



STAFF REPORT ACTION REQUIRED

Scarborough Transit Planning Update

Date:	January 21, 2016
To:	Executive Committee
From:	Chief Planner and Executive Director, City Planning Division
Wards:	35, 36, 37, 38, 39, 40, 41, 42, 43, 44
Reference Number:	

SUMMARY

On October 8, 2013 City Council confirmed support for the Scarborough Subway Extension and directed staff to confirm the alignment and station locations through an Environmental Assessment process ([CC39.5 Scarborough Rapid Transit Options: Reporting on Council Terms and Conditions](#)).

Since City Council confirmed its support for the Scarborough Subway Extension, transit options have been refined through technical analysis and public and stakeholder consultation of the Scarborough Subway Extension Project Assessment (SSEPA). However, the context for the project has changed due to the introduction of SmartTrack and Regional Express Rail, and the timing of the Sheppard East LRT. These changing conditions present new opportunities to achieve enhanced connectivity and accessibility as part of an emerging, comprehensive transit network for Scarborough. The purpose of this report is to articulate key elements of the recommended transit network for Scarborough in advance of the March, 2016 transit network and SmartTrack report, and related decision-making.

Good transit planning is guided by priorities which reflect the policy context in which decision making must occur. In Scarborough, the priorities are:

Priority 1: Support the development of Scarborough Centre as a vibrant urban node

Toronto's Official Plan envisions Scarborough Centre as the "urban focal point for eastern Toronto where employment, housing, institutional, cultural, recreational, commercial and community services and transit will be concentrated in a dynamic mixed-use location."¹ This direction is supported at the Provincial level by the Provincial Policy Statement and the Growth Plan for the Greater Golden Horseshoe, as well as other provincial and local planning policies.

¹ Policy 1.1, [Scarborough Centre Secondary Plan](#)

In the future, the Centre will continue to develop as a meeting place: a location for cultural facilities, public institutions and major services for people from across Scarborough and neighbouring districts and municipalities. Providing excellent transit is one ingredient of a successful plan for the future of Scarborough Centre. Other improvements will be identified through the upcoming Transportation Master Plan study that will consider refinement of the street layout, greater consideration of multi-modal options including quality connections to transit, as well as the upcoming Public Art Plan that will seek to enhance the area with high quality public art in support of the City's Official Plan policies, local precinct plans and the Scarborough Centre Public Space and Streetscape Master Plan.

Providing convenient, high speed rapid transit connection to this urban growth centre is a key tenet of the City's Official Plan, to ensure Scarborough has the same degree of mobility opportunities that exist in other urban centres (such as North York and Yonge – Eglinton) and that are otherwise planned (including Six Points in Etobicoke). The key transit planning priority for Scarborough Centre is to better connect the Centre to the rest of the Toronto city region in order to:

- Encourage high-quality employment and residential growth in the Centre; and
- Enhance the accessibility of Scarborough Centre; improving the speed, reliability and convenience of transit service linking Scarborough Centre and key destinations in the Toronto city region.

Better connecting Scarborough Centre to the rest of the City and Region is crucial to its success.² The return on this significant public investment will be public and private development and economic prosperity.

Priority 2: Support the development of complete communities along the Avenues and improve local accessibility

Use transit to improve accessibility of local destinations within Scarborough to:

- Better connect people to everyday places;
- Make transit an attractive option for more journeys;
- Attract new transit riders; and
- Improve the quality of life for residents of Scarborough.

Investment in better transit, particularly along the designated Avenues, contributes to the creation of complete communities that meet people's needs for daily living, provides transportation choice and reduces auto dependency.

² Section 2.2.2 of [Toronto's Official Plan](#)

Recommended Solution

The aforementioned transit priorities for Scarborough are somewhat distinct from one another and not easily addressed by a single rapid transit line. City staff have considered how infrastructure investments and network planning could best achieve these two key transit priorities through application of a variety of planning measures including the *"Feeling Congested?"* Rapid Transit Evaluation Framework. Initial conclusions are that the shorter-term transit network for Scarborough should include:

- An extension of Line 2 (Bloor-Danforth Subway) focussed on serving Scarborough Centre via a McCowan Road alignment;
- Crosstown East - an extension of Line 5 (Eglinton Crosstown LRT) to the University of Toronto, Scarborough Campus;
- A SmartTrack station at Lawrence Avenue East; and
- Rapid transit on the Sheppard East Corridor.

This optimized solution, illustrated in Figure 1, better serves Scarborough residents in all facets, by serving Scarborough Centre with frequent, high capacity transit aimed at enhancing this key activity node, and by providing strategic linkages through the rest of Scarborough aimed at increasing accessibility to activity centres within Scarborough as well as providing convenient linkages to other parts of the City and surrounding regions. It also focuses capital funding on projects that serve the greatest mobility needs in the foreseeable future. Initial estimates indicate it is possible to construct the extension of Line 2 and the Crosstown East for a similar order-of-magnitude cost and in a similar timeframe as the three-stop Scarborough Subway extension originally proposed. The two main reasons for this is the high cost of subway stations and the fact that the Crosstown East (Scarborough-Malvern LRT) has already been through an environmental assessment process meaning that it is close to being “shovel ready”.

The recommended Scarborough transit network requires further evaluation of cost estimates. Staff will include preliminary cost estimates in future reports detailing any required changes in total project cost as compared to the original estimate.

Figure 1 - 2026 Recommended Rapid Transit network for Scarborough (including high frequency bus corridors)



RECOMMENDATIONS

The Chief Planner and Executive Director, City Planning Division recommends that:

1. Executive Committee receive this report for information, and direct the Chief Planner and Executive Director, City Planning Division, in collaboration with the TTC, to continue technical work on remaining issues for the recommended Scarborough transit network, including public consultation on the proposed network in the context of current transit planning, and report back no later than June, 2016, with findings.

Financial Impact

City Council has approved a total project cost of \$3.56 billion for the Scarborough Subway Extension. The recommended Scarborough transit network requires further evaluation of cost estimates. Staff will include preliminary cost estimates in future reports detailing any required changes in total project cost as compared to the original estimate.

Current funding commitments received for the construction of the subway extension, expressed in inflated dollars are as follows:

- Provincial government - \$1.99 billion;
- Federal government - \$660 million;
- City - estimated at \$910 million.

The implications of the proposed Scarborough transit network on these agreements is unknown at this time.

A revised City funding strategy may be required depending on the outcome of discussions with funding partners and the results of detailed project costing assessment.

Work on the Scarborough Subway Extension Project Assessment and related contracts will continue as these recommendations are being considered. It is possible that some of this work may be rendered no longer useful as the scope of the project becomes more refined and further technical work is advanced on the recommended Scarborough transit network. Project management staff will be directed to focus on advancing work that is common to various alignment scenarios and thereby mitigate and minimize "throw away" costs.

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

DECISION HISTORY

On October 8, 2013 City Council reconfirmed its support for the extension of Line 2 (Bloor-Danforth Subway) from Kennedy Station north and east to Scarborough Centre and Sheppard Avenue East ([*CC39.5 Scarborough Rapid Transit Options: Reporting on Council Terms and Conditions*](#)). The purpose of this extension is to replace the existing transit service provided by Line 3 (Scarborough Rapid Transit) and make provision for connection to future rapid transit on Sheppard Avenue East. Work undertaken for the staff report to the October 8, 2013 City Council meeting for a three-stop subway extension (Lawrence Avenue East, Scarborough Centre and Sheppard Avenue East) established a preliminary construction budget estimate of \$3.56B (escalated to the expected midpoint of construction). With this knowledge, Council confirmed funding for the project and directed staff to undertake further work to confirm the alignment and

station locations through an environmental assessment (EA) process ([CC39.5 Scarborough Rapid Transit Options: Reporting on Council Terms and Conditions](#)).

In response, the Province committed to reallocate funding for the Scarborough LRT to the Scarborough Subway Extension (although this commitment has yet to be finalized by an amendment to the Master Agreement between the City and Province).

In mid-2014, the City Planning Division, in partnership with the TTC, commenced work on the Scarborough Subway Extension Project Assessment (SSEPA) to confirm a preferred alignment and station locations as part of the Transit Project Assessment Process (TPAP).

ISSUE BACKGROUND

Since City Council confirmed its support for the Scarborough Subway Extension in October 2013, planning for the extension has proceeded, including development of alignment and station options, public consultation on the options and the methodology for analysis, and shortlisting of the options under consideration. During this time, the planning work has had to adjust to take into account the concurrent emergence of SmartTrack, firm funding commitments announced by the Provincial government for the GO Regional Express Rail (RER) program, and a pause in the development of the Sheppard East LRT.

In December, 2014, City Council directed staff to study and report back on SmartTrack ([EX1.12 Request for Report on Review of SmartTrack and Regional Express Rail Plans](#)). The vision of SmartTrack is to provide better access to jobs and other destinations via fast and frequent service on three of the seven GO Transit heavy rail corridors that run through the City of Toronto. This is to be achieved by adding new stations and offering an integrated TTC fare and service comprising at least four trains per hour. The initial focus is on a cross-city, U-shaped route from the Mississauga/Etobicoke border in the north-west to the Markham/Scarborough border in the north-east via downtown Toronto, making use of sections of the Kitchener, Lakeshore East and Stouffville lines. SmartTrack will give Scarborough residents an attractive transit option to travel to downtown Toronto and other parts of the city region.

Currently, transit in Scarborough is predominantly east/west service, on buses. Whereas today much of this bus ridership is destined for Line 1, the introduction of SmartTrack service at a TTC fare will increase ridership choice. From both the east and the west, riders will have the option to transfer both north and south onto the Smart Track corridor – thereby freeing bus capacity along the east/west corridors, redirecting riders away from the already over capacity Line 1, and providing for a shorter overall trip to the downtown core. As such, the Smart Track service concept adds important north/south capacity to the local transit network in Scarborough, which has particularly high ridership in some areas. For example, the Finch East buses carry over 40,000 riders daily, and the Lawrence East bus carries 35,000.

In April, 2015, the Province announced \$13.5B to deliver the first phase of GO Regional Express Rail (RER). The goal of this phase of RER is to improve the frequency and reliability of service across five lines of the existing GO heavy rail network. In Scarborough, this includes the electrification of the Lakeshore East and Stouffville GO corridors and more frequent GO train service.

Also in April, 2015, the Province announced that the Sheppard East LRT program, which was granted Authority to Construct under the Environmental Assessment Act in 2009, would be delayed until after the completion of the Finch West LRT. The delay of the Sheppard East LRT represents a change in the planning context for the Scarborough Subway Extension, since one of the key considerations of the extension was to provide network connectivity to future rapid transit on Sheppard Avenue East.

These changes represent challenge and opportunity. In terms of opportunity, they offer a chance to consider refinements to Scarborough's emerging transit plan and in particular, to consider how to best capitalize on existing infrastructure funding commitments whilst considering the need to address existing and future ridership, and how to ensure transit coverage and accessibility is provided to the greatest extent possible in the near term. In effect, this has become an underlying objective of the work currently underway as part of the Scarborough Subway Extension Study, and consideration of SmartTrack and RER in Scarborough. This report reflects the findings of this most recent work and is being advanced at this time to ensure a coordinated dialogue takes place within the March, 2016, staff report on transit network optimization, including SmartTrack.

COMMENTS

1. POLICY CONTEXT

One of the key objectives of recent transit planning for Scarborough has been the delivery of a new rapid transit link between Kennedy Station on Line 2 (Bloor-Danforth Subway) and Scarborough Centre, to replace the Line 3 (SRT). The importance of this connection as an upgraded, high speed, convenient connection to the Centre cannot be underscored enough. Toronto's Official Plan envisions Scarborough Centre as the "urban focal point for eastern Toronto where employment, housing, institutional, cultural, recreational, commercial and community services and transit will be concentrated in a dynamic mixed-use location."³ This direction is supported at the Provincial level by the Provincial Policy Statement and the Growth Plan for the Greater Golden Horseshoe, as well as other provincial and local planning policies.

In the future, the Centre will continue to develop as a meeting place: a location for cultural facilities, public institutions and major services for people from across Scarborough and neighbouring districts and municipalities. Providing excellent transit is one ingredient of a successful plan for the future of Scarborough Centre. Other improvements will be identified through the upcoming Transportation Master Plan study that will consider refinement of the street layout and greater consideration of multi-modal

³ Policy 1.1, [Scarborough Centre Secondary Plan](#)

options including quality connections to transit, and the upcoming Scarborough Centre Public Art Plan that will seek to improve the variety of spaces and environments within the Centre consistent with the planning vision.

Providing convenient, high speed rapid transit connectivity to this urban growth centre is a key tenet of the City's Official Plan, to ensure Scarborough has the same degree of mobility opportunities that exist in other urban centres (such as North York and Yonge – Eglinton) and that are otherwise planned in other parts of the City (including Six Points in Etobicoke). In the case of Scarborough Centre, the key transit planning priority is to better connect the Centre to the rest of the Toronto city region in order to:

- Encourage high-quality employment and residential growth in the Centre; and
- Enhance the accessibility of Scarborough Centre; improving the speed, reliability and convenience of transit service linking Scarborough Centre and key destinations in the Toronto city region.

Better connecting Scarborough Centre to the rest of the City and region is crucial to its success.⁴ The return on this significant public investment will be public and private development and economic prosperity.

A second important objective is to improve accessibility to local destinations within Scarborough. Historically, Scarborough has evolved with a large proportion of low density development served by a circuitous road network at a finer grain that has challenged the ability to provide good mobility options between places. To address this, the transit planning priority for Scarborough must:

- Enable better connections of people to everyday places;
- Make transit an attractive option for more journeys;
- Attract new transit riders; and
- Improve the quality of life for residents of Scarborough.

Investment in better transit, particularly along the designated Avenues, contributes to the creation of complete communities that meet people's needs for daily living, provides transportation choice and reduces auto dependency.

It is recognized that the key policy objectives that will deliver good transit for Scarborough Centre and the rest of Scarborough are unique in each case, yet when applied together in a network planning capacity, will yield the optimum transit plan for Scarborough and the City.

⁴ Section 2.2.2 of [Toronto's Official Plan](#)

2. FOUR LENSES OF SCARBOROUGH LAND USE

In order to develop the optimum transit network plan for Scarborough, it is necessary to understand the unique character of land use in this part of the City which in turn defines the constraints and opportunities that must be considered when assessing new mobility options and transit linkages. The following section describes Scarborough's land use context through four lenses:

- Urban structure;
- Scarborough Centre;
- Neighbourhood Improvement Areas; and
- The Avenues

Urban Structure

More than 625,000 Torontonians call Scarborough home. Housing choice in much of Scarborough is dominated by ground-related residential buildings such as single family homes and row houses. This built form provides a relatively low residential density of 33.3 people/ha. For comparison, this is roughly equal to population density in Etobicoke, 20% less than the population density of North York and less than half the population density of the Toronto and East York Community Council Area.

As documented in Toronto's Official Plan, the long term urban structure of Scarborough is envisioned to be dominated by Neighbourhoods and Employment Areas. The Official Plan protects the character of neighbourhoods from change, and there is little desire to increase density in these areas. While growth and development is permitted and encouraged in Employment Areas, Scarborough's Employment Areas are primarily meant to accommodate low density employment related to highway and rail infrastructure like light industrial, warehousing and logistics. The potential for development of high density employment like offices is very limited.

Even though the character and built form of much of Scarborough is likely to remain the same, there is an important role for the area to play in accommodating expected future growth in the Toronto region – this growth includes housing for more people, as well as jobs and economic development in designated areas. Growth and economic development is encouraged primarily in Scarborough Centre, the Avenues and Employment Areas.

Reimagining Scarborough Centre

Scarborough Centre is one of five mixed-use growth areas identified in Toronto's Official Plan as high-density urban centres. These are all areas that are well-served by transit, where more transit access can be provided and where there is great development potential.

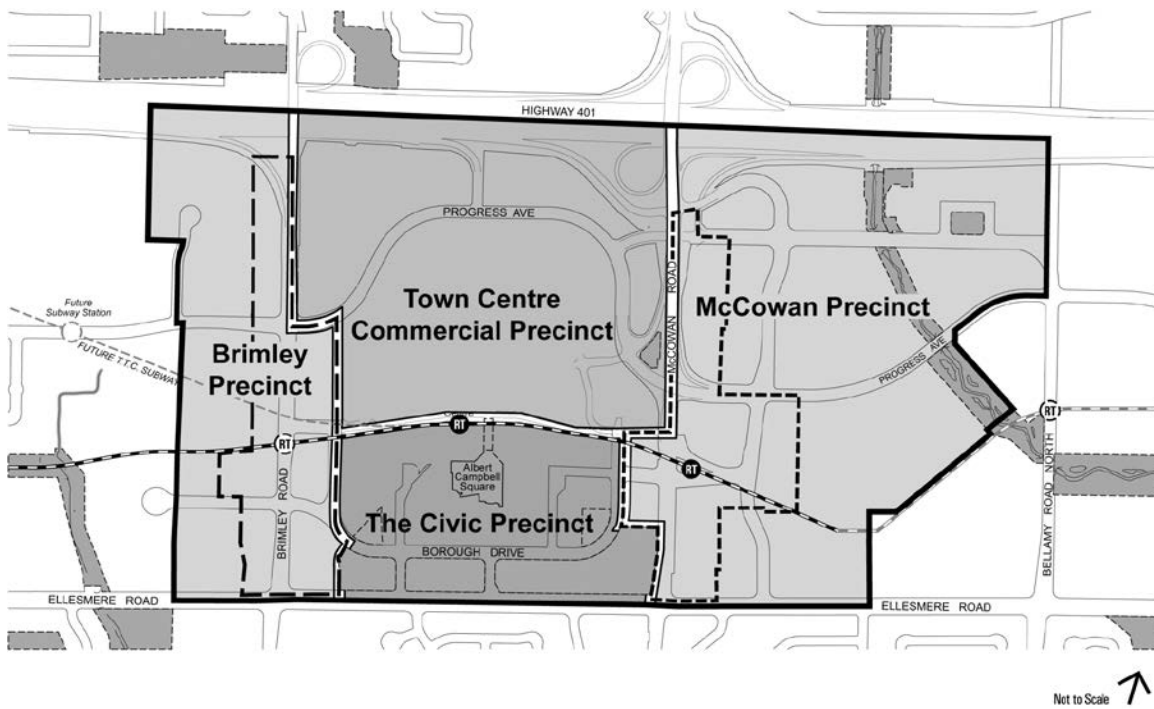
The pattern of directing development and transportation infrastructure to growth areas including the Centres is the foundational concept of how Toronto's Official Plan will "create a better urban environment, a competitive local economy and a more socially

cohesive and equitable city."⁵ Improving accessibility will allow a large number of people to live in the Centres while accessing work elsewhere in the region, and will allow businesses to locate in the Centres and access large labour markets.

In addition to the Toronto Official Plan, Scarborough Centre is also recognized as an Anchor Mobility Hub by the Province. Together, these designations recognize that with investment in transportation and other infrastructure, Scarborough Centre has the potential to become a vibrant urban focal point, improving local quality of life and helping to ensure that growth is effectively accommodated within the Toronto region. This vision has been consistent over several decades, beginning with the City of Scarborough's Official Plan in 1968.⁶

Much of the high-density development that has been realized to date in Scarborough Centre focuses on the Civic and Brimley Precincts, on the south side of Scarborough Centre Station on Line 3. The Town Centre Commercial Precinct, on the north side of

Figure 2 - Scarborough Centre, showing precincts



Official Plan Amendment #231

Scarborough Centre Secondary Plan

Map 5-2 Precincts

- Scarborough Centre Secondary Plan Boundary
- Brimley Corridor
- McCowan Corridor
- T.T.C. Scarborough Rapid Transit
- Proposed T.T.C. Scarborough Rapid Transit Expansion
- RT Rapid Transit Station
- RT Potential Rapid Transit Station

⁵ Policy 1, [Toronto's Official Plan](#)

⁶ OPA 196 was approved by the Minister of Municipal Affairs October 30, 1968.

Scarborough Centre Station, has been the focal point of commercial development as part of the Scarborough Town Centre mall. Short-term future development is expected to be concentrated in the McCowan Precinct. Scarborough Centre Precincts are shown in Figure 2.

In addition to more rapid transit, further planning work is needed to enable Scarborough Centre to reach its potential. A Transportation Master Plan (TMP) that determines the future multi-modal transportation network in the Centre is needed to achieve the urban vision. The primary objective of the TMP will be to support future development and placemaking in the centre through strategies such as;

- creating urban-scale development blocks and a rectilinear street grid;
- integrating the new subway stations with the rest of the multi-modal transportation system, and
- providing transportation choice by improving pedestrian and cycling connections and conditions.

City Council gave authority to proceed with this Transportation Master Plan on June 10, 2014 as part of the approval of [SC32.20 McCowan Precinct Plan Study – Final Report](#). This study will commence in the first quarter of 2016.

Other plans, including the Scarborough Centre Secondary Plan and various precinct plans pertaining to Scarborough Centre, should be reviewed and updated based on the approval of any future subway station locations within Scarborough Centre.

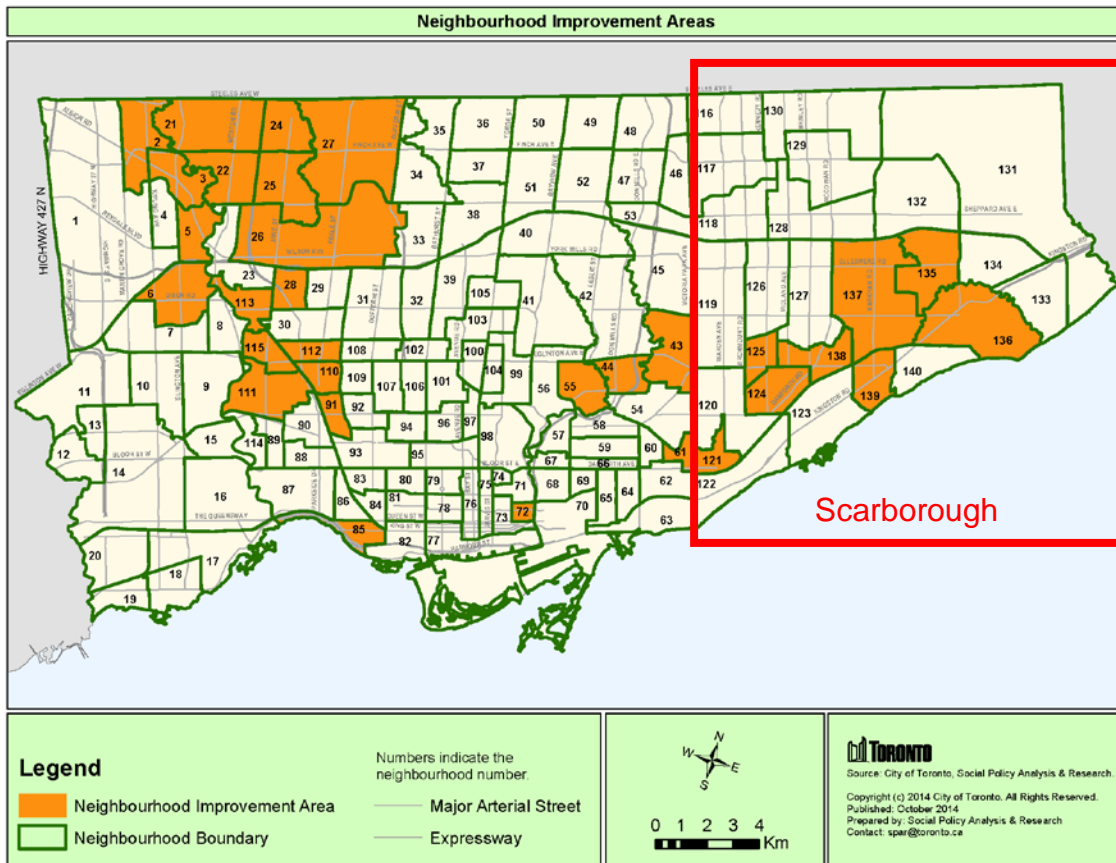
Neighbourhood Improvement Areas

In considering what transit infrastructure will help people in Scarborough get to where they need to go, it must be recognized some people rely more heavily on transit than others. People who live in neighbourhoods that experience differences that lead to inequitable outcomes often rely on transit to travel to school, work or community services because they do not have access to a private automobile.

Toronto's Official Plan contains policies to reduce car dependency for everyone in the City of Toronto. The problem of auto-dependency is greatest for people on low incomes who spend a large proportion of their incomes on running a car. With better transit, it becomes easier for people to live without a car, freeing up income for other essentials such as healthy food and prescription drugs. Better transit also provides travel opportunities for those unable to drive, including the very young and very old.

The Strong Neighbourhoods Strategy 2020, identified 31 Neighbourhood Improvement Areas (NIAs) that experience unnecessary, unfair and unjust differences that lead to inequitable outcomes. The NIAs were adopted by Council in 2014 ([CD27.5 Toronto Strong Neighbourhoods Strategy 2020 - Recommended Neighbourhood Improvement Areas](#)) and are shown in Figure 3.

Figure 3 – Designated Neighbourhood Improvement Areas in the City of Toronto



Eight of the 31 NIAs are clustered in central and southern Scarborough south of Highway 401 and east of Victoria Park Avenue. Introducing rapid transit in this area would improve accessibility where it is most needed.

Development along Avenues

Land adjacent to some arterial roads in the City of Toronto is designated in the Official Plan for smaller-scale, mixed-use growth and economic development. These areas are called Avenues. The longest contiguous Avenues in Scarborough are Eglinton Avenue East (Victoria Park Avenue to Kingston Road) and Kingston Road (Victoria Park Avenue to Highland Creek). Smaller sections of Sheppard Avenue East and Lawrence Avenue East are also designated as Avenues.

The type and scale of development planned for the Avenues contributes to local neighbourhoods and adjacent stable residential communities creating more complete, walkable communities in contrast to the regional-scale development planned for Scarborough Centre.

To encourage this type of community development along Avenues, what is needed is rapid transit capable of carrying large numbers of people while providing convenient

access to local amenities. Line 5 (Eglinton Crosstown LRT) with its relatively high capacity and frequency and short stop spacing, is the best suited rapid transit solution for Eglinton Avenue as planned in the Eglinton Connects study ([PG32.4 Eglinton Connects Planning Study - Final Directions Report](#)).

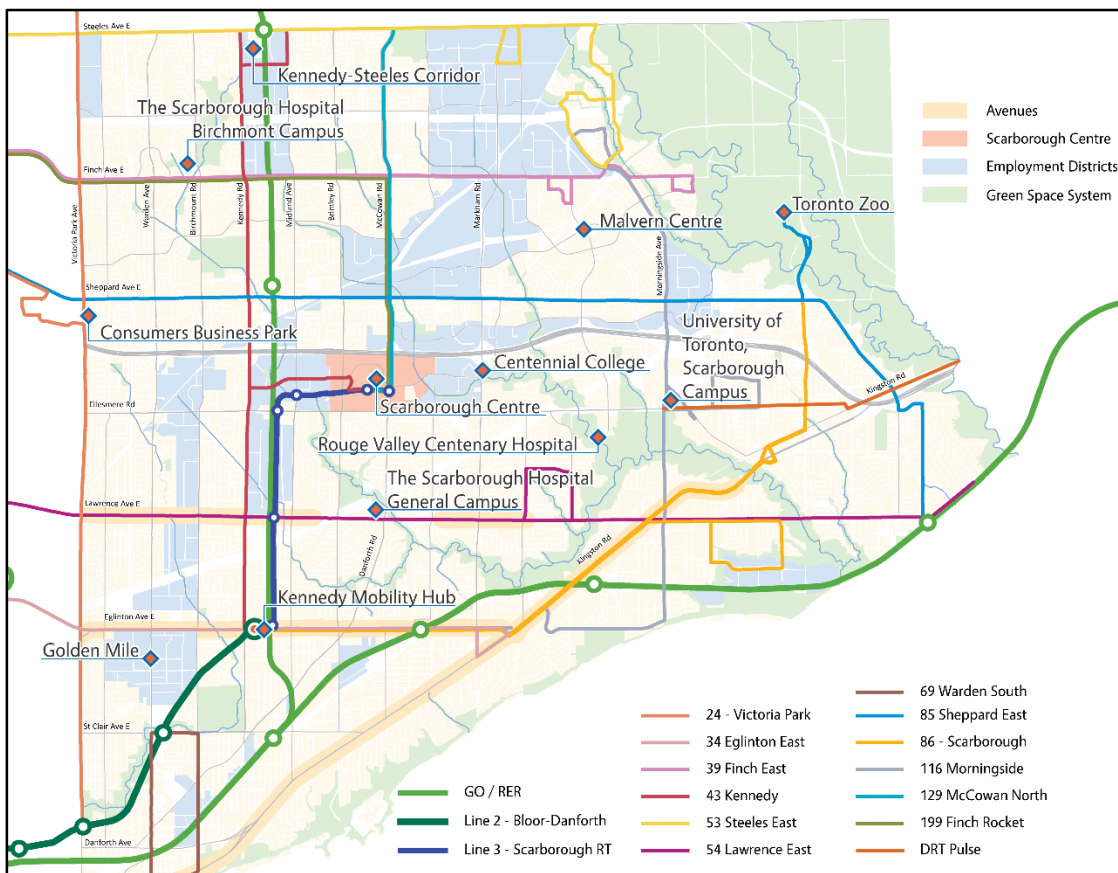
While development along the Avenues would benefit all adjacent Scarborough neighbourhoods, Eglinton and Kingston bisect the areas of central Scarborough that have also been identified as NIAs. These neighbourhoods would particularly benefit from the introduction of rapid transit because, as cited in The Strong Neighbourhoods Strategy report, they currently experience “unnecessary, unfair and unjust differences that lead to inequitable outcomes”.

3. LAND USE AND MOBILITY

Distribution of Key Destinations

In addition to understanding the pattern of land use that emerges from consideration of the aforementioned four lenses, there is a need to also have regard for key destinations within the community that are centres of activity themselves. Figure 4 shows key destinations in Scarborough, many of which were discussed during consultation with

Figure 4 - Urban Structure and Key Destinations in Scarborough



stakeholders and the public as part of the SSEPA. These are everyday places for a large number of people where excellent transit service can more equitably increase access and transportation choice. For the most part, these are spread out across the district's 188 square kilometres.

Also shown in Figure 4, Scarborough is currently served by a number of high frequency transit services. Line 2 subway, Line 3 SRT and Line 5 light rail (currently under construction on Eglinton) plus heavy rail on two GO lines currently serve Scarborough, but only the edges of the district with most internal transit service provided by buses. Buses are well suited to serve the heart of Scarborough, given its relatively low density distribution of people and jobs within stable neighbourhoods.

However, connections to Scarborough Centre from the SRT are less than ideal. Passengers must transfer at Kennedy and use the Line 3 to travel to the Centre stopping at SRT stations at Lawrence East, Ellesmere and Midland en route. The SRT is well used but with most people in Scarborough connecting to it by bus, it represents a slow, inconvenient, unreliable and crowded rapid transit connection to the rest of the city region. In 2014, nearly 39,000 people used Line 3 on a typical weekday, with two-thirds of them using Scarborough Centre Station.

Figure 4 shows that while many key destinations are served by the existing network of rapid and 10-minute frequent surface transit, most are only served by one line and several are isolated from any rapid transit stops. Improving the rapid transit link to Scarborough Centre and providing accessibility to these key destinations are the key network planning objectives identified in this report, and must be part of the transit solution.

Understanding Existing Travel Patterns in Scarborough

On an average weekday, approximately 1.15 million individual trips begin within Scarborough. Figure 5 illustrates where all trips beginning in Scarborough are destined. The data show that a large number of the trips that begin in Scarborough also end in Scarborough (692,000 or 60%), while a much smaller number of trips that begin in Scarborough end in downtown Toronto (72,000 or 6%).

Figure 5 - Destinations of all trips (all modes) originating in Scarborough – Note that 1% is lost due to rounding (Source: 2011 Transportation Tomorrow Survey)

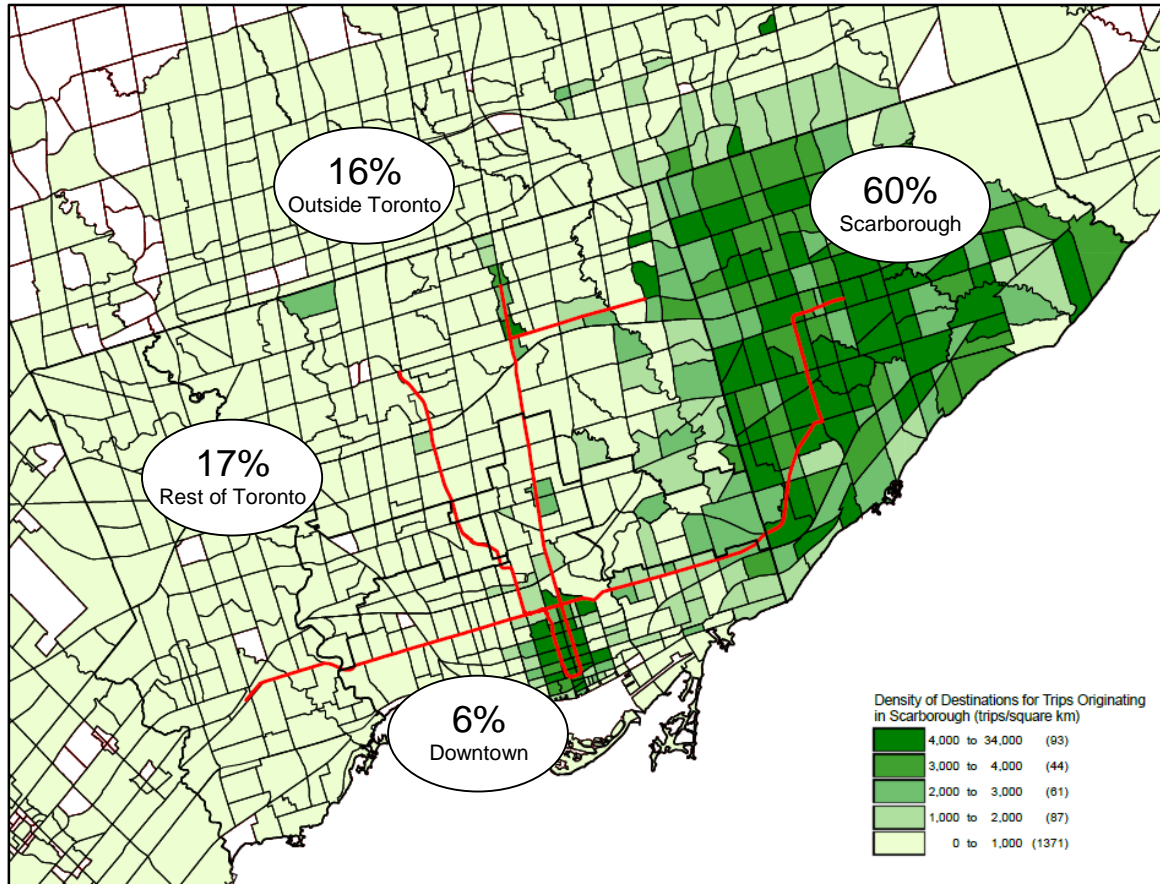
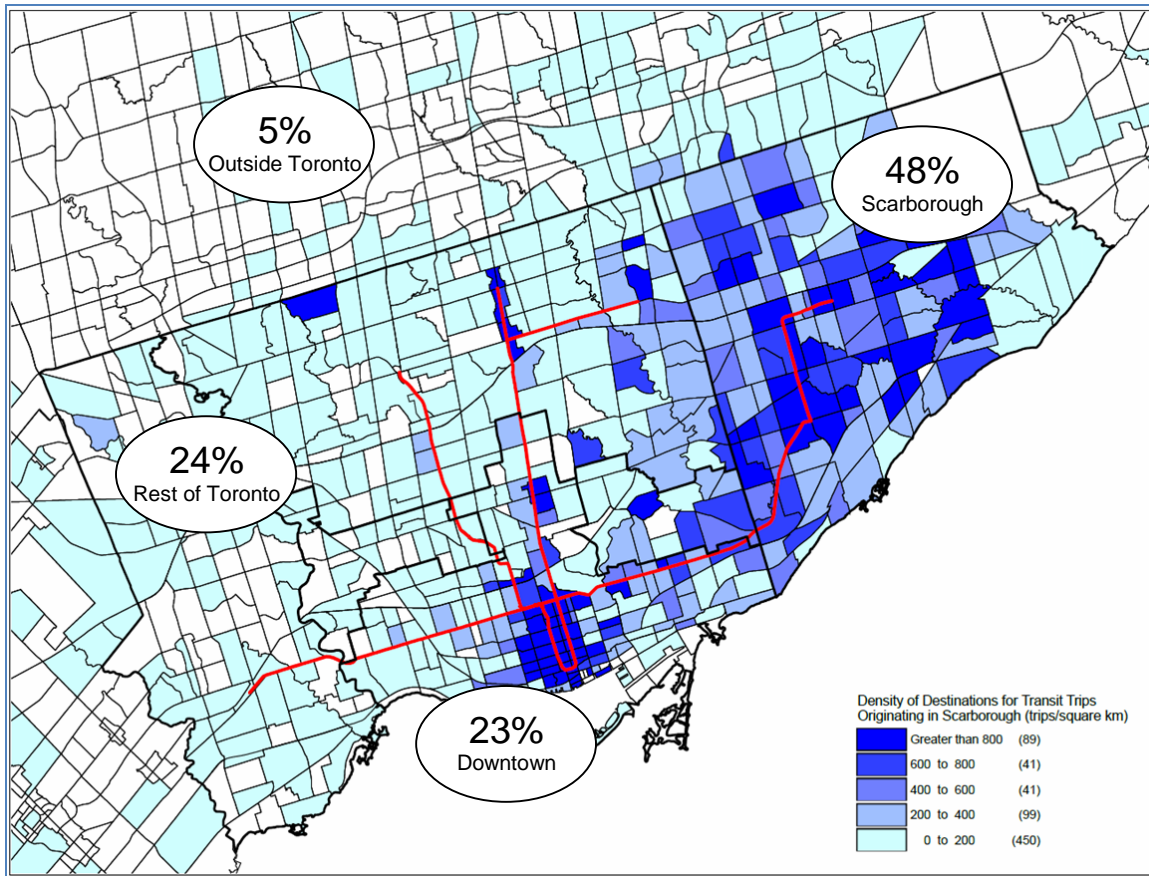


Figure 6 illustrates where all trips originating in Scarborough made by transit are destined. On an average weekday, 206,000 trips made by transit begin in Scarborough.

Of the 206,000 transit trips that begin in Scarborough, 99,000 or 48% end in Scarborough. This means that only 14% of all trips that begin and end in Scarborough use transit (99,000 of 692,000). This low transit mode share is much lower than in the Toronto and East York Community Council area, where the transit mode share for all internal trips is 33%.

Figure 6 - Destinations of all transit trips originating in Scarborough (Source: 2011 Transportation Tomorrow Survey)



Similarly, of the 206,000 transit trips that begin in Scarborough, 48,000 or 23% end in downtown Toronto. This means that 66% of all trips that begin in Scarborough and end in downtown Toronto use transit (48,000 of 72,000) (and only 34% use a different mode).

These observations suggest:

- Improving the convenience of the transit connection between Scarborough and downtown Toronto is an important priority since transit is the primary mode for making this trip;
- It is likely that there would be significant additional transit use within Scarborough if the local network was improved given the current low usage of transit for internal trips.

4. RECOMMENDED SOLUTION

As noted, transit planning work for the Scarborough Subway Extension has proceeded concurrently with the emergence of SmartTrack, firm funding commitments announced by the Provincial government for the GO Regional Express Rail (RER) and a pause in the development of the Sheppard East LRT. A chronology of progress on the study is highlighted in Appendix 1.

The changing context demanded a reconsideration of overall transit planning priorities in Scarborough. Following a detailed assessment of both build form constraints and opportunities, as well as existing travel patterns, two priorities emerged as needing to be addressed more broadly in network planning in Scarborough:

Priority 1: Support the development of Scarborough Centre as a vibrant urban node

Use transit to better connect Scarborough Centre to the rest of the Toronto city region in order to:

- Encourage high-quality employment and residential growth in the Centre; and
- Enhance the accessibility of Scarborough Centre; improving the speed, reliability, convenience and capacity of the transit service linking Scarborough Centre and key destinations in the Toronto city region.

Toronto's Official Plan envisions Scarborough Centre as the "urban focal point for eastern Toronto where employment, housing, institutional, cultural, recreational, commercial and community services and transit will be concentrated in a dynamic mixed-use location."⁷ In the future the Centre will continue to develop as a meeting place: a location for cultural facilities, public institutions and major services for people from across Scarborough and neighbouring districts and municipalities.

Better connecting Scarborough Centre to the rest of the City and Region is crucial to its success.⁸ The return on this significant public investment will be public and private development and economic prosperity.

This ambition is supported by Toronto's Official Plan, the Provincial Policy Statement, the

Transportation Accessibility

Accessibility is the measure of how easy it is for people to access places they need to go. Section 2.2 of [Toronto's Official Plan](#) defines transportation accessibility as having two components: mobility (transportation) and proximity (land use). Increasing mobility by providing modal choice, and/or increasing the speed of travel allows more trips to be made within a given time, whereas increasing proximity through greater mixing of uses and/or higher densities achieves the same effect by shortening trip lengths.

⁷ Policy 1.1, [Scarborough Centre Secondary Plan](#)

⁸ Section 2.2.2 of [Toronto's Official Plan](#)

Growth Plan for the Greater Golden Horseshoe and other local and provincial planning policies.

Priority 2: Support the development of complete communities along the Avenues and improve local accessibility

Use transit to improve accessibility of local destinations within Scarborough to:

- Better connect people to places they need to go every day;
- Make transit an attractive option for more journeys;
- Attract new transit riders; and
- Improve the quality of life for residents of Scarborough.

Investment in better transit, particularly along the designated Avenues, contributes to the creation of complete communities that meet people's needs for daily living,⁹ provides transportation choice and reduces auto dependency.

The two transit priorities for Scarborough are distinct from one another and not easily addressed with a single rapid transit line due to geography and demographics. For example, Scarborough Centre would benefit from a very fast, frequent, high-capacity transit connection (such as a subway) to downtown Toronto and the rest of the city region. However, the Centre is nearly five kilometres (as the crow flies) from the nearest subway station and, for the most part, surrounded by protected, low-density neighbourhoods where a rapid transit station would neither meaningfully improve transit accessibility nor encourage development.

At the same time, much needed rapid transit service along the Avenues, which would serve key destinations and improve accessibility for NIAs, cannot also provide meaningful high-capacity transit service to Scarborough Centre.

Recommended Scarborough Rapid Transit Network

Neither of the aforementioned priorities are met in an efficient manner by a three-stop subway extension. Nor are these transit service priorities met in an efficient manner by other rapid transit currently proposed for Scarborough: the envisaged first phases of RER and SmartTrack will not directly serve Scarborough Centre nor improve transit accessibility within Scarborough, particularly to and from the east end. For these reasons, the recommended solution is to optimize the Scarborough Subway Extension, and to invest the savings into a rapid transit service that would be accessible to more Scarborough residents.

⁹ Adapted from definition of Complete Communities in the *Growth Plan for the Greater Golden Horseshoe, 2006, Office Consolidation 2013*

Together, these projects provide much better transit connections for the same or similar order of magnitude capital costs as a three-stop Scarborough Subway Extension. Key features of this refined transit network include:

- An extension of Line 2 (Bloor-Danforth Subway) as an express subway serving Scarborough Centre via a McCowan Road alignment;
- Crosstown East - an extension of Line 5 (Eglinton Crosstown LRT) to the University of Toronto, Scarborough Campus;
- A SmartTrack station at Lawrence Avenue East; and
- Rapid transit on the Sheppard East Corridor

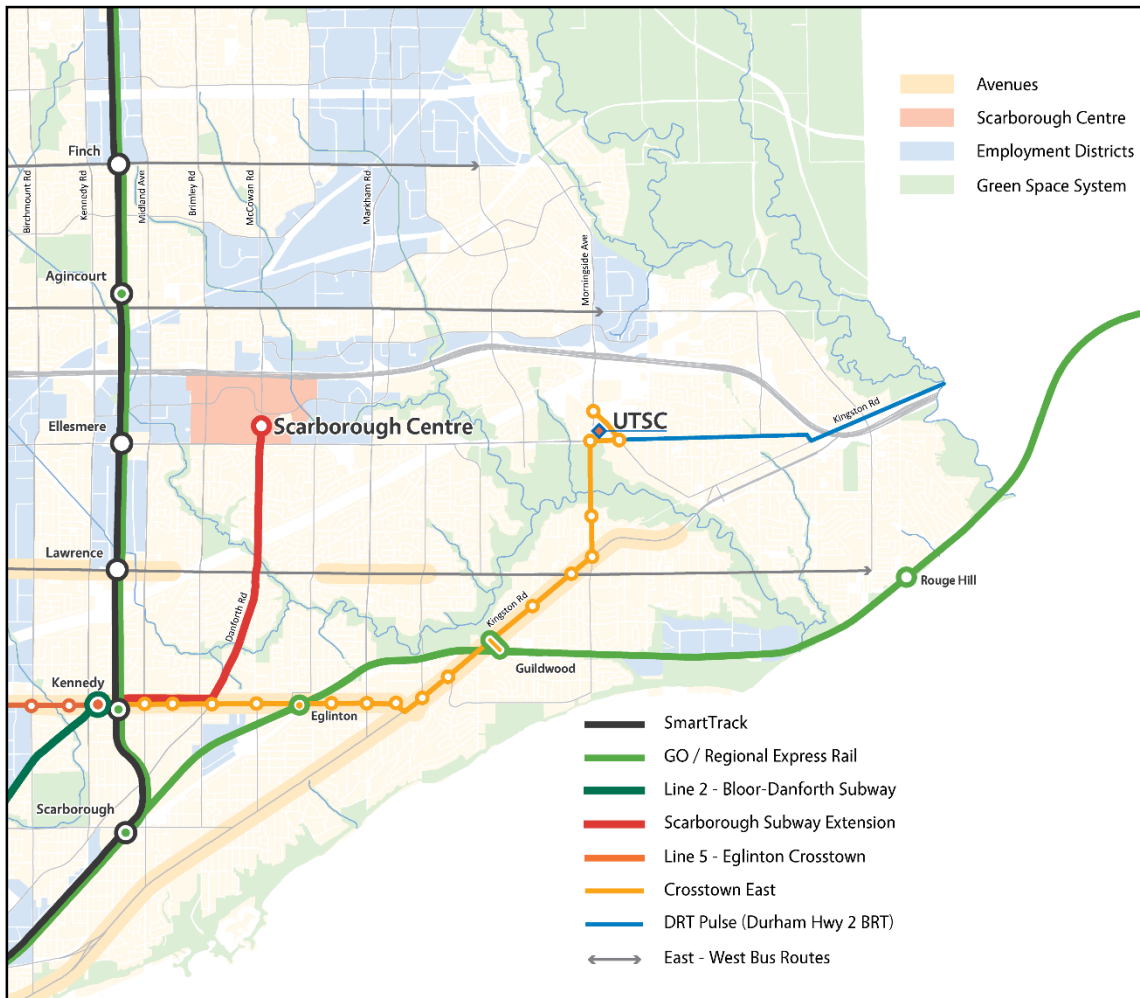
This optimized solution better serves Scarborough residents in all facets, by serving Scarborough Centre with frequent, high capacity transit aimed at enhancing this key activity node, and by providing strategic linkages through the rest of Scarborough aimed at increasing accessibility to activity centres within Scarborough as well as providing convenient linkages to other parts of the City and surrounding regions.

Figure 7 shows the recommended Scarborough transit network that includes GO RER/SmartTrack, an express subway to Scarborough Centre and Crosstown East. Preliminary analysis indicates that this network has significant benefits over SmartTrack plus the three-stop Scarborough Subway Extension.

The express Scarborough Subway Extension can be delivered on the same time scale as the three-stop subway extension currently being planned. While there may be a delay of three to six months in completing the Transit Project Assessment Process (TPAP) and being granted Authority to Construct the Scarborough Subway Extension due to confirming the best express route to Scarborough Centre, construction time would be reduced due to the reduced complexity of the build.

It also focuses capital funding on projects that serve the greatest mobility needs in the foreseeable future. Initial estimates indicate it is also possible to construct the extension of Line 2 and the Crosstown East for a similar order-of-magnitude cost as the three-stop Scarborough Subway extension originally proposed. The two main reasons for this is the high cost of subway stations and the fact that the Crosstown East (Scarborough-Malvern LRT) has already been through an environmental assessment process meaning that it is close to being “shovel ready”. However, the recommended Scarborough transit network requires further evaluation of cost estimates.

Figure 7 – Recommended 2031 Rapid Transit Network – subway route to be determined



Evaluation of the Recommended Transit Network

In the past year, City staff have advanced the suite of tools available to calculate the impact of proposed new rapid transit options on:

- Future transit ridership, including two-way, all-day RER using the new multi-modal travel demand model developed at the University of Toronto.
- Connecting more people to places within 45 minutes travel time, using the recently released connectivity calculator developed by Metrolinx.

These tools have been applied, along with the measures developed for transit network planning as part of the City’s Official Plan review of transportation policies ("Feeling Congested?"), to assess transit needs in Scarborough, resulting in the recommended network. Table 1 shows the results of a preliminary comparison of the currently proposed rapid transit projects in Scarborough (Figure 8, left side) and the recommended optimized network (Figure 7).

In undertaking the comparison, the following planned/under construction network elements were considered:

Base Case – Includes existing SRT, Eglinton Crosstown (Mt. Dennis to Kennedy), Toronto-York Spadina Subway Extension, Finch West LRT, Hurontario LRT, introduction of new streetcars and incremental improvements to surface transit routes.

3-stop Subway Scenario (Figure 8 left side) – Base case plus SmartTrack (Northern Corridor at 15-minute frequency) and 3-stop Scarborough Subway Extension (McCowan alignment). SRT has been removed.

Optimized Network Scenario (Figure 7) – Base case plus SmartTrack (Northern Corridor at 15-minute frequency), express Scarborough Subway Extension (to Scarborough Centre) and Crosstown East (Kennedy Station to UTSC). SRT has been removed.

Table 1 - Preliminary comparison of the originally proposed SSE and the optimized network

	Measure	3-stop Subway Scenario (Figure 8)	Optimized Network Scenario (Figure 7)
Accessibility	People living within 500m of stations	13,943	63,961
	How many more people can each Scarborough resident connect to in 45 minutes via transit compared to the base case?	32,234 (+6.6%)	46,371 (+9.5%)
	How many more people can each Scarborough NIA resident connect to in 45 minutes via transit compared to the base case?	50,555 (+9.9%)	88,886 (+17.4%)
Transit Access in Neighbourhood Improvement Areas	NIAs served directly with stations	Woburn	Eglinton East Kennedy Park Morningside Scarborough Village West Hill
Economic Development	Jobs within 500m of stations	22,875	27,737
	How many more jobs can each Scarborough resident connect to in 45 minutes via transit compared to the base case?	11,667 (+6.3%)	19,333 (+10.4%)
	How many more jobs can each Scarborough NIA resident connect to in 45 minutes via transit compared to the base case?	20,242 (+10.1%)	34,848 (+17.5%)
	Hectares of potential redevelopment sites	160 ha	200 ha
	How many more people can reach Scarborough Centre in 45 minutes via transit compared to the base case?	155,640 (+20.3%)	172,280 (+22.5%)
	How many more people can reach the Financial District in 45 minutes via transit compared to the base case?	26,210 (+2.4%)	35,472 (+3.3%)
Educational Opportunities	How many more people can reach UTSC in 45 minutes via transit compared to the base case?	635 (+0.2%)	55,823 (+15.8%)
	How many more people can reach Centennial College in 45 minutes via transit compared to the base case?	21,113 (+5.0%)	32,934 (+7.9%)

Key infrastructure elements of the optimized transit network for Scarborough are highlighted below.

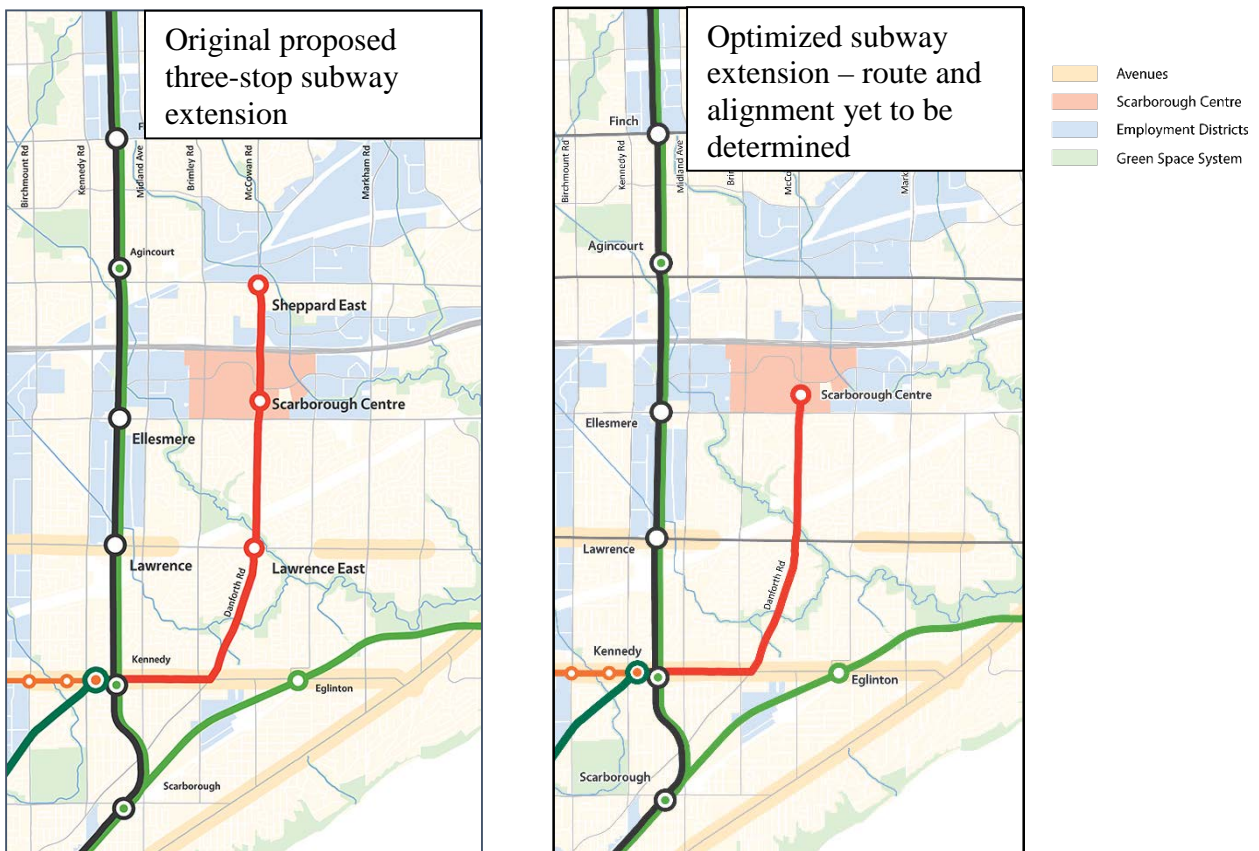
Optimized Scarborough Subway Extension

As part of this review, an assessment was undertaken to consider a variety of options to connect rapid transit to Scarborough Centre. A summary of these results, presented in Appendix 2, led to the conclusion an optimized extension of Line 2 (Bloor-Danforth Subway) is the preferred network option.

Figure 8 (left side) shows the McCowan corridor as the emerging preferred alignment for the Scarborough Subway Extension. The subway would provide an excellent connection to downtown Toronto and the city regional rapid transit network; however, stations at Lawrence Avenue East and Sheppard Avenue East would generate limited ridership due to the low densities that surround these stations.

As well, these areas have little development potential based on more detailed analysis of surrounding land uses. These issues would be exacerbated by their relatively close proximity to potential GO RER/SmartTrack stations (Lawrence and Agincourt). By themselves, these two GO RER/SmartTrack stations have the potential to provide adequate connections for bus routes along Lawrence Avenue East and Sheppard Avenue East.

Figure 8 – GO RER/SmartTrack and Scarborough Subway Extension options



Optimizing the transit connection between Scarborough Centre and the existing rapid transit network would involve:

- removing the subway station at Lawrence Avenue East as shown in Figure 8, right side (see below);
- re-routing Lawrence East buses to the potential Lawrence GO RER/SmartTrack station and on to Kennedy Station; and
- truncating the line at Scarborough Centre versus the current terminus point at Sheppard Avenue East (see below).

These changes to the Scarborough Subway Extension would result in a significant reduction in construction and operating cost with only a very small reduction in transit accessibility.

Lawrence East Station

As noted above and in Figure 8, a Lawrence East Station is included in the original proposed three-stop subway extension work, in the vicinity of Lawrence Avenue East and McCowan Road, however, it is removed from the optimized subway extension. In doing so, the assessment has taken into account the following considerations:

- a) There are significant challenges to constructing a station in the Lawrence/McCowan area. Tunnelling deep enough to pass below the West Highland Creek valley (on the north side of Lawrence) results in a station that is extremely deep and costly. At the same time, the configuration of the Gatineau Hydro Corridor and Bendale Park significantly restrict the possibility of the subway passing over top of the creek;
- b) Transfers for bus passengers on two routes (16 McCowan and 54 Lawrence East) could be accommodated by a Lawrence East SmartTrack station, and rerouting buses to Kennedy Station or Scarborough Centre Station. Operational details will be examined before final recommendations are made;
- c) Removing the proposed Lawrence East subway station improves the subway extension speed and frequency of service to Scarborough Centre. This decreases the travel time between Scarborough Centre and Kennedy Station by approximately 40 seconds to five and a half minutes. Additionally, while the existing service concept calls for every second train to turn back at Kennedy Station, every train would serve Scarborough Centre station in the optimized subway scenario; and
- d) Optimizing transit connectivity to Scarborough Centre through the elimination of this potential in-line station does not preclude its later consideration. Further review of this issue is required as part of the next steps in this work.

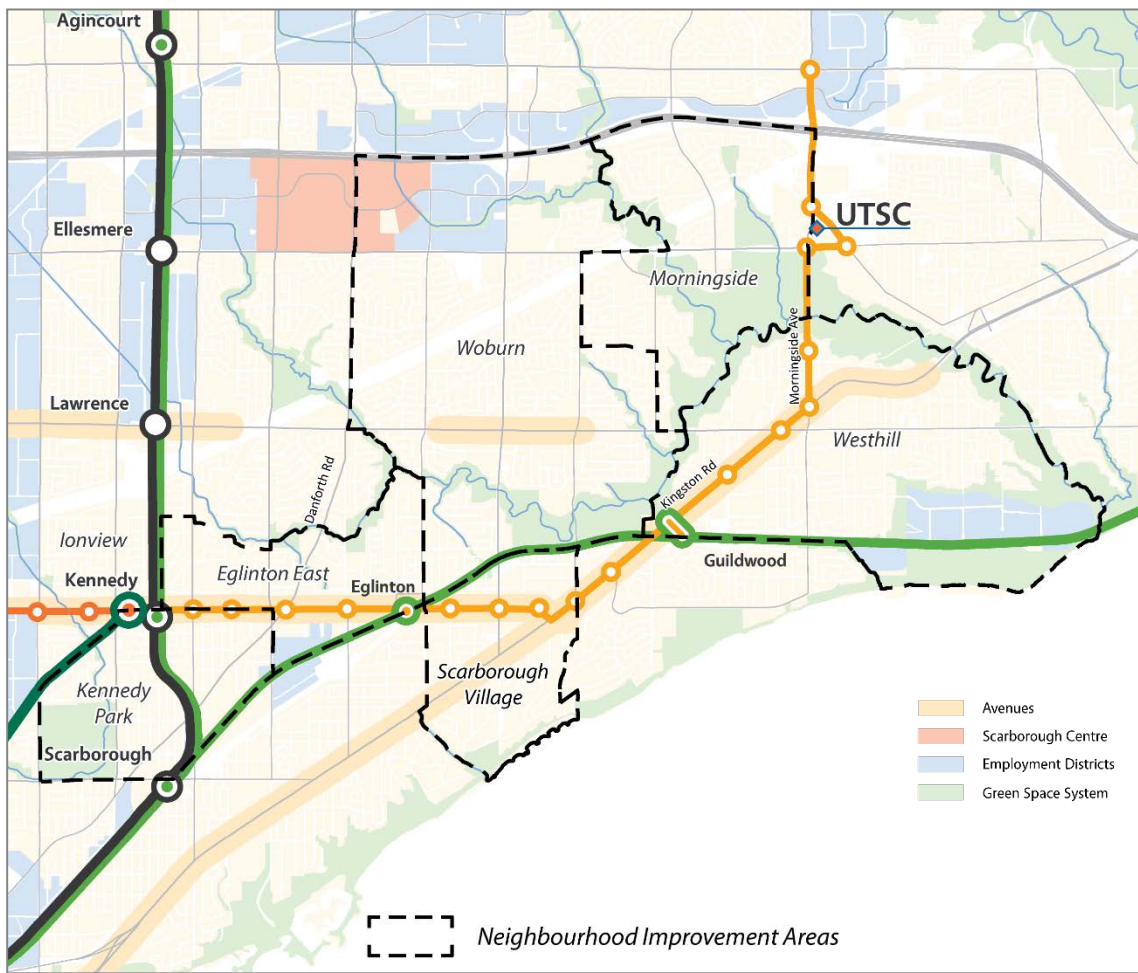
Sheppard Avenue East Station

The current uncertainty over the delivery timeline for rapid transit on Sheppard Avenue East stems from the Provincial announcement that the Sheppard East LRT program, which was granted Authority to Construct under the Environmental Assessment Act in 2009, and procurement and construction would begin after the completion of the Finch West LRT. Further work is required to determine the short-term options for rapid transit in this corridor and its connections to Scarborough Centre and the University of Toronto, Scarborough Campus.

Crosstown East

In 2009, the City and TTC were granted authority to construct the 12 kilometre, 19-stop Scarborough-Malvern LRT. The project, shown in Figure 9, consistently performed very well when analysed by the RTEF. However, funding for its detailed design and construction was not secured.

Figure 9 - Scarborough-Malvern LRT, as approved in 2009



Renamed Crosstown East, it would:

- provide rapid transit along eight kilometres of Avenues;
- directly serve five NIAs (Eglinton East, Kennedy Park, Morningside, Scarborough Village and West Hill);
- provide connections to two existing GO RER stations (Eglinton and Guildwood);
- improve transit connectivity in areas served only by buses;
- provide rapid transit service to the University of Toronto Scarborough Campus (UTSC), which has consistently been identified as an important destination by stakeholders and the public throughout the SSEPA; and
- provide a connection to Durham Region Transit's PULSE bus rapid transit (BRT) line (part of the regional transportation link known as the Durham Hwy 2 BRT).

Crosstown East could be built and operated as an easterly extension of Line 5 (Eglinton Crosstown LRT) rather than a separate service as originally planned. It should be noted that the previously proposed Scarborough LRT replacement of Line 3 (SRT) was originally planned to be the easterly extension of the Eglinton Crosstown LRT while the Scarborough-Malvern LRT was to be a standalone line.

For as long as the future of the Sheppard East LRT is uncertain, Crosstown East could terminate at UTSC. There is an opportunity for the City to collaborate with the University of Toronto to develop their Scarborough Campus Master Plan as a Secondary Plan. This would result in the best integration between development on the campus with stations both for the new LRT and the existing BRT services. Further review is required to determine the extent of work that would be necessary to update the Scarborough-Malvern LRT approved EA (i.e. for Line 5 - Eglinton Crosstown extension), including a revised connection at Kennedy Station.

Sheppard Avenue East Corridor

Since the Province announced that funding for the Sheppard East LRT would be delayed, there is uncertainty about the future of rapid transit on this corridor. Given that development has been approved and constructed based on the assumption that rapid transit would be built, it is important that transit services be improved between the end of the existing Line 5 (Sheppard Subway) and Scarborough Centre in the short term. Further work is needed to evaluate the most suitable rapid transit solution for this corridor.

SUMMARY & NEXT STEPS

Transit planning for the Scarborough Subway Extension has proceeded concurrently with the emergence of SmartTrack, firm funding commitments announced by the Provincial government for the GO Regional Express Rail (RER) and a pause in the development of the Sheppard East LRT. The changing scope as a result of these emerging initiatives has necessitated continuing due diligence that has identified opportunities to better address the policy context for transit planning in Scarborough.

Key elements of the recommended transit network include among other things, an optimized Scarborough Subway Extension of Line 2 (Bloor-Danforth Subway) focussed on serving Scarborough Centre via a McCowan Road alignment and, an extension of Line 5 (Eglinton Crosstown LRT) to the University of Toronto, Scarborough Campus.

Notwithstanding the progress made in identifying a network that responds to the transit priorities in Scarborough, more work is needed to confirm the extent of the benefits the recommended network will bring. The following next steps are required:

1. Confirm the alignment of the optimized (express) subway route, and station locations for SmartTrack;
2. Confirm the extent of any further work required to update the Scarborough-Malvern LRT approved EA (i.e. for Line 5 - Eglinton Crosstown extension);
3. Confirm capital, operating and maintenance costs of all optimized projects;
4. Complete comparison of the recommended network with other network scenarios use GTAModel Version 4 and the connectivity calculator;
5. Evaluation of various short-term options for rapid transit service along the Sheppard Avenue East corridor, east of Don Mills Station and connecting to Scarborough Centre;
6. Update Scarborough Centre plans, to enable Scarborough Centre to reach its potential as a vibrant urban node; and
7. Consultation with stakeholders and the public on the optimization of the Scarborough transit projects set out in this report.

City staff are prepared to commence this work and report back to Council no later than June, 2016, on final recommendations for optimization of a proposed rapid transit network for Scarborough.

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ATTACHMENTS

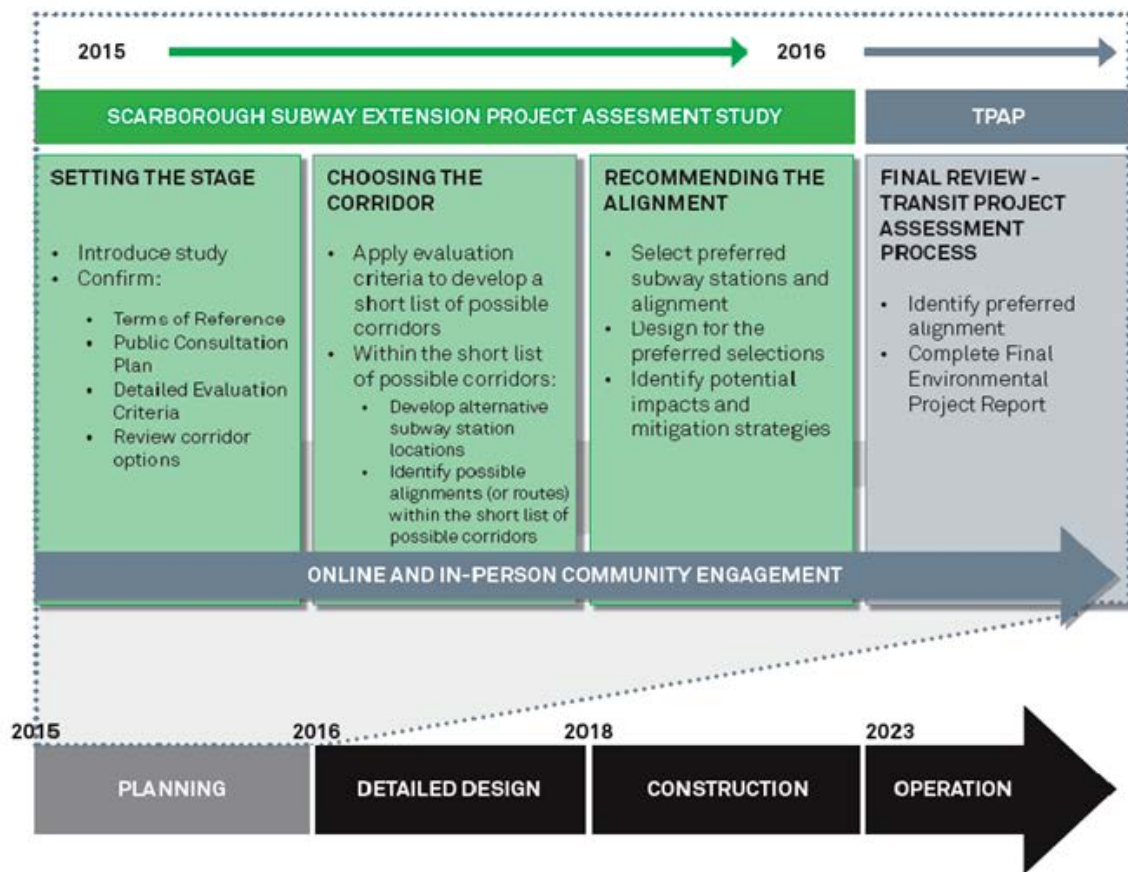
List of Tables and Figures

<i>Figure 1 - 2026 Recommended Rapid Transit network for Scarborough (including high frequency bus corridors)</i>	4
<i>Figure 2 - Scarborough Centre, showing precincts</i>	10
<i>Figure 3 – Designated Neighbourhood Improvement Areas in the City of Toronto</i>	12
<i>Figure 4 - Urban Structure and Some Key Destinations in Scarborough</i>	13
<i>Figure 5 - Destinations of all trips (all modes) originating in Scarborough – Note that 1% is lost due to rounding (Source: 2011 Transportation Tomorrow Survey)</i>	15
<i>Figure 6 - Destinations of all transit trips originating in Scarborough (Source: 2011 Transportation Tomorrow Survey)</i>	16
<i>Figure 7 – Recommended 2031 Rapid Transit Network – subway route to be determined</i>	20
<i>Figure 8 – GO RER/SmartTrack and Scarborough Subway Extension options</i>	23
<i>Figure 9 - Scarborough-Malvern LRT, as approved in 2009</i>	25
<i>Figure A1 - Scarborough Subway Extension Project Assessment Study Process</i>	30
<i>Figure A2 - Nine corridors considered for the route of the Scarborough Subway Extension</i>	
 <i>Table 1 - Nine Potential Corridors for the Scarborough Subway Extension</i>	31
<i>Table A1 - Summary of Preliminary Analysis</i>	32
<i>Table A2 - Preliminary comparison of current proposals and potential optimized network</i>	22

APPENDIX 1 SCARBOROUGH SUBWAY EXTENSION PROJECT ASSESSMENT UPDATE

Work on the SSEPA began in 2014 with the establishment of draft Terms of Reference and Public Consultation Plan consistent with the direction provided by City Council in [CC39.5 Scarborough Rapid Transit Options: Reporting on Council Terms and Conditions](#). At the same time, nine potential corridors and draft evaluation criteria for decision-making based on the RTEF were developed. Public consultations on this material took place in January and February, 2015 (findings summarized in [Phase 1 Consultation Report](#)). After public consultation, the study process, as shown in Figure A1, was finalized along with the project objectives.

Figure A1 - Scarborough Subway Extension Project Assessment Study Process

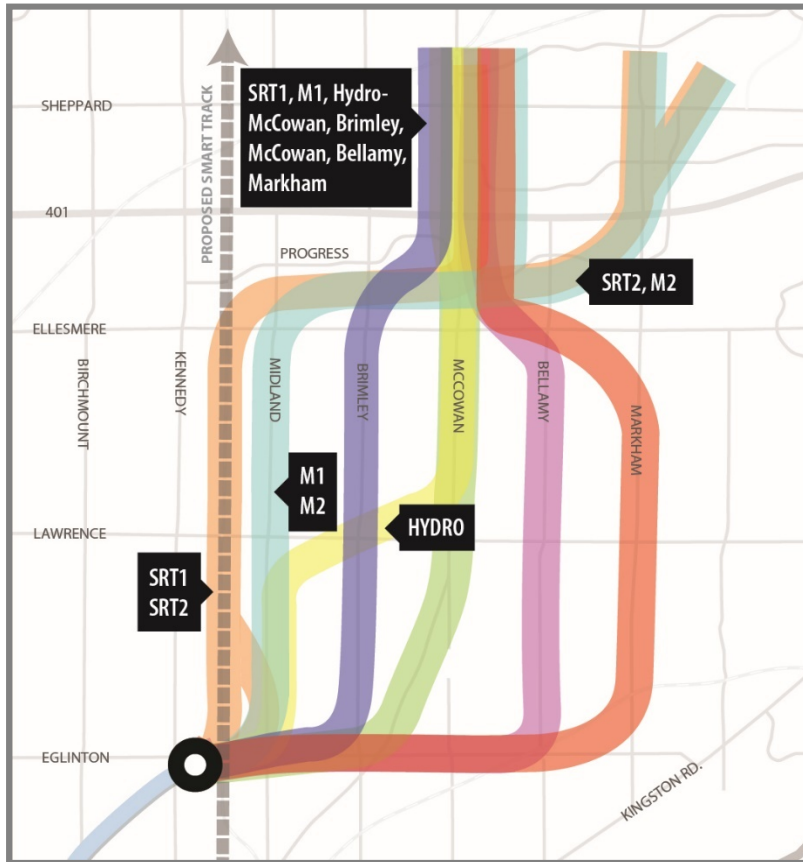


The nine potential corridors identified are shown in Table A1 and Figure A2. As per Council direction, all corridors connect to Kennedy Station and to the proposed new stations at Lawrence Avenue East, Scarborough Centre and Sheppard Avenue East.

Table A1 - Nine corridors considered for the route of the Scarborough Subway Extension

Corridor	Lawrence East Station Location	Scarborough Centre Station Location	Sheppard East Station Location	Additional Stations
SRT-1	Stouffville GO Corridor	Existing Scarborough Centre SRT station	McCowan Rd	None identified
SRT-2			Markham Rd/Progress Ave	
Midland-1			McCowan Rd	
Midland-2			Markham Rd/Progress Ave	
Brimley	Brimley/Hydro Corridor	McCowan Rd/Bushby Dr	McCowan Rd	Brimley Rd/ Eglinton Ave
Hydro				
McCowan	McCowan Rd		Eglinton GO Station (on Lakeshore East)	
Bellamy	Bellamy Rd			
Markham	Markham Rd			

Figure A2 - Nine corridors considered for the route of the Scarborough Subway Extension



The overlapping of demand catchments for SmartTrack and the Scarborough Subway Extension was an important consideration in the evaluation of the nine potential corridors. Given the uncertainty around the service concept for SmartTrack and the ongoing efforts to update the City's advanced modelling tools, a reasoned-argument

approach was used to develop a short list of three corridors; the corridors were divided into three groups that would be similarly impacted by SmartTrack (westerly corridors, central corridors and easterly corridors) and a preferred corridor was selected from each group. Results of this preliminary analysis are shown in Table A2.

Table A2 - Conclusions of first sift of nine corridors for Scarborough Subway Extension

Corridor	Summary conclusions
SRT-1	Closure of Line 3 (SRT) for 5 years resulting in major disruption to passengers
SRT-2	
Midland-1	Shortlisted for further study
Midland-2	Extra cost over Midland-1
Brimley	Station in the Hydro corridor problematic to build
Hydro	
McCowan	Shortlisted for further study
Bellamy	Shortlisted for further study
Markham	Extra cost over Bellamy

Alignment options were developed for each of the three shortlisted corridors: Midland-1, McCowan and Bellamy.

Public consultation on the shortlisting of corridors and the alignment options within these three corridors took place in June 2015 (findings summarized in [June 2015 Consultation Report](#)). Feedback received has been taken into account in the analysis of the options.

The following series of conclusions can be drawn from our work to date:

- The McCowan corridor is emerging as the preferred assuming a three-stop subway extension;
- The transit service priorities for Scarborough are two-fold: better connecting Scarborough Centre to the city region; and better local transit within Scarborough;
- Neither of these transit service priorities are met in an efficient manner by a three-stop subway extension: The intermediate subway station at Lawrence Avenue East would slow down the connection between Scarborough Centre and Kennedy; and
- Nor are these transit service priorities met in an efficient manner by other rapid transit currently proposed for Scarborough: the envisaged first phases of RER and SmartTrack will not directly serve Scarborough Centre nor improve transit accessibility within Scarborough, particularly to and from the east end.

APPENDIX 2
HIGH-LEVEL EVALUATION OF POSSIBLE TRANSIT SOLUTIONS FOR
SCARBOROUGH

Priority 1: Support the development of Scarborough Centre as a vibrant urban node

Principle	Scarborough Subway	RT Replacement	Scarborough LRT	Sheppard Subway	Sheppard E LRT	Scarborough Malvern LRT	Ellesmere BRT	McCowan Rd BRT
Does it connect Scarborough Centre?	YES	YES	YES	YES	NO	NO	YES	YES
Good connectivity to network	Good	Fair	Fair	Good	N/A	N/A	Fair	Fair
Fast, frequent service where people want to go	Good	Fair	Fair	Good	N/A	N/A	Fair	Fair
Encouraging development and jobs	Fair	Poor	Poor	Fair	N/A	N/A	Poor	Poor
Conclusion	Good (see Note 1)	Fair	Poor	Fair (see Note 1)	N/A	N/A	Good (see Note 2)	Fair

Notes

1. Our conclusion that Scarborough Subway performs better than Sheppard Subway due to:
 - Lower capital costs
 - Sheppard adds more riders to the overcrowded Yonge Subway line south of Sheppard
 - A potentially shorter travel time from Scarborough Centre to the downtown
 - Direct connection to Eglinton Crosstown
2. Ellesmere BRT could be developed by Durham Region Transit in the future
 - Low-cost link between Scarborough Centre, UTSC, Downtown Pickering and Downtown Oshawa

Priority 2: Support the development of complete communities along the Avenues and improve local accessibility

Principle	Scarborough Subway	RT Replacement	Scarborough LRT	Sheppard Subway	Sheppard E LRT	Scarborough Malvern LRT	Ellesmere BRT	McCowan Rd BRT	SmartTrack
Good connectivity to local destinations and the broader network	Poor	Fair	Fair	Poor	Fair	Good	Fair	Fair	Poor
Faster, frequent service to mixed-use growth areas	Poor	Fair	Fair	Poor	Good	Good	Fair	Fair	Poor
Service to Neighbourhood Improvement Areas (NIA)	Fair	Fair	Fair	Poor	Poor	Good	Fair	Poor	Poor
Supports local jobs and existing urban form	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Poor
Local environment	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
Conclusion	Poor	Fair	Fair	Poor	Fair	Good (see Note 1)	Fair	Fair	Poor

Notes

1. Scarborough-Malvern LRT performs particularly well due to:
 - Service to mixed-use Avenues, local destinations and NIAs
 - Network connections