3.3 Cultural Environment

3.3.1 Archaeological Resources

Two Stage 1 Archaeological Assessments were carried out for the project: the first completed in 2016 to assess Stage 1 of the project, and the second in 2017 to assess the additional scope captured in Stage 2 of the project (Doris Avenue and Beecroft Road). Assessment activities were performed in accordance with the provisions of the Ontario Heritage Act (R.S.O. 1990) and following Ontario Ministry of Heritage, Sport, Tourism and Culture Industries (*formerly Ministry of Tourism, Culture and Sport*) Standards and Guidelines for Consultant Archaeologists (2011).

The first Stage 1 Archaeological Assessment was carried out to identify and assess the known and potential archaeological heritage resources within the right-of-way (ROW) along Yonge Street from Sheppard Avenue to the Finch Hydro Corridor. The second Archaeological Assessment was completed to evaluate any archaeological potential for approximately 2.0 km sections of Beecroft Road, Doris Avenue and Willowdale Avenue from Sheppard Avenue East/West to Finch Avenue East/West.

Both Stage 1 Archaeological Assessment findings were consistent for the broader area. The fulsome study area encompasses three historic communities, which developed around significant crossroads along Yonge Street. Today, very little remains of these early communities with the exception of the historic Willowdale Cemetery, which dates to the early 1800's.

The recommendations from the Stage 1 Archaeological Assessments and mitigation measures are summarized in **Section 8.3.1**. Both Stage 1 Archaeological Assessments are available in **Appendix E**.

3.3.2 Built Heritage Resources and Cultural Heritage Landscapes

A cultural heritage assessment was carried out to provide preliminary information about built heritage resources and cultural heritage landscapes within a 1 km radius and within the study area. The assessment focused on identifying cultural heritage landscapes and built heritage resources that are older than forty years and recognized heritage resources. Secondary source information was reviewed and consultation occurred with North York Community Preservation Panel to obtain background information about heritage in the broader area.

A total of 15 municipally-identified heritage properties are located within 1 km of the expanded study area including Doris Avenue and Beecroft Road. **Exhibit 3-16** summarizes the existing heritage properties included in the City of Toronto's heritage register as either listed or designated. **Exhibit 3-17** lists the non-designated or listed

properties that have heritage potential and are being considered for designation or listing.

Exhibit 3-16: Existing Listed or Designated Built Heritage Resources within the Study Area

Property Address	Details	Heritage Status
349 Kenneth Avenue	Willlowdale United Church, 1954; J. E. Hoare Jr., Architect; Adopted by City Council on Oct 1, 2004	Listed
25 Abbotsford Road	Robert Lackie House, 1875	Listed
250 Beecroft Road	812-1998 Joseph Shepard House; Also Dempsey Bros. Store, 1860, Relocated from 4804 Yonge Street in 1996; Designation ByLaw Enacted by North York City Council on Dec.17, 1998	Part IV
20 Mckee Avenue	Joshua Cummer House, Circa 1845, Later Second Floor Addition.	Listed
34 Parkview Avenue	31872 John Mckenzie House, 1913; Designation By-Law Enacted By North York City Council on Nov. 4, 1992	Part IV
5172 Yonge Street	David Gibson House, 1851; Designation By-Law Enacted by North York City Council on Dec. 15, 1980	Part IV
5151 Yonge Street	North York Hydro Building, 1929	Listed
5050 Yonge Street	North York Board Of Education Offices, 1970; Mathers & Haldenby Architects	Listed
101 Senlac Road	775-1999 Michael Shepard House, 1859; Designation By-Law Enacted by City Council on Nov. 25, 1999	Part IV
90 Burndale Avenue	Joseph Shepard House, Circa 1835; Designation By-Law Enacted by North York City Council on June 22, 1994	Part IV
18 Harrison Garden Boulevard	31251 Elihu Pease House, circa 1834; Designation By-Law Enacted by North York City Council on July 11, 1990;	Part IV

Property Address	Details	Heritage Status
	Originally located at 34 Avondale Avenue.	
285 Cummer Avenue	381-2007 St. John's Convalescent Hospital, adopted by City Council on Feb 8, 2007; Designation by-law enacted by City Council on Apr 24, 2007	Part IV
5926 Yonge Street	Newtonbrook Store	Listed
270 Drewry Avenue	Reuter House, circa 1870, later additions	Listed
34 Avondale Avenue	31251 Moved to 20 Harrison Garden Blvd; Elihu Pease House	Part IV
Cemetery	York Cemetery	Not Applicable

Exhibit 3-17: Potential Built Heritage Resources / Cultural Heritage Landscapes within the Study Area

Property Address	Details	Heritage Status
5100 Yonge Street	North York Civic Centre: Potential Heritage Property due to Modernists Construction Techniques	Not Registered
5100 Yonge Street	Mel Lastman Square: Potential Heritage Landscape	Not Registered
5040 Yonge Street	Toronto Centre for the Arts: Potential Heritage Property due to Modernists Construction	Not Registered
80 Sheppard Avenue E	Moorhead Park: Potential Heritage Landscape	Not Registered
172 Finch Avenue W	Arthur Edward Waine House: intention to Designate adopted by City Council on April 24, 2007	Intention

Potential impacts to the heritage resources and proposed mitigation measures are summarized in **Section 7.3.2**. **Appendix F** contains the Heritage Overview Report.

3.4 Transportation

The following section documents the existing transportation conditions in the study area. As discussed in Chapter 2, the overarching issue is a lack of consistent infrastructure to support multimodal mobility. This is needed in order to diversify the transportation options along Yonge Street, providing modal choice to residents, workers, students and shoppers while increasing the flexibility of the transportation system to adapt to future social and technological trends.

3.4.1 Street Network

The Study Focus Area includes three arterial roadways. Yonge Street is the primary north-south major arterial, with Doris Avenue and Beecroft Road running parallel to Yonge Street to the east and west, as minor arterials. The primary east-west arterial roadways are Finch Avenue and Sheppard Avenue. East-west collector roads include Empress Avenue / Park Home Avenue and Church Avenue / Churchill Avenue, as shown in **Exhibit 3-18**. **Exhibit 3-18a** illustrates the location of signalized intersections; **Exhibit 3-18b** illustrates the designated right-of-way widths for the arterial street network.

Doris Avenue and Beecroft Road form a critical part of the North York Centre Secondary Plan and fulfill a service road function. They are designed to facilitate traffic circulation within the area, while ensuring a smooth transition from the high-density Yonge Street to the low-scale residential areas surrounding it. They are also designed to separate heavy traffic from local traffic related to surrounding residential neighbourhoods.

For north-south through traffic, there are several alternative routes to Yonge Street within the study area, forming a grid network. The major arterials Bathurst Street and Bayview Avenue run parallel to Yonge Street to the west and east, respectively, extending beyond Steeles Avenue in the north and beyond the Wilson Avenue / York Mills Road corridor in the south. Senlac Road (west of Yonge Street between Sheppard Avenue and Finch Avenue) and Willowdale Avenue (east of Yonge Street from just south of Sheppard Avenue to Steeles Avenue) are classified as minor arterials and provide additional north-south route options.

The cross-section of six lanes plus a median (or centre two-way left-turn lane) is consistent along the Yonge Street corridor within the study area. However, the designations and widths of the lanes vary, as shown in **Exhibits 3-19a-b**. In particular, on-street parking is permitted in the curb lane along much of the corridor from 7:00 am to 9:00 am and 4:00 pm to 6:00 pm on weekdays. The speed limit is 50 km/h.

TORONTO

WSP

Re-Imagining Yonge Street
Sheppard Ave To Finch Ave EA Study

Exhibit 3-18a
Street Network with Signalized Intersection

TORONTO

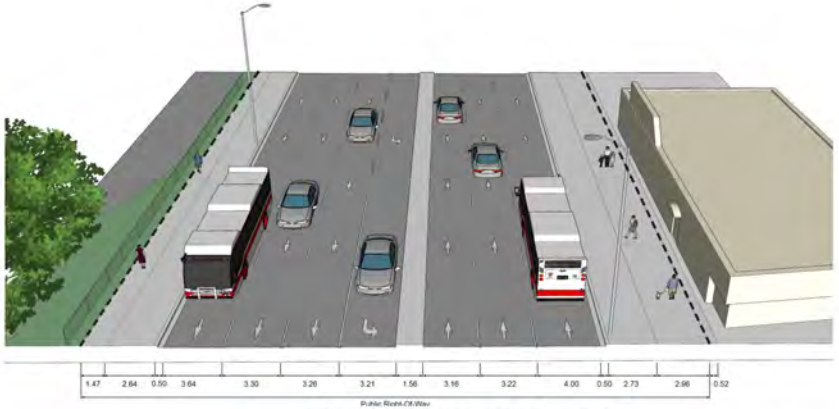
WSP

Re-Imagining Yonge Street

Sheppard Ave To Finch Ave EA Study

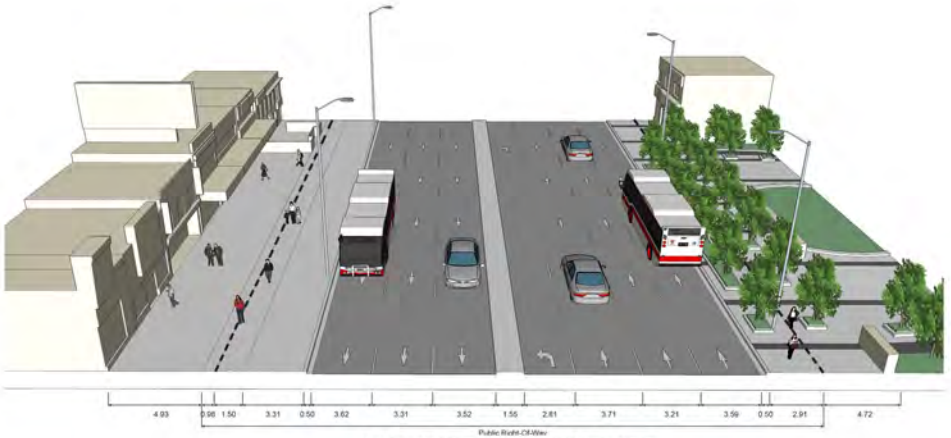
Exhibit 3-18b

Designated Right-of-Way Widths for Arterial Street Network



Public Right-of-Way = 36.15 metres

1. NORTH OF BISHOP AVENUE
Looking North

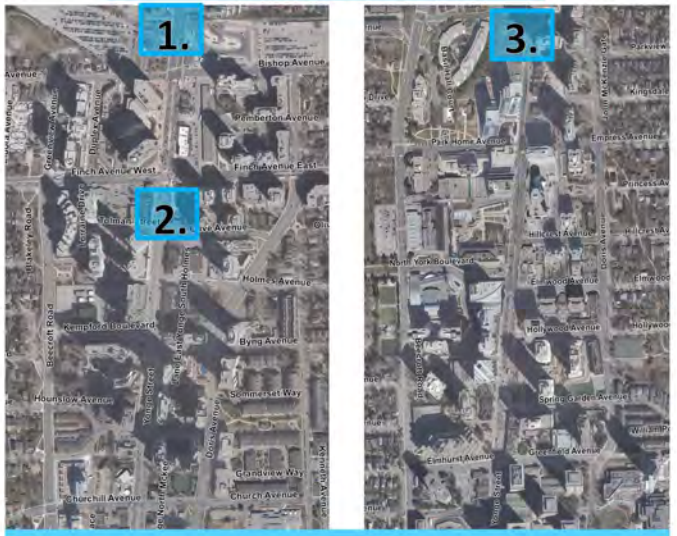


Public Right-of-Way = 35.02 metres

2. SOUTH OF FINCH AVENUE
Looking North

Public Right-of-Way = 34.70 metres

3. SOUTH OF ELLERSLIE AVENUE
Looking North



The curb lanes provide parking during off-peak times

The curb lanes provide parking during off-peak times

Public Right-of-Way = 36.76 metres

4. NORTH OF HILLCREST AVENUE
Looking North

Public Right-of-Way = 37.30 metres

5. SOUTH OF HOLLYWOOD AVENUE
Looking North

Public Right-of-Way = 34.09 metres

6. NORTH OF ELMHURST/GREENFIELD AVENUE
Looking North

Public Right-of-Way = 34.43 metres

7. NORTH OF SHEPPARD AVENUE
Looking North

North of the Yonge Street and Hendon Avenue / Bishop Avenue intersection, the curb lanes are reserved for buses, bikes, taxis and high-occupancy vehicles during weekday peak periods. Throughout the remainder of the corridor, buses travel in mixed traffic in the curb lanes during weekday peak periods. The rest of the time, where parking is permitted, buses and other vehicles travel in the adjacent lane to the curb.

Curb lanes range from 3.4 to 4.0 metres wide, while other through lanes are narrower at 3.2 to 3.7 metres. The curb lanes are wider to accommodate buses. The broad range of lane widths indicates general inconsistency throughout the corridor.

The segments of the raised median that are currently wide enough to accommodate both landscaping and pedestrians are highlighted in the Pedestrian Movement section (**Section 3.4.4**). The majority of the median that is wider than 3.0 metres is already landscaped. On the approaches to intersections, the raised median is 1.0 to 1.5 metres wide, which is wide enough to accommodate traffic signal poles. There are a number of strategic breaks in the median to accommodate left-turns and u-turns by maintenance or emergency services vehicles (e.g. north of Spring Garden Avenue, North York Boulevard / Elmwood Avenue, and Park Home Avenue / Empress Avenue). There are relatively few driveways between Finch Avenue and Parkview Avenue, however there is a continuous centre turn lane along this kilometre-long stretch of Yonge Street that is only interrupted by two signalized intersections approximately 315 metres and 675 metres north of Parkview Avenue on Yonge Street. This two-way centre left turn concept is typically employed in suburban, auto-oriented corridors to facilitate turns to and from numerous driveways – that is no longer the development form present in the Yonge Street study area.

Doris Avenue has a four-lane cross-section. The speed limit is 40 km/h between Sheppard Avenue East and Church Avenue, and between Finch Avenue East and Bishop Avenue. Between Church Avenue and Finch Avenue East, the speed limit is 50 km/h. There are pedestrian clearways on both sides of the street. Lane widths vary, but typically range from 3.3 metres for through lanes to 3.7 metres for curb lanes. Left turn lanes are provided at higher-volume intersections with the exception of Greenfield Avenue. **Exhibit 3-20** shows a typical midblock condition.

Beecroft Road has a four to five-lane cross-section, with a speed limit of 40 km/h. There are pedestrian clearways on both sides of the street. Lane widths vary, but typically range from 3.0 metres for through lanes to 3.7 metres for curb lanes. **Exhibit 3-21** shows a typical midblock condition.

There are no bike lanes or any other cycling facilities along Yonge Street, Beecroft Road or Doris Avenue.

Exhibit 3-20: Existing cross-section on Doris Avenue (North of Empress Avenue)

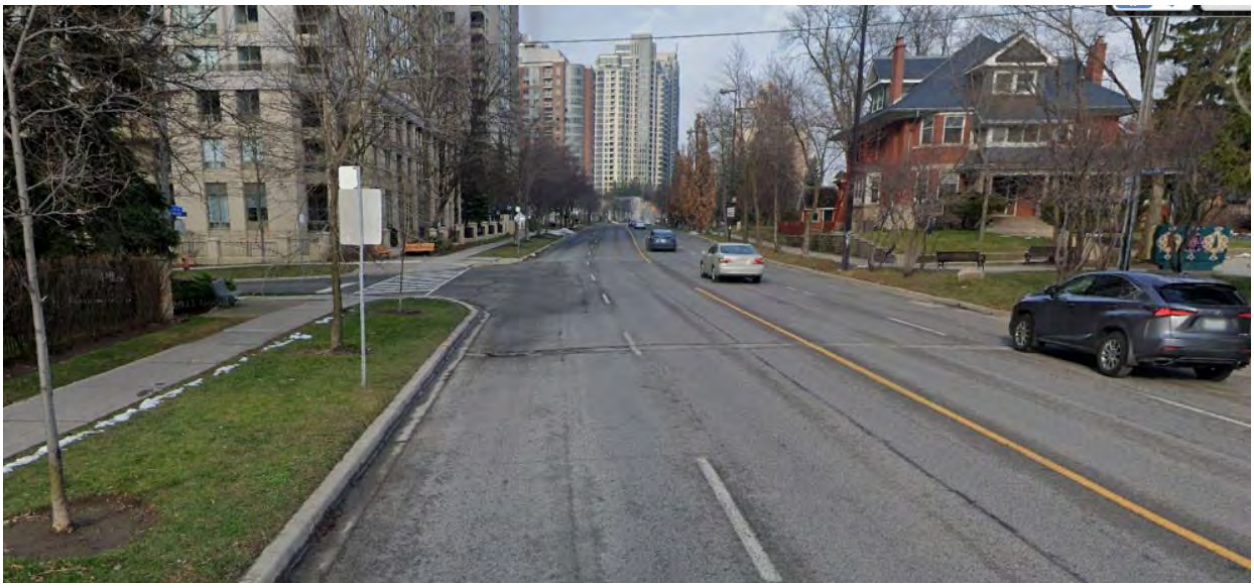
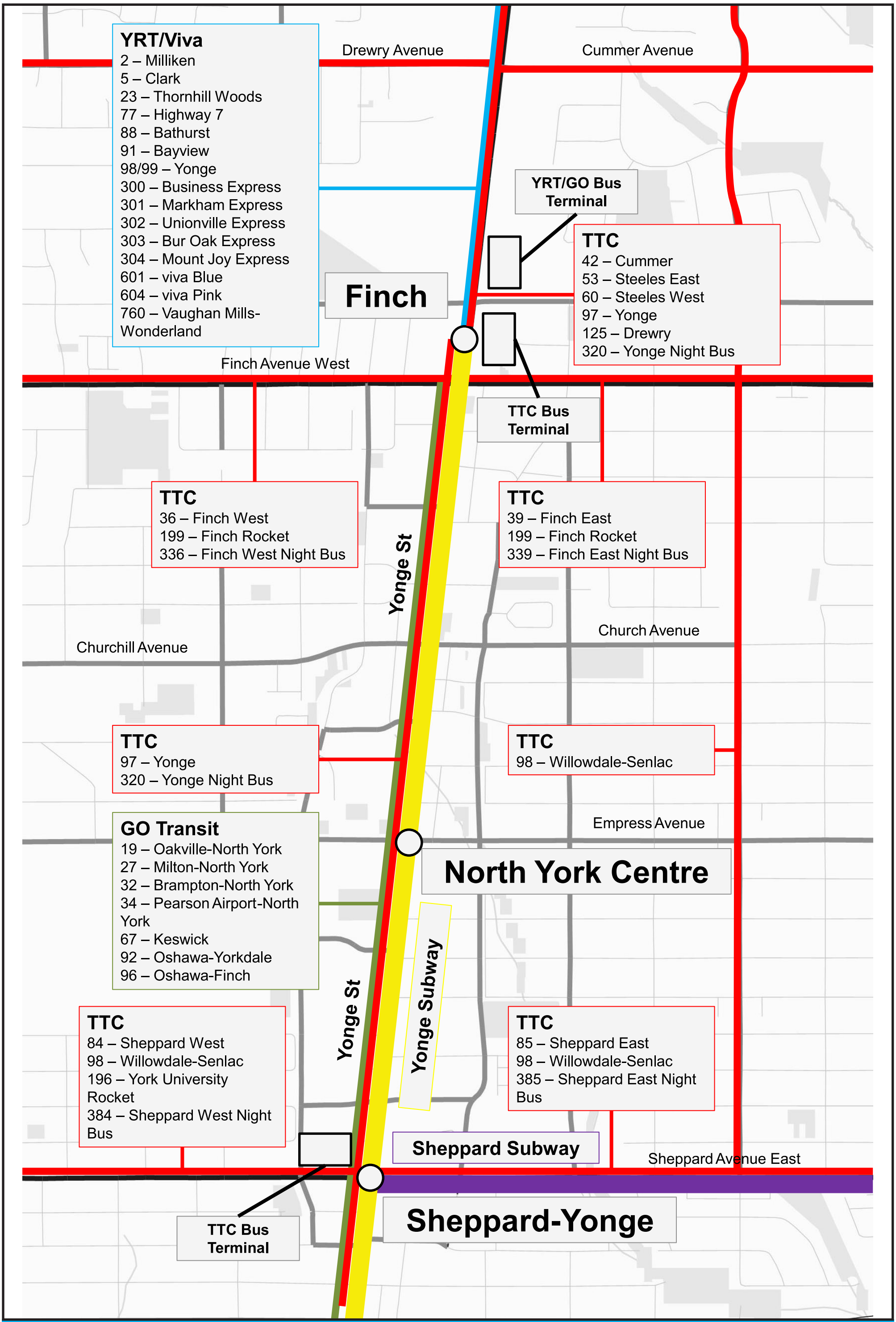


Exhibit 3-21: Existing cross-section on Beecroft Avenue (south of Park Home Avenue)

3.4.2 Public Transit

The ability of North York Centre to support future development while maintaining acceptable levels of traffic demand will be partially dependent on the transportation infrastructure facilitating reductions in auto travel. This modal shift is supported by the mode share target of an overall average transit modal split of 60% as outlined in the NYCSP and the corridor's excellent transit links, which are summarized in **Exhibit 3-22**.


YRT/Viva
2 – Milliken
5 – Clark
23 – Thornhill Woods
77 – Highway 7
88 – Bathurst
91 – Bayview
98/99 – Yonge
300 – Business Express
301 – Markham Express
302 – Unionville Express
303 – Bur Oak Express
304 – Mount Joy Express
601 – viva Blue
604 – viva Pink
760 – Vaughan Mills-Wonderland
Drewry Avenue
Cummer Avenue
YRT/GO Bus Terminal
TTC
42 – Cummer
53 – Steeles East
60 – Steeles West
97 – Yonge
125 – Drewry
320 – Yonge Night Bus
Finch
Finch Avenue West
TTC Bus Terminal
TTC
36 – Finch West
199 – Finch Rocket
336 – Finch West Night Bus
TTC
39 – Finch East
199 – Finch Rocket
339 – Finch East Night Bus
Yonge St
Church Avenue
Churchill Avenue
TTC
97 – Yonge
320 – Yonge Night Bus
TTC
98 – Willowdale-Senlac
Empress Avenue
GO Transit
19 – Oakville-North York
27 – Milton-North York
32 – Brampton-North York
34 – Pearson Airport-North York
67 – Keswick
92 – Oshawa-Yorkdale
96 – Oshawa-Finch
North York Centre
Yonge Subway
Yonge St
TTC
84 – Sheppard West
98 – Willowdale-Senlac
196 – York University Rocket
384 – Sheppard West Night Bus
TTC
85 – Sheppard East
98 – Willowdale-Senlac
385 – Sheppard East Night Bus
Sheppard Subway
Sheppard Avenue East
TTC Bus Terminal
Sheppard-Yonge

The Yonge Street corridor features three Mobility Hubs, as identified in the Mobility Hub Guidelines (Metrolinx, 2011): Sheppard-Yonge, North York Centre and Finch, all of which are served by Line 1 Yonge-University-Spadina Subway. Sheppard-Yonge is also the western terminus of Line 4 Sheppard Subway. In addition to TTC bus route 97 and its branches, frequent GO Transit buses on Yonge Street connect to destinations along Highway 401 such as Oshawa, Mississauga, Yorkdale and Toronto Pearson International Airport, making them readily accessible.

York Region Transit (YRT) routes terminate at the Finch GO Bus Terminal, providing connections to the TTC subway and GO Transit service. These services include the Viva Bus Rapid Transit service, as well as commuter express bus services to employment centres in Richmond Hill and Markham. To support the shift from auto to transit, it is vital that riders can comfortably and conveniently access the Finch GO bus terminal and the multiple transit stops along the corridor.

Of note, Metrolinx is undertaking an environmental assessment for the Yonge North Subway Extension which involves extending the TTC's Line 1 service north from Finch Station to Vaughan, Markham and Richmond Hill. The project will transform commute in York Region and North York by Once the Yonge North Subway Extension is completed and operational, the YRT routes will no longer service Finch Avenue, as described above.

3.4.2.1 Toronto Transit Commission (TTC)

The TTC provides extensive subway and bus service in the area, as shown in **Exhibit 3-22**.

Within the Study Focus Area, Line 1 Yonge-University-Spadina Subway provides a direct subway connection to downtown Toronto and to Line 2 Bloor-Danforth with 5-minute headways between trains during off-peak periods and 2-3 minute headways during peak periods.

Line 4 Sheppard Subway runs between the Sheppard-Yonge and Don Mills stations, with headways of 5-6 minutes. The utilization of the line is steadily increasing with residential development along the Sheppard Avenue East corridor, as well as retail attractions such as Bayview Village and Fairview Mall. There are TTC and YRT bus connections north to York Region. These factors are contributing to the significance of Sheppard-Yonge station as a key interchange between Lines 1 and 4, and a key destination.

The Line 1 subway is complemented by the 97B, C and F bus routes, which serves all stops between subway stations. The 97C branch continues to Steeles Avenue to the north. The 97 buses have an average headway of 30 minutes. The night bus route 320

also runs along the full length of Yonge Street within the City of Toronto, from Steeles Avenue to Queens Quay. This route operates when the subway is closed overnight and early on Sunday mornings, with headways of 3 to 4 minutes.

Route 199B Finch Rocket is a limited stop route that runs along Finch Avenue East and West. Other Route 199 branches run along Finch Avenue East only. The 39 Finch East and 36 Finch West bus routes serve all stops. All of these routes use the Finch Avenue access point to the TTC subway station, at a combined headway of approximately one per minute.

The Finch TTC Bus Terminal is a busy facility, serving approximately 700 (AM) and 600 (PM) TTC buses (total arriving and departing) during the AM/PM peak periods. These buses on average are arriving/departing with a total of approximately 15,000 riders in the AM, and 17,000 in the PM. These numbers give an indication of the magnitude of TTC riders arriving/departing the station, and the importance to ensuring safe and efficient bus operations on adjacent roadways.

Routes 42 and 125 travel north on Yonge Street to the Drewry Avenue / Cummer Avenue intersection before heading east and west respectively. They enter and exit the Finch TTC Bus Terminal via Bishop Avenue. Routes 53 and 60 use the section of Yonge Street to the north, respectively turning east and west on Steeles Avenue. These buses exit the TTC Bus Terminal onto Yonge Street using the unsignalized access, known as Pemberton, between Finch Avenue and Hendon Avenue / Bishop Avenue, impeding the passage of pedestrians on the east side of Yonge Street as discussed later in this section. Buses for these routes return to the Finch TTC Bus Terminal via the southbound left-turn from Yonge Street onto Bishop Avenue. The combined headway for these routes is less than one minute, hence the impact on pedestrian movements on the east side of Yonge Street and the capacity of the southbound left-turn onto Bishop Avenue is significant.

Route 84 and its branches travel along Sheppard Avenue West past Jane Street via Downsview station. The 84E Rocket makes limited stops in the peak direction between Sheppard and Sheppard West Stations. Cumulatively this represents a bus accessing the Sheppard-Yonge station every two minutes during the weekday peaks. The only access is unsignalized and on Sheppard Avenue West, 100 metres from Yonge Street. The access is located west of Yonge Street and these buses do not travel through the Yonge Street / Sheppard Avenue intersection. Route 85A serves local stops on Line 4 Sheppard Subway in the same manner that Route 97 follows Line 1 providing local service. Route 85A travels through the Yonge Street / Sheppard Avenue intersection, but with headways of 15 to 20 minutes.

Route 98 runs parallel to Yonge Street along Senlac Road and Willowdale Avenue, to the west and east of Yonge Street respectively, and it has 30-minute off-peak headways and 15-minute headways during peak times along Senlac Road only.

There is no bus service on either Beecroft Road or Doris Avenue.

3.4.2.2 GO Transit

The Finch GO Bus Terminal is a key node in the regional transit network. Recent service changes have increased the number of routes serving the Finch GO Bus Terminal, and these run along the full length of Yonge Street within the Study Focus Area before joining Highway 401, providing access to destinations to the west and east in the Greater Toronto Area (GTA). All GO Bus services terminate at the Finch GO Bus Station, with the exception of Route 32 which terminates at York Mills Station (**Photo 1**).

The bus terminal at Sheppard Avenue is part of the subway station and is only used by TTC buses. However, all GO bus services stop on Yonge Street adjacent to the terminal (**Photo 2**). Recent improvements to the GO Bus service along the corridor include the rerouting of 34 Pearson Airport / North York bus service, which used to travel between Highway 401 and York Mills Avenue to the south.

Photo 1: GO Transit buses and York Region Transit (including Viva) serve Finch GO Bus Terminal

Photo 2: GO bus stopping to transfer passengers at entrance to Sheppard-Yonge TTC subway station

Considering the two buses per hour on TTC Route 97, average headways between all buses on Yonge Street are 3-4 minutes during weekday peak periods.

3.4.2.3 York Region Transit / Viva

Finch GO Bus Terminal is also an important southern terminus for York Region Transit (YRT) local and express buses. It is served by Viva Blue, which runs along Yonge Street to Newmarket. Viva service consists of articulated buses have limited stops similar to higher-order transit services. Viva Pink travels between Finch and Unionville GO stations in the weekday morning and afternoon peak periods. Both routes serve Richmond Hill Centre, where passengers may connect to the Viva Purple which runs between York University and Markham-Stouffville Hospital. Viva Blue-A also serves Yonge Street during peak periods but bypasses the Richmond Hill Centre terminal. These services are also illustrated in **Exhibit 3-22**.

YRT also has five express routes that link the Finch GO Bus Terminal to employment centres and residential areas in Markham in the weekday peak periods. They use the reserved lanes on Yonge Street north of Hendon Avenue / Bishop Avenue and electronic toll Highway 407.

Riders using GO Transit, or YRT Viva, regular, or express services can use underground connection to travel to and from the subway. Observations indicates that local residents arrive at the station on foot, taking advantage of the area's optimum location for transit.

YRT and Viva buses use the signalized Yonge Street access to the north of the Hendon Avenue / Bishop Avenue intersection at a rate of approximately one per minute in the morning and afternoon peak periods. This access is also shared with TTC park and ride lot east of Yonge Street.

As mentioned in **Section 3.4.2**, once the Yonge North Subway Extension is completed and operational, the YRT routes will no longer service Finch Avenue.

3.4.2.4 Employer Shuttles and Student Transportation

A number of employer and student shuttles were observed using the north curb of Bishop Avenue near Kenneth Avenue (east of the taxi stand) as a waiting point. Some regional employers use shuttles to fill a last-mile gap between the TTC subway and the workplace. Typical observed morning peak activity consists of three or four highway coaches, school buses and mini-buses making several trips through the peak period.

3.4.2.5 Potential Improvements

The Metrolinx Big Move included an extension of the Line 1 Yonge-University-Spadina Subway to Richmond Hill Centre at Highway 7 in its 15-year plan. This project would further improve the transit connectivity of the area and is undergoing additional study.

The TTC is working to improve the operating headway along Line 1 by implementing a new signaling system which will permit automated train operation, allowing trains to run at closer headways, thus increasing the capacity of the subway line. An extension of Line 1 from the Sheppard West (formerly Downsview) station into Vaughan, crossing Finch Avenue and Steeles Avenue opened in December 2017. This has diverted some riders from the Yonge section of the line, particularly at Finch Avenue and Steeles Avenue.

3.4.3 Cycling

There are currently no dedicated on-road cycling facilities in the Study Focus Area. Cyclists must ride in mixed traffic and are at risk of "dooring" as drivers exit vehicles parked in the curb lane during off-peak periods. Less confident cyclists use the pedestrian clearway, where they may come into conflict with pedestrians. Examples of observed cycling activity are shown in **Exhibit 3-23**.

Existing and proposed cycling facilities are shown in **Exhibit 3-24**. These include recent improvements that have been made to the Finch hydro corridor at the north end of the Study Focus Area. The shading is a 'heat map', which shows the total number of cycling trips originating or ending in the study area. The darker the colour, the more intense the cycling activity. **Exhibit 3-24** identifies Yonge Street as a focus of cycling activity. As part of the City of Toronto's 2019 Cycling Network Update, the City investigated areas of the city where there was a high demand of short trips (under 5 km) not currently being made by bicycle and long walking trips (over 1 km) that could potentially be completed by bicycle in the future. The analysis indicated that Yonge Street from Sheppard Avenue to Finch Avenue as having a moderate cycling demand and that there is a potential for 1501 - 9500 (number varies throughout the study corridor) additional cycling trips per day if more cycling-friendly infrastructure were provided.

The higher land use densities equate to greater overall generation of trips relative to the surrounding area. The proximity of origins and destinations, and the corresponding length of trips, is conducive to cycling.

In addition to being a mode of transportation in its own right, cycling also increases the reach of transit. Riders that live too far away to comfortably walk may bike to the transit stop or station instead. Cycling can also shorten trip times for subway commuters who live between stations. For those that work in York Region, and take YRT or Viva from the Finch GO Bus Terminal but live further south along the corridor, cycling can facilitate the "last mile" of their trip.

GO Transit, Viva / York Region Transit and TTC buses are equipped with bike racks that allow cyclists to take the bikes with them on their journey. The subway system has bicycle restrictions during weekday peak hours. At the Finch GO Bus Terminal, there is covered bike parking (**Photo 3**) which provides weather protection for commuter bikes. Bicycle parking is more limited at the other mobility hubs along the corridor.

Bike parking is available near subway stations and some bus stops (**Photo 4**), however this is the 'ring and post' variety designed for short-term use, with no protection from the elements. At North York Centre station, parking is of the ring-and-post variety and is shared with Empress Walk and other retail and office land uses in the vicinity. At Sheppard station, ring-and-post clusters are available at the Harlandale Avenue and Beecroft Road / Sheppard Avenue West entrances.

Photo 3: Covered bicycle parking at Finch GO bus station

Photo 4: Bike parking near North York Centre subway station and GO bus stop

There are locations where the bike parking supply was observed not to satisfy demand. In such cases, cyclists use other street furniture such as lighting standards to secure their bike (**Photo 5**). Like all forms of parking, the utilization of bike stands is variable. However, there is not always supply to accommodate groups of cyclists (**Photo 6**).

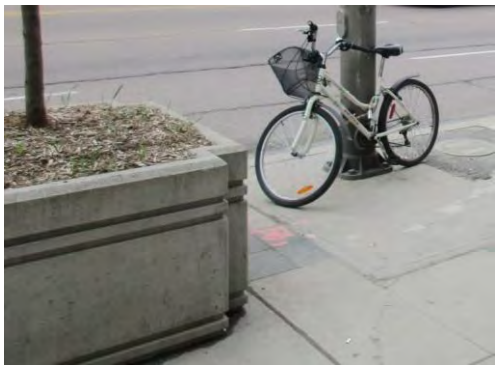
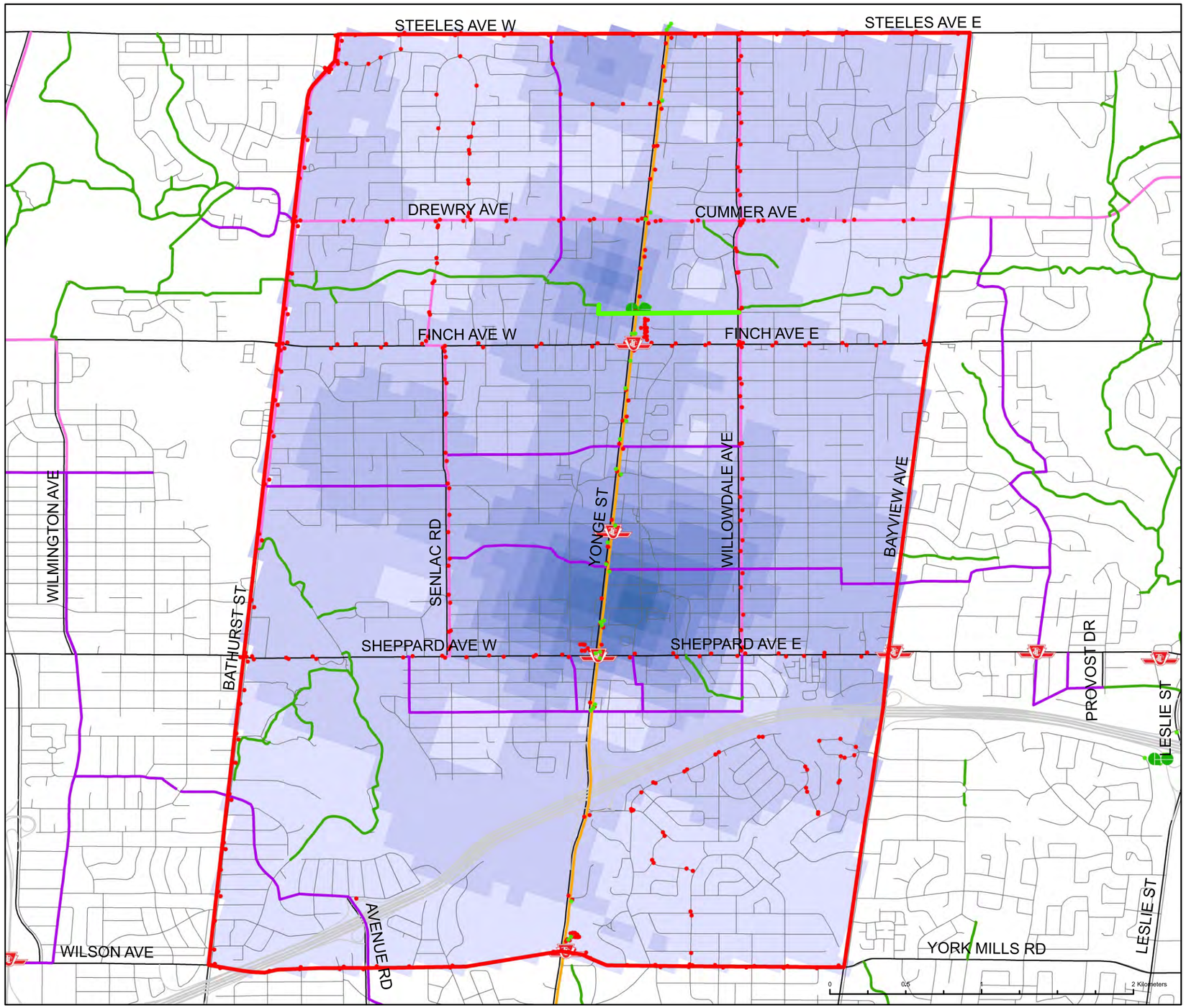


Photo 5: Bike chained to lighting standard due to lack of parking

Photo 6: Parking supply cannot always accommodate groups of cyclists


VIVA
BISHOP
HENDON
NORTH AMERICAN CENTRE
SUBWAY
FINCH E.
FINCH W.
TOLMAN
OLIVE
YONGE
HOLMES
KEMPFORD
BYNG
HORSHAM
NORTHTOWN
CHURCHILL
CHURCH
McKEE
NORTON
ELLERSLIE
YONGE NORTON CENTRE
PARKVIEW
KINGSDALE
PARK HOME
EMPRESS
NORTH YORK CIVIC CENTRE
EMPRESS WALK
SUBWAY
HILLCREST
YONGE
N.YORK
ELMWOOD
HOLLYWOOD
SPRING GARDEN
JOSEPH SHEPPARD BUILDING
GREENFIELD
ELMHURST
HARLANDALE
SUBWAY
SHEPPARD CENTRE
SHEPPARD E.
SHEPPARD W.
HULLMARK CENTRE
ANNDALE
POYNTZ
JOHNSTON
GLENDORA
FLORENCE
AVONDALE



Legend

- Study Area
- GO Stations
- GO Bus Stops
- TTC Subway Stations
- TTC Transit Stops
- Existing Cycling Network
- Proposed major corridor study, to build a City-wide network
- Proposed route on fast, busy street
- Proposed route on quiet street
- Proposed off-road route

Daily Cycling Trips (Originating & Ending)

- <100
- 100-200
- 200-300
- 300-400
- 400-500
- 500-600
- 600-700
- 700-800
- 800-900
- 900-1,000
- >1,000

The City's Bicycle Locking Ring bike parking program provides short term ring and post parking based on suggestions from the public. While this is a beneficial mechanism, it relies on residents and businesses being proactive in requesting sufficient bike parking.

3.4.4 Pedestrian Movement

The Yonge Street corridor is among the densest residential areas in the City of Toronto. Buildings within the Study Focus Area are predominantly high-rise residential and office towers incorporating shops and restaurants at street level. With malls and convenience stores distributed along the corridor, most errands can be undertaken on foot. Based on data collected by the 2016 Transportation Tomorrow Survey, over 15,100 of the 189,400 survey responses indicated the residents walk and/or cycle to work and school, and home (Matatest, 2018). Yonge Street also features popular public spaces, most notably Mel Lastman Square, and a variety of entertainment options.

Every transit rider, cyclist, and motorist is a pedestrian for part of their trip, and the expansion of amenities associated with high-density development and the mobility hubs at Finch, North York Centre and Sheppard stations has encouraged pedestrian activity. This highly walkable land use pattern, combined with excellent transit service, generates significant pedestrian volume.

Pedestrian facilities have been improved at isolated locations as development has occurred. However, improvements to the streetscape have not kept pace with the evolution of the corridor into a transit-oriented community. There is a lack of pedestrian clearway uniformity along Yonge Street, and there are points along the corridor where the pedestrian clearway width available to pedestrians is constrained. **Exhibit 3-25** highlights these locations. The City of Toronto's Official Plan policy requires the incorporation of increased building setbacks (the separation between the building face and the nearest edge of the right-of-way) into new developments. The hatched buildings in **Exhibit 3-25** have recently been developed, hence increased setbacks should not be anticipated in the near term.

It should be noted that there are locations where the effective pedestrian clearway width is constrained by the presence of restaurant patios. These are subject to section 313-36 of the Toronto Municipal Code governing "boulevard cafes" and require a permit from the City. Therefore, for the purposes of this review, they are not considered permanent constraints, and such constrained locations have not been identified.

There are pedestrian clearways on both sides of Yonge Street, however in many cases these are in poor condition due to utility cuts and other excavations. Pedestrian clearway widths along the Yonge Street corridor are provided in **Exhibits 3-19a-b**. All other roads within the Study Focus Area (including Beecroft Road and Doris Avenue) have pedestrian clearways on both sides, with the exception of the following locations:

- Greenview Avenue west side between Hendon Avenue and Finch Avenue West;
- Hounslow Avenue north side between Beecroft Road and Horsham Avenue;
- Ellerslie Avenue north side between Beecroft Road and Yonge Street; and
- Bishop Avenue north side between the Finch GO Bus Terminal and Kenneth Avenue.

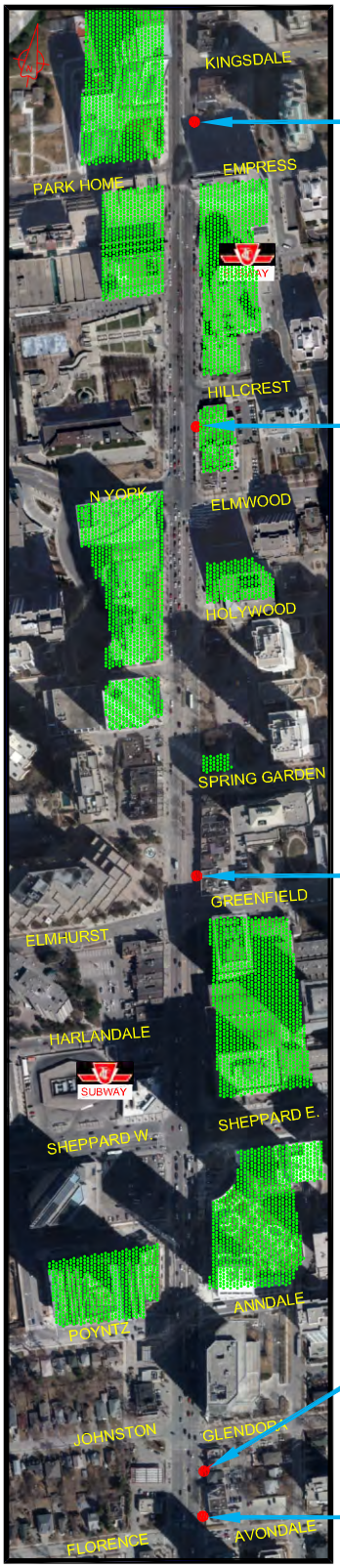
At the latter location, paid parking is in effect and the grass has been worn by motorists and their passengers seeking to avoid walking in the roadway.

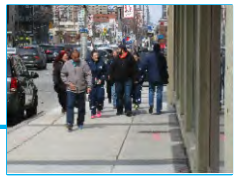
LEGEND

Recent redevelopment on Yonge Street

Constrained width of existing

- sidewalk
- street



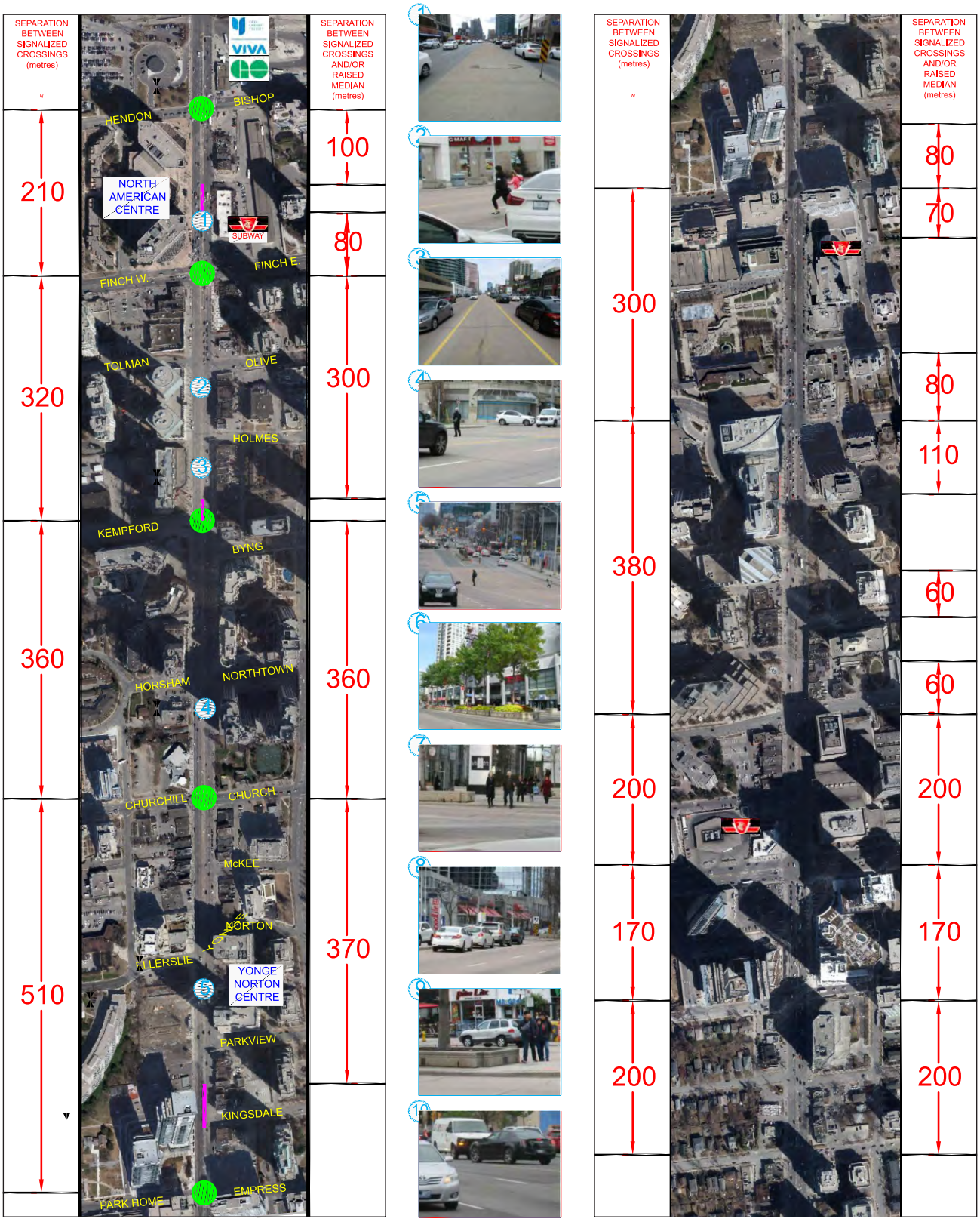


Creation of a successful pedestrian-oriented street requires not only generous pedestrian clearways but also safe and convenient crossings of the street. On Yonge Street, the only secure pedestrian crossing facilities are crosswalks at signalized intersections. There are significant gaps between these, particularly in the northern half of the corridor. **Exhibit 3-26** shows the location of these crossing points, and the column down the left side of the exhibit shows the separation between them in metres.

Exhibit 3-26 also shows the sections of Yonge Street that currently feature a raised median wide enough to accommodate pedestrians. The column on the right side of the exhibit shows the effective separation of crossing opportunities taking the median into account. Pedestrians cross Yonge Street mid-block, taking advantage of gaps in through traffic created by upstream signals turning red. However, gaps do not always occur in both directions of traffic simultaneously. Pedestrians cross to the centre of the street during the first gap in traffic and wait there for a gap in traffic travelling in the opposite direction. The lack of a raised median in some areas does not deter pedestrians from crossing the 7-lane road, and they are vulnerable to being hit by vehicles moving into the two-way left-turn lane.

Between Finch Avenue and Sheppard Avenue, the separation between pedestrian crossings is in excess of 300 metres. The section between Churchill Avenue / Church Avenue and Park Home Avenue / Empress Avenue is 500 metres long. That means a pedestrian standing equidistant between the intersections, and across from their intended destination, would have to walk 500 metres in order to cross the street at one of these locations. This is further than a typical pedestrian would be expected to walk to access a local bus stop.

The distance from the Byng Avenue / Kempford Boulevard intersection to Finch Avenue in the north and to Church Avenue in the south is approximately 300 metres. The spacing from the North York Boulevard / Elmwood Avenue intersection to Park Home Avenue / Empress Avenue in the north and to Elmhurst Avenue / Greenfield Avenue in the south is similar. However, at the latter location, the raised median acts as a refuge in the centre of the road, allowing pedestrians to cross one direction of traffic at a time. Pedestrians do not have to walk more than 110 metres in each direction along Yonge Street in order to cross in this way.



LEGEND

- Signalized Yonge Street intersection with pedestrian crossings
- Existing median wide enough to safely accommodate pedestrians
- Photo location

The signalization pattern on Beecroft Road and Doris Avenue is similar to that on Yonge Street, except:

- Bishop Avenue / Hendon Avenue is only signalized at Yonge Street. The Kenneth Avenue and Bishop Avenue intersection is stop-controlled on Kenneth Avenue, which detracts pedestrians from crossing to the north side of Bishop Avenue where the GO Bus Terminal is located. The Beecroft Road intersection with Hendon Avenue is an all-way stop, but without marked crosswalks. As mentioned above, there are no pedestrian clearway on the west side of Beecroft Road or the north side of Bishop Avenue at these locations.
- Ellerslie Avenue is signalized at Beecroft Road, but not on Doris Avenue or Yonge Street. Therefore, both Yonge Street and Doris Avenue have a gap of over 500 metres between crossing points.
- North York Boulevard / Elmwood Avenue is signalized at Beecroft Road and Yonge Street. There is a gap of around 470 metres between crossing points on Doris Avenue.

Although there are no protected mid-block pedestrian crossings on Yonge Street, there are such facilities on the parallel and intersecting roads. On Beecroft Road, there is a Pedestrian Crossover (PXO) between Park Home Avenue and North York Boulevard connecting the North York Civic Centre on the east side with the Toronto Parking Authority (TPA) parking lot on the west side, and another on North York Boulevard (**Photo 7**). On Doris Avenue, there are Mid-block Pedestrian Signals (MPS) between Hollywood Avenue and Spring Garden Avenue connecting the Claude Watson School for the Arts on the west side to the trail system on the east side (**Photo 8**).

Photo 7: Pedestrian crossover on North York Boulevard

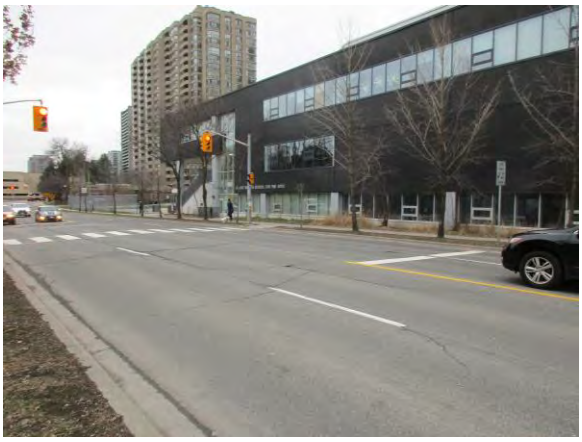


Photo 8: Mid-block pedestrian signals on Doris Avenue

There are two additional locations on Doris Avenue where a pedestrian desire line exists but no crossing facility is present:

- Northtown Park is a public green space on the east side of Doris Avenue. It lies opposite Northtown Way, which features convenience stores and other street-level retail.
- The Clocktower Park on the west side of Doris Avenue, outside the Empress Walk shopping centre, is opposite Princess Avenue on the east side. A sign is in place advising pedestrians to cross at the signalized Empress Avenue intersection 100 metres to the north (**Photo 9**). However, this crossing point is popular with students of the Earl Haig School, which lies about 300 metres directly to the east.

There are relatively few pedestrian-only east-west connections, the most notable being through Mel Lastman Square, Empress Walk and the Clocktower Park, leading to the location on Doris Avenue pictured below. On each side of Yonge Street, the spacing of side streets is typically no more than 200 metres. This provides easy pedestrian access to Doris Avenue in particular.

On Yonge Street itself, there is one mid-block location where the north/south movement of pedestrians is regularly impeded. Most TTC buses serving Finch Station exit onto Yonge Street between Finch Avenue and Bishop Avenue. A subway access portal lies immediately to the south, and limits the visibility of exiting drivers to the extent that they must sit in front of the stop bar in order to look for gaps in oncoming traffic (**Photo 10**). With buses exiting at a peak rate of around one per minute and waiting for gaps in traffic and for queuing from the Hendon Avenue / Bishop Avenue intersection to clear, this obstruction to pedestrians is present for a significant proportion of the time.

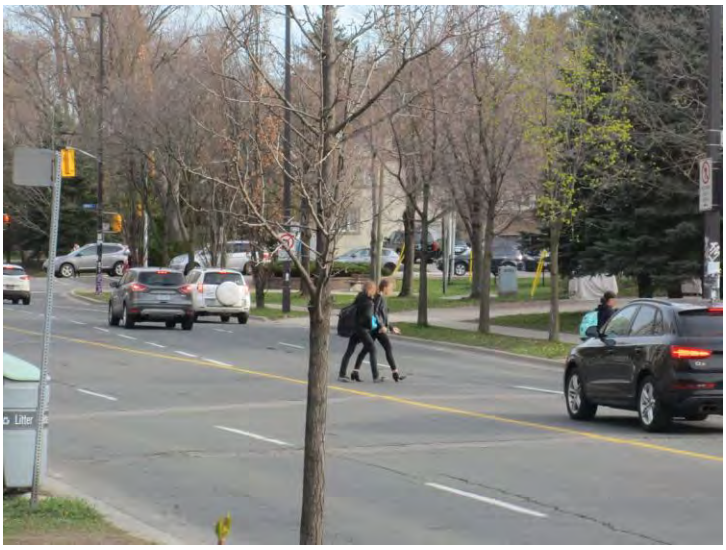


Photo 9: Children jaywalking on Doris Avenue south of Empress Avenue

Photo 10: Bus exiting TTC station onto Yonge Street sits in pedestrian crosswalk area

3.4.4.1 Pedestrian Conditions

The pedestrian conditions at four mid-block pedestrian clearway locations on Yonge Street identified by the City of Toronto were analyzed based on the Highway Capacity Manual (HCM) 2010 methodology. This determines the pedestrian Level of Service (LOS) based on the average delay experienced, as well as the available waiting space, crosswalk, pedestrian clearway dimensions and roadway crossing difficulty. The pedestrian analysis focused on the facilities along Yonge Street. Based on the pedestrian counts provided by the City at the five locations, the peak weekday morning, midday and afternoon pedestrian volumes were identified and evaluated.

The HCM 2010 methodology involves the analysis of the pedestrian delays at intersections, the perceived width and flow rate of the pedestrian clearway, as well as other factors such as distance to crossing locations and pedestrian clearway pinch points. For example, the HCM 2010 has two separate methodologies for evaluating signalized and unsignalized intersections. The signalized intersections are evaluated based on the time (delay) and space (geometric) characteristics of the intersection, while the unsignalized intersections are evaluated based on the time (delay) characteristics only.

The intersection analysis findings are then accounted for in a pedestrian link analysis between the intersections, measuring the average flow along the pedestrian link and comparing it to the perceived width, proximity to vehicles, obstructions in the path of travel and other pedestrian realm characteristics. The link analysis generates a pedestrian level of service score, which is then attributed to a letter grade from 'A' to 'F', representing the best and worst spectrum of performance, respectively.

The findings show that, at the locations indicated, the existing pedestrian facilities operate at very good level of service B. It should be noted that this method exclusively looks at pedestrian volumes and width and flow rates of pedestrian clearways, and although the findings show decent operation, there are other issues with the pedestrian environment and its accessibility. The pedestrian analysis for the locations is summarized in **Exhibit 3-27** below. It should be noted that the pedestrian Level of Service calculation is only a rough indicator of performance. The analysis was completed only for Yonge Street; pedestrian volumes and conflicting activities are much lower on Beecroft Road or Doris Avenue.

3.5 Safety

Safety has been considered both quantitatively, in terms of collision data, and qualitatively, with respect to how Yonge Street, Beecroft Road and Doris Avenue function for each mode of transportation, and with respect to the interactions of pedestrians, cyclists and vehicles.

In 2019, City Council endorsed Vision Zero 2.0, an update and expansion of its Vision Zero Road Safety Plan. Vision Zero 2.0 has a goal of undertaking proactive and targeted initiatives, informed by data and aimed at eliminating serious injuries and fatalities on Toronto's streets. The safety analysis has been undertaken through the lens of this plan.

Exhibit 3-27: Pedestrian Level of Service Analysis

Location on Yonge Street	Weekday A.M. Peak				Weekday Midday Peak				Weekday P.M. Peak			
	Volume	Average Space (ft^2/ped)	LOS Score	Segment LOS	Volume	Average Space (ft^2/ped)	LOS Score	Segment LOS	Volume	Average Space (ft^2/ped)	LOS Score	Segment LOS
45 m south of Finch Avenue W (west side)	452	775	2.49	B	625	560	2.22	B	891	393	2.46	B
40 m south of Olive Avenue (east side)	324	285	2.51	B	431	214	2.21	B	669	138	2.54	B
30 m north of Horsham Avenue (west side)	172	827	2.59	B	256	555	2.27	B	320	445	2.50	B
20 m south of Northtown Way (east side)	152	739	2.52	B	338	332	2.28	B	471	238	2.61	B

3.5.1 Analysis

City of Toronto collision data from 2011 to 2019 has been reviewed for the Study Focus Area, focusing on fatalities and severe injuries, in keeping with the Vision Zero lens. This section explores the collision data to establish the current state of safety on the study corridor. Of note, more recent collision data were not used in the analysis because of the reduced traffic on the roads due to the on-going Covid-19 pandemic, as such, would not be reflective of true conditions.

Yonge Street is a six-lane arterial street with a posted speed limit of 50 km/h. Safety-related aspects of the street are as follows:

- **Pedestrians**: There are pedestrian clearways on both sides of Yonge Street. In some areas where the right-of-way width is limited, the pedestrian clearway is narrower than the City's guidelines for the pedestrian clearway (2.1 metres). In blocks such as Avondale Avenue to Glendora Avenue, the pedestrian clearway is approximately 1.5 metres wide on the east side, immediately adjacent to the traffic lanes. Conditions such as this are not optimal in terms of safety and comfort for pedestrians. Crossing of Yonge Street are available at signalized intersections, there are no pedestrian crossovers or midblock signals. South of Park Home / Empress Avenues to Avondale Avenue, the average spacing is 250 metres between signalized intersections. From this point north to Finch Avenue, the average spacing is 350 metres. There are several locations along the corridor where the distance to the next signalized crossing is greater than 350 metres. This causes additional travel time of approximately five minutes if a pedestrian wants to cross Yonge Street to a destination directly opposite. The required diversion time to reach the crossing point in this case makes it less likely that pedestrians would opt to cross at signalized crossings.
- **Cyclists**: There are no dedicated cycling facilities on Yonge Street. This increases risk exposure for cyclists, and encourages cycling on the pedestrian clearway as an alternative, which increases risk to pedestrians.
- **Motorists**: From Greenfield Avenue in the south to Parkview Avenue in the north, a landscaped median exists. Data discussed below shows that in the section of the street with the median in place, fewer collisions occur. To the north of the existing median, there are several locations where vehicles can turn left at unsignalized intersections. South of Sheppard Avenue to Highway 401, there are numerous locations where left turns from Yonge Street can be made from exclusive left turn lanes, with short weaving distances between intersections.

Beecroft Road is a four-lane urban collector street with a posted speed limit of 40 km/h. Safety-related aspects of the street are as follows:

- **Pedestrians**: There are pedestrian clearways on both sides of the street, and the width of the roadway allows for generous landscaped boulevards for the majority of the corridor. One unique feature of the corridor is the limited number of intersections on the west side of the corridor (i.e. six intersections along the 2.5 km stretch within the study area). This results in a significantly lower number of pedestrian/vehicle conflict points on the west side of the street and therefore better safety conditions for pedestrians.
- **Cyclists**: There are no dedicated cycling facilities on Beecroft Road. Considering the presence of on-street parking, the risk exposure for cyclists is elevated. However, as noted above, there is a relatively low number of cyclist/turning vehicles conflict points on the west side of the corridor (southbound direction of travel). The exposure for cyclists riding on the west side of the corridor is lower compared to other corridors with similar annual average daily traffic (AADT) volumes.
- **Motorists**: There are no safety-related design issues observed for the Beecroft Road that would impact motorists.

Doris Avenue is a four-lane urban collector street with a posted speed limit of 40 km/h between Sheppard Avenue East and Church Avenue, and between Finch Avenue East and Bishop Avenue. Between Church Avenue and Finch Avenue East, the posted speed limit is 50 km/h. Safety-related aspects of the street are as follows:

- **Pedestrians**: There are pedestrian clearways on both sides of the street and the width of the right-of-way allows for generous landscaped boulevards for the majority of the length of the street. There are fewer intersections on the east side of the corridor compared to the west side. This results in significantly lower number of pedestrian/vehicle conflict points on the east side of the street, and therefore lower risk exposure to pedestrians.
- **Cyclists**: There are no dedicated cycling facilities on Doris Avenue. On-street parking is only permitted along the block between Greenfield Avenue and Sheppard Avenue. Hence, from the cyclist / parked vehicle conflict perspective, the risk exposure is lower compared to Beecroft Road. There are fewer intersection legs on the east side of the street in comparison to the west side, lowering cyclist / turning vehicle conflict points in the northbound direction. Hence, the exposure for cyclists riding northbound on the east side of the street is lower compared to other corridors with similar volumes.

- **Motorists**: There are no safety-related design issues that would impact motorists.

Safety has been considered both quantitatively, in terms of collision data, and qualitatively, with respect to how Yonge Street, Beecroft Road and Doris Avenue function for each mode of transportation, and with respect to the interactions of pedestrians, cyclists and vehicles. Data showing the serious injuries and fatalities in the Study Focus Area is shown in **Exhibits 3-28a-c**.

Over a nine-year period from January 2011 to December 2019, there were 143 collisions involving pedestrians and an additional 16 involving cyclists on Yonge Street within the Study Focus Area[1]. Of these collisions, ten involved fatalities or serious injuries as shown in **Exhibit 28a-c**. Majority of these collisions that resulted in serious injuries or fatalities took place where two streets intersected, and many of these collisions took place on Yonge Street. By contrast, there were only two collisions involving serious injuries on Beecroft Road during this period, and seven collisions involving serious injury or a fatality on Doris Avenue from 2011 through 2019. On each of these streets, two of the collisions involved a pedestrian. This indicates a much more prevalent safety issue on Yonge Street.

3.5.2 Conclusions

Over a nine-year period from January 2011 to December 2019, there were significantly more collisions on Yonge Street than on Beecroft Road or Doris Avenue. Factors contributing to the collision experience on Yonge Street include the higher Annual Average Daily Traffic (AADT); higher volumes for each mode of transportation; width of the street (6 lanes, plus exclusive turning lanes); high pedestrian volumes with narrow pedestrian clearways in some areas; lack of cycling facilities; more pedestrian and cyclist/vehicle conflict points caused in part by the lack of signalized locations for crossings; and the proximity to the Highway 401 interchange, which promotes higher speeds observed in this area. While traffic demands during peak times help to moderate speeds, during the evening and overnight periods, when volumes are low, the six-lane cross-section facilitates much higher speeds. The relationship between speed and injury severity is critical for vulnerable road users; higher speeds contribute to higher risk of serious injury and fatality by reducing driver reaction time, increasing vehicle stopping distance, and inflicting more severe blunt force trauma on victims of collisions.

[1] The event on April 23, 2018 where a man driving van deliberately targeted pedestrians in North York Centre, killing 10 and injuring 16, is not included in the count.

Exhibit 3-28a: Serious injuries and fatalities (2011-2019) – Southerly Segment of the Study Focus Area

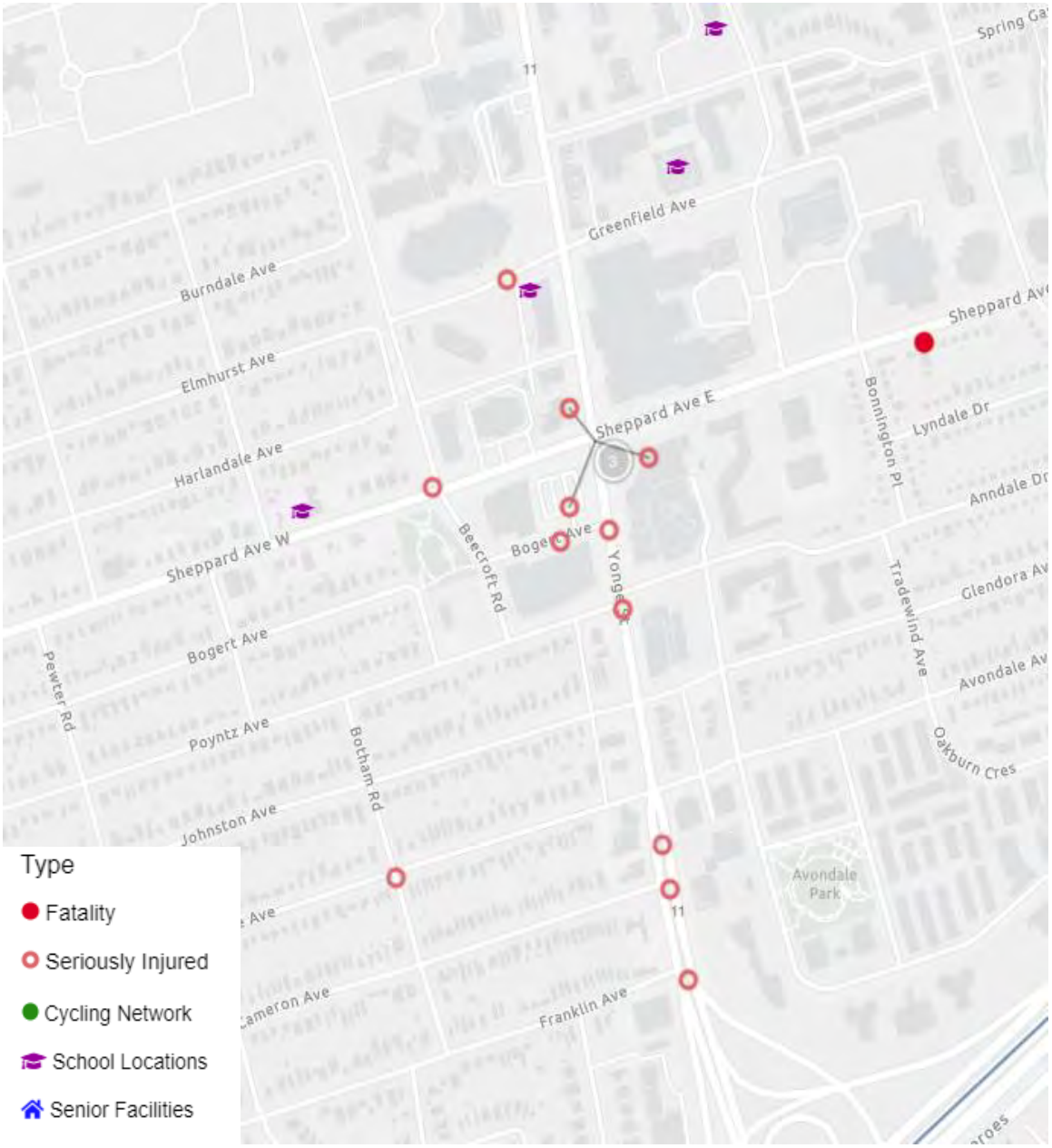


Exhibit 3-28b: Serious injuries and fatalities (2011-2019) – Central Segment of the Study Focus Area

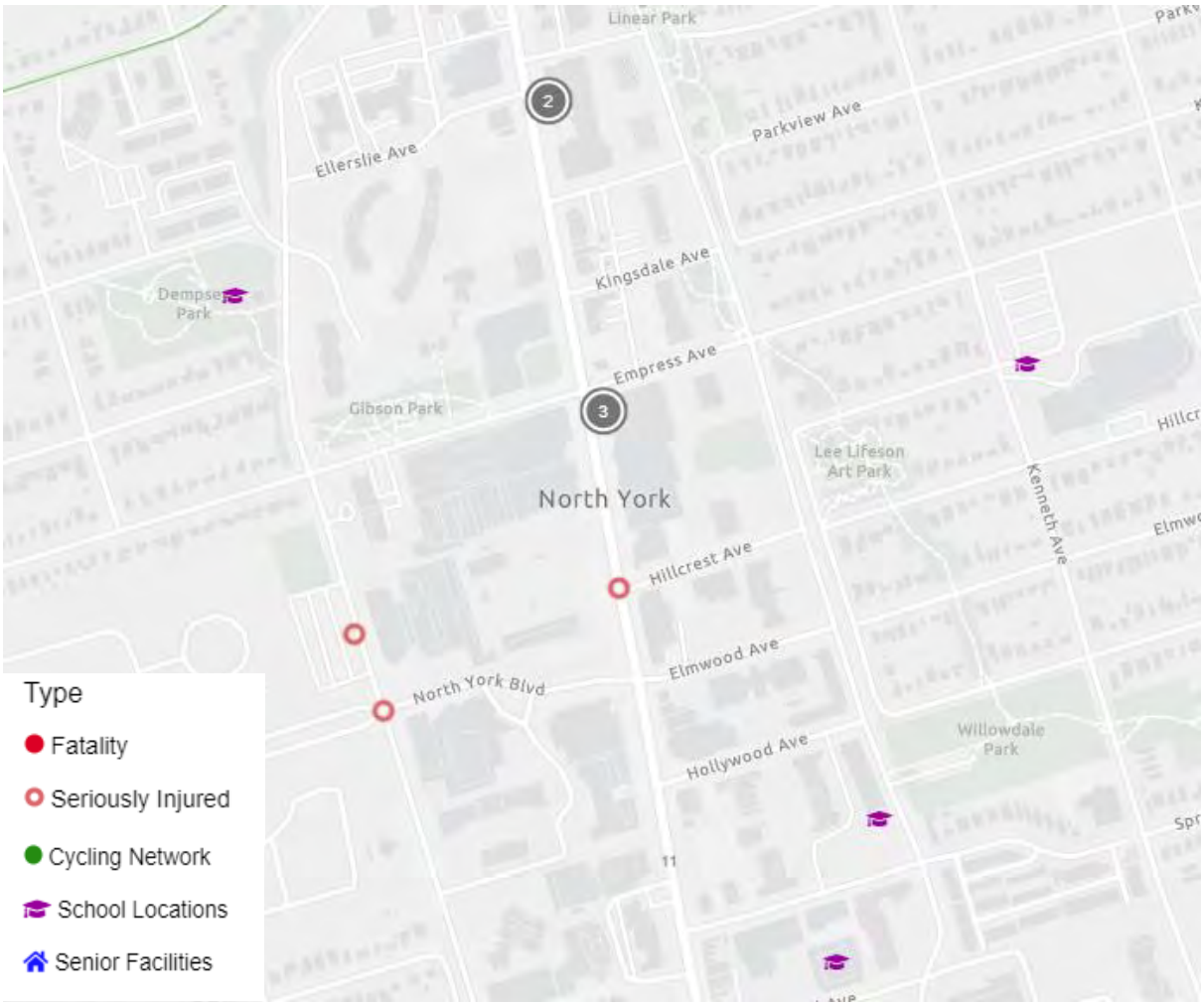
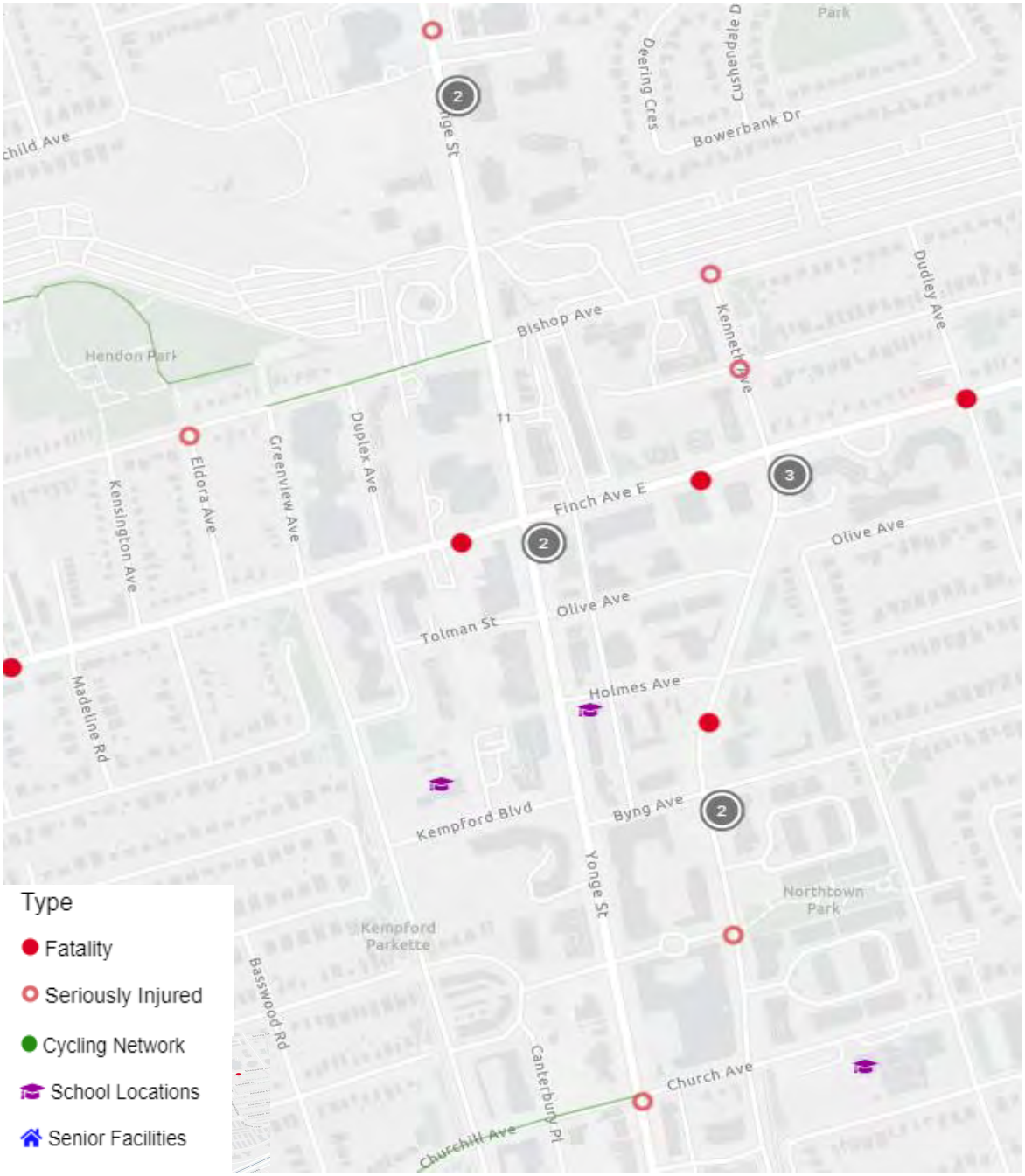


Exhibit 3-28c: Serious injuries and fatalities (2011-2019) – Northerly Segment of the Study Focus Area



Collision numbers on Doris Avenue and Beecroft Road are much lower than those observed for Yonge Street. This is concluded to be primarily the result of much lower pedestrian, cycling, and vehicular volumes on these streets.

These analyses indicate a need to take action with respect to Yonge Street to reduce injuries and fatalities among vulnerable road users. They indicate the opportunity to positively impact safety by reducing the number of vehicle lanes, improving access management by extending the centre median, shortening pedestrian crossing distances and providing dedicated cycling facilities.

3.6 Parking and Laneways

There are multiple sources of vehicle parking within the Study Focus Area. Three categories of parking are available for public use in the area:

- On-street parking;
- Off-street publicly operated parking (Green P lots); and
- Off-street privately-operated parking

Over 15,000 total parking spaces are available within the study area. **Exhibit 3-29** illustrates the locations and regulations for parking lots within the study area. On-street parking on Yonge Street constitutes only 5 percent of the supply.

3.6.1 On-Street Parking

Parking is permitted along sections of Yonge Street outside of the weekday peak hours of 7:00 am to 9:00 am and 4:00 pm to 6:00 pm, and on some intersecting streets. These parking zones are paid areas and are regulated by the Toronto Parking Authority (TPA). The hourly cost varies from $1.50 to $4.00, payable at parking machines located on adjacent pedestrian clearways.

As of 2019, on-street paid parking on Doris Avenue is permitted outside of the weekday peak hours of 7:00 am to 10:00 am and 3:30 pm to 6:30 pm. These parking zones are regulated by the TPA. The hourly cost varies from $2.00 to $4.00, payable at parking machines located on adjacent pedestrian clearways. Access to and from Yonge Street was facilitated by the close spacing of side roads connecting Yonge Street and Doris Avenue.

Exhibit 3-29: Parking Supply in the Study Focus Area

From Drewry Avenue / Cummer Avenue to Tolman Street

On street parking: 61 spaces

Off-street: 6174 spaces

Total spaces: 6239 spaces

Finch Avenue West

On street parking: 259 spaces

Off-street: 915 spaces

Total spaces: 1174 spaces

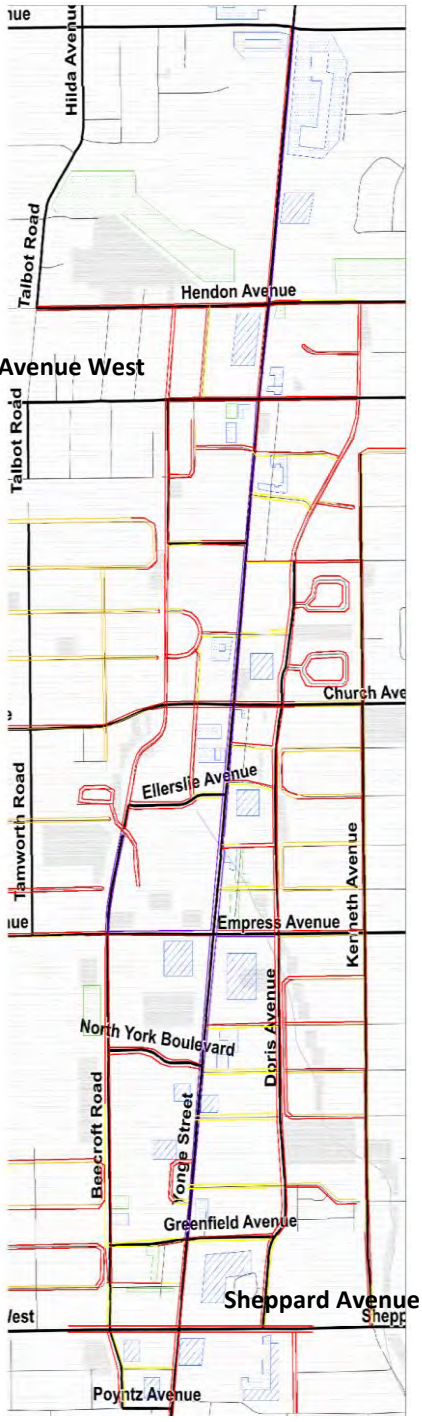
From Empress Avenue to Sheppard Avenue

On street parking: 331 spaces

Off-street: 7952 spaces

Total spaces: 8283 spaces

Sheppard Avenue East



Paid public parking is available on Beecroft Road north of Sheppard Avenue, excluding the periods from 7:30 am to 10:00 am and 3:30 pm to 6:30 pm. There are 17 spaces on the east side, and 98 on the west side. The hourly cost varies from $2.00 to $4.00per hour.

3.6.2 Off-Street Publicly Operated Parking

The TPA operates a total of ten parking lots within the study area, known as “Green P” lots. Two of these are operated on behalf of the Toronto Transit Commission (TTC) for drivers who elect to utilize the subway system. Eight other Green P lots are available within the study area. These are paid parking lots, two of which are regulated by controlled access. Parking is allowed at all times of day.

3.6.3 Off-Street Privately-Operated Parking

Many private developers have introduced additional parking facilities into the study area. Major developments typically also have significant underground parking facilities. Large parking facilities are available within walking distance to employment and retail uses, and users may park within these lots to access other developments within the area. In addition to underground parking, some private operators also operate paid parking facilities for general use. The hourly cost varies from $2.00 up to $8.00, with significantly lower rates for overnight periods.

3.6.4 Utilization

The utilization or occupancy of the existing on-street and off-street parking is documented below, by type of facility/ownership. Generally this shows a pattern as follows:

- Weekdays exhibit high demands in some off-street facilities, typically those associated with high-density employment; on-street parking is highly occupied in these areas as well. However, there is available capacity along most of the Yonge Street and Beecroft Road corridors; and
- Weekday evenings and weekends exhibit much lower demand for all parking facilities.

3.6.4.1 On-Street Parking Utilization

Surveys were completed by the TPA on two weekdays between 10:00 am and noon to determine the utilization of the provided on-street parking as a percentage of available spaces. Three categories of users were noted:

- Paid parkers

- Accessible permit holders
- Illegal parkers

The TPA survey indicated that the spaces are moderately to well utilized. The TPA considers parking lots with a utilization rate in excess of 85% to be “over capacity”; according to **Exhibit 3-30**, this only applies to the very southern end of the section of Yonge Street where parking is permitted, which terminates at Greenfield Avenue. The majority of the corridor is showing only moderate utilization of on-street parking on weekdays. Thus, there is opportunity to consider reduction of on-street parking on the streets under consideration.

Exhibit 3-30: Occupancy Rates for TPA On-Street Parking

Segment of Yonge Street		Space Count	Utilization	
			Morning	Afternoon
Drewry Avenue	Tolman Street	62	73%	77%
Tolman Street	Church Avenue	128	34%	43%
Church Avenue	Park Home Avenue	160	41%	48%
Park Home Avenue	Upper Madison Avenue	170	65%	63%
Upper Madison Avenue	Greenfield Avenue	176	82%	92%
Note: Data collected May 17, 2016				

3.6.4.2 Off-Street Publicly Operated Parking

Peak occupancy rates were calculated as the proportion of tickets issued to the number of spaces available. TTC lots were not included in this survey. Of the ten TPA lots available, six are considered over capacity at peak times. **Exhibit 3-31** illustrates the peak occupancy rates for the remaining ten TPA lots within the Study Focus Area.

Exhibit 3-31: Occupancy Rates for TPA Off-Street Parking

Address	Space Count	Peak Occupancy
5667 Yonge Street (between Drewry Avenue and Tolman Street)	23	87%
11 Finch Avenue West	62	105%
10 Kingsdale Avenue	50	75%
10 Empress Avenue	68	136%
180 Beecroft Road	173	94%
95 Beecroft Road	382	74%
10 Harlandale Avenue	112	107%
68 Sheppard Avenue West	34	92%
Note: Data collected May 2016		

Some peak occupancy rates were over 100%. This is because the recorded duration of stay was based on the time allowed by the purchased ticket, not the actual time spent in the lot. If a motorist leaves before their ticket expires, and another motorist buys a ticket during the remaining time and occupies the same space, both vehicles are counted. Also, vehicles that are illegally parked or with expired tickets reduce the count of available spaces.

3.6.4.3 Off-Street Privately-Operated Parking

Surveys were conducted to determine the utilization and occupancy of selected privately operated parking facilities, as representative of the range of conditions in the Study Focus Area. The selected facilities were:

- 4800 Yonge Street, southwest corner surface lot
- Sheppard Centre underground garage
- Empress Avenue Loblaws underground garage

Surveyors completed parking counts during the week of June 20th, 2016 on Tuesday, Wednesday, and Thursday from 10:00 am to 2:00 pm, and Friday evening from 7:00 pm to 9:00 pm. Occupancies were recorded every half hour. For the underground garages, surveys were also conducted to determine the number of in/out movements at the main entrance. **Exhibit 3-32** illustrates the peak occupancy rates based on the completed surveys.

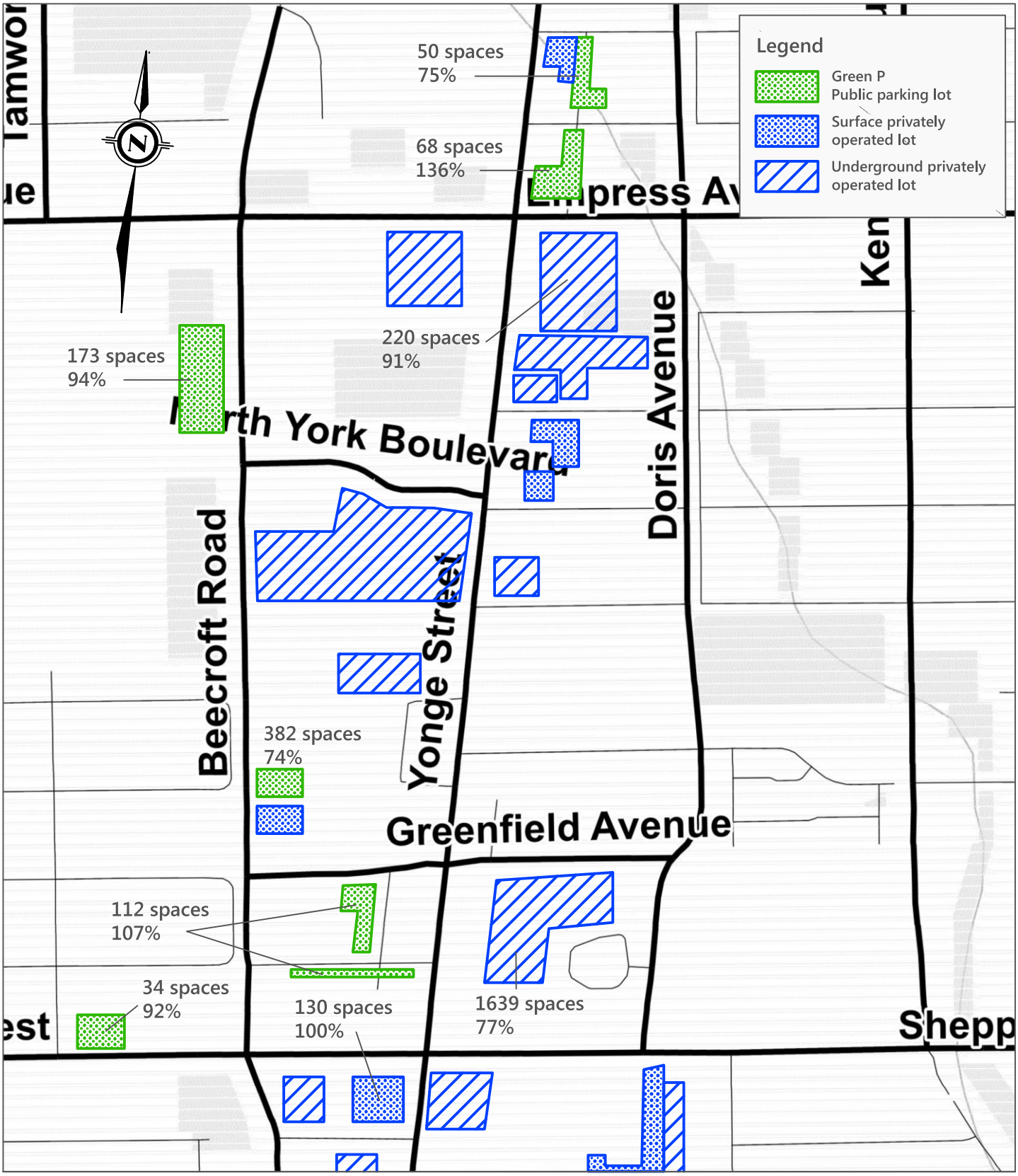
Exhibit 3-32: Utilization Rates for Privately Operated Parking Facilities for the week of June 20, 2016

Facility	Space Count	Afternoon Survey	Evening Survey
4800 Yonge Street	130	100%	63%
Sheppard Centre	1639	77%	43%
Loblaws (Empress Avenue)	220	91%	41%

It is evident that the privately operated facilities are fairly well utilized during weekday afternoons. Based on the TPA criteria, two are considered over capacity in the afternoon. **Exhibit 3-33** illustrates the peak occupancy rates for selected off-street facilities.

On the west side of Yonge Street, between Finch Avenue and Hendon Avenue, lies the North American Centre. This features a five-level parking garage with 1630 spaces. Observations indicate a similar utilization pattern to the facilities in **Exhibit 3-32** above. At 5160 Yonge Street, another 5-storey garage is observed to have similar demand patterns. It should be noted that some large employers in the corridor subsidize employee parking.

The utilization of the North American Centre, North York Civic Centre, Sheppard Centre and Hullmark Centre parking garages was observed on Saturdays in the spring of 2016. In each case, a significant majority of spaces were found to be available. This is believed to be due in large part to the fact that each of those buildings has an office component, which is generally unoccupied on weekends.

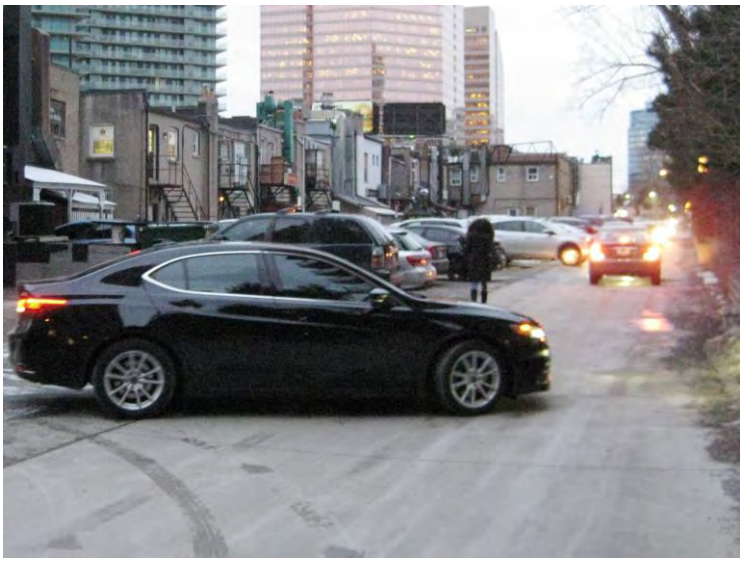

Legend
Green P
Public parking lot
Surface privately operated lot
Underground privately operated lot
50 spaces
75%
68 spaces
136%
220 spaces
91%
173 spaces
94%
382 spaces
74%
112 spaces
107%
34 spaces
92%
130 spaces
100%
1639 spaces
77%
Beecroft Road
Yonge Street
Doris Avenue
Greenfield Avenue
Empress Av
rth York Boulevard
Shepp

3.6.5 Laneway Access

Facilitation of deliveries is an important consideration for commercial corridors such as Yonge Street.

Newer mixed-use high-rise development, built after consolidating smaller parcels together, is designed at the site planning phase to incorporate delivery access on-site. Approximately 65% of the older, non-consolidated parcels along Yonge Street have a rear laneway. The rear laneways often include rear yard parking and rear access to the structure, facilitating deliveries and maintenance access from the laneway rather than from curbside on Yonge Street. **Photo 11** illustrates a typical arrangement. **Exhibit 3-34** illustrates the proportion of blocks without laneway access; as redevelopment occurs, this issue will be addressed.

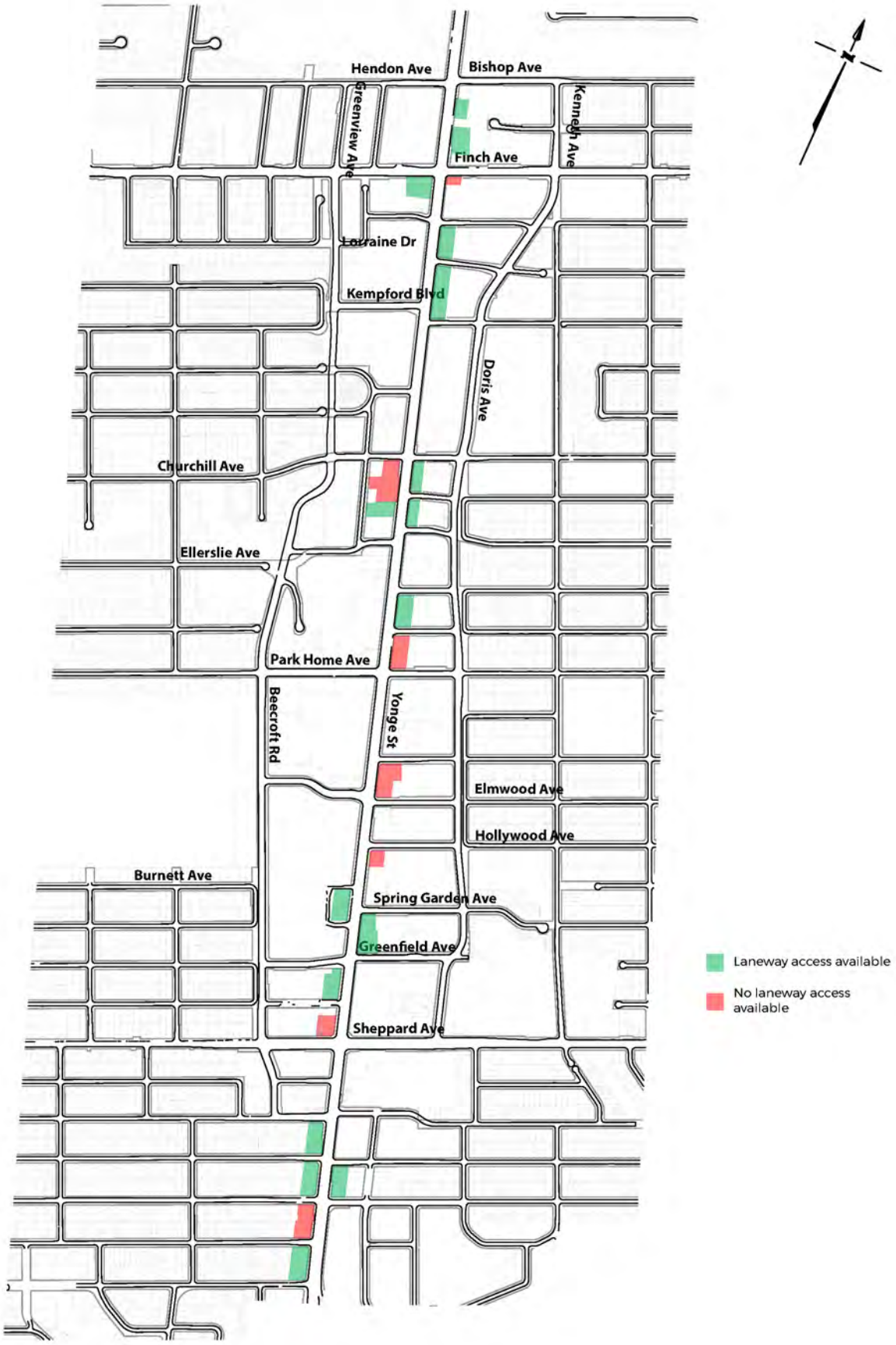
Photo 11: Rear laneway and rear parking between Byng and Holmes Avenues, east of Yonge Street

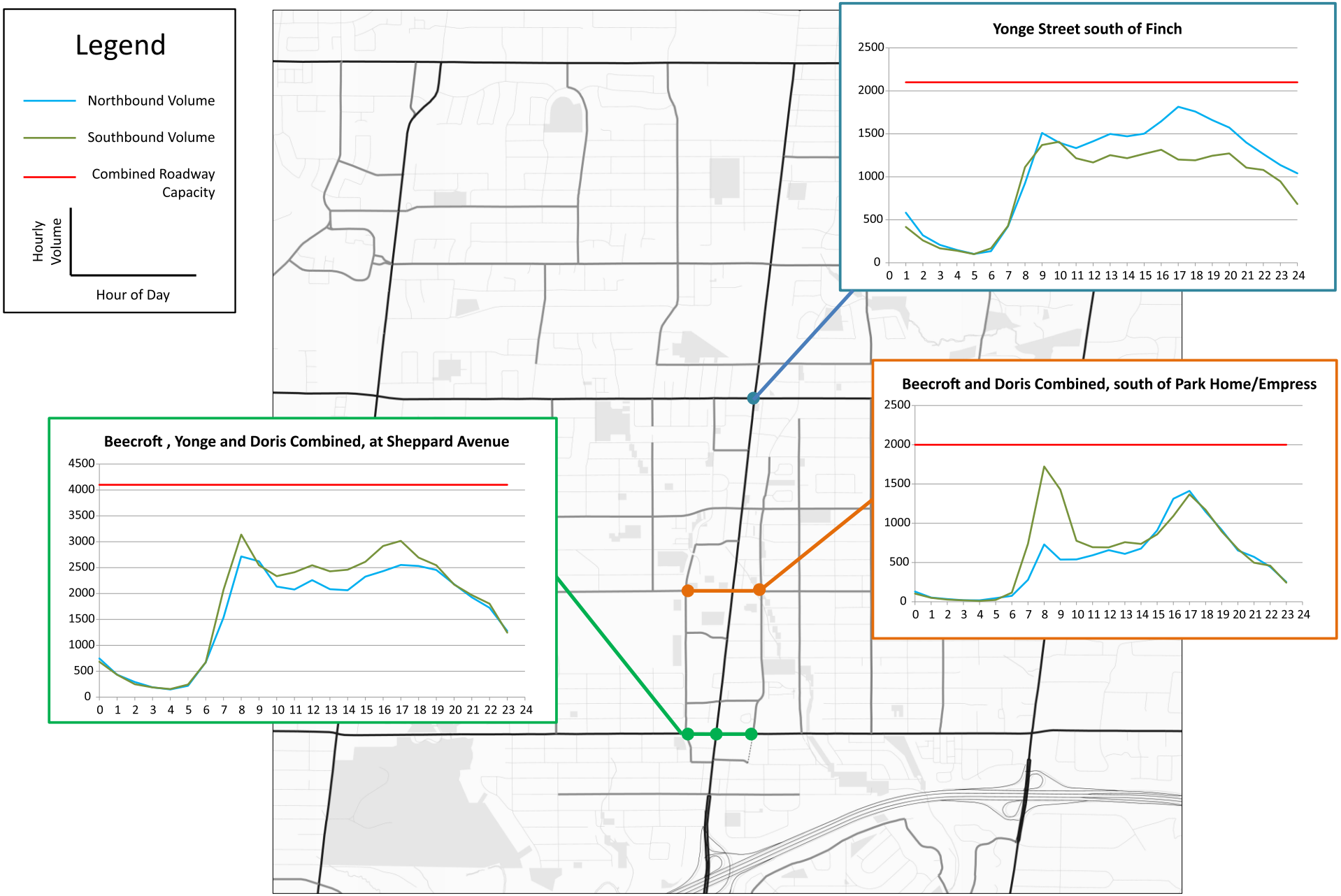


3.7 Existing Traffic Conditions

3.7.1 Overview

Yonge Street today is a six-lane street characterized by high volumes during peak periods, with volumes tapering considerably outside of the peak periods. Queuing currently occurs on Yonge Street during peak periods, primarily in the southern portion of the corridor. **Exhibit 3-35** shows the 24-hour profile of north/south traffic volumes at select locations in the Study Focus Area, and compares them with the capacity that would be available were it not for the effects of external congestion. The exhibit shows that, expressed in these terms, reserve capacity remains on Yonge Street.


Hendon Ave
Bishop Ave
Greenview Ave
Kenneth Ave
Finch Ave
Lorraine Dr
Kempford Blvd
Doris Ave
Churchill Ave
Ellerslie Ave
Park Home Ave
Beecroft Rd
Yonge St
Elmwood Ave
Hollywood Ave
Burnett Ave
Spring Garden Ave
Greenfield Ave
Sheppard Ave
Laneway access available
No laneway access available


Legend
Northbound Volume
Southbound Volume
Combined Roadway Capacity
Hourly Volume
Hour of Day
Yonge Street south of Finch
2500
2000
1500
1000
500
0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Beecroft and Doris Combined, south of Park Home/Empress
2500
2000
1500
1000
500
0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Beecroft , Yonge and Doris Combined, at Sheppard Avenue
4500
4000
3500
3000
2500
2000
1500
1000
500
0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

Weekday peak period conditions on Yonge Street are busy, based on observations. Prime locations for high levels of traffic demand relative to capacity are:

- The Highway 401 interchanges at Yonge Street and at Bayview Avenue. At Yonge Street, westbound queues frequently extend back onto the mainline highway during the morning and afternoon peak periods. At both locations, high volumes north of the interchanges lead to congested conditions at the adjacent intersections (Avondale Avenue on Yonge Street, Sheppard Avenue on Bayview Avenue). Further detail is provided below;
- North of the Highway 401 interchange on Yonge Street to Sheppard Avenue, traffic movement is constrained by vehicles entering from the ramps and attempting to move quickly over to through or left turn lanes at Florence Avenue, Johnston Avenue, Poyntz Avenue, Bogert Avenue and Sheppard Avenue (a distance of approximately 500 metres), weaving through the high northbound through volumes, some of which are attempting to weave to right turn opportunities at Avondale Avenue, Glendora Avenue, Anndale Drive and Sheppard Avenue. This occurs during the morning and afternoon peak periods. Volume is very high south of Sheppard Avenue; north of that location, volumes are lower and movements less constrained;
- Eastbound Sheppard Avenue exhibits a high level of demand relative to capacity, east of Yonge Street. Traffic moves slowly to Bayview Avenue. The westbound left turn movement from Sheppard Avenue to Yonge Street southbound exhibits a high level of demand and long queues, due to the limited green time available for this movement, and conflicting demands;
- The service roads (Beecroft Road and Doris Avenue) exhibit high peak period volumes, but low demands outside of these times. This results in a poor level of service where these routes end (Doris Avenue at Sheppard Avenue, Beecroft Road at Poyntz Avenue) during peak periods. Queues during the afternoon peak hour can extend for a block or more on these roads (extending past Greenfield Avenue on Doris Avenue) and on Tradewind Avenue northbound during the afternoon peak. Aside from the area immediately north and south of Sheppard Avenue, traffic volumes are considerably below capacity even during peak hours;
- The section of Yonge Street between Hendon Avenue / Bishop Avenue and Finch Avenue is busy, due to the number and variety of vehicular and pedestrian movements associated with the subway station (the northern terminus of Line 1), the bus terminal, on-street GO and TTC stops, and turns to and from Finch Avenue. Bishop Avenue is particularly busy with traffic related to the subway station and bus terminal, as a taxi stand is located on the north side.

Overall, traffic demands are high during the weekday peak periods, particularly in the area south of Sheppard Avenue, where traffic to and from Highway 401 competes with local traffic and vehicles travelling to and from points south of Highway 401 for the available space. However, operations are consistent and mobility is maintained, consistent with development conditions and the dense urban form in the Study Focus Area.

Weekend and off-peak weekday conditions are noticeably less congested and well within capacity, particularly on the service roads. The Bayview Avenue / Sheppard Avenue East intersection is busy during all periods, due to the demands to and from Highway 401, Bayview Village Shopping Centre and other destinations. A comparison of volumes on parallel streets can serve as a useful indicator of how well the available lanes are being used in the area, and what is possible in terms of throughput. Yonge Street at Sheppard Avenue carries a peak volume of approximately 1,600 southbound and 1,550 northbound vehicles, in 3 lanes per direction. This is equivalent to approximately 500 vehicles per lane. Bayview Avenue, north of Bayview Mews (immediately north of Sheppard Avenue), carries approximately 1,400 southbound and 1,400 northbound vehicles, in 2 lanes per direction. This is equivalent to a throughput of 700 vehicles per lane. Thus, there is a certain amount of inefficiency in the utilization of the Yonge Street lanes. Beecroft Road carries approximately 500 southbound and 800 northbound vehicles during the highest peak hours, yielding a peak lane utilization of 400 vehicles per hour. Doris Avenue carries approximately 600 southbound and 700 northbound vehicles during the highest peak hours, yielding a peak lane utilization of 350 vehicles per hour. This indicates that Beecroft Road and Doris Avenue are accommodating fewer vehicles per lane than Yonge Street or Bayview Avenue, demonstrating that there is reserve capacity to accommodate diversion from Yonge Street which is further describes in **Section 5.5.3**.

On weekdays, the curb lanes are available to traffic for two hours in the morning and two hours in the afternoon. However, at these times the curb lane is predominantly used by buses stopping and right-turning vehicles, the latter often having to wait for conflicting north/south pedestrians. Volumes of pedestrians (and associated delays to right turning vehicles) can be significant at Finch Avenue, Park Home Avenue / Empress Avenue, Sheppard Avenue and other intersections. This is particularly noticeable at Finch Avenue, where the subway entrances are only on the north side of the intersection, forcing all subway patrons to cross at-grade. Also, motorists were observed to stop or park in the curb lane despite the restrictions. The result is that, from the perspective of through traffic, much of Yonge Street north of Sheppard effectively operates as a four-lane road at most times (**Photos 12 & 13**).

Photo 12: Yonge Street northbound curb lane during PM stopping prohibition

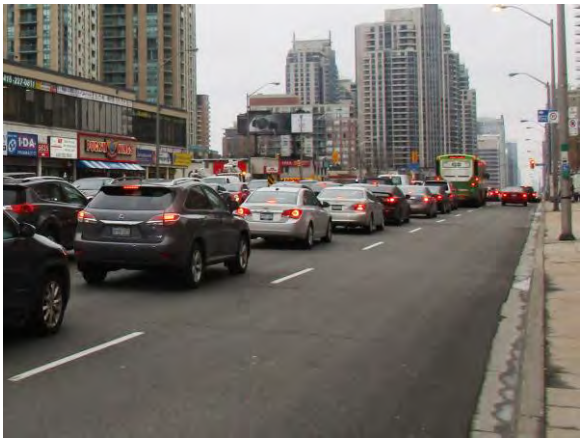
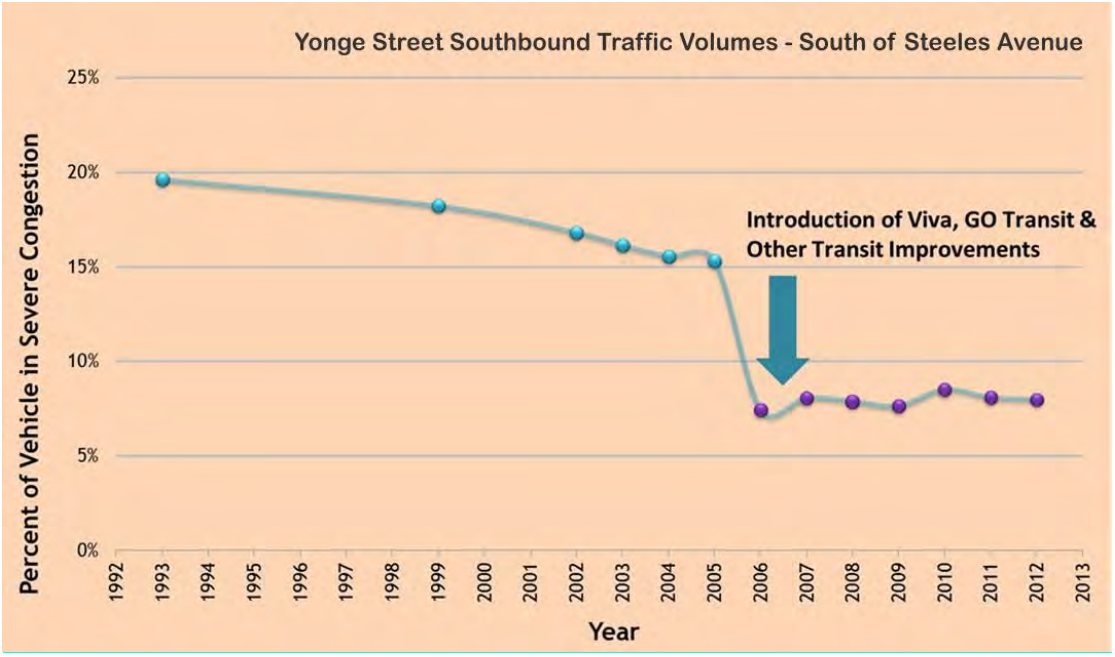


Photo 13: Yonge Street southbound curb lane at Finch Avenue during AM peak

3.7.2 Trends in Traffic Volumes in Relation to Transit Improvements

Traffic congestion on Yonge Street entering the study area has declined significantly since the introduction of the VIVA rapid bus network, GO Transit bus services, and enhancement to the capacity of the Yonge/University Subway through signal system upgrades. **Exhibit 3-36** (provided by the City of Toronto) illustrates this, demonstrating that change in modal share is viable on Yonge Street. The extension of the Yonge/University Subway north into York Region can be expected to increase this trend.

Exhibit 3-36: Trends in Traffic Volumes



3.7.3 Transportation Simulation

A computerized transportation simulation was completed for the 'Do Nothing' condition and the Stage 1 and Stage 2 alternatives for the peak weekday travel periods, for future horizons. This was a key tool in assessing the traffic effects of the alternatives; the model produces numerous statistics that serve as performance measures. The future horizon simulations took into account the increase in demand based on population / employment growth, and modelled all modes of transportation, including pedestrian crossings, traffic, current and anticipated cyclist volumes, GO Transit operations along Yonge Street, and TTC operations along Sheppard Avenue and Finch Avenue.

The overall objectives for the transportation simulation were:

- To develop and calibrate/validate a traffic simulation model for the study area. In the Study Focus Area, a highly detailed microscopic approach was taken. Within the remainder of the entire study area, a mesoscopic modelling approach was taken, reflecting a lower level of detail;
- To utilize this traffic simulation model to evaluate the traffic performance of alternative transportation network scenarios designed to improve the level of safety and comfort for pedestrians and cyclists on Yonge Street (Stage 1) and Beecroft Road or Doris Avenue (Stage 2). This information was then incorporated in a multi-disciplinary evaluation of alternatives and the recommendation of a preferred alternative; and
- To assess the implications of the alternative transportation network scenarios for the operation of Highway 401 and its associated ramps and ramp terminals for the Ontario Ministry of Transportation.

3.7.3.1 Traffic Simulation Model

The simulation model was developed using the Aimsun (version 8.0.10) software platform. The results of this modelling analysis have been used, together with observations and counts of existing transportation patterns by all modes, to develop an assessment of the impacts of the proposed alternatives. This section documents the simulation model. The detailed reports on the entire modelling process and results is presented in **Appendix G**.

A transportation (simulation) model is simply a mathematical representation of the real-life decisions and behaviour of individuals moving from one place to another.

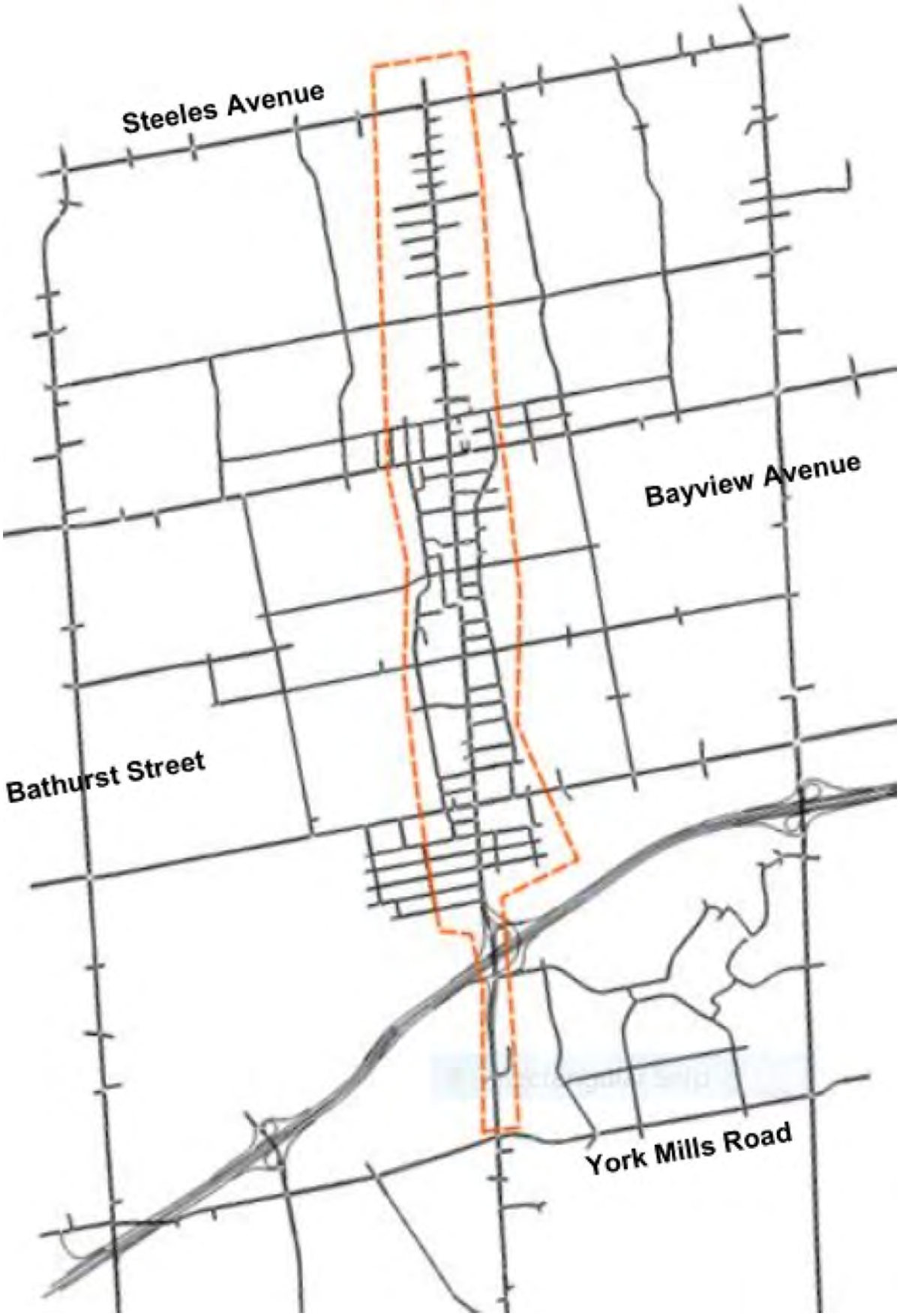
Microscopic simulation models are designed to consider the movement of individual vehicles or persons at a high level of detail and, typically, over a smaller area due to the associated data and computational demands. The level of detail is such that individual driver decisions to accelerate, decelerate, change lanes, move into a gap in traffic etc. in response to traffic regulations and controls, the infrastructure available, vehicle performance, and the behaviour of other nearby drivers are considered within the context of the driver's level of "aggressiveness" and other factors. Microscopic models, like human behaviour, deal with individual characteristics selected from an appropriate distribution rather than with averages. The behaviour of individuals and vehicles in the model can be finely controlled through adjustment of a large number of parameters. Microscopic models usually include route-choice decision-making as well. This level has been employed in the Study Focus Area, in keeping with the project mandate and potential level of effects in this area.

Mesoscopic models fall somewhere in between macro and micro models in terms of the level of detail, although they cover a fairly wide spectrum in this regard – some are closer to macro models and some have more of the characteristics of micro models with a reduced level of detail. This level has been employed in the sections of the study area outside the Study Focus Area; in the broader area, the emphasis has been on the link-level effects of any potential traffic diversion, rather than defining elements such as intersection configurations or active transportation facility design.

There are certain situations where traffic micro-simulation provides distinct advantages over more "traditional" tools (e.g. Synchro, which is not capable of dynamic traffic analysis), particularly where transportation dynamics are important. There are two types of dynamics – spatial and temporal (time). Traffic simulation is able to assess the net result of multiple interacting network elements and time periods which may have synergistic or offsetting impacts. Where congestion is present, traffic simulation can realistically model the development of congestion and its impacts. Thus, this tool is appropriate to this project.

3.7.3.2 Model Area and Scope

The microscopic model area was defined to include Yonge Street, Beecroft Road, Doris Avenue and connecting east-west streets from north of Finch Avenue to York Mills Road, as shown in **Exhibit 3-37**.


Steeles Avenue
Bayview Avenue
Bathurst Street
York Mills Road

With few exceptions (for example a relatively small area south of Sheppard Avenue "grandfathered" from the donor model the City had provided), the network does not include streets classified as local streets outside of North York Centre. This prevents traffic being assigned to such streets (reflective of concerns regarding neighbourhood infiltration) and, at the planning level, prevents an inappropriate dependence on these streets to supplement the capacity of the highways, arterial roads, and collector roads. If all of the traffic is assigned to the higher-classification roads, there is essentially no infiltration on the local roads required to accommodate any planned changes. In real life, infiltration can affect any road that provides an alternative route to somewhere – however, it is typically not appropriate to count on that infiltration to provide the required network capacity.

All the evaluations have been undertaken for weekday morning and afternoon peak-period conditions. The morning/AM peak period is defined from 7:00 to 10:00, and the afternoon/PM peak period from 15:00 to 18:00. Five replications were completed for each scenario, each replication being run with a different random seed, in order to obtain average results.

3.7.3.3 Travel Demand Inputs

Transportation modelling for this study was conducted first at the macro level by City staff using the City's EMME model. The outputs from this effort were then fed into the simulation model operating in hybrid mode – microsimulation in the focus area noted above, and mesosimulation in the remainder of the study area.

The City of Toronto provided auto driver traversal matrices for the AM and PM peak hours for 2011 and for the 2031 planning horizon. These traversal matrices were used to establish the existing vehicular travel patterns within the study area and to estimate future changes to these travel patterns. The traversal matrices were manually disaggregated along the Yonge Street Corridor between Finch Avenue and Sheppard Avenue (within the focus area) to create a more refined zone system based on Census information at the dissemination area level, to create the most accurate depiction of the street network possible.

3.7.3.4 Model Calibration and Validation

Calibration is the process of adjusting model inputs and parameters to improve the representation of reality. Validation is the measurement of how well this has been achieved.

Key steps in the calibration process are as follows:

- Calibrating the demand inputs, and therefore the traffic volumes produced by the model, under existing demand and network conditions to represent as closely as possible observed volumes under comparable conditions; and
- Calibrating driver behaviour parameters (reaction time is a key parameter in Aimsun) so that traffic performance as obtained from the simulation represents, as closely as possible, observed traffic operating conditions (saturation flows at intersections, travel times, speeds, and congestion/queuing patterns). In some cases, calibration may extend to the operational characteristics of vehicles and the mix of different characteristics in the vehicle fleet.

For calibration purposes, the auto matrices were adjusted to total vehicle control volumes and then disaggregated after calibration to create auto and truck matrices based on proportions derived from existing traffic counts. The nominal calibration year was set as 2016 since counts used as control data ranged from 2013 to 2016, with many of the intersections being counted by the team in May 2016. Traffic speed and travel time data used for control purposes was obtained from the City of Toronto's 2014 Travel Time Survey and was also collected in 2016 by the team.

Volume calibration was undertaken using Aimsun's included matrix adjustment process based on turning movement volumes in an attempt to calibrate paths, links, and intersection volumes. It is important to note that calibrating and validating a simulation model at the turning movement level, particularly when a large number of intersections is involved, is not likely to yield validation measures indicating as close a match between simulated and observed volumes as validating at the link or screenline level, simply due to the high level of detail involved and the generally lower volumes.

Details of the calibration and validation are presented in **Appendix G**. It has been concluded that the model is adequately calibrated to accurately depict traffic conditions in the study area, based on standard statistical tests that are accepted in the industry.

3.7.3.5 Existing Traffic Conditions

Appendix G describes the existing conditions as assessed using Aimsun in detail, documenting roadway section levels of service, intersection levels of service, speeds and queue lengths relative to available storage.

Generally speaking, most sections of Yonge Street, Beecroft Road, and Doris Avenue are characterized by satisfactory operation (Level-of-service "A", "B", "C") using these criteria under for both time periods. Some sections experience slightly worse level-of-service "D". The following sections operate under levels-of-service "E" to "F" due to high utilization at the downstream intersections, which includes a combination of

heavy left-turn and/or right-turn traffic, pedestrian volume, crossing street demand, and frequent transit services:

- Yonge Street both directions approaching major intersections including Sheppard Avenue, Finch Avenue, Bishop Avenue/Hendon Avenue and Steeles Avenue;
- Beecroft Road northbound and southbound in the sections immediately north and south of Sheppard Avenue;
- Doris Avenue both directions between Bishop Avenue / Hendon Avenue and Finch Avenue; and
- Doris Avenue southbound approaching Sheppard Avenue during the PM peak hour.

The intersection level of service was obtained using the average delay outputs from Aimsun in conjunction with the delay-based level-of-service criteria used in the Highway Capacity Manual, SYNCHRO, etc. for signalized and unsignalized intersections.

Level of service (LOS) for the intersections along Yonge Street, Beecroft Road, and Doris Avenue for the 2016 existing scenario has been assessed for the morning and afternoon peak hours. Level-of-service values within the range of “A” to “D” indicate that the intersection is operating at an acceptable level in the context of a large, generally congested, urban area. Level of service “E” suggests that the intersection is operating at a marginally acceptable level and periodic but unsustained queueing may be experienced. Level of service “F” indicates that the intersection is operating at an unacceptable level subject to sustained queuing.

Under existing conditions, the only signalized intersection that operates with level-of-service “E” during the peak hours is Yonge Street at Steeles Avenue. This intersection is at the north limit of the model area, which means the southbound traffic demand is not metered by upstream traffic signals. In addition, the model assumes that the HOV lane on Yonge Street is strictly reserved for HOV3+ vehicles, buses, and right-turn vehicles, which may underestimate the actual capacity of this intersection.

In addition to the issues related to overall intersection level of service as noted above, there are many individual movements that are operating at level-of-service “E” or “F” under existing conditions. These are documented in **Appendix G**.

Queue Lengths

Information on queue lengths is useful, as a supplement to level of service, for a variety of purposes:

- To enable identification of acute operational and level-of-service issues;
- To assess the incidence of blockage of upstream intersections or driveways; and
- To assess the incidence of blockage of through lanes by queues spilling over from turning lanes.

Standard practice involves the estimation of the 95th percentile queue length, or the queue length which will be exceeded, on average, only 5% of the time. The 95th percentile queue length is commonly used as a guide to determine the amount of queue storage required for exclusive turning lanes. Analytical methods, including SYNCHRO, do not provide reliable estimates of queue lengths in cases where a left-turn movement is operating over capacity and the queue may accumulate over multiple cycles and/or beyond the peak hour. Aimsun does not provide 95th percentile queue lengths as a stock output. The stock outputs are average queue length and maximum queue length. However, average queue length is not an average of the queue "reach" over multiple cycles but an average of the queue length observed at periodic intervals. It is therefore of little use. The maximum queue length is the maximum reach observed over multiple cycles and replications.

The maximum peak-hour queue lengths for intersections along Yonge Street, Beecroft Road, and Doris Avenue have been simulated for the morning and afternoon peak hours (see **Appendix G**). These values represent the absolute maximum of the maximum queue lengths recorded at 5-minute intervals across five simulation runs during the peak hours. There is a wide range of queue lengths projected; typically, these are highest in the vicinity of Finch Avenue and from Sheppard Avenue south to Highway 401. Generally, it is only in this southerly area that queues exceed the block length at peak times, which inhibits the free movement of traffic. In the remainder of the Study Focus Area, while there are queues which may exceed the available storage length for turning movements, traffic generally operates in an orderly progression.

Highway 401 Ramp Terminals Operation

Highway 401 is operated by the Ontario Ministry of Transportation (MTO). In the context of this study, their primary consideration is that the recommended alternative does not result in any unmanageable impacts on the highway with respect to either the quality of operation or safety.

A key concern of MTO involves the possibility of queues on the off-ramps backing up to the mainline, resulting in both operational and safety issues. From an operational perspective, a queue backing onto the mainline will nominally block one lane on the mainline. However, in practice, at least one additional lane is adversely affected as queue-jumpers often have to slow down or stop to find and utilize a gap to re-enter

the queue. From a safety perspective, the speed differential between queued vehicles and moving vehicles on the highway is a significant concern. Additionally, rear-end collisions are common at the back of the queue and queue-jumpers worsen the situation. Even today, backing up of the queue on the westbound off-ramp at Yonge Street to the mainline is a periodic phenomenon during peak periods. Consideration has been given to options to improve this ramp but there are significant practical constraints.

Queuing on the off-ramps may be a function of the level-of-service at the ramp terminal or of queuing from downstream intersections blocking the ramp terminal or occupying the space on the intersecting arterial road that could otherwise receive traffic from the off-ramp.

Another potential concern lies in the potential for redistribution of traffic among the Yonge Street and Bayview Avenue interchanges (on or off-ramps), and to a lesser extent the Avenue Road and Bathurst Street interchanges, that may exacerbate operational or safety issues.

The maximum queue length in 2016 for the E-N/S off-ramp at Yonge Street brought the back of queue to approximately the bullnose. It is noted that once the queues extend beyond the bullnose, it is difficult for Aimsun to interpret whether the queues are related to traffic exiting at the ramp, slow-moving traffic generally on the mainline, or traffic entering at a point upstream trying to merge with the mainline.

The level-of-service of the ramp terminal intersections at the interchanges in the study area have been assessed under existing 2016 conditions – all were operating at acceptable Level of Service “D” or better.

3.8 Utilities

Communication with utility providers has been ongoing throughout the study to identify the locations of existing underground and overhead utilities within the study area. A Subsurface Utility Engineering (SUE) Level ‘B’ survey of the study area was also completed to ensure that all subsurface utilities have been accurately incorporated into the base plan and design drawings. The purpose of the communication and the SUE was to determine if there are potential conflicts based on the proposed works and during construction.

Through consultation, the existing utilities were identified and their approximate locations have been summarized in **Exhibit 3-38**. It should be noted that existing conduit has also been identified as empty and may be utilized by other utilities in the future.

Exhibit 3-38: Overview of Existing Utilities and their Approximate Locations

Utility	Approximate Location
Bell Canada	Underground cables along Yonge Street – under the east and west boulevards from Avondale Avenue to Finch Avenue East.
Rogers	Underground cables along Yonge Street – under the east and west boulevards from Avondale Avenue to Finch Avenue East.
Toronto Hydro	Underground cables and overhead aerial cables (for streetlights) along Yonge Street – underground cables under the east boulevard from Avondale Avenue to Sheppard Avenue East, and under the east and west boulevard from Sheppard Avenue East to Finch Avenue East. Aerial overhead cables between streetlights on the east and west boulevard from Avondale Avenue to Finch Avenue East.
Telus	Underground cables along Yonge Street – under the east boulevard from Avondale Avenue to Finch Avenue East.
Enbridge Gas	Underground pipeline along Yonge Street – under the east boulevard from Avondale Avenue to Glendora Avenue, and under the west boulevard and curb lane from Glendora Avenue to Finch Avenue.
Storm Sewer	Underground sewer along Yonge Street – under the middle of the street from Glendora Avenue and Bogert Avenue, under the west curb lane from Sheppard Avenue West to Upper Madison Avenue, under the east curb lane from Upper Madison Avenue to Elmwood Avenue, under the east and west curb lanes from Elmwood Avenue to south of Empress Avenue, under the middle of the street from Empress Avenue to Kingsdale Avenue, and under the east and west curb boulevards/curb lanes from Kingsdale Avenue to Finch Avenue.
Sanitary Sewer	Underground sewer along Yonge Street – under the west curb lane from Florence Avenue to Florence Avenue, under the west and east boulevards from

Utility	Approximate Location
	Sheppard Avenue East to Spring Garden Avenue, under the west boulevard from Spring Garden Avenue to south of Park Home Avenue, under the middle of the street from Kingsdale Avenue to Norton Avenue, under the east boulevard from Norton Avenue to Church Avenue, under the west and east boulevards from Horsham Avenue to Holmes Avenue, and under the east boulevard from Holmes Avenue to Finch Avenue East.
Watermain	Underground pipes along Yonge Street – under the east and west boulevards from Avondale Avenue to Glendora Avenue, under the west boulevard/curb lane from Glendora Avenue to Elmhurst Avenue, under the east and west boulevard/curb lane from Elmhurst Avenue to Norton Avenue, under the west boulevard from Norton Avenue to Byng Avenue, and under the east and west boulevard from Byng Avenue to Finch Avenue East.