

MEETING DATE: September 30, 2002

SUBJECT: 506 Carlton Streetcar Route Feasibility Of An Exclusive Right-Of-Way

RECOMMENDATIONS

It is recommended that the Commission:

1. Receive this report for information, noting that;
 - the travel time, reliability of service, and efficiency of the 506 Carlton streetcar route would be improved significantly if an exclusive right-of-way could be established on the entire route;
 - the portion of College Street between Bathurst Street and Spadina Avenue is the widest road section on the entire 506 Carlton route and, if an exclusive streetcar right-of-way were created in the two centre lanes, it would allow a protected streetcar operation similar to that on the 510 Spadina route, with parking bays and with left turns permitted at signalised intersections from a separate lane beside the tracks, but there would be room for only a single traffic lane in each direction, not two as on Spadina Avenue;
 - the roads on the remainder of the route are much narrower with only four traffic lanes and, if the two centre lanes were reserved for streetcars, there would be only a single traffic lane remaining in each direction, with no space available for left-turn lanes or parking. Creation of an exclusive right-of-way for streetcars on these road sections would require the prohibition of virtually all left turns and a permanent prohibition of all parking and stopping. Given the TTC's experience with transit right-of-way proposals elsewhere in the City, these impacts would be considered far too severe and unacceptable from a broader transportation perspective;
 - an exclusive right-of-way on just the wide Bathurst Street - Spadina Avenue section would not result in any significant travel time or reliability improvements and is not worth pursuing; and
1. Forward this report to Councillors Silva, Pantalone, Chow, Rae, Layton, McConnell, and Bussin, City Works and Planning Departments, and the Harbord Village Residents' Association.

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FUNDING

This report has no impacts on the TTC's operating or capital budgets.

BACKGROUND

At its meeting on June 12, 2002, the Commission, after hearing a deputation from Councillor Chow, and others, regarding early reconstruction of the streetcar track on College Street, from Bathurst Street to Spadina Avenue, requested that staff report on:

1. *The feasibility of accelerating the College Street track reconstruction project from 2006 to 2004;*
2. *That staff review the feasibility of establishing a dedicated right-of-way for streetcars on College Street in the area proposed for revitalization; and*
3. *That staff report on the costs associated with establishing a dedicated streetcar right-of-way for the entire College route, including operational savings that would result from such action.*

At its meeting of July 10, 2002, the Commission considered the staff response to item 1, above. As indicated in that report, a copy of which is attached, while there are other streetcar tracks in the TTC system which are in more urgent need of reconstruction, it is possible to reconstruct the streetcar track on College Street, between Bathurst Street and Spadina Avenue only, in 2004, without jeopardizing this other work. However, the remaining track on College Street would be reconstructed as per the original schedule and this would require disrupting streetcar customers and the community, for three years in a row, compared to the originally-planned two years.

In response to that report, the Commission requested that staff "*meet with City works staff and the local area councillors to discuss the contents of the memorandum, with a report back on the results of the deliberations*".

This report responds to the above requests.

DISCUSSION

The implementation of a revitalization concept for College Street, in the vicinity of Bathurst Street to Spadina Avenue, is part of an ongoing City effort to improve the character of the area. This section of College Street is relatively wide – typically with at least 20 metres of pavement width. The Harbord Village Residents' Association (HVRA)

has developed a proposal to widen the sidewalks, plant a substantial number of new trees, and construct parking bays at mid-block locations.

Staff of the City of Toronto and the TTC are working with the HVRA and Councillor Chow, and are evaluating the proposed design for the roadway to ensure that it strikes the best possible balance between the needs of pedestrians, motorists, cyclists, transit customers, and the community as a whole.

Feasibility of a Dedicated Right-of-Way for Streetcars on College Street, from Bathurst Street to Spadina Avenue

College Street, in the section from Bathurst Street to Spadina Avenue, is approximately 20 metres wide. As shown in Exhibit 1, attached, this width is sufficient to construct an exclusive right-of-way for streetcars which would operate in a manner similar to the streetcar right-of-way on Spadina Avenue, except that there would be room for only one through traffic lane in each direction, not two as on Spadina Avenue. As with the Spadina Avenue design, motorists would be permitted to make left turns only at signalised intersections where a separate left-turn lane would be provided. This design would require passenger loading platforms on the "far side" of the intersection – that is, after the streetcar has travelled through the intersection. Mid-block parking bays could be provided on both sides of the road, but the existing bicycle lane on the south side of College Street would have to be eliminated.

There would be design "challenges" on this section of College Street that did not exist on Spadina Avenue. With only a single through traffic lane on each side of the streetcar right-of-way, a stalled car could entirely block the flow of general traffic. For this reason, the streetcar right-of-way would have to be constructed in a manner that discouraged motorists from driving onto it, but still allowed them to do so, if necessary. In addition, care would have to be taken to ensure that motorists who were travelling in the streetcar lane, and approaching this right-of-way section of College Street, are given adequate advance notice that they are required to get out of the streetcar lane, and into the curb traffic lane, at the point where the right-of-way begins.

If a streetcar right-of-way were constructed on College Street, from Bathurst to Spadina only, the resulting travel time savings would be marginal given that this is a relatively short portion of the 506 Carlton route, constituting just over 4% of the total route. In addition, this right-of-way would create additional traffic congestion, and cause some additional delay to streetcars, at the points where the streetcar right-of-way begins – eastbound at Bathurst Street and westbound at Spadina Avenue. At these locations, a "bottleneck" would be created as the two lanes available for general traffic were reduced to a single lane, and approaching motorists, who are travelling in the streetcar lane, are required to merge into the curb lane.

Implementation Costs for Right-of-Way Between Bathurst and Spadina

Staff have not completed a detailed design for this right-of-way. However, a preliminary cost estimate has been prepared, based on these design features:

- the track would be built on a raised right-of-way which would be six inches higher than the adjacent traffic lanes, with rolled curbs to allow motorists to drive onto it in emergency situations
- new widened streetcar platforms would be provided at the eight streetcar stops on this section of College Street
- extensive modifications would be required to the traffic signals
- no significant rehabilitation would be required on the roadway adjacent to the right-of-way

Based on this scenario, the additional costs, over and above that required for the track reconstruction itself, to implement a streetcar right-of-way on College Street from Bathurst Street to Spadina Avenue, only would be in the order of \$1-to-\$1.5 million.

Feasibility of a Dedicated Streetcar Right-of-Way on the entire 506 Carlton Streetcar Route

The 506 CARLTON route is about 15 kilometres in length and, as shown on Exhibit 2, it operates from High Park in the west, to Main Subway Station in the east. It operates on portions of eight roadways: Howard Park Avenue, Dundas Street West, College Street, Carlton Street, Parliament Street, Gerrard Street, Coxwell Avenue, and Main Street. If streetcars could be provided with an exclusive right-of-way over its entire length, there would be significant improvements in travel time and reliability on this streetcar service. Staff have estimated that the scheduled round trip time would be reduced by as much as eleven minutes. This would allow the same service to be provided on this route as is currently provided, but with a significant reduction in the number of streetcars: three fewer in the morning peak period, and two fewer in the afternoon peak period and midday, respectively. The associated annual operating cost savings from operating fewer streetcars would be in the order of \$830,000 annually.

However, the roads on which this route operates, outside of the Bathurst-to-Spadina section, are generally only four lanes wide and it would be very difficult to construct an exclusive right-of-way for streetcars on these roadways and still accommodate the needs of other users of the road.

Roads must be roughly 20 metres wide to allow for the construction of an exclusive right-of-way for streetcars. This assumes a single traffic lane in each direction, and separate left-turn lanes beside the streetcar right-of-way at signalised intersections to allow for motorists to make left and "U" turns. With the exception of that section of College Street

in the area between Bathurst Street and Spadina Avenue, the roads on which the 506 Carlton route operates are not wide enough for this concept to be implemented. College Street is roughly 16 metres wide between Spadina Avenue and Church Street, and the roads on the remainder of the 506 Carlton route are 14-to-15 metres wide. At the majority of the intersections on the route, there is not enough room to widen the roads to the required 20 metre width without significant impacts on adjacent sidewalk widths. This being the case, there are two significant problems with attempting to incorporate an exclusive right-of-way on the entire route:

- i. Parking/stopping would have to be permanently prohibited in the curb lane on the entire route: If the middle two lanes of these four-lane roads were made exclusive to streetcars, there would be only a single traffic lane available in each direction. In this scenario, any vehicle that stopped or parked in that single lane would completely stop traffic in that direction. Hence, without enough space to create parking bays, stopping and parking could not be permitted at any time on either side of the street.
- ii. All left turns would have to be prohibited: At most intersections on this route, where there is not enough width to incorporate a separate left turn lane, left turns would either have to be made from the streetcar tracks, which would negate the benefits of an exclusive right-of-way, or be prohibited, which would be considered unacceptable from a broader transportation perspective.

If it is decided to pursue this design concept in greater detail, staff will conduct the studies necessary to provide a more-accurate estimate of the travel time improvements for streetcars, and the additional delays resulting to other traffic as a result of the corresponding reduction in the traffic capacity on the affected roadways.

Implementation Costs for Right-of-Way over the Entire Route

In order to prepare a cost estimate for a streetcar right-of-way on the remainder of the route, outside the Bathurst Street-to-Spadina Avenue section, the following design features were assumed:

- no road widenings
- the centre two streetcar lanes would be elevated to 6 inches above the adjacent traffic lanes
- narrow streetcar platforms would be constructed at all streetcar stops
- all left turns would be prohibited, so special left turn signal phases and significant signal modification would not be required

Based on this scenario, the costs to implement an exclusive right-of-way for streetcars on the entire route would be in the order of \$12-\$15 million.

Consultation with the Councillor of Affected Wards

At the time of preparation of this report, TTC staff had been unable to arrange meetings with all of the councillors of the wards through which the 506 Carlton route passes. Staff will provide this input as soon as possible.

SUMMARY

A roadway must be roughly 20 metres wide to incorporate an exclusive right-of-way, provide at least one traffic lane in each direction, and still accommodate turns across the right-of-way and on-street parking/stopping. The section of College Street from Bathurst Street to Spadina Avenue is wide enough to incorporate such a right-of-way. However, this would significantly reduce the capacity available for other traffic and provide only limited benefits to streetcars given that this is such a short portion of the 506 Carlton route.

The improvements in streetcar travel times and service reliability would be significant if streetcars were provided with reserved lanes over the entire route. However, because of the relatively narrow width of the roadways on the rest of the route, if a streetcar right-of-way were implemented, not only would the lanes available for general traffic be reduced from two to one, but there would have to be a permanent ban on left turns and parking/stopping on the entire route. Given the TTC's experience with transit right-of-way proposals elsewhere in the City, these impacts would be considered far too severe and unacceptable from a broader transportation perspective.

September 17, 2002

11-84-42

Attachments: July 10 response to Commission Enquiry

Exhibits 1 and 2