

TORONTO TRANSIT COMMISSION REPORT NO.

MEETING DATE: June 13, 2007

SUBJECT: TRANSIT CITY LIGHT RAIL PLAN -
IMPLEMENTATION WORK PLAN

RECOMMENDATIONS

It is recommended that the Commission:

1. Note that, subject to the provision of funding from senior levels of government and approval, by this September, of the proposed amendments to the Municipal Class Environmental Assessment (EA) process for transit by the Minister of the Environment, the TTC and the City of Toronto will be in a position to begin construction on at least one light rail line from the *Transit City Light Rail Plan* by the fall of 2010;
2. Note that TTC staff have undertaken preliminary field investigations of two of the light rail lines from the *Transit City* plan, and are continuing this work for all of the lines in the Plan;
3. Immediately begin discussions with the provincial and federal governments regarding the provision of funding to allow construction of light rail lines to begin in 2010, as described in this report;
4. Request the Ontario Minister of the Environment to consider the earliest possible approval of the proposed changes to the Municipal Class Environmental Assessment process for transit, when they are presented to her for approval in late July; and
5. Forward this report to City of Toronto, the Greater Toronto Transportation Authority, the Province of Ontario, and the Government of Canada.

FUNDING

This report has no effect on the TTC's capital or operating budgets at this time. Funds for the necessary EA studies were included in the TTC's *2007-2011 Capital Program*, under 3.9 Buildings and Structures – Environmental Assessments for a BRT/LRT Network (Category – Improvement) as outlined on pages 992 e1-e2, approved by City of Toronto Council on March 7, 2007.

BACKGROUND

At its meeting of March 21, 2007, the Commission endorsed the *Toronto Transit City Light Rail Plan* as the basis and priority for rapid transit expansion in the City of Toronto. That plan described a new rapid transit vision for the City of Toronto, entailing the implementation of seven new light rail lines which would bring fast, reliable, environmentally-sustainable light rail transit to parts of Toronto which do not have it now and, in so doing, would introduce a broad, interconnected network of rapid transit throughout Toronto.

On April 18, 2007, the Commission approved a staff report entitled, *A New Class EA Process for Transit Projects*, which described the changes being proposed to the existing Municipal Class Environmental Assessment (EA) document to establish a class EA process for municipal transit projects. The new process, which will apply to all municipal transit projects except for new or extended subway lines, will provide a much-more streamlined and efficient EA process for transit projects, and it is expected to be approved by the Minister of the Environment in the summer of 2007.

At its meeting of May 8, 2007, the Commission received a staff report entitled, *Transit Environmental Assessments*, which summarized the status of nine transit environmental assessments which are currently, or soon-to-be, underway in Toronto, and discussed the process and timing which should be followed for any new environmental assessments which have not been started. That report described other issues which require resolution in order to ensure fast and efficient completion of new environmental assessments, and promised that a work plan would be presented at the June 13, 2007 Commission meeting, which would allow the TTC and City of Toronto to begin construction of one or more of the *Transit City* light rail lines by the fall of 2010. This report presents that promised work plan.

DISCUSSION

Since the May 8, 2007 Commission meeting, TTC staff have undertaken the following work:

Preliminary Fieldwork on Physical Conditions and Challenges for *Transit City* Light Rail Lines:

TTC staff, with consulting assistance, have begun the process of assessing each of the light rail line corridors contained in the *Transit City Light Rail Plan* in order to have an inventory of the physical attributes of each of the lines, and to identify any physical or engineering challenges associated with individual corridors. To date, two light rail corridors have been assessed: Etobicoke-Finch West and Sheppard East. The findings of this fieldwork are contained in Appendices A and B, attached. In summary, this work has determined that, while both of these lines have a number of difficult engineering challenges to be resolved prior to construction, it would be possible to be in a position to begin construction on either of these lines by the fall of 2010.

Development of Work Plan for 2010 Construction Start of Light Rail Lines:

TTC staff have prepared a work plan which is very aggressive and ambitious, but will allow for the start of construction of at least one of the *Transit City* light rail lines by the fall of 2010. Some of the major activities addressed in the work plan include:

- undertaking an environmental assessment, starting in September 2007, premised on the Minister of the Environment approving the amendments to the Municipal Class Environmental Assessment process for transit;
- detailed engineering design work including major civil works such as required grade-separations, bridges, or other structures, any necessary road widenings and intersection re-constructions, and turning-facilities or loops;
- development of a plan for the construction of a new streetcar/light rail vehicle maintenance facility which would be needed to implement the *Transit City Light Rail Plan*;
- property acquisition, as necessary, to ensure that the required right-of-way dimensions are available to accommodate elements such as a physically-separated transit right-of-way, pedestrian sidewalks and realm, and automobile/mixed-traffic lanes; and
- construction of the light rail line itself, including all civil works in support of the above features.

The work plan and schedule for the Sheppard East light rail line are contained in Exhibit 1, attached.

Completion of Final Draft of Municipal Class Environmental Assessment Process for Transit, for Submission to Minister of the Environment:

Consistent with the plan and schedule described in the April 18, 2007 Commission report entitled, *A New Class EA Process for Transit Projects*, TTC staff, as part of a larger inter-agency and inter-city team, have prepared a final draft of the proposed new "Transit Chapter" for incorporation into the Municipal Class Environmental Assessment process. The public review period for this draft document is scheduled to begin on June 27, 2007 and to be completed by July 27, 2007. The Minister of the Environment would then begin her review of the draft document, together with public comments received, and would have up to sixty days to decide whether to approve the proposed changes to this environmental assessment process. Given the very positive reception which these changes have generated from the majority of municipalities and agencies, the team is optimistic that the Minister will approve these changes by the end of August or early September, before the full 60-day review period has passed.

Preparation of Transit Technology Report In Support of the *Transit City Light Rail Plan*:

In the May 8, 2007 staff report entitled, *Transit Environmental Assessments*, it was noted that, in order to avoid future transit EA's incurring the time-and-resource-consuming process of identifying and analyzing all possible transit technology alternatives, such as express bus service, alternative-fuel vehicles, and subways, it would be desirable if the Commission and City Council were to provide a clear direction, applicable to all *Transit City* environmental assessments, that only light rail technology is to be analyzed. At its May 8, 2007 meeting, the Commission passed this motion, "TTC request that Council approve a policy directing that all environmental assessments pertaining to components of the Toronto Transit City – Light Rail Plan are to investigate only light rail technology".

While this Commission direction will assist in the undertaking of the *Transit City* environmental assessments, staff have concluded that it will still be necessary to prepare a report addressing the issue of transit technology alternatives and the relative advantages and disadvantages of each, with opportunity for comments by the affected public prior to finalizing this decision. This report would then form the basis of the first steps of the EA process, and would be made available as a reference document for use by staff undertaking the environmental assessments, members of the public, city councillors, and staff from the Ministry of the Environment. Staff plan to submit this report to the Commission in September, 2007.

Conformity of the *Transit City Light Rail Plan* with the Official Plan

TTC staff are working with City Planning staff, who will be amending the Official Plan, as needed, to ensure that all of the routes in the *Transit City* plan will be in conformity with the City's Official Plan.

City Task Force on Environmental Assessment Processes:

Under the lead and direction of Deputy City Manager Richard Butts, a new task force has been established by the City of Toronto for the purpose of preparing an inventory of all environmental assessments underway throughout the City's various agencies and departments, identifying shared objectives and challenges, developing a common approach and strategy to be used to expedite completion of these environmental assessments, and developing a mutually-supportive business arrangement between the City of Toronto and the Ministry of the Environment which will allow the review and approval of environmental assessments to be done more efficiently and quickly. The TTC is highly-supportive of this City initiative and is a full participant, recognizing that such co-ordination has the potential to benefit the smooth passage of the *Transit City* EA's.

Continuing Fieldwork for *Transit City* Light Rail Lines:

TTC staff, with consulting assistance, are continuing to undertake preliminary fieldwork pertaining to the other light rail lines contained in the *Transit City Light Rail Plan*. This will ensure that an important high-level assessment is available to provide a "head start" for use

at the beginning of any *Transit City* environmental assessments which may be started this fall.

Feasibility Study of Highway 27 Surface Rapid Transit Service:

As requested by Commissioner Suzan Hall and approved by the Commission at its meeting of March 21, 2007, a feasibility study, as a precursor to a formal EA, will be undertaken for a higher-order transit facility (bus or streetcar rapid transit) in the Highway 27/427 corridor between Finch Avenue/Albion Road and Kipling Subway Station. As previously reported, this project is planned to begin in the summer of 2007.

Public Consultation Plan for New Streetcars/Light Rail Vehicles:

In order to ensure that existing streetcar services can continue to operate in Toronto, and to allow implementation of new light rail lines as described in the *Transit City Light Rail Plan*, it will be necessary to have new streetcars/light rail vehicles arriving in Toronto by 2011-2012. TTC staff are developing a Request for Proposals (RFP) for new streetcars, and a report on this will be presented to the Commission in September, 2007. In support of this initiative, TTC staff are finalizing plans for public consultation for new streetcars/light rail vehicles for Toronto. The purpose of this consultation is to get advice and input from citizens and transit riders throughout Toronto so that the specifications for the new streetcars/light rail vehicles will, to the greatest extent possible, reflect the features and designs which Torontonians want in their new streetcars/light rail vehicles.

In order to maximize the probability that construction of at least one new light rail line in Toronto will actually begin by the fall of 2010, it would be desirable for the Commission to take the following actions:

- The Commission should immediately begin discussions with the Provincial and Federal Governments pertaining to financial support for the implementation of the *Transit City Light Rail Plan*. Despite all of the preparatory study and work currently underway, actual construction and implementation will be dependent on the provision of funding by senior levels of government for the Plan. Confirmation of such a funding commitment, in advance of the planned fall 2010 start of construction, would provide a critical vote of confidence in the Plan and provide huge momentum.
- The Commission should communicate, to the Ontario Minister of the Environment, its desire to see the proposed changes to the Municipal Class Environmental Assessment process for transit, be approved at the earliest possible opportunity. The work plan and schedule contained in this report are premised on the use of the revised Municipal Class Environmental Assessment process for transit and this, in turn, is premised on the approval of these changes by the Minister by late August/early September. The Commission should convey to the Minister that, only with her approval of these proposed changes, can staff undertake environmental assessments in a faster, more-practical, and effective way.

SUMMARY

Staff have completed enough preliminary work to conclude that it is feasible to complete the necessary EA study for, and begin construction on, at least one of the light rail lines in the *Transit City Light Rail Plan* by 2010. This is dependent upon the approval of the proposed new Class EA process for municipal transit by the Minister of the Environment, by this September, and upon the provision of funding from senior levels of government.

Attachments: Exhibit 1
Appendices A and B

Summary of Fieldwork Investigation for Finch West-Etobicoke Light Rail Line

This light rail line would operate between Finch Station, on the Yonge Subway line, and the vicinity of Finch Avenue/Highway 27. It would be approximately 17 kilometres in length.

Toronto's Official Plan designates a 36-metre municipal right-of-way across the length of Finch Avenue West. This would be sufficient right-of-way to develop an LRT line in the middle of Finch Avenue West and to maintain two lanes of traffic in each direction, as well as provide left-turn lanes at signalized intersections. The preliminary feasibility study has concluded that the alignment is technically feasible with the following key issues that require further study and resolution:

- A connection would have to be made between this light rail line and Finch Subway Station either at-grade or underground. Details of such a connection are yet to be determined.
- The majority of Finch Avenue West currently has two lanes of traffic in each direction and, to accommodate the reserved LRT, the road would have to be widened using the existing boulevards. Additional detailed assessment would be required to confirm the implications of accommodating the alignment at certain locations including:
 - Newmarket CN underpass west of Chesswood Drive: This underpass currently has space for three traffic lanes in each direction, although only two are used. It has been assumed that the LRT would occupy the two centre lanes, and two lanes of traffic would be maintained in each direction.
 - Highway 400 underpass between Jane Street and Weston Road: At this location, a widening would be necessary if it were decided to maintain the existing number of traffic lanes as well as the ramp access lanes to Highway 400.
 - MacTier CP underpass, west of Highway 400: A widening to the existing bridge structure would be necessary on the south side if it were decided to maintain the existing three lanes of traffic in each direction on this section of Finch Avenue.
 - Islington Avenue structure crossing Mimico Creek: This preliminary analysis suggests that the LRT can be incorporated within this structure without any alteration; further analysis will be undertaken during the course of the EA and preliminary design.
 - Environmentally-sensitive area west of Islington Avenue: This area will require special attention to identify, and mitigate against, potential impacts.
- Other issues to be addressed would be:
 - The need for, and location of, a maintenance yard since there is no connection between this line and the remainder of the streetcar system. Consideration of the future overall network and potential connections will have to be analyzed to determine the need for and size of the yard and whether it should be provided along Finch Avenue West or at some other location on the network. The Streetcar Maintenance Facilities Master Plan Study, currently underway, is intended to address this issue and develop possible alternatives.
 - The location of the end of the line and looping facility in the vicinity of Finch Avenue and Highway 27;

- The design of a connection to the proposed extension of the Spadina Subway line in the vicinity of Finch Avenue and Keele Street;
- The actual stop locations along the line; and,
- The best means by which to establish a connection between this line and the Sheppard East light rail line.

Construction Approach

Construction of the line is projected to be straightforward for the most part. Construction staging for this line could depend on the solution developed for the connection at Finch Station and any need for property acquisition. If an effective solution is found early in the design process, construction of the line could start at Yonge Street and proceed west in an orderly fashion. As an alternative, construction could start in the west end while planning was underway for the connection at Finch Station in the east end.

Summary of Fieldwork Investigation for Sheppard East Light Rail Line

The Sheppard East line would operate between Don Mills Station on the Sheppard Subway and Meadowvale Road near the eastern City boundary. The line would be approximately 15 kilometres in length.

Toronto's Official Plan designates a 36-metre municipal right-of-way across the length of Sheppard Avenue East. This would be sufficient right-of-way to develop an LRT line in a reserved right-of-way in the middle of Sheppard Avenue East, and to provide two lanes of traffic in each direction, as well as left-turn lanes at signalized intersections. The preliminary feasibility study has concluded that the alignment is technically feasible, with the following key issues that require further study and resolution:

- A connection would have to be made between this light rail line and Sheppard Subway at Don Mills Station, either at-grade or underground. Details of such a connection are yet to be determined. In either case, there would likely be property implications in the area where such a connection were made.
- Crossing the Don Valley/Highway 404: For the purposes of this investigation, a new two-lane bridge on the north side of the Highway 404 structure was considered to be a feasible option.
- East of Yorkland Boulevard, to Pharmacy Road: the option of constructing the LRT in the centre of the existing road was assumed. It was also assumed that two of the six traffic lanes on this section of Sheppard Avenue East would have to be converted for LRT use with relatively-minor widenings mid-block but greater localized widenings at intersections. Some property may be required mid-block on the south side of Sheppard Avenue to accommodate the ramp leading to the Atrium parking facility.
- East of Pharmacy Road to Meadowvale Road: Sheppard Avenue would be widened using the boulevards on each side of the road to accommodate the LRT and the existing two lanes of traffic, in each direction. Additional analysis would be required to determine the implications at certain locations including:
 - Midland Avenue where there is an existing cemetery on the northeast corner, any widening would take place on the south side.
 - Crossing of the GO Stouffville line east of Kennedy Road: At this point, a grade-separation has been assumed.
 - The CPR underpass east of McCowan Road: The current bridge structure provides for three traffic lanes in each direction although only two lanes are used. It has been assumed that the LRT would occupy the two centre lanes, while still maintaining two lanes of traffic in each direction.

- Other issues to be addressed in a subsequent Environmental Assessment Study would be:
 - The need for, and location of, a maintenance yard, since there is no connection between this line and the remainder of the streetcar system. Consideration of the future overall network and potential connections will have to be analyzed to determine the need for and size of the yard and whether it should be along Sheppard Avenue East or at some other location on the network. The Streetcar Maintenance Facilities Master Plan Study, currently underway, is intended to address this issue and develop possible alternatives.
 - The location of the end of the line and looping facility in the vicinity of Meadowvale Road;
 - The design of a connection to the proposed extension of the Scarborough RT line in the vicinity of Sheppard Avenue East and Markham Road;
 - The actual stop locations along the line; and,
 - The best way to establish a connection between this line and the Finch West light rail line.

Construction Approach

Construction of the line is projected to be straightforward for the most part. However, development of a convenient connection at Don Mills Station will require an extensive design exercise. Construction of the line could commence at the east end of the line at Meadowvale Road. During the early stages of the study, intensive engineering design work would be dedicated to identifying an effective connection between this light rail line and Don Mills Station on the Sheppard Subway Line.