

TORONTO TRANSIT COMMISSION REPORT NO.

MEETING DATE: May 28, 2014

SUBJECT: IMPROVING PEDESTRIAN SAFETY AND
CUSTOMER JOURNEY TIMES: TRANSIT STOPS

ACTION ITEM

RECOMMENDATIONS

It is recommended that the Board:

1. endorse the eliminations and relocations of selected streetcar stops, as described in this report, and approve the principles on which these changes are based, specifically:
 - a. improving pedestrian safety by, wherever possible, placing transit stops at traffic signals or pedestrian crossovers (PXO's), because this provides customers with a protected street crossing when walking to or from transit stops and, in the case of streetcars, creates greater consistency for motorists regarding where streetcars will stop to allow customers to board or alight; and
 - b. making streetcar services faster, and reducing customer journey times, by eliminating stops that are unnecessarily close together -- i.e. those that are less than 200 metres from an adjacent stop, including all Sunday stops -- so that streetcars can travel faster and not impose the stop-and-go effect of closely-spaced stops;
2. note that the TTC's Advisory Committee on Accessible Transportation (ACAT) and the TTC's Customer Liaison Panel both endorse these principles for streetcar stop locations;
3. note that staff consulted with all affected Councillors regarding the proposed changes to streetcar stops, with the result that:
 - a. there was acceptance of relocating streetcar stops to nearby traffic signals or PXO's;
 - b. there was broad acceptance of removal of Sunday stops;
 - c. four Councillors opposed the removal of certain closely-spaced stops in their wards, and these stops are discussed in detail in this report; and
4. forward this report to the City's Planning and Growth Management, and Public Works and Infrastructure Committees, Councillors Grimes, Perks, Bailão, Layton, Vaughan, Wong-Tam, McConnell, Fletcher, McMahon and Fragedakis, and to Metrolinx.

FUNDING

This report has no effect on the TTC's Operating or Capital Budgets.

BACKGROUND

The TTC system has over 10,000 bus and streetcar stops. Many of these stops -- especially those in the older part of the city -- have been in place for several decades and were established under very different operating conditions, land uses, and network connections. There hasn't been a comprehensive review of transit stops in Toronto in many years, but land uses and traffic conditions have changed significantly over this same time period.

Toronto's commuting times have been ranked among the worst in North America. The TTC's Corporate Plan and Customer Charter have both publicly committed to place greater importance on customer journey times, with an emphasis on finding means by which to speed-up transit service and reduce customers' journey times. Consistent with this, the TTC's work on travel-time competitiveness -- the comparative time required to complete the same trip on transit versus car -- highlights the need to improve transit travel times. Similarly, Metrolinx's work on reserved right-of-way transit -- subways and light-rail lines -- is targeted largely at delivering faster and more-reliable transit service.

While there are limitations to how fast and reliable transit service can be when operating in mixed-traffic conditions, there are initiatives which the TTC can take to improve on these fronts. These include signal priority for transit -- which reduces the time buses and streetcars wait on red lights -- and camera enforcement of traffic bylaws -- an initiative currently under review jointly by the TTC and the City. The forthcoming implementation of proof-of-payment (POP) fare collection on streetcars, will speed-up passenger boarding and alighting times. Eliminating closely-spaced transit stops will also help speed-up transit service and reduce the perception and reality of stop-and-go travel on transit.

TTC staff were part of the work team, established by the City's Transportation Services, to identify means by which to reduce congestion and improve traffic flows in the downtown area. The issue of closely-spaced streetcar stops was identified by the team as a problem that contributes to congestion on downtown roadways. When a streetcar is serving a transit stop, all traffic travelling in the same direction must stop, even at a green light. Removal of closely-spaced stops would provide City staff with greater flexibility in their efforts to improve traffic flow on downtown streets. More recently, in discussions regarding the need for, and means by which to increase transit capacity into the central business district of Toronto, City Planning staff recommended removing closely-spaced streetcar stops.

TTC staff's guidelines for streetcar stops locations were previously submitted to the TTC Board at its meeting on January 28, 2014 in a staff report, entitled "Improving Pedestrian Safety and Customer Journey Times: Transit Stops". The Board referred that report back to staff with a directive to consult with affected Councillors and the TTC's Advisory Committee on Accessible Transportation (ACAT).

The current report recaps the salient points from the previous report and includes the results of the consultation.

DISCUSSION

The best location for transit stops -- whether on a bus route or a streetcar route - is at a traffic signal or pedestrian crossovers (PXO), in order to improve safety when customers are crossing to and from transit stops. Experience has shown that, the further away a stop is from a traffic signal, the more likely customers are to jaywalk across a street at an unprotected location. Conversely, the closer a stop is to a traffic signal, the more likely customers are to cross the street safely, taking advantage of the protection of the traffic signal.

In the case of streetcars -- which, for the most part, operate in the middle of mixed-traffic roadways, without passenger platforms -- provincial law requires motorists in the curb lane to stop and give the right-of-way to people walking across that traffic lane when boarding or alighting a streetcar. Placing streetcar stops at traffic signals or pedestrian crossovers provides the benefit of the protection offered by the signal, and the added benefit of greater consistency regarding where motorists should expect a streetcar to stop to serve customers. It is integral to the safe operation of these stops that motorists be aware that the streetcar is about to serve customers, and that motorists stop for people walking across the traffic lane. The new low-floor streetcars will have significant improvements (an illuminated "Prepare to Stop" icon at the rear, and flashing LED lights on the vehicle's side and along the door edges) to remind motorists to stop. Greater consistency in stop placement -- at traffic signals -- will further reduce motorists' illegal passing of open streetcar doors.

The issue of stop spacing -- how close together stops should be -- requires striking the appropriate balance between two competing objectives: having stops close enough to each other that customers have a relatively-convenient and short walk to get to a stop, but having them far enough apart that customers on-board the bus or streetcar are not frustrated by a slow, stop-and-go travel experience. The appropriate distance between stops will vary by circumstance depending, among other things, on the land uses and densities through which the service operates, the road network and spacing and locations of traffic signals, and the type of transit service being offered.

Recommended Distances between Streetcar Stops

Based on a considerable amount of experimentation and observation of practices in other transit systems, TTC staff have concluded that streetcar stops should be 250-to-350 metres apart. When this is not possible, they should, generally, not be greater than 400 metres apart, nor any closer than 200 metres to each other. The current average stop spacing on streetcar routes is approximately 250 metres. This is the result of the spacing of streets and traffic signals in the older part of the City.

Also relevant in this discussion of too-close streetcar stops are Sunday stops -- stops which were established many years ago (as early as the 1920's) in order to reduce the walking distance to nearby churches. Of the 600 streetcar stops that were reviewed by TTC staff, 42 are Sunday stops. They are typically not located at traffic signals, are very lightly used, and are, on average, about 100 metres from an adjacent regular stop. In support of the objectives of eliminating stops that are not at traffic signals and which are very close to other stops, the Sunday stops will be removed.

In order to provide a real-life illustration of the changes to streetcar stop locations which these stop-spacing and safety principles would bring about, the attached Exhibit 1 shows the existing and resulting locations of streetcar stops on Queen Street, between Church Street and Spadina Avenue. The stops at Victoria Street, York Street, and McCaul Avenue should all be removed. This would eliminate stops which are less than 200 metres away from adjacent stops, while keeping the maximum distance between stops at approximately 400 metres. In this example, there is an exception: the westbound stop at Simcoe Street would be moved to the signalized Queen Street/Patrick Street intersection, which is the last signalised intersection before the McCaul Street turn-back loop. This westbound-only stop would allow passengers to alight from streetcars before they turn back at McCaul Street.

Recommended Modifications to Streetcar Stops

There are approximately 550 regular stops on the streetcar routes that operate in mixed traffic - ie. 501 QUEEN, 502 DOWNTOWNER, 503 KINGSTON RD, 504 KING, 505 DUNDAS, 506 CARLTON, and 511 BATHURST routes (these include all stops used by the 508 LAKE SHORE route). In addition, there are 42 Sunday stops on these routes. The planned changes to the existing streetcar stops are:

- i) Relocation of Stops to Nearby Signals: While not detailed in this report, there are 20 stops which are currently at unsignalised locations which will be moved a short distance to a nearby signal or PXO, in the interests of enhanced safety for people crossing the street, and improved consistency regarding stops locations for approaching motorists;
- ii) Sunday Stops: all Sunday stops will be eliminated. These are listed in Appendix I; and
- iii) Removal of Closely-Spaced Streetcar Stops: There are 39 regular stops which are less than 200 metres from an adjacent stop, which will be removed. Table 1 lists these stops, and notes the stops where the local Councillor has expressed opposition to the removal of particular stops.

There are a further eleven stops that are less than 200 metres from an adjacent stop which had initially been planned for removal. However, as a result of the consultation process, for specific reasons explained in the following section, they will be subject to further study before a final decision is made. Staff will later provide an update report to the Board on these stops.

Results of Consultation

Placing stops at traffic signals or PXO's and eliminating existing stops which are less than 200 metres apart, including all Sunday stops, were discussed with the TTC's Advisory Committee on Accessible Transportation (ACAT), the TTC's Customer Liaison Panel, and the Councillors in those wards where modifications are being proposed to streetcar stops.

The TTC's Customer Liaison Panel strongly endorsed these proposals with respect to streetcar stop placement.

Staff met with the ACAT Service Planning Subcommittee on February 21, 2014, and they clearly recognized the difficulty in finding the best balance between placing stops close enough to allow convenient access to stops -- particularly for customers with mobility challenges -- while still providing a quality trip for customers on-board the streetcar. They concluded that the approach to streetcar-stop placement was reasonable. Staff presented several examples of stops which are too close and should be removed, including examples of closely-spaced stops which require further study because of proximity to, say, hospitals. ACAT agreed with this extra attention to such situations, and requested that similar studies be conducted at closely-spaced stops that are adjacent to seniors' facilities and community centres.

As a result of the consultations, staff have identified eleven stops which are unacceptably close together, but which will be subject to further study before a final decision is made:

- the stops on Queen at Victoria, and on Dundas at Elizabeth: these will be surveyed to determine the number of customers using them for the specific purpose of accessing the nearby hospitals;
- the southbound stop on Broadview at Jack Layton Way: this stop will also be assessed to determine those customers using it to access the adjacent hospital and, if it is retained, the corresponding northbound stop at this intersection – a Sunday stop - would also be retained, as a regular stop;
- the stops on Queen at Empire: there is a Community Centre nearby, and these stops will be studied to determine the number of elderly customers using them to access that facility;
- the southbound stop on Broadview at Danforth is adjacent to a Toronto Community Housing seniors home and, although Broadview Station is just across the street, the local Councillor is concerned that the removal of this stop would require seniors to cross Broadview Avenue to reach the station. Therefore, staff will determine the number of residents from the seniors' home who use this stop; and
- the stops on Gerrard at Ashdale: these stops are immediately adjacent to a school and staff will review the student use of the stops in both directions.

In the consultations with local Councillors, there were no objections to moving stops to nearby signals or PXO's. There was acceptance of the plans to remove Sunday stops with two exceptions; Councillor Fletcher asked that the northbound Sunday stop on Broadview at Simpson be retained, given the proximity to the adjacent hospital. As indicated above, TTC staff will assess the merits of establishing a regular stop at that location. Councillor Fletcher also requested that the eastbound Sunday stop on Queen at Booth be retained, given its proximity to the Jimmie Simpson Recreation Centre. This stop, served only on Sundays, is only 90 metres from the following regular stop, at Logan, and is not necessary.

Aside from the above, there are 39 stops that are planned for removal, as listed in Table 1, attached. Twelve of the removals are opposed by the local Councillor. These objections are indicated in the table with an asterisk (*). Appendix 2 provides information on each of these twelve stop locations, including why the stops should still be removed.

Next Steps and Timing

The stops which are to be moved to a nearby signal or PXO and require only the relocation of the stop marker will be completed this year.

The removal of all Sunday stops will be completed this year. Advance notice will be provided at all of these stops prior to their removal.

The stops which involve the relocation of an accompanying transit shelter will be moved later, probably in 2015.

All stop removals, other than Sunday stops, will be delayed until at least 2015. In some situations – for example, the removal of the stops on Queen at York Street – the stops will be removed only when the new, longer streetcars are operating on that route. The new streetcars will have all-door boarding, so the passenger service time at the following stop, at University, will be reduced, even with the additional customers who will shift over from the York Street stop. In addition, as customers become accustomed to the all-door loading, they will naturally spread out along the sidewalk for the length of the new streetcar and, in doing so, alleviate some of the existing sidewalk congestion that occurs immediately adjacent to the stop marker, where most customers congregate waiting to board via the front door.

All stop removals will be preceded by an advance notice of the reason for, and timing of the removal.

JUSTIFICATION

The Board should endorse the streetcar stop elimination and relocations described in this report, in order to improve the safety of customers when crossing to or from transit stops and to improve the operating speed, on-board travel experience, and travel time competitiveness of TTC services.

11-31-42

Attachments: Table 1
Appendices 1 & 2
Exhibit 1

Table 1: Stops To Be Removed

* indicates Councillor objection to removal

ROUTE	LOCATION	DIRECTION
511 BATHURST	Bathurst at Bloor # 276 Adelaide*	northbound southbound both
501 QUEEN	Lake Shore at Summerhill Lake Crescent Queen at Abell/Beaconsfield* McCaul York Carolyn/Brooklyn* Consolidate the stops at Connaught, and at Woodward/Kent, into a single location midway between – at Woodfield Consolidate the stops at Waverly and at Lee – into a single location midway between - at Bellefair	eastbound both both both both both
504 KING	King at Brant Simcoe York Trinity* Victoria Broadview at Mt. Stephen* Erindale at Broadview	both both both both westbound both westbound
505 DUNDAS	Dundas at St. Helens Sheridan* Bellwoods Chestnut Victoria	eastbound both eastbound both both

Appendix 1: Sunday Stops to be Eliminated

Bathurst Street:	northbound opposite # 276
Queen Street:	eastbound at Callendar, Cowan, Walnut, Power, and Booth, westbound at Bellwoods, Trefan, in both directions at Hiawatha, Rhodes and Howland
King Street:	in both directions at Close, westbound at Cowan
College Street:	in both directions at St. Clarens, Sheridan, Gladstone, Palmerston, and midway between University and Elizabeth
Dundas Street:	in both directions at St. Clarens, Bond, and Regent
Broadview Avenue:	northbound at Simpson, both directions at Bain
Gerrard Street:	in both directions at Glenmore
Kingston Road:	in both directions, west of Malvern

Note – the Sunday stops on Queen, eastbound at Beatty, and eastbound at Glen Manor, are at traffic signals and will be made regular stops

Appendix 2: Stop Removals to Which Councillors Have Objected

1. Bathurst at Adelaide: Councillor Vaughan requested further study before removing the stops at Adelaide to ensure that future increases in customer demand from several major developments planned in this area would not result in crowding on the streetcar island platform at the adjacent stops at King or Queen.

Staff Response: The Adelaide stops are 140 metres from the stops at King Street and this is too close. Councillor Vaughan's concerns are understandable, but they are speculative at this point, and should not be the basis for retaining such closely-based stops. If the stops at Adelaide are removed, and a crowding problem arises at the streetcar platforms at King and/or Queen in the future due to significant increases in customer demand in this area, then a stop and island passenger platform could be re-instituted at Adelaide.

2. Queen at Abell/Beaconsfield: Councillor Bailão wants to keep these stops midway between the adjacent stops at Gladstone and Dovercourt. She is discussing the possibility of a traffic signal at this location with City staff. She is also concerned that the removal of the stop would result in more people waiting at the adjacent stops, thus creating sidewalk crowding.

Staff Response: The eastbound stop at Abell is only 162 metres from the following stop at Davenport; the westbound stop at Beaconsfield is 192 metres from the next stop at Gladstone. With these stops removed, the stop spacing will be just below 400 metres. If a traffic signal were to be installed at Beaconsfield in the future, this decision will be revisited but, at this time, leaving the stops in would be inconsistent with the intent of having all streetcar stops located at traffic signals or PXO's.

At present, most customers waiting at a streetcar stop tend to congregate near the intersection, near where they expect to board via the front doors. However, with the new streetcars, customers will board at all of the doors, and will become accustomed to spreading out along the sidewalk. This will alleviate sidewalk congestion that now occurs.

3. Queen at York: Councillor McConnell wants to retain the westbound stop at York (technically in Councillor Wong-Tam's ward), because its removal would result in more people waiting at the stop at University, where the sidewalk is often congested. She requested further study regarding the removal of the eastbound stop.

Staff Response: As seen in Exhibit 1, the westbound stop is only 120 metres from the following stop at University, which is unacceptably close. These stops will not be removed until the new streetcars are operating. As indicated above, the new streetcars will have all-door boarding, and people waiting for a streetcar will become accustomed to spreading out along the sidewalk, and not congregate near the intersection as they do today. This will result in less congestion on the north-east corner of University, even with some customers moving over from the current stop at York.

4. Queen at Carolyn/Brooklyn: Councillor Fletcher wants to retain this pair of stops. The streets are offset – Brooklyn is a short distance west of Carolyn – and neither is signalized. Staff Response: The resulting spacing, with the stops removed, is just over 400 metres. There is not sufficient justification to keep stops which would not have the safety benefits of traffic signals or a PXO.

5. King at Trinity: Councillor McConnell is concerned that there are many customers, including tourists, destined to the areas immediately adjacent to Trinity, south of Queen, and that the elimination of this pair of stops will create an inconvenience and possible confusion.

Staff Response: Trinity is not signalized and the distance between stops is roughly 150 metres. With the elimination of the stops at Trinity, the stop spacing between the next-closest adjacent stops at Parliament and Sackville would be 285 metres in the westbound direction, and 345 metres in the eastbound direction. The extra walking distance from the adjacent stops to Trinity -- approximately 150 metres -- is not a significant inconvenience to customers.

6. Dundas at Sheridan: Councillor Bailão wants to maintain the current stops at this signalized intersection, because of plans for an eight-storey apartment building on the northeast corner.

Staff Response: The distance from Sheridan to the next-closest stops at Brock is only 150 metres in the westbound direction and 160 metres to Dufferin in the eastbound direction. With the Sheridan stops removed, the resulting stop spacing between Brock and Dufferin is about 345 metres.

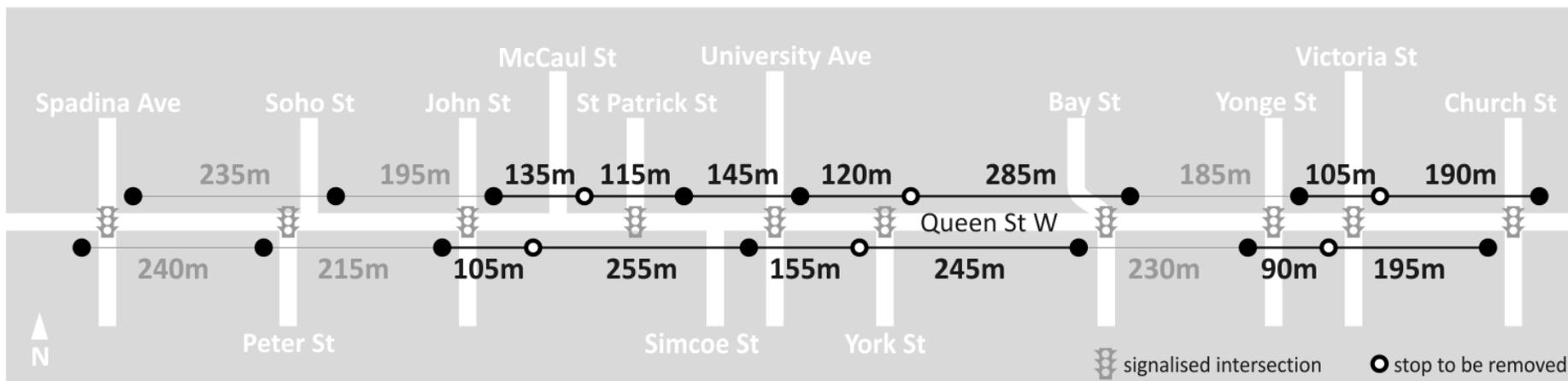
7. Broadview at Mt. Stephen: Councillor Fletcher wants to keep this stop, which is between Dundas Street East and Gerrard Street East.

Staff Response: The northbound stop at this unsignalised intersection is only 160 metres south of the next stop at Gerrard; the southbound stop is 175 metres from Dundas Street. The resulting stop spacing, with the stops at Mt. Stephen removed, is 350 metres in the northbound direction and 355 metres in the southbound direction, and these distances are acceptable.

Exhibit 1

Changes to Stop Locations on Queen St, Spadina Ave to Church St

Existing



After: 3 fewer stops in each direction

