

# TORONTO TRANSIT COMMISSION REPORT NO.

**MEETING DATE:** October 23, 2008

**SUBJECT:** 501 QUEEN STREETCAR ROUTE: STATUS UPDATE

## **ACTION ITEM**

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### RECOMMENDATION

It is recommended that the Commission support the actions as described in this report and summarized as follows:

1. Staff to continue to develop and implement new route management strategies and determine their impact and sustainability prior to experimenting with any split route scenarios.
2. Staff to continue reporting cancelled service and short turns through the monthly CGM's report.

### FUNDING

Sufficient funds for continuation of additional staff required for implementation of new route management strategies on the 501 Queen Route have been included in the 2009 TTC Operating budget, approved by the Commission at its meeting of September 18, 2008.

### BACKGROUND

In July 2007, the Commission received a petition documenting public dissatisfaction with the quality of service on the 501 Queen Streetcar route, demanding improvements, with particular emphasis on the east end of the route in the Beach.

On December 4, 2007, a transit advocacy group, 'The Rocket Riders' convened a public meeting; TTC staff, transit advocates and approximately 100 members of the public attended. As a result of that meeting, TTC staff committed to study and implement possible means of improving the quality of service on the 501 Queen Streetcar route.

On December 10, 2007, Councillor Bussin convened a similar meeting; TTC staff, representatives from local BIA's and a number of resident's groups attended. TTC re-stated the commitment to examine various means to improve the quality of service and indicated a report on that topic would be presented at the Commission meeting on January 23, 2008.

At the January 23, 2008 Commission meeting, TTC staff presented a report titled "501 Queen Streetcar Route: Issues and Solutions". That report discussed issues within the control of the TTC, within the control of the City of Toronto and within the control of Toronto Police. Problems and possible strategies were briefly described in the report, including:

- Implementation of short-turning guidelines since December 2007, to ensure the focus of short turns was to improve customer service;
- Assignment of "service assistance crews" (SAC) to the 501 Queen route since December 2007, to assist managing service irregularities by insertion of gap cars and taking over from late operators;
- Assignment of additional supervisors to the route;
- Managing workforce availability to limit cancelled runs due to lack of workforce by elevating the priority of open work on Queen above other routes;
- More consistent dispatch of the larger ALRVs and minimized use of smaller CLRVs on the 501 Queen route by reducing or eliminating the scheduled need for ALRVs on other routes such as Bathurst 511 and King 504.

TTC staff reported back at the May 21, 2008 meeting, providing an update on actions taken to date on the 501 Queen Streetcar route, including a number of tools to manage and measure route performance.

In June 2008, Councillor Bussin convened another public meeting, attended by TTC staff, transit advocates, representatives from a number of BIA's and a number of members of the public. During that meeting, customer concerns revolved around large waits for streetcars and being forced off of cars being short turned. Predominantly, these concerns came from customers in the east and west ends of the route.

#### DISCUSSION:

After completion of the hiring and training process, 6 new Supervisors were assigned to the 501 Queen route in early June 2008. During the summer of 2008, these additional supervisors were used to aggressively space and dispatch service from end points, at interlining points and at several intermediate points, to minimize bunching and gapping and to actively ensure vehicles were operating on even headways. We concluded that while there was an improvement in bunching, trip times were significantly lengthened, resulting in an increased need for short turns to ensure runs were in place for trips to Long Branch and to manage the complex crewing requirements of the schedule.

In August, a Project Manager was appointed from divisional management to focus solely on the 501 Queen route. A new route management strategy was developed to address the root causes of short turns, namely to manage the complex crewing requirements and to fill large gaps in service.

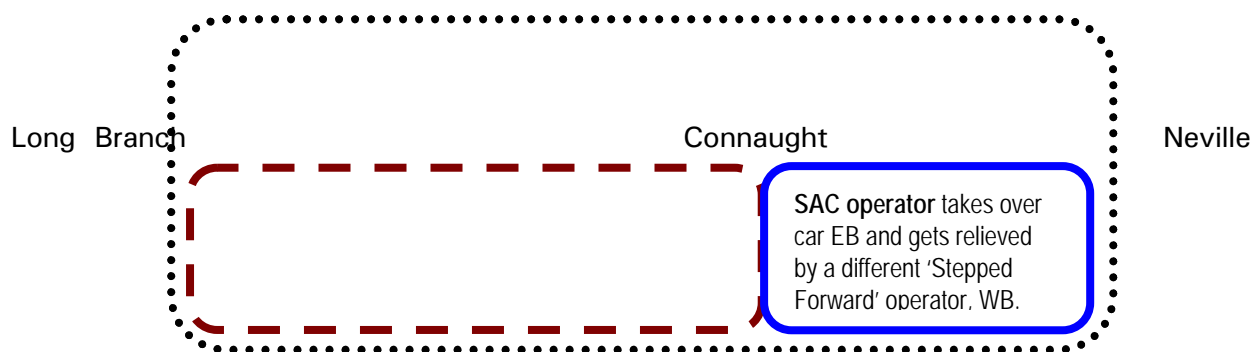
Currently, there are a number of schedule complexity issues that affect the number of short turns required to manage the 501 Queen route i.e. Inter-branch mixing of cars at the Humber Loop to ensure alternate Humber/Long Branch sequencing; cars which have consecutive trips that change between the two branches inconsistently; and operators tied through a short break to two separate cars: A car out of place or off schedule could cause a connectivity issue.

The connectivity that the schedule overlays between operators and runs, between different runs, between trips and between branches on the route, often elevates the need for a service adjustment in order to ensure that runs and operators are in their scheduled position.

To simplify this connectivity and required need for service adjustment, a new strategy is being tested which separates the operator from the vehicle. The approach involves two activities, a new form of operator step-forward and controlled vehicle dispatch from the end of the line.

'Step Forward' Strategy

Referring to the illustration below, when an operator is late or out of position, a SAC operator takes over the streetcar at Connaught eastbound and continues the trip, ensuring the customer's trip continues without interruption. The late operator is then 'stepped forward' from his/her schedule on the car in the opposite direction, westbound; relieving the westbound SAC operator who is used for the next eastbound car.



This process facilitates placing operators back on their scheduled time and the sequencing of Humber/Long Branch cars heading westbound.

End of Line Dispatch Control

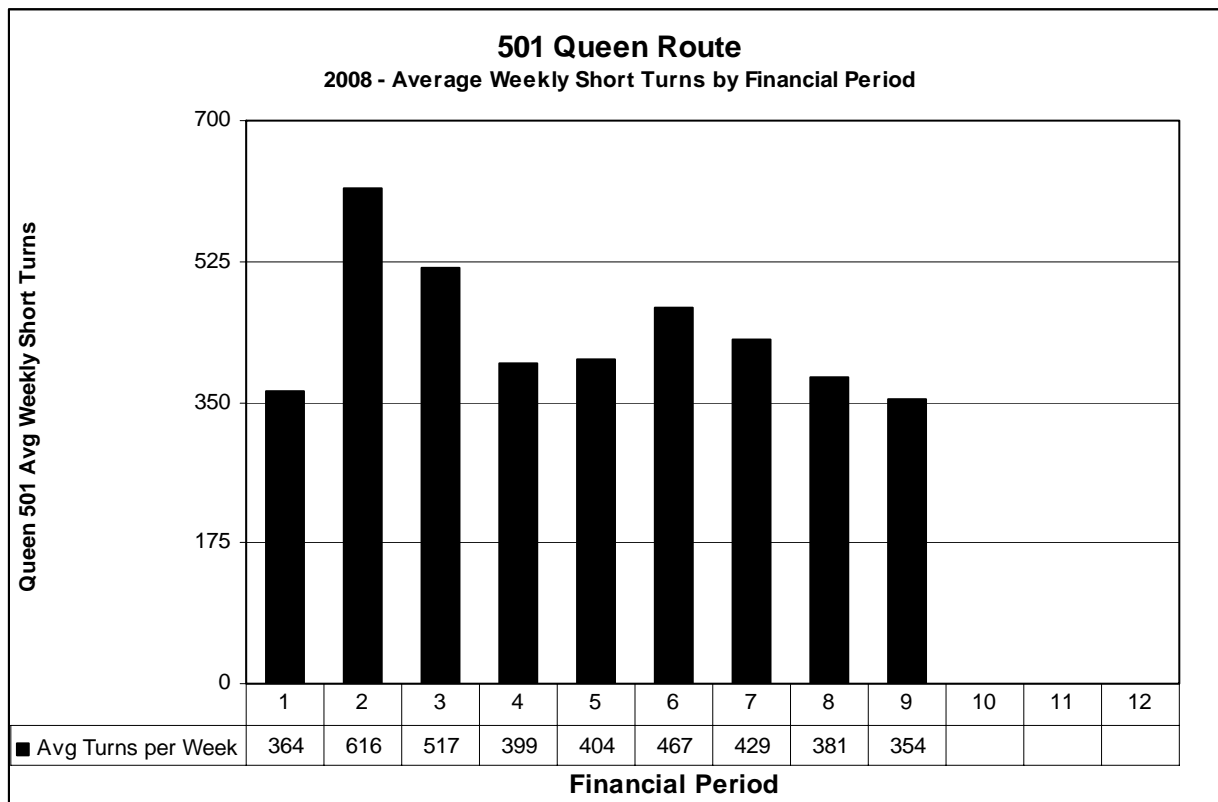
The second part of the strategy involves a supervisor at the Neville Loop to space cars. As the cars entering Neville loop are operated by SAC operators, not scheduled operators, they are not assigned any specific dispatch time. The supervisor can then freely adjust the dispatch time to space cars, as appropriate.

“Step Forward/End of Line Dispatch” Test Results

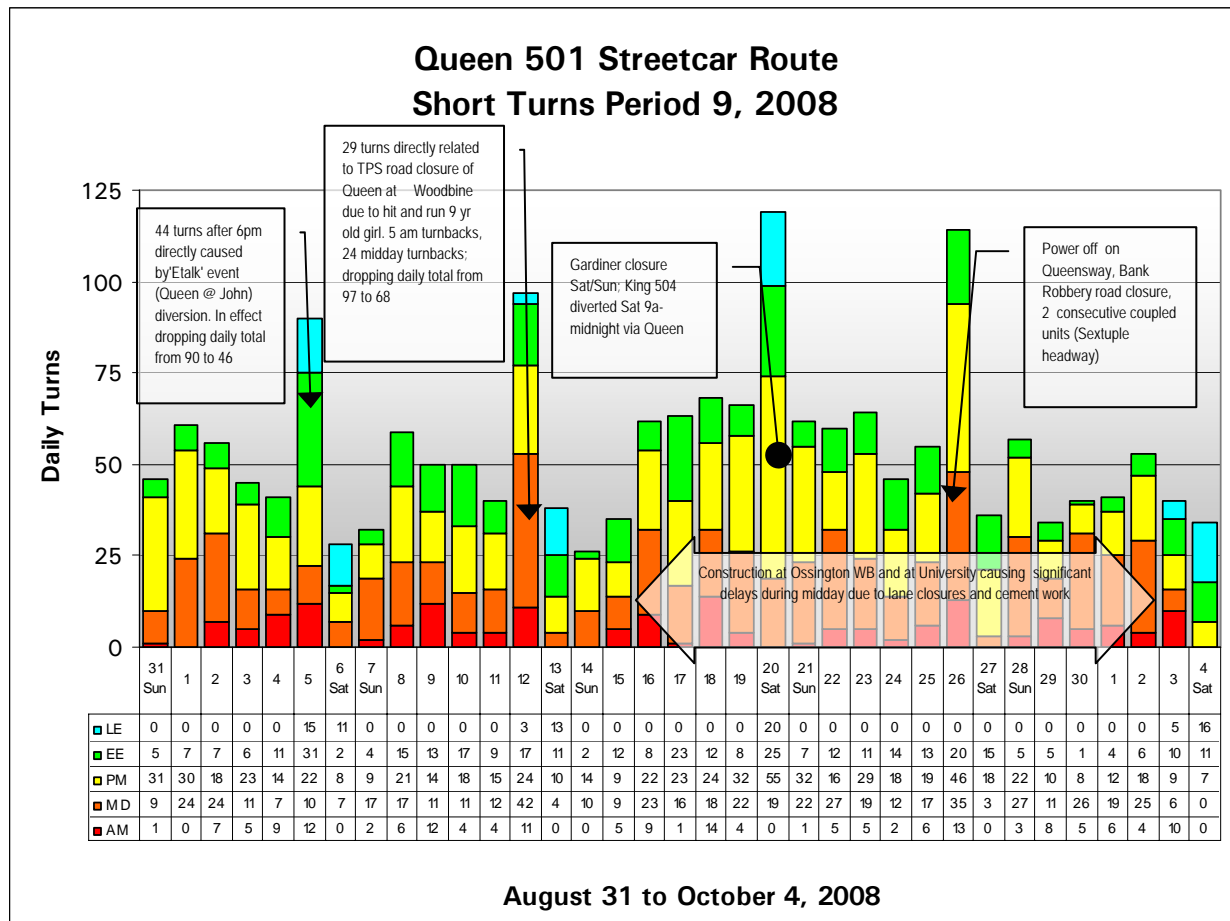
During the September board period, TTC staff implemented a test of this new route management strategy during the daily midday timeframe from approximately 10:00am through 4:00pm. To date, this new approach has resulted in significant and measurable improvements in short turns, gapping and bunching. During the midday time period Monday to Friday from September 2, 2008 through October 3, 2008 (Period 9), we noted the following results:

- Short Turns
  - – 50% vs. midday Period 9 2007;
  - – 20% vs. midday Period 8 2008;
  
- Large Gaps (Double and greater headways)
  - – 77% westbound from Greenwood vs. Period 8 2008;
  - – 36% westbound from Humber Loop vs. Period 8, 2008;
  - – 43% eastbound from Woodbine vs. Period 8, 2008;
  
- Bunching (Cars within one minute of each other)
  - – 52% westbound from Woodbine vs. Period 8, 2008;
  - – 46% westbound from Dalhousie (Jarvis) vs. Period 8, 2008
  - – 35% westbound from Islington vs. Period 8, 2008;

Overall, for all days, all time periods, the level of short-turns has declined and in Period 9, reached a 2008 weekly average of 354.



The following chart, which documents daily short turns by time period during financial period 9 2008, illustrates that even during the midday timeframe where 'Step Forward/End of Line Dispatch' was implemented, many random events occur causing large delays to service and short turn corrections.



Despite these activities, during the midday time-period we short turned 20% fewer cars than in financial period 8 and 50% fewer cars than during the same period in 2007.

In addition to reducing short turns for schedule complexities and gaps of up to a double headway, we have found the 'Step Forward/End of Line Dispatch' strategy enhances our ability to recover from major service disruptions more quickly and with fewer short turns. Based on our one-month experience managing the weekday midday service on the 501 Queen route with this strategy, we have concluded that expansion during the afternoon peak period will result in a similar improvement to our customer's quality of service.

Future Actions

The worst performing timeframes on the 501 Queen route for short turns and gaps include the midday, afternoon peak and early evening periods. During the October Board Period, beginning October 12<sup>th</sup>, implementation of the 'Step Forward' strategy will expand to include these timeframes on weekdays.

In the November Board Period, we will continue testing the 'Step Forward/End of Line Dispatch' strategy during the expanded timeframe and will overlay a new schedule that simplifies operator assignment and breaks and also eliminates the current random interlining between the Humber and Long Branch branches of the route. These changes should be transparent to our customers, but will further reduce the need for schedule related short turns.

In the January Board Period, employment of previous strategies will continue and we will implement some additional running time to more closely match scheduled running time to our current 'good day' actual.

We are also considering expansion of the 'Step Forward/End of Line Dispatch' strategy to multiple points on the 501 Queen route. More specifically, we may test its use between Islington and Long Branch loop or between Roncesvalles and the Humber loop. Timing of the implementation of this expansion of 'Step Forward' will be driven by our analysis of the impact and sustainability of single point 'Step Forward' and the collective effects of simplified crewing/schedule and the effect of additional running time on short turns, gaps and bunching.

Enhancements to our route management information system, CIS (Computer Information System) software are expected to be online in late October 2008. This new version of CIS uses GPS technology, virtually eliminating missed signpost reads, and improving tracking accuracy. It also will enhance our ability to view and track vehicles on diversion and being short turned. In addition to converting all CIS consoles at Roncesvalles Division, one CIS console at each of two bus divisions will ensure redundancy and continued route management in the event of an unplanned evacuation or power outage at Roncesvalles Division.

The next major improvement in CIS software will include two functional additions: On demand analysis of current point to point running time and an option of managing routes by headway adherence, in addition to the current method of monitoring by schedule adherence. We will be able to provide firm timing of Phase II implementation in the next 501 Queen route update.

A customer satisfaction survey is being conducted during the month of October 2008. This survey will involve customers on the Queen route, in order to gauge customer opinion regarding any changes in the quality of service during the midday timeframe. The survey will concentrate on customers travelling at each end of the route, both Long Branch in the west and the Beach in the east, the two areas on Queen that are affected most by short turning. The purpose of the survey is to determine whether actions to date have improved the quality of service from a customer perspective; to confirm the key shortfalls in service from our customer's perspective and to identify any suggestions those customers may have for further improvement. This survey will serve as a baseline for future measures of customer satisfaction on the Queen 501 route.

A second survey will be conducted in early 2009 to determine what improvements or changes may have occurred from a customer perspective, due to the expansion of the 'Step Forward' strategy to the afternoon peak and early evening periods.

**JUSTIFICATION**

We have conducted analyses of the nine variations of the split route concept. However, based on the encouraging early successes of the "Step Forward/End of Line Dispatch" approach, consideration of possible implementation of any split route scenarios is being deferred until the impact and sustainability of this new line management strategy has been fully developed and understood.

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October 16, 2008

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