

## **The Bloor-Danforth Subway 40 Years After Opening Why Was It So Successful?**

**By Steve Munro  
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### ***Background***

Many posts on my site make less-than-complimentary remarks about the Sheppard Subway from Yonge to Don Mills, and the proposed Spadina Subway extension from Downsview north to Steeles via York University. This has generated a lot of comment, but one question in particular really got me thinking.

“The problem with the Sheppard Subway is that it doesn’t go far enough. Look at the Bloor-Danforth subway. It goes all the way to Kennedy while the Sheppard line stops at Don Mills. If the Sheppard line went further east, it too would have good ridership numbers.” [This is a paraphrase.]

In fact, when the Danforth subway opened, the end of the line was Woodbine Station. This is 6.3 km east of Yonge Street. Up on Sheppard, Don Mills is 5.3 km east of Yonge. [These are driving distances given by Yahoo.ca.] An exact match for Sheppard would be at Coxwell Station on the Danforth line. For all practical purposes these lines are similar.

However, the demand on these lines is very different. Before I get into those details, let’s look at the transit system before the Bloor-Danforth Subway opened.

### ***Service and Riding in the Bloor-Danforth Corridor***

Before the subway opened, the streetcar service in downtown Toronto was much more intense than today. We have no routes anywhere in the system carrying the type of loads that were on the Bloor-Danforth carline.

Indeed, there was so much demand for travel into downtown, many other routes contributed to the overall capacity. Bus lines from the suburbs fed into various streetcar routes that took people directly downtown. Much of this riding was diverted into the subway after it opened, and service on the remaining streetcar lines was cut back.

Not all of the riders on these routes were potential new traffic for the subway, but there was a very strong existing demand in the corridor before the subway opened. Moreover, a network of surface routes carried passenger volumes that are staggering by comparison with today’s surface routes and service levels.

Finally, the high-rise clusters that are so often linked with the success of the subway system did not yet exist. I have seen a nice picture of my own building under construction in the background of a photo of a Bloor streetcar train westbound on the Prince Edward Viaduct just before the subway opened. It’s not my photo, and so I will not reproduce it here.

Here's what the service looked like in April 1964.

<b>Route</b>	<b>Pre-Subway Service</b>	<b>Replaced By</b>
Bloor-Danforth	<p>2-car trains of streetcars. 24 trains per hour between Jane and Luttrell Loop (east of Main), plus 18 trains per hour between Bedford and Coxwell.</p> <p>Total capacity 42 trains per hour east of Bedford Loop, or 6,300 passengers per hour at design load. Crush loads were common, and the line's capacity at this level was over 8,000 passengers per hour.</p> <p>This is equivalent to about 110 buses per hour or one bus every 33 seconds.</p>	<p>Subway service between Keele and Woodbine (later extended to Islington and Warden).</p> <p>Streetcar shuttles remained from Jane to Keele and from Woodbine to Luttrell pending the subway extensions.</p>
Harbord Car	<p>This line ran from St. Clarens Loop at Lansdowne and Davenport via Davenport, Dovercourt, Bloor, Ossington, Harbord, Spadina, Dundas, Broadview, Gerrard, Carlaw, Riverdale and Pape to Lipton Loop at Danforth and Pape. (A real city tour!)</p> <p>There were 24 cars per hour for a design capacity of 1,800 passengers per hour.</p> <p>At St. Clarens Loop, the line was fed by the Keele bus. At Lipton Loop, the line was fed by bus routes coming south from East York as they do today.</p>	<p>Replaced by various services, notably the Wellesley Bus (west end) and the Dundas Car (east end) which was rerouted from City Hall Loop to Broadview Station.</p> <p>The Keele Bus was extended south to Lansdowne Station (it now runs to Keele Station).</p> <p>Service on Pape and Carlaw was replaced by the Pape Bus.</p>
Dundas Car	<p>This line ran from Runnymede Loop on Dundas in the Junction to City Hall Loop (the streets for this disappeared under the Bell building north of Old City Hall).</p> <p>There were 36 cars per hour for a design capacity of 2,700 passengers per hour.</p> <p>At Runnymede Loop, the line was fed by suburban buses.</p>	<p>The west end of the line remained at Runnymede until the Islington extension opened when the Dundas car was cut back to Dundas West Station and replaced with the Junction Trolleybus.</p> <p>In the east end, the Dundas car was rerouted from City Hall Loop to Broadview Station taking over from the former Harbord route.</p>

<p>Bathurst Car</p>	<p>The Bathurst car ran south from Vaughan Loop at St. Clair (a high-rise apartment sits on the site today). During weekdays, the Bathurst cars ran into downtown via Adelaide to Church and returned westbound via King. A separate “Fort” route served the CNE from Vaughan Loop.</p> <p>Bathurst service was 30 cars per hour for a design capacity of 2,250 passengers per hour. The Fort line ran 20 cars per hour for an additional capacity of 1,500 passengers making the total capacity on Bathurst Street about 3,750 passengers per hour.</p> <p>The line was fed by the Bathurst and Vaughan buses from the north as well as by transfer traffic from the St. Clair car.</p>	<p>The Bathurst and Vaughan buses were extended to Bathurst Station, and the streetcar service via Adelaide was discontinued. All Bathurst car service ran to Exhibition Loop and the Fort route name was discontinued.</p>
<p>King Car</p>	<p>The King car ran from Erindale Loop (now Broadview Station) to Vincent Loop (now Dundas West Station) with 45 cars per hour. The capacity of the line was about 3,300 passengers per hour.</p> <p>Some of the demand was transfer traffic from feeder buses at Erindale, some was transfer traffic from the Bloor-Danforth car, and a lot was local riding along the route.</p>	<p>The King route is unchanged today except for the level of service.</p> <p>Feeder services now connect directly with the subway.</p>
<p>Kingston Road</p>	<p>Two services ran west from Bingham Loop fed by suburban buses from Scarborough. They were the Kingston Road line (30 cars per hour to McCaul Loop on Queen) and the Kingston Road Tripper (12 cars per hour to Roncesvalles and Queen via King Street)</p> <p>The total capacity westbound from Bingham Loop was 42 cars per hour or about 3,100 passengers per hour.</p>	<p>The Downtowner route preserves the old Kingston Road service while the Kingston Road name is retained for the rush-hour tripper that operates to York and King via Wellington.</p> <p>The bus feeders now connect to the Danforth subway and service on Kingston Road west of Victoria Park is a shadow of its former level.</p>

## *The Bloor-Danforth Line Opens*

On February 26, 1966, the Bloor-Danforth line opened for business. I was out dark and early having spent the night before riding the last cars on St. Clair (Weston Road, Parliament, Harbord and finally Bloor winding up at Lansdowne Carhouse). The surface system, as you can see from the preceding section, was transformed and passengers flooded into the new subway line.

For the first six months, operation of the Bloor-Danforth and Yonge-University lines was integrated with three separate routes:

- Eglinton to Woodbine
- Eglinton to Keele
- Keele to Woodbine

Those who are familiar with all of the junction tracks between Museum, Spadina and Yonge stations will know how this worked physically.

There is a very long piece on the Transit Toronto site which gives the history of the Bloor-Danforth line including a diagram of the interchange between the lines.

For the article, go to:

<http://transit.toronto.on.ca/subway/5104.shtml>

For the diagram, go to:

<http://transit.toronto.on.ca/images/subway-5104-04.gif>

This operation provided transfer-free rides downtown for Bloor-Danforth passengers, but it had lots of problems at the junctions mainly because of the way the TTC operated it. Frankly I don't think that they ever really wanted it to work and they made little effort to make things run smoothly.

This showed up particularly in the scheduling because the entire system ran with a single, integrated timetable rather than as three separate routes. Because trains and crews would switch from route to route as the day went on, it was vital to keep everything in order. A short delay on one leg of the operation meant that trains on the other branches had to wait at junctions for their place. This could have been avoided by scheduling the services independently.

Predictably, things did not go well, and the operation was switched to two separate lines in September 1966. This is really quite amazing given the lead times the TTC normally wants for service changes, and it is quite obvious that they intended to do this all along and never look back.

However, in June 1966, they wanted to know how people were using the system, and they undertook a massive survey to track every subway passenger's trip for one day. That day was June 23. In a feat that would astonish any statistician, the TTC obtained a 72% sample rate – of all the riders, they estimated that they managed to track almost three quarters of them and thereby get a very accurate look at subway travel. That information shows us just how different the Bloor-Danforth line is from Sheppard or Spadina.

Two diagrams appear at the end of this document. One shows the am peak flows around downtown and how passengers traveled through the wye. The other shows the Danforth subway for the same time period. From these you can see:

- The demand on the Danforth line accumulates gradually along its length from Woodbine to Sherbourne rather than originating almost entirely at the terminal. Compare this to the actual loading on Sheppard or the projected demand on Spadina to Steeles where almost everyone boards at the terminal.
- The peak demand for the Danforth subway barely four months after it opened was about 20,000 riders. Planning rule of thumb indicates that about half of these will travel in the peak hour, and so we have 10,000 riders per hour.
- The original Danforth Subway has 9 stations over its 6.3 km while the Sheppard subway has 4 stations over 5.3 km. There is a huge difference in accessibility to the Bloor-Danforth line from nearby residential communities compared with Sheppard.

Meanwhile on Sheppard and Spadina:

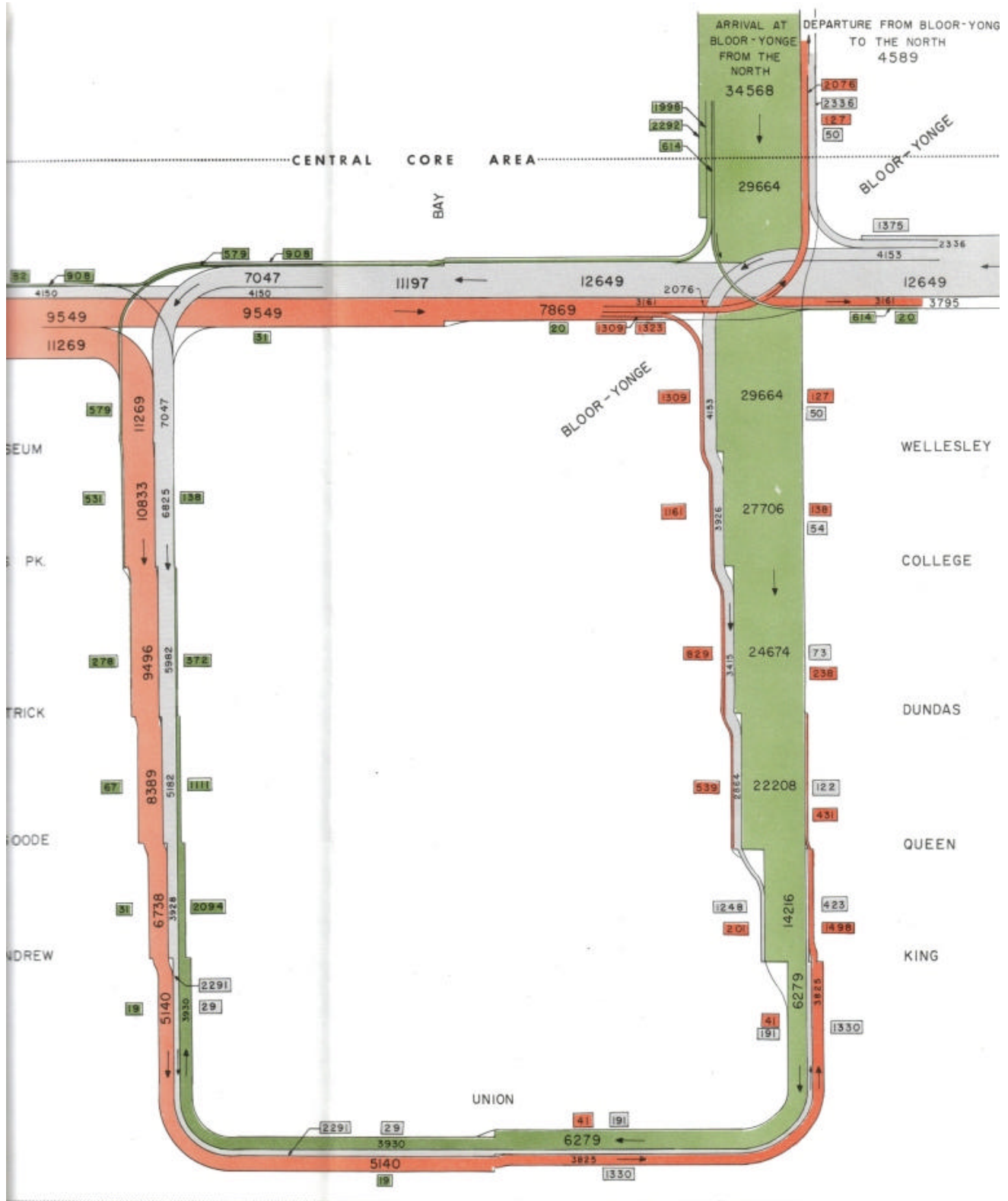
- The actual service operated today on the Sheppard Subway is one 4-car train every 330 seconds, or roughly 11 trains an hour each with a capacity of about 660. The design capacity is therefore about 7,300 passengers per hour at peak, and we don't get that for a sustained hour.
- The projected demand southbound from Steeles West Station is around 13,000 spread over the am peak, or about 6,500 for the peak hour. Most of these riders will arrive at Steeles West by bus or by car. Between Steeles West and Downsview, the line will pick up another 4,000 riders in the am peak, or about 2,000 in the peak hour.

In short, there is no comparison between the passenger volumes that were waiting on day one to ride the Bloor-Danforth subway, those riding today on Sheppard and those projected to ride on Spadina in 2021.

The diagrams on the next two pages show the am peak flows in the Core Area and on the Danforth Subway from the June 1966 Origin Destination survey. The numbers beside the line at each station give the ons and offs for the station.

(Sorry for the quality of the scans. I am going to get better ones and will update this document when they are available.)

# Core Area



# Danforth Subway

