



## STAFF REPORT ACTION REQUIRED

### Changes to TTC Bus Routes for Line 1 Extension

<b>Date:</b>	May 18, 2017
<b>To:</b>	TTC Board
<b>From:</b>	Chief Executive Officer

#### Summary

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Line 1 Extension, also known as the Toronto-York Spadina Subway Extension (TYSSE), is an 8.6 km rapid transit project that will extend the TTC's Line 1 subway from Sheppard West (formerly Downsview) Station northwest to Vaughan Metropolitan Centre, with six new stations. The new stations are:

- Downsview Park Station
- York University Station
- Highway 407 Station
- Finch West Station
- Pioneer Village Station
- Vaughan Metropolitan Centre Station

This report recommends changes to the existing bus routes near the new subway service in order to connect customers to the new rapid transit stations and improve their journey times. The subway extension is scheduled to open in December 2017.

Bus routes along Sheppard Avenue West will have new on-street connections with Downsview Park Station. Bus routes in the Keele Avenue and Finch Avenue West area will provide new connections to the bus terminal at Finch West Station. The majority of TTC bus services at York Commons in York University will relocate to the bus terminal at Pioneer Village Station. Transit partners in York Region Transit/Viva, Brampton Transit, and GO Transit will provide new connections to the stations in York Region, at Pioneer Village Station, Highway 407 Station, and Vaughan Metropolitan Centre Station.

The number of buses required to provide service to the residents in surrounding areas will be reduced by approximately 20 morning peak buses when the modified routes are introduced in December 2017. The recommendations in this report were developed after consultations with customers, stakeholders, and residents in the surrounding neighbourhoods.

## **Recommendations**

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### **It is recommended that the TTC Board:**

1. Approve the implementation of the bus route changes detailed in this report, effective in late 2017; and
2. Forward this report to Transportation Services and the affected City Councillors.

### **Financial Summary**

The changes recommended in this report will have a negligible financial impact in 2017 and will reduce operating costs in 2018 by approximately \$7.2 million based on the reductions to bus service inside and outside of Toronto. However, recoveries from York Region, currently received for bus service operated by TTC, will decrease by approximately \$7.3 million. Therefore, there will be a \$0.1 million net increase to the TTC Operating Budget. This is due to the agreement with York Region whereby York Region is charged full costs including fixed costs for bus service operated by TTC in York Region.

These requirements are already accounted for in the 2017 Service Budget and sufficient funding is included in the TTC's 2017 Operating Budget as approved by the TTC Board on November 21, 2016 and City Council on February 15, 2017. The impact in 2018 was incorporated into the 2018 budget outlooks and will be reflected in the proposed 2018 Operating Budget.

The changes recommended in this report will have a capital cost of \$315,000 as some bus stop locations need to be changed and must be upgraded to facilitate the new bus routings. These capital costs are funded and included in 9.2 Platform Modifications to Accommodate Articulated Buses (WO 6418).

The Chief Financial & Administration Officer has reviewed this report and agrees with the financial impact information.

### **Accessibility/Equity Matters**

The TTC has made significant progress in moving towards providing barrier-free, accessible transit services to all customers. All TTC bus services are operated using accessible, low-floor buses. New accessible low-floor streetcars are also currently being put into service in order to make all TTC streetcar routes accessible. The TTC's Easier Access Program will make all existing subway stations accessible to everyone, regardless of their level of mobility. All of the subway stations on the Line 1 Extension will be accessible.

An expanded rapid transit network, with more stations and more-convenient connections between rapid transit and buses, encourages and supports more-spontaneous trip-making.

This is an important part of making the conventional system attractive to potential new customers, including Wheel-Trans registrants, and to all travellers in Toronto. This supports the TTC's family of services strategy and the Accessible for Ontarians with Disabilities Act (AODA) objectives of more-spontaneous travel options for customers with disabilities. It also supports the City's Poverty Reduction Strategy objectives of making transit more accessible and attractive to everyone, as a means of improving access to employment, educational, and cultural opportunities.

The bus routing changes proposed in this report will also improve access to rapid transit for residents in Neighbourhood Improvement Areas in northwest Toronto and improve connections to opportunities and destinations across the city.

## Comments

The following section describes the new subway service and proposed routing changes to bus services including regular service, overnight network, and contract services in York Region.

### Subway Service

Line 1 Extension will extend subway service on Line 1 YONGE-UNIVERSITY from Sheppard West (formerly Downsview) Station northwest to Vaughan Metropolitan Centre Station. There are six new stations along the extension:

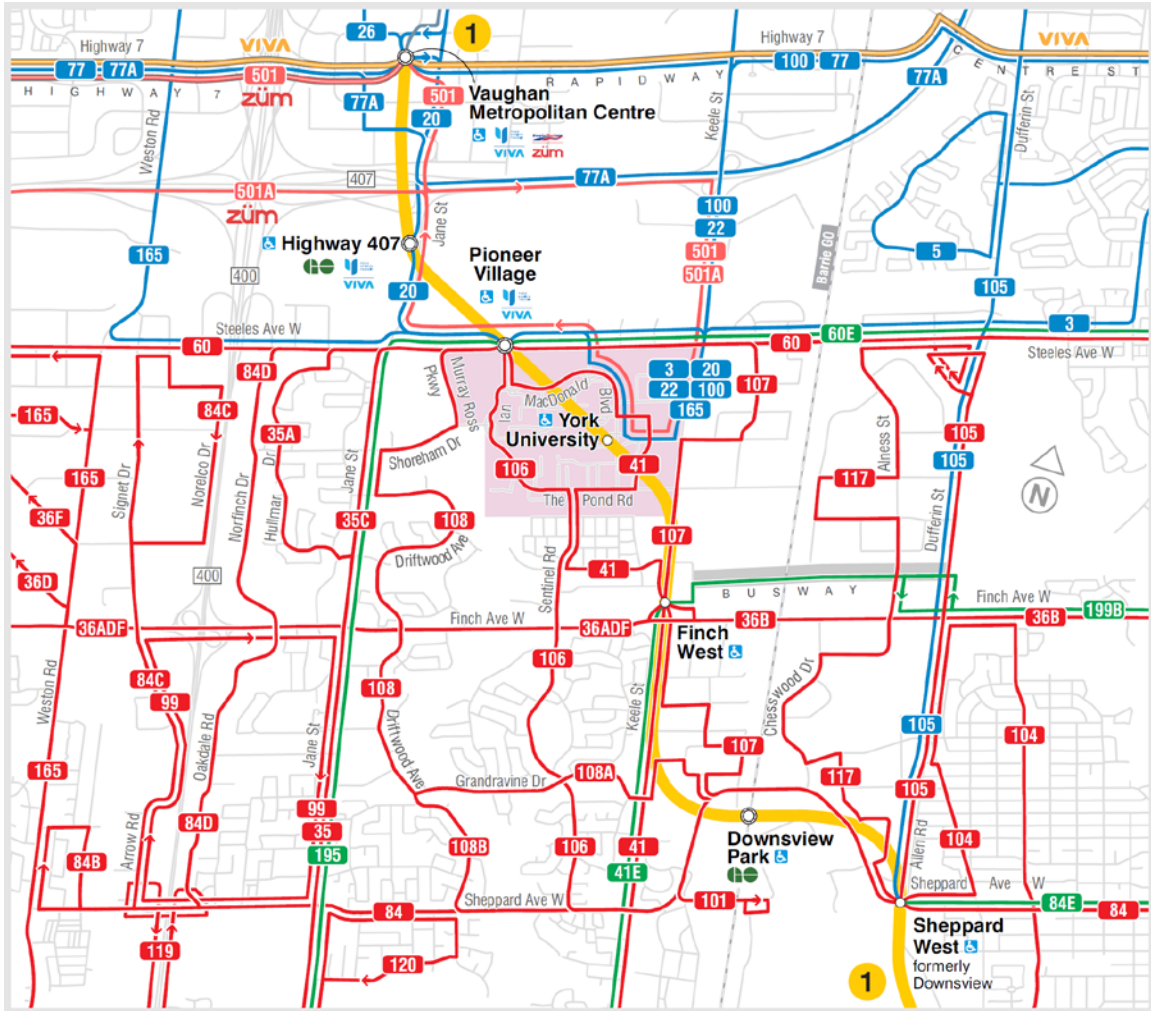
- **Downsview Park:** Located south of Sheppard Avenue West, adjacent to the Barrie GO Line
- **Finch West:** Located at the intersection of Keele Street and Finch Avenue West
- **York University:** Located at York Commons within York University
- **Pioneer Village:** Located at Northwest Gate and Steeles Avenue, east of Jane Street, within York University
- **Highway 407:** Located south of Highway 407 and west of Jane Street in York Region
- **Vaughan Metropolitan Centre:** Located at Highway 7 and Millway Avenue, west of Jane Street, in York Region

The subway extension will provide new rapid transit access to residents and businesses in northwest Toronto and beyond, and will be operational in December 2017. Subway service at the six new stations will operate in the same operating periods as the existing subway network. Toronto Rocket trains will be extended to operate to Vaughan Metropolitan Centre Station, and will be the first section of the subway network to phase-in operation of the new Automatic Train Control (ATC) system. ATC is planned to be fully installed on Line 1 by 2019 and will be fully optimized by 2020. Travel time from Sheppard West Station to Vaughan Metropolitan Centre Station will take approximately 13 to 14 minutes.

### Bus Service – Regular Service

Routings for local bus routes in the vicinity of the new subway extension will change in order to connect customers with the new rapid transit stations. **Exhibit 1** shows the recommended TTC bus route connections along the new subway extension along with connections to transit partners at YRT/Viva, Brampton Transit, and GO Transit.

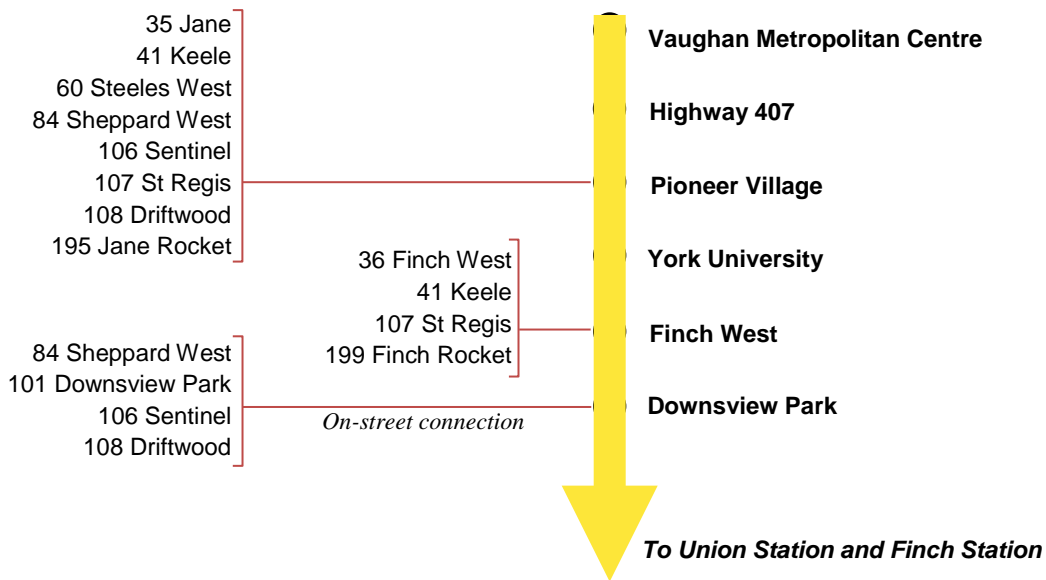
**Exhibit 1– Recommended TTC bus network with Line 1 Extension**



Please see **Appendix A** for the full map including the legend and route list.

The proposed bus routing changes will provide customers with connections to new rapid transit and improve customer journey times. All major streets with existing TTC bus service will continue to be served. The subway extension will include two new bus terminals in Toronto at Pioneer Village Station and at Finch West Station. The bus terminal at Pioneer Village Station has 12 bus bays for the TTC, and will be occupied by most of the bus routes that currently operate to York Commons in York University. The bus terminal at Finch West Station has six bus bays. On-street connections will be available at Downsview Park Station and York University Station. Transit partners at York Region Transit/Viva, Brampton Transit, and GO Transit will serve the bus terminal facilities in York Region at Pioneer Village Station, Highway 407 Station, and Vaughan Metropolitan Centre Station.

The proposed TTC bus route connections at each of the new stations are summarized below:



The 196 YORK UNIVERSITY ROCKET express bus route, which currently operates between Sheppard-Yonge Station, Sheppard West Station, and York University, will be discontinued, as the major part of the route duplicates the new subway extension. Express service will continue to be provided between Sheppard-Yonge Station and Sheppard West Station by a new 84E SHEPPARD WEST (Sheppard-Yonge Stn–Sheppard West Stn) branch, with the same hours of operation as the present service.

The planning principles for the recommended network are based on the TTC’s service standards and are described in **Appendix B**. The proposed service levels and periods of operation for the bus route changes will be similar to current service levels. As ridership on the new network stabilizes and customers adjust their travel patterns with the new subway extension, new ridership counts and customer feedback will be collected and reviewed, and the service will be further adjusted if required.

A full description of the recommended bus routing changes is described in **Appendix C**.

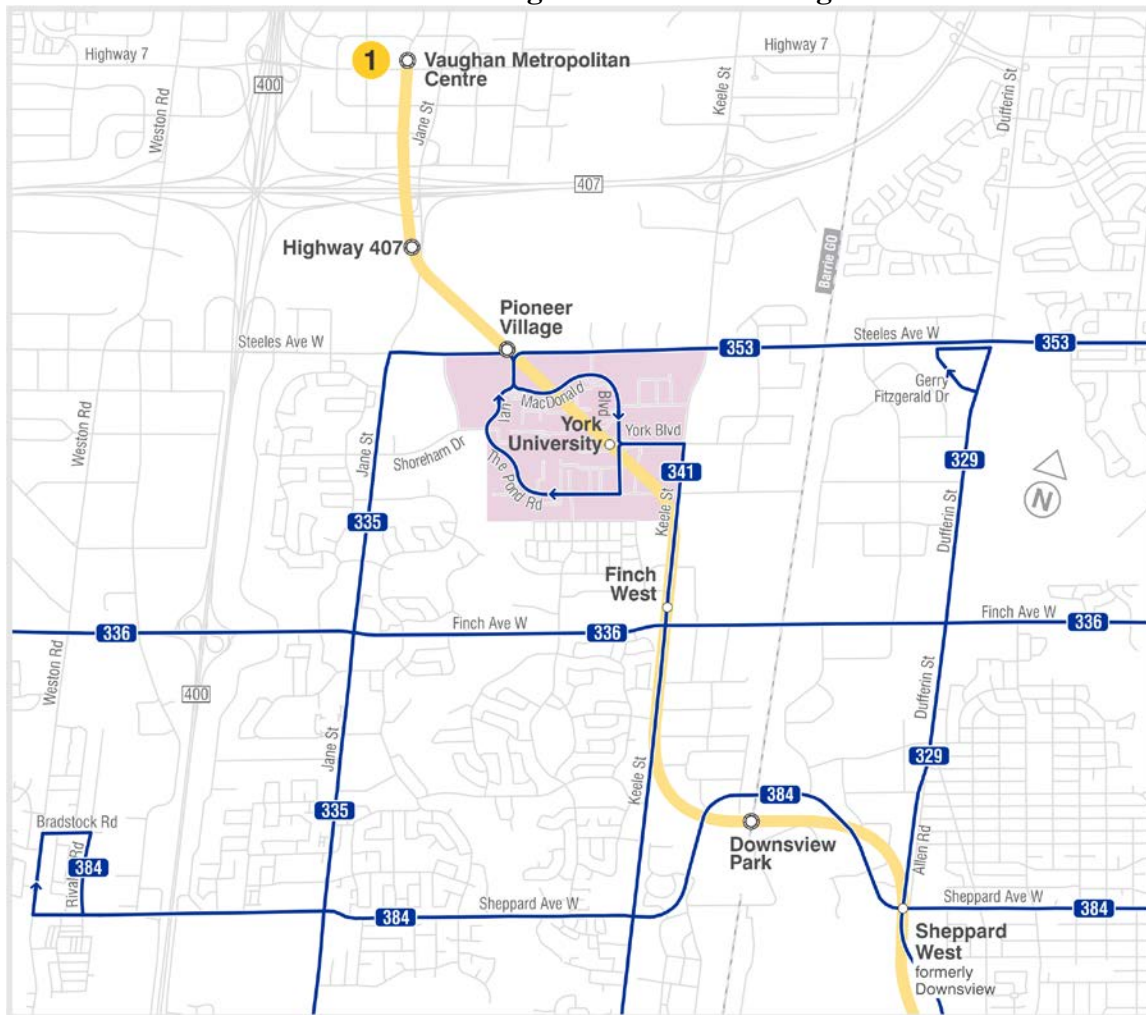
The recommended bus routing changes will also require stop adjustments at some locations. New stops will be required to support the new routings, and some existing stops will be consolidated in order to improve stop spacing, pedestrian sightlines, accessibility, and/or support new bus movements. Stops that are no longer required will also be retired from service. These bus stop changes are summarized in **Appendix D**.

### **Bus Service - Overnight Network**

After subway service ends, the TTC will continue to operate an extensive overnight bus network in the area of the new subway extension. The overnight routes that are in this area, the 335 JANE, 341 KEELE, and 353 STEELES, will continue to provide service to

York University. Coverage by the overnight routes will expand to cover the ring road around York University campus. There will be no changes to the other overnight routes in this area, including the 329 DUFFERIN, 336 FINCH WEST, and 384 SHEPPARD WEST. The recommended overnight network is shown in **Exhibit 2**.

**Exhibit 2– Recommended TTC overnight bus network along Line 1 Extension**



**Contract Services in York Region**

York Region Transit (YRT)/Viva will reduce the number of bus routes currently operated by the TTC in York Region, on a contractual basis, after the subway extension is open. The services north of Steeles Avenue that will no longer be contracted by YRT/Viva include Weston Road, Jane Street, Keele Street, and Dufferin Street.

YRT/Viva will instead operate its own service on those corridors, north of Steeles Avenue, and customers will continue to have access to public transit services. All streets with existing transit service will continue to be served, and customers will have the same access to areas currently served by the TTC contract routes. Service levels will be similar to existing services.

Customers who travel between municipalities may transfer between the TTC and YRT/Viva at the new connecting stations or at on-street stops along Steeles Avenue. The table below describes the existing contract routes and the planned YRT/Viva replacement.

<b>Table 1. New YRT/Viva replacement services for TTC contract routes</b>		
<b>Existing TTC contract routes</b>	<b>New YRT/Viva replacement routes</b>	<b>New connecting station</b>
35 JANE	Route 20 – Jane Route 26 – Maple Local	Vaughan Metropolitan Centre Station Pioneer Village Station
105 DUFFERIN	Route 105 – Dufferin	Sheppard West Station
107 KEELE NORTH	Route 107 – Keele	Pioneer Village Station
165 WESTON RD NORTH	Route 165 – Weston	Pioneer Village Station

As is done elsewhere in Toronto, YRT/Viva buses that carry customers across the municipal boundary will not provide local service in Toronto. YRT/Viva buses will drop off customers outside the fare-paid areas of the TTC stations. YRT/Viva customers who do not connect to TTC services will have a one-seat, one-fare ride to their destinations in Toronto.

**Fare Integration with Transit Partners**

TTC, Metrolinx and transit providers across the Greater Toronto and Hamilton Area (GTHA) continue to work on a regional fare strategy. The result will be a consistent approach to transit fares and will remove barriers and enable transit to be perceived and experienced as one network. Metrolinx is targeting to deliver a recommendation in late 2017. Concurrently, discussions between Metrolinx and the province are ongoing regarding an interim solution to resolve the double fare between YRT/Viva-TTC and GO-TTC for the opening of the Line 1 Extension.

**Customer Engagement**

Customer and stakeholder engagement about the TTC bus route changes started in November 2016. Concept plans of the proposed bus routing changes were presented through a series of public consultations to solicit feedback from customers and community stakeholders. An online survey was developed to collect feedback on the plan, and a series of in-person engagement sessions (*Meet the Planners*) were also carried out at various locations in the community including York University, Downsview Station, Finch Station, and Yorkgate Mall. The in-person engagement sessions were held jointly with Planners from York Region Transit, with support from the local BIA and councillor’s office, so that existing and potentially new customers were presented with fulsome information on the proposed changes to the transit network.

Overall, the strong majority of feedback received on the proposed bus routing changes were positive. Where feasible, some recommendations in this report have been refined to reflect feedback from the public consultations. Feedback from the customer engagement process led to the routing change on the 41 KEELE route to operate via Murray Ross



Parkway and Sentinel Road, in order to improve transit access to residents in the Village at York University neighbourhood. Feedback was also received on renaming some bus routes to better reflect the neighbourhoods that they serve. In response, the following route name changes are recommended:

<b>Existing route name</b>	<b>Recommended route name</b>
106 YORK UNIVERSITY	106 SENTINEL
107 KEELE NORTH	107 ST REGIS
108 DOWNSVIEW	108 DRIFTWOOD
117 ALNESS	117 ALNESS-CHESSWOOD

A full description of the activities of the consultations, including key findings, is described in **Appendix E**.

### **Conclusion**

This report describes the new subway service and proposed routing changes to bus services. The bus routing changes recommended in this report will improve access to rapid transit for customers in northwest Toronto and improve their journey times on the TTC. After ridership patterns on the new network stabilizes, and customers adjust their travel with the new subway and bus routes, new ridership counts will be collected and reviewed. Future adjustments and refinements to the bus route network will be made, as required, as part of the regular service planning process.

### **Contact**

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### **Attachments**

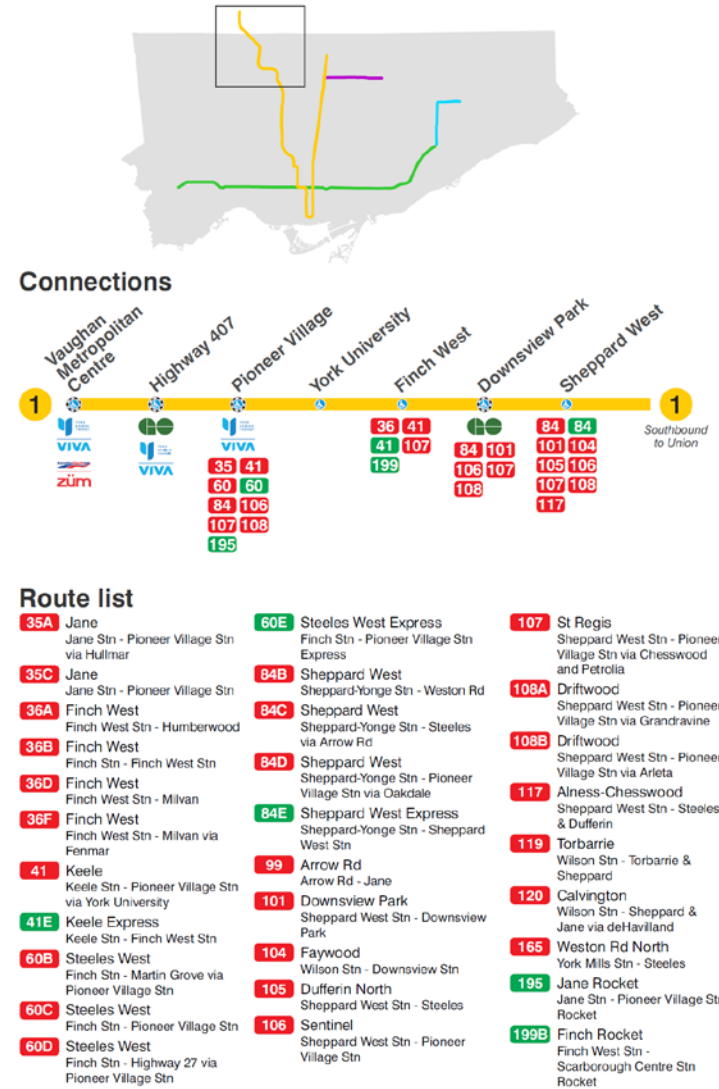
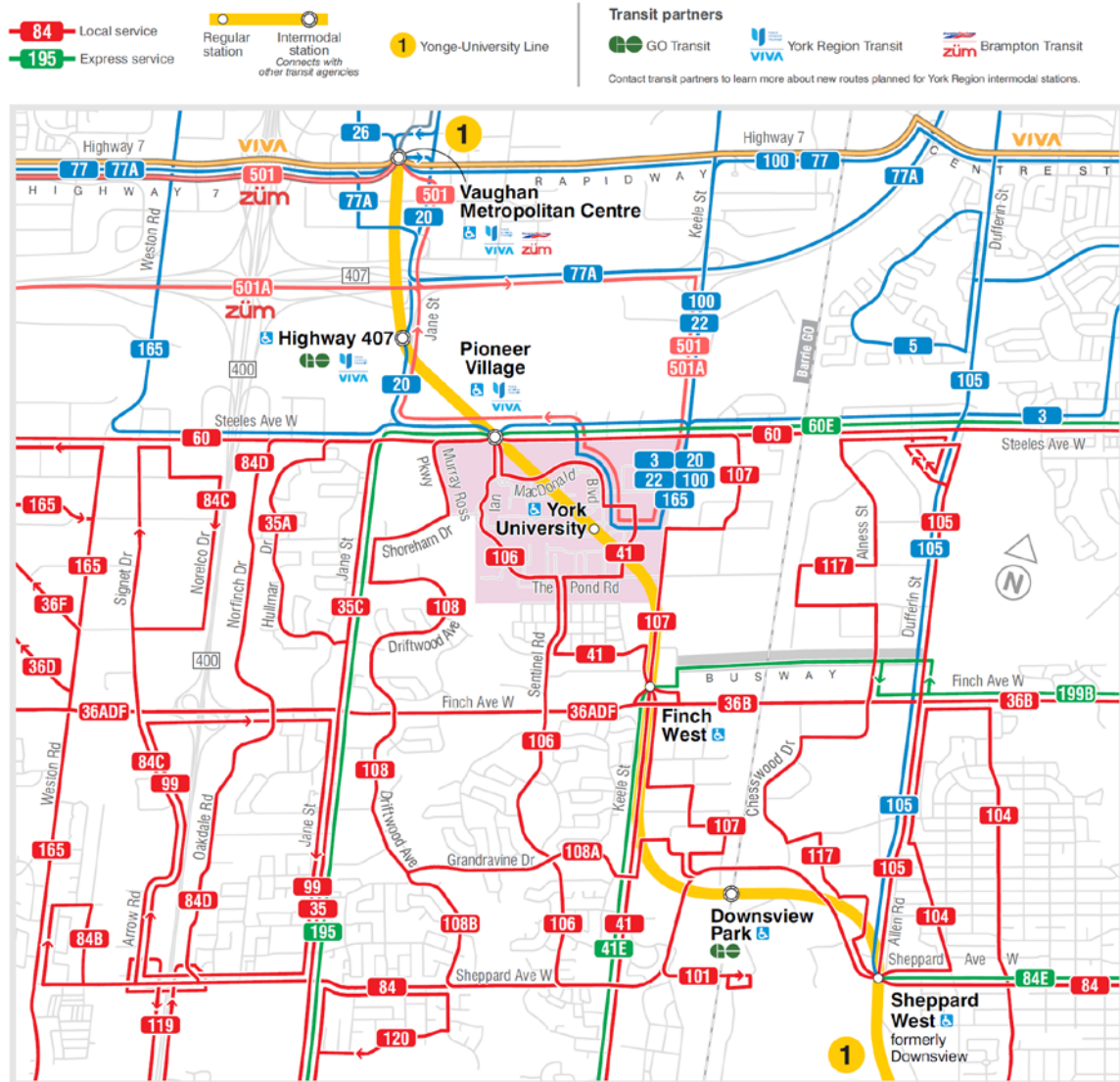
- Appendix A – Recommended TTC routes in vicinity of Line 1 extension map
- Appendix B – Network principles and rationale
- Appendix C – Detailed routing descriptions
- Appendix D – Summary of stop adjustments
- Appendix E – Summary of customer engagement



# Appendix A



## Recommended TTC bus routes in vicinity of Line 1 subway extension



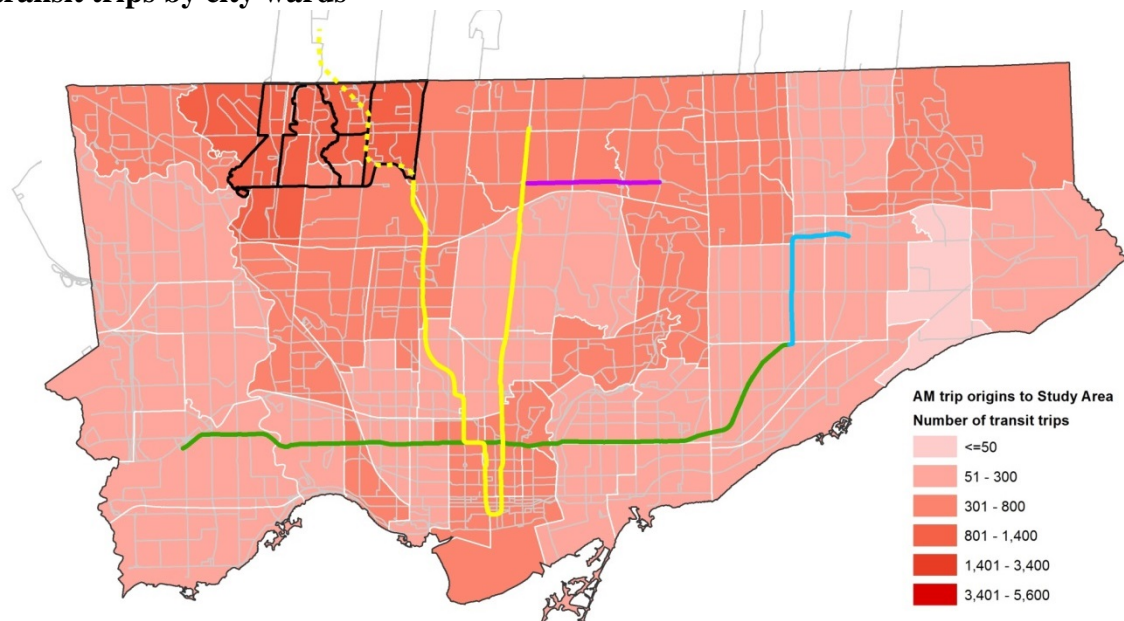
## Appendix B – Network principles and rationale

### *Strengthening the grid and maximizing connections to new subway stations*

The TTC operates a comprehensive grid network of bus and streetcar services that connect to rapid transit stations. The recommended routing changes in this report support and strengthen this network. Where possible, bus routes that are in the vicinity of new subway stations are routed to provide new connections to the subway. At stations that have bus terminal facilities, nearby bus routes are extended to serve the stations more directly. Routing to bus terminal facilities also improves the ability to operate two-way service on bus routings. The recommended bus network will provide new two-way service along Murray Ross Parkway, Shoreham Drive, Driftwood Avenue, Petrolia Drive, Canarctic Drive, Alness Street, and Ian MacDonald Boulevard.

Customer travel patterns were modelled in GIS (geographic information systems) to see how customers currently travel on transit in the areas near the new subway extension. The areas that were modelled include the Emery employment area, Jane and Finch neighbourhood, York University, York Village, and the Dufferin and Keele employment area. The GIS findings showed that customers in this area have higher travel demand with areas in the east and west, and also have high demand for subway access. The GIS findings confirmed that customers in this area would be well-served by strengthening the grid in the area and providing improved connections to the subway. A map from the travel patterns analysis is shown in **Exhibit 3**.

### **Exhibit 3– Travel patterns analysis, AM trip origins to area near Line 1 Extension – transit trips by city wards**



*Improving efficiency in areas where new subway service may replace existing bus service*

New subway service to Vaughan Metropolitan Centre Station will replace the need to operate some existing bus services. As noted in the report above, the service by the 196 YORK UNIVERSITY ROCKET express bus route will be mostly duplicated by the new subway extension and will be removed. Express service will continue to be provided between Sheppard-Yonge Station and Sheppard West Station by a new 84E Sheppard West (Sheppard-Yonge Stn–Sheppard West Stn Express) branch, with the same hours of operation as the present service. Resource savings from removing the 196 route will be reallocated as required to other parts of the transit network.

*Overall improvement for customers*

As with other service planning decisions, routing changes are recommended only if they result in overall benefit for customers. The net benefit is measured by estimating the change in weighted travel time for customers. The components of weighted travel time include –waiting for the vehicle; walking to the transit stop; riding in the vehicle; and, transferring from one route to another. Each is weighted differently, according to how each is perceived by customers and how it affects customers’ travel decisions.

As noted in the report above, wait times for bus services will be similar to existing levels. The Dufferin Street corridor will have increased local service operating between Sheppard West Station and Steeles Avenue to offset the retirement of the 196 YORK UNIVERSITY ROCKET, which currently provides express service between Sheppard West Station and Finch Avenue along Dufferin Street.

As most major streets with existing transit service will continue to be served, there are minimal walk time changes for customers. Although some stop adjustments will result in the relocation or removal of stops, which means a change in a customer’s walk to or from transit, the overall benefits of the routing changes are projected to outweigh such inconveniences. For example, in the area between York Boulevard and Steeles Avenue on Keele Street, one stop will be removed. Customers that use this stop will have to walk between 270m to 450m to the next closest stop. This affects approximately 20 customers. This inconvenience is offset by introducing new service through the employment area next to it on Canarctic Drive and Petrolia Drive with new service all day, every day, operating in both directions. This will benefit approximately 300 customers.

In-vehicle journey times are projected to remain about the same, or will likely decrease if customers are transferring to the subway. The new bus network may also introduce new transfers to customers’ journeys, but this will be monitored and evaluated when new ridership information becomes available.

Overall, the recommendations in this report are projected to improve the overall travel time for customers. New ridership counts will be collected and reviewed as part of the regular service planning process and future adjustments to the transit network will be made, if required, to ensure that customers’ mobility is being maximized.

## Appendix C – Detailed routing descriptions

Note that there are no changes proposed to routes and services not mentioned in the text below.

### 35 JANE

- 35A (Jane Stn-Pioneer Village Stn via Hullmar)
  - Northbound
    - From Jane Station via south on Armadale Avenue, west on Bloor Street, north on Jane Street, west on York Gate, north and east on Hullmar Drive, north on Peter Kaiser Gate, and east on Steeles Avenue West to Pioneer Village Station
  - Southbound
    - From Pioneer Village Station via west on Steeles Avenue West, south on Peter Kaiser Gate, west and south on Hullmar Drive, east on York Gate, and south on Jane Street to Jane Station
- 35C (Jane Stn-Pioneer Village Stn)
  - Northbound
    - From Jane Station via south on Armadale Avenue, west on Bloor Street, north on Jane Street, and east on Steeles Avenue West to Pioneer Village Station
  - Southbound
    - From Pioneer Village Station via west on Steeles Avenue West, and south on Jane Street to Jane Station

### 36 FINCH WEST

- 36A (Finch West Stn-Humberwood)
  - Eastbound
    - From Humberwood Loop via east on Humberwood Boulevard, east on Humberline Drive, north on Humber College Boulevard, east on Finch Avenue West, north on Tangiers Road, west on Four Winds Drive to Finch West Station
  - Westbound
    - From Finch West Station via west on Four Winds Drive, south on Keele Street, west on Finch Avenue West, south of Humber College Boulevard, west on Humberline Drive, and south on Humberwood Boulevard to Humberwood Loop
- 36B (Finch Stn-Finch West Stn)
  - Eastbound
    - From Finch West Station via east on Four Winds Drive, south on Tangiers Road, east on Finch Avenue West to Finch Station
  - Westbound
    - From Finch Station via west on Finch Avenue West, north on Tangiers Road, west on Four Winds Drive to Finch West Station
- 36D (Finch West Stn-Weston Rd and Milvan Dr)
  - Eastbound
    - From Toryork Drive and Milvan Drive via south on Milvan Drive, east on Finch Avenue West, north on Tangiers Road, west on Four Winds Drive to Finch West Station

- Westbound
  - From Finch West Station via west on Four Winds Drive, south on Keele Street, west on Finch Avenue West, north on Weston Road, and west on Toryork Drive to Toryork Drive and Milvan Drive
- 36F (Finch West Stn-Weston Rd-Milvan Dr via Fenmar)
  - Eastbound
    - From Toryork Drive and Milvan Drive via south on Milvan Drive, east on Finch Avenue West, north on Tangiers Road, west on Four Winds Drive to Finch West Station
  - Westbound
    - From Finch West Station via west on Four Winds Drive, south on Keele Street, west on Finch Avenue West, north on Weston Road, west on Fenmar Drive, south on Ormont Drive, and west on Toryork Drive to Toryork Drive and Milvan Drive

#### 41 KEELE

- 41A (Keele Stn-Pioneer Village Stn)
  - Northbound
    - From Keele Station via north on Keele Street, east on St Clair Avenue West, north on Old Weston Road, west on Rogers Road, north on Keele Street, west on Murray Ross Parkway, north on Sentinel Road, east on The Pond Road, north on James Gilles Street, north and west on Vanier Lane, north and west on Ian MacDonald Boulevard, north on Northwest Gate to Pioneer Village Station
  - Southbound
    - From Pioneer Village Station via south on Northwest Gate, east and south on Ian MacDonald Boulevard, east and south on Vanier Lane, south on James Gilles Street, west on The Pond Road, south on Sentinel Road, east on Murray Ross Parkway, south on Keele Street, west on Rogers Road, south on Weston Road, and south on Keele Street to Keele Station
- 41E (Keele Stn-Finch West Stn Express)
  - Northbound
    - From Keele Station via north on Keele Street, east on St Clair Avenue West, north on Old Weston Road, west on Rogers Road, north on Keele Street to Finch West Station
  - Southbound
    - From Finch West Station via south on Keele Street, west on Rogers Road, south on Weston Road, and south on Keele Street to Keele Station

#### 60 STEELES WEST

- 60B (Finch Stn-Martin Grove via Pioneer Village Stn)
  - Eastbound
    - From Martin Grove Loop via east on Steeles Avenue West, through Pioneer Village Station, continuing east on Steeles Avenue West, and south on Yonge Street to Finch Station

- Westbound
  - From Finch Station via north on Yonge Street, west on Steeles Avenue West, through Pioneer Village Station, and continuing west on Steeles Avenue West to Martin Grove Loop
- 60C (Finch Stn-Pioneer Village Stn)
  - Eastbound
    - From Pioneer Village Station via east on Steeles Avenue West, and south on Yonge Street to Finch Station
  - Westbound
    - From Finch Station via north on Yonge Street, and west on Steeles Avenue West to Pioneer Village Station
- 60D (Finch Stn-Highway 27 via Pioneer Village Stn)
  - Eastbound
    - From Signal Hill Avenue and Steeles Avenue West via east on Steeles Avenue West, through Pioneer Village Station, continuing east on Steeles Avenue West, and south on Yonge Street to Finch Station
  - Westbound
    - From Finch Station via north on Yonge Street, west on Steeles Avenue West, through Pioneer Village Station, and continuing west on Steeles Avenue West to Signal Hill Avenue and Steeles Avenue West
- 60E (Finch Stn- Pioneer Village Stn Express)
  - Eastbound
    - From Pioneer Village Station via east on Steeles Avenue West, and south on Yonge Street to Finch Station
  - Westbound
    - From Finch Station via north on Yonge Street, and west on Steeles Avenue West to Pioneer Village Station

#### 84 SHEPPARD WEST

- 84D (Sheppard-Yonge Stn-Pioneer Village Stn via Oakdale)
  - Eastbound
    - From Pioneer Village Station via west on Steeles Avenue West, south on Norfinch Drive, south on Oakdale Road, east on Sheppard Avenue West, through Sheppard West Station, and continuing east on Sheppard Avenue West to Sheppard-Yonge Station
  - Westbound
    - From Sheppard-Yonge Station via west on Sheppard Avenue West, through Sheppard West Station, continuing west on Sheppard Avenue West, north on Oakdale Road, north on Norfinch Drive, and east on Steeles Avenue West to Pioneer Village Station
- 84E (Sheppard-Yonge Stn-Weston Rd Express)
  - Eastbound
    - From Sheppard West Station via east on Sheppard Avenue West to Sheppard-Yonge Station
  - Westbound

- From Sheppard-Yonge Station via west on Sheppard Avenue West to Sheppard West Station
  - Stops at: Sheppard-Yonge Station, Brentwood Ave/Easton Rd, Bathurst Street (both sides), Wilmington Ave/Faywood Blvd, Sheppard West Station

105 DUFFERIN NORTH

- Northbound
  - From Sheppard West Station via north on Allen Road, north on Dufferin Street, and west on Gerry Fitzgerald Drive to Steeles Avenue West
- Southbound
  - From Gerry Fitzgerald Drive and Steeles Avenue West via east on Steeles Avenue West, south on Dufferin Street, and south on Allen Road to Sheppard West Station

106 SENTINEL

- Northbound
  - From Sheppard West Station via west on Sheppard Avenue West, north on Sentinel Road, west and north on The Pond Road, north on Ian MacDonald Boulevard, and north on Northwest Gate to Pioneer Village Station
- Southbound
  - From Pioneer Village Station via south on Northwest Gate, west and south on Ian MacDonald Boulevard, south on The Pond Road, south on Sentinel Road, and east on Sheppard Avenue West to Sheppard West Station

107 ST REGIS

- Northbound
  - From Sheppard West Station via west on Sheppard Avenue West, north on Tuscan Gate, east on St Regis Crescent, north on Bakersfield Street, west on St Regis Crescent North, north on Ceramic Road, west on Lepage Court, north on Keele Street, east on Canarctic Drive, north on Petrolia Road, and west on Steeles Avenue West to Pioneer Village Station
- Southbound
  - From Pioneer Village Station via east on Steeles Avenue West, south on Petrolia Road, west on Canarctic Drive, south on Keele Street, east on Lepage Court, south on Ceramic Road, east on St Regis Crescent North, south on Bakersfield Street, west on St Regis Crescent, south on Tuscan Gate, and east on Sheppard Avenue West to Sheppard West Station

108 DRIFTWOOD

- 108A (Sheppard West Stn-Pioneer Village Stn via Grandravine Dr)
  - Northbound
    - From Sheppard West Station via west on Sheppard Avenue West, north on Tuscan Gate, west on St Regis Crescent, south on Keele Street, west on Grandravine Drive, north on Driftwood Avenue, north on Jane Street, east on Shoreham Drive, north on Murray Ross Parkway, and east on Steeles Avenue West to Pioneer Village Station
  - Southbound



- From Pioneer Village Station via west on Steeles Avenue West, south on Murray Ross Parkway, west on Shoreham Drive, south on Jane Street, south on Driftwood Avenue, east on Grandravine Drive, north on Keele Street, east on St Regis Crescent, south on Tuscan Gate, and east on Sheppard Avenue West to Sheppard West Station
- 108B (Sheppard West Stn-Pioneer Village Stn via Arleta Ave)
  - Northbound
    - From Sheppard West Station via west on Sheppard Avenue West, north on Arleta Avenue, north on Driftwood Avenue, north on Jane Street, east on Shoreham Drive, north on Murray Ross Parkway, and east on Steeles Avenue West to Pioneer Village Station
  - Southbound
    - From Pioneer Village Station via west on Steeles Avenue West, south on Murray Ross Parkway, west on Shoreham Drive, south on Jane Street, south on Driftwood Avenue, south on Arleta Avenue, and east on Sheppard Avenue West to Sheppard West Station

#### 117 ALNESS-CHESSWOOD

- Northbound
  - From Sheppard West Station via west on Sheppard Avenue West, north of Kodiak Crescent, north on Whitehorse Road, west on Steeprock Drive, north on Chesswood Drive, east on Champagne Drive, north of Alness Street, west on Martin Ross Avenue, north on Flint Road, east on Supertest Road, north on Alness Street, east on Steeles Avenue West, south on Dufferin Street, and west on Gerry Fitzgerald Drive
- Southbound
  - From Gerry Fitzgerald Drive and Dufferin Street via west on Gerry Fitzgerald Drive, west on Steeles Avenue West, south on Alness Street, west on Supertest Road, south on Flint Road, east on Martin Ross Avenue, south on Alness Street, west on Champagne Drive, south on Chesswood Drive, east on Steeprock Drive, south on Whitehorse Drive, south on Kodiak Crescent, and east on Sheppard Avenue West to Sheppard West Station

#### 195 JANE ROCKET

- Northbound
  - From Jane Station via south on Armadale Avenue, west on Bloor Street, north on Jane Street, and east on Steeles Avenue West to Pioneer Village Station
- Southbound
  - From Pioneer Village Station via west on Steeles Avenue West, and south on Jane Street to Jane Station

#### 199B FINCH ROCKET

- Eastbound
  - From Finch West Station via east on Busway, south on Alness Street, east on Finch Avenue West to Finch Station, continuing to Scarborough Centre

Station via east on Finch Avenue East, south on McCowan Road to Scarborough Centre Station

- Westbound
  - From Scarborough Centre Station via north on McCowan Road, west on Finch Avenue East to Finch Station, continuing to Finch West Station via west on Finch Avenue West, north on Dufferin Street, west on Busway to Finch West Station

#### 335 JANE

- Northbound
  - From Jane Station via south on Armadale Avenue, west on Bloor Street, north on Jane Street, east on Steeles Avenue West, south on Northwest Gate, and east and south on Ian MacDonald Boulevard to Chimneystack Road
- Southbound
  - From Chimneystack Road and Ian MacDonald Boulevard via south on Ian MacDonald Boulevard, west and north on The Pond Road, north on Ian MacDonald Boulevard, north on Northwest Gate, west on Steeles Avenue West, and south on Jane Street to Jane Station

#### 341 KEELE

- Northbound
  - From Keele Station via north on Keele Street, east on St. Clair Avenue West, north on Old Weston Road, northwest on Rogers Road, north on Keele Street, north on Trethewey Drive, northeast on Yore Road, north on Keele Street, west on York Boulevard, south on Ian MacDonald Boulevard, west on The Pond Road, north and east and south on Ian MacDonald Boulevard to Chimneystack Road
- Southbound
  - From Ian MacDonald Boulevard and Chimneystack Road via south on Ian MacDonald Boulevard, east on York Boulevard, south on Keele Street, southwest on Yore Road, south on Trethewey Drive, south on Keele Street, west on Rogers Road, south on Weston Road, and south on Keele Street to Keele Station

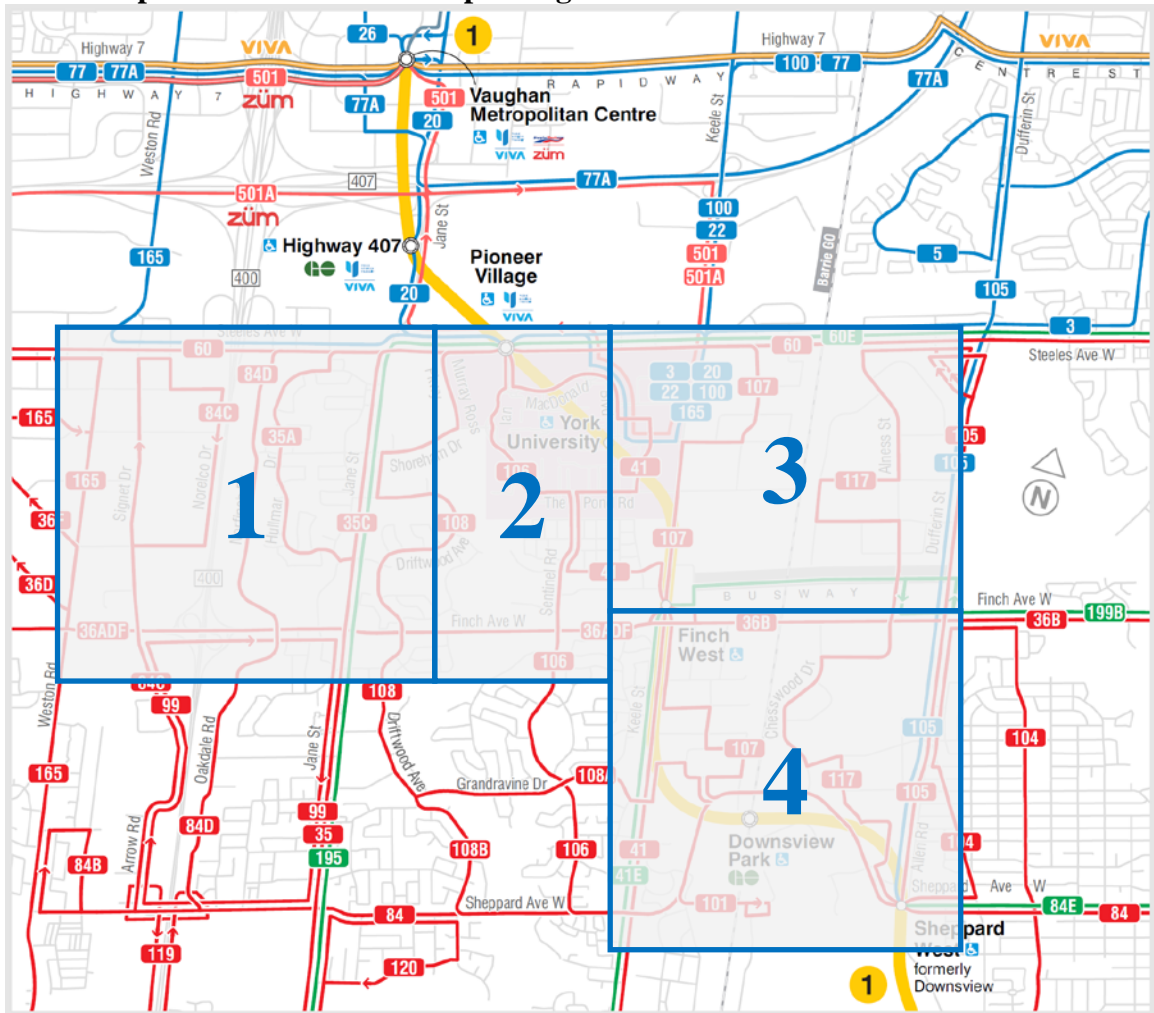
#### 353 STEELES

- Eastbound
  - From Chimneystack Road and Ian MacDonald Boulevard via south on Ian MacDonald Boulevard, west and north on The Pond Road, north on Ian MacDonald Boulevard, north on Northwest Gate, east on Steeles Avenue West, east on Steeles Avenue East, south and west on Staines Road, west on Finch Avenue East, and north on Tapscott Road to Newgale Gate.
- Westbound
  - From Tapscott Road and Newgale Gate via east on Newgale Gate, then north, east and south on Finchdene Square, east on Finch Avenue East, east and north on Staines Road, west on Steeles Avenue East, west on Steeles Avenue West, south on Northwest Gate, and east and south on Ian MacDonald Boulevard to Chimneystack Road.

## Appendix D – Summary of stop adjustments

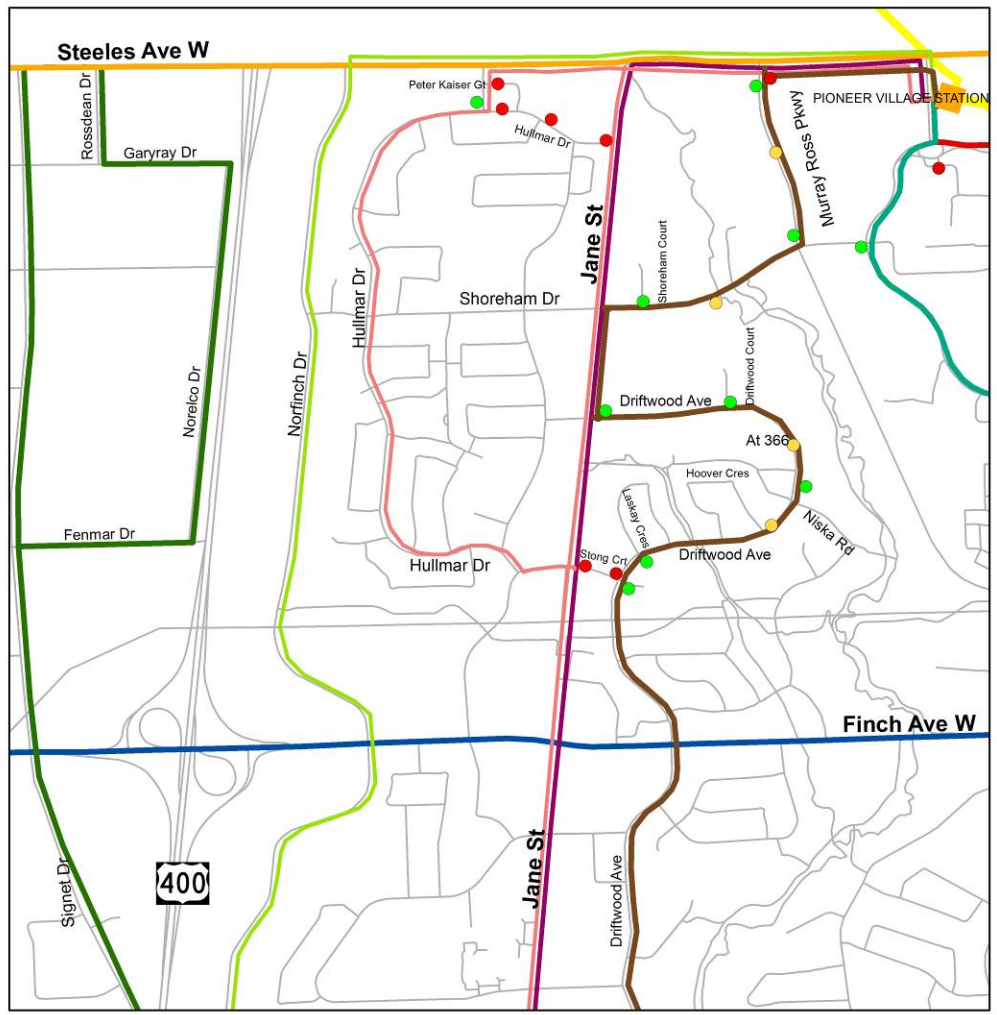
The recommended bus routing changes will require 26 new bus stops to be commissioned, 12 stops to be removed and/or relocated, 28 stops in the City of Toronto to be retired, and all stops within York Region will no longer be served by TTC contracted services. These changes have been summarized in the maps below. Subsequent site visits will be conducted to confirm stop placements and stop designs. Stops that serve multiple routes will be repeated under each route heading throughout this list. All other stops on these routes have not been changed.

### Index Map – Line 1 Extension stop changes



Please note that stops not shown on the following maps will remain unchanged

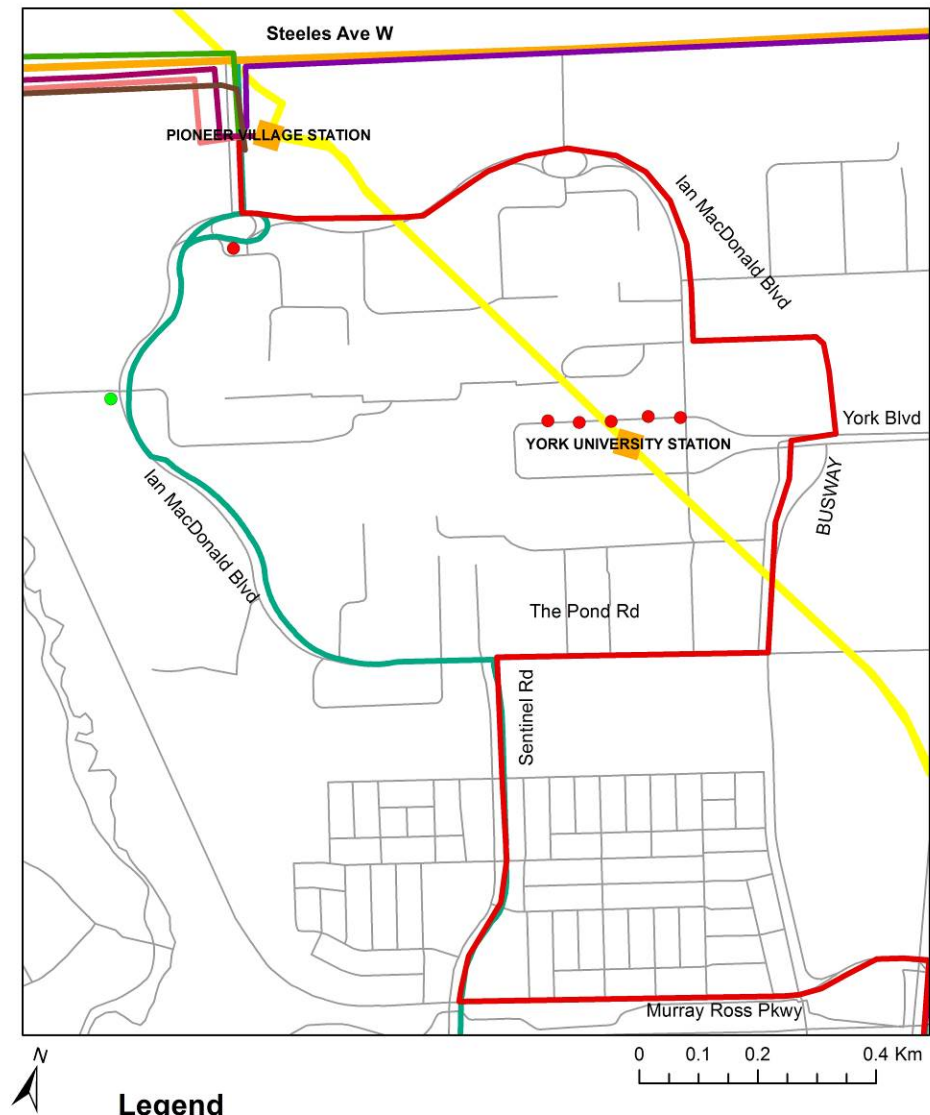
# Map 1



## Legend

- |  |   |   |
|--|---|---|
| <span style="color: green;">●</span> New Stops                     | <span style="color: pink;">—</span> 35A   | <span style="color: green;">—</span> 84C      |
| <span style="color: red;">●</span> Stop Retirements                | <span style="color: purple;">—</span> 35C | <span style="color: lightgreen;">—</span> 84D |
| <span style="color: orange;">●</span> Stop Removals or Relocations | <span style="color: blue;">—</span> 36A   | <span style="color: teal;">—</span> 106       |
| <span style="color: orange;">■</span> New Stations                 | <span style="color: red;">—</span> 41     | <span style="color: brown;">—</span> 108      |
| <span style="color: yellow;">—</span> Subway Extension             | <span style="color: orange;">—</span> 60  |   |
| <span style="color: grey;">—</span> Streets                        |   |   |

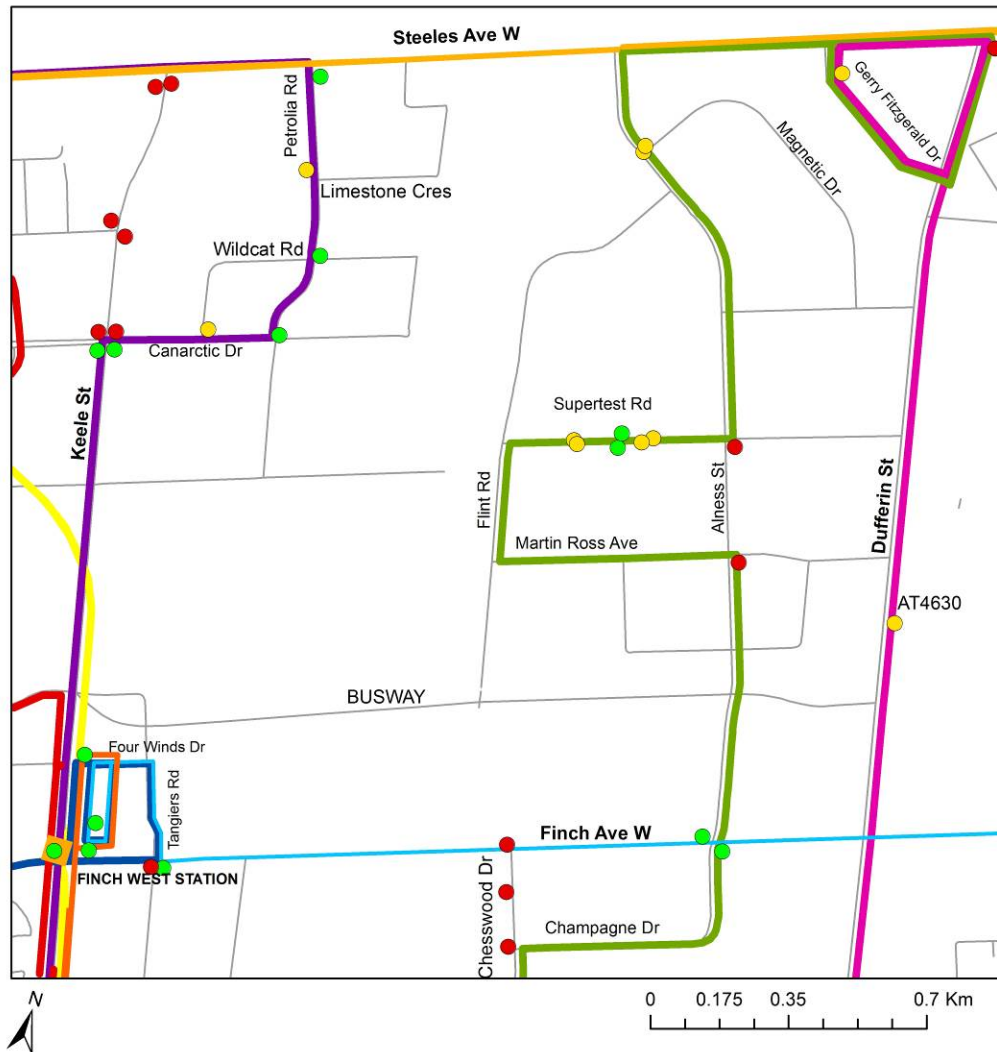
## Map 2



### Legend

- |                                |       |       |
|--------------------------------|-------|-------|
| ● New Stops                    | — 35A | — 60  |
| ● Stop Retirements             | — 35C | — 84  |
| ● Stop Removals or Relocations | — 36A | — 106 |
| ■ New Stations                 | — 36B | — 107 |
| — Subway Extension             | — 41  | — 108 |
| — Street                       | — 41E |       |

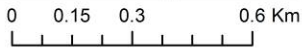
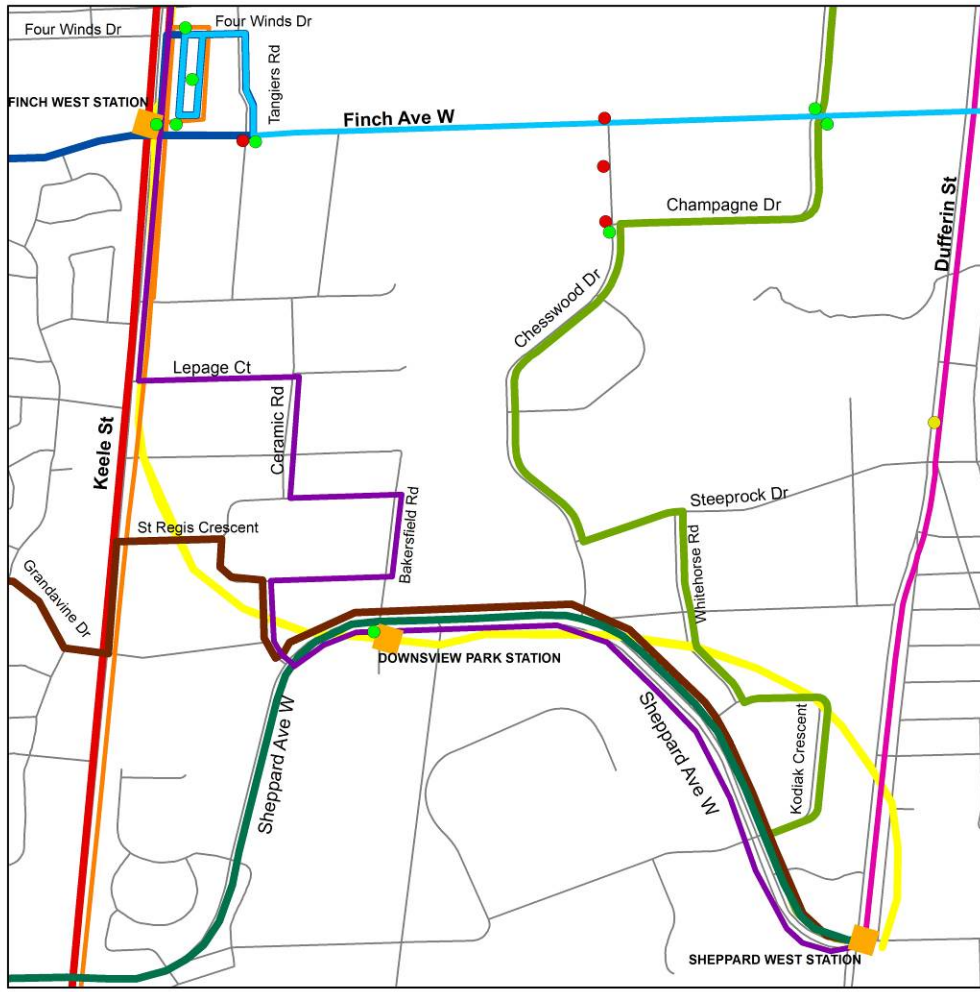
### Map 3



#### Legend

- |  |   |  |
|--|---|--|
| <span style="color: green;">●</span> New Stops                     | <span style="color: blue;">—</span> 36    | <span style="color: magenta;">—</span> 105 |
| <span style="color: red;">●</span> Stop Retirements                | <span style="color: cyan;">—</span> 36B   | <span style="color: teal;">—</span> 106    |
| <span style="color: yellow;">●</span> Stop Removals or Relocations | <span style="color: red;">—</span> 41     | <span style="color: purple;">—</span> 107  |
| <span style="color: orange;">■</span> New Stations                 | <span style="color: orange;">—</span> 41E | <span style="color: green;">—</span> 117   |
| <span style="color: yellow;">—</span> Subway Extension             | <span style="color: yellow;">—</span> 60  |  |
| <span style="color: grey;">—</span> Streets                        |   |  |

# Map 4



## Legend

- New Stops
- Stop Retirements
- Stop Removals or Relocations
- New Stations
- Subway Extension
- Streets
- 36A
- 36B
- 41
- 41E
- 105
- 106
- 107
- 108A
- 117



## Appendix E – Summary of Customer Engagement

A customer engagement plan was developed and implemented to seek feedback about the proposed routing changes from customers, local residents and businesses, and local councillors. The objective of collecting public feedback was to help refine the proposed bus routings so that the network changes will respond to the travel needs of the local community.

### Meet the Planners

A series of in-person consultation events were carried out over the course of November and December 2016 to promote the proposed routing changes and to collect feedback. Planners from the TTC and YRT/Viva set up consultation events at existing subway stations and locations that will be affected by the subway extension. Over two months, twenty consultation events were held at York University, Finch Station, Downsview Station, and Yorkgate Mall. Planners set up display boards and easels during the morning and afternoon peak periods at the subway stations and during busy class times at York University. Planners also handed out over 4,000 postcards that directed customers to the online project page and survey.

### TTC and YRT/Viva coordinated engagement at Downsview Station



### Meeting with Local Stakeholders

Meetings were held with local stakeholders, such as DUKE Heights BIA, and York University and the Citizen Empowerment Project to present and review the proposed bus routing changes. A public meeting was set up on December 15, 2016 with the support of Councillor Anthony Perruzza and DUKE Heights BIA at York Gate Mall. The proposed routing changes were also presented at the Transportation Forum for Northwest Toronto on November 30, 2016. TTC staff also presented the proposed bus routing changes to the local community at the Keele Street and Finch Avenue West area at public meetings for the *Keele Finch Plus Planning Study* on June 21, 2016 and March 7, 2017.

### Online Content

A webpage was developed on [www.ttc.ca](http://www.ttc.ca) to communicate information about the proposed changes. Maps and detailed route descriptions about the proposed changes were put online for customers to review. An online survey was also set up to collect feedback about the proposed changes. The webpage and survey were advertised on social media, on station platform video screens, and through advertisements on publications such as York Guardian and York U Excalibur.

### Online Survey

An online survey was set up to present the initial service concepts for the bus routes in the Line 1 Extension area and collect customer feedback on the proposed routing changes. The online survey also served as a platform to collect general comments and suggestions on the proposed changes. The online survey received approximately 400 responses.

Overall, the majority of survey responses were positive endorsements for the proposed network. A specific set of questions were developed for a few routes in particular to collect more in-depth feedback from customers. This included 35 JANE, 41 KEELE, 106 YORK UNIVERSITY, and 107 KEELE NORTH. These routes were chosen for further feedback because they had more opportunity for major adjustments. Respondents were asked to review the proposed routing changes in more detail so that they could comment on the potential benefits and trade-offs on different aspects of the change. The overall rating for each of the specific routes is presented in the table below.

### Overall Response to Proposed Changes by Route

Route	Supports recommendations	Have no preference	Disagrees with recommendations
35 JANE	53%	34%	12%
41 KEELE	56%	33%	11%
106 YORK UNIVERSITY	43%	27%	30%
107 KEELE NORTH	51%	27%	22%

The most significant concern that emerged from customers was on the proposed changes on the 106 YORK UNIVERSITY route. This is consistent with feedback received from Meet the Planner consultations, where customers highlighted concerns about the connection from the York Village neighbourhood to York University. In response, TTC staff re-

evaluated options for the York Village area and proposed a revised routing on the 41 KEELE route to improve the service to this neighbourhood.

### **Other Alternatives Studied**

#### *Feasibility of operating scheduled bus service to passenger pick-up drop-off at Downsview Park Station*

It is not possible to operate a bus service into the passenger pick-up and drop-off area at Downsview Park Station. The driveway is not designed to accommodate bus service and cannot support bus traffic. The radius of the bus loop is too constrained for bus movements. The bus terminal at Sheppard West Station will continue to be in operation, and customers may still transfer on-street to Downsview Park Station from Bakersfield Street and Vitti Street.

#### *Extending 84C (Sheppard-Yonge Stn-Steeles via Arrow Rd) branch to Pioneer Village Station*

Extending the 84C branch to Pioneer Village Station would result in service removal from one section of the employment area in the Signet Drive and Norelco Drive area, as the service currently operates as a large on-street loop. Operating two-way service to the subway station would mean removing service from either Signet Drive or Norelco Drive. Customers that wish to travel to Pioneer Village Station from the 84C may transfer to the 60 STEELES WEST service.

#### *Separating 106 SENTINEL to Finch West Station, in both directions*

Staff reviewed the possibility of splitting the 106 route to operate into Finch West Station in both directions. The proposed service would have two branches, one that operates from Pioneer Village Station to Finch West Station, and one from Finch West Station to Sheppard West Station.

Although the proposed alternative would provide a new connection to Finch West Station for customers on the 106 route, the resulting service, overall, is projected to be worse for customers. Although approximately 1,600 customers would have a faster connection to the subway by up to four minutes, wait times would increase by one to two minutes for approximately 7,700 customers. Approximately 800 customers that currently travel continuously through Finch Avenue West on Sentinel Road would be inconvenienced with a new transfer. In addition, Finch Avenue West will be affected by impending construction of the Finch West LRT, and any travel time benefits will be diminished. Added to this complication is the lack of bus bay availability at Finch West Station. Operating the 106 route into Finch West Station would require two additional bus bays, and currently, all of the bus bays in the station are planned to be occupied.

#### *Separating 117 ALNESS-CHESSWOOD to Finch West Station, in both directions*

Staff reviewed the possibility of splitting the 117 route to operate into Finch West Station in both directions. The proposed service would have two branches, one that operates from Steeles Avenue West to Finch West Station, and one from Finch West Station to Sheppard West Station.

The proposed alternative would increase wait times by two to four minutes for approximately 2,300 customers. It is projected that approximately 1,100 customers would have a faster trip to the subway by up to four minutes. The number of customers that may be affected by a transfer at Finch Avenue West could not be projected at this time. Overall, it is recommended that the proposed service proceed and the routing option for the 117 service will be re-evaluated as part of the regular service planning process, after the service operates to better understand ridership patterns in the new network. This routing proposal is not as negatively affected by the impending Finch West LRT construction, but the availability of bus bays at Finch West Station remains a challenge.

*Adding stop on 199B FINCH ROCKET at Alness*

At this time it is not possible to add a westbound and eastbound stop on the 199B route at Alness Street and York University Busway. Given the existing site conditions, grade and drainage issues, the feasibility of installing a westbound stop on the Busway just prior to Alness Street and an eastbound stop on Alness Street farside or south of the Busway would require further review.

TTC staff would need to work with City Transportation Services staff to address the lack of sidewalks in the area of the proposed bus stops and the lack of an east-to-west crossing on the south side of the Busway. There is also a governing agreement between the TTC and Hydro One and new approval would be required from Hydro One to construct bus stops within their corridor. In addition, due to the existing grade adjacent to the Busway approaching Alness Street and the existing guardrail, this proposed stop location will need to be reviewed by Engineering staff to determine the feasibility of installing the stop and will likely require, in addition to other site changes, a platform with a retaining wall and may be very expensive to engineer and construct.

This proposed stop location at the Busway and Alness Street meets the stop spacing guidelines in the service standards for express routes. The westbound stop would be about 780m from the previous, and the eastbound stop would be about 1.8km from the previous.