

Appendix A-7

Transportation Assessment Report

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Transportation Assessment Report

Conversion of Scarborough Rapid Transit Right-of-Way to Busway – Transit and Rail Project Assessment Process

Toronto Transit Commission

60729927

August 2024

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Authors

Report Prepared By:

Aliya Zhang/EIT / Hiba Naqvi, EIT Transportation Planner

Hiba Naqvi, EIT Transportation Planner

Report Checked By:

la

Lauren McKenna, RPP Transportation Planner

Report Verified By:

Calvin^VPin, P Eng, M.Eng. Transportation Planning & Traffic Engineering

Report Approved By:

Khawar Ashraf, P.Eng. AVP Transportation Planning & Engineering

Prepared for:

Toronto Transit Commission

Prepared by:

AECOM Canada Ltd. 105 Commerce Valley Drive West, 7th Floor Markham, ON L3T 7W3 Canada

T: 905.886.7022 F: 905.538.8076 www.aecom.com

Executive Summary

The Toronto Transit Commission is undertaking a Transit and Rail Project Assessment Process for the Conversion of Scarborough Rapid Transit Right-of-Way to Busway project, which aims to convert the north-south portion of the decommissioned Line 3 Scarborough Rapid Transit corridor to a dedicated busway. As part of the Scarborough Rapid Transit decommissioning plan, two phases were developed. Phase 1 would see the Toronto Transit Commission operate an interim bus service on-street, which was planned to go into service by November 2023, however, due to the Scarborough Rapid Transit derailment in July 2023, interim bus service started in August 2023. The Toronto Transit Commission is currently advancing the detailed design of Phase 2, which involves converting the at-grade north-south portion of the Scarborough Rapid Transit right-of-way into a busway, allowing buses to operate in the converted busway between Ellesmere and Kennedy stations and continuing on existing priority lanes on Ellesmere Road between Ellesmere and Scarborough Centre stations implemented in Phase 1.

AECOM has been retained by the Toronto Transit Commission to assist in the completion of the Transit and Rail Project Assessment Process for Phase 2 of the Scarborough Rapid Transit decommission plan. To fulfil the conditions of the Transit and Rail Project Assessment Process, AECOM has prepared a Transportation Assessment Report. This report assesses the transportation impacts of shifting the onstreet bus service in Phase 1 to the dedicated busway conversion in Phase 2; where applicable, the report identifies and discusses mitigation measures to support this transition. Furthermore, the transportation assessment is evaluated from a multi-modal perspective—cycling, driving, and transit—examining all opportunities and challenges for the efficient and safe movement of people between Kennedy Station in the south and Scarborough Centre Station in the north. The report also examines the impacts of removing on-street buses on goods movement, specifically trucks using the roadways in the Study Area. This comprehensive approach ensures that transportation impacts for all modes are fully considered in the assessment.

Existing Condition (Phase 1): Designated transit lanes form a north-south couplet on Kennedy Road and Midland Avenue, with designated transit lanes in the east-west direction on Ellesmere Road, between Kennedy Road and Brimley Road. Coupled with transit priority, signal timing adjustments at the signalized intersections allow several Toronto Transit Commission bus routes to traverse the Project area efficiently and reliably.

Future Conditions (Phase 2): With the conversion of the at-grade north-south portion of the Line 3 Scarborough Rapid Transit right-of-way to a busway, an eight percent

growth in ridership is expected between 2024 and 2027, per the Toronto Transit Commission. Benefits to future assigned Toronto Transit Commission bus routes operating in the busway's dedicated right-of-way between Kennedy Station and Scarborough Centre Station include lower travel times, greater reliability/schedule adherence and enhanced ride comfort.

To thoroughly examine and assess the impacts of the Project, a Transportation Impact Assessment was completed for both Existing and Future conditions with the new busway in operation. The Transportation Impact Assessment analyzed impacts from an integrated multimodal perspective, where the new busway served three inline stops at Ellesmere Road, Lawrence Avenue East, and Tara Avenue. The multimodal assessment and the respective analysis/findings were broken down into the key components summarised in **Table ES-1** below.

The assessment concluded that enhanced connectivity at busway stops could encourage the use of alternative transportation modes and enable passengers to travel more efficiently.

Table ES-1: Multimodal Assessment Summary

Key Components	Transportation System	Toronto Transit Co
Travel Time	On the assumption that the bus lane will be reverted to a general purpose lane, the increase in capacity is expected to improve general traffic operations.	The busway provides a journey time saving o Commission) and increases service reliability.
Active Transportation	On the assumption that the bus lane will be reverted back to a general purpose lane, cyclists will operate in mixed traffic which may result in a reduction in comfort. The new bus stops may provide greater amenities for cyclists (bike racks/storage).	Improving connectivity to existing cycle netwo would support efficient and sustainable first and Commission network.
Vehicle and Goods Movement	The dedicated right-of-way provided by the busway will mitigate any conflicts between different modes of transportation to improve traffic flow, improving overall Toronto Transit Commission bus operations. Impacts to goods movement vehicles would be minimal as no major routes would be disrupted. There are three industrial buildings in proximity with the Lawrence Avenue East Stop, which may be impacted by the busway traffic.	The busway will remove Toronto Transit Com may be opportunities to investigate further im configuration to enhance the egress/ingress for
Wayfinding and Accessibility	The bus stops have been designed to ensure accessibility for passengers. At the busway stops, it is recommended to provide Toronto Transit Commission bus service information and signage to key local destinations. This Project aims to declutter streetscape to deliver more obstruction-free access for all users to/from the stop area.	The bus stops have been designed to ensure is recommended to provide Toronto Transit C key local destinations. This Project aims to de access for all users to/from the stop area.
Safety	The busway would reduce Toronto Transit Commission bus conflicts with other transportation modes, such as auto vehicles and trucks, compared to existing conditions where buses travel in mixed traffic.	The busway would reduce Toronto Transit Co modes, such as auto vehicles and trucks, con mixed traffic.
Emergency Access	As the Toronto Transit Commission advances the detailed design of Phase 2 of the Scarborough Rapid Transit decommission plan, the emergency services providers will need to be consulted. This will include reviewing and refining elements such as turning radii for emergency vehicles and access points for emergency service personnel.	As the Toronto Transit Commission advances Rapid Transit decommission plan, the emerge This will include reviewing and refining eleme access points for emergency service personn
Construction	The impacts on the transportation network are anticipated to be minimal and localized to the construction traffic egress/ingress points. Disruption to the immediate surrounding areas will primarily result from construction activities, such as noise and dust at the stops and the conversion of Scarborough Rapid Transit right-of-way to the busway.	The impacts on the transportation network are construction traffic egress/ingress points. Disr primarily result from construction activities, su conversion of Scarborough Rapid Transit righ

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accessibility for passengers. At the busway stops, it commission bus service information and signage to eclutter streetscape to deliver more obstruction-free

ommission bus conflicts with other transportation mpared to existing conditions where buses travel in

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Table of Contents

1.	Introduction		
	1.1	Project Description	1
	1.2	Study Area	2
	1.3	Methodology	2
	1.4	Background Reference Sources	4
2.	Rev	view of Policies	5
	2.1	City of Toronto – Official Plan (2023)	5
	2.2	Toronto Transit Commission Corporate Plan 2024 – 2028 (2024)	6
	2.3	Toronto Cycling Network Plan (2024)	6
3.	Exis	sting Conditions	8
	3.1	Current Transit Services	8
	3.2	Interim On-Street Routing	10
		3.2.1 Roadways	10
		3.2.2 Ridership	13
	2.2	3.2.3 Travel Time	13
	3.3		_ 13
4.	Fut	ure Conditions	_15
	4.1	Future Build Scenario	_15
		4.1.1 Busway Stops	17
		4.1.1.1 Ellesmere Road Stop	_ 17
		4.1.1.2 Lawrence Avenue Last Stop	18
		4.1.2 Planned Cycling Infrastructure	19
		4.1.3 Ridership	20
		4.1.4 Travel Time	20
		4.1.5 Post Scarborough Subway Extension Conditions	20
	4.2	Future No-Build Scenario	_21
5.	Tra	nsportation Impact Assessment, Mitigation	_
	Mea	asures, and Monitoring	_23
	5.1	Construction	_23
		5.1.1 Construction Projects in Proximity	25
	5.2	Operations	_26
		5.2.1 Ellesmere Road Stop	26
		5.2.1.1 Potential impacts, Mitigation Measures & Monitoring at Filesmere Road Stop	28
		5.2.2 Lawrence Avenue East Stop	30
		5.2.2.1 Impacts, Mitigation Measures & Monitoring at Lawrence Avenue	
		East Stop	_ 32
		5.2.3 Lara Avenue Stop	34
		5.2.3.1 Impacts, willigation measures & Monitoring at Tara Avenue Stop	_ 36

	5.3 Road Transportation Network5.4 Emergency Access	38 39
6.	Conclusions and Recommendations	40
7.	References	42

Figures

Figure 1-1:	Study Area	3
Figure 3-1:	Locations of Designated Painted Bus/Bike Lanes	9
Figure 3-2:	Painted Bus/Bike Lanes on Kennedy Road	9
Figure 4-1:	New Busway Route	16
Figure 4-2:	Ellesmere Road Stop	17
Figure 4-3:	Lawrence Avenue East Stop	18
Figure 4-4:	Tara Avenue Stop	19
Figure 4-5:	Ultimate Conditions – Scarborough Subway Extension	21
Figure 5-1:	Projects in the Vicinity of Busway	25
Figure 5-2:	Ellesmere Road Stop Overview	27
Figure 5-3:	Lawrence Avenue East Stop Overview	31
Figure 5-4:	Tara Avenue Stop Overview	35

Tables

Table 3-1:	Line 3 Replacement Bus Routes	10
Table 3-2:	Daily Traffic for Interim Bus Route Roads	11
Table 3-3:	Roadway Description	12
Table 3-4:	Site Visit Key Findings	14
Table 5-1:	Construction Impacts At/Near Stops	24
Table 5-2:	Summary of Impacts, Mitigations, and Monitoring Activities at Ellesmere Road Stop	29
Table 5-3:	Summary of Impacts, Mitigations, and Monitoring Activities at Lawrence Avenue East Stop	33
Table 5-4:	Summary of Impacts, Mitigations, and Monitoring Activities at Tara Avenue Stop	37
Table 6-1:	Multimodal Assessment Summary	41

Appendices

Appendix A. 60% Detailed Design Drawings

1. Introduction

1.1 Project Description

The Toronto Transit Commission is undertaking a Transit and Rail Project Assessment Process for the Conversion of Scarborough Rapid Transit Right-of-Way to Busway project, which aims to convert the north-south portion of the decommissioned Line 3 Scarborough Rapid Transit corridor to a dedicated busway. As part of the Scarborough Rapid Transit decommissioning plan, two phases were developed. Phase 1 would see the Toronto Transit Commission operate an interim bus service on-street, which was planned to go into service by November 2023, however, due to the Scarborough Rapid Transit derailment in July 2023, interim bus service started in August 2023. The Toronto Transit Commission is currently advancing the detailed design of Phase 2, which involves converting the at-grade north-south portion of the Scarborough Rapid Transit right-of-way into a busway, allowing buses to operate in the converted busway between Ellesmere and Kennedy stations and continuing on existing priority lanes on Ellesmere Road between Ellesmere and Scarborough Centre stations implemented in Phase 1.

The Transit Project Assessment Process has been updated as of February 2024 to the Transit and Rail Project Assessment Process. The Transit and Rail Project Assessment Process is a proponent-driven self-assessment process that streamlines the approach to completing a project assessment. It involves a pre-planning phase, which includes consultation, assessment of impacts, development of measures to mitigate negative impacts and documentation, followed by a regulated (up to 120 days) consultation and documentation period.

The Toronto Transit Commission has retained AECOM to assist in completing the Transit and Rail Project Assessment Process for Phase 2 of the Line 3 Scarborough Rapid Transit decommission plan. To fulfil the conditions of the Transit and Rail Project Assessment Process, AECOM has completed a Transportation Assessment Report. This report assesses the transportation impacts on the busway and surrounding networks. It reviews existing and future transportation conditions from Kennedy Station to Scarborough Centre Station. It includes a qualitative assessment of private vehicles, cycling, and pedestrians to identify potential impacts of the busway and propose mitigation measures. The report also examines the impacts of removing on-street buses on goods movement, specifically trucks using the roadways in the study area. This comprehensive approach ensures that transportation impacts for all modes are fully considered in the assessment. The report is structured as follows:

- **Section 1:** Introduction (current section).
- Section 2: Review of Policies.

- Section 3: Existing Conditions.
- **Section 4:** Future Conditions.
- **Section 5:** Multi-Modal Impact Assessment and Mitigation Measures.
- **Section 6:** Conclusion and Recommendations.

1.2 Study Area

The Project Area encompasses the area from the Toronto Transit Commission's Line 2 Kennedy Station, along the Line 3 Scarborough Rapid Transit right-of-way to Ellesmere Road, as depicted in **Figure 1-1**. Study findings will also briefly touch on traffic operation impacts on the surrounding road network, including Midland Avenue, Kennedy Road, and Ellesmere Road.

1.3 Methodology

This Transportation Assessment will build upon the base conditions set by Phase 1. The transportation data gathered for the analysis of Phase 1 will be leveraged to establish the baseline conditions, support the qualitative assessment of multi-modal impacts, and identify opportunities and challenges related to walking, cycling, vehicular travel, and goods movement as a result of implementing Phase 2. The assessment will also consider opportunities to integrate the busway with existing on-street transportation facilities.

Section 3 to **Section 6** of this document mentions Ellesmere Road, Lawrence Avenue East, and Tara Avenue using the terms "Stations" and "Stops." When "Station" is used, it refers to the existing Line 3 Scarborough Rapid Transit station infrastructure, which is currently closed. In contrast, "Stop" refers to the three new stops that will be added as part of this project.





1.4 Background Reference Sources

The following background reference sources were reviewed to aid in understanding existing and potential future conditions:

- 60% design package (March 2023), prepared by the Toronto Transit Commission.
- Transit Priority Measures to Support Scarborough Rapid Transit Bus Replacement (2023).
- Line 3 Bus Replacement Study Final Recommendations (2022).
- This assessment was completed using travel time and ridership data, traffic data and Synchro files for the surrounding roadways, provided by the Toronto Transit Commission. The most recent Annual Average Daily Traffic (2019) available along the roadways in the Study Area was also used.
- City of Toronto Official Plan (2023).
- City of Toronto Transit Priority Measures to Support Scarborough Rapid Transit Bus Replacement (2023).
- City of Toronto Cycling Network 2025-2027 Public Input.
- Toronto Transit Commission Line 3 Replacement Update (2023).
- Toronto Transit Commission Corporate Plan (2024).
- A site visit conducted by AECOM on May 16th, 2024, allowed for an in-person analysis of existing conditions.

2. Review of Policies

The following section provides an overview of relevant policies in place by the City of Toronto and the Toronto Transit Commission pertaining to this assessment.

2.1 City of Toronto – Official Plan (2023)

The City of Toronto's Official Plan (2023) highlights the goals and objectives as well as the policies intended to guide land use, development, and growth in Toronto. Chapter Two, "Shaping the City", provides information relating to transportation policies.

The Plan aims to direct growth to areas well served by transit, emphasizing the importance of a robust transportation system to support Toronto's development. Reducing car dependency and enhancing cycling and pedestrian infrastructure to support a more sustainable transportation system is also a focus. Improvement in the transportation system is necessary to accommodate the City's growth, per the Plan. This includes renovating transit stations, reconfiguring streets, and enhancing connections to local and regional transit services. The objective is to provide sustainable transportation options for all, emphasizing safety, connectivity, convenience, affordability, diversity, and competitiveness. Plans to protect and develop the network of streets and laneways, ensure their accessibility and safety, and support the long-term protection of major roads and highways are discussed in the Official Plan.

Furthermore, these policies aim to maintain existing systems, optimize the use of infrastructure, and plan for the expansion of a comprehensive transit network. Public rights-of-way are crucial for connecting people and supporting development, and efforts will be made to protect and develop them.

Additionally, the Plan addresses the development of a comprehensive transit network plan aimed at delivering efficient, accessible, and comfortable transit service throughout the City. Measures to improve and expand higher-order transit networks, enhance bus and streetcar services, and reduce delays and traffic interference on transit routes are also detailed.

The Plan emphasizes the need for improved public transit servicing the Scarborough Centre Station. The Project will assist in addressing this need by constructing a new dedicated right-of-way for transit.

2.2 Toronto Transit Commission Corporate Plan 2024 – 2028 (2024)

The Toronto Transit Commission Corporate Plan 2024-2028 & Beyond: Moving Toronto, Connecting Communities, seeks to align organizational initiatives with Board priorities and corporate requirements, focusing on key deliverables over the next five years while considering long-term needs.

The plan includes five strategic directions: building a future-ready work force, attracting new riders and retaining customer loyalty, placing transit at the centre of Toronto's future mobility, transforming for a changing environment, and addressing fiscal imbalance. It also emphasizes safety, equity, diversity, inclusion, accessibility, environmental sustainability, and innovation.

The Conversion of Scarborough Rapid Transit Right-of-Way to Busway project is closer aligned with the Toronto Transit Commission Corporate Plan 2024-2028 & beyond, addressing several key strategic directions. It supports the goal of building a future ready work force by necessitating new training and operational adjustments. The Toronto Transit Commission will focus on completing the full implementation of the Conversion of the Scarborough Rapid Transit Right-of-Way to Busway project by constructing the dedicated busway between Ellesmere and Kennedy stations. The expected benefits of constructing the busway for customers include a more reliable journey and providing customers with overall journey times that are comparable to previous Line 3 service. The Project aims to attract and retain riders through improved service reliability and connectivity, enhancing overall customer satisfaction. It integrates with Toronto's broader transit network, adapting to evolving mobility needs and modernizing aging infrastructure.

2.3 Toronto Cycling Network Plan (2024)

The Toronto Cycling Network Plan (2024) has a three-year implementation program to allow for more of an adaptable approach because of future infrastructure planning. The City of Toronto aims to intertwine bicycle infrastructure with existing infrastructure.

The Plan highlights the significant corridors within Toronto where higher-order cycling infrastructure has been installed, is underway, or is planned. The Study Area consists of existing and planned cycling routes, discussed in **Section 4** and **Section 5** of the report, respectively.

The Project will support the goals of the Toronto Cycling Network Plan by reducing congestion on the lanes currently used by the Toronto Transit Commission buses. On the assumption that bus lanes will be removed per Toronto Transit Commission, cyclists will operate in mixed traffic which may result in a reduction to comfort. The new bus stops could provide greater amenities for cyclists such as bike racks. Additionally, the Project will improve connectivity to existing cycle networks and integrate future planned connections, supporting efficient and sustainable first and last-mile connections to the Toronto Transit Commission network.

3. Existing Conditions

The following section provides an overview of the existing conditions, detailing information related to routing, travel time, and ridership. This section also details the observations taken from a site visit completed on May 16, 2024.

3.1 Current Transit Services

Currently, Line 3 Bus Replacement Service departing Kennedy Station travels westbound on Eglinton Avenue East, northbound along Kennedy Road, eastbound on Ellesmere Road, northbound on Brimley Road, and eastbound on Triton Road to reach Scarborough Centre Station. Replacement buses heading southbound first exit Scarborough Centre Station, travelling westbound along Triton Road, southbound on Brimley Road, westbound on Ellesmere Road, southbound on Midland Avenue, and westbound on Eglinton Avenue East before arriving at Kennedy Station.

Figure 3-1 illustrates the general routing of buses to and from Scarborough Centre and Kennedy Stations and indicates locations of painted bus lanes for the interim on-street bus routing, per Line 3 Scarborough Rapid Transit Bus Replacement Update (2023). The painted bus lanes are designated as a shared facility for both buses and cyclists (**Figure 3-2**).

Since the closure of Line 3 Scarborough Rapid Transit, several bus routes have been adjusted to provide service between Kennedy and Scarborough Centre stations, with the following intermediate stops:

- Kennedy Road at Lawrence Avenue East (Northbound)
- Kennedy Road at Ellesmere Road (Northbound).
- Ellesmere Road at Midland Avenue (Northbound and Southbound).
- Midland Avenue at Lawrence Avenue East (Southbound).





Source: Line 3 Scarborough Rapid Transit Bus Replacement Update (September 26, 2023)¹

2

Figure 3-2: Painted Bus/Bike Lanes on Kennedy Road



Source: Site Visit on May 16, 2024 Photo Location: East side of Kennedy Road, looking south from Jack Goodlad Park.

^{1. &}lt;u>https://pw.ttc.ca/-/media/Project/TTC/DevProto/Documents/Home/Public-Meetings/Board/2023/Sep-</u>26/4_Line_3_Bus_Replacement_Update.pdf

A list of the existing bus routes that act as the Line 3 Bus Replacement Service and their start and end points can be found in **Table 3-1** below.

Toronto Transit Commission Bus Route Name and Number		Route Start Point	Route End Point
129	McCowan North	Major Mackenzie Drive East at Ridgecrest Road (Stop Number 13527)	Kennedy Station (Stop Number 16391)
131	Nugget	Kennedy Station (Stop Number 16391)	Morningview Trail at Sewells Road (Stop Number 13326)
133	Neilson	Finch Avenue East at Morningside Avenue (Stop Number 14444)	Kennedy Station (Stop Number 16392)
903	Kennedy Station to Scarborough Express	Centennial College Bus Terminal (Stop Number 15886)	Kennedy Station (Stop Number 16381)
939	Finch Express	Finch West Station (Stop Number 15568)	Kennedy Station (Stop Number 16390)
954	Lawrence East Express	Kennedy Station (Stop Number 14708)	Starspray Loop at Lawrence Avenue East (Stop Number 9970)
985	Sheppard East Express	Don Mills Station (Stop Number 14631)	Meadowvale Loop at Sheppard Avenue East (Stop Number 9343)

Table 3-1: Line 3 Replacement Bus Routes

3.2 Interim On-Street Routing

Interim On-Street Routing is Phase 1 of the Line 3 Scarborough Rapid Transit decommissioning plan. This includes implementing bus priority lanes to support onstreet operation on Kennedy Road and Midland Avenue, bus terminal improvements at Scarborough Centre and Kennedy stations, and other transit priority measures, including signal priority and queue jump lanes. The designated bus lanes are painted in red and are shared with cyclists. Other priority measures include pavement markings and turn restrictions at intersections.

3.2.1 Roadways

The interim on-street bus routes primarily use five roadways within the Study Area: Kennedy Road, Eglinton Avenue East, Ellesmere Road, Midland Avenue, and Brimley Road. The bus routes are connected to stations by service roads. The list below provides the service road location and the connected station or stop.

- Service Road at Eglinton Avenue East which connects the busway to Kennedy Station.
- Service Road at Lawrence Avenue East which connects the busway to bus services at the Lawrence East Stop.
- Service Road at Ellesmere Road which connects the busway to the on-street segment and Ellesmere Stop.

The 24-hour daily traffic counts, indicating the number of vehicles using the corridor within the Study Area in 24 hours, are provided in **Table 3-2**. The values are sourced from the City of Toronto report "Transit Priority Measures to Support Scarborough Line 3 Scarborough Rapid Transit Bus Replacement (2023)".

The recorded volumes are based on data from 2019. It is assumed that the conditions in the current year (2024) are similar because most geographical areas in Canada have shown consistent trends, indicating a near-full recovery from COVID-19 in terms of traffic volumes over the past five years. This can be observed from third-party sources including the annual "INRIX Global Traffic Scorecard (2023)²".

The vehicle traffic demand in 2024 closely reflects the data from 2019, as pandemic conditions stunted traffic growth. The highest daily traffic was found to be on Eglinton Avenue East and the lowest can be found along Midland Avenue.

Descriptions of all roadways within the Study Area are provided subsequently in Table 3-3.

Segment	24 Hour Daily Traffic (2019) (Rounded to the nearest thousand)
Kennedy Road	37,000
Eglinton Avenue East	49,000
Ellesmere Road	30,000
Midland Avenue	25,000
Brimley Road	28,000

Table 3-2: Daily Traffic for Interim Bus Route Roads

Source: Transit Priority Measures to Support Scarborough Line 3 Scarborough Rapid Transit Bus Replacement (2023)

^{2. &}lt;u>https://inrix.com/scorecard/?utm_source=hellobar&utm_medium=direct</u>

Table 3-3: Roadway Description

Roadway	Туре	Speed	Configuration	Direction	Sidewalk	
Kennedy Road	Major Arterial	50 kilometres/hour	 Six lanes north of Ellesmere Road and four lanes south of Ellesmere Road. Two-way left-turn lane in most sections between Eglinton Avenue East and Ellesmere Road. Dedicated bus-bike lane in red, in the northbound direction. Signage was provided for lane sharing with cyclists and buses. 	North-South	Yes, on both sides of the road.	Park
Eglinton Avenue East	Major Arterial	50 kilometres/hour	 Six lanes, divided by a concrete median with turning only permitted at the adjacent signalized intersections. Dedicated bus-bike lane in red on north side of roadway. 	East-West	Yes, on both sides of the road.	 Stop and (Rest Road
Ellesmere Road	Major Arterial	50 kilometres/hour	 Six lanes. Dedicated bus lane in red. Signage was provided for lane sharing with cyclists and buses. 	East-West	Yes, on both sides of the road.	Park
Midland Avenue	Major Arterial	50 kilometres/hour	 Four lanes. Dedicated bus-bike lane in red in the southbound direction. Signage was provided for lane sharing with cyclists and buses. 	North-South	Yes, on both sides of the road.	Park Aver
Tara Avenue	Local Road	40 kilometres/hour	Two lanes.	East-West	Yes, on both sides of the road.	Truck
Brimley Road	Major Arterial	50 kilometres/hour	 Four lanes. The southbound lane at Brimley Road and Ellesmere Road is designated as right-turn only with an exception for public transit. The northbound lane at Brimley Road and Triton Road is only designated as a right-turn only. 	North-South	Yes, on both sides of the road.	Park betw
Triton Road	Local Road	40 kilometres/hour	Two lanes.	East-West	Yes, on both sides of the road.	Park

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3.2.2 Ridership

As per the Transit Priority Measures to Support Scarborough Line 3 Scarborough Rapid Transit Bus Replacement (2023) report by the City of Toronto, the 43 Kennedy and 57 Midland bus routes ran in the north-south direction with a daily combined ridership of approximately 30,000 people on an average weekday (in 2019, pre-pandemic), and about 21,000 people in 2022.

There were approximately 35,000 daily passengers on Line 3 Scarborough Rapid Transit before COVID-19 and an estimated 22,000 Line 3 Scarborough Rapid Transit riders in 2022 that would become express bus users after Line 3 Scarborough Rapid Transit was decommissioned by the end of 2023.

3.2.3 Travel Time

Travel time is the time it takes for a bus to complete its route. As of November 2023, the travel time between Scarborough Centre and Kennedy stations is approximately 17 minutes to 22 minutes (based on scheduled travel times).

3.3 Site Visit

On May 16, 2024, a site visit to the Study Area was completed by AECOM to verify existing conditions. The key findings from the site visit are outlined in **Table 3-4**.

Table 3-4: Site Visit Key Findings

Location	Side of Line 3 Scarborough Rapid Transit Corridor	Key Findings
Ellesmere Station	East	 The Ellesmere Station pedestrian tunnel was closed at the time of the site visit. However, it was observed to be not universally accessible with stair access only. AECOM understands that the station parking lot on the east side of the corridor contains accessible parking spaces, but passengers can only cross the corridor through the pedestrian tunnel, again with stair access only.
Ellesmere Station	West	 Wayfinding signage for stop access is not visible from Ellesmere Road or the access roads which lead directly to the station.
Lawrence East Station	East	 There are three industrial buildings on the east side of the corridor, within 100 metres of the station parking lot. The Lawrence East Station pedestrian tunnel was closed at the time of the site visit. However, it was observed not to be universally accessible with stair access only. It was noted that the station parking lot located on the east side of the corridor contains accessible parking spaces, but passengers can only cross the corridor through the pedestrian tunnel, which has stair access only.
Lawrence East Station	West	On the west side of the corridor, the existing station configuration only allows pedestrian access to the station building via a north entrance. Pedestrians from the south must walk a longer distance around the access road to reach the station entrance.
Tara Avenue	Both	An overhead pedestrian crossing is provided across the Line 3 Scarborough Rapid Transit corridor, linking Tara Avenue and Mooregate Avenue.
Tara Avenue	East	 The future stop will be accessible from the west side of the corridor at Mooregate Avenue. There is no direct access from the east side of the corridor as a result of the Stouffville Line that the GO Train service operates on. Accordingly, passengers coming from the east need to first cross the pedestrian overpass before accessing the station at ground level.
Tara Avenue	West	An east-west trail connection through Jack Goodlad Park is available from Kennedy Road to the stop. Wayfinding signage could be implemented.

4. Future Conditions

The following section covers future conditions identified for Phase 2 of the Line 3 Scarborough Rapid Transit decommissioning plan. It provides an overview of the busway routing, ridership and travel time estimates, as well as the Future Build Scenario, Future No-Build Scenario, and post-Scarborough Subway Extension conditions.

The Future Build Scenario (**Section 4.1**) outlines the expected conditions of the Study Area following the construction and operation commencement of the busway from 2027 to 2030. The Future No-Build Scenario (**Section 4.2**) outlines the expected conditions of the Study Area until 2030 if the Conversion of the Scarborough Rapid Transit Right-of-Way to Busway project does not proceed.

The post-Scarborough Subway Extension condition under each section outlines the expected conditions of the Study Area following the planned development, given the respective scenarios. Metrolinx is expected to complete the implementation of the new Scarborough Subway Extension by 2030, which was planned to replace Line 3 Scarborough Rapid Transit, and is expected to serve approximately 105,000 passengers daily.

4.1 Future Build Scenario

A dedicated busway corridor is expected to provide a fast and efficient connection between Scarborough Centre and Kennedy stations. The busway will convert the existing at-grade portion of the previous Line 3 Scarborough Rapid Transit corridor into a dedicated busway, operating on its own right-of-way and providing service between Kennedy Station and Ellesmere Road, with intermediary stops at Lawrence Avenue East and Tara Avenue. At the Ellesmere Stop, access to/from the busway is provided.

Buses travelling to Scarborough Centre Station will exit the busway and travel along existing roadways on dedicated transit priority lanes and in mixed traffic on Ellesmere Road, Brimley Road and Triton Road.

Figure 4-1 illustrates the busway route alignment.



Figure 4-1: New Busway Route

The following assumed changes will occur once the busway is operational:

- Select designated bus lanes and signage are expected to be removed³.
- The adjusted signal timings during Phase 1 along Kennedy Road and Midland Avenue will revert to the pre-interim on-street routing timings.

^{3.} The assumption that the NB Kennedy and SB Midland bus lanes will be removed is made for this report only. No decision on the status of these facilities has been confirmed by the Toronto Transit Commission as of June 2024.

4.1.1 Busway Stops

The following section provides context and locations of the stops which will serve the busway.

4.1.1.1 Ellesmere Road Stop

Ellesmere Road Stop is located outside the existing Ellesmere Station, which served Line 3 Scarborough Rapid Transit. Ellesmere Station is currently closed and will remain closed during busway operations. The stop is adjacent to residential and industrial land uses on the west and south of the site. It is situated under the Ellesmere Road overpass. There is no existing bicycle parking available at Ellesmere Station. See **Figure 4-2** for further details.



Figure 4-2: Ellesmere Road Stop

There is an existing sidewalk (one side) on Ellesmere Service Road (West) that connects to the existing station building. Access to the new stop will be provided via the new sidewalk. Existing station parking is available on the east side of the corridor, which connects to Ellesmere Station via an underpass.

4.1.1.2 Lawrence Avenue East Stop

Lawrence Avenue East Stop is located just south of the former Lawrence East Station which served the Line 3 Scarborough Rapid Transit and will remain closed once the busway is in operation. There are residential homes within 100 metres of the stop. North of the stop are industrial land uses. Bicycle parking exists on the north side of the station, as well as sidewalk connections to the surrounding roadways. Existing station parking is available on the east side of the corridor, connecting to Lawrence East Station via an underpass. See **Figure 4-3** for further details.



Figure 4-3: Lawrence Avenue East Stop

4.1.1.3 Tara Avenue Stop

For the new planned stop at Tara Avenue, new southbound and northbound bus platforms will be constructed with pedestrian access from the west side of the corridor at Mooregate Avenue. Tara Avenue and Mooregate Avenue are residential streets, and the existing pedestrian bridge over the corridor will provide access for customers coming from the east. The stop is close to several parks, including Jack Goodlad Park and Lord Roberts Woods. To the west of the busway, a multi-use trail runs parallel to the Gatineau Hydro Corridor Trail at Tara Avenue/Mooregate Avenue. See **Figure 4-4** for further details.



Figure 4-4: Tara Avenue Stop

4.1.2 Planned Cycling Infrastructure

The Major City-Wide Cycling Routes Map (2021)⁴, prepared by the City of Toronto, details planned cycling routes in the Study Area: an east-west multi-use path via the Gatineau Hydro Corridor Trail between Kennedy Road and Eglinton Avenue East just west of Victoria Park Avenue, and from the east, the Gatineau Hydro Corridor Trail connects south to Kennedy GO Station.

^{4. &}lt;u>https://www.toronto.ca/wp-content/uploads/2023/02/8d17-For-Attachment-3-Map-of-Major-Citywide-Routes.pdf</u>

In addition, there are ongoing studies for cycling routes along Midland Avenue and Brimley Road in the Study Area. A future study may be considered for Lawrence Avenue East and Ellesmere Road to further enhance connectivity per the City of Toronto 2025-2027 Cycling Program⁵.

4.1.3 Ridership

An increase of 8% in system-wide ridership is expected for 2027. This number was provided by the Toronto Transit Commission and aligns with their 5-Year Service and Customer Experience Action Plan (2024-2028). Thus, the typical daily busway usage is expected to be 22,200 passengers in 2027, similar to the ridership figures for the Line 3 Scarborough Rapid Transit in 2022 (22,000 passengers).

4.1.4 Travel Time

Anticipated travel time for future operations from Scarborough Centre Station to Kennedy Station is expected to be 15 minutes, per Toronto Transit Commission communication. This improvement ranges from approximately 2 to 7 minutes compared to existing conditions. The decrease is due to factors such as buses operating in an exclusive right-of-way for most of the journey between Scarborough Centre and Kennedy stations.

4.1.5 Post Scarborough Subway Extension Conditions

After the completion of the Metrolinx Scarborough Subway Extension in 2030, the Toronto Transit Commission's Line 2 will be extended from Kennedy Station to Sheppard Avenue and McCowan Road. The alignment and station locations of Scarborough Subway Extension are illustrated in **Figure 4-5** below.

At Kennedy Station, the subway extension will connect to local and regional transit services, including Toronto Transit Commission Line 2, Toronto Transit Commission Line 5 – Eglinton Crosstown Light Rail Transit, the GO Train Stouffville Line, and Durham Region Transit buses.

The busway is expected to continue operating beyond the completion of the Scarborough Subway Extension and will continue to provide an efficient north-south transit spine. However, significantly reduced service levels are anticipated due to the redundancy with the Scarborough Subway Extension.

⁵ <u>https://www.toronto.ca/legdocs/mmis/2024/ie/bgrd/backgroundfile-245673.pdf</u>

Figure 4-5: Ultimate Conditions – Scarborough Subway Extension



4.2 Future No-Build Scenario

In the Future No-Build Scenario, the dedicated busway corridor will not be constructed. Instead, the current interim measures, which include on-street bus routing along Kennedy Road and Midland Avenue, will remain in place until the targeted completion of the Scarborough Subway Extension in 2030.

These interim measures will be discontinued in 2030 once the Scarborough Subway Extension becomes operational (i.e., post-Scarborough Subway Extension condition).

Despite this, on-street bus route ridership on Kennedy Road and Midland Avenue is projected to increase through 2030 due to population and employment growth in the Scarborough area. However, this ridership increase will be less significant than if the dedicated busway were implemented.

The anticipated population and employment growth will also result in additional non-bus traffic, such as personal vehicles, on Kennedy Road and Midland Avenue. This increase in traffic will likely increase congestion and lead to longer travel times for the interim bus routes.

Overall, the do-nothing scenario, which maintains the current interim measures, will be less adaptable to changes in road network demand and will not provide a good bus rapid transit connection to Scarborough Centre, an urban growth centre, to the rest of the City of Toronto. This is counter to current City Policies as outlined in the Scarborough Centre Secondary Plan.

5. Transportation Impact Assessment, Mitigation Measures, and Monitoring

This section describes the potential impacts that the busway has on traffic and transit operations, and construction impacts to the network. It outlines the qualitative assessment of impacts on the multi-modal network and identifies opportunities and challenges for walking, cycling, driving, and goods movement in the Study Area. The Project impacts are presented by stops and road segments.

5.1 Construction

Acknowledging most construction activities will be off the road right-of-way, there is still potential for impacts due to construction staging and heavy vehicle movement in and around the stops. These are outlined in **Table 5-1**. For further information on potential construction impacts and mitigations, refer to the Socio-Economic and Land Use Study (AECOM, 2024) report prepared for this Project.

Table 5-1: Construction Impacts At/Near Stops

Key Components	Construction Impacts and Mitigations	Description
General Traffic Flow in Study Area	Construction Impacts	 Impact on general traffic will be minimal or localized since most work will occur off the main roads. Traffic disruptions will occur mainly on access routes leading to the work zones for material movement and deliv construction vehicles making specific turning movements at nearby intersections. Generally minimal impacts to emergency response times with potential for them to be slightly longer due to the work of emergency.
General Traffic Flow in Study Area	Mitigations	 To manage construction effects, advance advisory signage will be installed, including roadway closing information to affected residents and businesses. Emergency response and incident management plans will be prepared and implemented, with pre-construction and relevant authorities. The Toronto Transit Commission shall prepare traffic and Transit Management Plans a Construction activities will be monitored by a qualified inspector to ensure compliance with mitigation plans, and assessed and adjusted as needed. A suitable traffic management plan will need to be established to ensure access for local businesses and reside ordination between all parties (i.e., businesses, residents, the Toronto Transit Commission, contractors, etc.) will
Pedestrian and Cycling Facilities in Study Area	Construction Impacts	 Bike lanes, multi-use paths, and sidewalks may be temporarily restricted, closed, or removed, with temporary pathor those with mobility aids. The presence of construction equipment and trucks used to access the work zone for the movement and deliver challenges for pedestrians and cyclists. Planned cycling improvements in the vicinity of may be impacted and should be co-ordinated.
Pedestrian and Cycling Facilities in Study Area	Mitigations	 To manage construction impacts, efforts will include maintaining pedestrian and cyclist access through work zor paths promptly when sidewalks or paths are removed. Clear signage will be placed at decision points to inform of closures, and detours will be made visible or adequate A safety program will implement best practices for pedestrian and cyclist movement through the construction zor be monitored. Additionally, impacts on the cycling network will be continuously monitored, and mitigations will be adjusted as r

very. There will be increased activity from

work off the main roads and dependent on location

ion at least two weeks prior and notices distributed

planning meetings held with emergency services and Traffic Control Plans before construction. I traffic and transit effects will be continually

ents can be maintained during construction. Coill be essential to mitigate impacts.

aths potentially being less direct or uncomfortable

ry of construction of materials may also pose safety

nes whenever possible and providing temporary

ately signed. one, and temporary access routes and fencing will

needed.

5.1.1 Construction Projects in Proximity

Several projects in proximity to the busway may potentially impact the construction of the Project. Impacts could include increased noise levels, increased traffic from construction vehicles, and potential detours as a result of construction activities.

Co-ordination between all parties will be critical to mitigate the impacts of adjacent construction-related activities. The construction projects identified are summarised as follows (see **Figure 5-1** for further details):

- Bikeway Trail: A bikeway trail is being constructed along the Meadoway/Gatineau Corridor, which starts from Kennedy Road and ends at the Line 3 Scarborough Rapid Transit corridor⁴. This trail fills an existing gap in the corridor. Per City of Toronto interactive map of planned construction, the construction timeline is 2022 - 2025.
- Rehabilitation: Paving rehabilitation is anticipated at Kennedy Road and Cornwallis Drive (north side), which is expected to be completed by 2025.
- Moratorium: A city policy prevents non-emergency utility cuts from taking place on the road surface along Midland Avenue, from Lawrence Avenue East to St. Clair Avenue, and from Ellesmere Road to Highway 401. This policy expires in 2026 and supports the existing Line 3 Bus Replacement Service.



Figure 5-1: Projects in the Vicinity of Busway

5.2 **Operations**

This section provides an overview of the stops and the potential impacts the busway may have on the adjacent transportation network. Refer to **Appendix A** for 60% detailed design.

5.2.1 Ellesmere Road Stop

Ellesmere Road Stop is the northernmost stop along the busway. Buses will be routed east-west from Ellesmere Road Stop to Scarborough Centre Station along Ellesmere Road. This stop is adjacent to several subdivisions consisting of townhomes and singlefamily homes. An overview of Ellesmere Road Stop is provided in **Figure 5-2**. The numerical labels within the figure indicate areas where a photograph from the site visit has been provided for additional clarification. Discussed below are the key impacts and mitigations.

- Active Transportation Impacts and Mitigations
 - Bikes are permitted in the dedicated transit lanes along Ellesmere Road, but this does not extend down to the stop. By adding cycling facilities along the service roads from Ellesmere Road to the stop and providing bike parking facilities at the stop, there is an opportunity to encourage a shift to more sustainable modes for the last-mile connection.
 - At the stop, the sidewalk will interface with buses as they enter and exit the busway at two locations. Safety-enhancing treatments such as continuous sidewalks (subject to further study) or high-visibility crosswalks can improve pedestrian safety.
- Driving and Goods Movement Impacts and Mitigations
 - Buses, personal vehicles, and goods movement vehicles will interact on the north and south sides of Ellesmere Road as buses enter and exit the busway. Impacts to goods movement vehicles would be minimal as no major routes would be disrupted.
- Wayfinding, Customer Experience, and Accessibility Impacts and Mitigations
 - As wayfinding signage for stop access is not visible from Ellesmere Road or the access roads which lead directly to the bus stop (per Section 3.3), signage is recommended for a more efficient user experience.



Figure 5-2: Ellesmere Road Stop Overview

- Ellesmere Road Stop may not be clearly visible from the street level due to being located at the end of a turn and blocked by the substation building per Icon 1 in Figure 5-2. Consider sightlines and implement additional wayfinding from both east and west sides of the stop as applicable.
- As described in Section 3.3, the stop would need to increase accessibility as there are limited options and connectivity between the east and west sides of the corridor. Accessibility requirements will need to be reviewed thoroughly to ensure compliance and protect curbside access, allowing buses within 50 millimetres of the curb to deploy and retract bus accessibility ramps, per Accessibility for Ontarians with Disabilities Act. Icon 2 in Figure 5-2 displays the staircase from the east side of the corridor to the underpass connecting to the west side of the corridor.

5.2.1.1 Potential Impacts, Mitigation Measures & Monitoring at Ellesmere Road Stop

Table 5-2 summarizes the potential Impacts, Mitigations, and Monitoring Activities, associated with transportation movements in and around the Ellesmere Road Stop.

Table 5-2: Summary of Impacts, Mitigations, and Monitoring Activities at Ellesmere Road Stop

Key Components	Potential Impacts	Mitigation Measures	Monitoring Activities
Active Transportation	 Bikes permitted in dedicated transit lanes along Ellesmere Road but lack extension to the stop. 	 Add cycling facilities along service roads from Ellesmere Road to the stop and provide bike parking at the stop. 	 Not Applicable.
Active Transportation	 Sidewalk interface with buses at two locations, posing potential pedestrian safety risks. 	 Implement safety-enhancing treatments such as continuous sidewalks or high-visibility crosswalks to improve pedestrian safety (subject to further study). 	 Collect and analyze data on pedestrian incidents or near-misses.
Driving and Goods Movement	 Buses entering and exiting the busway (and stop area) introduces a new turning movement conflict point with general purpose vehicles on the north and south sides of Ellesmere Road including Jolly Way. Minimal impacts are anticipated to goods movement vehicles. 	 "Do Not Enter" signs and "Toronto Transit Commission Vehicle Only" signs are provided per the design to deter general purpose traffic from inadvertently accessing the busway and bus stop area. 	Regularly review and update traffic signage and control measures to ensure clarity and effectiveness.
Wayfinding, Customer Experience, and Accessibility	 Lack of visible wayfinding signage for stop access from Ellesmere Road and access roads. The Ellesmere Road Stop is not clearly visible from the street due to its location and the substation building, which obstructs it. 	 Consider sightlines and implement additional wayfinding signage from both east and west sides of the stop to improve visibility. 	 Regularly inspect and maintain wayfinding signage to ensure visibility and effectiveness.
Wayfinding, Customer Experience, and Accessibility	 Limited accessible options and connectivity between the east and west sides of the corridor. 	 Review and improve accessibility options during the detailed design stage to ensure compliance with accessibility requirements. 	Not Applicable.

5.2.2 Lawrence Avenue East Stop

Lawrence Avenue East Stop is on the north-south segment of the busway, situated adjacent to a subdivision consisting primarily of single-family homes. The bus stop is approximately 50 meters north of the hydro corridor and Meadoway/Gatineau Corridor Trail.

However, there is a gap in the trail connecting Kennedy Road and Marcos Boulevard, where cyclists will need to reroute south to Tara Avenue. The primary bus stop access is provided on the west side of the busway corridor, and a commuter parking lot is available to the east. See **Figure 5-3** for further details.

Active Transportation Impacts and Mitigations

- According to the City of Toronto 2025-2027 Cycling Program⁵, cycling facilities are planned on Lawrence Ave East. Additionally, cycling upgrades are anticipated to fill the gap in the Meadoway/Gatineau Corridor Trail between Kennedy Road and Marcos Boulevard.
- The design at this stop should consider opportunities to integrate with the planned trail upgrades, such as connecting south through Arsandco Park and providing sufficient bike parking and other supporting amenities (e.g., bike fix-it stands) at the stop.
- This stop features a fully signalized intersection, accommodating both pedestrian crossings and bus access to the busway. A pedestrian crossing is provided between the northbound and southbound stop platforms.

Driving and Goods Movement Impacts and Mitigations

- Impacts to goods movement is anticipated to be minimal. Note there are approximately three industrial buildings on the east side of the corridor, which are in close proximity to the Scarborough Rapid Transit station building parking lot. See Icon 1 in Figure 5-3 for further detail. There will be continued potential interaction between freight vehicles (trucks) and personal vehicles, both from local residents and businesses and those accessing the bus stop. Traffic control measures including signage (i.e., 'Do Not Enter' and 'Stop") could be considered to reduce the potential impacts of mixed-traffic operations.
- On the west side of the corridor, residential and industrial traffic, as well as the City of Toronto emergency services are all accessed through Lawrence Avenue East access road.

Figure 5-3: Lawrence Avenue East Stop Overview

Wayfinding, Customer Experience, and Accessibility Impacts and Mitigations

- Access to the decommissioned Lawrence East Station is via a sidewalk on the north side of the station (see Icon 2 in Figure 5-3 and Section 3.3 for further details). No pedestrian access currently exists from the south of the station.
- The bus loop will be used for the routes servicing this stop. To contribute to a positive pedestrian experience, consideration be given to implementing additional wayfinding signage south of the new stop.
- As described in Section 3.3, the stop should increase accessibility as there are limited options and connectivity between the east and west sides of the corridor. Accessibility requirements will need to be reviewed thoroughly to ensure compliance and protect curbside access, allowing buses within 50 millimetres of the curb to deploy and retract bus accessibility ramps, per Accessibility for Ontarians with Disabilities Act.

5.2.2.1 Impacts, Mitigation Measures & Monitoring at Lawrence Avenue East Stop

Table 5-3 summarises the potential Impacts, Mitigations, and Monitoring Activitiesassociated with transportation movements in and around the Lawrence Avenue EastStop.

Table 5-3: Summary of Impacts, Mitigations, and Monitoring Activities at Lawrence Avenue East Stop

Key Components	Potential Impacts	Mitigation Measures	Monitoring Activities
Active Transportation	 Planned cycling facilities on Lawrence Avenue East and anticipated cycling upgrades in the Meadoway/ Gatineau Corridor Trail may require integration with the stop. 	 Consider creating connections through Arsandco Park. Provide sufficient bike parking and supporting amenities, including bike fix-it stands, at the stop. 	 Not Applicable.
Driving and Goods Movement	 Potential interaction between freight vehicles (trucks) from three nearby industrial buildings and personal vehicles accessing the stop's parking lot, leading to mixed-traffic operations and potential congestion or safety issues. Impacts to goods movement vehicles would be minimal as no major routes would be disrupted. Residential, industrial, and the City of Toronto emergency services interact on the west side of the corridor. 	 Introduce adequate signage and traffic control measures to manage the flow of mixed traffic and minimize conflicts. 	Regularly review and update traffic signage and control measures to ensure they are effective and clear.
Wayfinding, Customer Experience, and Accessibility	 There is no pedestrian access from the south of Lawrence East Stop in current conditions. 	 Implement signage south of the stop to guide access and create a positive pedestrian experience. 	 Regularly inspect and maintain wayfinding signage to ensure visibility and effectiveness.

5.2.3 Tara Avenue Stop

Tara Avenue Stop will be a new stop on the busway. It is situated between two subdivisions of primarily single-family homes. An accessible pedestrian railway overpass connects to Mooregate Avenue and the Gatineau Hydro Corridor Trail. Further details see **Figure 5-4**.

- Active Transportation Impacts and Mitigations
 - A pedestrian crossing is provided between the northbound and southbound stop platforms. Refer to **Appendix A** for the 60% detailed design stop drawings.
 - A fully signalized intersection is provided for pedestrians and for buses to enter/exit the busway.
 - Safety concerns associated with pedestrian-bus conflict at the crossing location include visibility, distracted walking, and bus speed. Mitigation measures include signalization, high-visibility markings, pedestrian refuge islands, improved lighting, reduced speed limits and clear signage.
 - The stop is accessible from the west side of the corridor at Mooregate Avenue. Measures to make this connection easier and more direct for passengers should include enhanced wayfinding and ancillary passenger amenities, such as benches/seating at the entrance/exit points of the pedestrian bridge and handrails. Refer to Icon 1 on Figure 5-4 and Section 3.3 for further details.
 - For cyclists, the stop is accessible via the existing Gatineau Hydro Corridor Trail and the shared bike lanes on Tara Avenue and Fitzgibbon Avenue. See Icon 2 in Figure 5-4 for further details. To encourage a shift to sustainable modes for last-mile connections, bike parking facilities should be implemented at the stop.
 - The addition of the Tara Avenue Stop may increase pedestrian and cyclist volumes on both sides of the corridor for passengers looking to access the stop. Consider wayfinding at major connecting roadways (Kennedy Road and Midland Avenue) and opportunities to enhance users' safety and comfort.
- Driving and Goods Movement Impacts and Mitigations
 - Tara Avenue and Mooregate Avenue have one lane per direction. Once the stop is constructed, limited vehicular traffic from pick-ups and dropoffs on these roads could occur.

Figure 5-4: Tara Avenue Stop Overview

- Tara Avenue has sharrows (shared lane markings). Measures should be implemented to reduce conflict between the interfaces of different modes of transportation (i.e., cyclists, pedestrians, auto drivers) accessing the area. Impacts to goods movement vehicles are not anticipated.
- East of the stop is an elementary school (Lord Roberts Junior Public School). Measures to address the increased traffic demand on Tara Avenue and Mooregate Avenue should consider the age group of pedestrians who will frequent the area.
- Wayfinding, Customer Experience, and Accessibility Impacts and Mitigations
 - From Kennedy Road to the stop, an east-west trail connection through Jack Goodlad Park is available; see Icon 3 in Figure 5-4 for further details.
 - Implementation of new wayfinding signage be considered for the future Tara Avenue Stop at Kennedy Road. In addition⁶:
 - To ensure year-round service, a winter maintenance plan should be developed/implemented for the Kennedy Road trail access to the stop.
 - Trees and other vegetation along the south side of the trail should maintained to avoid trail and sightline encroachment and to present a welcoming environment.
 - Lighting is currently not available along the trail. Due to increased foot traffic at all hours, it is recommended that lighting be implemented.
 - Ensure compliance with accessibility requirements such as protecting curbside access, allowing buses within 50 millimetres of the curb to deploy and retract bus accessibility ramps, per Accessibility for Ontarians with Disabilities Act.

5.2.3.1 Impacts, Mitigation Measures & Monitoring at Tara Avenue Stop

Table 5-4 summarises the potential Impacts, Mitigations, and Monitoring Activities associated with transportation movements in and around the Tara Avenue Stop.

^{6.} Note that these measures are situated outside the Toronto Transit Commission's right-of-way. Further discussion and coordination with the relevant parties are necessary to ensure the implementation of the required improvements.

Table 5-4: Summary of Impacts, Mitigations, and Monitoring Activities at Tara Avenue Stop

Key Components	Potential Impacts	Mitigation Measures
Active Transportation	 Potential safety concerns associated with pedestrian crossing between northbound and southbound stop platforms. Safety concerns associated with pedestrian-bus conflict at the crossing location include visibility, distracted walking, and bus speed. 	 Select crossing location to ensure clear sightlines and minimize walking distances. Install signalization, high-visibility markings, improved lighting, reduced speed limits and clear signage.
Active Transportation	 Inefficient pedestrian connection from the west side of the corridor at Mooregate Avenue, affecting passenger convenience and experience. 	 Consider strong wayfinding and amenities such as benches to improve the connection and make it more enjoyable for passengers.
Active Transportation	The stop is accessible for cyclists via the existing Gatineau Hydro Corridor Trail and Tara Avenue and Fitzgibbon Avenue which have shared lane markings.	Implement bike parking facilities at the stop to encourage a shift to sustainable modes for last-mile connections.
Active Transportation	 Anticipate increased pedestrian and cyclist volumes on both sides of the corridor due to the addition of Tara Avenue Stop. 	 Implement wayfinding at major connecting roadways (Kennedy Road and Midland Avenue).
Driving and Goods Movement	 Vehicular traffic/activities - limited pick-up & drop-offs on Tara Avenue and Mooregate Avenue. An elementary school (Lord Roberts Junior Public School) is located east of the stop. Impacts to goods movement vehicles are not anticipated. 	 Implement measures to reduce interface conflicts between the different modes of accessing the area, such as cyclists, pedestrians, and auto drivers.
Wayfinding, Customer Experience, and Accessibility	 Slight increased traffic, both in auto and active transportation modes, is anticipated in the neighbourhood around Tara Avenue and Mooregate Avenue. An east-west trail connection through Jack Goodlad Park is available from Kennedy Road to the stop. Street lighting is currently not provided along the trail. 	 Implement wayfinding signage for the future Tara Avenue Stop at Kennedy Road. Develop a winter maintenance plan for the Kennedy Road trail access to the stop. To avoid encroachment onto the trail, keep trees and other vegetation along the south side of the trail pruned and trimmed. Implement street lighting to improve safety along the trail.

Monitoring Activities

- Conduct safety audits and gather data on pedestrian incidents or near-misses at the crossing.
- Not Applicable.
- Not Applicable.
- Not Applicable.
- Conduct traffic studies to monitor the flow and interaction of personal vehicles and cyclists.
- Inspect and maintain wayfinding signage, vegetation, and trail for safety and security both prior to and post-implantation of street lighting along the trail.

5.3 Road Transportation Network

This section provides an overview of the road transportation network within the Study Area, reviewing and confirming connectivity and capacity post-implementation of the busway.

It is assumed that once the busway is in operation, the northbound Kennedy Road and southbound Midland Avenue bus lanes will be removed⁷. This change will restore these roads to two lanes from one lane, which is expected to improve travel times for general traffic in the area. Currently, the bus lanes on Midland Avenue and Kennedy Road serve as shared bus-bike lanes. With the assumption that shared bus and bike lanes will be removed, this may cause cyclists to experience reduced comfort and safety by sharing the road with all vehicles, and not just buses.

No changes are planned for the dedicated transit lanes on Ellesmere Road, so the current travel times and delays will remain the same. Similarly, no changes are anticipated for Brimley Road and Triton Road, which are used to access Scarborough Centre Station.

The multi-lane, four-way stop at the Triton Road and Borough Drive intersection should be monitored and assessed for operations for future traffic conditions. As traffic volumes increase, operations and performance of the intersection may require installation of a traffic signal or geometric updates to maintain efficient movement and protect the general safety of all modes/users. At the time of the site visit-mid-day on May 16th, driver hesitation was observed, which is anticipated to increase due to the intersection's proximity to the mall, especially during weekday and weekend peak periods.

Overall, the busway will reduce conflicts between buses and other transportation modes, such as cars and trucks, by providing a dedicated right-of-way. Currently, buses travel in mixed traffic on Midland Avenue and Kennedy Road, which increases the risk of collisions. Additionally, pedestrian safety will be enhanced with dedicated bus stops offering features such as shelters, well-lit areas, dedicated crosswalks, and other amenities.

^{7.} The assumption that the NB Kennedy and SB Midland bus lanes will be removed is made for this report only. No decision on the status of these facilities has been confirmed by the Toronto Transit Commission as of June 2024.

5.4 Emergency Access

Emergency vehicle access will be a key consideration at all busway stops to protect the safety and well-being of passengers and the surrounding community. Where large emergency vehicles, such as fire trucks, are unable to access the busway corridor, a comprehensive emergency management plan should be developed and implemented. This should include detailed protocols and alternative routes to maintain safety standards and ensure timely emergency response.

The maneuvering requirements of emergency vehicles in neighbouring streets should also be considered in future phases of busway implementation planning to prevent potential delays in emergency response.

Additionally, regular monitoring activities and assessments should be conducted to test and refine the accessibility plans, ensuring their robust effectiveness under various emergency scenarios. Collaboration with local emergency services during the planning and implementation phases will further enhance the efficacy and reliability of these plans, ultimately contributing to a safer and more resilient transportation network.

Three Toronto Fire Stations have been identified within 1-kilometre of the busway corridor:

- Toronto Fire Station 221 (2575 Eglinton Avenue East).
- Toronto Fire Station 232 (1550 Midland Avenue).
- Toronto Fire Station 245 (1600 Birchmount Road).

6. Conclusions and Recommendations

The Transportation Impact Assessment was completed for both Existing and Future conditions with the new busway in operation. The assessment determined project impacts from an integrated multimodal perspective, where the new busway served three inline stops at Ellesmere, Lawrence East, and Tara Avenue. The multimodal assessment and the respective analysis/findings were broken down into the key components summarized in **Table 6-1** below.

The assessment demonstrates that enhanced connectivity at stops along the busway corridor could encourage the use of alternative transportation modes and enable passengers to travel more efficiently.

Table 6-1: Multimodal Assessment Summary

Key Components	Transportation System	Toronto Transit C
Travel Time	On the assumption that the bus lane will be reverted to a general purpose lane, the increase in capacity is expected to improve general traffic operations.	The busway provides a journey time saving Commission) and increases service reliability
Active Transportation	On the assumption that the bus lane will be reverted back to a general purpose lane, cyclists will operate in mixed traffic which may result in a reduction in comfort. The new bus stops may provide greater amenities for cyclists (bike racks/storage).	Improving connectivity to existing cycle netw would support efficient and sustainable first a Commission network.
Vehicle and Goods Movement	The dedicated right-of-way provided by the busway will mitigate any conflicts between different modes of transportation to improve traffic flow, improving overall Toronto Transit Commission bus operations. Impacts to goods movement vehicles would be minimal as no major routes would be disrupted. There are three industrial buildings in proximity with the Lawrence Avenue East Stop, which may be impacted by the busway traffic.	The busway will remove Toronto Transit Cor may be opportunities to investigate further in configuration to enhance the egress/ingress
Wayfinding and Accessibility	The bus stops have been designed to ensure accessibility for passengers. At the busway stops, it is recommended to provide Toronto Transit Commission bus service information and signage to key local destinations. This Project aims to declutter streetscape to deliver more obstruction-free access for all users to/from the stop area.	The bus stops have been designed to ensur- is recommended to provide Toronto Transit key local destinations. This Project aims to d access for all users to/from the stop area.
Safety	The busway would reduce Toronto Transit Commission bus conflicts with other transportation modes, such as auto vehicles and trucks, compared to existing conditions where buses travel in mixed traffic.	The busway would reduce Toronto Transit C modes, such as auto vehicles and trucks, co mixed traffic.
Emergency Access	As the Toronto Transit Commission advances the detailed design of Phase 2 of the Scarborough Rapid Transit decommission plan, the emergency services providers will need to be consulted. This will include reviewing and refining elements such as turning radii for emergency vehicles and access points for emergency service personnel.	As the Toronto Transit Commission advance Rapid Transit decommission plan, the emerg This will include reviewing and refining elem- access points for emergency service person
Construction	The impacts on the transportation network are anticipated to be minimal and localized to the construction traffic egress/ingress points. Disruption to the immediate surrounding areas will primarily result from construction activities, such as noise and dust at the stops and the conversion of Scarborough Rapid Transit right-of-way to the busway.	The impacts on the transportation network a construction traffic egress/ingress points. Dis primarily result from construction activities, s conversion of Scarborough Rapid Transit rig

ommission Transit Service

of two to seven minutes (per the Toronto Transit ty.

works and integrating future planned connections and last-mile connections to the Toronto Transit

mmission bus routes from congested corridors. There mprovements on the design of the stop geometry/ s for buses.

re accessibility for passengers. At the busway stops, it Commission bus service information and signage to declutter streetscape to deliver more obstruction-free

Commission bus conflicts with other transportation ompared to existing conditions where buses travel in

es the detailed design of Phase 2 of the Scarborough gency services providers will need to be consulted. The terms such as turning radii for emergency vehicles and anel.

are anticipated to be minimal and localized to the isruption to the immediate surrounding areas will such as noise and dust at the stops and the ght-of-way to the busway.

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Scarborough Rapid Transit Bus Replacement Conversion of Scarborough Rapid Transit Right-of-Way to Busway 60% Detailed Design Drawings.

Appendix A

60% Detailed Design Drawings Photologs

