Cost</u>
York Portion	\$9.4 M	\$5.0 M	\$4.4 M
City Portion	<u>\$24.3 M</u>	<u>\$14.5 M</u>	<u>\$9.8 M</u>
Total	\$33.7 M	\$19.5 M	\$14.2 M

The above estimates have been prepared based on the Environmental Assessments (EA's) for the City and York portions of the project. The estimated revenue for the two portions of the project (particularly passenger revenue) are very preliminary estimates only. The net operating cost projections are provided with the following specific clarifications:

- The demand/ridership modelling undertaken during the Environmental Assessment (upon which the passenger revenue calculations are based) does not fully reflect the land use expected at each station as a result of the impact of the subway. Specifically, the base Official Plan forecasts did not account for the subway, the "opportunities" land use scenario included residential intensification only, and none of the forecasts looked at development potential outside the 500 meter catchment area of the station. The concerns about the current land use assumptions upon which the modelling is based are outlined in Appendix 1. The major risk relates to the absolute amount of development that is included in model forecasts and the timing of such redevelopment following the commencement of revenue service in 2015;

- The demand modelling/ridership forecasting for each segment of the line was done separately and independently from each other. An integrated modelling exercise is needed to ensure consistency and to avoid double counting of impacts;

- All cost and revenue forecasts are in 2006 dollars and do not reflect inflationary impacts to the commencement of revenue service (2015);

- The costs are based on system wide average operating cost parameters and include a proportional distribution of TTC administration costs (i.e. a marginal cost approach based on SSE specific cost parameters for this portion of the subway system has not been utilized). With a project of this scale, which will not be in operation for a considerable period of time, it is appropriate to attribute administrative costs to the project rather than use short term marginal cost estimates;

- Estimated feeder bus costs (savings) have not been estimated and are excluded from the net cost calculation;

- The estimated costs for the York portion of the project are based on maintaining current service frequencies on the YUS line and assumes that AM peak period service on the line is short

turned at Wilson Station and that service north of Steeles West Station is being provided by every second AM peak train being operated to the Vaughan Corporate Centre. The cost of extending the existing short turn from St. Clair West to Wilson is not included in the operating costs outlined in this report and will likely be triggered in advance of the opening of the Spadina Subway project by existing ridership trends;

- As no pricing policies have been established for commuter parking lots, the estimated commuter parking revenues are for illustrative purposes only. The above estimates of net operating costs are based on a Metropass/cash pricing strategy (\$4 for cash users) and reflects the lower revenue scenario for parking;

- One of the biggest risks to the project is the percentage of York University students from York Region that can be attracted to the subway from the north. As York University students currently pay a single fare for bus service directly to the York University campus, the percentage of students who will be prepared to pay a full second fare for subway service to the campus one station beyond Steeles Avenue, is expected to be quite low. In the absence of fare policies that would allow such students to utilize the subway for a single fare, the percentage of students paying a second fare to the TTC is expected to be as low as 6%. It is clear that increased transit ridership and revenue to the TTC would result from a revenue sharing agreement with York Region (including special Provincial subsidies for lost revenue) to allow York U students to pay a single fare for travel to the campus. With the introduction of Smart Cards, such a revenue sharing arrangement could technically be implemented if the appropriate financial arrangements could be negotiated with York Region and the Province. The above net operating costs are based on a revenue sharing agreement for York University students travelling to/from York Region;

- Forecasting costs and revenues for a line that has not yet been designed and will not open until 2015 is not without risk.

It is imperative that more detailed operating cost and revenue forecasts be developed to quantify the operating cost risk to the TTC including the development of ridership forecasts that reflect the entire line to VCC Station rather than individual ridership estimates for the City and York portions of the project. In particular, the development of land use forecasts of the projected population and employment impacts within the catchment area of each station (over and above the current Official Plan land use scenarios) needs to be developed recognizing the unique circumstances of each station. It should be recognized that the TTC/City will have very limited input into the proposed development surrounding Highway 407 and VCC Stations as the catchment area of these two stations is outside of the City of Toronto boundaries.

Given the operating cost risk to the City/TTC and that the TTC/City was not the proponent for the portion of the project north of Steeles Avenue, the provision of transitional operating subsidies by the Province of Ontario is an important precondition of the project from a City/TTC perspective.

## **BACKGROUND**

At the May 8, 2007 meeting of the Commission, the Commission approved the following motion:

“That the Interim Chief General Manager of the Toronto Transit Commission be requested to report back to the June Commission meeting with a detailed breakdown of the forecasted operating costs and revenues, on a life-cycle basis, for the proposed extension of the Spadina Subway into York Region, including:

- The projected dollar amounts attributable to each expected revenue source;
  
- A commentary on the achievability of each of these projected revenue sources; and
  
- A forecast of the net annual cost to the TTC and the City of Toronto of the proposed operating agreement.”

This report responds to that request.

City and TTC staff have negotiated a set of principles with York Region and YRT staff relating to the operation and maintenance of the subway extension. These principles, considered by City Council on May 22, 23 and 24, 2007, would form the basis for an Operating MOU between the City, TTC, and York Region.

Based on the MOU, the TTC/City would assume full responsibility for operating and maintenance costs, and future capital maintenance costs, and assume the risk of revenue realization in return for complete control and ownership of the subway assets (including property) north of Steeles West Station. Therefore, while York Region will continue to participate in funding the capital cost of building the subway within York Region, the MOU includes all subway revenue accruing to the TTC, and the TTC/City assuming full funding responsibility for operating, maintenance, and future capital rehabilitation and replacement costs.

City Council, on May 22, 23 and 24, 2007, also passed a motion that the MOU be approved subject to the following:

“The City Manager and Chief General Manager of the TTC request the provision of special operating subsidies for the entire Spadina Subway Extension project by the Province of Ontario in recognition of:

- 1) The interregional benefits of the project and the operating cost risk to the City of Toronto until the line reaches mature ridership levels;
  
- 2) The intention of the TTC and York Region to negotiate a revenue sharing agreement that would result in York University students travelling to/from York Region on the Spadina Subway paying a single fare and that the Province of Ontario would be responsible for any revenue loss associated with the agreement; and
  
- 3) The intention of the TTC to also negotiate with York University and York Region for the provision of a U-Pass for York University students.”

## **DISCUSSION**

Given the above, the following outlines the estimated operating costs, projected revenue sources, and the annual net cost for both the City and York portions of the project. As requested by the

Commission, the risks associated with achieving the revenue forecasts are highlighted along with specific actions which could mitigate the cost/revenue risk of the project.

1. York Portion (Steeles West to VCC Station)

The operating costs for this portion of the line include 50% of the operating cost of Steeles West Station, 100% of the cost of Highway 407 and VCC Stations, an assumed 800 parking spaces (400 spaces at Highway 407 Station and 400 spaces at VCC Station) and the incremental cost of operating the line north of Steeles West Station. The following operating costs will be assumed by York Region and are therefore not included in the estimated cost to the TTC of operating this segment of the line:

- passenger pick up and drop off facilities within York Region, and
- Regional bus terminals within York Region.

The estimated operating cost of the York Region portion of the line based on the above is \$9.4 million as outlined in Exhibit 1. On the revenue side, non-fare box revenue from commuter parking, retail leasing and in vehicle/station advertising ranges from a low of \$0.8 million to a high of \$1.3 million per year (see Exhibit 1). The low scenario for commuter parking revenue is based on a Metropass/cash pricing strategy for commuter parking lots and the high revenue estimate reflects an all cash strategy (\$4.00). Note that the commuter parking revenue and expense is only for the spaces north of Steeles West Station as the Steeles West Station commuter parking spaces have been entirely attributed to the City portion of the project (Downsview to Steeles).

The passenger revenue for the York portion of the line is attributed to the following ridership sources:

- ridership from commuter parking,
- ridership to/from York Region destined to York University,
- walk in ridership at Highway 407/VCC Station, and
- passengers attracted to the subway because of the travel time improvement of the subway in comparison to existing travel options (bus, car).

As noted in the funding statement, the estimate of passenger revenue for this portion of the line is highly dependent on the passenger revenue generated by York University students. The low passenger revenue scenario assumes a double fare for York University students travelling to/from York Region and results in only 6% of York University Students using the subway to/from the north. The high scenario assumes a double fare and 100% capture of York University students. As University students are very price sensitive to transit fares, the high scenario is unrealistic as York University students will likely continue to drive to the campus and York Region will continue to operate bus service to serve the campus to avoid students paying a second fare to use the subway. As a result, a third scenario assuming a fare integration/revenue sharing arrangement for York University students to be negotiated with York Region and/or the Province of Ontario is proposed as the “likely” scenario. The “likely” option results in higher passenger revenue and diversion of York University ridership to the subway.

Based on the “likely” passenger revenue scenario (with revenue sharing with York Region for York University students), total annual new revenue for the York portion of the line is \$5.0 million to \$5.8 million per year. With estimated operating costs of \$9.4 million, the York segment of the line is forecast to cover between 53% and 62% of the annual cost requiring a “likely” net subsidy of \$3.6 million to \$4.4 million.

## 2. City Portion

As outlined in Exhibit 2, the estimated annual operating cost of the portion of the line from Downsview to Steeles West Station is \$24.4 million (including accounting for the closure of the Downsview commuter lot). Estimated revenue ranges from \$14.5 million to \$15.1 million (depending on commuter parking pricing strategies) resulting in this portion of the line covering 60% to 62% of the added cost through new revenues and requiring estimated operating subsidies of \$9.3 million to \$9.9 million.



### 3. Entire Line

Overall, the entire line, (based on Metropass/cash pricing and revenue sharing for York University students from the north) results in the line recovering approximately 60% of the added cost through new revenue and requires operating subsidies of \$14.2 million (see Exhibit 3).

### 4. Assessment of Financial Risks

Overall, the risks of the forecast cost and revenues being higher or lower than projected are outlined in Exhibit 4. The largest risks to the projected net cost of operating the line to VCC Station are the passenger revenue stream from York University, overall passenger revenue (as calculated by demand models) and system operating costs.

While it is not possible to develop more accurate annual operating cost estimates until the line is fully designed, the risk with respect to overall passenger revenues can be mitigated by undertaking updated demand modelling for the entire line. The need for updated demand/land use/ridership modelling is driven by the fact that integrated modelling for the entire line has not been undertaken to date as a result of the preparation of separate EA's for the York and City portions of the project. As the City/TTC will, with the approval of the Operating MOU, be responsible for the operating costs for the entire project, it is now appropriate to undertake comprehensive modelling of the entire project.

The additional motions adopted by Council with respect to the Operating MOU were intended to address the above financial concerns. The risk related to York University ridership can be mitigated by negotiating a revenue sharing/fare integration formula with York Region and the Province of Ontario for travel from the north destined to the University and overall cost risks can be mitigated by the provision of transitional operating subsidies for the line from the Province of Ontario as outlined below.

### 5. Transitional Operating Subsidies

#### 5.1 Introduction

In the past, the TTC has received transitional operating subsidies for two projects namely the Spadina Subway Extension to Wilson and for the SRT project. In both cases, the approval of the project was initiated by the Province leading the TTC to request and obtain transitional operating subsidies until the new expansion reached maturity. Both projects were intended to either lead land use or to address issues of strategic importance to the Province similar to the SSE project to the Vaughan Corporate Centre. Given the above, the following provides a rationale for why the Spadina Subway Extension (SSE) project warrants the provision of special operating subsidies from the Province of Ontario.

## 5.2 Scarborough RT Mode Subsidy

At the request of the Province, the technology for the SRT line was changed from TTC streetcars to ICTS technology. In 1981, the Province agreed to provide subsidy for the additional operating costs of the SRT line using the ICTS system. The SRT subsidy had two components:

- A “mode” subsidy based on the incremental cost to operate ICTS technology in comparison to conventional streetcars (CLRV’s);

- As the SRT was intended as a land use tool to guide transit oriented development in the Scarborough City Centre and the line was specifically proposed to stimulate such development, the SRT received an additional subsidy. The additional subsidy included an “Assurance” portion and an “Incentive” portion;

The assurance portion of the subsidy is based on the level of ridership expected at a mature ridership level. This special subsidy recognizes that the project was being constructed in advance of the land use necessary to sustain operations at a level comparable to the existing financial performance of the TTC and that development around SRT stations would take a considerable period of time to emerge;

The incentive portion of the subsidy was intended to be a per rider incentive to increase ridership on the line and was tied to ridership growth in selected ridership categories such as direction and pattern of ridership;

As outlined in Exhibit 5, the SRT mode subsidy was paid from 1985 to 1990 and the Incentive/Assurance subsidy was paid from 1985 to 1988. The total SRT subsidy paid by the Province was \$14.3 million (\$22 million in 2006 dollars).

### 5.3 Spadina Special Operating Subsidies

The Spadina Subway Extension to Wilson Station was proposed by the Province as an alternative to the proposed Spadina Expressway. Given that both the alignment and timing of the construction of the project were driven by Provincial decisions and in recognition of the fact that the line would operate through a low density area with only limited opportunities for redevelopment and would offload the Yonge subway line, the Province agreed to provide special operating subsidies for the Spadina line. The Spadina Subway special operating subsidy included an “Assurance” and an “Incentive” portion and was paid from 1978 to 1988. The total subsidies paid were \$38 million (\$77.4 million in 2006 dollars) as outlined in Exhibit 6.

### 5.4 Current Context for Provincial Operating Subsidies

Currently, the Province of Ontario provides no direct ongoing operating assistance to either York Region or the TTC for transit operating costs. The Province does provide operating assistance to the GO Transit system in recognition of the inter-regional benefits of the system.

The Spadina Subway project, and in particular the portion of the project north of Steeles Avenue, was funded by the Province in recognition of the important inter-regional and strategic benefits of the project to the GTA and Province as a whole. As a result, special operating subsidies from the Province of Ontario (potentially through the recently created GTTA) must be provided. The rationale for such subsidies are as follows:

-                   The SSE, similar to the Spadina Subway to Wilson, will pass through a low density area that will not mature from a development perspective for a considerable period of time. The TTC Rapid Transit Expansion Study (RTES) proposed that rapid transit investments focus on corridors that are at least expected to reach a density threshold of 100 population/employment per hectare. The RTES indicated that “the risk of operational losses increases in the initial years of a line’s operation if extensive redevelopment must take place to reach this threshold. The opposite is also true, i.e., lines that are at or near the threshold today are less risky from a financial perspective as redevelopment is not needed to ensure operational success”;

As the SSE project, especially the portion north of Steeles Avenue, is not expected to reach this density threshold for some time after the commencement of revenue service, special operating subsidies are in order;

- The Provincial announcement of funding for the project and the inclusion of the portion north of Steeles Avenue advances the construction of the entire project and increases the risk to the City of Toronto from an operating cost perspective. As the timing of the project, especially the portion north of Steeles Avenue has been driven by the Province, the Province should address the City's operating risk which flow from the early commitment of Provincial funding for the project;

- A subway line, for the first time, crosses a municipal boundary and penetrates the 905 region. The project therefore has significant strategic and interregional benefits to the Province including a connection to the Bradford GO line and Highway 407 and results in improved transit service to a post secondary institution (York University) substantially supported by the Province of Ontario;

- The line supports the achievement of transit oriented development and Smart Growth as outlined in the Province's "Places to Grow Act";

- The line provides the ability to divert riders from the congested Yonge subway line, arguably the GTA's most important transportation infrastructure. The RTES study estimated that up to 3,000 peak hour riders could be diverted to the Spadina line (from the Yonge line) thereby balancing loads on the two lines. This results in the ability, following completion of the Spadina Subway line to Highway 7, to consider a Yonge Subway extension beyond Finch Avenue as an additional inter-regional subway initiative in the future;

- With an interface with Highway 407 and the availability of the Hydro corridor north of Steeles Avenue, the SSE project is expected to provide up to 3,000 commuter parking spaces in the corridor. At least 2,500 spaces will be in close proximity to Highway 400/Highway 407 and consequently the project has the ability to lessen the demands on the Provincial highway network; and

- The SSE project will provide an interface with GO Transit and York Region buses and will protect for a future Highway 407 transitway interface.

In light of the above significant Provincial benefits and since the timing of the construction of the entire project has been driven by the Province, in addition to capital support for the line, the Province should provide transitional operating subsidies to the project to cushion the operating cost impact of the line until maturity. As the MOU between York Region and the City of Toronto puts the operating cost risk for the entire line on the City/TTC, any transitional operating subsidies should accrue to the City of Toronto.

### 5.5 Transitional Operating Subsidies for the SSE Project

The development of a specific transitional subsidy formula for the SSE extension to the Vaughan Corporate Centre (VCC) should focus on three areas:



- An assurance formula to bridge the gap between the expected revenue/cost performance of the line in comparison to system wide financial performance for subway lines;

- An incentive portion that encourages ridership growth and redevelopment of the SSE corridor;  
and

- A formula that increases cross boundary ridership particularly related to travel from the north that is destined to York University. This part of the formula should address the financial implications of a revenue sharing arrangement related to travel to York University.

A substantial operating cost contribution from the Province of Ontario to the estimated \$14.2 million in net operating costs for the entire line should be pursued to offset the City's financial risk.

## **JUSTIFICATION**

This report outlines the estimated costs and revenues for the SSE project and the risks associated with the forecasts. The cost and revenue risks for the project can be successfully mitigated by negotiating a revenue sharing agreement for York University students, undertaking updated demand/ridership modelling for the entire project and pursuing transitional operating subsidies.

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May 22, 2007

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Attachments: Exhibits 1, 2, 3, 4, 5, and 6, Appendix 1