

TORONTO TRANSIT COMMISSION REPORT NO. 42

MEETING DATE: August 30, 2006

SUBJECT: SCARBOROUGH RT STRATEGIC PLAN

RECOMMENDATIONS

It is recommended that the Commission:

1. Endorse the conclusions of the attached report which are, in summary:
 - Upgrading the Scarborough RT line to accommodate larger, new-generation RT vehicles is the lowest-cost option to accommodate projected demand, and to encourage increased transit ridership in the corridor;
 - Upgrading the Scarborough RT minimizes the service disruptions which are unavoidable with any improvements to this corridor, offers the greatest ability to quickly increase capacity on the line, and provides an opportunity to improve the passenger transfer between the subway and the RT at Kennedy Station;
 - Making a longer-term commitment to new-generation RT vehicles carries with it the risks associated with owning and maintaining a small fleet of vehicles, with a unique technology, which is currently available from only one supplier;
 - It would not be cost-effective or justifiable to replace the existing Scarborough RT with an extension of the Bloor-Danforth subway. Also, such a change could not practically be implemented in the time frame required for replacement of the existing aging RT;
 - There are opportunities to extend the Scarborough RT and to expand and introduce new rapid transit service elsewhere in Scarborough. A comprehensive rapid transit plan for Scarborough, led by TTC and City staff, should be undertaken to determine the best way of integrating existing and possible future rapid transit facilities including surface rapid transit (Bus Rapid Transit and streetcar/LRT), the Scarborough RT line, and the Sheppard Subway;
2. Approve, in principle, the upgrading of the Scarborough RT line as soon as possible to accommodate larger, new-generation RT vehicles, and to provide needed increased service capacity, noting that:
 - Upgrading of the line is estimated to cost \$190 million (2006 \$) and will require that service be disrupted for up to eight months;

- The purchase of new-generation RT vehicles to replace the existing fleet, and to accommodate forecast demand to 2031, is estimated to cost \$170 million (2006 \$);
 - With such approval, funding for upgrading the line, and for the purchase of larger, new-generation RT vehicles, will be included in the TTC 2007-2011 Capital Program budget submission;
 - Staff will bring forward a proposed implementation and staging plan for upgrading of the Scarborough RT line to accommodate new-generation vehicles;
3. Authorize staff to initiate a consultant project to develop an *Integrated Rapid Transit Plan for Scarborough*, to address:
- Extension of the Scarborough RT line to Sheppard Avenue and other possible corridors;
 - Surface streetcar/LRT or Bus Rapid Transit on roads such as Kingston Road (a portion of which is currently under study and will be the subject of an Environmental Assessment starting in 2007), Danforth Avenue, Eglinton Avenue, Sheppard Avenue, Markham Road, and the Finch Hydro Corridor;
 - Staged construction of the Sheppard Subway east from Don Mills Station; and
4. Forward this report to the City of Toronto.

FUNDING

The recommendations of this report have no direct effect on the TTC's Capital or Operating budgets at this time. If the Commission approves the recommendations in this report, staff will seek funding approval for the required projects as part of the 2007-2011 Capital Program. Currently there are three approved projects, with a total cost of \$275.8 million (\$113.3 million in the years 2006-2010), included in the approved 2006-2010 Capital Program for the related vehicles and track requirements for the Scarborough RT: "Purchase of 44 Mark IIA SRT Cars" (pg. 1063), "McCowan Yard - Fleet Accommodation" (pg. 785) and "25-Year SRT Car Overhaul" (pg. 1019). It was also noted that subject to the findings of the SRT Corridor study, a new car of a different profile would require the addition of a project to address wayside, yard and station modifications to accommodate the vehicles.

BACKGROUND

The Scarborough RT operates between Kennedy Station on the Bloor-Danforth Subway and McCowan Station. The current fleet of 28 RT cars used on the line, which were acquired for the opening of service in 1985, is nearing the end of its useful service life. It is expected that the aging vehicles will result in progressively-deteriorating service reliability over the coming years.

Presently, the line carries about 42,000 passengers daily. Most of these passengers transfer to and from the Bloor-Danforth subway and are required to traverse three levels at Kennedy Station. During peak periods, the Scarborough RT service operates every 3 minutes and 30 seconds, carrying about 4,000 people per hour in the peak direction, which is the maximum capacity of the line with the current vehicle fleet.

There has been significant growth in TTC ridership in the Scarborough area in the past ten years and, based on the City's Official Plan forecasts, this growth in ridership is expected to continue to 2021 and beyond. The ridership growth has resulted in an immediate need to increase capacity on the line to carry current passenger loads, and to expand capacity to accommodate future travel demand. However, there are not enough vehicles in the current fleet to allow an increase in service on the line. The vehicles that are currently used on the RT line are no longer manufactured and, although 'custom' vehicles could be procured, there would be a considerable capital cost premium with this approach.

For these reasons, at its meeting of September 17, 2005, the Commission authorized staff to undertake a Strategic Planning Study for the Scarborough RT, the main purposes being to:

- develop a plan for replacing the existing vehicles, and expanding capacity in the Scarborough RT corridor, before the current fleet reaches the end of its useful service life, and
- recommend a service option that will provide adequate capacity to meet the projected future travel demand in the corridor.

This study has now been completed and the study report is attached. The study process involved a number of information sessions with the general public and Scarborough Community Council, as well as with representatives of the University of Toronto at Scarborough, Centennial College, and the Scarborough business community.

DISCUSSION

Current demand in the Scarborough RT corridor is estimated to be 4,500 passengers per hour in the busy direction, about 13% more than can actually be carried with the existing fleet of vehicles. Ridership projections for the year 2021, the year for which Official Plan projections of growth in population and employment are available, suggest a future capacity requirement of approaching 7,000 passengers per hour (increase of 75%) in the peak direction (pphpd). In practical terms, planning for growth beyond 2021 with a design capacity of between 7,500 and 8,000 pphpd, would be prudent.

A number of service alternatives for the Scarborough RT were examined initially, and three main alternatives emerged from a service-essentials screening process, namely:

1. The acquisition of larger, new-generation RT-technology vehicles,
2. Conversion of the Scarborough RT guideway to multiple-unit streetcar/Light Rail Transit (LRT), and
3. Replacement of the current service by an extension of the Bloor-Danforth subway.

A summary evaluation of these three alternatives is provided below. The large capital cost differences between the subway and non-subway (RT or LRT) alternatives leads to the conclusion that the most cost-effective means of meeting future passenger demand in this corridor is Option 1 by upgrading the existing RT line to accommodate larger, new-generation RT vehicles. The evaluation shows that the huge capacity achievable with a subway is not needed or warranted in this corridor and, therefore, the very large capital cost premium of a subway cannot be justified. Instead, wise use of such funding for transit improvements would provide considerable latitude to generally expand the network of higher-order transit services within the whole Scarborough travel area.

Summary Evaluation of Scarborough RT Corridor Alternatives

Measure	<u>1</u> New Generation RT	<u>2</u> Streetcar/LRT	<u>3</u> Subway
Stations	No change	No change	Eliminates: McCowan, Midland and Ellesmere
Support for Scarborough Centre Development and Intensification	Good	Good	Superior (depending upon impact on Sheppard Corridor)
Capital Cost (2006 \$ - includes vehicles)	\$360 million	\$490 million	\$1,200 million
Resources available for other transit initiatives	Significant	Significant	None
Service Disruption	Up to 8 months	36 months	Uncertain
Early Capacity Increase	Yes	No	No
Implementation Risk	Low	High	Very high
Long Term Capacity	Meets needs	Meets needs	Exceeds needs
Transfer at Kennedy Station	Can be improved	Can be improved	Not required
Expansion Potential	Limited	Most Opportunities	Constrained by Resources
Stated Public Preference	Low	Low	High

The broader assessment of the strengths, weaknesses, opportunities, and risks associated with each of the options concluded that the upgrading of the existing line to accommodate larger, new-generation RT vehicles provides the best way of quickly improving rapid transit service in Scarborough while still allowing an expansion of rapid transit services in other corridors in Scarborough as identified in the City's Official Plan.

The assessment showed that the option of introducing new-generation RT vehicles:

1. Has the lowest total cost and represents the most cost-effective solution for meeting the growing transit needs within the existing Scarborough RT corridor;
2. Can be implemented quickly and has the greatest flexibility to provide short-term capacity increases;
3. Has the minimum service disruption due to construction;
4. Offers the opportunity to completely re-design the Kennedy RT Station so that it would be more convenient for customers who transfer between the RT and the Bloor-Danforth subway;
5. Does not preclude options for a comprehensive rapid transit network in Scarborough through the provision of surface rapid transit rights-of-way (streetcar/LRT/Bus Rapid Transit) on other corridors and/or the completion of the Sheppard Subway;
6. Leaves the TTC with a unique "one-of-a-kind" vehicle and the risks associated with owning and maintaining such a technology over the long term.

The study concluded that the streetcar/LRT option:

1. Requires higher capital investment and a considerably longer disruption of service due to the re-construction which would be required to accommodate streetcar/LRT vehicles on that line;
2. Is supportive of the concepts of surface rapid transit expansion which flow from the City of Toronto's *Official Plan*, the TTC's *Ridership Growth Strategy* and the joint TTC/City *Building a Transit City* plan; and
3. Is risky because, if the higher-cost and more-disruptive streetcar/LRT option were to be chosen, but there are not the financial resources or broader support to expand streetcar/LRT transit throughout Toronto, then the higher costs and longer disruption to service in the RT corridor would have been incurred to no benefit.

There is a need for further analysis of the specific rapid transit opportunities, and their capital requirements, that could be combined with new-generation RT in the Scarborough RT corridor, and LRT/BRT in other Scarborough corridors. From a timing perspective, a subway alternative would have to proceed almost immediately to ensure that rapid transit service is maintained to Scarborough City Centre on a continuous basis. With the RT upgrade option, however, there is a window of opportunity to develop a realistic integrated package of rapid transit improvements and expansion in Scarborough that could be staged and implemented in an affordable way.

JUSTIFICATION

Upgrading the Scarborough RT line to accommodate larger, new-generation vehicles is the lowest-cost, and most-easily implemented, option for maintaining and providing the increased capacity needed to accommodate the projected future increasing demand for rapid transit in the corridor. It provides an opportunity to improve the quality of passenger transfers at Kennedy Station. It will also allow for the earliest introduction of increased service to respond to the existing and growing demand in the corridor.

There are opportunities to extend and expand rapid transit service in Scarborough. However, a comprehensive rapid transit plan is needed for Scarborough to determine the best way of integrating existing and possible future rapid transit facilities including surface rapid transit services (Bus Rapid Transit and LRT), the Scarborough RT line, and the Sheppard Subway.

August 11, 2006

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Attachment: Scarborough RT Strategic Plan – Study Report