

Appendix B – yongeTOmorrow Existing Transportation Conditions Report

yongeTOMorrow Environmental Assessment – Existing Transportation Conditions



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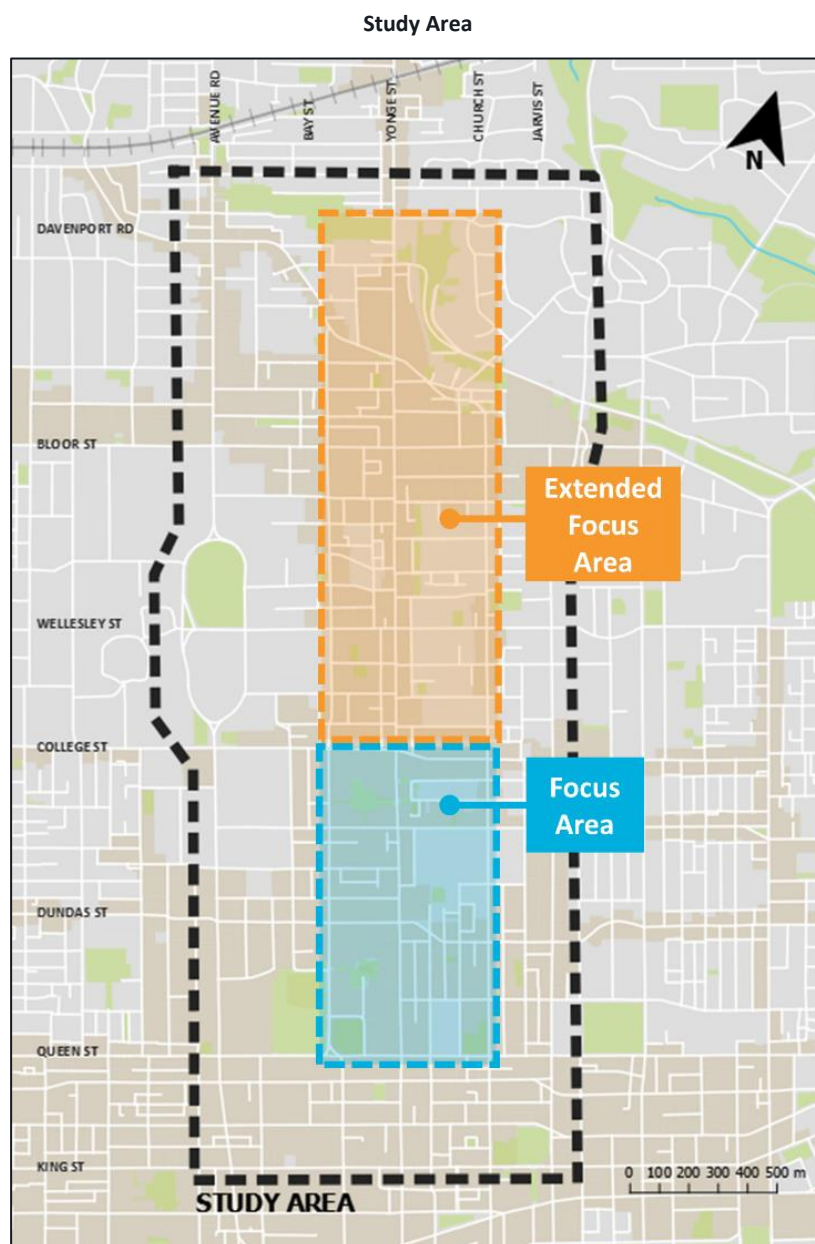
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- A Turning Restrictions**
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Executive Summary

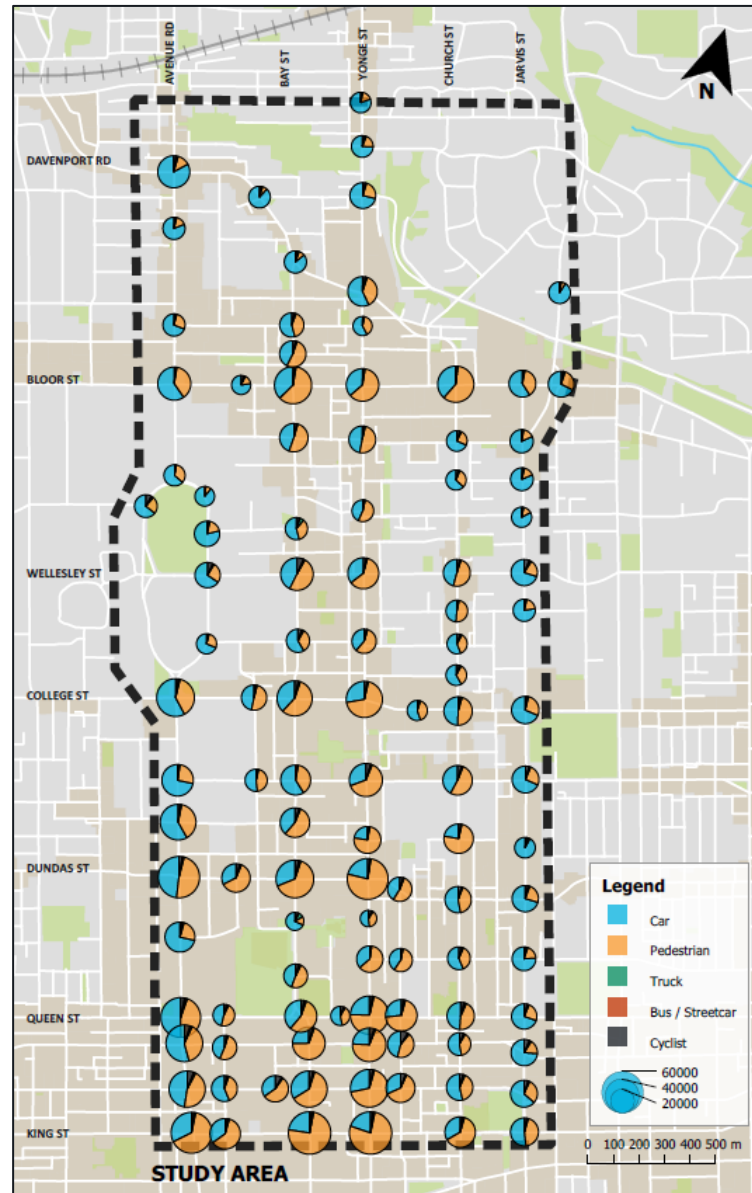
Yonge St is Toronto’s “Main Street.” Centred around it in Toronto’s downtown core is a vibrant urban area where thousands of people live, visit, work, play and learn. In recent years, it has seen a significant rise in pedestrian traffic and now experiences regular congestion on its narrow sidewalks.

The City of Toronto has retained Steer to conduct a Schedule ‘C’ Municipal Class Environmental Assessment for the reimagining of Yonge St between Queen St and College St to better reflect its wide variety of users. This report reviews existing transportation network conditions within the focus area between Queen St and College St, as well as the overall wider Study Area set between Roxborough Rd, King St, University Ave and Jarvis St. The contents of this report will be used to inform the development of alternatives for the reimagining of Yonge St going forward.



Yonge St has just a 20 m right-of-way for the majority of its length through the Study Area, whereas parallel corridors such as Bay St and University Ave have 27 m and 45 m, respectively. Within this limited right-of-way, the current allocation of space does not reflect the existing usage of the road. The corridor sees a very high volume of pedestrian traffic, particularly between Dundas St and Gerrard St due to the density of the area and the wide variety in land uses, including residential high rises, offices, a mall, outdoor shops and a university. Due to the existing road geometry and volume of pedestrian flows, pedestrians experience an unacceptable level of comfort under Transport for London’s Pedestrian Comfort Level methodology.

Mode Split by Intersection



Currently, travel demands to and from the Study Area are primarily local; most trips come from the Toronto & East York district of the city, and only 20% of trips originate beyond the bounds of the City of Toronto each day. The area sees a much higher level of employment (nearly 225,000 people in the Study Area and up to 600,000 in the greater Downtown core) than its actual resident population (nearly 55,000 people in the Study Area and up to 260,000 in the

greater downtown core), and so its population swells each morning and contracts each afternoon as people head to and from work. 51% of all inbound trips occur during the morning peak period (6 am – 9 am), whereas 54% of all outbound trips are in the afternoon peak period (4 pm – 7 pm), reflecting the extremely high volume of people who commute into the City for employment.

Trips to and from the Study Area from within the City were largely made by the TTC (49%), cars (18%) or walking (24%), whereas trips to and from the Study Area from outside Toronto were largely made by GO Rail (41%), cars (37%) or the TTC (21%), reflecting GO Rail's important role in long distance commuting. In recent years, walking and cycling have become increasingly more popular, especially for short distance, local trips.

Traffic operations on Yonge St are satisfactory as the street caters for comparatively lower levels of traffic relative to parallel corridors. Within the Focus Area and wider Study Area, traffic operations are also satisfactory, though there are isolated movements and intersections which are overcapacity or have unacceptable levels of delay or queue lengths.

The cyclist environment within the Study Area and along Yonge St is poor. The immediate area lacks a north-south dedicated cycling corridor (that is comprised of more than just sharrows), though there are several east-west options, including dedicated cycle routes on Richmond St and Adelaide St, Shuter St and parts of College St and Gerrard St. There are segments of Bay St with dedicated facilities, but they have large, sudden gaps that reduce their effectiveness.

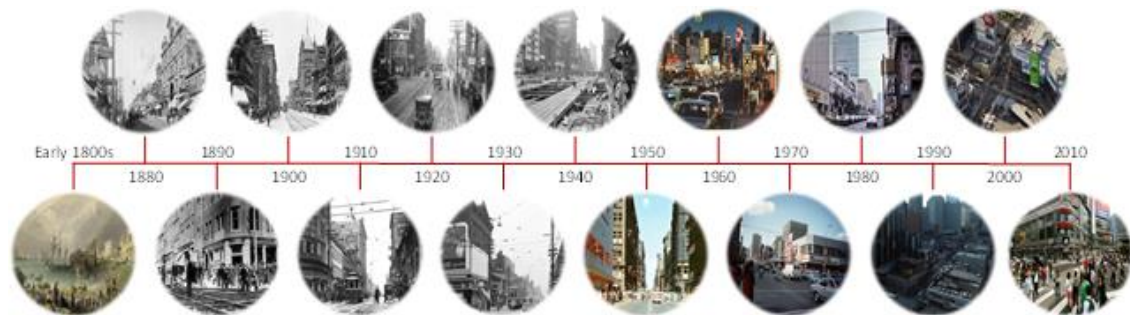
The Line 1 subway runs immediately under Yonge St, with stations roughly every 500m. At major cross streets, there are also streetcar lines providing east-west transit access. Both the subway and streetcar network experience significant crowding and delays during peak periods. Dundas Station, the busiest station in the Focus Area, accommodates over 77,000 passengers each day, while College and Queen stations accommodate 47,000 and 75,000 passengers, respectively. The four streetcar routes, King, Queen, Carlton and Dundas carry 64,579, 43,464, 39,601 and 32,410 passengers each day, respectively. For streetcars, this can result in significant pedestrian volume buildup at streetcar stops. For the subway, this can result in crowding at subway entrances; this is particularly severe at Dundas station.

Most businesses on Yonge St currently have alternative access available (such as via laneways and side streets), in addition to their access from Yonge St which itself does not allow curbside stopping (during peak periods) or parking (at any time). There are also several loading bays for larger sites such as the Eaton Centre which provide access to trucks.

1 Introduction

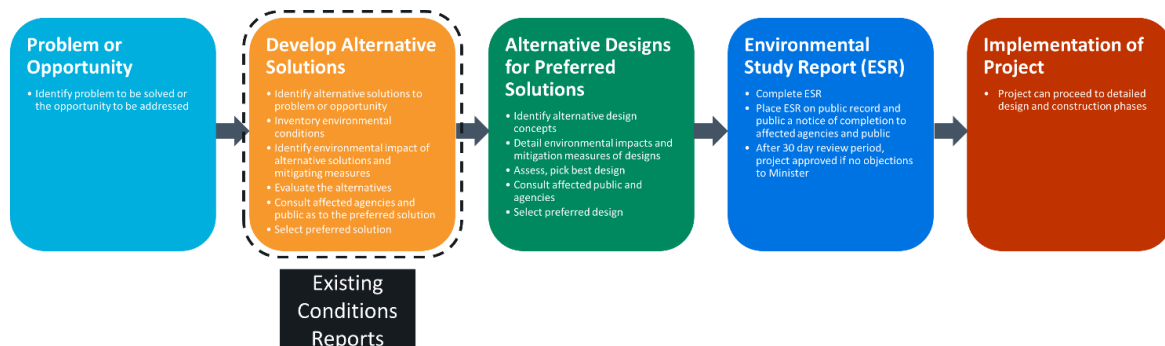
1.1 Overview

Yonge St is Toronto’s “Main Street.” Centred around it is a vibrant downtown area where thousands of people live, visit, work, play and learn. First constructed in 1796, Yonge St began as a military trail connecting Toronto to Lake Simcoe. Since then, the corridor has been a place of changing mobility, starting with the first horse drawn streetcar line in Canada in 1861, which was eventually replaced by the first subway in 1954, and various temporary pedestrianization efforts in the 1970s. In recent years, it has seen a significant rise in pedestrian traffic and now experiences regularly congested sidewalks throughout the year.



The City of Toronto has retained Steer to conduct a Schedule ‘C’ Municipal Class Environmental Assessment for the reimagining of Yonge St between Queen St and College St. The EA process is outlined in Figure 1-1. This report will discuss existing transportation network conditions within a key focus area between Queen St and College St, as well as the overall wider study area. Alongside other existing conditions reports, the contents of this report will be used to inform the identification of problem areas and potential opportunities for the redevelopment of Yonge St (between Queen St and College / Carlton St) going forward. A future EA study will look at potential changes to Yonge St north of College/Carlton St to Davenport Rd.

Figure 1-1: Schedule 'C' Municipal Class Environmental Assessment Process



All modes of travel are included in the assessment of existing conditions – walking, cycling, transit (including Wheel-Trans), automobiles, commercial delivery and servicing vehicles, emergency/utility vehicles, taxis/ride-hail, and supportive transportation elements such as parking. However, the role of Yonge St is not simply one of moving people from place to place. Yonge St must balance the needs of a variety of road users with different needs and intents, from residents to tourists, workers, students and shoppers.

1.2 Study Area

The **Focus Area** is bounded by Queen St to the south, College St to the north, Church St to the east and Bay St to the west, with a focus on the Yonge St corridor. This is the primary area of study in this report, with the Yonge St corridor being the central focus.

The **Extended Focus Area** is bounded by College St to the south, Crescent Ave to the north, Church St to the east and Bay St to the west and represents the area to be examined in detail under a future environmental assessment. It will be considered here so that proposed changes to the focus area are compatible with future developments further north on Yonge St.

The overall **Study Area** is bounded by King St to the south, Roxborough Blvd to the north, Jarvis St to the east and University Ave to the west. Travel demand analysis and network modelling were conducted on this wider Study Area to give a full appreciation for network conditions near Yonge St, including any knock-on effects outside of the immediate focus area caused by each proposed change.

The focus areas and overall Study Area are outlined in Figure 1-2.

1.3 Scope

The existing transportation network in the Study Area include the following major components:

- Road Network;
- Public Transit Network (TTC);
- Pedestrian Network, and,
- Cycling Network.

Demands placed upon the network are also summarised including:

- Regional and local trips for all modes;
- Shared Mobility Systems;
- Parking;
- Emergency Services;
- Special Events, and,
- Goods Movement.

Figure 1-2: Study Area



2 Planning & Policy Context

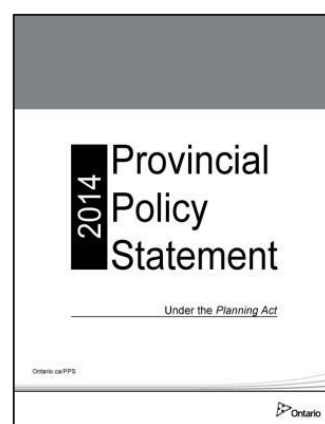
There are numerous guiding principles and policies from the City and Provincial government that provide direction on the future mobility objectives in the Study Area. Below is a summary of the key background documents relevant to this Environmental Assessment.

2.1 Provincial Planning Context

2.1.1 Provincial Policy Statement, 2014

The 2014 Provincial Policy Statement is a province-wide vision for the province's future land use. It develops landscapes, built environments, and manages resources over a long term to achieve a liveable and resilient community. Its directions include:

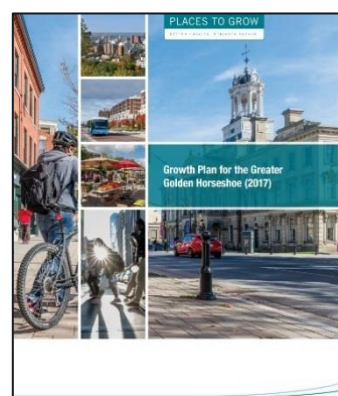
- Provide appropriate development while protecting resources, public health and safety, and the natural and built environments;
- Build strong, healthy communities by supporting density and land uses which encourage active transportation, are transit-supportive, and are freight-supportive;
- Develop supporting land use patterns where transit is planned or expected;
- Ensure safe, energy efficient, transportation systems that move people and goods;
- Integrate transportation and land use considerations at all stages of the planning process;
- Use of TDM strategies to maximize transportation network efficiency.



2.1.2 Growth Plan for the Greater Golden Horseshoe, 2017

2.1.3 The Growth Plan for the Greater Golden Horseshoe, 2006 was a regional growth management policy for the Greater Golden Horseshoe (GGH) region. It provided a framework for Ontario to build prosperous communities and manage unprecedented growth beyond the traditional urban sprawl that had dominated land development in the region to that point. **Revised in 2017 Growth Plan, some of the relevant guiding principles are:**

- Design complete communities to meet people's needs for daily living throughout an entire lifetime;
- Prioritize intensification and higher densities to make efficient use of land and infrastructure while supporting transit viability;
- Offer multi-modal access to jobs, housing, schools, cultural and recreational opportunities, goods and services;
- Provide for the safety of all system users; and,
- Municipalities will develop and implement transportation demand management policies in official plans or other planned documents or programs.



2.1.4 The Big Move, 2008 (2017 Update)

The Greater Toronto and Hamilton Area's (GTHA) first Regional Transportation Plan (RTP), *The Big Move*, identifies a 25-year plan for the Regional Rapid Transit and Highway Network. Developed by Metrolinx, the RTP provides policies, goals, and directions to support active transportation and safer environments for all mobility users. The focus of the RTP is to leverage transit investment and integrating all transit systems.

A new update was published in March 2018. The update provides direction on advancing mobility including new opportunities such as car-sharing, ride-sharing, bike-sharing, and autonomous vehicles for a horizon year of 2041. A major component of the RTP is the GO Expansion project which will see all-day 15-minute frequency service on major GO Train routes in each direction, as well as major investments in local rapid transit systems (BRT, LRT and subway) throughout the region.



2.1.5 #CycleON: Ontario's Cycling Strategy, 2013

Ontario's Cycling Strategy provides a route map to support and encourage growth in cycling over the next 20 years. Key strategic directions include:

- Design healthy, active and prosperous communities;
- Improve cycling infrastructure;
- Make highways and streets safer;
- Promote cycling awareness and behavioral shifts; and,
- Increase cycling tourism opportunities.



2.1.6 Ontario's Five Year: Climate Change Action Plan (2016-2020)

Ontario's Climate Change Action Plan is a five-year plan that will help Ontario fight climate change over the long term. The plan calls for a cleaner transportation system by:

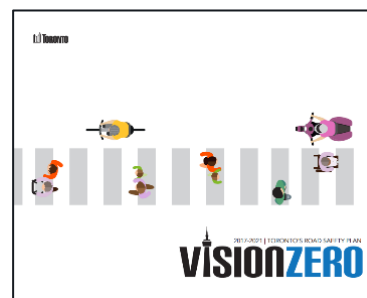
- Increasing the availability and use of lower-carbon fuel;
- Increasing the use of electric vehicles;
- Supporting cycling and walking;
- Increasing the use of low-carbon trucks and buses; and,
- Supporting accelerated GO Expansion.



2.2 City of Toronto Context

2.2.1 Road Safety Plan (Vision Zero), 2017

The City of Toronto released its 5-year Road Safety Plan, based on Vision Zero principles, in 2017. The philosophy of Vision Zero is to eliminate fatalities and serious injuries within the transportation system in contrast to the traditional approach of reducing all collisions. Vision Zero is a long-term strategy, aimed at eliminating fatalities and serious injuries on city streets through:



- Engineered safety measures;
- Technological improvements;
- Education; and,
- Enforcement.

2.2.2 Official Plan, 2015

The City of Toronto Official Plan provides new transportation policies (By-law No. 1009-2014) adopted by City Council that address developing mobility systems for the future. The key items include:

- Importance of transportation and land use that is mutually supportive and integrated;
- Mixed-use proximity to maximize accessibility;
- Reduced impact on public realm during development process;
- A new Complete Streets Framework;
- Supportive of expanding TDM initiatives; and,
- Achieving a balanced and multi-modal network.



An amendment to the Official Plan, the Downtown Plan, provides guidance for future Yonge St revitalization, and will be discussed separately.

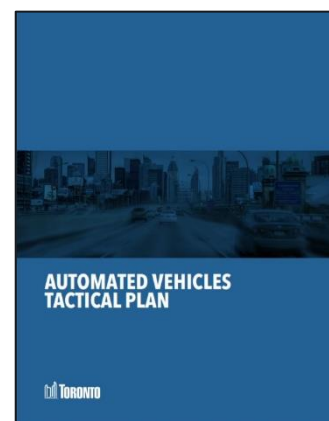
2.2.3 Cycling Network 10 Year Plan, 2016

Toronto City Council approved the City's Cycling Network Ten Year Plan, serving as a roadmap and workplan for investments in cycling infrastructure over 2016-2025. The plan identified opportunities for cycling infrastructure investments throughout Toronto. This includes recommendations for cycle tracks, bike lanes, and cycling wayfinding signage, and recommends further study of a north-south dedicated cycling facility through the downtown core on Yonge St and/or Bay St.

2.2.4 Automated Vehicles Tactical Plan, 2018

Toronto City Council has undertaken planning work to prepare for the advent of automated vehicles. Its Automated Vehicles Tactical Plan, approved in October 2019, will be used to outline how the City will be prepare for AVs and how it can maximise opportunity and mitigate impact. The workstreams are focused around seven broad directions that will guide key performance indicator management, namely:

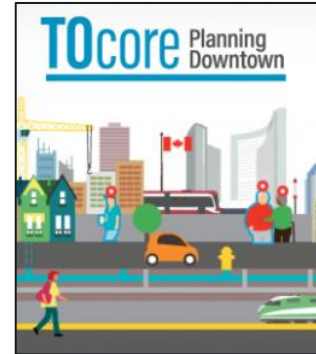
- Social Equity & Health;
- Environmental Sustainability;
- Economic Sustainability;
- Privacy;
- Road Safety & Security;
- Integrated Mobility; and,
- Transportation System Efficiency.



2.3 Downtown Toronto Studies

2.3.1 TOcore / Downtown Plan (2018)

In 2014, the City of Toronto launched the TOcore initiative to develop a 25-year vision for the continuing development of Toronto's downtown. The plan, officially adopted in 2018, set the following key goals:



- Complete Communities: Built form must be introduced in a way that respects the existing environment and maintains or improves the livability of residents;
- Connectivity: Increased focus on public space and a prioritization of finite road space for walking, cycling and surface transit while still accommodating for goods movement, the needs of emergency vehicles and essential services;
- Prosperity: Downtown must continue to present itself as an attractive place to work, live, play, invest and visit, and should strive to serve as a global leader in arts and culture;
- Resilience: Reduced reliance on high emission power sources and assurance that future infrastructure can withstand the needs of a growing city and the challenges of a changing planet; and,
- Responsibility: Coordination between various stakeholders to ensure that all needs are met.

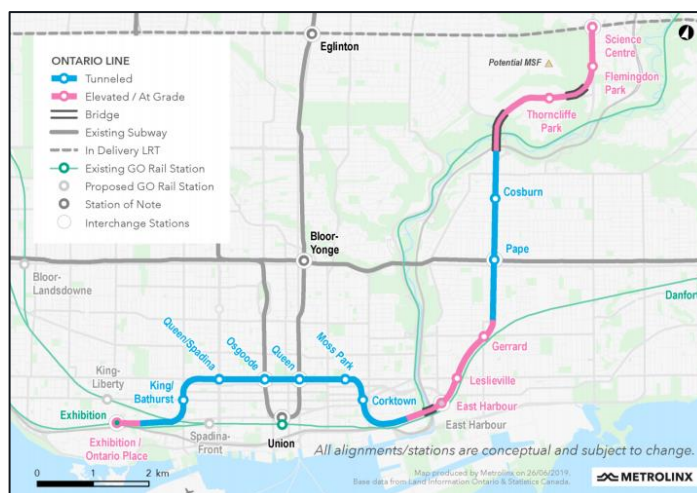
The Downtown Plan identified Yonge Street a major “Cultural Corridor” and “Great Street,” identifying its city-wide civic importance, diverse character and economic importance. The Downtown Plan identifies “Great Streets” as destinations in themselves, lined with landmark buildings, historic fabric and important public spaces. It identifies “Cultural Corridors” as historically and cultural significant streets that anchor important arts, entertainment and new media cultural resources downtown. Collectively, these classifications recognize that Yonge St plays a major role in the urban fabric of Toronto, and this role should be supported and capitalized on. The Downtown Plan also identified Yonge St as a potential priority cycling route worth further study.

2.3.2 PATH Master Plan (2012)

A growth plan for the PATH network was developed by Urban Strategies in 2012, focused on accommodating and encouraging future demand through the network over the next 30 to 50 years. The report recommended to loop through Ryerson University and connect to College Park. The PATH Master Plan was also discussed as an aligned initiative of the TOcore's Mobility Strategy in achieving the City's planning goals for improved mobility in Downton Toronto. The potential expansion of the PATH network would increase the attractiveness of the Study Area by offering convenient and comfortable year-round climate-controlled pedestrian facilities and help relieve crowded surface sidewalks.

2.3.3 Ontario Line Initial Business Case (2019)

The provincial government of Ontario has proposed a new subway line running through the yongeTOmorrow study area. Their proposed Ontario Line is expected to provide capacity relief to the congested Yonge Line (Line 1) and the Bloor-Yonge Station, as well as improve subway connectivity into and through the downtown core. The line will run from Science Centre Station to Exhibition GO station, crossing through the study area on Queen St, interchanging with the Line 1 subway at Queen and Osgoode Station. The Line is planned to have 15 stations in total with a service frequency of 90 seconds at best.



The Ontario Line will drastically transform travel patterns through the study area. It will relieve existing line 1 stations by providing a new way to get downtown from other parts of Toronto, and an alternative route for GO Transit users, reducing pedestrian strain on Union Station and the streets around it. Additionally, it will transform Queen and Osgoode stations into interchange stations and add (or modify) entrances at street level – an increase in pedestrian flows at these stations can therefore be expected.

The Initial Business Case supersedes the City’s previous Relief Line environmental assessment work. Design work for the line, including station layouts (and more relevantly, station entrances) has not been finalized.

2.4 Guidelines, Policies and Design Guidance

There are several other provincial and municipal guidelines that provide guidance on a range of transportation, design, and development related best practices. The follow sections present the relevant documents that will guide elements of this study as applicable.

2.4.1 City of Toronto Complete Streets, 2017

Developed as part of the City’s Official Plan with the objective of ensuring new and existing City Streets will incorporate a “complete streets” approach, designed to perform diverse roles by:

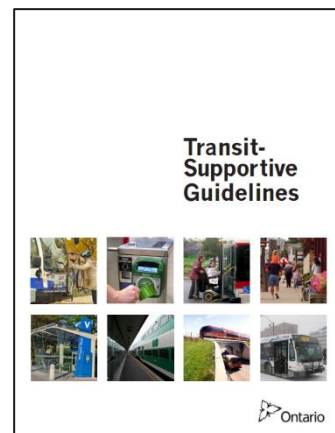
- Balancing the needs and priorities of various users and uses within the right-of-way;
- Improving the quality and convenience of active transportation options within all communities by considering the needs of pedestrians, cyclists, and public transit users;
- Reflecting the differences in local context and character; and,
- Serving community destinations and public gathering places.



2.4.2 MTO Transit Supportive Guidelines, 2012

The guidelines identify best practices in Ontario, North America and abroad for transit-friendly land-use planning, urban design and operations which look to create an environment that is supportive of transit, and developing services and programs to increase transit ridership. Strategies identified include:

- Layout of local streets and open spaces to enhance access to transit and create a more positive user experience;
- Creating complete streets that support all road users;
- Enhancing access to transit to ensure that stations and stops facilitate access and transfers;
- Creating a transit-supportive urban form; and,
- Parking management to ensure parking resources are adequately utilised and encourage a shift away from single-occupant vehicles.



2.4.3 Design Guidelines

There are numerous design guidelines produced by the City of Toronto and Province of Ontario, that will be relevant to proposed transportation solutions in this study. These include:

- **City of Toronto Curb Radii Guidelines, 2017** - While Transportation Association of Canada (TAC) Guidelines are typically relied upon for design, the City of Toronto Curb Radii Guidelines were developed to better incorporate the needs of all road users, including pedestrians and cyclists of all ages and abilities.
- **City of Toronto Curb Extension Guidelines, 2017** - The City of Toronto Curb Extension Guidelines were developed to better address site-specific conditions encountered in Toronto.
- **City of Toronto Vehicle Travel Lane Width Guidelines, 2017** - The City's Travel Lane Width Guidelines were reviewed and updated and will become part of the future Toronto-specific street design guidelines. The new guidelines rebalance safety, access, and comfort of all road users, including cyclists and pedestrians, when recommending lane widths.
- **OTM Books 15 and 18** - The Ontario Traffic Manual (OTM) is comprised of several books which provide guidance for the "planning, design, construction, and operation of traffic control devices and systems" thus promoting uniformity of approaches across Ontario. There are two books which provide the latest innovation and guidance on active transportation: Book 15 - Pedestrian Crossing Facilities and Book 18 - Cycling Facilities.

2.5 Stakeholder Studies

Previous Yonge St studies and events organized by various stakeholders are described below and provide useful context on the existing characteristics of the area, such as the existing make up of street users and traffic patterns in the area.

2.5.1 Yonge Love (2014)

In 2014, the Downtown Yonge BIA (DYBIA) conducted the Yonge Love campaign to determine usage patterns of Yonge St and identify future priorities. The study involved community consultations, leveraging social media and on-street activations to reach local community members and typical Yonge St users. It concluded that visitors to Yonge St were largely transit users and pedestrians who desired:

- A walkable corridor with wider sidewalks, more trees and a vibrant street experience;
- Increased programming, events and festivals within the space;
- A mix of large brands and independent stores; and,
- Infrastructure that matches corridor growth needs.



2.5.2 Celebrate Yonge (2013)

The Celebrate Yonge was an event organized by the DYBIA and included 11 themed event areas including patios, lounges, art installations and street furniture. It was held between August 17 and September 16, 2012 and included a temporary reduction in travel lanes on Yonge St, from four to two. A comprehensive traffic management plan was developed by the Downtown Yonge BIA to ensure a smooth implementation of the closure. Results included:

- 10% increase in pedestrian traffic from the same period a year earlier (221,456 peds/day);
- Traffic volumes on Yonge St decreased by 50 to 200 vehicles (20-30% decline) – most traffic diverted to Jarvis St and some diverted to University Ave;
- No significant changes to the overall traffic patterns of the downtown core;
- No significant change in travel speed or delays; and,
- No significant impact to the level of cyclist activity on Yonge St.

2.5.3 Yonge Street Planning (2011)

A 2011 study that was commissioned by the City of Toronto and undertaken by KPMB and Greenberg Consultants developed a high-level vision for the future of Yonge St. It recommended:

- Increased pedestrianization with flexible street design to better accommodate all modes of traffic;
- Expanding subway access to Ryerson University with a new station entrance at Gould St;
- Concentration of green spaces within 'urban villages' throughout the space;
- Protection of the historical heritage and character of the street in the face of large-scale developments;
- Encouraging mixed use developments including large and small retail, arts and culture spaces, markets and street vendors; and,
- Further expansion of the PATH network within the Study Area in the long term, though improving pedestrian life at the street level takes a higher priority.

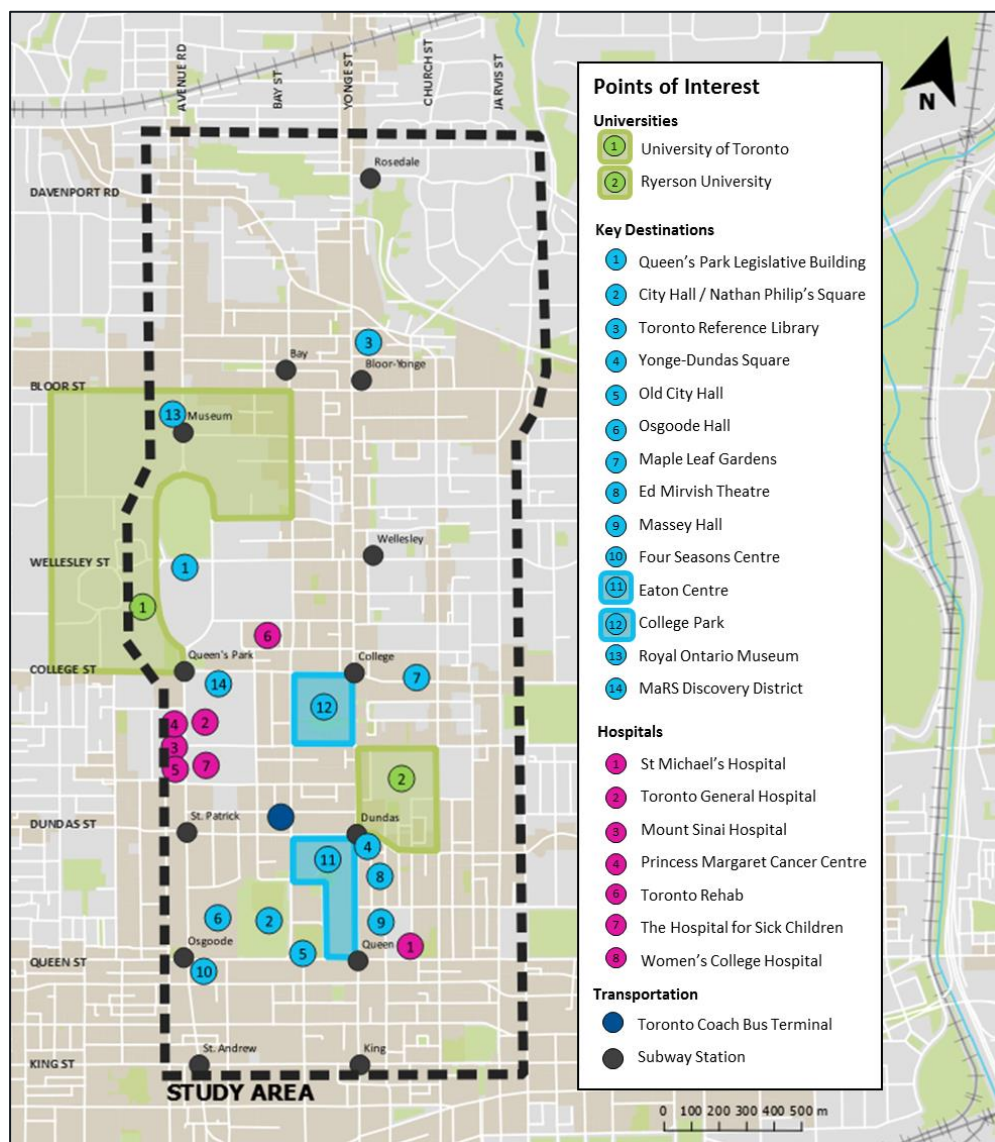


3 Land Use

3.1 Overview

Yonge St and the surrounding Study Area is a mixed-use, dense urban space; there is a large number of attractions nearby including shopping, arts and culture spaces, institutional buildings and employment centres. These act as major draws for residents, workers, students and tourists to come to the area each day. Selected key examples of such attractions are outlined in Figure 3-1.

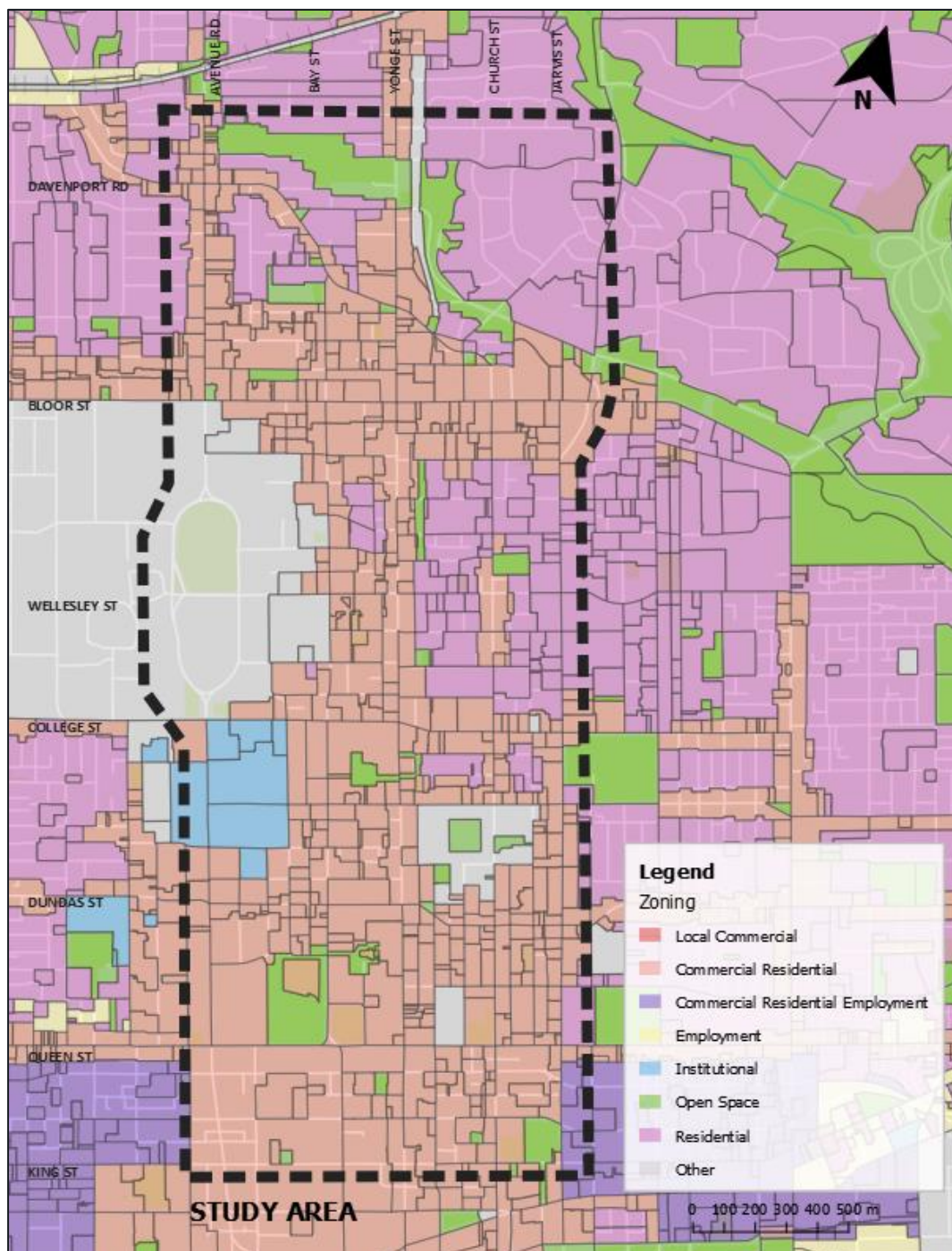
Figure 3-1: Points of Interest within Study Area



3.2 Zoning

More broadly, the current land use designations within the Study Area have been extracted from the City of Toronto's Open Data portal and are shown in Figure 3-2. For much of the Study Area, the primary land use is mixed use commercial-residential. This commonly means buildings with retail on the first floor and residential or office space in the floors above. There are also large pockets of residential only zones, particularly east of Yonge St and north of College St.

Figure 3-2: Land Use



There are also instances of other land uses scattered throughout the Study Area. On University Ave just south of College St, there is the largely institutional zone comprising the University Health Network of hospitals. There are also two higher education campuses: the University of Toronto at Queen's Park Circle and Ryerson University at Church St and Gerrard St. Finally, there are some notable government buildings including the Queen's Park Legislative Building at Queen's Park Circle and Toronto City Hall at Queen St W & Bay St. The exact locations of these specific sites are highlighted in Figure 3-1, while their land use designation is visualized in Figure 3-2.

The variety of land uses, and density of development means that there is considerable draw from neighboring communities and other parts of the region to the Study Area for activities such as employment, education, shopping and health care. It results in an enriching environment that is busy throughout all hours of the day, every day of the week. This means that a wide range of stakeholders, users and mobility options exist for this area, each with varying and often conflicting needs that must be considered¹.

¹ A full assessment of the Study Area's land use can be found in the *Socio-economic and Land Use Characteristics Assessment* report, completed by The Planning Partnership as part of this Environmental Assessment.

4 Road Network

4.1 Network Attributes

In the Study Area, there are four major arterial roads in the north-south direction (University Ave/Avenue Rd, Bay St, Yonge St and Jarvis St) and eight major arterial roads in the east-west direction (King St, Adelaide St – one-way eastbound, Richmond St – one-way westbound, Queen St, Dundas St, College St, Bloor St and Davenport Rd). There is also one minor arterial road in the north-south direction (Church St) and two in the east-west direction (Gerrard St and Wellesley St). All other roads are classified as either collectors, local roads, laneways or access roads. Figure 4-1 shows the major arterial, minor arterial and collector roads in the Study Area.

Right-of-way widths are provided in Figure 4-2. Yonge St has a consistent 20m right-of-way width for the majority of its length within the Study Area, with larger widths between College St and Gerrard St and just south of Dundas St. This is narrower than adjacent roads such as Jarvis St (23m), Bay St (27m) and University Ave (>45m). The limited right-of-way width on Yonge St creates a constraint in terms of the total space that can be allocated to various road users².

There is a high level of physical connectivity within the Study Area due to the road network's grid pattern and short block distance (major intersections are spaced at 200-350m increments), facilitating circulation through the area. However, connectivity is hampered for vehicles by regular turning restrictions, particularly during peak hours in which left turns are frequently restricted in order to support the movement of traffic. At a number of intersections with high pedestrian flows, turns are also restricted to remove conflicts between turning vehicles and crossing pedestrians. There are also several one-way streets, mainly along residential roads. A map of movement restrictions within the Study Area is shown in Figure 4-3 and full details can be found in Appendix A.

Due to its central downtown location, the Study Area has good linkages to the wider downtown and city. Numerous arterial roads cross the area in both directions. Additionally, to the south of the Study Area is a connection to the Gardiner Expressway, while east of the Study Area on Bloor St and Dundas St, vehicles can access the Don Valley Parkway. However, both highways are generally congested during peak times.

4.2 King Street Transit Priority Corridor

The King Street Transit Priority Corridor was initially launched as the King Street Transit Pilot in November 2017, which set out to reallocate space on King St to transit vehicles. While auto users were still able to use the road, they were not allowed to turn left nor pass straight

² A full right-of-way inventory along Yonge St is presented in the Right-of-Way Report completed by The Planning Partnership as part of this Environmental Assessment.

through any signalized intersections; instead, they must turn right, off King St at their first opportunity to do so. There were some exceptions to these rules during late hours for taxi services. The aim of the project was to make streetcar service on King St more reliable, faster and to increase capacity of the line.

The pilot was set to run until Spring 2019. In April 2019, Toronto City Council resolved to make King St a permanent Transit Priority Corridor. The City Council authorized the incorporation of improvements to the public realm in the near-term through the durability and quality of public realm materials, and in the longer-term through streetscaping improvements in coordination with private development and the City's capital program.

Figure 4-1: Road Classification Map



Figure 4-2: Right-of-Way Map

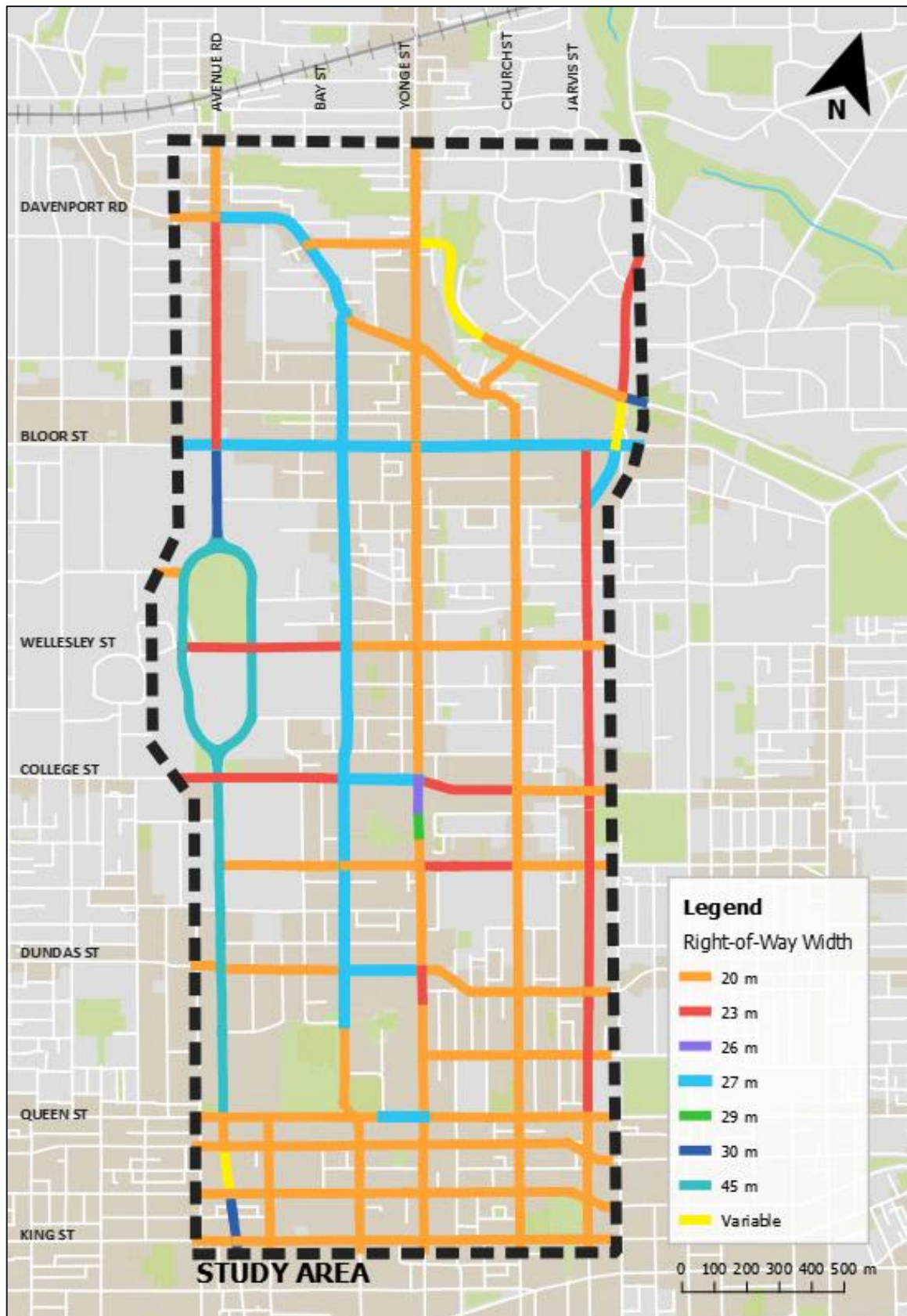
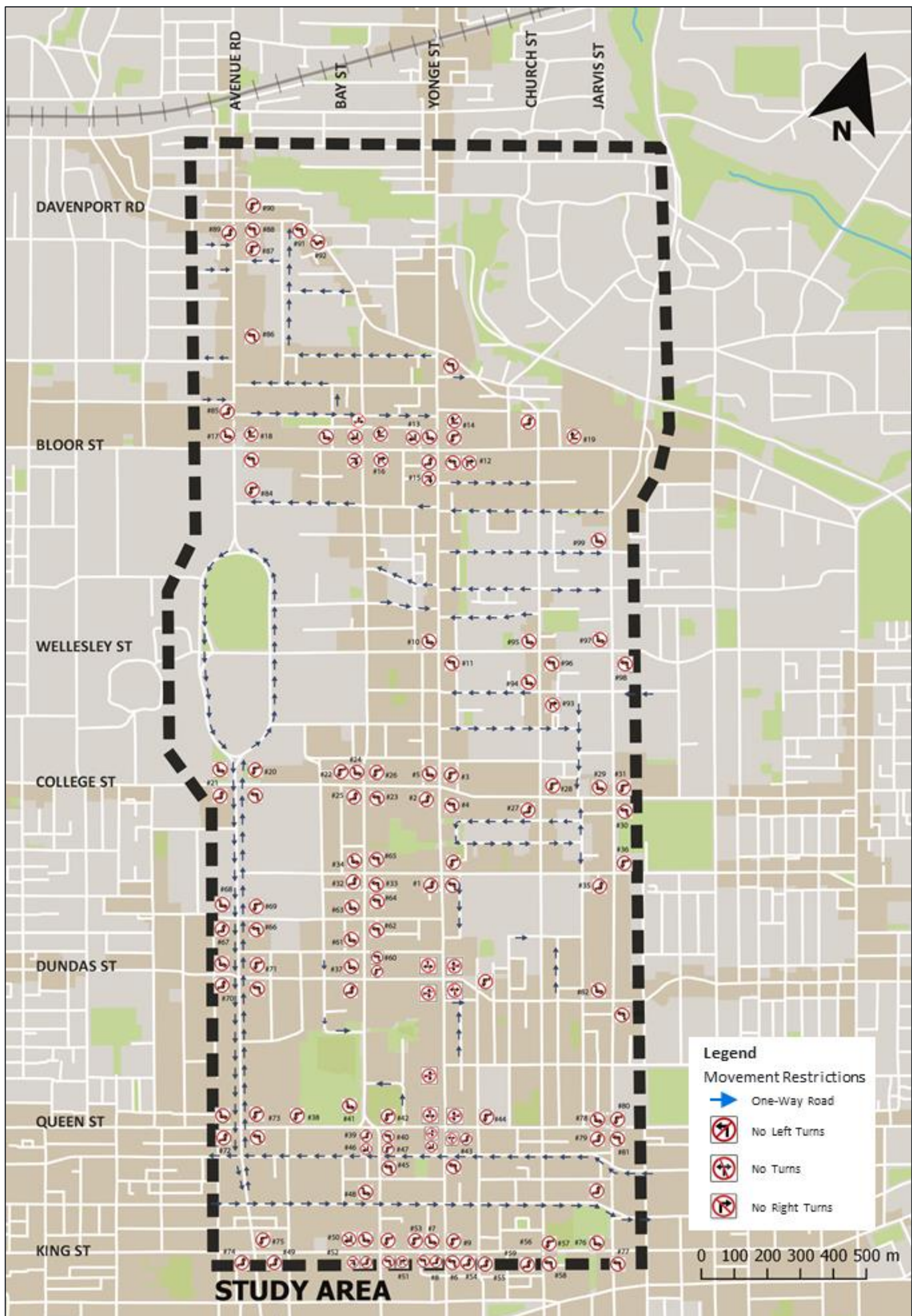


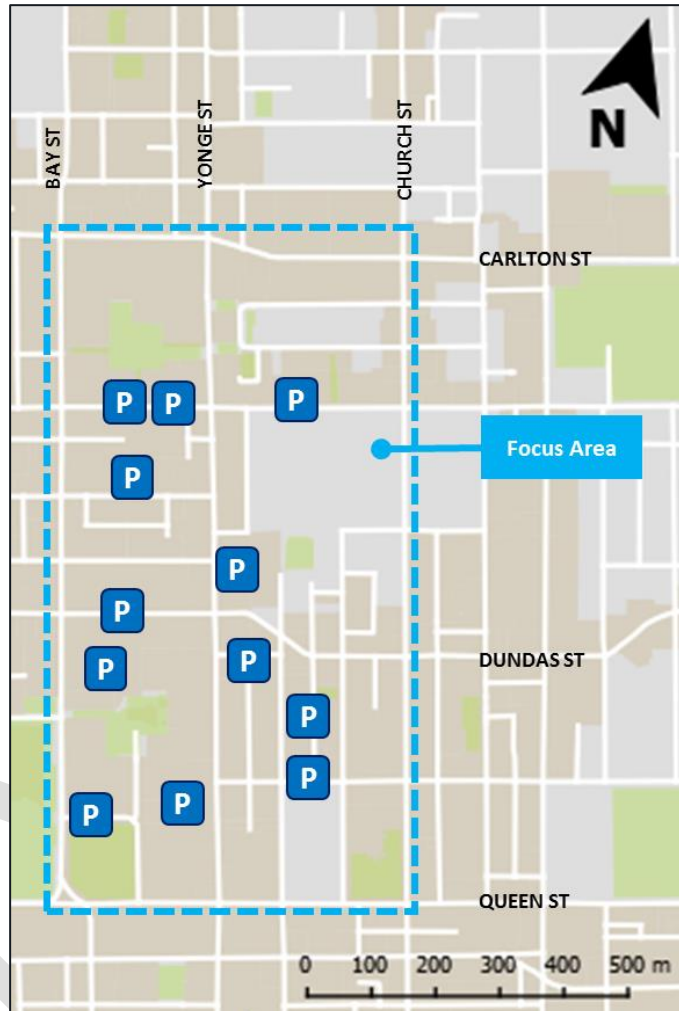
Figure 4-3: Existing Movement Restrictions



4.3 Off-Street Parking

There are many public and private parking lots within the Study Area, as shown in Figure 4-4, largely located underground. This is likely to increase as further developments are constructed. Access to these lots are generally provided from side streets rather than the main arterial roads.

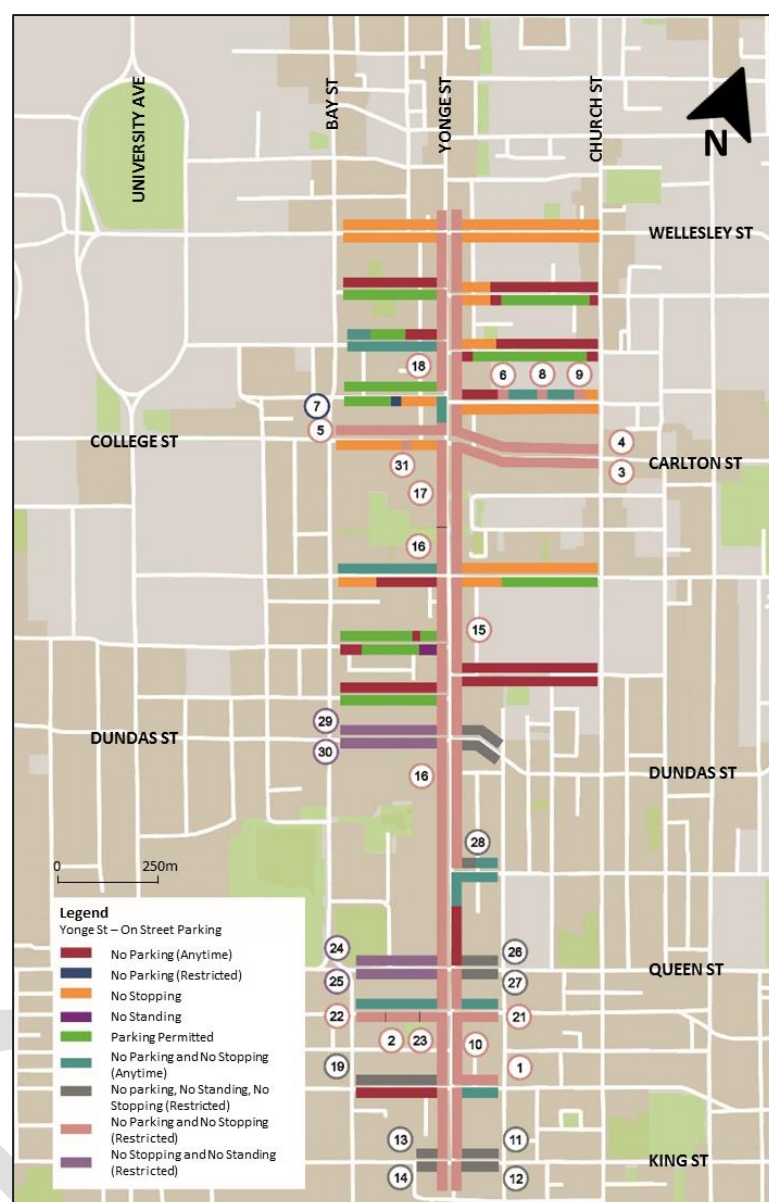
Figure 4-4: Focus Area Existing Parking Facilities



4.4 On Street Parking

On-street parking is completely restricted along Yonge St at all times and is only available on certain smaller side streets. This is mapped in Figure 4-5, and full parking restrictions corresponding to the circled numbers in the figure can be found in Appendix B. The majority of road users would therefore either need to park in a dedicated car park or park further away and walk to their destination. On-street parking is generally limited up to three hours and costs between \$1.00 to \$4.00 per hour depending on the area of the City. Strict fines are placed on vehicles who violate no stopping and standing rules, particularly during rush hour.

Figure 4-5: On-Street Parking Along Yonge St



4.5 Snow Conditions

As per City of Toronto standards, arterial roads and streetcar routes are to be plowed once snow depths of 5.0cm have been reached and snow must be cleared within 6-8 hours. Yonge St is expected to be bare pavement throughout the winter and is salted with 100% rock salt after 5cm of snow depth, and every 2-4 hours after. The City also salts or plows sidewalks with high pedestrian volumes such as Yonge St and its major cross streets, after 8cm of snow has fallen, within 6 hours. Bus stops and transit shelters are usually ploughed within 48 hours after a storm.

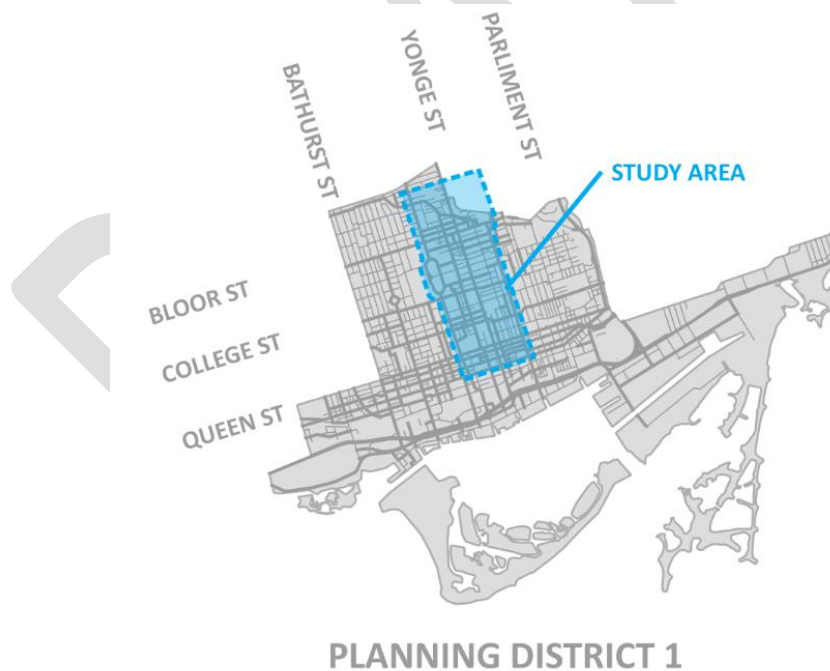
During major snowstorms, parking and stopping on dedicated snow routes is prohibited for upwards of 72 hours so that streets can be cleared. Most of the major arterial roads within the downtown core, including Yonge St are classified as snow routes.

5 Travel Patterns

A review of the Study Area's travel context was conducted using two data sources: the Transportation Tomorrow Survey (TTS) and StreetLight Data.

The TTS is a cooperative effort by local and provincial government agencies (including the City of Toronto, Toronto Transit Commission, Metrolinx and Ministry of Transportation Ontario) to collect information about urban travel in southern Ontario. The TTS data set was used for analyzing regional travel patterns. It typically has a sampling rate of 5% of the population and is conducted through phone surveys. The Study Area is largely found within Planning District 1, out of 16 total Planning Districts within the City of Toronto. Planning District 1 includes the downtown core in addition to Liberty Village, Exhibition Place, Toronto Island and the port lands. TTS traffic zones were also used to delineate the boundary of our study area in order to provide a finer level of spatial aggregation, allowing analysis to be conducted specifically for the Study Area. This is outlined in Figure 5-1.

Figure 5-1: TTS Planning District and Zones



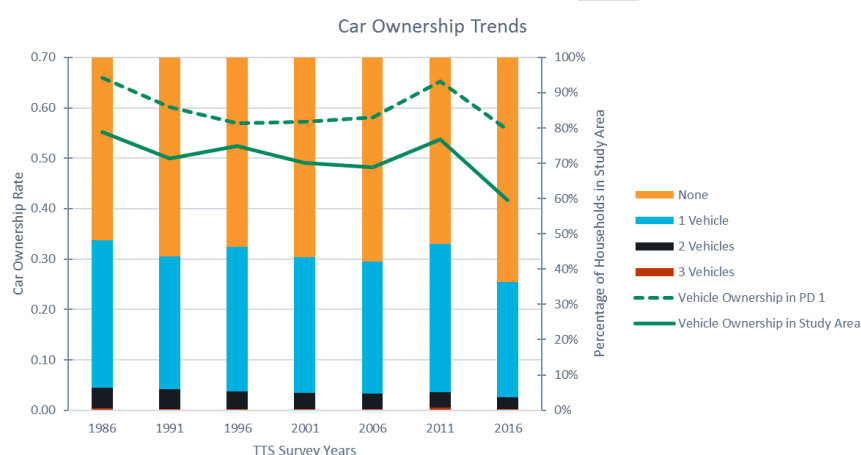
StreetLight Data was used to establish a local travel context. StreetLight's location-based data samples 23% of the population and is based on users' mobile applications. Their data is available from June 2016 to the present day. A trip is generally identified from continuously pinging mobile data, based on when the pings show that the device has been virtually still for 5 minutes. Unlike TTS, zone configurations are not pre-set in StreetLight Data, allowing for greater flexibility and a much finer level of spatial aggregation.

5.1 Car Ownership

Car ownership rates were assessed within the Study Area as well as within Planning District 1 using TTS data. Although it was found to fluctuate between 1986 and 2016, a slight overall decline was observed at both levels of TTS spatial aggregation.

Figure 5-2 shows that car ownership rates, expressed as cars per household, declined in the Study Area from 0.52 to 0.48 between 1996 and 2006 while remaining at similar levels in Planning District 1 (PD1). The car ownership rates rose in 2011 both within the Study Area and in Planning District 1 to 0.54 and 0.65 respectively but have since experienced sharp declines to 0.42 and 0.56, respectively, in 2016. The percentage of households in the Study Area without any vehicles increased in 2016, contributing to the drop in the car ownership rate.

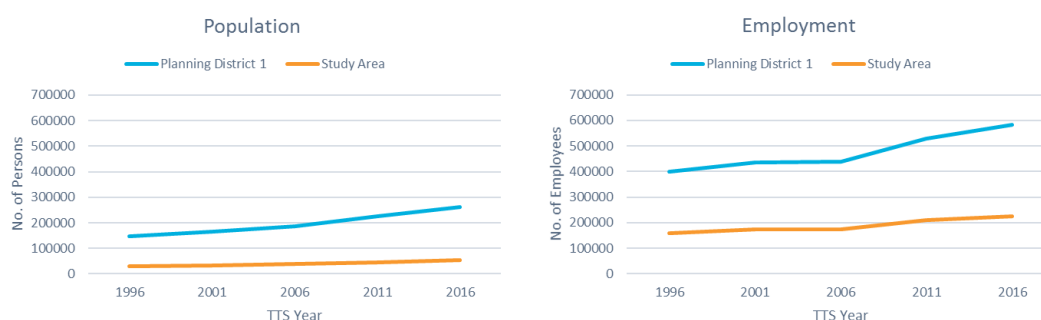
Figure 5-2: Car Ownership Trends



5.2 Population and Employment

Figure 5-3 shows the population and employment trends within the Study Area and Planning District 1. Both areas see far more employment (nearly 225,000 people in the Study Area and up to 600,000 in the greater Downtown core) than population (nearly 55,000 people in the Study Area and up to 260,000 in the greater downtown core); a significant number of people come into the area to work, then leave each afternoon each day. There has been steady growth in employment but stagnant growth in population in the Study Area. The rate of growth appears to be more significant within the overall Planning District 1, likely due to major neighbourhood developments such as Liberty Village, west of the Study Area and Regent Park just east of the Study Area, as opposed to the Study Area which has seen more localized redevelopments of specific properties.

Figure 5-3: Population and Employment Trends

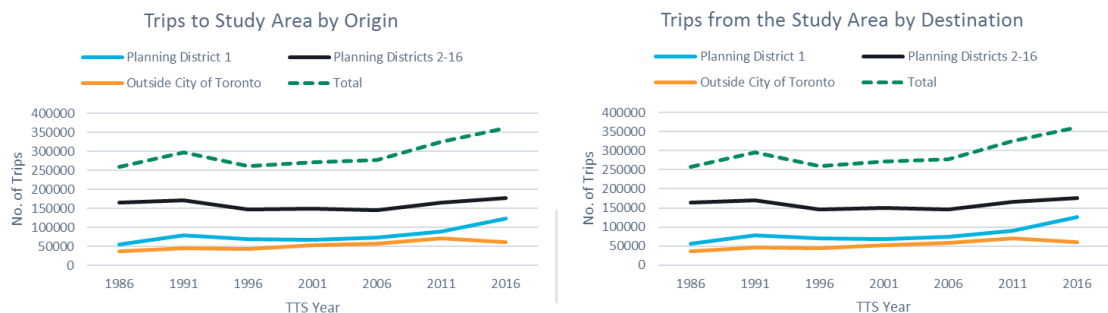


5.3 Regional Travel Demands

5.3.1 OD Patterns

In line with population and employment growth trends, travel to and from the Study Area has also increased in recent years, as shown in Figure 5-4. This shows that overall daily trips to the Study Area have been increasing in recent years, since about 2006, owing to the increasing desirability of Downtown Toronto as an employment hub. It also shows that trips to and from the Study Area are largely made to and from other areas of Toronto, with users from outside the City making up the smallest, though still substantial, proportion of the total of trips.

Figure 5-4: Daily Trips to and From the Study Area



The high-level findings from the 2016 TTS dataset indicate that the daily travel demands in the Study Area are primarily local. Each day, 80% of trips to and from the Study Area originated from within the City of Toronto. Half of all trips were to and from Toronto & East York, which includes the Study Area and all of Planning District 1. More specifically, 33% of trips were from Planning District 1 and 17% were from the remainder of Toronto & East York. Trips from beyond the City accounted for approximately 20% of the total trips to the Study Area. More specifically, approximately 10% of trips were made to and from the municipalities of Mississauga, Brampton, Vaughan and Markham. 1-2% of trips were made to and from beyond the Greater Toronto and Hamilton Area (GTHA).

Figure 5-5 shows the flows to and from the Study Area in the weekday AM peak period (6 am to 9 am). In the AM peak period, 76% of inbound flows are from within the City of Toronto, with 38% of all flows coming from the Toronto & East York district, inclusive of Planning District 1. 24% of inbound trips come from beyond the City of Toronto as commuters travel to the downtown core, the largest percentage of which come from north of the City (York Region). In the AM Peak, 93% of outbound flows from the Study Area have destinations within the City of Toronto, with 77% destined for the Toronto & East York District, inclusive of Planning District 1. 7% of trips from the Study Area are bound for outside of Toronto in the AM peak period.

Figure 5-6 shows the flows to and from the Study Area in the weekday PM peak period (4 pm to 7 pm). In the PM Peak period, the trends are largely reversed. 93% of inbound flows are from within the City of Toronto, with 76% of all flows coming from the Toronto & East York district, inclusive of Planning District 1. Only 7% of inbound trips during this period are from beyond the City of Toronto. In the PM Peak, 79% of outbound flows from the Study Area have destinations within the City of Toronto, with 44% destined for the Toronto & East York District inclusive of Planning District 1. 21% of trips during this period are to other parts of the GTHA as people head home for the day.

Figure 5-5: 2016 TTS Flows to/from the Study Area (AM Peak Period: 6 am 9 am)

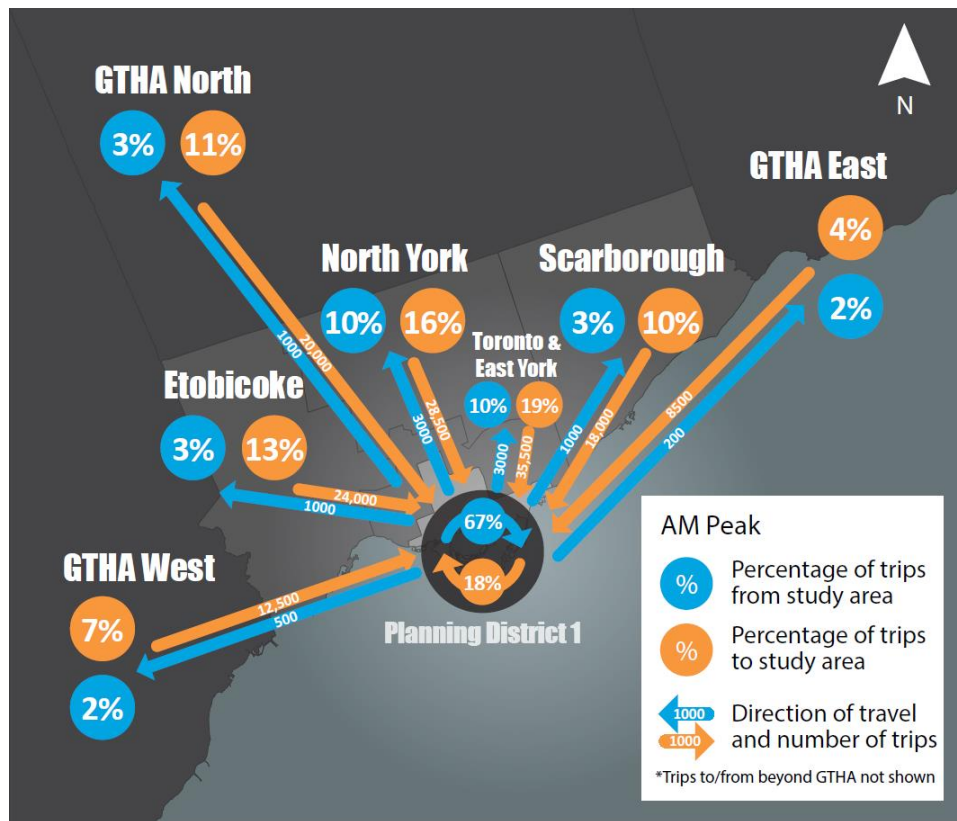
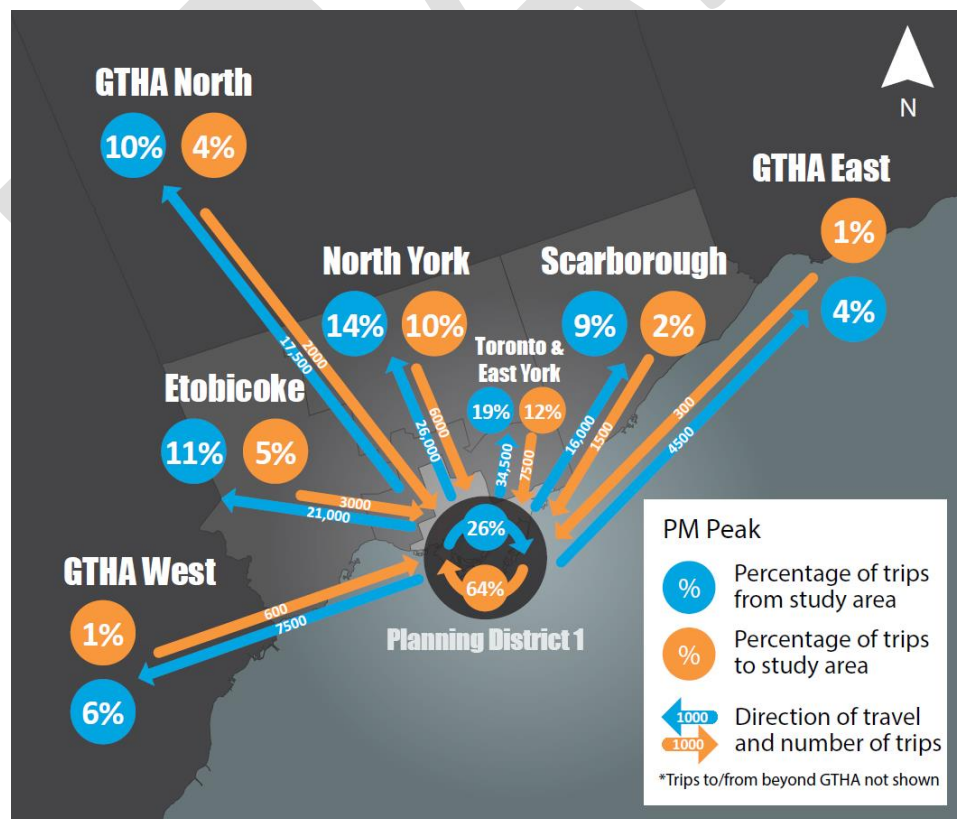


Figure 5-6: 2016 TTS Flows to/from the Study Area (PM Peak Period: 4 pm to 7 pm)



Flows to and from beyond the GTHA are not shown on the maps, as they make up only 1% of trips to and from the Study Area in the AM and PM peak periods. AM and PM travel patterns generally mirror of each other, as would be expected given the nature of land uses in the Study Area; in the AM peak period, 85% of trips are in the inbound direction, whereas in the PM peak, 76% of all trips are in the outbound direction.

5.3.2 Peak Period Characteristics and Trip Type

The 2016 TTS-based temporal distribution of trips to/from the Study Area over a 24-hour period, shown in Figure 5-7 and Figure 5-8 for inbound and outbound trips, respectively, reflects the nature of existing land uses within Planning District 1, including residential, commercial, retail, restaurant and entertainment uses. The peaking characteristics in the 2016 dataset have remained consistent with TTS data from previous years. 51% of all trips to the Study Area occur during the morning peak period (6 am – 9 am) as people head to work or school, while 54% of all trips from the Study Area occur in the afternoon peak period (4pm – 7pm), as people head home.

Figure 5-7: Time of Day Distribution of Inbound Trips

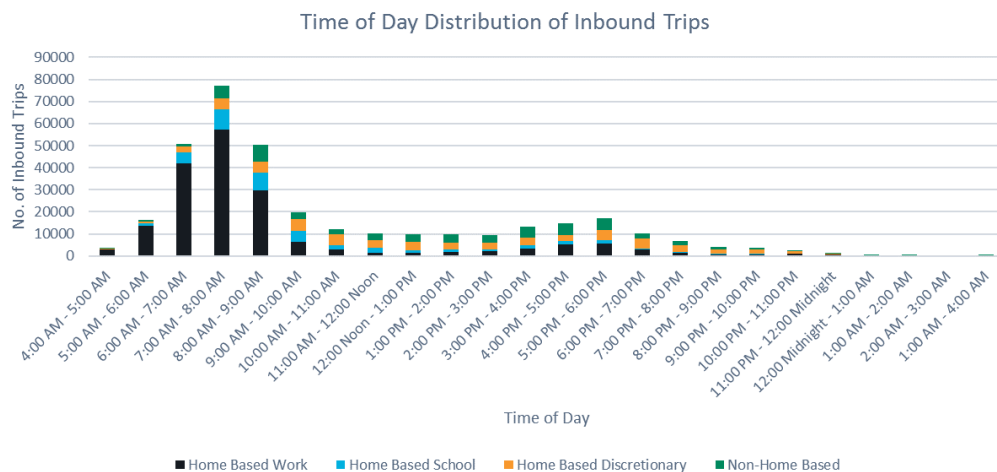
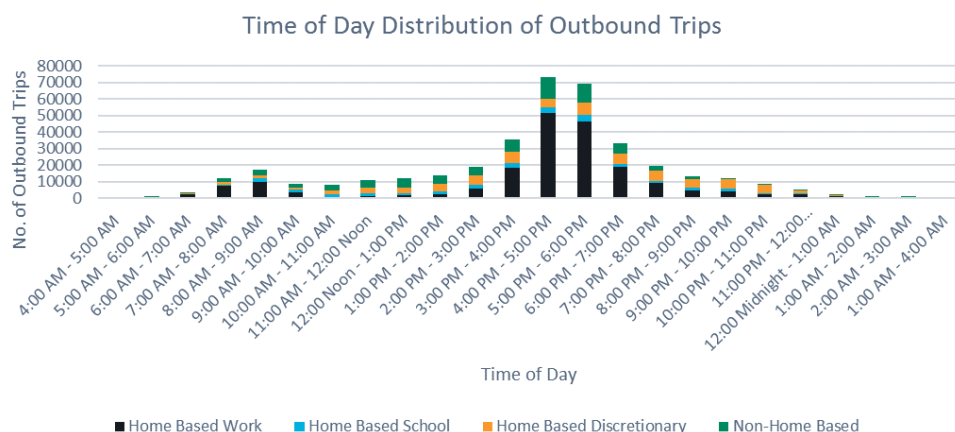


Figure 5-8: Time of Day Distribution of Outbound Trips



The inbound trips are primarily Home-Based Work trips (trips between home and work), which peak during the morning period, with the peak hour between 7 AM and 8 AM. The primary outbound trips are also Home-Based Work trips that leave the Study Area during the afternoon peak period, with the peak hour spanning between 4 PM and 5 PM.

Home-Based School trips (trips between home and school) also occur mostly during the morning peak and afternoon peaks. They are reflective of trips associated with the institutional land uses in the Study Area including Ryerson University and the University of Toronto.

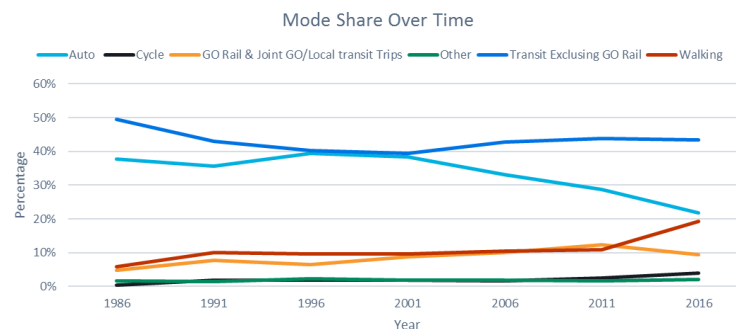
Non-Home Based trips (for example, trips between work and a retail establishment) and Home-Based Discretionary trips (for example, trips between home and a retail establishment) occur throughout the day between 10 AM and 12 midnight and are representative of the retail, restaurant and entertainment land uses within the Study Area. Non-Home Based and Home-Based Discretionary trips make up a higher percentage of trips during the mid-day and evening periods.

5.3.3 Travel Mode

Trips To/From Study Area (All Trips To/From Study Area)

The primary mode of travel for trips to/from the Study Area has historically been transit (excluding regional GO rail trips or trip chaining with GO rail), followed by car trips and subsequently by walking. Transit trips have remained at similar levels from 1996 to 2016 (approximately 55%) while the overall share of walking and cycling trips have more than doubled to 20% and 4%, respectively. The share of car trips decreased from 38% to 22%. The changes in mode share over time for trips to and from the Study Area is shown in Figure 5-9.

Figure 5-9: Mode Share Over Time



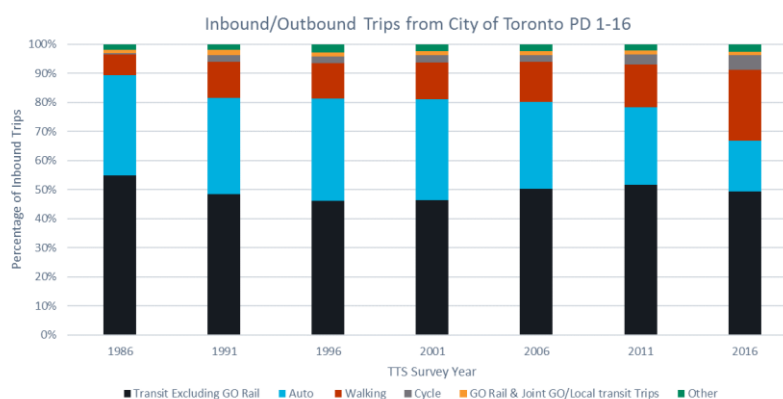
Trips To/From Study Area (Trips To/From Within Toronto)

Figure 5-10 shows the mode share for trips to/from the Study Area to/from within Toronto. Public Transit excluding GO Rail comprises 49% of all trips in 2016, while cars comprise 18%, down from 35% in 1986. Walking has grown to 24% of all trips by 2016, up from 7% in 1986. Cycling has grown to 5% in 2016, up from 1% in 1986. GO Rail does not comprise a large percentage of trips to/from the Study Area within Toronto.

As shown in Figure 5-11 shows the mode share for trips to/from the Study Area to/from outside of Toronto. Trips to and from outside the City are made primarily by transit (local and regional) or by car. Over time, there have been decreases in the proportion of car trips and increases in the proportion of trips made by GO Rail only, or by trip chaining trips with GO Rail and local transit services. The proportion of regional rail transit trips have increased to 41% in 2016, compared to 21% in 1986, while travel by car has decreased from 53% to 37%. The proportion of trips made by local transit remained at similar levels (20 ± 2%).

, the proportion of regional rail transit trips have increased from 1996 levels by more than 15%, while travel by car has decreased by nearly 20%. The proportion of trips made by local transit remained at similar levels (around 20%).

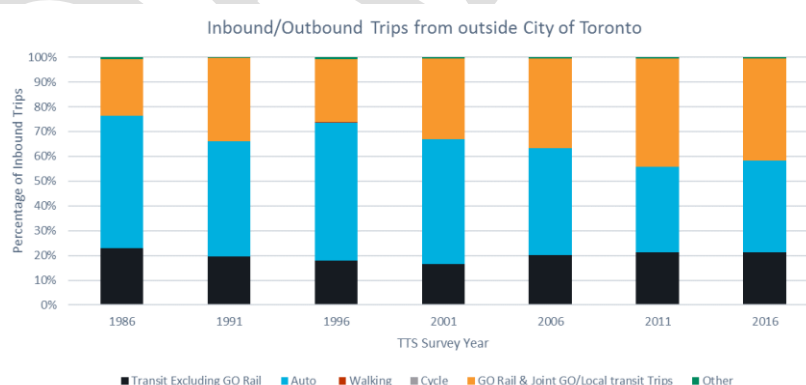
Figure 5-10: Trips To/From Study Area (Within Toronto)



Trips To/From Study Area (Trips To/From Outside Toronto)

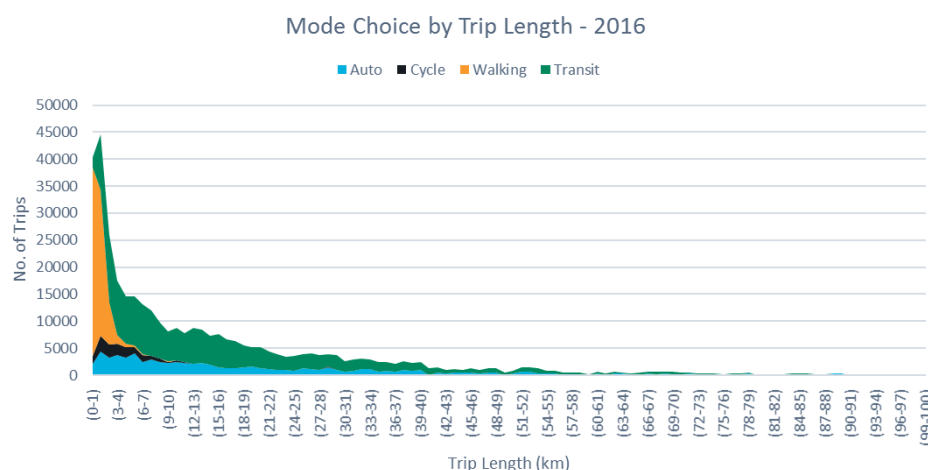
Figure 5-11 shows the mode share for trips to/from the Study Area to/from outside of Toronto. Trips to and from outside the City are made primarily by transit (local and regional) or by car. Over time, there have been decreases in the proportion of car trips and increases in the proportion of trips made by GO Rail only, or by trip chaining trips with GO Rail and local transit services. The proportion of regional rail transit trips have increased to 41% in 2016, compared to 21% in 1986, while travel by car has decreased from 53% to 37%. The proportion of trips made by local transit remained at similar levels ($20 \pm 2\%$).

Figure 5-11: Trips To/From Study Area (Outside Toronto)



Mode Share as a Function of Trip Distance

As of 2016, most short-distance trips to and from the Study Area and wider Planning District 1 are completed by walking, as shown in Figure 5-12. For longer distances, transit becomes the dominant mode choice due to the strong transit options within Planning District 1.

Figure 5-12: Mode Choice by Trip Length (2016)


Additionally, the cycling mode share has risen over time, with the sharpest increase coming after 2011, though the amount of distance that cyclists are typically willing to travel has not changed significantly. The increase in cycling mode share is highest for trip lengths of about 5km between the 2011 and 2016 levels. These trends provide further support for Cycle TO's recent findings from Statistics Canada 2016 Census data regarding the spike in cycling in downtown Toronto, especially as the primary mode of transportation for work trips.

95% of the time, walking trip lengths are within 3 km while cycling trips are within 9 km, as shown in Figure 5-13 and Figure 5-14, respectively. By 2016, walking had seen a rise in the percentage of overall trips, though typical trip distances remained the same. Likewise, for cycling, while the typical distance travelled has stayed much the same, the number of trips being taken by cyclists has increased.

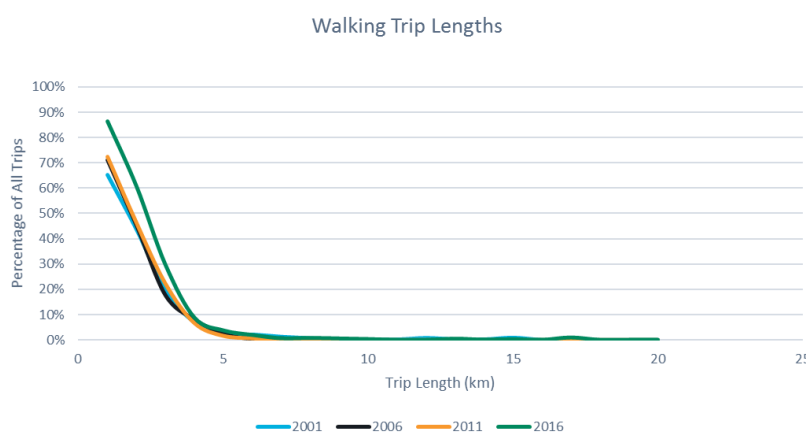
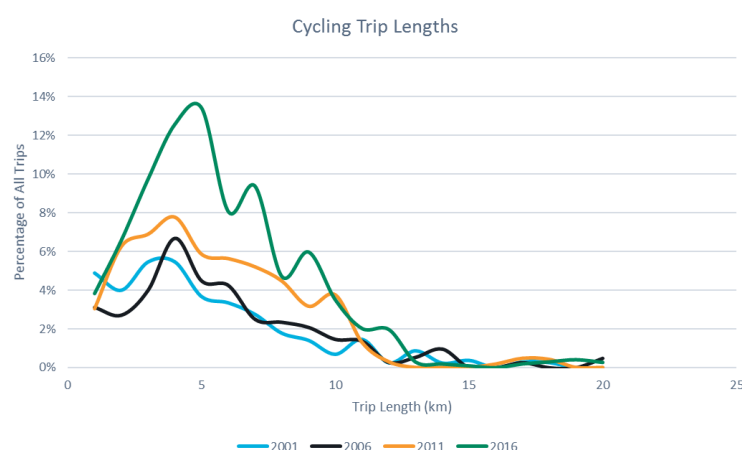
Figure 5-13: Average Walking Trip lengths


Figure 5-14: Average Cyclist Trip Lengths

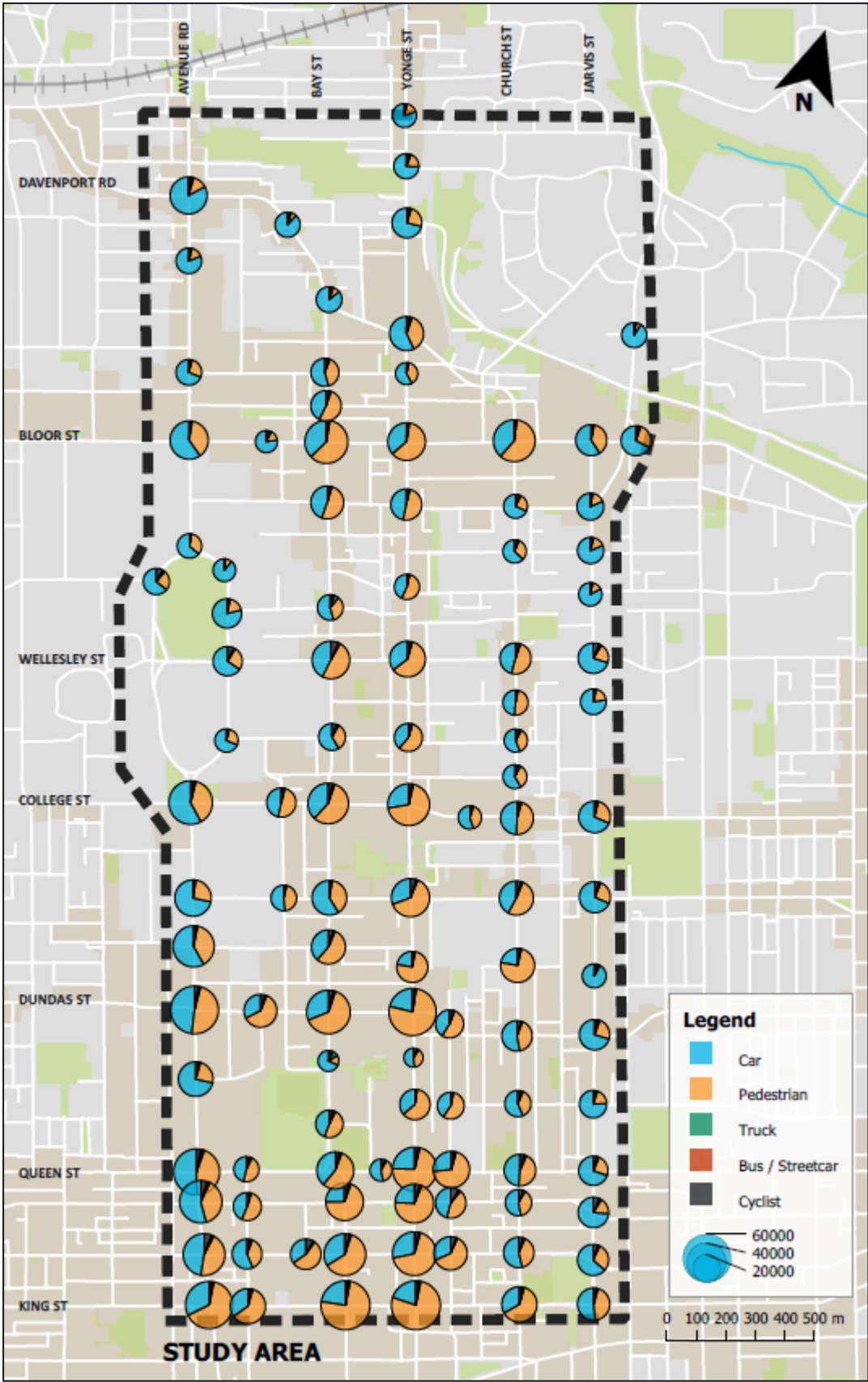
Mode Share in Focus Area

Figure 5-15 shows the mode split at each intersection within the Study Area as per the City of Toronto's 8-Hour traffic counts. Table 5-1 shows the volumes at major intersections along Yonge St within the Focus Area, also according to the City of Toronto's 8-Hour traffic counts. The size of the circle corresponds to the total volumes of cars, trucks, busses and streetcars, cyclists and pedestrians passing the intersection over the 8-hour period. Throughout the Study Area, pedestrians make up a significant portion of total traffic, and this is particularly true on Yonge St.

Table 5-1: Yonge St Mode Split at Key Intersections (City of Toronto 8-Hour Traffic Counts)

Street	Car	Truck	Bus/Streetcar	Cyclist	Pedestrian
College St	12939	455	44	1209	32030
Gerrard St	11901	558	100	1790	24440
Dundas St	12489	330	64	1125	44974
Shuter St	9181	310	34	278	15491
Queen St	12816	384	392	1171	37336

Figure 5-15: Mode Split by Intersection



5.4 Local Travel Patterns

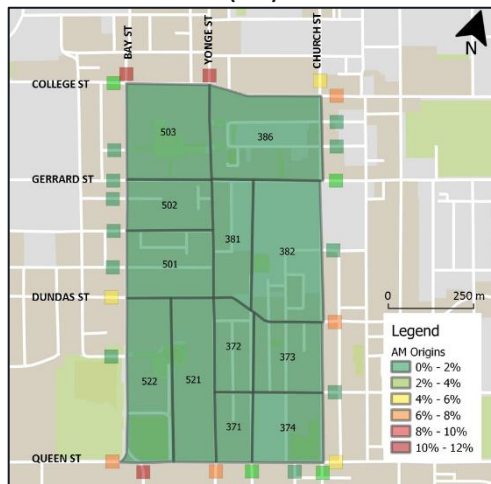
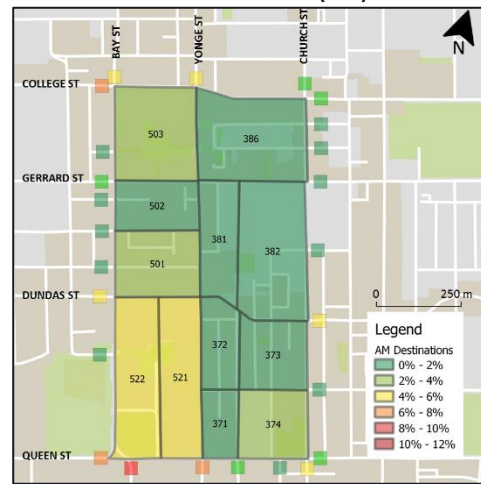
StreetLight Data was also used to map personal auto trip flows between zones within the Focus Area. TTS Zones were disaggregated to show a finer representation of movements. Internal zones show where trips start and/or end within the Focus Area, and external zones were added at each cross street to map trips into and out of the Focus Area. A map of this zonal structure is shown in Figure 5-16. Note that cyclist, transit and pedestrian trips are not considered in this analysis.

Figure 5-16: Focus Area Zonal Structure



Figure 5-17 and Figure 5-18 show the personal auto trips to and from each zone within the Focus Area, respectively, in the AM period. In the AM period, only 9% of traffic originates within the Focus Area, and of these users, 96% have their destinations outside of the focus area. Therefore, there are very few auto users who travel exclusively within the Focus Area during the AM peak. 91% of users who travel in or through the Study Area enter via an external gateway. 27% of traffic that enters via an external gate is destined for the focus area, while 73% passes through the area without stopping. That is to say, the Focus Area acts more as a destination or through-corridor than as a trip generator.

Zones 521 and 522, which correspond to the Eaton Centre, see a relatively high number of trips (8% of all trips) which is in line with its role as a major destination within the city. Zone 374 corresponds to Street Michael's Hospital, and sees 2% of all trips, while zone 503, College Park, sees 4% of all trips that occur within or through the Focus Area. On the other hand, no internal zone is a major generator of trips.

Figure 5-17: Personal Vehicles Focus Area Trip Origins (AM)**Figure 5-18: Personal Vehicles Focus Area Trip Destinations (AM)**

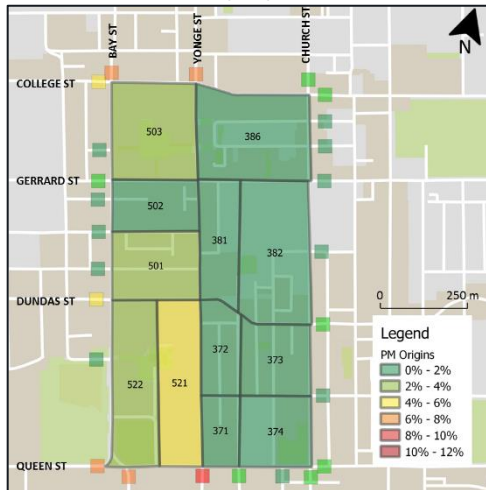
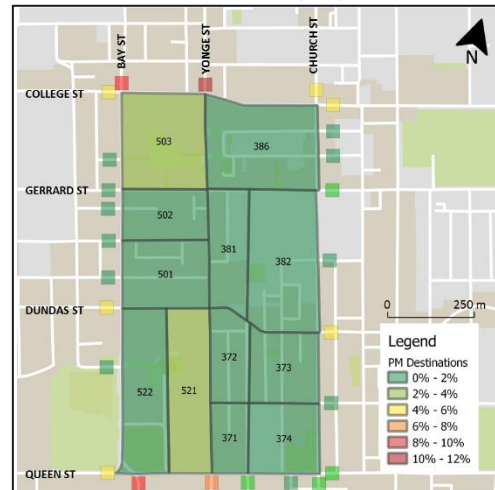
Users entering and exiting the area largely use major corridors and not the more minor side streets. A full breakdown of which corridors are used to enter and exit the Focus Area is provided in Table 5-2. Yonge St and Bay St each accommodate the largest number of trips into and out of the Focus Area. Side streets are not shown.

Table 5-2: AM Corridor usage into and out of the Focus Area

Corridor	Into Study Area	Out of Study Area
Bay St	24%	22%
Yonge St	20%	18%
Church St	8%	11%
College St	11%	11%
Gerrard St	5%	6%
Dundas St	11%	13%
Queen St	12%	11%

Figure 5-19 and Figure 5-20 show the trips to and from the Focus Area, respectively for the PM period. In the PM period, 17% of traffic originates within the Focus Area, and of these users, 96% have their destinations outside of the Focus Area. This once again shows that very few users travel exclusively internal to the Study Area. However, it also shows that in the PM period, the Focus Area is a more substantial generator of auto trips, as workers and visitors who entered the area in the morning return home. In particular, zones 521 and 522 (Eaton Centre) are notable generators of trips.

Similar to the AM period, 21% of traffic that enters via an external zones is destined for the Focus Area, while 79% passes through the area without stopping, again reflecting the fact that in the PM period, the Focus Area is less of a destination as people go home. Even so, due to the wide variety of activities in the area that go beyond typical commuter trip patterns, the PM period sees a substantial number of trips ending within it.

Figure 5-19: Personal Vehicles Focus Area Trip Origins (PM)**Figure 5-20: Personal Vehicles Focus Area Trip Destinations (PM)**

Users entering and exiting the area largely use major corridors and not side streets. A full breakdown of which corridors are used to enter and exit the Focus Area is provided in Table 5-3. Yonge St and Bay St each accommodate the largest number of trips into and out of the Focus Area. Side streets are not shown.

Table 5-3: PM Corridor usage into and out of the Focus Area

Corridor	Into Study Area	Out of Study Area
Bay St	20%	20%
Yonge St	21%	20%
Church St	9%	10%
College St	11%	11%
Gerrard St	5%	4%
Dundas St	11%	14%
Queen St	12%	12%

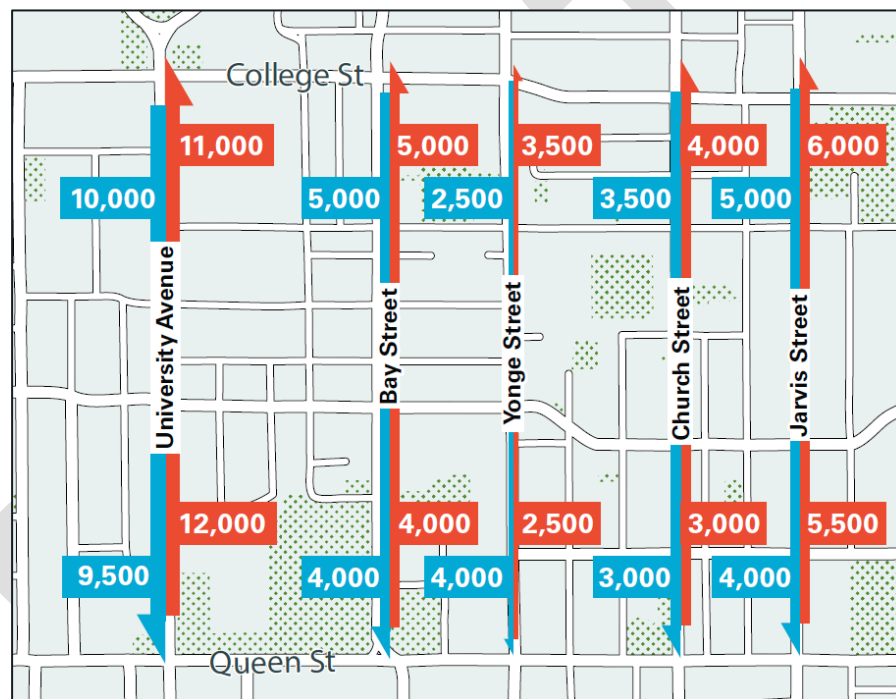
Note that commonly busy areas of the Focus Area, such as Ryerson University do not appear to be a significant generator or attractor of trips in this analysis, potentially because the vast majority of those users may be taking transit, walking or possibly cycling.

6 Traffic Operations

6.1 Traffic Operations

Typical traffic volumes on Yonge St and parallel corridors are shown in Figure 6-1 and 8-hour auto volumes as per the City of Toronto's traffic counts are visualized in Figure 6-3. This shows that Yonge St carries relatively few vehicles in comparison to other parallel corridors such as University Ave or Jarvis St.

Figure 6-1: Typical Daily Traffic Volumes



Existing operations for 108 signalized intersections were analyzed for both AM and PM peak hours using Synchro Version 10.1 as per the City of Toronto's Synchro Guidelines. Synchro is a macroscopic traffic analysis software that evaluates the capacity and performance of intersections in a road network. 15-minute counts were provided by the City, with the peak hour of each intersection used in the model for each period. A visual check of traffic movements in SimTraffic, a simple microscopic simulator that visualizes car movements inputted into a Synchro model, was also completed as a sense check to ensure that the Synchro model appropriately reflects actual conditions. A separate analysis was conducted with Aimsun, which allows for complex microscopic simulation of all traffic movements through an area. The details of this are outlined in the Aimsun Modelling Report. Onsite observations were conducted at major intersections in the focus area to confirm queue lengths in the AM and PM period in developing the Aimsun model.

Level of service (LOS) is based on the average control delay per vehicle for a given movement. Delay is an indicator of how long a vehicle must wait to complete a movement and is represented by a letter between 'A' and 'F', with 'F' being the longest delay. Generally, LOS A, B, and C are considered acceptable. LOS D indicates that delays are more perceptible. LOS E and F indicate notable delays but may be acceptable in urban contexts. The volume to capacity (V/C) ratio is the proportion of theoretical capacity utilized at an intersection (with actual capacity in real-world conditions being lower than theoretical capacity due to non-optimal driver behaviour and the random nature of when vehicles arrive at intersections). Criteria for critical intersections and movements are based on a V/C ratio greater than 0.85 or a Level of Service E or F, as per industry standards.

Figure 6-2: LOS Levels

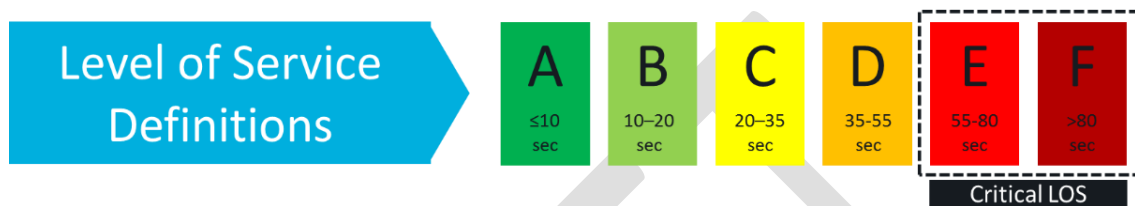


Figure 6-3: 8-Hour Auto Volumes



There are certain limitations in this analysis due to the Synchro software and data available. These include:

- **Transit:** Transit vehicles, particularly streetcars, can cause extended delays that last for multiple cycles. However, Synchro is not a suitable tool for analyzing transit vehicle journey times as it makes no distinction between busses and streetcars. Additionally, Synchro is unable to model transit signal priority and the effect it has on traffic. The full impacts of these elements will be seen in the Aimsun analysis.
- **Construction:** Due to the nature of the downtown urban environment, construction is common. Some of the counts used in this model may have been impacted by the presence of construction nearby. Some of the onsite observations were impacted by construction.
- **Data Variability:** Differences in the turning movement counts in terms of the year and month they were conducted could result in variability between intersections. Furthermore, peak hour traffic volumes per intersection were used which may also result in variability of peak hours between the various intersections. Volume balancing was done to reduce the effect of this, as per the City's Synchro Guidelines.
- **Knock-on Effects:** Long queues at one intersection can spill over to the adjacent intersection, causing flows to back up for several cycles. Intersections at Yonge St and Dundas St, and Bay St and Queen St are the most prominent examples of this. Synchro does not fully capture these effects. The full effect of these elements will be seen in the Aimsun analysis

Analysis results for the Focus Area for the AM and PM periods are shown in in Figure 6-4 and Figure 6-5, respectively, and full Study Area maps can be found in Appendix C1.

6.1.1 King St Pilot Project:

The Aimsun model was been updated to include the King St Pilot project, including new signal timings and updated flows. Older, pre-pilot intersection counts were then balanced to the updated intersections nearby, only impacting intersections along and south of Queen St.

A large number of illegal movements were observed in the traffic counts provided by the City for the post-pilot conditions. For modelling purposes, this traffic was not modified nor diverted to permissible movements; left turns and through movements were permitted where necessary in the model to account for the high level of illegal movements.

Due to complex vehicle behaviour on King St and the implementation of transit signal priority, Synchro is not a suitable program for modelling this street, and the Aimsun model should be referred to for more accurate results along this corridor. For further details, please refer to the Aimsun Model Development Report.

6.1.2 Focus Area

All intersections along Yonge St have an acceptable Level of Service (A, B or C) and none are over capacity in both the AM and PM peak periods. This is because Yonge St does not carry a significant volume of traffic, in comparison to other parallel corridors. However, a few individual movements do not have sufficient capacity and/or are approaching capacity.

Other major corridors within the Focus Area include Bay, Church, College, Dundas and Queen Sts. In general, intersections along these corridors have acceptable delays, acceptable capacity utilization and queues that do not exceed storage capacity. However, the level of performance degrades in the PM period, and worsens in the east-west direction, particularly on Gerrard St.

Figure 6-4: AM Intersection LOS (Focus Area)

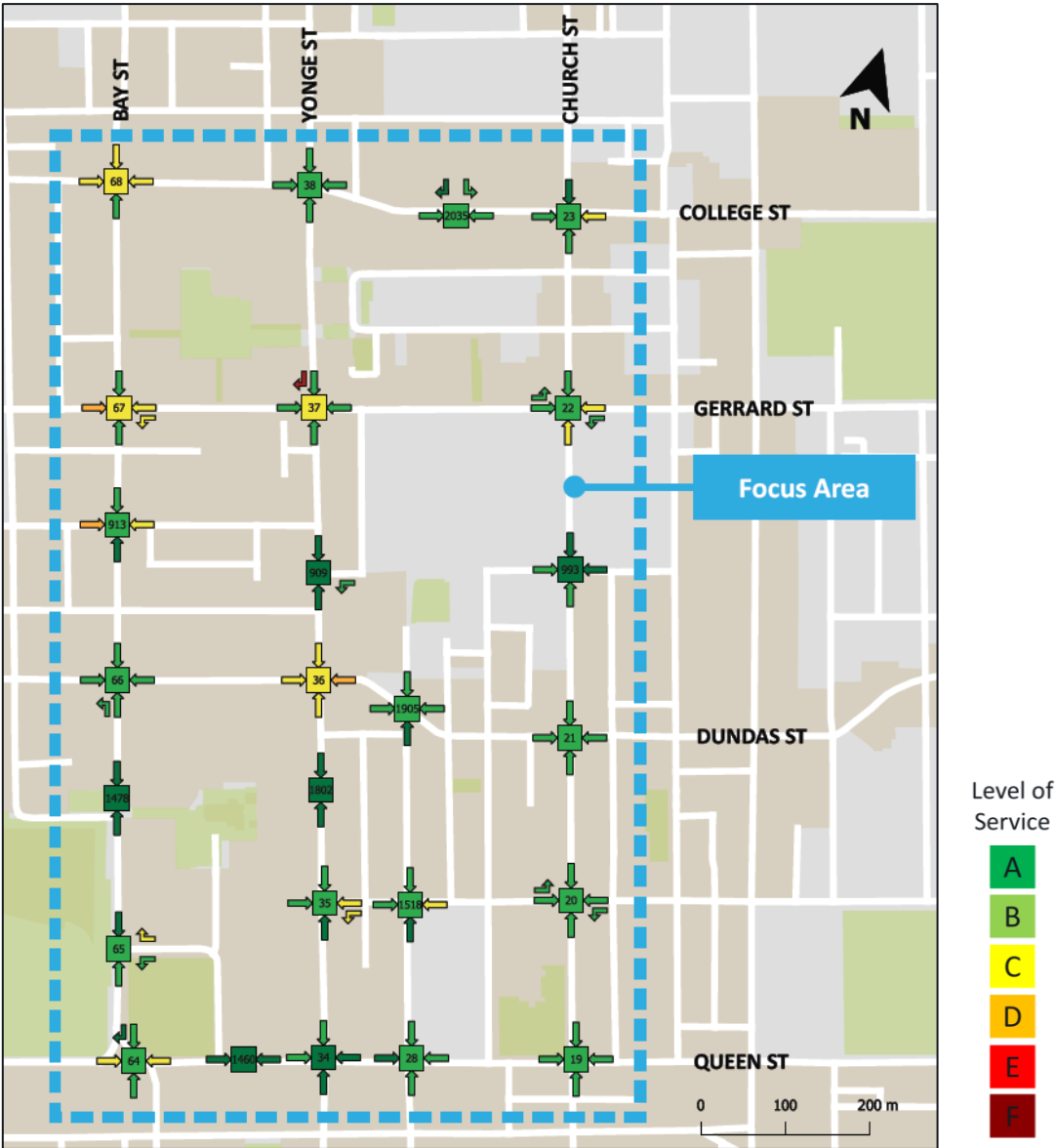
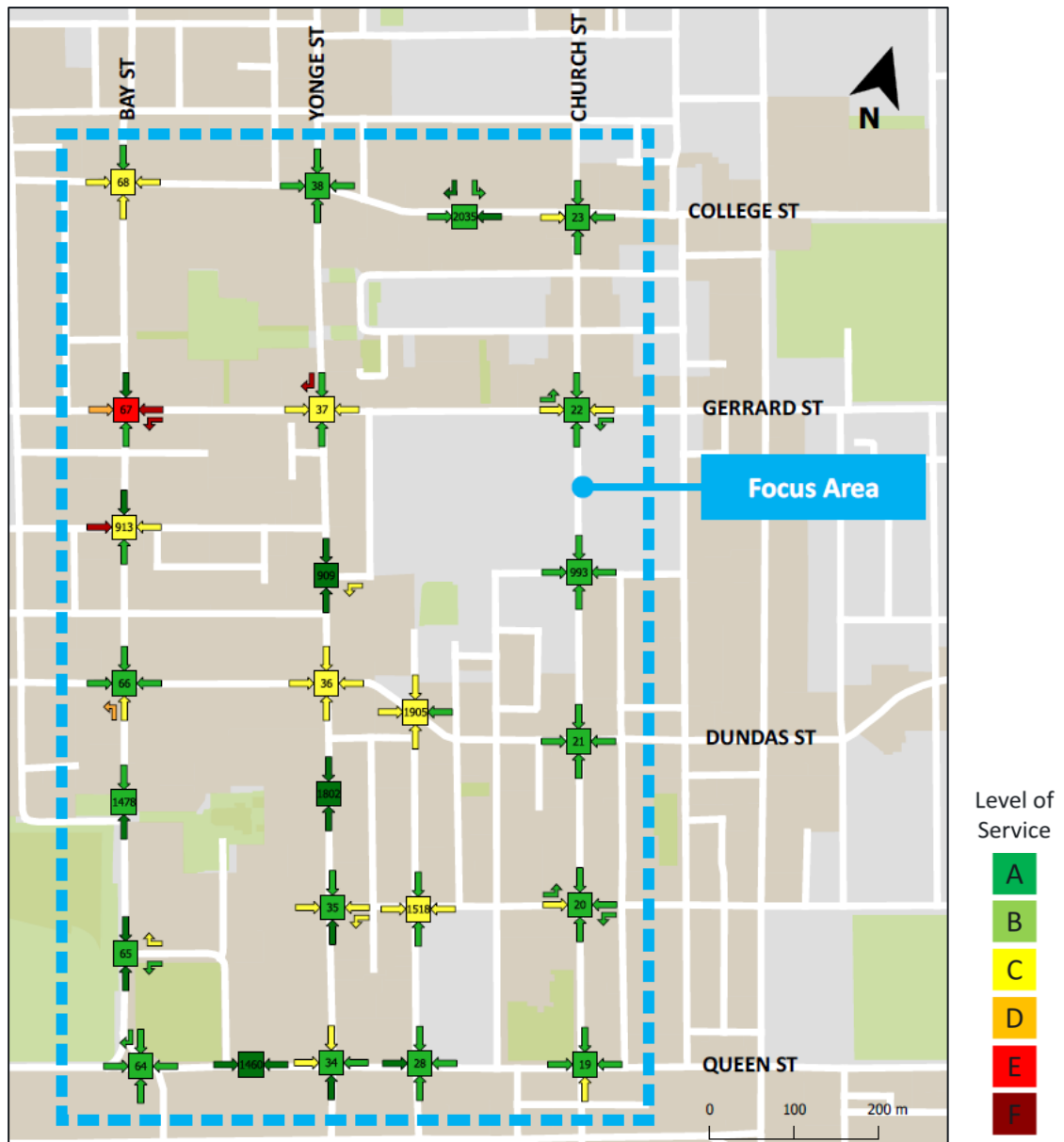


Figure 6-5: PM Intersection LOS (Focus Area)



Though the overall performance of the area is acceptable, there are some notable exceptions:

- Yonge St & Gerrard St has a LOS F in the southbound right lane in both peak periods due to a high volume of pedestrians crossing. Additionally, the intersection is approaching capacity in both peak periods overall. It also experiences unacceptable queues in the east and westbound directions.
- Bay St & Gerrard St has near unacceptable delays in the east and westbound directions in the AM period and unacceptable delays and capacity constraints in the PM period. Both movements have queues that exceeds storage length and are approaching capacity. Both movements also see queue lengths that exceed storage capacity.
- Yonge St & Dundas St does not have any movements that are over capacity but an all-way pedestrian only phase contributes to the buildup of queues. During the field reviews it was noted that traffic would occasionally back up in the westbound direction to the intersection at Dundas St & Victoria St, causing excessive queues there and/or blocking that intersection.
- Bay St & Queen St can at times experience unacceptable delays in the northbound direction. The distance between this intersection and Richmond St is short and traffic was seen to regularly back up during field reviews, though the impact of this is not apparent in the Synchro model. At this intersection, the right turn lane is channelized, and cars must yield to a high volume of pedestrians who cross to get to the main intersection; however, this does not appear to have a significant impact on traffic as queue lengths and level of delay is acceptable.
- Major east-west corridors including College St, Dundas St and Queen St have regular streetcar traffic that can cause the build up of queues, as cars in both lanes must stop behind a transit vehicle while passengers are boarding and alighting. This was confirmed during the field reviews along each corridor. Despite this, these east-west corridors largely have acceptable levels of service, capacity and queue lengths.

6.1.3 Wider Study Area

Within the wider Study Area, generally most intersections continue to show an acceptable LOS with acceptable capacity and queue lengths. Major corridors include:

- Bloor St has borderline unacceptable LOS (C or D) for most of its length in both the AM and PM periods. Queues over 10 cars long are common for east-west through movements along the corridor and several intersections are approaching a $V/C > 1$.
- Davenport Rd has borderline unacceptable delays (LOS C or D) for much of its length, in addition to long queue lengths in the through directions. No intersection is yet overcapacity, however several are approaching it with $V/C > 0.8$.
- Jarvis St sees largely acceptable LOS for most of its length with no sections over capacity, apart from Jarvis St & Mt Pleasant Rd which acts as a major choke point in all directions.
- Adelaide St and Richmond St are each one-way roads and act as a pair for travel across the core. During peak periods, long queues can occur, though none that exceed storage length. Despite the demands placed on the corridor, the roads do not see a high level of delay with only a few through movements having a LOS C and no movement worse than that. Right turns off Richmond St are problematic due to the short distance between it and Queen St, which regularly fills completely during the PM period.

- Queen's Park Ave and University Ave have acceptable delays and capacity utilization for all intersections along the corridor in the north-south direction.

6.1.4 Validation

Field reviews were conducted to validate the queue lengths given by the model at 17 intersections. A minimum of ten minutes was spent at each intersection during both the AM and PM peak periods, and photos were taken of each movement. During the field reviews, it was observed at several intersections that queues would occasionally grow to reach adjacent intersections and cause delays and further build-up of queues. However, as Synchro treats each intersection independently, this would not be accounted for. These effects were captured in the Aimsun analysis. Field reviews were completed under post-King St pilot conditions. Further details on field reviews can be found in the Aimsun Modelling Report.

6.1.5 Conclusions

Compared to some other corridors, traffic operations on Yonge St are generally satisfactory; the street does not handle significant volumes of traffic each day and therefore generally experiences acceptable levels of service with available capacity and queue lengths. Within the Focus Area and wider Study Area, traffic operations are also satisfactory, although there are several key problem movements as identified previously and some intersections experience isolated instances of capacity limitations or unacceptable queue lengths. A summary of the critical movements identified within the Study Area can be found in Table 6-1 and Table 6-2 for the AM and PM peak hour, respectively. These tables include each intersection's LOS and V/C ratio, in addition to the critical movement's LOS, V/C ratio and 95th percentile queue length. The full set of detailed Synchro reports including LOS, queue lengths and V/C ratios per movement can be found in Appendix C2.

Table 6-1: Critical Movements (AM)

Int No.	Intersection	Int LOS	Int V/C	Critical Movement			
				Movement	LOS	V/C	95% Queue
5	Jarvis St & Richmond St E	C	0.86	WBT	C	0.86	#129.1
13	Jarvis St/Ted Rogers Way & Mt Pleasant Rd	F	1.16	WBL	F	1.16	#285.3
				WBT	F	0.87	#212.6
				NBT	F	0.95	#205.0
25	Church St & Bloor St E	D	1.72	SBL	F	1.72	#118.6
37	Yonge St & Gerrard St W/Gerrard St E	C	0.92	SBR	F	0.92	#46.8
41	Yonge St & Davenport Rd/Church St	C	0.86	WBT	D	0.86	#79.7
42	Yonge St & Belmont Street/Aylmer Ave	C	0.94	WBT	D	0.94	#184.7
70	Bay St & Bloor St W	C	0.707 0	NBL	E	0.67	#34.8
78	University Ave & Adelaide St W	C	0.97	SBL	D	0.97	#136.7
79	University Ave & Richmond St W	B	1.07	NBL	F	1.07	m#26.5
86	Queens Park/Avenue Rd & Bloor St W	C	0.98	SBT	D	0.98	#149.1
108	Avenue Rd & Davenport Rd	C	0.96	SBT	C	1.04dl	#118.8
132	Mt Pleasant Rd & Elm Ave	C	0.92	SBT	C	0.92	#181.5
166	University Ave & Armoury St	B	0.909	SBT	B	1.56dl	#37.7
225	Church St & Charles St E	B	0.89	WBT	D	0.89	#127.0
541	Davenport Rd & New St/Belmont St	D	0.89	WBT	D	0.89	#126.3
				SBL	E	0.89	#97.6
896	Bay St & Davenport Rd	C	0.82	NBL	E	0.82	#112.2

Movements are denoted by direction (NB = northbound, EB = eastbound, SB = southbound, WB = westbound) and turning movement (L = left turn, T = through, R = right turn)

95th percentile volume exceeds capacity; queue may be longer.
 m Volume for 95th percentile queue is metered by upstream signal.
 ~ Volume exceeds capacity, queue is theoretically infinite.
 dl De-facto Left Lane.

Table 6-2: Critical Movements (PM)

Int No.	Intersection	Int LOS	Int V/C	Critical Movement			
				Movement	LOS	V/C	95% Queue
9	Jarvis St & Gerrard St E	C	0.91	EBT	D	0.91	#135.1
12	Jarvis St & Isabella St	B	0.84	EBL	E	0.84	#86.0
13	Jarvis St/Ted Rogers Way & Mt Pleasant Rd	D	1.13	WBL	E	0.55	104.4
				WBT	E	0.31	70.4
				NBT	F	1.13	#269.4
				SBT	E	0.54	48.2
14	Ted Rogers Way/Jarvis St & Bloor St E	C	1.17	WBL	F	1.17	#80.9
25	Church St & Bloor St E	D	1.46	SBL	F	1.46	#119.9
37	Yonge St & Gerrard St W/Gerrard St E	C	0.79	SBR	F	0.79	m#26.7
42	Yonge St & Belmont St/Aylmer Ave	C	0.98	EBL	F	0.98	#79.8
				WBT	D	0.9	#151.4
67	Bay St & Gerrard St W	E	1.37	WBL	F	0.95	#50.5
				WBT	F	1.37	#206.5
69	Bay St & Wellesley St W	C	1.01	NBL	E	1.01	#94.1
78	University Ave & Adelaide St W	C	0.79	SBL	E	0.79	m#65.0
79	University Ave & Richmond St W	C	1.61	NBL	F	1.61	m#69.3
84	Queen's Park Cres E & Wellesley St W	D	1.43	EBT	F	1.43	#139.0
108	Avenue Rd & Davenport Rd	C	0.74	SBT	C	1.23dl	63
483	Chestnut St & Dundas St W	B	0.86	NBT	D	0.86	#89.6
541	Davenport Rd & New St/Belmont St	E	1.2	NBT	F	1.06	#193.7
				SBL	F	1.2	#153.9
896	Bay St & Davenport Rd	E	1.2	NBL	F	1.2	#253.0
913	Bay St & Elm St	C	1.06	EBT	F	1.06	#125.3
1482	Queen's Park Cres E & Hoskin Ave	A	0.88	EBR	C	0.88	#63.5

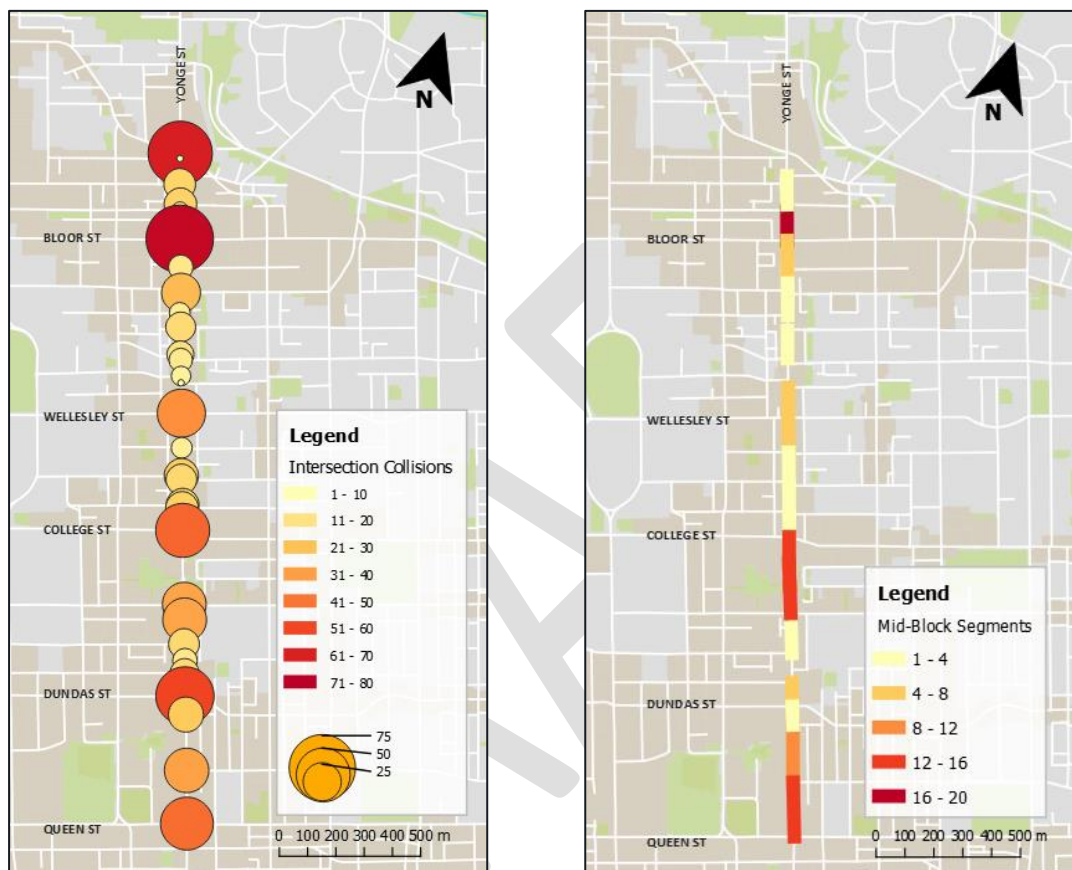
Movements are denoted by direction (NB = northbound, EB = eastbound, SB = southbound, WB = westbound) and turning movement (L = left turn, T = through, R = right turn)

95th percentile volume exceeds capacity; queue may be longer.
 m Volume for 95th percentile queue is metered by upstream signal.
 ~ Volume exceeds capacity, queue is theoretically infinite.
 dl De-facto Left Lane.

6.2 Collision Analysis

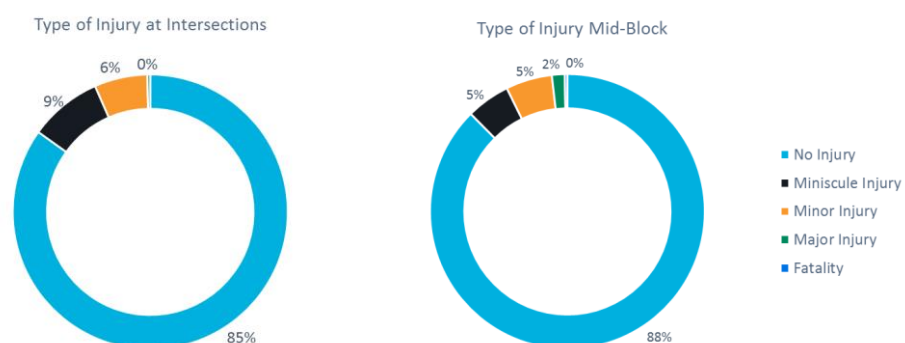
Collision data provided by the City was assessed for a five-year period (2012-2016). In total, the Yonge St corridor within the Study Area was divided into 18 road segments and 32 intersections. Between 2012 and 2016, there were 817 collisions along the corridor. Of these, 85% occurred at intersections while the remaining 15% occurred mid-block. The location of these collisions along the study corridor at both intersections and midblock segments is shown in Figure 6-6.

Figure 6-6: Collisions along Yonge St (2012-2016) by Intersection and Road Segment



Most collisions resulted in either no injury, a miniscule injury or minor one, as classified by Toronto Police at the time of each collision. There was just a single fatality within the 2012-2016 period, occurring at a mid-block segment, as shown in Figure 6-7.

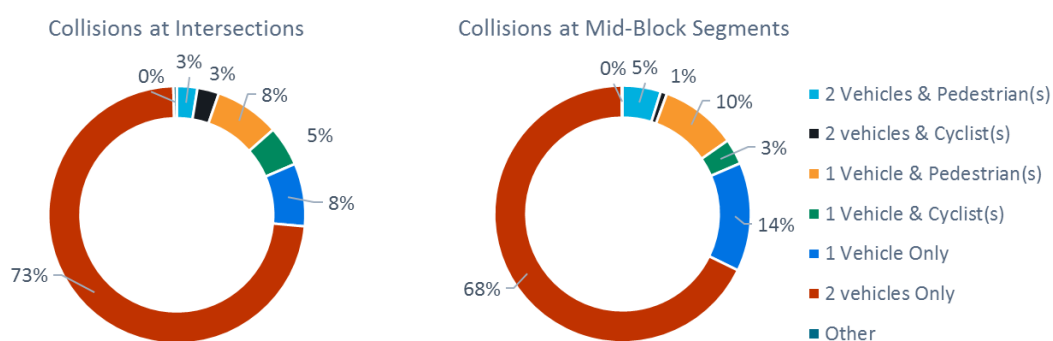
Figure 6-7: Type of Injuries



6.2.1 Auto Collisions

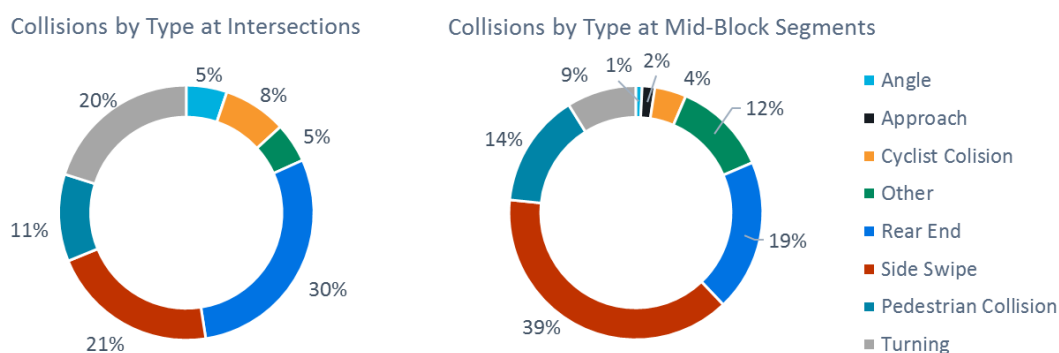
Within the five-year period, all accidents recorded involved at least one motorized vehicle. At intersections, 8% of collisions involved just one motorized vehicle, 73% involved two motorized vehicles, and all other collisions involved at least one motorized vehicle and a pedestrian or cyclist. At mid block segments, 14% of collisions involved just one motorized vehicle, 68% involved two motorized vehicles, and all other collisions involved at least one motorized vehicle and a pedestrian or cyclist. This is outlined in Figure 6-8.

Figure 6-8: Collision Breakdown



This was largely due to side swiping, rear ending and turning movements as outlined in Figure 6-9. The road configuration of Yonge St may contribute to these types of collisions, as it is narrow and lacks turning lanes. In particular, due to the lack of turning lanes, turning vehicles can cause drivers to bypass them rather than queueing behind. These sudden movements can increase the risk of a collision.

Figure 6-9: Collision type along Yonge St



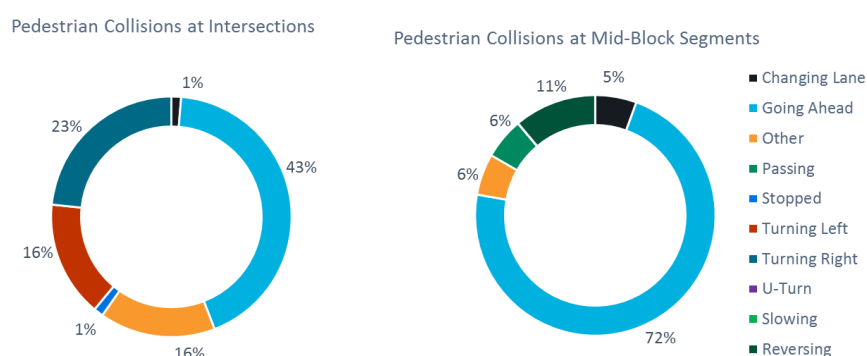
6.2.2 Auto-Pedestrian Collisions

Within the five-year period, 11% of collisions at intersections and 14% of mid-block collisions involved a pedestrian. 77% of collisions involving a pedestrian resulted in no injury or a miniscule one, 21% resulted in a minor injury, 1.5% resulted in a major injury and 0.5% resulted in a fatal injury. The fatal injury occurred at a mid-block segment and is the only death to have occurred along Yonge St within the five-year period.

Figure 6-10 shows the cause of pedestrian collisions at intersections and mid-block. The high pedestrian volumes along Yonge St and narrow sidewalk widths may be contributing to these collisions, as these factors may encourage crossing away from formal pedestrian crossings to

bypass slower foot traffic. At intersections, drivers may have difficulty navigating through significant crowds of pedestrians while turning.

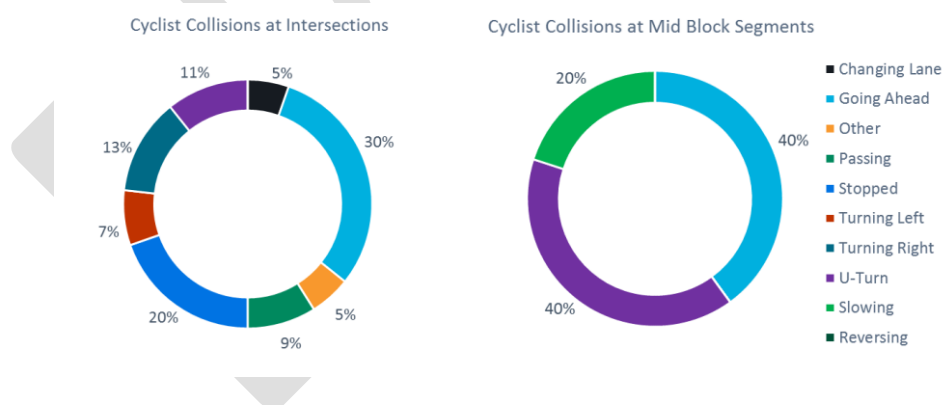
Figure 6-10: Pedestrian Collision by Impact Type



6.2.3 Auto-Cyclist Collisions

Like pedestrians, cyclists are vulnerable road users with limited safety equipment or protection and can be easily injured during a collision. Unlike pedestrians, cyclists operate at higher speeds within the same space as automobiles, which can place them at great risk. 8% of collisions at intersections and 4% of mid-block collisions involved a cyclist, within the 2012-2016 period. However, in the five-year period, 85% of cyclist collisions resulted in either no injury, or a miniscule one, while 12% resulted in minor injuries, and 2% resulted in major ones. Figure 6-11 shows the type of impacts between automobiles and cyclists within the Study Area.

Figure 6-11: Cyclist Collision by Impact Type



The absence of proper separation between modes along Yonge St is likely contributing to these collisions. Due to the lack of road width, it can be difficult for automobiles to pass cyclists with enough room between them. When passing a cyclist, drivers of motor vehicles are required to maintain a minimum distance of one metre, where practical between their vehicle and the cyclist. Failure to do so may result in a fine in the range of \$60 to \$500 and an additional two demerit points on the driver's record. Whenever possible, drivers are encouraged to change lanes to pass a cyclist. Cyclists are also at risk of being 'doored' when travelling too close to parked or idling cars, though parking and standing on Yonge St is officially prohibited (either at all times or during certain times of the day).

7 Transit Network

This section documents existing transit operations in the Study Area. The Study Area is served locally by the Toronto Transit Commission (TTC). Rapid transit is provided by Line 1 and 2 of the subway system, while surface transit includes several streetcar and bus routes which feed the subway.

7.1 TTC Subway System

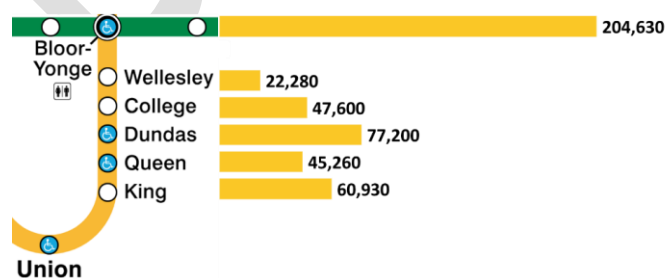
7.1.1 Overview

Yonge St has been the main north-south thoroughfare in the City of Toronto since the late 1700's. The City's first "rapid transit subway" was constructed in 1946 beneath Yonge St, running south bound from Eglinton Ave to Front St and then west bound along Front to Union Station. There have been various extensions to the line, forming the U-shaped subway line with two northern terminuses and Union Station anchoring the southern end seen today. As shown in Figure 7-2, Line 1 runs along Yonge St within the Study Area serving 6 stations and along University Ave, also serving 6 stations.

7.1.2 Ridership

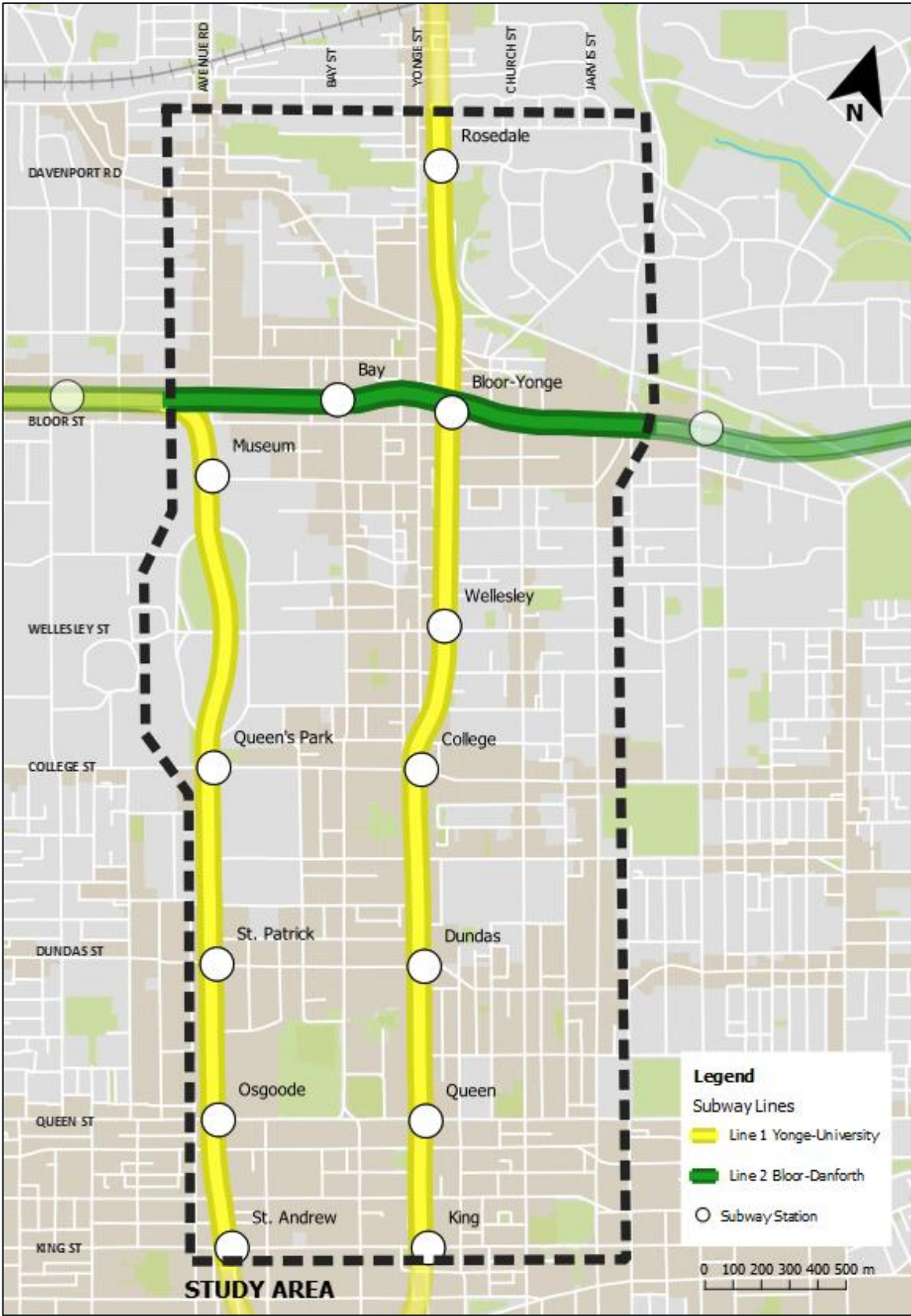
2016 daily ridership for the subway is shown in Figure 7-1, of which College, Dundas and Queen stations are within the Focus Area. The TTC Subway Ridership Report (2016) describes Bloor-Yonge station as the busiest subway station in the TTC system, with over 200,000 customer-trips on Line 1 on an average weekday. Bloor-Yonge station is located to the north of the Focus Area. South of Bloor-Yonge, subway stations along Yonge St facilitate between 22,280 to 77,200 customer trips each day, with the highest ridership at Dundas Station, followed by King Station. The ridership numbers at College and Queen stations are similar, while the lowest ridership occurs at Wellesley station.

Figure 7-1: Daily Subway Ridership Along Yonge St



Considerable pedestrian traffic is generated by the subway. The effects of this traffic are not only confined to the stations themselves, as considerable pedestrian traffic can be seen at station entrances on street-level, particularly during peak periods. Several stations have underground access via the PATH network which helps reduce demand at street level. Many station entrances are not well indicated, located either inside buildings or in hard to see corners.

Figure 7-2: TTC Subway Stations in Study Area



7.1.3 Union Station

Though not in the Study Area, Union Station is considered as part of this assessment due to its role as a major transit hub and proximity to the Study Area. Located at Front St between Bay St and York St, the station features connections between the Line 1 Subway, all seven GO Train lines as well as VIA and Amtrak trains. The station is approximately 300 metres south of the Study Area and 700 metres south of the Focus Area. Passengers may choose to walk to their destination (either on the surface or using the PATH network) rather than use the subway for one or two stops between the station and the Study Area.

In 2018, 143,640 TTC subway riders used the station each day. In addition, as of fall 2017, 91% of all GO Train's 215,000 daily commuters ride to and from Union Station. According to the *GO Expansion Full Business Case (2018)*, the station will be able to accommodate 100 GO Trains per hour, more than twice the current capacity, once the expansion of the GO Rail Network is complete. A significant increase in pedestrian outflow from the station each morning, and inflow to the station each afternoon, can thus be expected.

7.2 Surface Transit

7.2.1 Overview

Multiple bus routes and six TTC streetcar routes run along four major east-west corridors within the Study Area, as shown in Figure 7-3. Further details are provided in [Table 7-1](#). Additionally, streetcar stops have been moved from the near side to the far side of the intersection in most cases. This corridor was originally implemented in November 2017 as a pilot, and in April 2019 the City of Toronto resolved to make it permanent.

[Table 7-1](#) and [Table 7-2](#) show a summary of services for streetcars and bus routes, respectively. Service frequencies listed here are from the March 31, 2019 to May 11, 2019 *TTC Service Summary*, and more comprehensive service summary extracts can be found in [Appendix E](#). Note that service levels can change based on demand and TTC operational requirements, and occasionally additional 'tripper' busses are added to augment standard service frequencies. Additionally, service may vary due to construction impacting the ability of the TTC to run streetcars, as well as the introduction of the new low-floor streetcars, which may be run at greater headways on certain routes due to their increased capacity.

Generally, bus and streetcar stops are on the near side of the intersection, with the exception of the express routes which are on the far side, after the traffic lights. In the King Street Transit Priority Corridor, streetcars also have their stops on the far side of the intersections. These stops have a makeshift platform outlined by rumble strips on the road itself, which allows passengers to wait for the streetcar without blocking through pedestrian traffic on the sidewalk. These platforms are expected to be made permanent in the future through expanded sidewalks.

Streetcars on King St operate in a semi-exclusive right of way as vehicular traffic has been limited. While cars are permitted to travel on King St, they are prohibited from proceeding straight or turning left through any intersections³. Transit signal priority has also been given to streetcars along this route. Additionally, streetcar stops have been moved from the near side to the far side of the intersection in most cases. This corridor was originally implemented in

³ Exception for left turns are at Bathurst St and Jarvis St.

November 2017 as a pilot, and in April 2019 the City of Toronto resolved to make it permanent.

Table 7-1: Streetcar Routes Service Summary

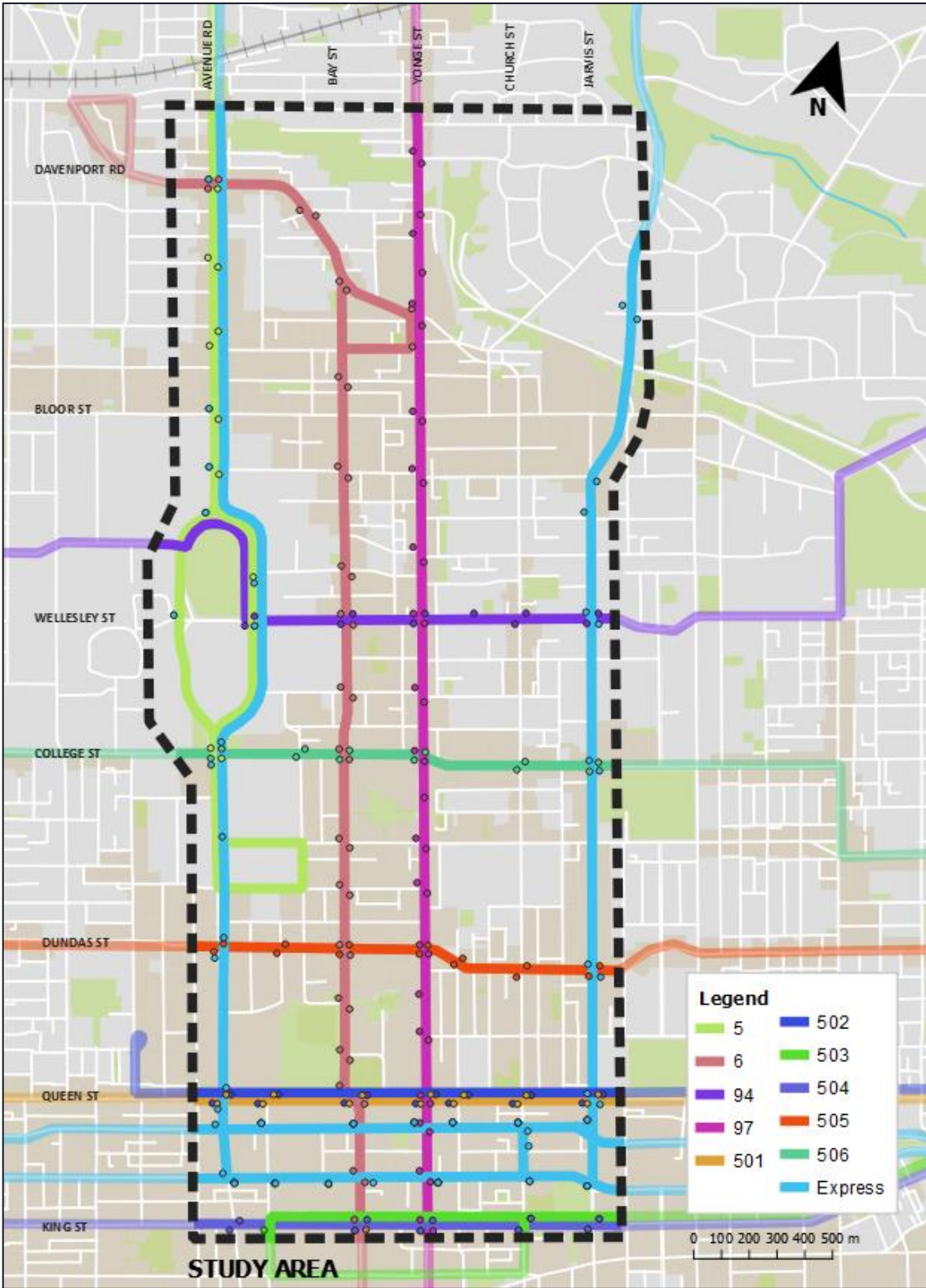
Route	Operating Hours	Frequency
501 Queen / 301 (Night)	All day, everyday	501A AM: Every 4.25 minutes, PM: Every 4.5 minutes 501L AM: Every 9.5 minutes, PM: Every 9.5 minutes
502 Downtowner	Monday-Friday AM and PM Peak Periods	502 AM: Every 12 minutes, PM: Every 12 minutes
503 Kingston Rd	Monday-Friday: AM, PM, Mid-Day Peak Periods	503 AM: Every 12 minutes, PM: Every 12 minutes
504 King / 304 (Night)	All day, everyday	504A AM: Every 5.25 minutes, PM: Every 6 minutes 504B AM: Every 5.25 minutes, PM: Every 6 minutes
505 Dundas	All day, everyday	505 AM: 3.75 minutes, PM: 3.5 minutes
506 Carlton / 306 (Night)	All day, everyday	505 AM: Every 5.17 minutes +4 tripper busses between Roncesvalles and Main Street Station, + 4 tripper busses between Roncesvalles and Cowell PM: Every 5.67 minutes

Table 7-2: Bus Routes Service Summary

Route	Operating Hours	Frequency
5 Avenue Rd	5A: All day, everyday 5B: Midday, Monday-Friday	5A AM: Every 13 minutes, PM: Every 20 minutes 5B Midday: Every 30 minutes
6 Bay	6A: All day, everyday 6B: Monday-Friday AM & PM Peak	6A AM: Every 8 Minutes 6B9.5 minutes, PM: Every 13 minutes 6B: Every 9.5 minutes, PM: Every 13 minutes
94 Wellesley	94A: All day, everyday 94C: Various times throughout the week	94A: AM: Every 13 Minutes, PM: Every 16 Minutes 94C AM: Every 13 Minutes, PM: Every 16 Minutes
97B Yonge	Monday-Friday, AM & PM Peak	AM: Every 30 Minutes PM: Every 30 Minutes

Route	Operating Hours	Frequency
141 Downtown / Mt Pleasant Express	Monday-Friday, AM & PM Peak	AM: Four Southbound Trips PM: Two Northbound Trips
142 Downtown / Avenue Rd Express	Monday-Friday, AM & PM Peak	AM: Every 30 Minutes PM: Every 30 Minutes
143 Downtown / Beach Express	Monday-Friday, AM & PM Peak	AM: Every 15 Minutes PM: Every 25 Minutes
144 Downtown / Don Valley Express	Monday-Friday AM & PM Peak	144A AM: 5 SB Trips, PM: 5 NB Trips 144B AM: 7 SB Trips, PM: No Service
145 Downtown / Humber Bay Express	Monday-Friday AM & PM Peak	145A AM: 2 EB Trips, PM: 3 WB Trips 145B AM: 3 EB Trips, PM: 3 WB Trips

Figure 7-3: Surface Transit Lines & Bus Stops Within Study Area



7.2.2 Ridership

For surface transit routes within the Study Area, published ridership data (as of December 31, 2016) was gathered from City of Toronto's Open Data source and supplemented with TTC 2017 Operating Statistics. The typical weekday ridership for the streetcar lines are provided in Table 7-3, and daily ridership for bus routes operating in the Study Area can be found in Table 7-4. Boarding and alighting data for each surface transit route within the Study Area can be found in Figure 7-4 and Figure 7-5 for the AM and PM periods, respectively.

Table 7-3: Streetcar Transit Average Daily Ridership (2017)

Route #	Route Name	All Day Ridership
501	Queen	43,464**
502	Downtowner	4,454
503	Kingston Rd.	1,399
504	King	64,579*
505	Dundas	32,410
506	Carlton	39,601

*Based on TTC's 2017 Operating Statistics estimated daily usage on average business day is 56,700.

**Based on TTC's 2017 Operating Statistics estimated daily usage on average business day is 55,100.

Table 7-4: Bus Transit Average Daily Ridership (2016)

Route #	Route Name	All Day Ridership
94	Wellesley	8,525
6	Bay	7,944
97	Yonge	4,175
5	Avenue Rd.	2,009
144	Downtown/Don Valley Exp.	607
143	Downtown/Beach Express	415
145	Downtown/Humber Bay Expr.	282
142	Downtown/Avenue Rd. Expr.	225
141	Downtown/Mt. Pleasant Expr.	126

Streetcar ridership through the downtown core experiences considerable crowding and long dwell times during the AM and PM peak periods as the system struggles to accommodate existing demand. Streetcar corridors such as Queen St and King St are two of the busiest surface routes in the entire TTC system. Due to connections to key subway stations, the Study Area and surrounding downtown core, particularly at University Ave and Yonge St, see a significant number of alighting passengers in the AM. In the PM peak, the Study Area and surrounding downtown core see many passengers boarding as they head home for the evening. Particularly in the PM peak period, transit vehicles are typically operating at over-capacity and passengers often experience crowding. Crowding on transit vehicles may also be transferred to crowding on sidewalks at the major streetcar stops, particularly if a vehicle is delayed. North-south bus routes (including route 97 along Yonge St) through the Study Area are considerably less crowded due to the subway providing a faster alternative.

Figure 7-4: AM Surface Transit Boardings and Alightings

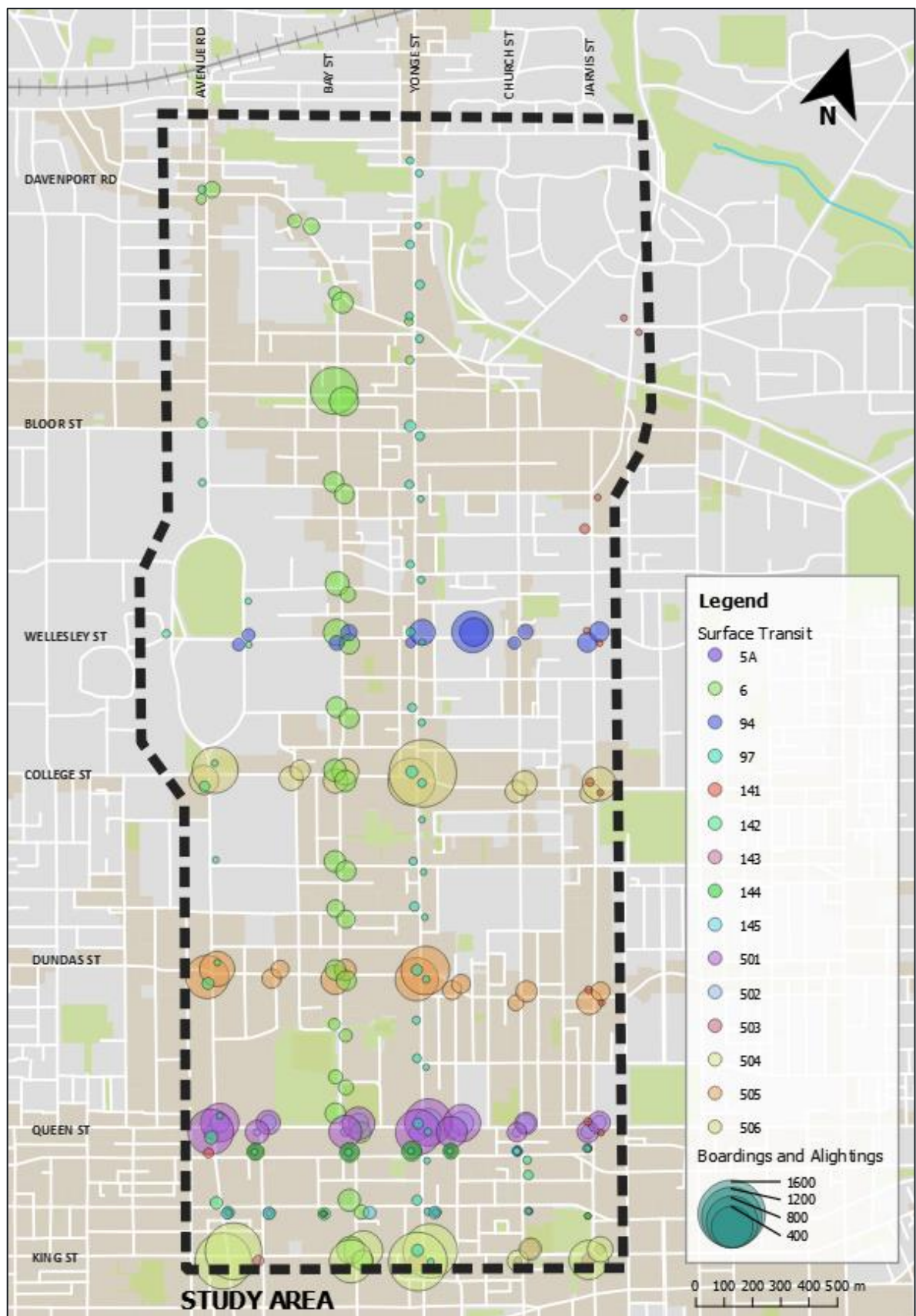
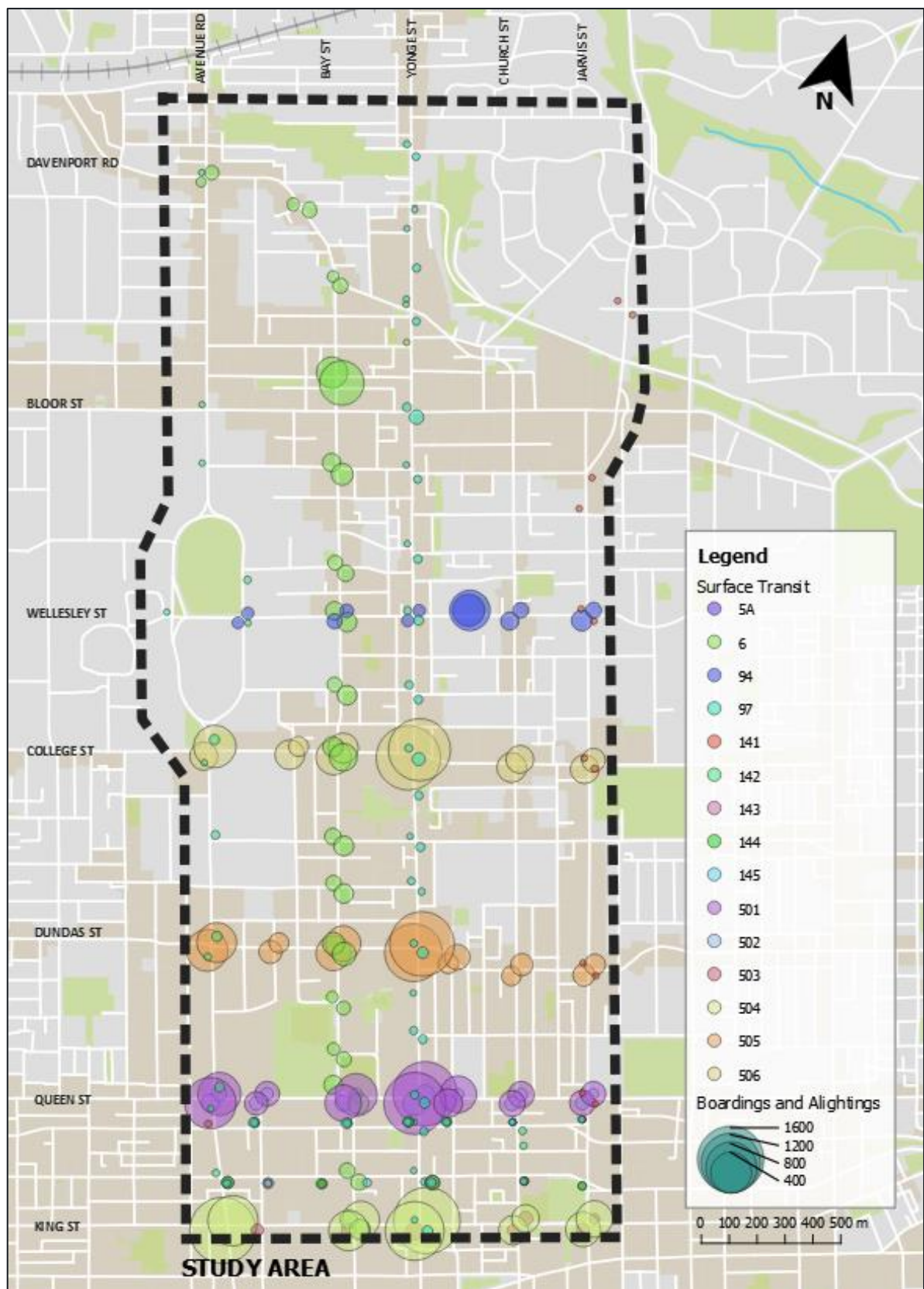


Figure 7-5: PM Surface Transit Boardings and Alightings



7.3 Night Service

Major routes are operated all night as part of the City's Blue Night Network, generally at a lower frequency of service. Once subway trains stop operating on Yonge St and Bloor St at about 1:30 am, they are replaced by the 320 Night Bus and the 300 Night bus, respectively. Other major transit routes also see night service, as shown in Table 7-5.

Most relevant is the 320 Night bus on Yonge St. The route is well used with a nightly ridership of 1,285 in 2016, as shown in Table 7-6. Subway service begins at 8AM on Sunday (instead of the 6 am start Monday-Friday), therefore night bus service is extended until 8:30 am with a significantly increased frequency of service, providing a critical north-south link early on Sunday morning.

Table 7-5: TTC Night Bus Service

Route	Operating Hours	Frequency
320 Yonge	First NB Departure: 1:45am First SB Departure: 1:03am Last NB Departure: 5:15am Last SB Departure: 5:33am	Monday-Saturday 1:30-3:30am: Every 3.5 minutes 3:30-5:00am: Every 15 minutes 5:00-6:00am: Every 15 minutes <i>or better*</i> Sunday 1:30-6:00 am: Every 15 minutes 6:30-8:30am: Every 3 minutes
300 Bloor	300A: First WB Departure: 1:48am First EB Departure: 2:13am Last WB Departure: 4:08am Last EB Departure: 4:53am 300B: First WB Departure: 1:34am First EB Departure: 1:33am Last WB Departure: 4:24am Last EB Departure: 4:58am	Monday to Friday 300A: Every 20 minutes 300B: Every 20 minutes Weekend 300A: Every 30 minutes 300B: Every 30 minutes
301 Queen	First WB Departure: 12:06am First EB Departure: 12:05am Last WB Departure: 3:40am Last EB Departure: 4:09am	Every 30 minutes
302 Kingston Rd	First WB Departure: 1:18am First EB Departure: 2:07am Last WB Departure: 5:18am Last EB Departure: 5:07am	Every 30 minutes
304 King	First WB Departure: 2:26am First EB Departure: 2:25am Last WB Departure: 4:26am Last EB Departure: 4:25am	Every 30 minutes
306 College	First WB Departure: 12:14am First EB Departure: 1:12am Last WB Departure: 5:15am Last EB Departure: 5:00am	Every 30 minutes

**Comment received from TTC directly - not shown in service summary.*

Table 7-6: TTC Night Bus Ridership (2016)

Route #	Route Name	All Day Ridership
320	Yonge	1285
300	Bloor	1577
301	Queen	572
302	Kingston Rd	125
304	King	Not Available*
306	College	534

**Data was not available through public sources. Route is excluded from ridership information on Toronto's Open Data portal.*

7.4 Transit Connectivity

In the north-south direction along Yonge St, transit connectivity is strong due to the Line 1 subway, with stations spaced approximately 500 metres apart and trains running frequently. However, only Dundas and Queen stations are fully accessible.

In the east-west directions, transit connectivity is provided by several streetcar routes, including route 506 on College St, 505 on Dundas St, and 501 on Queen St. However, as the streetcars run in mixed traffic, they are slow, with frequent delays, particularly at the major interchange points (University Ave and Yonge St). Capacity is an issue as well, with passengers needing to wait for multiple vehicles to come by before they can board not being an uncommon experience during the AM and PM peak periods. Collectively, these drawbacks make the surface transit system much harder and less convenient to use.

Transit connectivity has been helped recently by the introduction of the 2-hour unlimited transfer policy, which allows passengers unlimited transfers, in any direction, within a 2-hour timeframe. This allows passengers to use transit for shorter and more varied trips.

7.5 Service Disruptions

TTC bus bridging routes typically connect subway stations affected by service disruptions such that stranded passengers can resume and complete their journeys. Bus bridging can result in heavy crowds at stations due to the significant decrease in capacity. As of 2015, the TTC does not implement bus bridging in the core when delays are expected to last less than two hours, as shuttle busses suffer from extreme crowding and have a negative impact on traffic congestion. When one side of Line 1 in the downtown core is closed, passengers are advised to transit to the other side where possible or walk.

Service disruptions for the surface routes are typically accommodated by temporary detour routes. Additionally, streetcars may be replaced with busses when sections on the track need to undergo construction. Busses have some flexibility regarding short turns, whereas streetcars are limited to the city's fixed track network. Therefore, any obstacle typically requires streetcars to make a wide diversion, which can drastically increase travel times.

7.6 Wheel Trans

The TTC operates the Wheel-Trans service, offering door-to-door transit for persons with physical disabilities using a fleet of accessible minibuses

8 Pedestrian Network

8.1 Pedestrian Environment

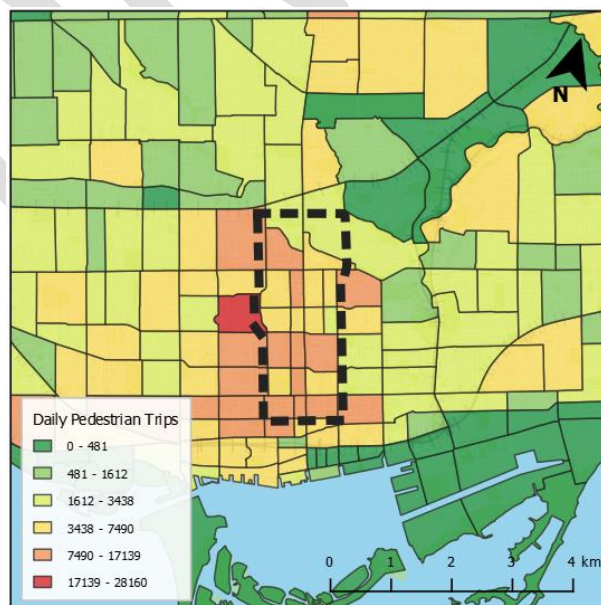
The pedestrian network within the Study Area is extensive, as sidewalks are present on both sides of most streets. Due to the closely spaced grid-based road layout, pedestrians benefit from a high level of connectivity. However, pedestrian permeability is hampered significantly by crowding, particularly on Yonge St and Queen St as flows are restricted by the volumes experienced. Crowding on Yonge St and adjacent cross streets during peak periods can form a barrier between the east and west for pedestrians, reducing ease of crossing.

8.2 Pedestrian Demand

8.2.1 TTS 2016

TTS 2016 daily pedestrian origins trips are shown in Figure 8-1 at the 2006 Traffic Zones level of spatial aggregation. Walking trips are far more common in the downtown core than elsewhere in Toronto due to the general density of the urban form. The majority of walking trips within the Study Area originate from the zones in and around it and are generally less than 3km long. Note that the zone with the highest number of pedestrian origins and destinations corresponds to the University of Toronto St. George campus. High levels of pedestrian demand can also be seen in zones comprising Ryerson University and the Eaton Centre. The area south of College St sees a higher number of origins and destinations than the more residential area to the north.

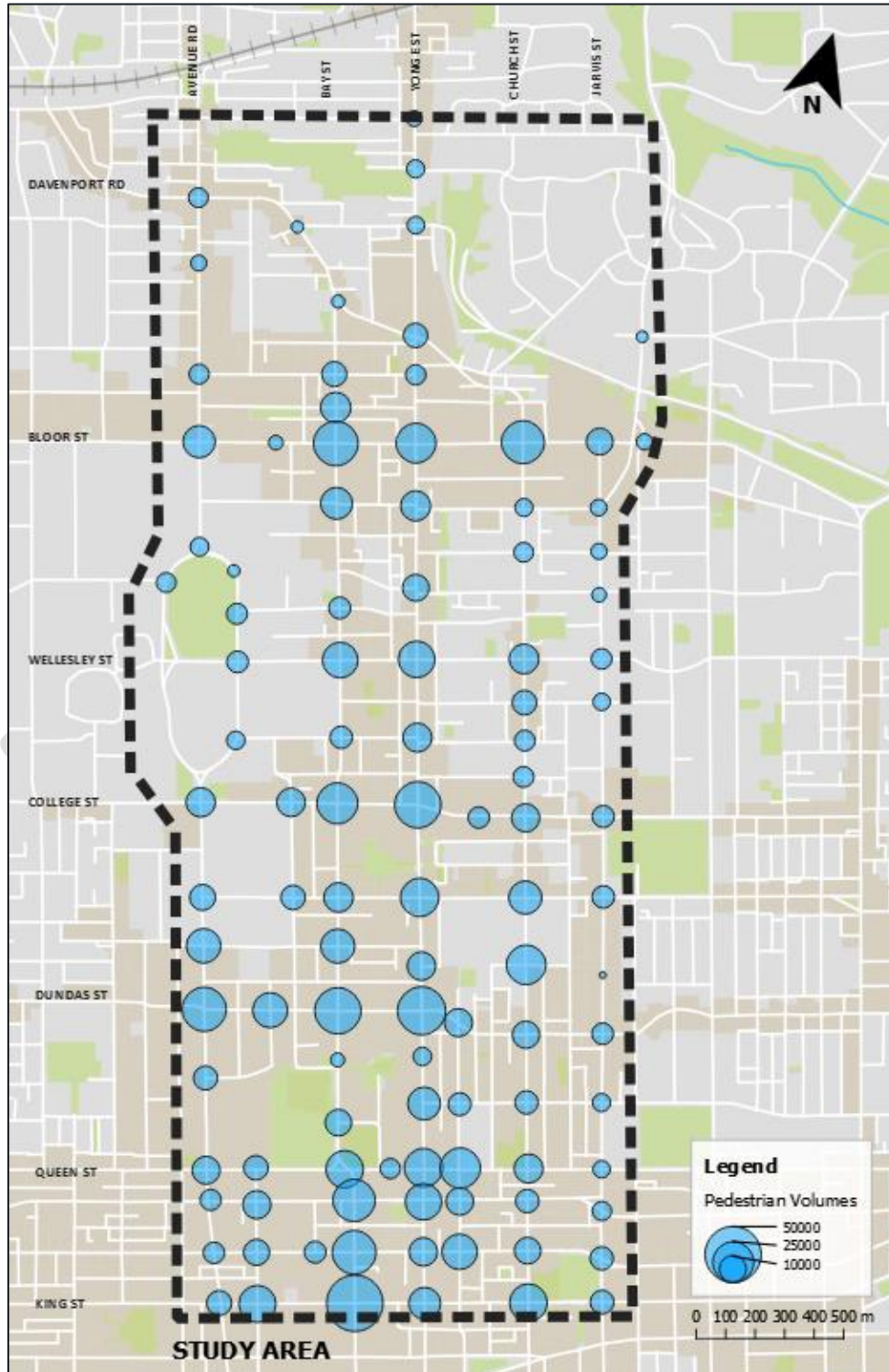
Figure 8-1: TTS 2016 Daily Pedestrian Trips



8.2.2 City of Toronto 8-Hour Counts

The City of Toronto's Open Data portal has a collection of 8-hour pedestrian counts at all signalized intersections in Toronto. These counts are outlined in Figure 8-2. The intersections along Yonge St see considerable pedestrian traffic each day; in particular, Yonge St and Dundas St are one of the busiest intersections for pedestrians in the city (with between 90,000-100,000 pedestrians per day).

Figure 8-2: 8-Hour Pedestrian Counts at Signalized Intersections



8.2.3 Downtown Yonge BIA Counters

Pedestrian flows along Yonge St were obtained from the Yonge St BIA from 12 automatic pedestrian counters along the corridor, shown in Figure 8-3. Their automatic counter system operates 24 hours a day, 7 days a week and counts the volume of pedestrians travelling northbound and southbound on Yonge St. Data sets documented 24 consecutive 1-hour counts, for 14 consecutive days during all four seasons. These pedestrian volumes were averaged and plotted for a typical week, for each season.

Figure 8-3: Yonge BIA Pedestrian Counter Locations



The busiest intersection along the street is Yonge-Dundas Square, with peaks of up to 8,000 people passing a counter in an hour. The weekly trend at each of the four corners of the intersection, for each season, is shown in Figure 8-4 to Figure 8-7. Visual summaries of the other counters in the Focus Area can be found in Appendix D.

Pedestrian volumes typically build throughout the morning, reaching a peak in the afternoon rush hour, and decrease through the evening. However, pedestrian volumes on Yonge St are high throughout the day and see consistent volumes on Saturday and Sunday. Due to the central location/entertainment attractions, pedestrian volumes are high during typical off-peak times, such as on Friday and Saturday evenings.

Across the entire corridor, the highest total volume of pedestrians crossing the counters are in the summer (239,000 pedestrians per day), whereas winter (185,000 pedestrians per day) and spring (180,000 pedestrians per day) had the lowest volumes.

Figure 8-4: Yonge-Dundas Southwest Pedestrian Volumes

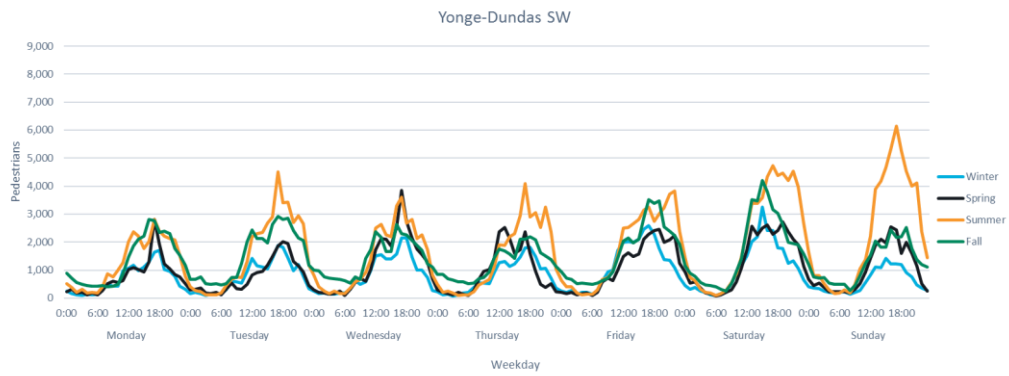


Figure 8-5: Yonge-Dundas Southeast Pedestrian Volumes

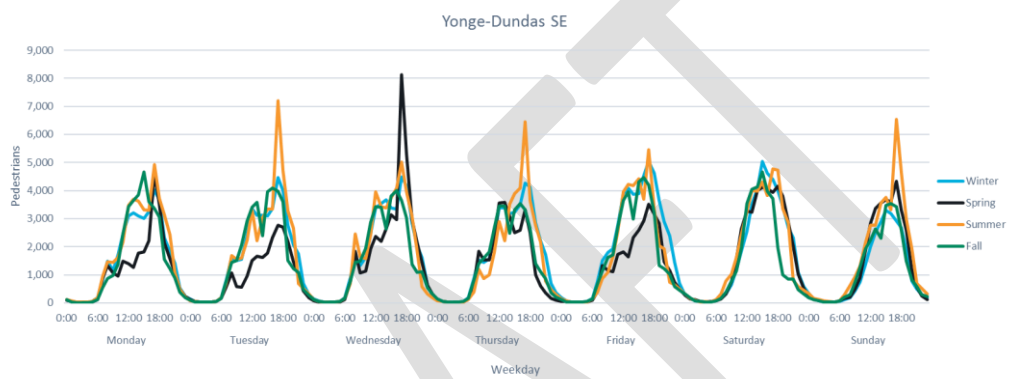


Figure 8-6: Yonge-Dundas Northwest Pedestrian Volumes

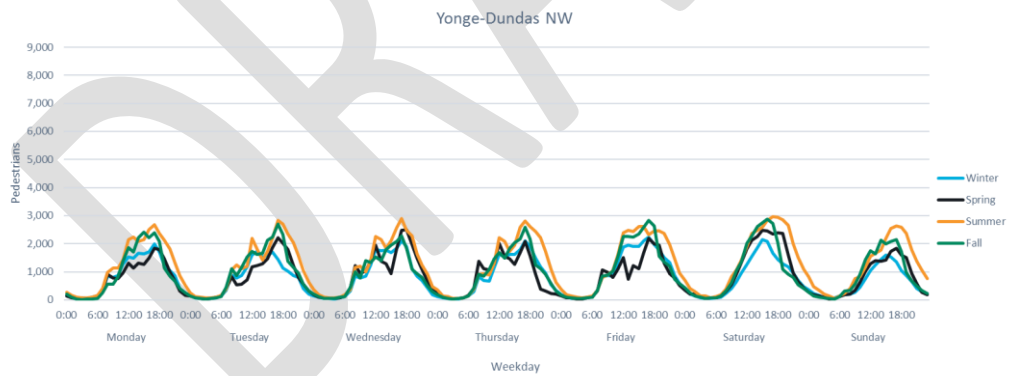
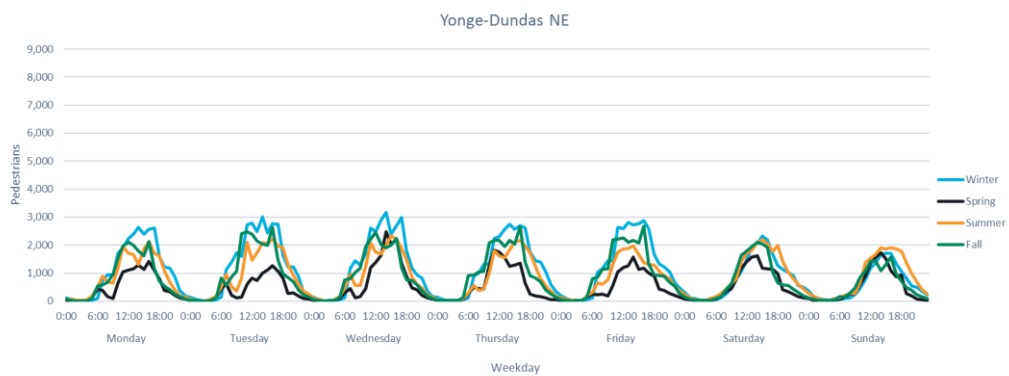


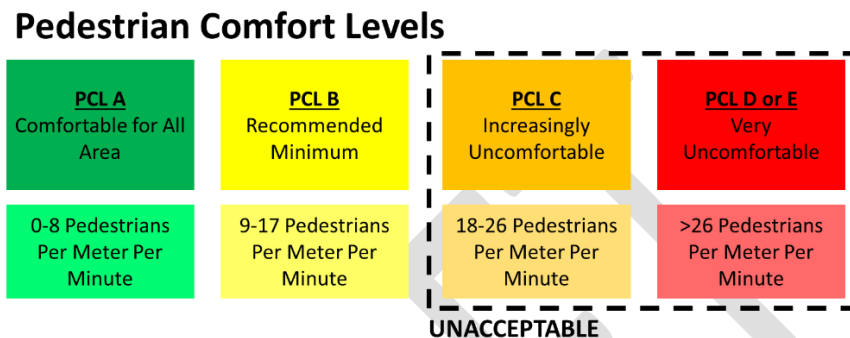
Figure 8-7: Yonge-Dundas Northeast Pedestrian Volumes



8.3 Pedestrian Comfort

Pedestrian comfort levels (PCL) were estimated using Transport for London's Pedestrian Comfort Guidance for London, First Edition, published in 2010. The guidance measures pedestrian comfort based on the number of pedestrians using a corridor and the amount of space they have available to move; that is, the effective width of the sidewalk, excluding space taken up by street furniture and other obstacles. A letter grade, from A to E, is given based on the space usage that allows planners to judge the effectiveness of pedestrian infrastructure in accommodating demand.

Figure 8-8: Transport for London Pedestrian Guidance



The analysis, shown below in Figure 8-9, was conducted between each intersection along Yonge St on both sides of the street, for all four seasons, and shows the worst case scenario for each stretch developed from the Yonge St BIA pedestrian counts and based on two-way flow on all sidewalks.

Figure 8-9: Pedestrian Level of Comfort along Yonge St (Two Way Flow)



Average sidewalk width on Yonge St is 3-4 m, though the effective width is narrower once elements such as street furniture, lighting, plants, and bike parking are considered. It is noted that City of Toronto operates a specific by-law for the portion of Yonge St, from Queen St to Bloor St, that stipulates that wider pedestrian clearways should be maintained on this stretch of the Study Area⁴.

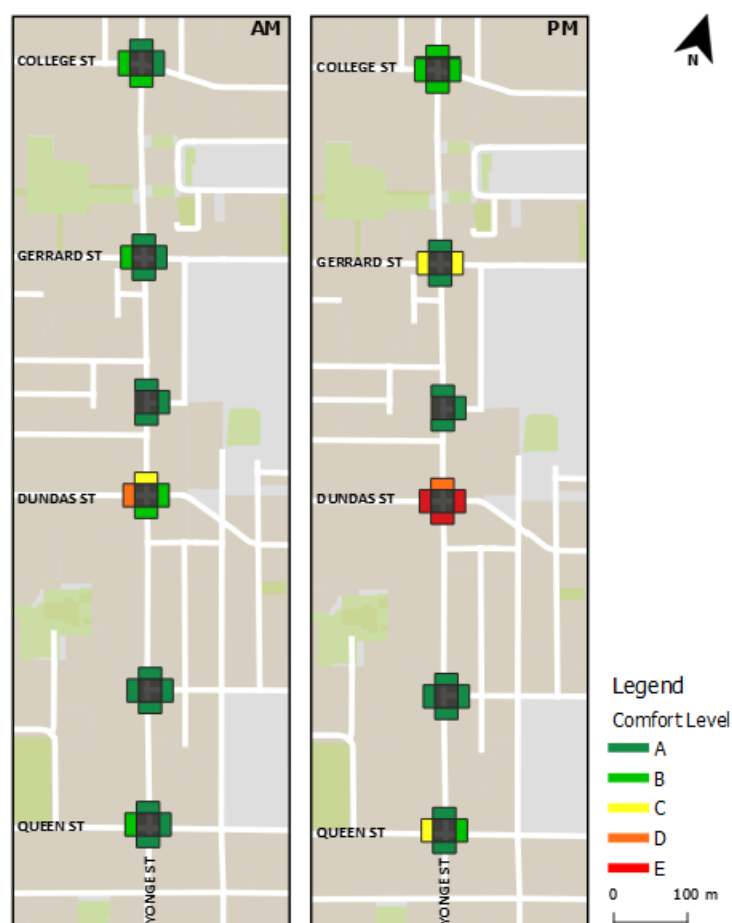
Performance is consistently “At Risk” or “Uncomfortable” around Yonge Dundas Square and the Eaton Centre for all times of year. As this is the location of a major subway station and shopping centre, pedestrian volumes here are extremely high, which is not comfortably accommodated by the narrow sidewalks. This continues northbound to Gould St and Gerrard St; this part of the corridor has many commercial stores, and many pedestrians also use this segment of Yonge St to travel from the Dundas subway station to Ryerson University. North of Gerrard St, performance improves due to slightly wider sidewalks and lower pedestrian volumes, though the Yonge St and College St intersection also sees high pedestrian volumes due to the subway station underneath.

On the west side of Yonge St between Queen St and Dundas St, the situation improves because of the Eaton Centre directly adjacent; many pedestrians may choose to walk indoors instead of outside, and this stretch of sidewalk sees a generally smaller volume of people than elsewhere on the corridor. Conversely, the east side of Yonge St in this section has many commercial stores and a higher volume of pedestrian traffic, leading to poorer performance.

A similar analysis was conducted for the intersection crosswalks at all signalized intersections along Yonge St, using turning movement count (TMC) count data provided by the City. Results are shown below in Figure 8-10 for each crosswalk in the AM and PM peak periods. Again, Yonge St & Dundas St has a poor performance at all crosswalks due to the high pedestrian volumes at this intersection, while other intersections largely fall within an acceptable range.

⁴ Toronto Municipal Code, Chapter 743, Streets and Sidewalks, Use of, January 2019

Figure 8-10: Pedestrian Level of Comfort at Signalized Intersections Along Yonge St



8.4 Other Considerations

There are certain aspects of Yonge St which are difficult to quantify and measure, but are still important to note:

- Jay-walking along the corridor is common. In particular, due to the road closure at Gould St, many pedestrians in the northbound direction on the east side of the street do not wait for the walk sign, instead choosing to jay-walk on a red;⁵
- Construction along the corridor is common due to the significant amount of developments along the corridor. Sidewalk scaffolding further reduces clearway width when present. Pedestrians may choose to bypass these sections by walking along the road.
- The corners of Yonge St and Dundas St frequently have demonstrators, performances, panhandlers, and solicitors, which may cause crowding and delays;
- Due to the poor levels of service around Yonge St and Dundas St, it is not uncommon for pedestrians to step off the sidewalk and onto the road in order to bypass slower moving pedestrian traffic.

In addition, qualitative comments based on various field reviews have been provided below.

⁵ Evidence of jay-walking/stepping off curb is based on onsite observation, feedback received from stakeholders, and video recordings from the Traffic Data Centre.



Yonge Dundas Square is one of the busiest intersections in the city and is regularly crowded. There are subway entrances at all four corners, in addition to streetcar stops at the southwest and northeast corners. Demonstrators and solicitors are common at the southwest corner in front of the Eaton Centre.



Crowding along the sidewalks of Yonge St is common, particularly during afternoon periods and on weekdays.

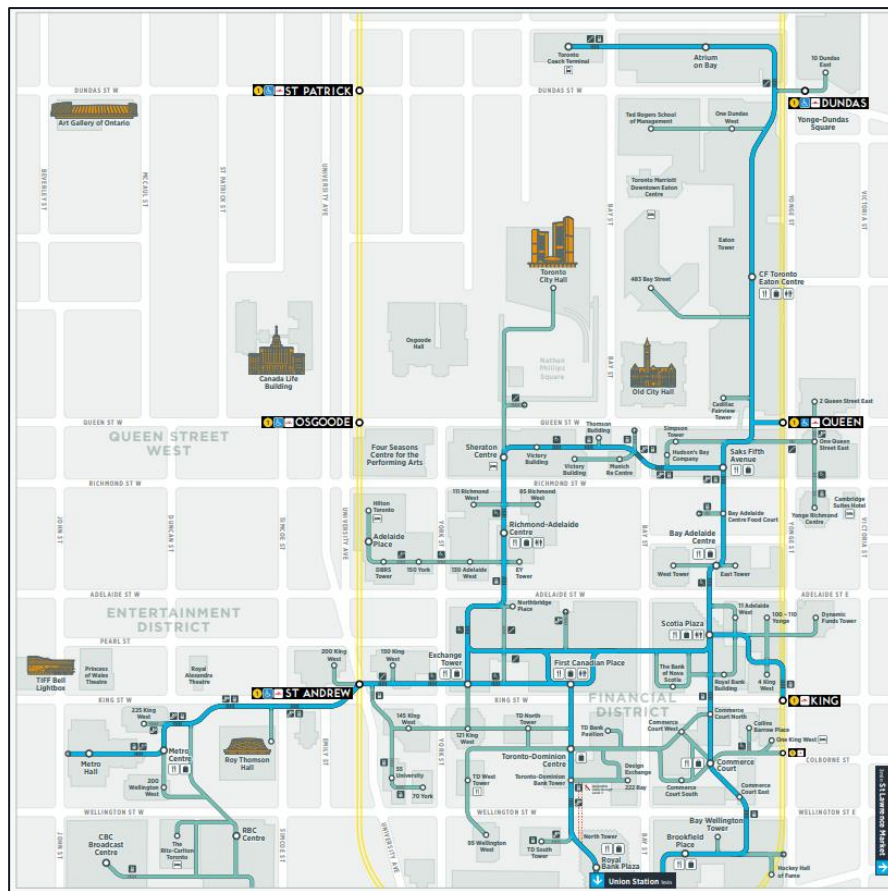


A major development corridor in the city, Yonge St and its adjacent cross streets regularly have scaffolding along large segments of sidewalk, further restricting mobility.

8.5 PATH Underground Network

The PATH network, shown in Figure 8-11, is a primarily underground pedestrian walkway system that connects several neighborhoods in the City's Downtown Core including Downtown Yonge, Financial District, Entertainment District and Central Waterfront. It forms a crucial part of the downtown core's pedestrian network as it provides over 30km of walkway with linkages to transit, employment, entertainment, retail and tourist destinations.

Figure 8-11: Toronto Path Map (Central Area)



Originally envisioned to accommodate primarily the peak demands of downtown commuters by direct underground connections to Union Station and TTC subway stations, as well as to provide restaurant/retail options for employees during the day, the use of the PATH network has grown. It now serves approximately 200,000 daily workers, residents and visitors, and provides significant economic benefits through greater property tax revenues to the City, value-addition to office buildings, and improved attractiveness of Toronto's downtown core. The City has undertaken initiatives to improve pedestrian navigation within the PATH network and implementation of a new wayfinding system with updated and consistent signage is ongoing as of 2018.

Within the Focus Area, the PATH network extends north from Queen subway station to Dundas subway station and continues west to the Toronto Coach Terminal. The main PATH passes through Eaton Centre with connector routes linking to buildings fronting Yonge St, Bay St and Dundas St. South of the Focus Area, the PATH network provides connections to the Nathan Phillips Square parking garage, City Hall, the Sheraton Centre Hotel, and the Hudson's Bay Company building.

9 Cycling Network

9.1 Cycling Environment

Figure 9-1 shows the cycling facilities within the Study Area. There are no existing dedicated cycling facilities on Yonge St, nor are there any continuous north-south facilities running the length of the Study Area. There are however several east-west cycling routes that cross the Study Area on Richmond St, Adelaide St, Bloor St, and Wellesley St, in addition to parts of College St and Gerrard St.

Based on the City of Toronto's 10-Year Cycling Plan, approved in June 2016, Yonge St has been selected to undergo a major corridor study to investigate the street's suitability to install a high-order north-south cycling facility. In July 2019, the City of Toronto approved the Cycling Network Plan Update which included a Near-Term Implementation Program (2019-2021), in which University St, Bay St and Yonge St within the Study Area have been identified for further study.

9.1.1 Toronto Bike Share

There are 71 bike share stations in the Study Area provided by Toronto Bike Share. The wider network includes 465 stations and 5,000 bikes across 100 square kilometres of the city⁶. Users may rent a bike from one station and ride unrestricted for up to thirty minutes, ending their trip by returning the bike to any station. Annual memberships are available, as are per-trip fees. Over 2 million users rode on Toronto Bike Share in 2018 (a 30% increase year over year) and there are over 9,500 active members.

At the time of this study, Toronto Bike Share expansion within the Study Area is effectively complete; there may be minor additions or alterations of station layout in the future, but much of the system expansion in coming years will occur outside of the downtown core which already has a developed network.

9.1.2 Cycling Parking

There are 575 bicycle parking furniture rings or posts in the Focus Area and 2,813 in the Study Area. Table 9-1 shows the number of posts or rings on Yonge St. Yonge St has only 25, compared to 142 on Bay St. The City installs bike rings on sidewalks and boulevards that have a minimum width of 2.6 metres. Each post and ring have the capacity to fit two bikes side by side.

⁶ Figures obtained from Toronto Bike Share website (January 1, 2020)

Table 9-1: Bike Parking Street Furniture within the Study Area

Street	Focus Area	Study Area
Yonge St	25	206
Bay St	142	322
Church St	48	148
College St	39	119
Carlton St	56	74
Dundas St	34	84
Queen St	64	100

DRAFT

Figure 9-1: Cycle Facilities



9.1.3 Cycling Connectivity

Cyclists have several key routes through the Study Area in the east-west direction, including Gerrard St and Shuter St, and major routes adjacent to the Study Area, including Wellesley St, Richmond St, and Adelaide St, but none in the north-south direction. Due to narrow road widths, cyclists must frequently share the road with cars putting themselves in an unsafe situation, reducing the willingness of people to choose this mode. There are also several instances of bikeways abruptly ending, sending cyclists into mixed traffic with no adjacent route to turn into.

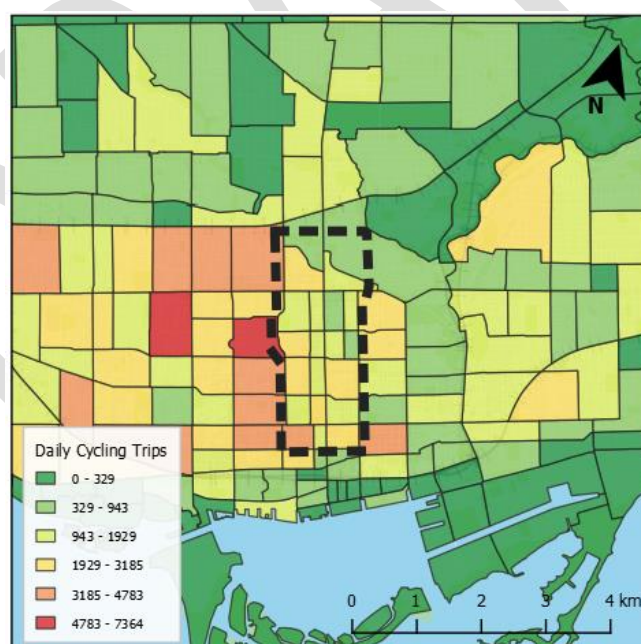
Based on the City of Toronto's 10-Year Cycling Plan, Bay St, Yonge St and Earl St will all have dedicated cycling lanes in the future. There are opportunities to add additional cycling infrastructure within the Study Area in conjunction with the emerging preferred alternative for the reimagining of Yonge St.

9.2 Cycling Demand

9.2.1 TTS 2016

2016 TTS daily cyclist trips are shown in Figure 9-2. In general, Downtown Toronto sees a significantly higher volume of cyclist traffic compared to the rest of the City and the GTA. Even so, the largest sources of traffic are outside of the Study Area. Typically, trips to and from the Study Area are from nearby zones also in the downtown core. This reflects the fact that cyclist trips are generally short in distance, and also reflects the presence of cyclist infrastructure in the core.

Figure 9-2: TTS 2016 Daily Cycling Trips

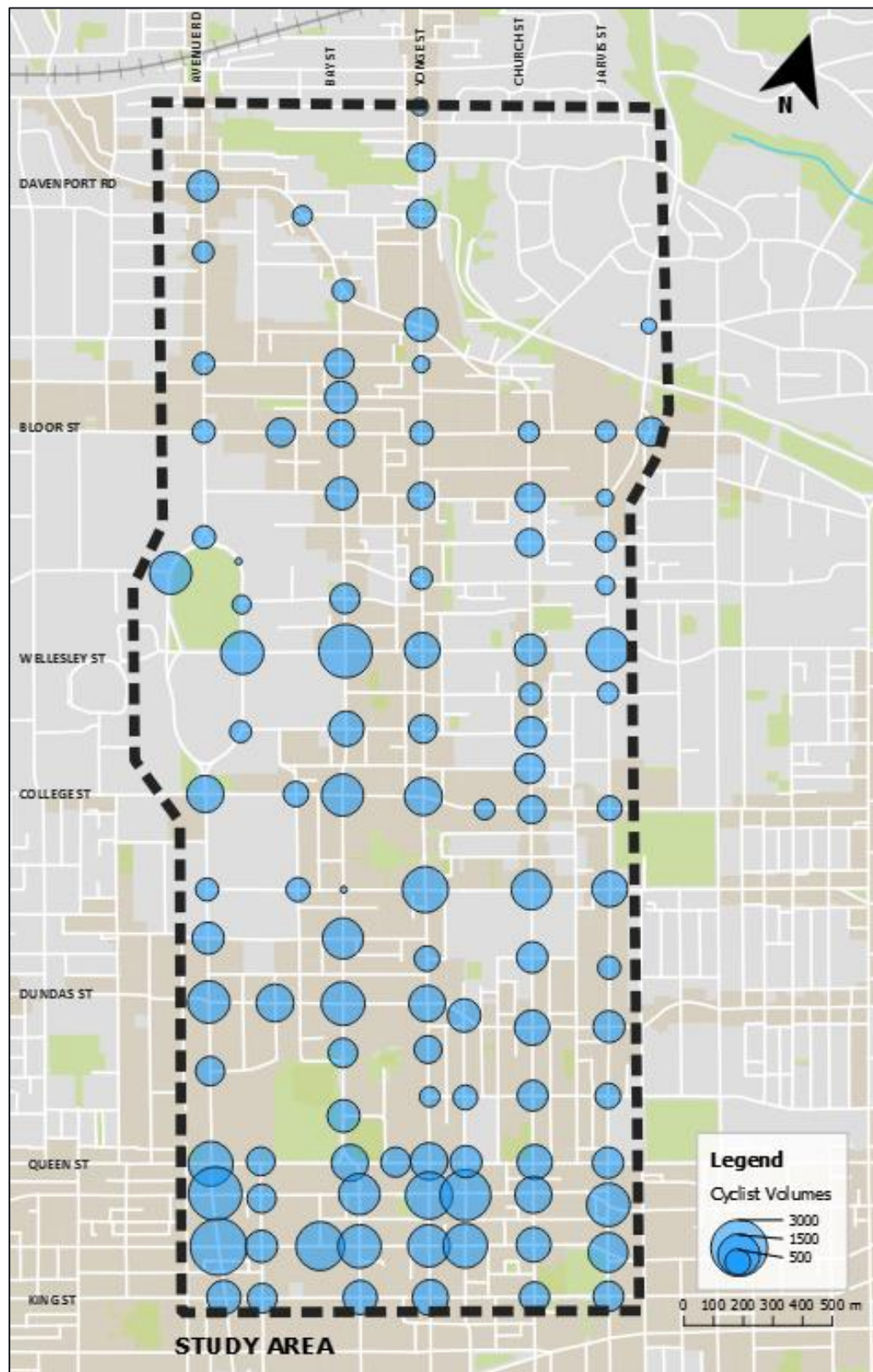


9.2.2 City of Toronto 8-Hour Counts

8-hour cyclist counts at signalized intersections are provided in Figure 9-3. Large cycling volumes correspond with the presence of cycle lanes; however, hundreds of cycles are recorded daily at intersections and overall corridors with no cycling facilities. There is an opportunity to improve cyclist infrastructure in the Study Area to make it easier and safer for

these users to get around. This is particularly true in the north-south direction due to the lack of a similar cycling route within the Study Area.

Figure 9-3: 8-Hour Cyclist Counts at Signalized Intersections



9.2.3 City of Toronto Cycling Projections

The City of Toronto has provided information on the existing and potential daily cycling demand within the Study Area⁷. Existing demand, shown in Figure 9-4 and Table 9-2, is focused in areas with existing cycling facilities. As such, north-south demand within the Study Area is significantly lower than nearby routes such as George St and Sherbourne St, while Yonge St has a significantly lower average volume of 269 cyclists per day within the Focus Area. However, the cycling potential for the area is high, as shown in Figure 9-5 and Table 9-2.

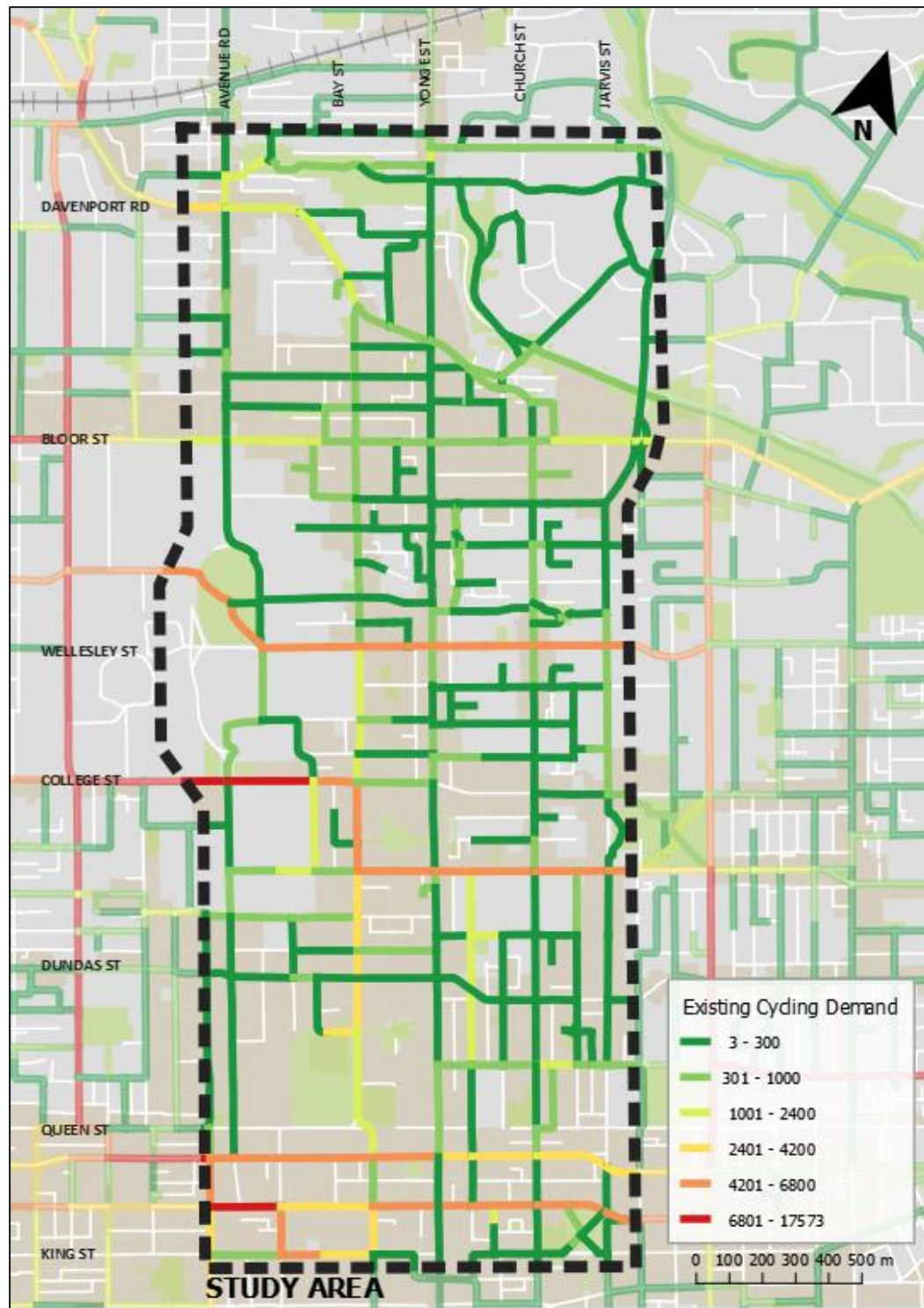
The expected average daily demand is shown in the table below, as well as the maximum potential number of cyclists that could be captured by a cycling facility on each street. All major corridors may see significant growth in demand under suitable conditions, including Yonge St which has the potential to see an average of 9,412 cyclists per day within the Focus Area.

Table 9-2: Yonge St Existing and Potential Cycling Demand

Spatial Area	Existing Demand – Average Daily Traffic (ADT) (cyclists per day)	Potential Demand – Average Daily Traffic (ADT) (cyclists per day)
Focus Area (College St to Queen St)	Mean: 269 Max: 689	Mean: 9,412 Max: 13,300
Study Area (King St to Davenport Rd)	Mean: 220 Max: 850	Mean: 10,454 Max: 18,598

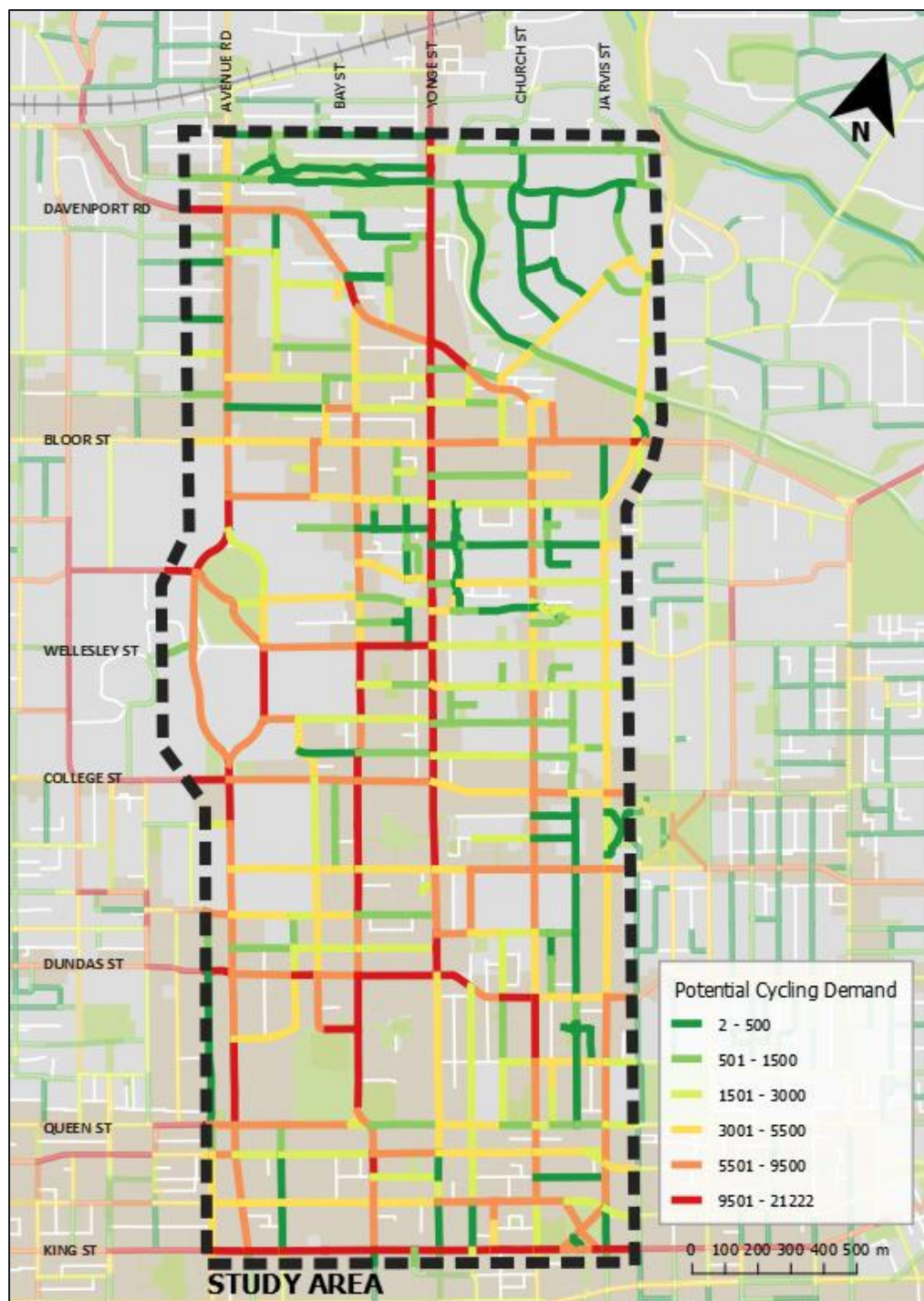
⁷ Current cycling demand modelled by the City of Toronto based on road network routing of origin and destination data (at the Dissemination Area level) from the 2016 Transportation Tomorrow Survey using current cycling trips (24-hour period) (Source: City of Toronto).

Figure 9-4: Current Cycling Demand within Downtown Toronto (Source: City of Toronto⁸)



⁸ Current cycling demand modelled by the City of Toronto based on road network routing of origin and destination data (at the Dissemination Area level) from the 2016 Transportation Tomorrow Survey using current cycling trips (24-hour period)

Figure 9-5: Projected Future Cycling Demand within Downtown Toronto (Source: City of Toronto⁹)



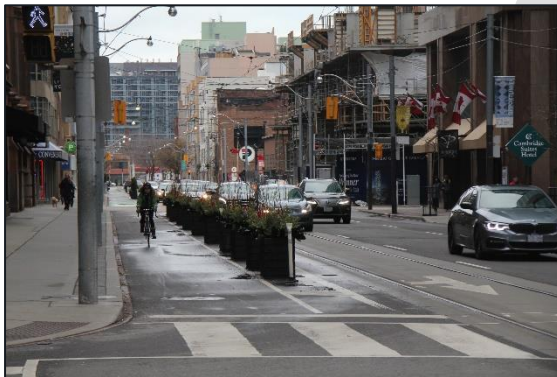
⁹ Potential cycling demand modelled by the City of Toronto based on road network routing of origin and destination data (at the Dissemination Area level) from the 2016 Transportation Tomorrow Survey using 66% of short motorized vehicles and public transit trips (5 km and under) and long walking trips over 1 km (24-hour period). Only a proportion of these trips are used in order to account for the 33% of the population estimated not to cycle regardless of cycling conditions (Geller, 2006). The analysis shows areas that have the greatest potential to convert mode share to cycling if more cycling friendly infrastructure is provided (Source: City of Toronto).

9.3 Cycling Comfort

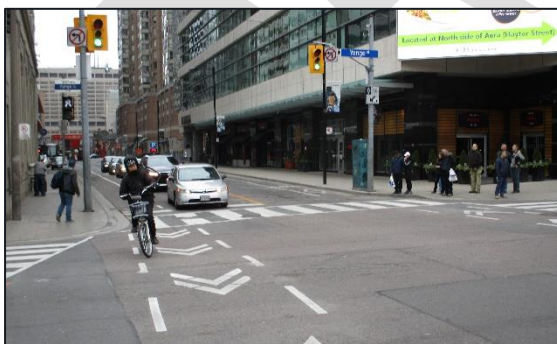
A qualitative analysis of cyclist level of comfort has been performed. Due to the general lack of cycling infrastructure within the Study Area and general narrow right-of-way (ROW) widths, the cycling environment is largely poor except along designated cycle routes where riders are separated from vehicular traffic.



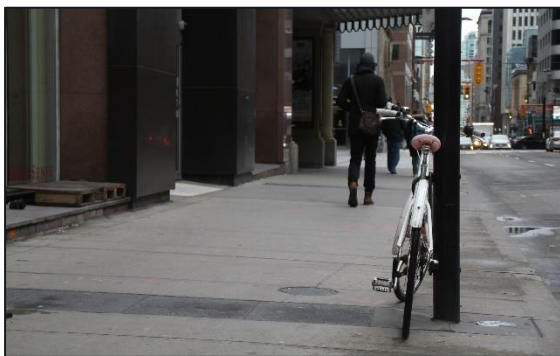
Cycling traffic is not separated from vehicular traffic except on key corridors. Vehicles must pass slower moving cyclists while leaving ample room for them to manoeuvre.



Where provided, cycle lanes are separated by pavement markings rather than physical barriers. Notable exceptions include Adelaide St and Richmond St, pictured here. Conflicts may occur at intersections and building entrances where there are gaps in the barriers allowing vehicles to enter the cyclist lane.



Cyclists do not have dedicated phases for movements through intersections and often conflict with right-turning vehicles at intersections. Bike boxes, though used elsewhere in the city, are not used anywhere in the Study Area for left turns.



Cycle parking is relatively common along Yonge St. However, security is an issue, and this takes up space out of the limited sidewalk.



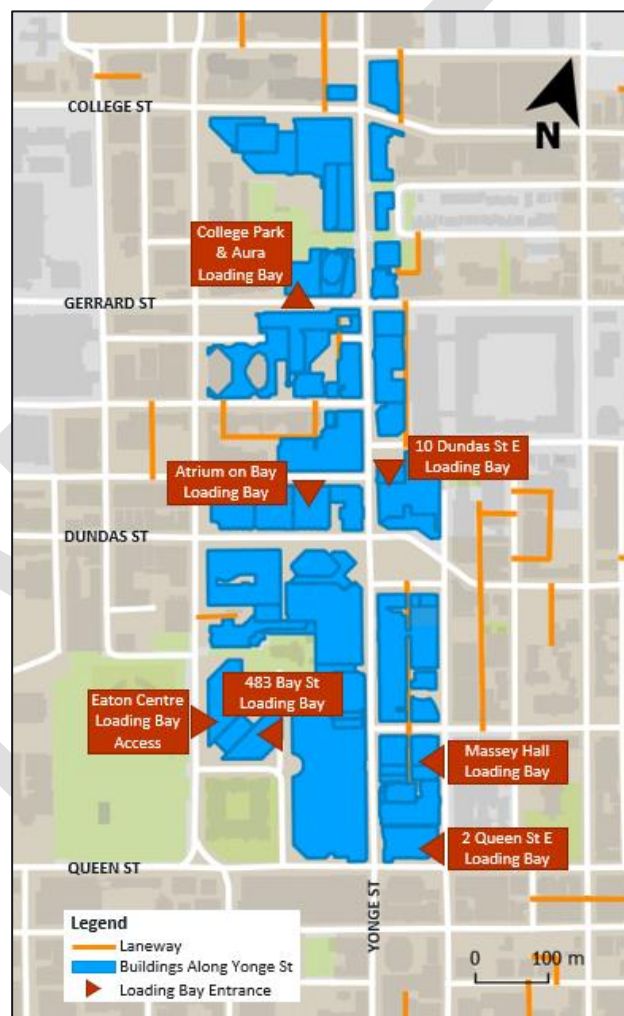
Cyclist infrastructure without barriers can be illegally used by cars and taxis for temporary parking, requiring cyclists to leave their lane to bypass.

10 Goods Movement

10.1 Goods Movement Environment

Commercial businesses along Yonge St require regular access for delivery trucks. Loading and unloading facilities along Yonge St are summarized in Figure 10-1.

Figure 10-1: Loading/unloading around Yonge St



10.1.1 Delivery and servicing locations

As discussed previously, parking and stopping along Yonge St is largely prohibited. In general, no stopping restrictions apply on the western side of Yonge St from 7:30am to 9:30am Monday to Friday, and on the eastern side of Yonge St from 3:30pm to 6:30pm Monday to Friday. At these times, motorists are generally not permitted to stop for any reason, which means that on-street loading is not permitted. At other times, no parking restrictions

generally apply, which means that motorists are permitted to stop to load or unload passengers or merchandise.

However, many businesses can make use of narrow laneways that run behind them, parallel to Yonge St, although it is recognised that their narrow width means that there can be practical difficulties with using them. Other businesses can make use of quieter side streets that run adjacent to their building. Finally, larger buildings such as the Eaton Centre use their own private loading docks; none of these loading dock entrances are along Yonge St.

Based on site reviews, almost all properties with a frontage on Yonge St have access to either off-street loading facilities, or also have a frontage onto a rear laneway or a cross street. The exceptions to this are:

- McDonald's restaurant at 356 Yonge St (on the western side between Walton St and Elm St)
- Yonge-Dundas Square (as the Yonge St frontage provides the only level access for deliveries)
- HomeSense store at 195 Yonge St (on the eastern side between Shuter St and Queen St)

10.1.2 Character of delivery and servicing activity

Information received from the Downtown Yonge BIA¹⁰ highlights the type of businesses located in the Study Area, which generally fall within the following categories:

- Non-food retail (including pharmacies)
- Food retail (supermarket)
- Restaurant / café

The land use influences the type of freight activity experienced in any urban environment, and can be a key indicator of the volume, type and timings of subsequent freight activity to support that specific land use. Steer has worked alongside various types of businesses in central London to conduct research on their freight behaviour (including delivery and servicing surveys), from which general principles can be applied to the Downtown Yonge context, as outlined in Table 10-2. While there may be some differences in delivery and servicing practices, policies and regulations between the two cities, there are some parallel trends in terms of their geographic context being a congested and constrained downtown location, requiring attention to ensure freight practices are effectively managed. Steer has a large dataset available for delivery and servicing activity in central London from both individual businesses and on a larger, area-wide scale (for example, the London Bridge Business Improvement District (BID) area). This information has been drawn upon in the absence of any specific downtown Toronto freight surveys.

Summary of Downtown Yonge Delivery and Servicing Arrangements

The presence of various large shopping malls in Downtown Yonge will be beneficial for minimizing delivery trips to the area, as loading bays will be shared between retailers/businesses within single shopping malls at the basement level. For example, the management company for a shopping mall will typically arrange the waste collection through

¹⁰ Information received includes a Guide to Downtown Yonge Dining; Retail Audit undertaken in 2011; Retail and Culinary inventory undertaken in 2015. It is important to highlight that this material is likely to now be superseded and may not reflect the mix of land use seen currently in 2019.

a private contractor from the garbage bins shared between the businesses, consolidating waste from multiple tenants. Delivery and servicing will also take place off-street within the basement, reducing the volume of delivery vehicles waiting temporarily on-street in this congested area of Toronto.

Storage capacity is likely to be an issue for all businesses, as floorspace will be at a premium cost in central Toronto. The greater the storage space for businesses to stock products, the more efficient 'bulk buying' that can take place and a reduction in the overall volume of delivery and servicing vehicles coming to the city centre.

'Preferred suppliers' could present an opportunity for certain regular goods types like cleaners, waste collection, stationery supplies and courier collections. The character of the businesses in this relatively compact area is very similar, and subsequently results in similar delivery and servicing requirements and prime opportunities for sharing suppliers.

Table 10.1: Freight research applicable to Downtown Yonge environment

Land use	Research conducted in central London	Observations	Key insights for Downtown Yonge and business requirements
Non-food retail (including pharmacies)	<p>GAP UK Flagship store, Oxford St (incl. offices)</p> <p>Longchamp store, Regent St (incl. offices)</p>	<p>GAP</p> <p>During the 16-day monitoring period there were a total of 98 vehicular movements which equates to an average of six vehicle movements per day. Goods arrived from 12 unique companies, four courier companies were used to collect goods from the store/offices. Seven personal non-work related deliveries for GAP employees were recorded. 95% of deliveries took place between 08:00 – 18:00. Regular product deliveries arrive between 22:00 – 05:00 through an ‘unassisted’ delivery arrangement. Only 14% of trips undertaken by zero carbon modes of transport (low emission, bike, on foot). Participates in ‘Dropit’ scheme – customers may deposit their purchases at certain Dropit points in or near major shops along Oxford St to avoid carrying large bags. Involves a courier collection to the store.</p> <p>Longchamp</p> <p>Timing restrictions on Regent St enable on-street waste collection to only take place at certain times of the day (2-3 waste collections per day). One bulk delivery arrives per week for stationery.</p>	<p>Generally, fewer deliveries are anticipated for non-food retailers than food retailers, cafes/restaurants/bars. Downtown Yonge is one of Toronto’s key shopping destinations however with approximately 200 individual retailers and is likely to generate a significant volume of deliveries for continuous stock re-fills (as storage space is likely to be minimal). Due to the central Toronto location, several of the retail stores may also have offices above the main shop floor for operation and management functions. This may lead to a high volume of ‘personal deliveries’ coming into central Toronto, which should be directed to employee’s place of residence away from work. The addition of offices will also result in more deliveries due to requirement for office supplies (which differentiates them from the shop floor) like stationery and grocery deliveries. Timing restrictions for waste collection and leaving garbage bags out on the sidewalk may restrict local retailers to certain times of the day for waste collection. Larger retailers or department stores, like Hudson’s Bay, are likely to have waste disposal areas within dedicated off-street loading bays due to volume of waste generated (particularly recyclable cardboard). Retailers located within the shopping malls will share waste facilities in the mall’s basement area (shown in Figure 10-1). General servicing activities besides waste collection (for example, cleaners), are likely to be shared for retailers within the shopping malls. However independent retailers may choose different cleaning and maintenance companies. The BIA may be involved in arranging ‘preferred suppliers’ to visit the majority of the Downtown Yonge area through single visits and discounted exclusive rates for BIA members. The preferred servicing times are likely to be overnight when the retail stores are closed. While it is preferential for stock deliveries to arrive overnight when the store is closed, the GAP research in London identified that the majority of deliveries still came between 08:00 – 18:00, which may also be the case for Downtown Yonge. Most deliveries to retailers are likely to come via van or truck, due to the nature of the goods in bulky packaging.</p>

Land use	Research conducted in central London	Observations	Key insights for Downtown Yonge and business requirements
Food retail (supermarket)	Tesco Metro, Tooley St, London Bridge	<p>While no formal surveys were undertaken, discussions with Broadgate Estates (which Tesco Metro is part of) identified that the supermarket shares the loading bay and waste collection area in a central area with the other 10+ tenants of Broadgate Estates.</p> <p>Daily deliveries are made in large trucks overnight, avoiding the higher levels of traffic through London Bridge during daytime hours.</p>	<p>The retail inventory provided by the BIA identifies that the majority of businesses categorized under ‘Grocery, convenience and drugs’ are more convenience style stores which are likely to be significantly smaller than the Tesco Metro observed in London. The delivery vehicles and amount of produce per delivery are likely to be smaller, however the delivery timings are still likely to be prior to the AM peak (08:00 – 09:00) to avoid the busier times for traffic in Downtown Yonge.</p> <p>It is possible that suppliers may deliver goods to more than one food retailer within this area, and possibly within the same visit (e.g. milk supplier). This should reduce number of delivery vehicles in the area.</p> <p>The delivery location for businesses will largely depend on their location and access arrangements – delivery vehicles may temporarily wait on Yonge St and unload if the business has its frontage onto Yonge St (e.g. 7 Eleven) or share shopping mall basement facilities for off-street deliveries if located within a shopping mall.</p>
Restaurant / café	The Shard, London Bridge (home to three restaurants/bars)	<p>The Shard</p> <p>A very large number of food and drink deliveries were recorded; 966 in total across the 14-day monitoring period (average of 69 food and drink related trips every day – some may have been attributed to tenants other than the 3 restaurants/bars).</p> <p>Of the 179 different suppliers of food and drinks, 37 companies made ten trips or more each.</p> <p>55 additional food and drinks related trips were recorded with no supplier details.</p> <p>The highest number of food and drink related trips to The Shard by one supplier was 26 – almost two trips each day (Eden Caterers).</p> <p>A few suppliers were consolidating deliveries to more than one tenant – two companies make regular single deliveries to up to four different tenants within The Shard.</p> <p>Lack of capacity for food storage is a major issue, resulting in daily deliveries for fresh produce.</p>	<p>Inventory shows potentially between 150 – 200 different eateries / bars / cafes within the Study Area. Due to proximity of premises and similarity in type of cuisine (e.g. Korean Grill House and Made in China, both Asian cuisines located at 371 Yonge St), it would be expected suppliers, deliveries and waste disposal could be shared between many of the different businesses (particularly those located in the same food courts like the Eaton Centre). This should help reduce the volume of individual deliveries entering the Study Area.</p> <p>Nonetheless, the high number of establishments in this area will still generate a significant number of weekly deliveries. The exact number will depend entirely on the level of consolidation, waste disposal arrangements, place of origin for suppliers (i.e. local suppliers may use cargo bicycle deliveries instead), and range of suppliers used to provide desired products.</p> <p>It is likely that individual suppliers will be making more than one trip per day to tenants within the Study Area, unless strategic consolidation has been deployed.</p> <p>Due to the central Toronto location, lack of storage space is likely to be a key problem and will result in additional deliveries for businesses to receive their fresh produce.</p> <p>It is expected that the shopping malls like Eaton Centre and Atrium on Bay will use a single waste contractor for all waste streams (i.e. general, recycling and</p>

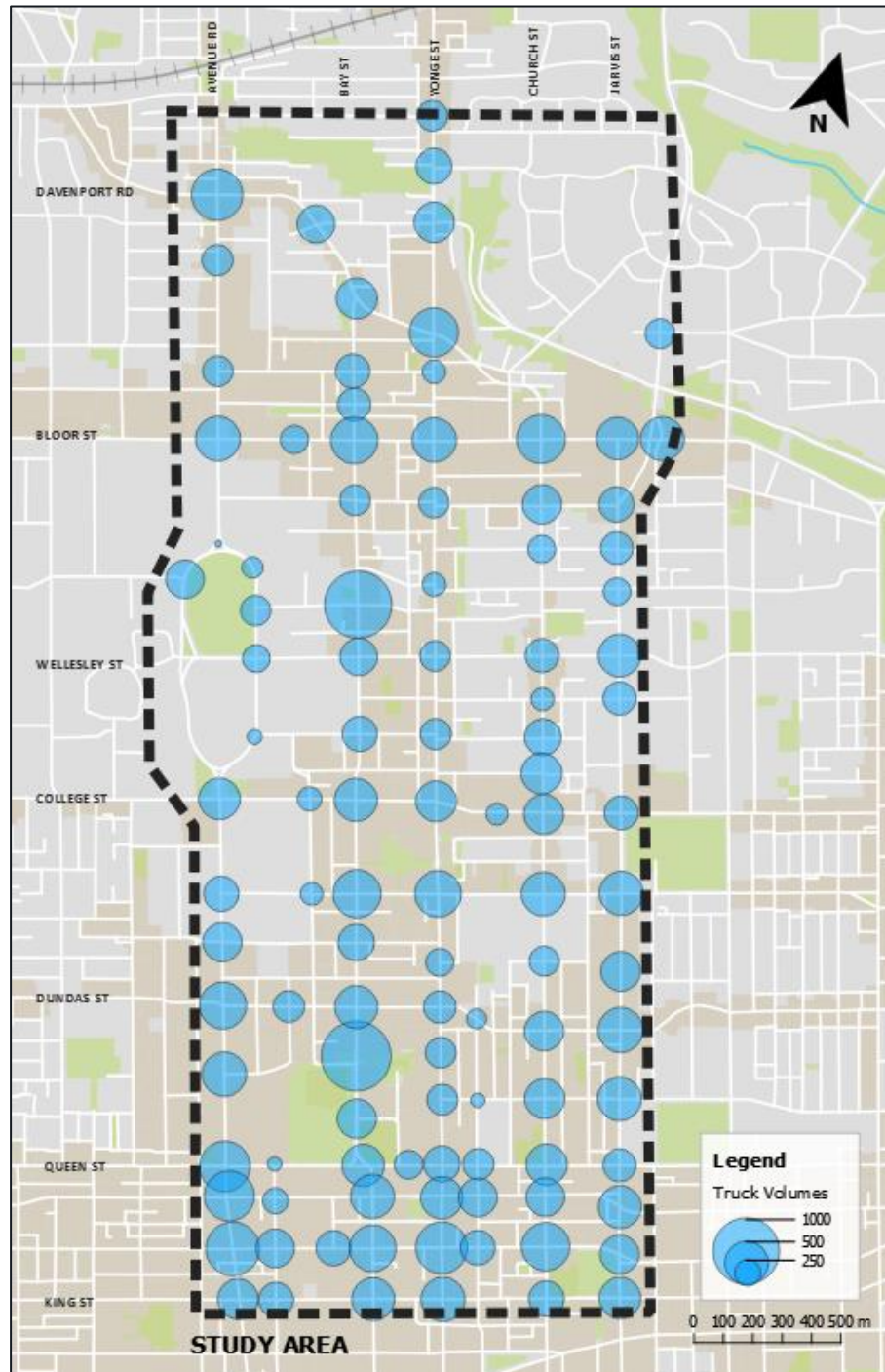
Land use	Research conducted in central London	Observations	Key insights for Downtown Yonge and business requirements
		<p>Waste facilities shared between tenants in the building's basement, with 75 trips recorded over 14 days by 8 different waste contractors.</p> <p>Fresh produce deliveries tend to arrive prior to the AM highway peak (08:00 – 09:00) to ensure produce is ready at the start of service.</p>	<p>organic) and will have developed a streamlined collection schedule. For the independent businesses however, curbside waste collection by City of Toronto may be more likely or selection of private waste contractors. Unless the BIA encourages the use of a specific, single contractor (as seen in the Baker St BID area, London) to offer preferential customer rates to BIA members, there could be several different waste contractors serving the Downtown Yonge area, most likely using diesel trucks which is negative for safety and environmental reasons.</p>

10.2 Goods Movement Demand

10.2.1 City of Toronto 8-Hour Counts

8-Hour truck counts at signalized intersections are provided in Figure 10-2. As shown, Bay St sees a significantly higher volumes of truck traffic than Yonge St particularly between College St and Dundas St. Located here are the Nathan Philips Square and Eaton Centre loading docks.

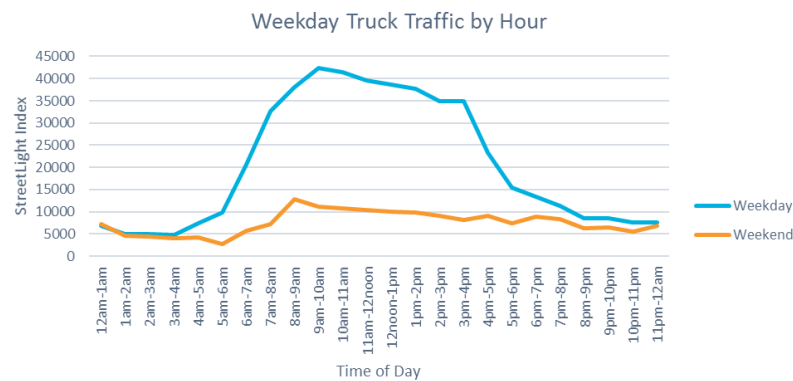
Figure 10-2: 8-Hour Truck Counts



10.2.2 StreetLight Data Analysis

StreetLight Data was also used to examine flows between zones within the Focus Area for commercial vehicle movements. TTS Zones were disaggregated to show a finer representation of movements, and external zones were added at each cross street to map trips into and out of the focus area. Figure 10-3 shows truck traffic over an average weekday, presented as a normalized index. Truck traffic builds through the morning and peaks between 9 am and 10 am, but this remains relatively constant for the bulk of the day, then drops in the afternoon. That is, trucks do not follow the same patterns as auto travel. Weekend truck traffic is lower, and peaks earlier in the morning, then remains steady for much of the day.

Figure 10-3: Weekday Truck Traffic by Hour



15% of traffic originates within the Focus Area, and of these users, 98% have their destinations outside of the focus area. Therefore, there are almost no truck users who travel exclusively internally to the Focus Area during the AM peak, owing to the fact that most trucks are coming into the area to make deliveries, then immediately leaving. 85% of users who travel in or through the Study Area enter via an external gateway. 17% of traffic that enters via an external gate is destined for the focus area, while 83% passes through the area without stopping. The Focus Area acts more as a destination or through-corridor than as a trip generator but is primarily used for through traffic.

Trucks entering and exiting the area largely use major corridors and not side streets. A full breakdown of which corridors are used to enter and exit the Focus Area is provided in Table 10-2. Bay St carries the largest proportion of truck traffic into the Study Area, while Bay St and Dundas St carry the largest proportions of traffic out of the Study Area.

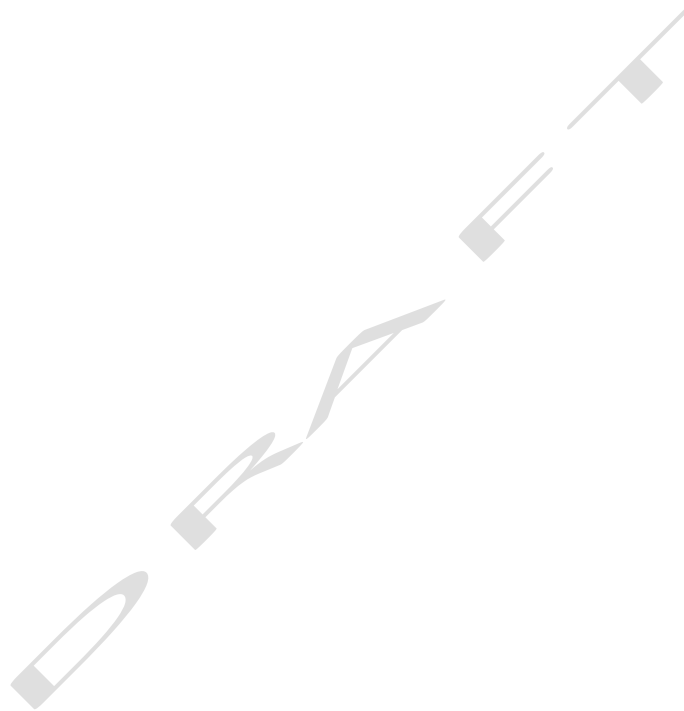
Table 10-2: Truck Corridor usage into and out of the Focus Area

Corridor	Into Study Area	Out of Study Area
Bay St	16%	18%
Yonge St	14%	13%
Church St	12%	13%
College St	11%	10%
Gerrard St	9%	8%
Dundas St	11%	17%
Queen St	9%	10%

Zones 521 and 522 which correspond to the Eaton Centre see a high number of trips (18% of trips to the Focus Area) as the Eaton Centre requires regular deliveries for its hundreds of stores to operate. Similarly, College Park sees 12% of truck trips destined for the Focus Area.

10.3 Waste Disposal

There is no curbside collection within the Study Area south of College St. North of College St and west of Yonge St, curbside collection occurs on Tuesdays, whereas east of Yonge St it occurs on Wednesday. Curbside collection west of Yonge St is part of the Solid Waste Management District 2, whereas east of Yonge St, it is part of District 3.



11 Ride Share Activity

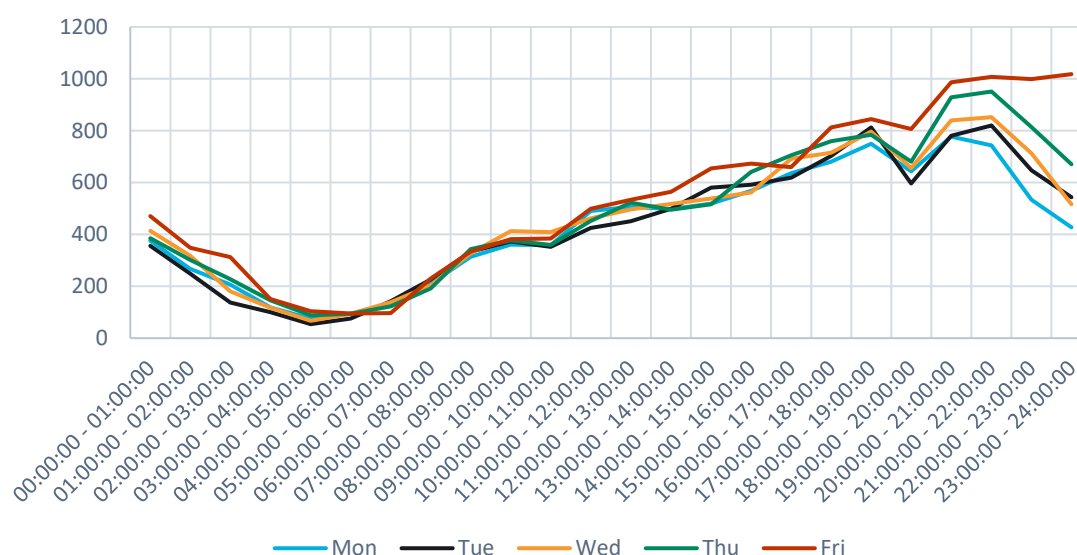
Rideshare pick-up and drop-off data was received from the City of Toronto for a total of nine weeks on weekdays from January 2018 to September 2018. Figure 11-1 shows the pick-up and drop-off data aggregated by hour of the day to 10m spatial resolution¹¹. Within the study area, there is a high level of pick-up and drop-off activity concentrated around Eaton Centre on Yonge St and Dundas St and College Park on Bay St and Gerrard St W. This data sheds light into current curbside usage in the Study Area and will help inform the planning for the appropriate numbers and locations of curbside space in the Study Area.

While taxi data was unavailable, it is worth noting that taxi activity has been observed, particularly around Eaton Centre and theatres. There are no taxi ranks on Yonge St.

11.1 Pick-Up

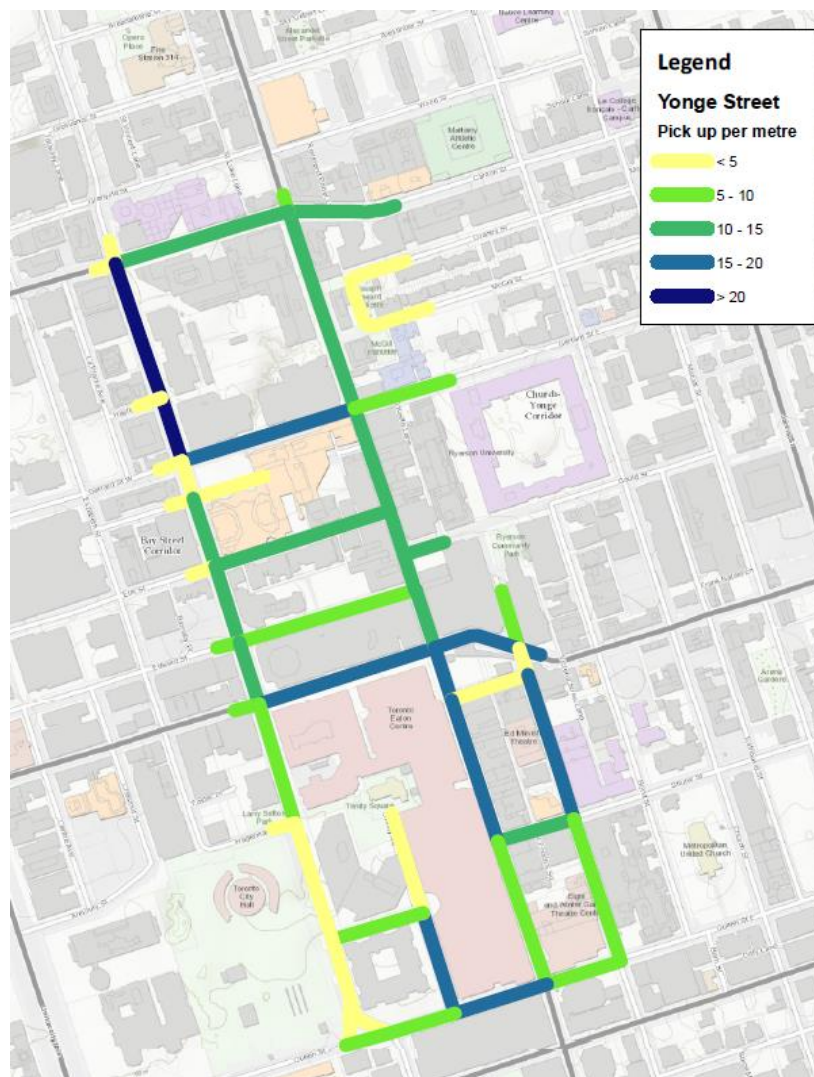
As shown in Figure 11-1, the number of pick-ups gradually builds throughout the day, with a slight dip between 6:00pm to 7:00pm before peaking approximately between 8:00pm and 9:00pm. While pick-ups tend to decline after 10pm Monday-Thursday, it appears to remain steady on Fridays. This pattern suggests many of the pick-ups are discretionary trips for retail, restaurant, and entertainment purposes. Figure 11-2 supports this as significant numbers of pick-ups occur around Eaton Centre and College Park.

Figure 11-1 Pick-Ups by Day of Week



¹¹ This data is exclusive to Uber and Lyft, and does not include other for-hire vehicle services such as taxis, or commercial delivery vehicles.

Figure 11-2: Ride share pick-up locations per metre



11.2 Drop-Off

According to the data, there are two distinct drop-off periods each day: approximately between 8:00am – 10:00am and 5:00pm – 7:00pm (see Figure 11-3). This drop-off pattern aligns with Figure 5-7 wherein inbound trips to the Study Area peak between 6:00am – 9:00am and are consistent with commute trips for work or school. Figure 11-4 shows the distribution of drop-offs concentrated around Eaton Centre and College Park.

Similar to the ride share pick-up pattern, while drop-offs appear to decline after 10:00pm every day, it is less pronounced on Fridays. Of note, there appears to be a 2-hour lag between peak ride share drop-offs and peak inbound trips as per TTS data. This may suggest ride share users are either purposely or inadvertently delaying their trips to the Study Area to less congested times.

Figure 11-3 Drop-Offs by Day of Week

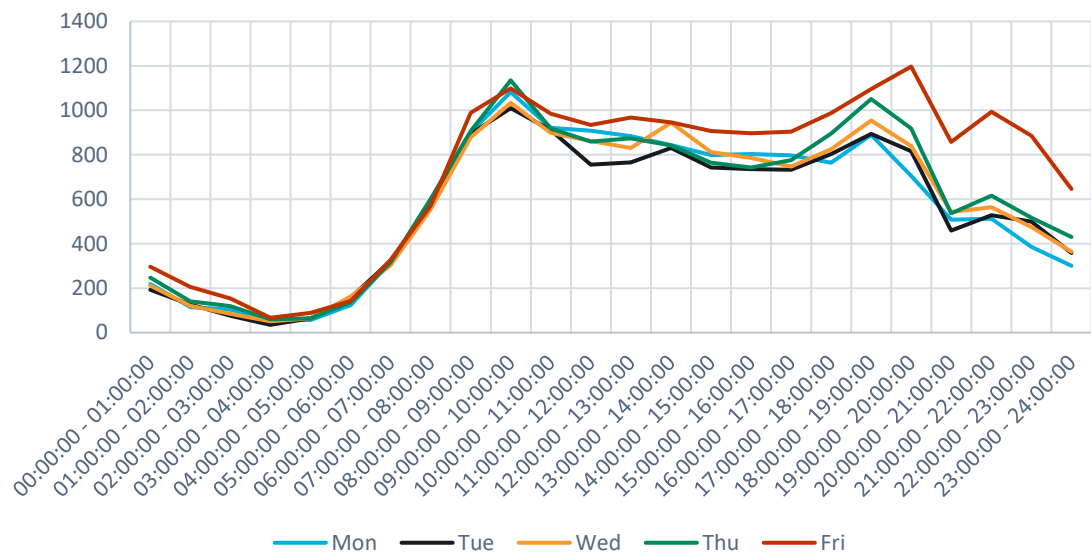
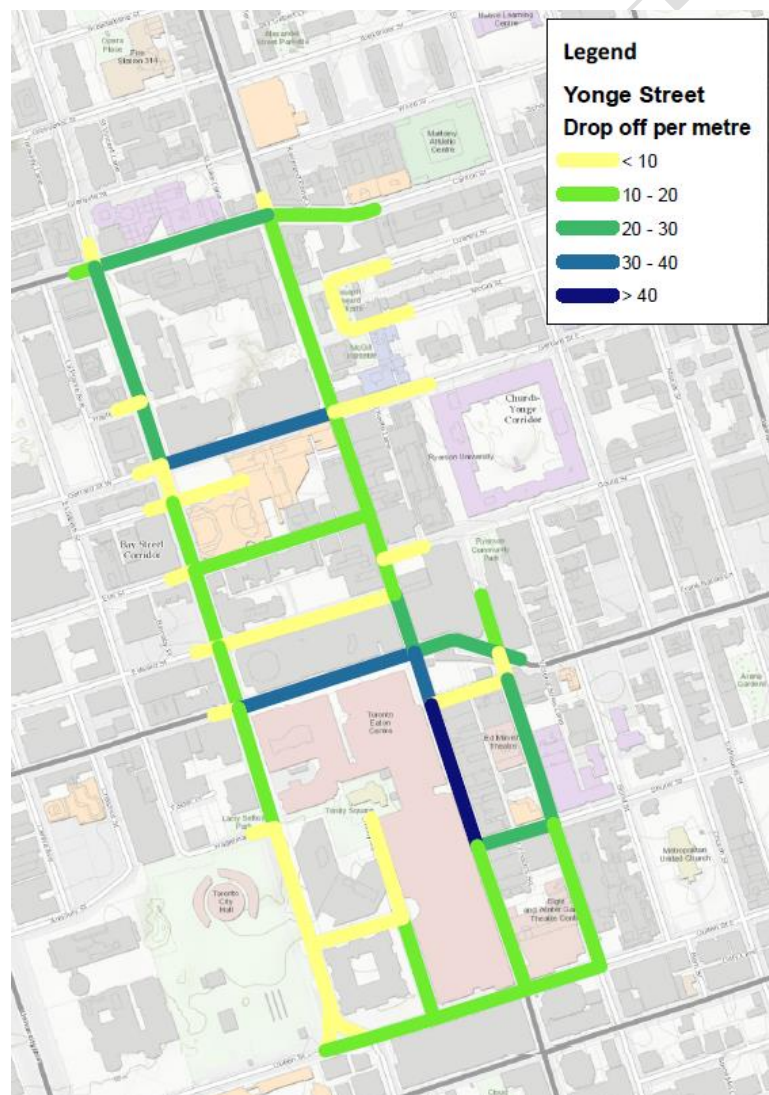


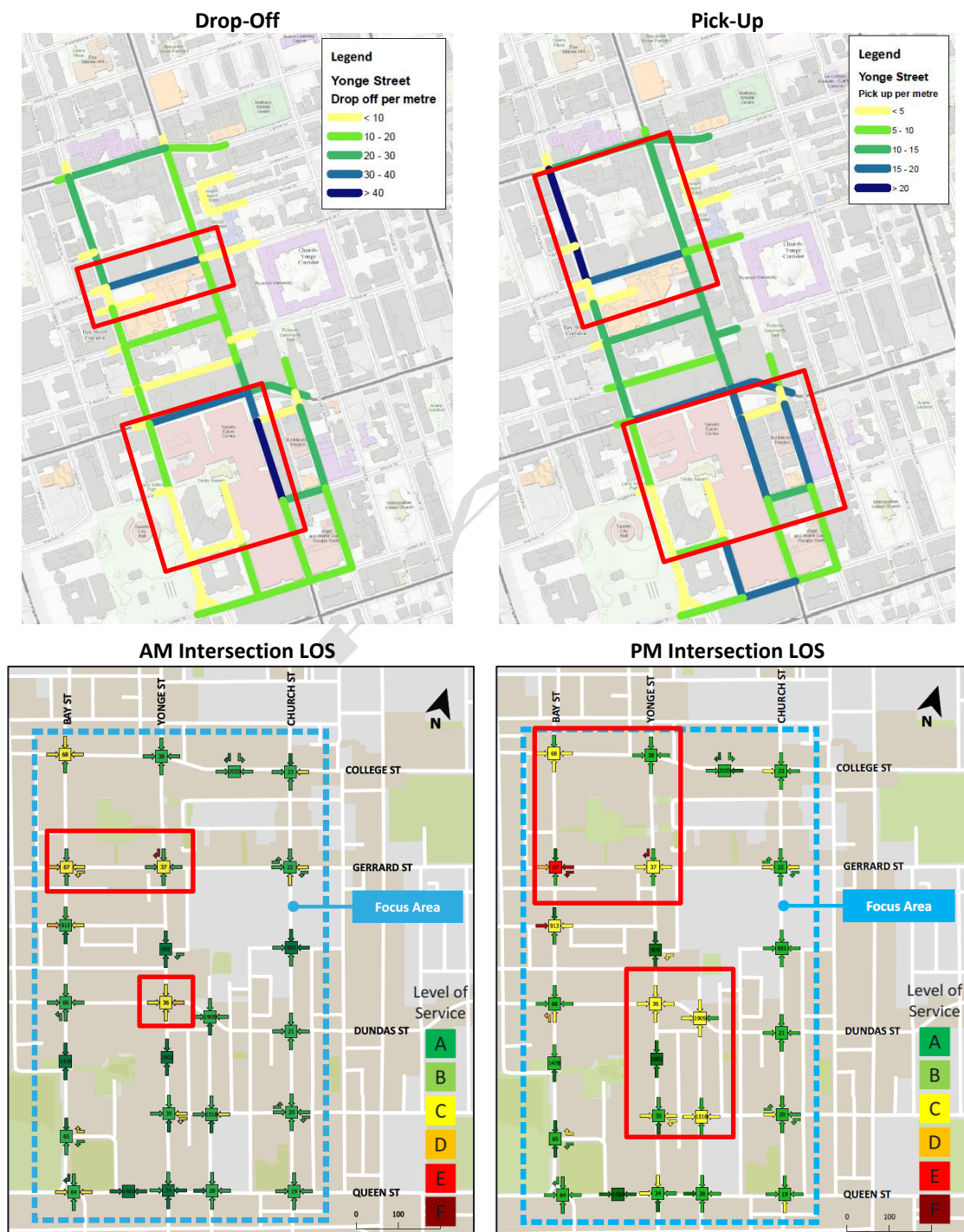
Figure 11-4: Ride share drop-off locations per metre



11.3 Ride Share Activity and Level of Service

There appears to be a correlation between streets with high volumes of ride share pick-up and drop-offs and intersections with lower LOS. Referring to the areas outlined in red in Figure 11-5, streets with the highest volume of ride share activity, such as Gerrard St and Dundas St, tend to have LOS C or below. While it is not possible to discern causation with the given data, this pattern suggests that the activity on these intersections, whether due to ride share pick-ups and drop-offs or other unrelated factors, may be impacting the flow of traffic along these streets.

Figure 11-5 Ride Share Activity vs Intersection LOS



12 Special Events

Every year, a range of festivals, cultural programs, celebrations and events take place throughout Downtown Toronto, which attract locals and tourists alike and promotes cultural diversity and community building in the City. Historically, Yonge St through the Study Area has been home to many such events, including not-for-profit/volunteer-based events such as the annual Santa Claus Parade, as well as City-produced events such as Canada Day Celebrations. There are many locations within the Study Area that serve as venues for festivals and events throughout the year, including Nathan Phillips Square.



Based on online resources and the City of Toronto's Open Data platform, a review of festivals and events was undertaken to inform the demands expected these during special events in the Study Area.



Events can cause travel demand spikes and may require temporary road closures. Pedestrian crowding can be particularly acute during special event periods, due to high volumes of pedestrian flows and limited space for pedestrian movement.

It should also be noted that certain sections of Yonge St are often used as a stand-in for other North American cities for filming activities. Proposed alternatives may impact the ability of Yonge St to act in this role.

12.1 Major Annual Events

The following are major annual events in the City, known for major road closures and crowds:

St Patrick's Day Parade	<p>Organized by a not-for-profit event staging organization, Toronto's St Patrick's Day Parade is an hour and a half long parade celebrating Irish culture, history and heritage. The parade begins at St George St and Bloor St, moves easterly to Yonge St, where it turns south and continues towards Queen St, eventually terminating at Nathan Phillips Square.</p> <p>Typically, Yonge St from Bloor St to Queen St is fully closed through the duration of the parade. Bloor St and Queen St cross streets are also fully closed.</p>	
Pride Parade	<p>Toronto's Pride Parade, held annually at the beginning of July, is one of the largest in the world celebrating the history, courage and diversity of the City's growing LGBTQ community. The parade begins at Church St and Bloor St, continues west on Bloor St, south on Yonge St before turning east on Dundas St and terminating near Victoria St. The Dyke March and Trans Pride March also follow the same route but diverge at the intersection of Yonge St and College St to continue eastward on Carlton St.</p> <p>Several streets are closed to accommodate the parade and marches – Yonge St from Bloor St to Queen St, several side streets on either side of Yonge St and parts of Bloor St W and Church St. TTC Routes 94 Wellesley, 505 Dundas and 506 Carlton are also diverted onto detour routes during the parade and festivities.</p>	

Santa Claus Parade	<p>The Santa Claus Parade has taken place every year on the third Sunday of November since 1913, through the support of volunteers and sponsors. The original sponsor of the parade was the Eaton Centre and up until 2011, the parade passed through Yonge St via Dundas St W.</p> <p>Since 2011, the parade route has run eastbound from its start at Christie Pitts Park on Bloor St West, southbound on Avenue Rd/University Ave, and eastbound on Wellington St and Front St to end at the St Lawrence Christmas Market. The parade travels southbound on Yonge St for only a short distance between Wellington St and Front St, south of the Study Area.</p> <p>Based on previous years, buses along Bay St and Avenue Rd will follow service detours, although none are expected to run through Yonge St within the Study Area.</p>	
Labour Day Parade	<p>The annual Labour Day Parade is hosted by the Toronto and York District Labour Council on the first Monday of every September. The parade typically travels southbound on University Ave, parallel to Yonge St through the Study Area, westbound on Queen St and southbound on Dufferin St to end at the Canadian National Exhibition (CNE). Road closures include University Ave between Dundas St West and Richmond St.</p>	
Nuit Blanche	<p>Public art festival held annually each October, from 7 pm to 7 am the next morning. Over a hundred art pieces on display throughout the city. Includes several road closures around City Hall and on Queen St.</p>	NUIT BLANCHE TORONTO
Open Streets Toronto	<p>Open Streets involves closing down travel ways to vehicular traffic and opening up the street to pedestrians and cyclists to enjoy outdoor recreational activities and promote community building. Local businesses and community organizations participate in offering activities, retail and entertainment along the closed route.</p> <p>Open Streets occur on several Sunday mornings throughout the summer. As part of the event, Bloor St between Christie St and Sherbourne St, and Yonge St between Bloor St and Queen St are closed to cars and buses for 4-5 hours. Vehicular traffic is however, usually allowed on crossing streets at major intersections such as Dundas St and College St.</p>	

In addition to these major annual events, there are a number of other annual or semi-annual events which take place along Yonge St which require part closure of portions of Yonge St. These include:

- **NXNE North by Northeast Summer Music Festival** – at Yonge Dundas Square, which leads to the closure of Yonge St from Dundas St W to Queen St- West across four days in June;
- **Pan American Food and Music Festival** – at Yonge Dundas Square, which leads to the closure of Dundas Square at the intersection of Yonge St and Dundas St for two days in August; and,
- **Sporting Life 10K** – which leads to the closure of Yonge St from Davisville Ave to Adelaide St on a single day in May.

12.2 Public Square Events

Anyone can book usage of Nathan Philips Square or Yonge Dundas Square for their own public event. These events typically do not involve road closures but may in some cases. Notable examples include annual events such as NXNE North by Northeast Summer Music Festival and Sporting Life 10K, which lead to partial closure of Yonge St for a short period of time, as well as one-off signature events which use this area as their host location.

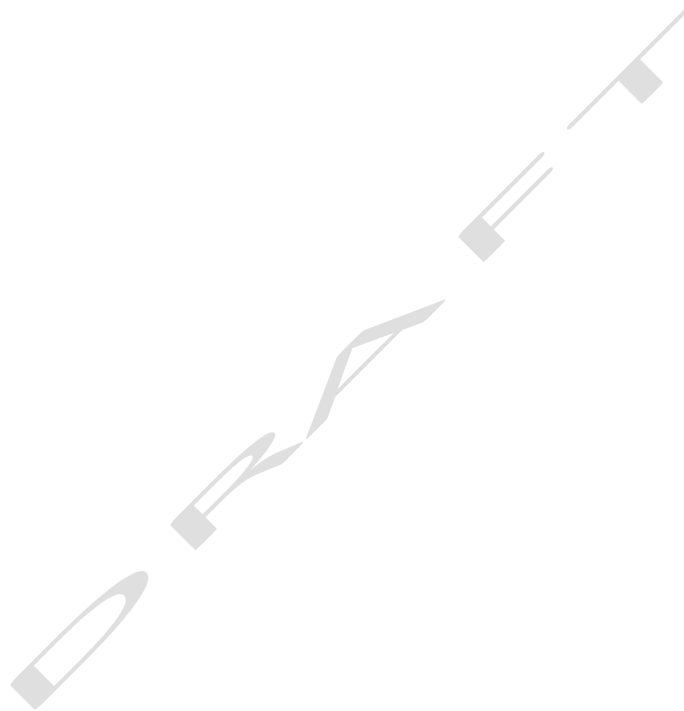
The Downtown Yonge BIA also organizes and operates their own set of events that make use of Yonge-Dundas Square, as does the City in Nathan Philips Square. Nathan Phillips Square plays host to more than 100 different organizations per year and accommodates over 225 days of programmed use. Notable examples are listed below. A comprehensive list can be found on the City of Toronto's Open Data portal, or on each square's respective website.

In addition, there is the use of Yonge Dundas Square as the location for one-off signature events, such as the 2017 Invictus Games and 2020 Gumball 3000 Rally.

Yonge-Dundas Square	<p>KidzFest A special celebration for children of all ages held by the Downtown Yonge BIA at Yonge-Dundas Square in late November.</p> <p>Fashion on Yonge Fashion on Yonge allows retailers in the Downtown Yonge neighborhood to showcase their fashion lines at College Park, with no major road closures.</p> <p>Ribfest Northern Heat Series' Ribfest is an annual Canada's largest BBQ, rib and craft beer festival in May, with a weekend long stop at Yonge-Dundas Square.</p> <p>Illuminite Single evening event celebrating the winter holidays. Includes live musical performances and a tree lighting ceremony.</p>
Nathan Phillips Square	<p>New Years Celebration Annual new years celebration including fireworks and live performances. Typically draws extremely large crowds.</p> <p>Cavalcade of Lights Annual holiday celebration including the lighting of Toronto's official Christmas tree, fireworks and live performances.</p> <p>Remembrance Day Annual commemoration of those lost in the war. Includes street closures on Bay and York St around Nathan Philips Square.</p> <p>Khalsa Day Annual celebration of Sikh New Year including parade which attracts 40,000 participants per year.</p> <p>Toronto Waterfront Marathon Annual full and half marathon which starts and ends at Nathan Phillips Square, attracting 26,000 runners per year.</p> <p>Toronto Outdoor Art Fair Annual exhibition held at Nathan Phillips Square by more than 300 artists which attracts over 50,000 visitors.</p>

12.3 Filming

Toronto hosts over 7,000 location shoots each year, a number of which take place within the Study Area. As such, the evaluation of alternatives will take into consideration of impacts, if any, towards the Toronto's film industry. According to Toronto's film strategy, '80% of all on-site production work in the city taking place within a tight grid between Queen St, the Don Valley Parkway, Front St and Bathurst St', which is outside the Focus Area.



13 Emergency Services

Emergency vehicles are currently permitted to drive on either side of the road depending on the situation and are largely not hampered by obstacles (such as medians or planters) while doing so, except for a small section just south of College St on Yonge St.

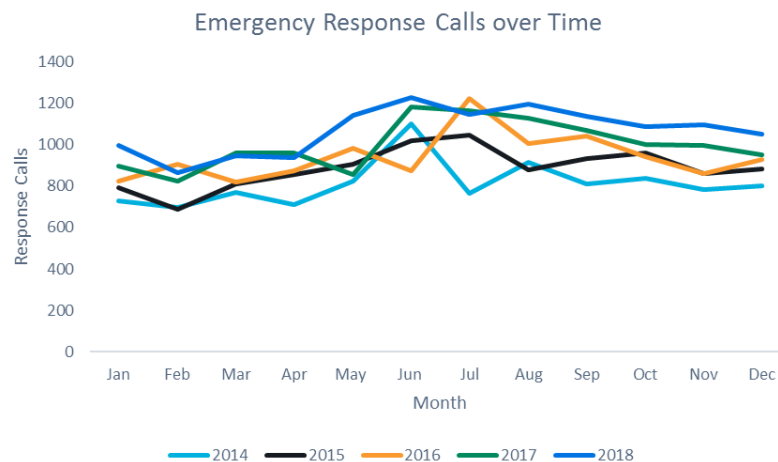
13.1 Paramedic Services

The Study Area lies within the first response areas for the following paramedic stations:

- Station 40 at 58 Richmond St between Victoria St and Church St; and,
- Station 45 at 135 Davenport Rd between Avenue Rd and Bay St.

Toronto Paramedic Services has provided data on emergency calls that they have responded to in or around Yonge St from Richmond St to College St over a five-year period, broken down by month. This is outlined in Figure 13-1. Response calls have grown from 9,749 in 2014 to 12,832 in 2018.

Figure 13-1: Emergency Response Calls on Yonge St Over Time



13.2 Fire Services

The Study Area lies within the first response areas for the following fire stations:

- Station 314 at 12 Grosvenor St to the west of Yonge St and between College St and Wellesley St;
- Station 332 at 260 Adelaide St located to the west of University Ave, south of the Study Area; and,
- Station 334 at 207 Front St E to the east of Lower Jarvis St, south of the Study Area.

As per the City of Toronto Curb-Radius Guidelines, fire trucks must be able to maneuver right turns at all intersection concerns, regardless of turning restrictions or one-way traffic flow, and

must always be able to maintain a 300 mm separation from the curb at all times. Standard fire trucks are 2.54m wide, 12.8m long and have a steering angle of 37 degrees.

The number of responses to incidents by Fire Services in the Study Area demonstrates how busy the Study Area is for Fire Services. In 2018, Fire Services at Station 314 responded to 5,743 calls; 17,441 calls by Station 332; and 2,547 calls by Station 334.

13.3 Police Services

The Focus area is located within Toronto Police patrol zone 524. Toronto police headquarters are located at 40 College St just west of Yonge St. The Study Area is located within Police Divisions 51 and 52 served by Police Services Stations 51 and 52, though both stations are physically located outside of the Study Area:

- Station 51 at 51 Parliament St near Front St; and,
- Station 52 at 255 Dundas St West just west of University Ave.

The Study Area occasionally plays host to parades and public demonstrations which are managed by Police Services including Toronto Pride and the St Patrick's Day Parade¹².

¹² Data on demonstration permits issued by the Toronto Police Service was not available at the time this report was written.

14 Planned Developments

14.1 Development Applications

The City of Toronto maintains an online database of active applications for Site Plan Approvals, Official Plan Amendments, Zoning By-law, and Condominium and Subdivision plans. As of 2018, a number of site-specific development planning applications are currently active along the Yonge St corridor which are expected to contribute to the travel demand in the Study Area road network. The application materials, several of which included transportation impact assessments and parking analysis, were reviewed and the assumptions and recommendations from the studies were documented for consideration in this EA study. This section provides a summary of the review for the developments along Yonge St listed in Table 14-1, based on a review of the City of Toronto's Open Data portal.

Table 14-1: Proposed Developments Along Yonge St

No.	Location	Development Application Type
1	178 Victoria St	Site Plan Approval
2	20 Edward St	Rezoning, Site Plan Approval
3	8 Elm St	Rezoning
4	363 Yonge St	Rezoning, Official Plan Amendment
5	33 Gerrard St W	Rezoning
6	2 Carlton St	Rezoning
7	475 Yonge St	Rezoning
8	593 Yonge St	Rezoning, Site Plan Approval
9	10 Mary Street	Rezoning
10	1 Bloor St W	Rezoning, Site Plan Approval
11	55 Bloor St W	Minor Variance, Site Plan Approval
12	826 Yonge St	Rezoning, Site Plan Approval
13	771 Yonge St	Rezoning
14	874 Yonge St	Rezoning, Official Plan Amendment

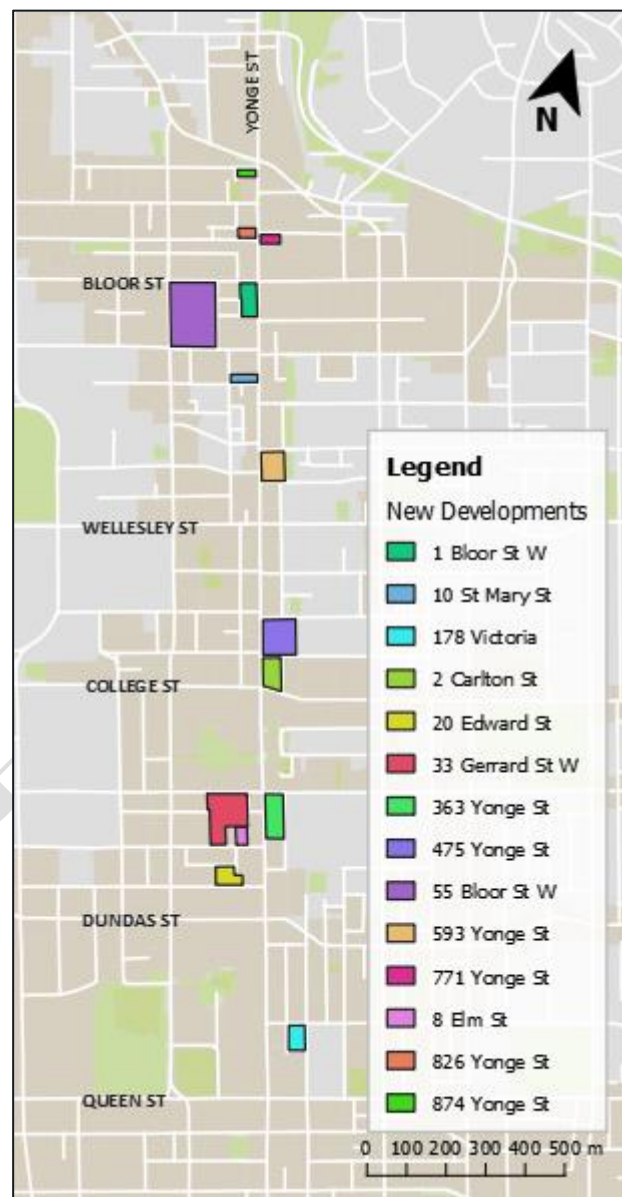
The development applications numbered 1 to 7 are for sites located along Yonge St, between Queen St and College/Carlton St and the remaining are located further north. A map of the developments is shown in Figure 14-1. Most of the proposed developments are for residential, retail or office uses with hotel units planned for the redevelopment of the Chelsea Hotel at 33 Gerard St, and the Courtyard by Marriott at 475 Yonge St.

Each development's Transportation Impact Study (TIS) typically reviewed existing conditions in the developments' respective Study Area, assessed the future background condition and the future condition with site generated travel demand. Several studies indicated that there has

been no sustained traffic growth along corridors including Yonge St, Bay St, Bloor St and Church St based on historical data and did as such, not consider an annual rate of background traffic growth. Most, however, included traffic allowances for neighbouring background developments. A few studies made conservative assumptions on growth of through movements along Yonge St between 0.5% to 2% per annum.

The sites generated primarily residential trips and retail trips. In some cases, especially for developments fronting Yonge St (475 Yonge St, 480 Yonge St, 10 Mary St, 771 Yonge St), retail trips were assumed to be made only via transit, bicycle or walking. Otherwise, the site generated traffic was subjected to non-auto trip reductions ranging between 52% to 75.5%, based on 2011 TTS-based mode splits for the local areas or respective ward.

Figure 14-1: Proposed Developments Along Yonge St



14.2 Development Recommendations

Several recommendations were made based on the operational analysis, including Travel Demand Management strategies, which are outlined in Table 14-2. The development applications included parking analysis, which reviewed car and bicycle parking and loading requirements under City By-laws 569-2013 and By-Law 438-89. The proposed residential car parking rates vary between 0.17 to 0.40 space/unit and in most cases, do not meet By-law requirements. The reduced parking provisions were justified by local area modal split, future transit expansions (e.g. higher capacity streetcars on route 506 and the construction of a relief subway line) and low parking rates for neighbouring submitted/approved applications. All bike parking spaces provided met or exceeded the requirements under the current By-laws.

Table 14-2: Development Application Recommendations

Development Application	Recommendations
475 Yonge St	Removal of the existing loading zone on the north side of Wood St to provide a wider sidewalk.
33 Gerard St	Reconnection of the east and west ends of Walton St by way of a publicly accessible, privately-owned connection that will provide vehicular, servicing and pedestrian access to the site (The Chelsea Hotel).
593 Yonge St	Conversion of Gloucester St from a one-way westbound street to a two-way street between Gloucester Lane and Yonge St to: provide direct access from Yonge St via Gloucester St to 599 Yonge St, 2-8 Gloucester St. MUB driveway and other uses on Gloucester Lane; and, minimize 599 Yonge St and 2-8 Gloucester site-related activity on Gloucester St beyond Gloucester Lane.
1 Bloor St W	Proposed new below-grade connection to the north under Bloor St W will link the Project with the existing pedestrian concourse linking 2/50/60 Bloor St W, 37 Yorkville Ave, 2 Bloor St E, Bloor-Yonge TTC Station, Bay TTC Station, and the Manulife Centre. Improved pedestrian experience via sidewalk widening on Bloor St (8.7m) and Yonge St (9m). Improved mid-block crossing opportunities through proposed new signalized intersection at Bloor St/Balmuto St
Multiple	TDM Strategies, including: Car sharing; Bike parking on site; Discounts for bike sharing stations within 50m of site; Community based social marketing of travel planning programs; and, Provision of business amenities on site etc.

Review of loading space requirements considered design vehicles such as City of Toronto standard garbage trucks, TAC heavy single unit and TAC single unit trucks. Access for vehicular traffic, including servicing vehicles were typically provided via entrances from side streets rather than along the main streets. However, several developments provide street-level pedestrian access along the main streets, including Yonge St.

Appendices

A Turning Restrictions

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Intersection	Intersection Type	Turn Direction	Turning Restrictions	Direction	Limitations
Yonge St and Dundas St	Signalized	Left	No Turn	Eastbound	
Yonge St and Dundas St	Signalized	Right	No Turn	Eastbound	
Yonge St and Dundas St	Signalized	Left	No Turn	Westbound	
Yonge St and Dundas St	Signalized	Right	No Turn	Westbound	
Yonge St and Dundas St	Signalized	Left	No Turn	Northbound	
Yonge St and Dundas St	Signalized	Right	No Turn	Northbound	
Yonge St and Dundas St	Signalized	Left	No Turn	Southbound	
Yonge St and Dundas St	Signalized	Right	No Turn	Southbound	
Yonge St and Gerrard St	Signalized	Left	Turn Allowed	Eastbound	7:00 a.m. to 7:00 p.m. Monday to Saturday
Yonge St and Gerrard St	Signalized	Left	No Turn	Westbound	
Yonge St and Gerrard St	Signalized	Left	No Turn	Northbound	
Yonge St and College St	Signalized	Left	Turn Allowed	Eastbound	7:30 a.m. to 6:30 p.m. except Sunday
Yonge St and College St	Signalized	Left	Turn Allowed	Westbound	7:30 a.m. to 6:30 p.m. except Sunday
Yonge St and College St	Signalized	Left	Turn Allowed	Northbound	7:30 a.m. to 6:30 p.m. except Sunday
Yonge St and College St	Signalized	Left	Turn Allowed	Southbound	7:30 a.m. to 6:30 p.m. except Sunday
Yonge St and Queen St	Signalized	Left	No Turn	Eastbound	
Yonge St and Queen St	Signalized	Right	No Turn	Eastbound	
Yonge St and Queen St	Signalized	Left	No Turn	Westbound	
Yonge St and Queen St	Signalized	Right	No Turn	Westbound	
Yonge St and Queen St	Signalized	Left	No Turn	Northbound	
Yonge St and Queen St	Signalized	Right	No Turn	Northbound	
Yonge St and Queen St	Signalized	Left	No Turn	Southbound	
Yonge St and Queen St	Signalized	Right	No Turn	Southbound	

Intersection	Intersection Type	Turn Direction	Turning Restrictions	Direction	Limitations
Yonge St and Richmond St	Signalized	Left	No Turn	Northbound	
Yonge St and Richmond St	Signalized	Right	No Turn	Southbound	
Yonge St and King St	Signalized	Left	Turn Allowed	Northbound	7:00 a.m. to 7:00 p.m. Mon. to Fri. and 7:30 a.m. to 6:30 p.m. Sat., except public holidays
Yonge St and King St	Signalized	Left	Turn Allowed	Southbound	7:00 a.m. to 7:00 p.m. Mon. to Fri. and 7:30 a.m. to 6:30 p.m. Sat., except public holidays
Yonge St and King St	Signalized	Left	Turn Allowed	Eastbound	7:00 a.m. to 7:00 p.m. Mon. to Fri. and 7:30 a.m. to 6:30 p.m. Sat., except public holidays
Yonge St and King St	Signalized	Left	Turn Allowed	Westbound	7:00 a.m. to 7:00 p.m. Mon. to Fri. and 7:30 a.m. to 6:30 p.m. Sat., except public holidays
Yonge St and Wellesley St	Signalized	Left	Turn Allowed	Southbound	7:30 a.m. to 9:30 a.m. and 3:30 p.m. to 6:30 p.m. except Saturday, Sunday and public Holiday (except buses)
Yonge St and Wellesley St	Signalized	Left	Turn Allowed	Northbound	7:30 a.m. to 9:30 a.m. and 3:30 p.m. to 6:30 p.m. except Saturday, Sunday and public Holiday (except buses)
Yonge St and Bloor St	Signalized	Right	Turn Allowed	Northbound	7:30 a.m. to 9:30 a.m. and 3:30 p.m. to 6:30 p.m. Monday to Friday except public Holiday, and 12 noon to 2:00 p.m. Saturday only
Yonge St and Bloor St	Signalized	Left	No Turn	Northbound	
Yonge St and Bloor St	Signalized	Right	Turn Allowed	Southbound	7:30 a.m. to 9:30 a.m. and 3:30 p.m. to 6:30 p.m. Monday to Friday except public Holiday, and 12 noon to 2:00 p.m. Saturday only
Yonge St and Bloor St	Signalized	Left	No Turn	Southbound	
Yonge St and Bloor St	Signalized	Right	Turn Allowed	Westbound	7:30 a.m. to 9:30 a.m. and 3:30 p.m. to 6:30 p.m. Monday to Friday except public Holiday, and 12 noon to 2:00 p.m. Saturday only
Yonge St and Bloor St	Signalized	Left	No Turn	Westbound	

Intersection	Intersection Type	Turn Direction	Turning Restrictions	Direction	Limitations
Yonge St and Bloor St	Signalized	Right	Turn Allowed	Eastbound	7:30 a.m. to 9:30 a.m. and 3:30 p.m. to 6:30 p.m. Monday to Friday except public Holiday, and 12 noon to 2:00 p.m. Saturday only
Yonge St and Bloor St	Signalized	Left	No Turn	Eastbound	
Yonge St and Davenport Rd/Church St		Left	No Turn	Northbound	
Bloor St and Bay St		Right	Turn Allowed	Northbound	7:00 a.m. to 7:00 p.m. Monday to Friday except public Holiday (bicycles excepted) No Turn on Red
Bloor St and Bay St		Right	Turn Allowed	Southbound	No Turn on Red
Bloor St and Bay St		Right	Turn Allowed	Eastbound	No Turn on Red
Bloor St and Bay St		Right	Turn Allowed	Westbound	No Turn on Red
Bloor St and Bellair St		Left	No Turn	Southbound	
Bloor St and University Ave/Queens Park		Left	No Turn	Northbound	
Bloor St and University Ave/Queens Park		Left	Turn Allowed	Southbound	7:30 a.m. to 6:30 p.m. Monday to Friday except public Holiday
Bloor St and University Ave/Queens Park		Right	Turn Allowed	Westbound	No Turn on Red
Bloor St and St Pauls Sq	Non-Signalized	Right	Turn Allowed	Westbound	7:00 p.m. to 7:00 a.m. Monday to Friday and anytime Saturday and Sunday (bicycles excepted)
College St and Queens Park	Signalized	Left	Turn Allowed	Westbound	7:30 a.m. to 6:30 p.m. except Saturday, Sunday and public Holiday
College St and Queens Park	Signalized	Left	No Turn	Northbound	
College St and Queens Park	Signalized	Left	Turn Allowed	Eastbound	7:30 a.m. to 6:30 p.m. except Saturday, Sunday and public Holiday
College St and Queens Park	Signalized	Left	No Turn	Southbound	
College St and La Plante Ave	Non-Signalized	Left	Turn Allowed	Westbound	7:30 a.m. to 9:30 a.m. and 3:30 p.m. to 6:30 p.m. except Sunday

Intersection	Intersection Type	Turn Direction	Turning Restrictions	Direction	Limitations
College St and Bay St	Signalized	Left	Turn Allowed	Northbound	7:00 a.m. to 7:00 p.m. except Saturday, Sunday and public Holiday (except TTC vehicles)
College St and Bay St	Signalized	Left	Turn Allowed	Southbound	7:00 a.m. to 7:00 p.m. except Saturday, Sunday and public Holiday (except TTC vehicles)
College St and Bay St	Signalized	Left	Turn Allowed	Eastbound	7:30 a.m. to 6:30 p.m. except Sunday
College St and Bay St	Signalized	Left	Turn Allowed	Westbound	7:30 a.m. to 6:30 p.m. except Sunday (except streetcars)
Carlton St and Church St	Signalized	Left	Turn Allowed	Eastbound	3:30 p.m. to 6:30 p.m. except Saturday, Sunday and public Holiday
Carlton St and Church St	Signalized	Left	Turn Allowed	Westbound	7:30 a.m. to 9:30 a.m. and 3:30 p.m. to 6:30 p.m. except Saturday, Sunday and public Holiday
Carlton St and Jarvis St	Signalized	Left	Turn Allowed	Southbound	7:30 a.m. to 6:30 p.m. except Sunday
Carlton St and Jarvis St	Signalized	Left	Turn Allowed	Northbound	7:30 a.m. to 6:30 p.m. except Sunday
Carlton St and Jarvis St	Signalized	Left	Turn Allowed	Westbound	7:30 a.m. to 6:30 p.m. except Sunday
Gerrard St and Bay St	Signalized	Left	Turn Allowed	Eastbound	7:00 a.m. to 7:00 p.m. Monday to Saturday
Gerrard St and Bay St	Signalized	Left	Turn Allowed	Northbound	7:00 a.m. to 7:00 p.m. except Saturday, Sunday and public Holiday
Gerrard St and Bay St	Signalized	Left	Turn Allowed	Southbound	7:00 a.m. to 7:00 p.m. except Saturday, Sunday and public Holiday
Gerrard St and Jarvis St	Signalized	Left	Turn Allowed	Eastbound	7:30 a.m. to 9:30 a.m. and 3:30 p.m. to 6:30 p.m. except Saturday, Sunday and public Holiday
Gerrard St and Jarvis St	Signalized	Left	Turn Allowed	Westbound	7:30 a.m. to 9:30 a.m. and 3:30 p.m. to 6:30 p.m. except Saturday, Sunday and public Holiday
Dundas St and Bay St	Signalized	Left	No Turn	Eastbound	
Dundas St and Bay St	Signalized	Left	Turn Allowed	Southbound	7:00 a.m. to 7:00 p.m. except Saturday, Sunday and public Holiday (except TTC vehicles)
Dundas St and Bay St	Signalized	Left	No Turn	Westbound	
Dundas St and Victoria St	Signalized	Left	No Turn	Westbound	

Intersection	Intersection Type	Turn Direction	Turning Restrictions	Direction	Limitations
Queen St and York St	Signalized	Left	Turn Allowed	Westbound	7:00 a.m. to 7:00 p.m. Mon. to Fri. and 7:30 a.m. to 6:30 p.m. Sat., except public holidays
Queen St and Bay St (East Leg)	Signalized	Left	Turn Allowed	Eastbound	7:00 a.m. to 7:00 p.m. Mon. to Fri. and 7:30 a.m. to 6:30 p.m. Sat., except public holidays (buses and streetcars excepted)
Queen St and Bay St (East Leg)	Signalized	Left	Turn Allowed	Northbound	7:00 a.m. to 7:00 p.m. except Saturday, Sunday and public Holiday
Queen St and Bay St (East Leg)	Signalized	Left	Turn Allowed	Southbound	7:00 a.m. to 7:00 p.m. except Saturday, Sunday and public Holiday
Queen St and Bay St (East Leg)	Signalized	Left	Turn Allowed	Westbound	7:00 a.m. to 7:00 p.m. Mon. to Fri. and 7:30 a.m. to 6:30 p.m. Sat., except public holidays (buses and streetcars excepted)
Queen St and Victoria St	Signalized	Left	Turn Allowed	Eastbound	7:00 a.m. to 7:00 p.m. and Mon. to Fri., 7:30 a.m. to 6:30 p.m. Sat., except public holidays
Queen St and Victoria St	Signalized	Left	Turn Allowed	Westbound	7:00 a.m. to 7:00 p.m. Mon. to Fri. (streetcars excepted), and 7:30 a.m. to 6:30 p.m. Sat. (streetcars excepted), except public holidays
Richmond St and Bay St	Signalized	Left	Turn Allowed	Northbound	7:00 a.m. to 7:00 p.m. except Saturday, Sunday and public Holiday
Richmond St and Bay St	Signalized	Right	Turn Allowed	Southbound	7:30 a.m. to 6:30 p.m. except public holidays (buses and bicycles excepted)

Intersection	Intersection Type	Turn Direction	Turning Restrictions	Direction	Limitations
Richmond St and Bay St	Signalized	Left	Turn Allowed	Westbound	7:30 a.m. to 6:30 p.m. except Saturday, Sunday and public Holiday
Adelaide St and Bay St	Signalized	Left	Turn Allowed	Southbound	7:00 a.m. to 7:00 p.m. except Saturday, Sunday and public Holiday
King St and York St	Signalized	Left	Turn Allowed	Eastbound	7:00 a.m. to 10:00 a.m. and 3:00 p.m. to 7:00 p.m. Mon. to Fri., except public holidays
King St and Bay St	Signalized	Left	No Turn	Northbound	
King St and Bay St	Signalized	Left	No Turn	Southbound	Bus Excepted
King St and Bay St	Signalized	Right	Turn Allowed	Southbound	7:00 a.m. to 7:00 p.m. Mon. to Fri. except public holidays (bicycles excepted)
King St and Bay St	Signalized	Right	Turn Allowed	Northbound	7:00 a.m. to 7:00 p.m. Mon. to Fri. except public holidays (bicycles excepted)
King St and Bay St	Signalized	Left	No Turn	Eastbound	
King St and Bay St	Signalized	Left	No Turn	Westbound	
King St and Bay St	Signalized	Right	Turn Allowed	Eastbound	3:00 p.m. to 7:00 p.m. Mon. to Fri. except public holidays (bicycles excepted)
King St and Jordan St	Non-Signalized	Left	No Turn	Northbound	
King St and Jordan St	Non-Signalized	Left	Turn Allowed	Westbound	7:00 a.m. to 10:00 a.m. and 3:00 p.m. to 7:00 p.m. Mon. to Fri., except public holidays
King St and Victoria St	Non-Signalized	Left	Turn Allowed	Eastbound	7:00 a.m. to 10:00 a.m. and 3:00 p.m. to 7:00 p.m. Mon. to Fri.,

Intersection	Intersection Type	Turn Direction	Turning Restrictions	Direction	Limitations
					except public holidays
King St and Toronto St	Non-Signalized	Left	Turn Allowed	Eastbound	7:00 a.m. to 10:00 a.m. and 3:00 p.m. to 7:00 p.m. Mon. to Fri., except public holidays
King St and Leader Ln	Non-Signalized	Left	Turn Allowed	Westbound	7:00 a.m. to 10:00 a.m. and 3:00 p.m. to 7:00 p.m. Mon. to Fri., except public holidays
King St and Church St	Signalized	Left	Turn Allowed	Westbound	7:00 a.m. to 10:00 a.m. and 3:00 p.m. to 7:00 p.m. Mon. to Fri., except public holidays (T.T.C. vehicles excepted)
King St and Church St	Signalized	Left	Turn Allowed	Northbound	7:00 a.m. to 10:00 a.m. and 3:00 p.m. to 7:00 p.m. Mon. to Fri. except public holidays (T.T.C. vehicles excepted)
King St and Church St	Signalized	Left	Turn Allowed	Eastbound	7:00 a.m. to 10:00 a.m. and 3:00 p.m. to 7:00 p.m., Mon. to Fri., except public Holiday (TTC vehicles excepted)
Bay St and Edward St	Non-Signalized	Left	Turn Allowed	Northbound	7:00 a.m. to 7:00 p.m. except Saturday, Sunday and public Holiday (TTC vehicles excepted)
Bay St and Edward St	Non-Signalized	Left	Turn Allowed	Southbound	7:00 a.m. to 7:00 p.m. except Saturday, Sunday and public Holiday

Intersection	Intersection Type	Turn Direction	Turning Restrictions	Direction	Limitations
Bay St and Elm St	Signalized	Left	Turn Allowed	Northbound	7:00 a.m. to 7:00 p.m. except Saturday, Sunday and public Holiday
Bay St and Elm St	Signalized	Left	Turn Allowed	Southbound	7:00 a.m. to 7:00 p.m. except Saturday, Sunday and public Holiday
Bay St and Walton St	Non-Signalized	Left	Turn Allowed	Northbound	7:00 a.m. to 7:00 p.m. except Saturday, Sunday and public Holiday
Bay St and Hayer St	Non-Signalized	Left	Turn Allowed	Northbound	7:00 a.m. to 7:00 p.m. except Saturday, Sunday and public Holiday
University Ave and Elm St	Signalized	Left	Turn Allowed	Northbound	7:30 a.m. to 9:30 a.m. and 3:30 p.m. to 6:30 p.m. except Saturday, Sunday and public Holiday
University Ave and Elm St	Signalized	Left	Turn Allowed	Eastbound	7:30 a.m. to 9:30 a.m. and 3:30 p.m. to 6:30 p.m. except Saturday, Sunday and public Holiday
University Ave and Elm St	Signalized	Left	Turn Allowed	Southbound	7:30 a.m. to 9:30 a.m. and 3:30 p.m. to 6:30 p.m. except Saturday, Sunday and public Holiday (except buses)
University Ave and Elm St	Signalized	Left	Turn Allowed	Westbound	7:30 a.m. to 9:30 a.m. and 3:30 p.m. to 6:30 p.m. except Saturday, Sunday and public Holiday
University Ave and Dundas St	Signalized	Left	No Turn	Northbound	
University Ave and Dundas St	Signalized	Left	Turn Allowed	Eastbound	7:30 a.m. to 6:30 p.m. except Sunday and public Holiday
University Ave and Dundas St	Signalized	Left	No Turn	Southbound	
University Ave and Dundas St	Signalized	Left	Turn Allowed	Westbound	7:30 a.m. to 6:30 p.m. except Sunday and public Holiday
University Ave and Queen St	Signalized	Left	Turn Allowed	Eastbound	7:00 a.m. to 7:00 p.m. Mon. to Fri. and 7:30 a.m. to 6:30 p.m. Sat., except public holidays
University Ave and Queen St	Signalized	Left	No Turn	Northbound	
University Ave and Queen St	Signalized	Left	No Turn	Southbound	
University Ave and Queen St	Signalized	Left	Turn Allowed	Westbound	7:00 a.m. to 7:00 p.m. Mon. to Fri. and 7:30 a.m. to 6:30 p.m. Sat.,

Intersection	Intersection Type	Turn Direction	Turning Restrictions	Direction	Limitations
					except public holidays
University Ave and King St	Signalized	Left	Turn Allowed	Eastbound	7:00 a.m. to 10:00 a.m. and 3:00 p.m. to 7:00 p.m. Mon. to Fri., except public holidays
University Ave and King St	Signalized	Left	Turn Allowed	Westbound	7:00 a.m. to 10:00 a.m. and 3:00 p.m. to 7:00 p.m. Mon. to Fri., except public holidays
Jarvis St and King St	Signalized	Left	Turn Allowed	Southbound	7:00 a.m. to 7:00 p.m. Mon. to Fri. and 7:30 a.m. to 6:30 p.m. Sat., except public holidays (buses excepted)
Jarvis St and King St	Signalized	Left	Turn Allowed	Northbound	7:00 a.m. to 7:00 p.m. Mon. to Fri. and 7:30 a.m. to 6:30 p.m. Sat., except public holidays (buses excepted)
Jarvis St and Lombard St	Non-Signalized	Left	No Turn	Eastbound	
Jarvis St and Queen St E	Signalized	Left	Turn Allowed	Southbound	7:00 a.m. to 7:00 p.m. Mon. to Fri. and 7:30 a.m. to 6:30 p.m. Sat., except public holidays

Intersection	Intersection Type	Turn Direction	Turning Restrictions	Direction	Limitations
Jarvis St and Queen St E	Signalized	Left	Turn Allowed	Eastbound	7:00 a.m. to 10:00 a.m., and 3:00 p.m. to 7:00 p.m., Mon. to Fri. and 7:30 a.m. to 6:30 p.m. Sat., except public holidays
Jarvis St and Queen St E	Signalized	Left	Turn Allowed	Westbound	7:00 a.m. to 10:00 a.m., and 3:00 p.m. to 7:00 p.m., Mon. to Fri. and 7:30 a.m. to 6:30 p.m. Sat., except public holidays
Jarvis St and Queen St E	Signalized	Left	Turn Allowed	Northbound	7:00 a.m. to 7:00 p.m. Mon. to Fri. and 7:30 a.m. to 6:30 p.m. Sat., except public holidays
Jarvis St and Dundas St	Signalized	Left	Turn Allowed	Southbound	7:30 a.m. to 6:30 p.m. except Sunday
Jarvis St and Dundas St	Signalized	Left	Turn Allowed	Northbound	7:30 a.m. to 6:30 p.m. except Sunday
Queens Park and Charles St	Non-Signalized	Left	Turn Allowed	Westbound	3:30 p.m. to 6:30 p.m. Monday to Friday
Avenue Rd and Prince Arthur Ave	Non-Signalized	Left	Turn Allowed	Eastbound	7:30 a.m. to 6:30 p.m. (except buses)
Avenue Rd and Elgin Ave	Non-Signalized	Left	Turn Allowed	Northbound	7:30 a.m. to 6:30 p.m. except Saturday, Sunday and public Holiday
Avenue Rd and Webster Ave	Non-Signalized	Left	Turn Allowed	Westbound	3:30 p.m. to 6:30 p.m. except Saturday, Sunday and public Holiday
Avenue Rd and Davenport Rd	Signalized	Left	Turn Allowed	Northbound	7:30 a.m. to 6:30 p.m. Monday to Saturday
Avenue Rd and Davenport Rd	Signalized	Left	Turn Allowed	Eastbound	7:30 a.m. to 6:30 p.m. Monday to Saturday (T.T.C. buses excepted)
Avenue Rd and Davenport Rd	Signalized	Left	Turn Allowed	Westbound	7:30 a.m. to 6:30 p.m. Monday to Saturday

Intersection	Intersection Type	Turn Direction	Turning Restrictions	Direction	Limitations
Davenport Rd and Hazelton Ave	Non-Signalized	Left	Turn Allowed	Northbound	7:30 a.m. to 9:30 a.m. and 3:30 p.m. to 6:30 p.m. Mon. to Fri.
Davenport Rd and Belmont St	Signalized	Left	Turn Allowed	Southbound	10:00 p.m. of one day to 7:00 a.m. of the next following day
Church St and Collier St	Non-Signalized	Straight	No Turn	Southbound	
Church St and Collier St	Non-Signalized	Left	No Turn	Southbound	
Church St and Collier St	Non-Signalized	Left	No Turn	Northbound	
Church St and Collier St	Non-Signalized	Straight	No Turn	Northbound	
Church St and Asquith Ave	Non-Signalized	Left	No Turn	Eastbound	
Bay St and Cumberland St	Signalized	Left	No Turn	Eastbound	
Bay St and Cumberland St	Signalized	Straight	No Turn	Eastbound	
Church St and Maitland St	Signalized	Right	Turn Allowed	Northbound	10:00 p.m. of one day to 5:00 a.m. of the next following day (bicycles excepted)
Church St and Maitland St	Signalized	Left	Turn Allowed	Southbound	10:00 p.m. of one day to 5:00 a.m. of the next following day (bicycles excepted)
Church St and Wellesley St	Signalized	Left	Turn Allowed	Southbound	7:30 a.m. to 9:30 a.m. and 3:30 p.m. to 6:30 p.m. except Saturday, Sunday and public Holiday
Church St and Wellesley St	Signalized	Left	Turn Allowed	Northbound	7:30 a.m. to 9:30 a.m. and 3:30 p.m. to 6:30 p.m. except Saturday, Sunday and public Holiday
Jarvis St and Maitland Pl	Signalized	Straight	No Turn	Eastbound	
Jarvis St and Maitland Pl	Signalized	Right	No Turn	Northbound	
Jarvis St and Maitland Pl	Signalized	Left	No Turn	Southbound	
Jarvis St and Wellesley St	Signalized	Left	Turn Allowed	Southbound	7:30 a.m. to 6:30 p.m. except Sunday
Jarvis St and Wellesley St	Signalized	Left	Turn Allowed	Northbound	7:30 a.m. to 6:30 p.m. except Sunday
Church St and Isabella St	Signalized	Left	Turn Allowed	Southbound	3:30 p.m. to 6:30 p.m. except Saturday, Sunday and public Holiday

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B Parking Restrictions

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ID No.	Street	Side	Between	Prohibited Time and/or Days
1	Adelaide St E	North	No Parking - Yonge St and Victoria St No Stopping - Yonge St and Victoria St	No Parking - 9:30 a.m. to 3:30 p.m. No Stopping - 7:00 a.m. to 10:00 a.m. and 3:00 p.m. to 7:00 p.m. Mon. to Fri., except public holidays
2	Richmond St W	South	No Parking - A point 68 metres east of Bay St and a point 55 metres further east No Stopping - A point 48 metres east of Peter St and Yonge St	No Parking - 6:30 p.m. of one day to 7:30 a.m. of the next following day, Mon. to Fri. and Anytime, Sat., Sun. and public holidays (buses excepted) No Stopping - 7:30 a.m. to 9:30 a.m. and 3:30 p.m. to 6:30 p.m., Mon. to Fri., except public holidays
3	Carlton St	South	No Parking - Yonge St and Jarvis St No Stopping - Jarvis St and Yonge St	No Parking - 7:30 a.m. to 9:30 a.m., Mon. to Fri., except public holidays No Stopping - 5:00 a.m. to 11:00 p.m. from June 29, 2015 to August 18, 2015, inclusive
4	Carlton St	North	No Parking - Yonge St and a point 151 metres west of Church St No Stopping - Jarvis St and Yonge St	No Parking - 3:30 p.m. to 6:30 p.m. Mon. to Fri. No Stopping - 5:00 a.m. to 11:00 p.m. from June 29, 2015 to August 18, 2015, inclusive
5	College St	North	No Parking - Yonge St and Bay St No Stopping - Yonge St and Bay St	No Parking - 7:30 a.m. to 9:30 a.m. and 3:00 p.m. to 7:00 p.m., Mon. to Fri., except public holidays No Stopping - 7:30 a.m. to 9:30 a.m. and 3:00 p.m. to 7:00 p.m., Mon. to Fri., except public holidays
6	Wood St	North	No Parking - A point 170.7 metres west of Church St and a point 18.3 metres further west No Stopping - A point 170.7 metres west of Church St and a point 18.3 metres further west	No Parking - 9:00 a.m. to 5:00 p.m. No Stopping - 5:00 p.m. of one day to 9:00 a.m. of the next following day

ID No.	Street	Side	Between	Prohibited Time and/or Days
7	Greenville St	South	No Standing – A point 19 m east of Dr. Emily Stowe Way and Bay St No Standing – A point Surrey Place and Dr. Emily Stowe Way	8:00 p.m. of one day to 8:00 a.m. of the next following day, Mon. to Fri.; Anytime, Sat. and Sun.
8	Wood St	North	No Parking - A point 96 metres west of Church St and a point 21.3 metres further west No Stopping - A point 96 metres west of Church St and a point 21.3 metres further west	No Parking - 9:00 a.m. to 5:00 p.m. No Stopping - 5:00 p.m. of one day to 9:00 a.m. of the next following day
9	Wood St	North	No Parking - A point 22.9 metres west of Church St and a point 18.3 metres further west No Stopping - A point 22.9 metres west of Church St and a point 18.3 metres further west	No Parking - 9:00 a.m. to 5:00 p.m. No Stopping - 5:00 p.m. of one day to 9:00 a.m. of the next following day
10	Yonge St	Both	Front St West and Queen St W	No Stopping - 7:30 a.m. to 9:30 a.m. and 3:30 p.m. to 6:30 p.m., Mon. to Fri., except public holidays No Parking - Anytime
11	King St	North	No Parking - Yonge St and Toronto St No Standing - Yonge St and Victoria St No Stopping - Yonge St and Jarvis St	No Parking - Anytime No Standing - 11:30 a.m. to 1:30 p.m., Mon. to Fri. No Stopping - 7:00 a.m. to 10:00 a.m., and 3:00 p.m. to 7:00 p.m., Mon. to Fri., except public holidays
12	King St	South	No Parking - Yonge St and Leader Lane No Standing - Yonge St and Victoria St No Stopping - Yonge St and Jarvis St	No Parking - Anytime No Standing - 11:30 a.m. to 1:30 p.m., Mon. to Fri. No Stopping - 7:00 a.m. to 10:00 a.m., and 3:00 p.m. to 7:00 p.m., Mon. to Fri., except public holidays

ID No.	Street	Side	Between	Prohibited Time and/or Days
13	King St	North	No Parking - Yonge St and a point 48.8 metres west No Stopping - Spadina Ave and Yonge St	No Parking - Anytime No Stopping - 7:00 a.m. to 10:00 a.m. and 3:00 p.m. to 7:00 p.m., Mon. to Fri., except public holidays
14	King St	South	No Parking - Yonge St and Jordan St No Stopping - Bathurst St and Yonge St	No Parking - Anytime No Stopping - 7:00 a.m. to 10:00 a.m. and 3:00 p.m. to 7:00 p.m., Mon. to Fri., except public holidays
15	Yonge St	East	No Parking - Shuter St and Hayden St No Stopping - Shuter St and Hayden St	No Parking - Anytime No Stopping - 3:30 p.m. to 6:30 p.m. Mon. to Fri., except public holidays
16	Yonge St	West	No Parking - Shuter St to Gerrard St West No Stopping - Queen St W and a point 82 metres north of Gerrard St West	No Parking - Anytime No Stopping - 7:30 a.m. to 9:30 a.m., Mon. to Fri., except public holidays
17	Yonge St	West	No Parking - Shuter St to Gerrard St West No Stopping - A point 82 metres north of Gerrard St West and a point 54.4 metres south of Greenville St	No Parking - Anytime No Stopping - 7:30 a.m. to 9:30 a.m., Mon. to Fri., except public holidays
18	Yonge St	West	No Parking - Gerrard St West to a point 30.5 metres south of Bloor St West No Stopping - Grenville St and a point 67 metres south of Yorkville Ave	No Parking - Anytime No Stopping - 7:30 a.m. to 9:30 a.m., Mon. to Fri., except public holidays
19	Adelaide St E	North	No Parking - Simcoe St and Yonge St No Stopping - A point 30.5 metres east of Sheppard St and Yonge St No Standing - A point 30.5 metres east of Sheppard St and Yonge St	No Parking - Anytime No Stopping - 7:00 a.m. to 10:00 a.m., and 3:00 p.m. to 7:00 p.m., Mon. to Fri., except public holidays No Standing - 11:30 a.m. to 1:30 p.m. Monday to Friday, except Public Holidays

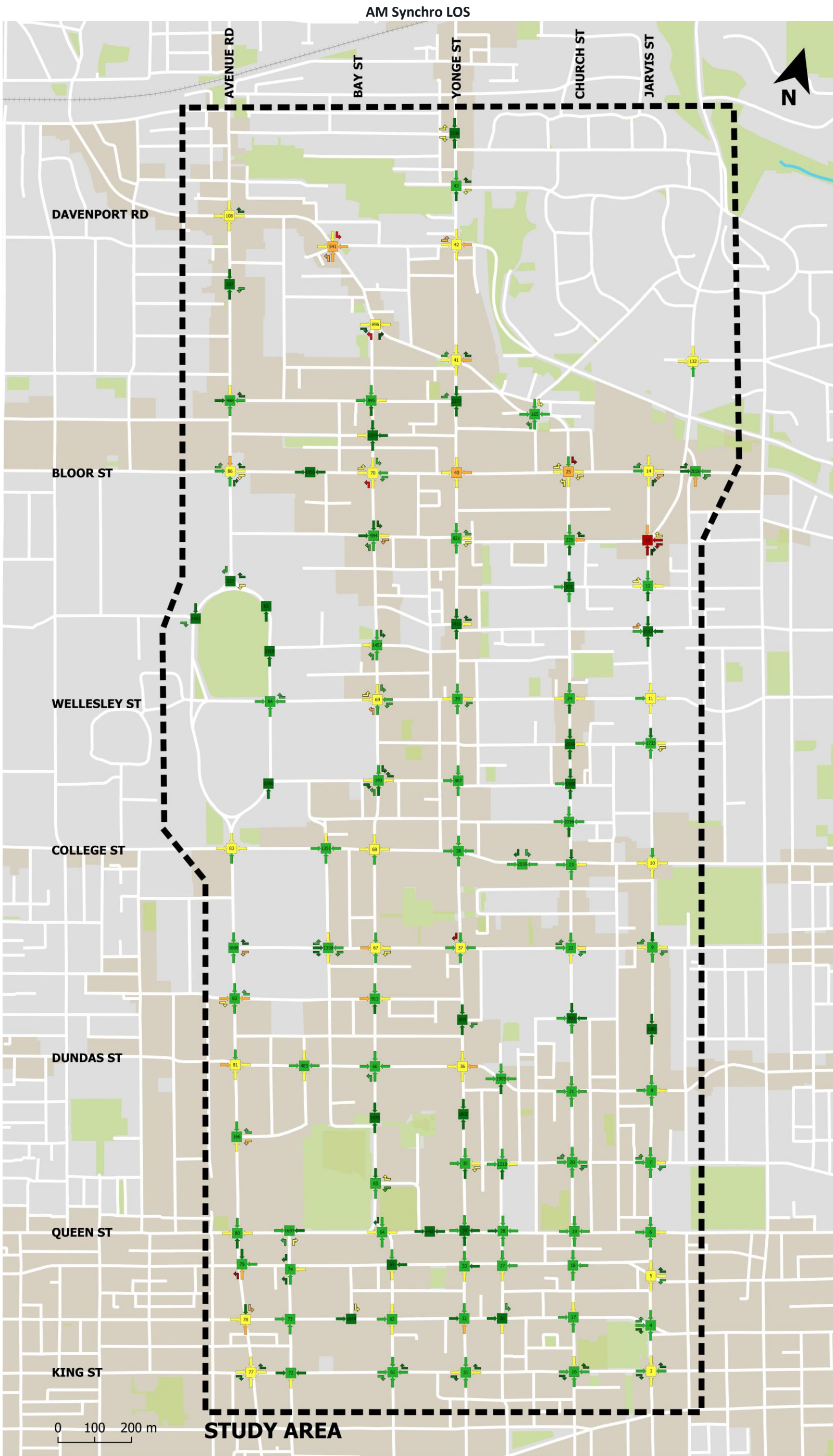
ID No.	Street	Side	Between	Prohibited Time and/or Days
20	Adelaide St E	South	No Parking - Bay St and Yonge St No Stopping - A point 118.7 metres east of Bay St and Yonge St No Standing - A point 30.5 metres east of Sheppard St and Yonge St	No Parking - Anytime No Stopping - Anytime No Standing - 11:30 a.m. to 1:30 p.m. Monday to Friday, except Public Holidays
21	Richmond St W	South	No Parking - Yonge St and Victoria St No Stopping - Yonge St and Jarvis St	No Parking - Anytime No Stopping - 7:30 a.m. to 9:30 a.m. and 3:30 p.m. to 6:30 p.m. Mon. to Fri., except public holidays
22	Richmond St W	South	No Parking - Bay St and a point 68 metres east of Bay St No Stopping - A point 48 metres east of Peter St and Yonge St	No Parking - Anytime No Stopping - 7:30 a.m. to 9:30 a.m. and 3:30 p.m. to 6:30 p.m. Mon. to Fri., except public holidays
23	Richmond St W	South	No Parking - A point 123 metres east of Bay St and Yonge St No Stopping - A point 48 metres east of Peter St and Yonge St	No Parking - Anytime No Stopping - 7:30 a.m. to 9:30 a.m. and 3:30 p.m. to 6:30 p.m., Mon. to Fri., except public holidays
24	Queen St W	North	No Stopping - Bay St and Yonge St No Standing - Bay St and Yonge St	No Stopping - 7:00 a.m. to 10:00 a.m., and 3:00 p.m. to 7:00 p.m., Mon. to Fri., except public holidays No Standing - Anytime
25	Queen St W	South	No Stopping - A point 17.8 metres west of Simcoe St and Yonge St No Standing - Bay St and Yonge St	No Stopping - 7:00 a.m. to 10:00 a.m., and 3:00 p.m. to 7:00 p.m., Mon. to Fri., except public holidays No Standing - Anytime

ID No.	Street	Side	Between	Prohibited Time and/or Days
26	Queen St E	North	No Stopping - Yonge St and Jarvis St No Standing - Victoria St and Yonge St	No Stopping - 7:00 a.m. to 10:00 a.m., and 3:00 p.m. to 7:00 p.m., Mon. to Fri., except public holidays No Standing - 11:30 a.m. to 1:30 p.m., Mon. to Fri.
27	Queen St E	South	No Parking - Yonge St and Church St No Stopping - Yonge St and Jarvis St No Standing - Victoria St and Yonge St	No Parking - Anytime No Stopping - 7:00 a.m. to 10:00 a.m., and 3:00 p.m. to 7:00 p.m., Mon. to Fri., except public holidays No Standing - 11:30 a.m. to 1:30 p.m., Mon. to Fri.
28	Shuter St	North	No Parking - Yonge St and Victoria St No Stopping - Yonge St and Victoria St No Standing - Yonge St and O'Keefe Lane	No Parking - Anytime No Stopping - Anytime No Standing - 9:30 a.m. to 6:30 p.m., Mon. to Sat.
29	Dundas St W	North	No Stopping - Bay St and Yonge St No Standing - Bay St and Yonge St	No Stopping - 7:30 a.m. to 7:30 p.m., Mon. to Fri., except public holidays No Standing - Anytime
30	Dundas St W	South	No Stopping - Bay St and Yonge St No Standing - Bay St and Yonge St	No Stopping - 7:30 a.m. to 7:30 p.m., Mon. to Fri., except public holidays No Standing - Anytime
31	College St	South	No Stopping - Bay St and Yonge St No Parking - A point 60.9 metres west of Yonge St and a point 14 metres further west	No Stopping - 7:30 a.m. to 9:30 a.m. and 3:00 p.m. to 7:00 p.m., Mon. to Fri., except public holidays No Parking - Anytime

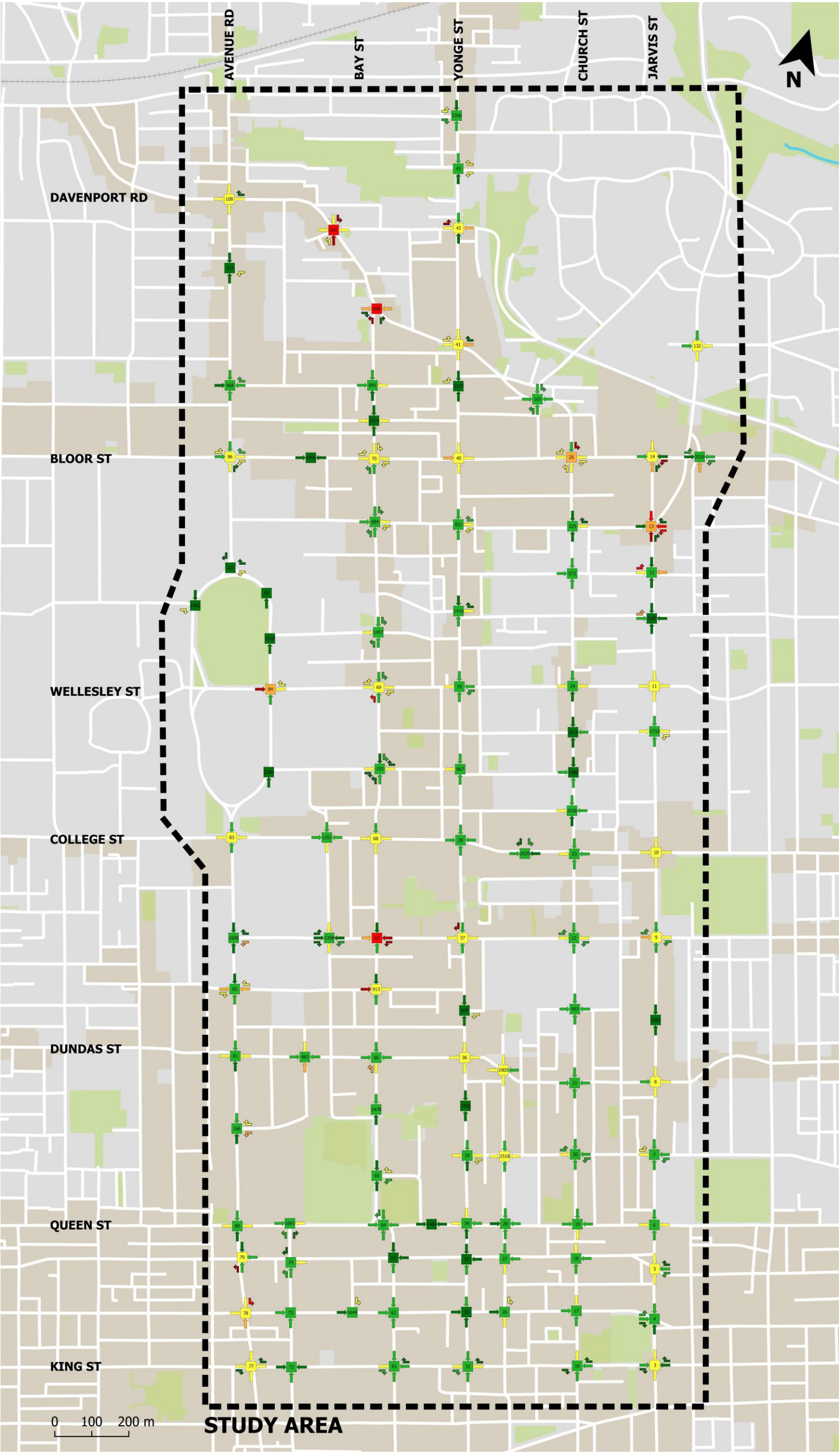
C Synchro Outputs

C1 Synchro LOS Diagrams

DRAFT



PM Synchro LOS



C2 Synchro Output Tables

AM Synchro Output

Int No.	Intersection	Intersection LOS	Intersection v/c Ratio	Critical Movement				
				Movement	LOS	V/C	50% Queue (m)	95% Queue (m)
3	JARVIS ST & KING ST E	C	0.71	EBT	B	0.05	2.8	11
				EBR	A	0.04	0	2.8
				WBT	B	0.22	12	18.9
				WBR	A	0.19	4.1	12.4
				NBT	C	0.69	49.1	60.5
				SBT	C	0.71	36.4	36.8
4	JARVIS ST & ADELAIDE ST E	B	0.57	EBL	B	0.24	4.9	m9.1
				EBT	B	0.55	18.1	23
				EBR	A	0.16	0	m0.5
				NBT	B	0.57	11.9	28.3
				SBT	B	0.49	28	39.1
5	JARVIS ST & RICHMOND ST E	C	0.86	WBL	B	0.41	29.7	49.6
				WBT	C	0.86	98.3	#129.1
				WBR	A	0.08	0	0
				NBT	C	0.67	38.8	53.7
				SBT	C	0.54	35.6	51
6	JARVIS ST & QUEEN ST E	B	0.53	EBT	B	0.27	17.3	27.1
				WBT	C	0.53	42.1	58.4
				NBT	B	0.35	27.7	39.4
				SBT	B	0.27	20.6	28
7	JARVIS ST & SHUTER ST	B	0.67	EBL	B	0.18	4.4	11.8
				EBT	B	0.27	14.6	28.6
				WBL	B	0.10	3.4	9.6
				WBT	C	0.56	40.8	66.7
				NBT	B	0.67	40.8	60.3
				SBT	B	0.49	31	41.6
8	JARVIS ST & DUNDAS ST E	B	0.66	EBT	B	0.46	24	36.8
				WBT	C	0.66	47.7	67.2
				NBT	B	0.43	34.7	48.4
				SBT	B	0.50	42	53.9
9	JARVIS ST & GERRARD ST E	B	0.83	EBL	B	0.03	0.4	2.4
				EBT	C	0.45	28.6	49.2
				WBL	B	0.02	0.4	2.3

Int No.	Intersection	Intersection LOS	Intersection v/c Ratio	Critical Movement				
				Movement	LOS	V/C	50% Queue (m)	95% Queue (m)
10	JARVIS ST & CARLTON ST	C	0.73	WBT	C	0.83	66.5	#119.5
				NBT	B	0.66	41.9	61.4
				SBT	A	0.61	8.4	9.1
				EBT	C	0.73	30.7	48.6
				WBT	C	0.63	41.3	59
				NBT	C	0.40	52.2	m68.9
11	JARVIS ST & WELLESLEY ST W	C	0.64	SBT	B	0.54	41.8	53.8
				EBT	B	0.44	33.1	54.9
				WBT	C	0.60	54	85.1
				NBT	C	0.58	59.5	78.6
				SBT	C	0.64	63.7	79.1
12	JARVIS ST & ISABELLA ST	B	0.48	EBL	C	0.33	15.9	30.9
				EBT	C	0.27	15.1	30.4
				WBT	C	0.46	20.1	40.1
				NBT	A	0.29	25.3	32.4
				SBT	B	0.48	42.2	53.1
13	JARVIS ST/TED ROGERS WAY & MT PLEASANT RD	F	1.16	WBL	F	1.16	~241.2	#285.3
				WBT	F	0.87	153.7	#212.6
				WBR	C	0.43	17.2	44
				NBT	F	0.95	138	#205.0
				NBR	A	0.45	2.9	10.3
				SBT	D	0.48	25	40.7
14	TED ROGERS WAY/JARVIS ST & BLOOR ST E	C	0.7	EBL	B	0.17	3.6	10.3
				EBT	B	0.59	59.3	78.8
				WBL	D	0.70	23.7	m34.8
				WBT	C	0.49	99.3	120.3
				NBT	C	0.50	23.8	43.6
				NBR	B	0.59	0	20.2
16	CHURCH ST & KING ST E	B	0.5	SBT	C	0.08	3.9	11
				EBT	B	0.01	0.2	1.5
				EBR	A	0.11	0.3	5
				WBT	B	0.04	0.4	2.4
				WBR	A	0.13	0.9	6
				NBT	B	0.32	18.7	29.2
17	CHURCH ST & ADELAIDE ST E	B	0.63	SBT	C	0.50	31.6	46.3
				EBT	B	0.42	34.7	44.8
				NBT	B	0.27	18.2	28
				SBT	C	0.63	45.6	64

Int No.	Intersection	Intersection LOS	Intersection v/c Ratio	Critical Movement				
				Movement	LOS	V/C	50% Queue (m)	95% Queue (m)
18	CHURCH ST & RICHMOND ST E	B	0.61	WBT	B	0.61	58.4	73
				NBT	B	0.33	22.3	33.5
				SBT	B	0.40	13.5	18.7
19	CHURCH ST & QUEEN ST E	B	0.56	EBT	B	0.40	20.8	32.4
				WBT	B	0.56	44.9	62.1
				NBT	B	0.53	14.7	20.1
				SBT	B	0.41	27.8	40.8
20	CHURCH ST & SHUTER ST	B	0.51	EBL	B	0.07	1.6	5.8
				EBT	B	0.24	11.3	23.5
				WBL	B	0.20	6.1	14.7
				WBT	B	0.51	36.8	60.5
				NBT	B	0.40	22.2	33.7
				SBT	B	0.40	22	33.6
21	CHURCH ST & DUNDAS ST E	B	0.49	EBT	B	0.37	23	34.4
				WBT	B	0.49	34.3	48.9
				NBT	B	0.38	24.5	36.3
				SBT	B	0.37	23.7	35.2
22	CHURCH ST & GERRARD ST E	B	0.75	EBL	B	0.27	3.4	11
				EBT	B	0.32	21.3	36.8
				WBL	B	0.05	1.2	4.6
				WBT	C	0.75	68.1	108.7
				NBT	C	0.45	24.4	39.7
				SBT	B	0.53	29.7	44.4
23	CHURCH ST & CARLTON ST	B	0.65	EBT	B	0.64	14.4	22.7
				WBT	C	0.65	39.4	57.3
				NBT	B	0.40	21.4	32.4
				SBT	A	0.40	13.2	18.5
24	CHURCH ST & WELLESLEY ST W	B	0.84	EBT	C	0.65	31.5	58.1
				WBT	C	0.84	55.2	#107.2
				NBT	A	0.35	6.8	10.1
				SBT	B	0.42	24.2	36
25	CHURCH ST & BLOOR ST E	D	1.72	EBL	C	0.25	3.8	11.5
				EBT	C	0.46	39.6	54.6
				WBL	C	0.45	11.7	27.4
				WBT	C	0.64	62	82.6
				NBL	C	0.27	7.4	17.9
				NBT	C	0.50	33.7	48.6
				SBL	F	1.72	~70.7	#118.6

Int No.	Intersection	Intersection LOS	Intersection v/c Ratio	Critical Movement				
				Movement	LOS	V/C	50% Queue (m)	95% Queue (m)
26	VICTORIA ST & ADELAIDE ST E	A	0.52	SBT	B	0.35	32.2	44.5
				EBT	A	0.52	11.8	14.2
				NBT	C	0.37	14.1	30.5
				SBL	B	0.29	12.3	23.1
27	VICTORIA ST & RICHMOND ST E	B	0.62	WBT	B	0.62	60.1	74.8
				NBT	C	0.54	29.7	52.7
				SBT	B	0.23	7.5	12.2
28	VICTORIA ST & QUEEN ST E	B	0.54	EBT	A	0.28	6.4	9
				WBT	B	0.54	43.6	60.2
				NBT	B	0.19	8.2	13.2
				SBT	B	0.22	12.6	20.8
31	YONGE ST & KING ST W/KING ST E	B	0.4	EBT	C	0.05	2.2	7.1
				EBR	A	0.23	4	12.1
				WBT	C	0.05	2.4	7.7
				WBR	A	0.09	0	4.6
				NBT	B	0.34	27	38.4
				SBT	B	0.40	36.2	52.1
32	YONGE ST & ADELAIDE ST W/ADELAIDE ST E	B	0.56	EBT	A	0.55	12.6	14.9
				NBT	D	0.56	54	71.2
				SBT	B	0.36	23	34.6
33	YONGE ST & RICHMOND ST W/RICHMOND ST E	B	0.58	WBT	A	0.58	13.6	15.7
				NBT	C	0.45	35.4	49.9
				SBT	B	0.30	13.7	13.6
34	YONGE ST & QUEEN ST W/QUEEN ST E	A	0.58	EBT	B	0.24	18.1	27.3
				WBT	A	0.58	15.5	19.2
				NBT	A	0.41	4.6	6.1
				SBT	B	0.24	13.6	27
35	YONGE ST & SHUTER ST	B	0.51	EBT	B	0.03	1.9	6.7
				WBL	C	0.26	10.7	22.9
				WBT	C	0.51	32.5	56.1
				NBT	A	0.36	2.5	4
				SBT	B	0.26	15.6	23.6
36	YONGE ST & DUNDAS ST W/DUNDAS ST E	C	0.75	EBT	C	0.55	39.7	55.6
				WBT	D	0.75	56.6	76.6
				NBT	C	0.42	28.9	42.3
				SBT	C	0.47	32.1	46.3
37		C	0.92	EBT	B	0.41	39.5	63.1
				WBT	B	0.65	81	123.1

Int No.	Intersection	Intersection LOS	Intersection v/c Ratio	Critical Movement				
				Movement	LOS	V/C	50% Queue (m)	95% Queue (m)
	YONGE ST & GERRARD ST W/GERRARD ST E			NBT	B	0.32	17.6	27.3
				SBT	B	0.44	36.6	52.3
				SBR	F	0.92	17.9	#46.8
38	YONGE ST & COLLEGE ST/CARLTON ST	B	0.47	EBT	B	0.32	25.8	37
				WBT	B	0.47	41.3	56.6
				NBT	B	0.21	21.9	34
				SBT	B	0.40	33.3	46.5
39	YONGE ST & WELLESLEY ST W	B	0.56	EBT	C	0.51	40.3	65.5
				WBL	B	0.17	5.3	13.2
				WBT	C	0.56	50.2	78.7
				NBT	B	0.28	19.1	29
				SBT	B	0.55	44.3	61.2
40	YONGE ST & BLOOR ST W/BLOOR ST E	D	0.79	EBT	C	0.66	61.1	80.8
				WBT	D	0.79	77.5	100.5
				NBT	C	0.31	23.2	34.7
				SBT	C	0.58	47.6	65
41	YONGE ST & DAVENPORT RD/CHURCH ST	C	0.86	EBL	B	0.27	7.9	16.5
				EBT	C	0.55	50.5	68.3
				WBT	D	0.86	48.9	#79.7
				WBR	A	0.34	0	9.8
				NBT	C	0.25	16.7	26.5
				SBT	C	0.67	50.1	66.8
42	YONGE ST/YONGE ST] & BELMONT ST/AYLMER AVE	C	0.94	EBL	D	0.53	14	32.3
				EBT	C	0.51	51.1	78.2
				WBT	D	0.94	113	#184.7
				NBT	C	0.35	31	43.8
				SBT	C	0.77	83.4	105.4
43	YONGE ST & CRESCENT RD	B	0.67	WBL	C	0.19	13.3	26.1
				WBR	A	0.27	0	14
				NBT	A	0.27	23.4	31.9
				SBT	B	0.67	74.5	97.3
61	BAY ST & KING ST W	B	0.5	EBT	B	0.24	16.1	30.7
				EBR	B	0.22	6.6	18
				WBT	B	0.17	8.6	18.1
				WBR	A	0.08	0	3.8
				NBT	B	0.49	35.9	50.7
				SBT	B	0.50	34	48.6
62		B	0.68	EBT	B	0.64	62.8	78.1

Int No.	Intersection	Intersection LOS	Intersection v/c Ratio	Critical Movement				
				Movement	LOS	V/C	50% Queue (m)	95% Queue (m)
	BAY ST & ADELAIDE ST W			NBT	C	0.68	49.7	69.4
				SBT	C	0.45	32.7	46.7
63	BAY ST & RICHMOND ST W	A	0.58	WBT	A	0.58	0.7	0.9
				NBT	C	0.56	44.3	61.3
				SBT	B	0.46	18.5	24.4
64	BAY ST & QUEEN ST W	B	0.65	EBT	C	0.46	42.6	57.7
				WBT	C	0.62	47.7	66.5
				NBT	B	0.65	17.8	22.4
				SBT	B	0.33	25.8	37.4
				SBR	A	0.15	0	7
65	BAY ST & ALBERT ST	B	0.64	WBL	B	0.12	6	14.3
				WBR	C	0.64	24.4	#52.6
				NBT	B	0.37	27.1	38.1
				SBT	A	0.29	19.1	28.1
66	BAY ST & DUNDAS ST W	B	0.52	EBT	B	0.52	31.5	46.1
				WBT	B	0.49	33.2	47.7
				NBL	B	0.40	8.6	21.8
				NBT	B	0.39	25.3	37.1
				SBT	B	0.49	33.5	47.8
67	BAY ST & GERRARD ST W	C	0.78	EBT	D	0.75	54.5	#94.4
				WBL	C	0.60	18.8	32.8
				WBT	C	0.78	78	#124.0
				NBT	B	0.55	44.4	61.8
				SBT	B	0.54	46.9	64
68	BAY ST & COLLEGE ST	C	0.67	EBT	C	0.42	32.7	46.4
				WBT	C	0.57	48.7	66.5
				NBT	B	0.45	37.5	51.7
				SBT	C	0.67	69.2	91.1
69	BAY ST & WELLESLEY ST W	C	0.72	EBL	C	0.37	7.4	m17.5
				EBT	C	0.72	31.7	#65.7
				WBL	B	0.37	10.5	20.2
				WBT	B	0.54	48.3	75.7
				NBL	D	0.60	10.4	#32.7
				NBT	B	0.48	35.5	50.5
				SBL	B	0.16	3.2	9.5
				SBT	C	0.69	57.1	78.3
70	BAY ST & BLOOR ST W	C	0.7	EBL	C	0.38	10.8	24.6
				EBT	C	0.55	46.1	63.6

Int No.	Intersection	Intersection LOS	Intersection v/c Ratio	Critical Movement				
				Movement	LOS	V/C	50% Queue (m)	95% Queue (m)
				WBL	B	0.31	8.8	16.7
				WBT	B	0.35	31.4	42.8
				NBL	E	0.67	11.8	#34.8
				NBT	C	0.36	31.5	43.7
				SBL	B	0.19	4.3	12.3
				SBT	C	0.70	61.2	81.8
72	YORK ST & KING ST W	B	0.49	EBT	A	0.13	7.5	12.6
				WBT	A	0.07	5.7	11.5
				NBT	C	0.49	28.6	37.7
73	YORK ST & ADELAIDE ST W	B	0.61	EBT	B	0.61	49.5	m55.3
				NBT	B	0.33	30.1	37.9
74	YORK ST & RICHMOND ST W	B	0.58	WBT	C	0.58	65.6	80.3
				NBL	A	0.34	8	17.7
				NBT	B	0.18	11.8	16.6
				SBR	A	0.06	0	4.8
77	UNIVERSITY AVE & KING ST W	C	0.76	EBT	C	0.11	7.5	16.4
				EBR	A	0.22	3.8	13
				WBT	C	0.07	5	12.1
				WBR	A	0.10	0	3.9
				NBT	C	0.59	53.1	67.1
				SBT	C	0.76	60.5	74.2
78	UNIVERSITY AVE & ADELAIDE ST W	C	0.97	EBT	C	0.64	64.3	79.7
				NBT	D	0.85	67.9	#89.8
				SBL	D	0.97	34.5	#136.7
				SBT	A	0.42	8.5	9.7
79	UNIVERSITY AVE & RICHMOND ST W	B	1.07	WBT	B	0.71	22.7	27.2
				NBL	F	1.07	~16.6	m#26.5
				NBT	D	0.35	67.9	80.2
				SBT	A	0.61	5.6	6.1
80	UNIVERSITY AVE & QUEEN ST W	B	0.7	EBT	C	0.43	36.4	51.1
				WBT	C	0.59	52.4	71.2
				NBT	A	0.45	16.7	18.3
				SBT	B	0.70	64.6	87.3
81	UNIVERSITY AVE & DUNDAS ST W	C	0.72	EBT	D	0.72	66.5	88.3
				WBT	C	0.58	50.7	68.7
				NBT	C	0.39	67.3	80.8
				SBT	B	0.59	71.7	83.4
82		B	0.63	EBT	D	0.54	44.4	69.8

Int No.	Intersection	Intersection LOS	Intersection v/c Ratio	Critical Movement				
				Movement	LOS	V/C	50% Queue (m)	95% Queue (m)
	UNIVERSITY AVE & ELM ST			EBR	C	0.49	18.3	38.3
				WBT	D	0.45	36.5	59.1
				WBR	B	0.11	0	7.7
				NBT	B	0.45	38.2	46.3
				SBT	B	0.63	98.7	116.3
83	UNIVERSITY AVE/QUEEN'S PARK & COLLEGE ST	C	0.68	EBT	C	0.68	67.5	89.1
				WBT	C	0.57	57.7	76.4
				NBT	B	0.36	39.5	47.7
				SBT	C	0.68	94.3	107.8
84	QUEEN'S PARK CRES E & WELLESLEY ST W	B	0.57	EBT	B	0.57	43.7	71.5
				WBT	B	0.42	38.3	63.3
				WBR	B	0.28	7.4	m23.0
				NBT	B	0.42	28.8	37.6
85	QUEEN'S PARK CRES E/QUEENS PARK CRES E	A	0.19	NBT	A	0.19	0	0
86	QUEENS PARK/AVENUE RD & BLOOR ST W	C	0.98	EBL	B	0.27	6.5	16.2
				EBT	B	0.52	51.7	68.8
				WBL	C	0.49	12.3	29.5
				WBT	C	0.62	68.3	102.2
				WBR	A	0.10	0.7	7.2
				NBT	B	0.35	30.6	43.3
				NBR	B	0.26	6.8	18.8
				SBT	D	0.98	110.5	#149.1
107	AVENUE RD	A	0.48	WBL	B	0.13	3.6	12.8
				NBT	A	0.20	22.6	29.6
				SBT	A	0.48	70.2	85.4
108	AVENUE RD & DAVENPORT RD	C	0.96	EBT	C	0.69	61	81.9
				WBT	C	0.65	60.4	80.3
				WBR	A	0.16	0	0
				NBT	C	0.47	37.1	48.7
				SBT	C	1.04d l	84	#118.8
132	MT PLEASANT RD & ELM AVE	C	0.92	EBT	C	0.51	28.5	51.3
				WBT	C	0.82	59.3	#113.5
				NBT	B	0.51	51.3	67.8
				SBT	C	0.92	127.2	#181.5
165		B	0.48	EBT	B	0.48	38	52.8

Int No.	Intersection	Intersection LOS	Intersection v/c Ratio	Critical Movement				
				Movement	LOS	V/C	50% Queue (m)	95% Queue (m)
	PARK RD & CHURCH ST			WBT	B	0.37	24.6	36
				NBL	B	0.09	3.2	9
				NBT	B	0.15	6.5	16.4
				SBL	C	0.48	27.5	48.4
				SBT	B	0.28	18.5	33.9
166	UNIVERSITY AVE & ARMOURY ST	B	0.9	WBL	D	0.38	26.6	45.6
				WBR	B	0.11	0	7.6
				NBT	C	0.45	52.5	63.4
				SBT	B	1.56d l	29.5	#37.7
193	BAY ST & GROSVENOR ST	B	0.48	EBT	C	0.37	20.8	38
				EBR	A	0.08	0	4.7
				WBT	C	0.37	19.7	36.5
				WBR	A	0.11	0	5.6
				NBL	B	0.18	3.1	8.9
				NBT	A	0.34	26	36.3
				SBL	A	0.09	1.8	5.6
				SBT	B	0.48	41.4	55.9
225	CHURCH ST & CHARLES ST E	B	0.89	WBT	D	0.89	69.4	#127.0
				WBR	A	0.24	3.2	13.5
				NBT	A	0.34	10.5	15.1
				SBT	B	0.49	29.3	43.2
227	QUEEN'S PARK CRES W & QUEENS PARK CRES E & QUEENS PARK	A	0.8	WBL	C	0.37	28.2	47.4
				WBR	A	0.37	0	8.7
				SBR	B	0.80	47	73.4
483	CHESTNUT ST/CHESTNUT ST & DUNDAS ST W	B	0.53	EBT	B	0.41	23.6	34.8
				WBT	B	0.53	27.7	42
				NBT	C	0.31	11.9	25.2
				SBT	C	0.43	20	37.7
541	DAVENPORT RD & NEW ST/BELMONT ST	D	0.89	EBT	C	0.04	1	6.1
				WBT	D	0.89	67.4	#126.3
				NBL	D	0.07	1.2	5.1
				NBT	D	0.82	81.8	#105.0
				SBL	E	0.89	47.2	#97.6
				SBT	C	0.69	100.5	124.6
572	CHURCH ST & ISABELLA ST	A	0.54	EBT	B	0.19	7.7	14.8
				NBT	B	0.29	15.3	24.3
				SBT	A	0.54	16.1	m20.0

Int No.	Intersection	Intersection LOS	Intersection v/c Ratio	Critical Movement				
				Movement	LOS	V/C	50% Queue (m)	95% Queue (m)
867	YONGE ST & GROSVENOR ST/ALEXANDER ST	B	0.55	EBT	B	0.33	12.9	26.6
				NBT	B	0.33	12.6	21.3
				SBT	B	0.55	25	39.2
895	BAY ST & YORKVILLE AVE	B	0.47	EBT	B	0.18	6.9	17.3
				WBT	C	0.47	15.8	26
				NBT	A	0.38	13	23.2
				SBT	B	0.42	28	40
896	BAY ST & DAVENPORT RD	C	0.82	EBT	C	0.70	105.5	147.4
				EBR	A	0.43	0	9.6
				WBT	C	0.49	35	50.2
				NBL	E	0.82	66.5	#112.2
				NBR	A	0.47	0	20.4
909	YONGE ST & GOULD ST	A	0.22	WBL	B	0.06	0.5	5.7
				NBT	A	0.18	12	17.8
				SBT	A	0.22	15.6	22.5
913	BAY ST & ELM ST	B	0.64	EBT	D	0.64	31.9	57
				WBT	C	0.43	24.6	43.9
				NBT	A	0.35	25.7	36
				SBT	B	0.51	40.3	55.3
921	YONGE ST & CHARLES ST W/CHARLES ST E	B	0.6	WBL	C	0.44	23.1	42.1
				WBT	C	0.60	55.4	84.9
				WBR	B	0.35	9	24.1
				NBT	B	0.28	21.2	30.8
				SBT	B	0.34	29.4	41.2
968	AVENUE RD & PRIVATE ACCESS/YORKVILLE AVE	B	0.72	EBT	A	0.02	0	0
				WBT	B	0.33	19.9	35.9
				WBR	A	0.10	0	7.1
				NBT	B	0.27	23.5	31.6
				SBT	C	0.72	82.4	100
984	BAY ST & CHARLES ST W	B	0.8	EBT	A	0.05	0	2.3
				WBL	D	0.80	34.3	#73.0
				WBT	C	0.49	29.8	52.4
				NBL	B	0.20	3.8	10.3
				NBT	B	0.30	21.5	31.1
				SBL	A	0.18	3.1	m5.5
				SBT	A	0.45	61.6	77.4
993	CHURCH ST & GOULD ST	A	0.28	EBT	B	0.21	4.4	13.6
				WBT	A	0.22	1.9	11.1

Int No.	Intersection	Intersection LOS	Intersection v/c Ratio	Critical Movement				
				Movement	LOS	V/C	50% Queue (m)	95% Queue (m)
1351	ELIZABETH ST & COLLEGE ST	B	0.71	NBT	B	0.26	16.3	24.5
				SBT	A	0.28	5.5	7.4
				EBT	B	0.71	35.5	56
				WBT	B	0.55	31.7	47
1358	ELIZABETH ST & GERRARD ST W	B	0.58	NBT	B	0.33	14.5	28.2
				SBT	C	0.42	22.4	40.6
				EBL	B	0.16	3.7	10.1
				EBT	A	0.18	12.7	23.6
1416	YONGE ST & IRWIN AVE	A	0.33	EBR	A	0.19	2.7	10
				WBL	B	0.27	8.3	18.9
				WBT	B	0.43	24.7	45.3
				NBT	C	0.58	21.7	43.8
1457	BAY ST & ST JOSEPH ST	B	0.52	SBT	C	0.57	26.4	m44.2
				WBT	C	0.08	4.6	11.8
				WBR	A	0.02	0	0
				NBT	A	0.24	16.6	24.4
1460	QUEEN ST W	A	0.23	SBT	A	0.33	28	38.3
				EBT	C	0.18	13.2	27
				NBL	B	0.27	4.5	12.6
				NBT	B	0.33	23.5	33.6
1478	BAY ST	A	0.21	SBL	A	0.11	2.6	7.2
				SBT	B	0.52	43.7	59.3
				EBT	A	0.11	0	0
				WBT	A	0.23	0	0
1480	CHURCH ST & ALEXANDER ST	A	0.33	NBT	A	0.21	0	0
				SBT	A	0.19	0	0
				EBT	B	0.23	6.6	13.8
				NBT	A	0.27	16.9	25.5
1482	QUEEN'S PARK CRES W & HOSKIN AVE	A	0.82	SBT	A	0.33	10.4	18.2
				EBR	B	0.82	7.7	36.8
				SBT	A	0.58	34.6	70.9
				EBT	B	0.32	14.7	29.3
1518	VICTORIA ST & SHUTER ST	B	0.79	WBT	C	0.79	53.2	#104.5
				NBT	A	0.20	6	12.5
				SBT	B	0.17	6.5	12.5
				WBL	D	0.52	41.5	66.2
1608	UNIVERSITY AVE & GERRARD ST W	B	0.7	WBR	A	0.20	0	12.6
				WBL	D	0.52	41.5	66.2

Int No.	Intersection	Intersection LOS	Intersection v/c Ratio	Critical Movement				
				Movement	LOS	V/C	50% Queue (m)	95% Queue (m)
				NBT	B	0.37	27.3	32.4
				SBT	B	0.70	63.1	72
164 4	ADELAIDE ST W & SHEPPARD ST	A	0.35	EBT	A	0.35	29.3	36.9
				SBL	C	0.25	12.8	25.8
169 1	YORK ST & QUEEN ST W	B	0.42	EBT	B	0.29	20.3	30.3
				WBT	A	0.42	7.1	10.4
				NBL	B	0.14	8.4	17.5
				NBR	C	0.38	25.7	44.6
173 3	JARVIS ST & MAITLAND ST/MAITLAND PL	B	0.67	EBT	B	0.22	2.8	12.5
				WBL	C	0.21	7.7	17.9
				WBT	C	0.57	42.2	68.1
				NBT	B	0.67	47.3	68.4
				SBT	A	0.42	37.1	46.6
180 2	YONGE ST	A	0.12	NBT	A	0.12	0	0
				SBT	A	0.11	0	0
190 5	VICTORIA ST & DUNDAS ST E	B	0.4	EBT	B	0.39	21.5	33.3
				WBT	B	0.40	27.9	40.4
				NBT	A	0.16	4.3	10.1
				SBT	B	0.03	0.9	3.4
195 5	BLOOR ST W	A	0.21	EBT	A	0.21	0	0
				WBT	A	0.19	0	0
201 6	CHURCH ST & MAITLAND ST	A	0.57	WBT	C	0.57	33.3	57.6
				NBT	A	0.34	5.3	8
				SBT	A	0.33	8.4	m10.5
202 6	BLOOR ST E	B	0.65	EBL	A	0.35	0.9	m7.8
				EBT	A	0.39	5.2	100.5
				WBL	B	0.22	5.2	15.5
				WBT	B	0.65	84.1	132.9
				NBT	D	0.49	13.1	26.8
203 5	CARLTON ST & LOBLAWS PARKING	B	0.64	EBT	B	0.30	19.5	28.5
				WBT	B	0.64	17.9	22.7
				SBL	B	0.02	0.9	3.8
				SBR	A	0.02	0	3.1
203 6	CHURCH ST & WOOD ST	B	0.45	EBT	B	0.26	8.4	20.5
				WBT	B	0.19	6	16.4
				NBT	A	0.45	16.9	23.5
				SBT	B	0.41	26.1	37.9
	JARVIS ST	A	0.24	NBT	A	0.24	0	0

Int No.	Intersection	Intersection LOS	Intersection v/c Ratio	Critical Movement				
				Movement	LOS	V/C	50% Queue (m)	95% Queue (m)
2085				SBT	A	0.24	0	0
2187	JARVIS ST & EARL PL	A	0.29	EBL	D	0.08	1.8	6.8
				EBT	B	0.17	0.2	7.7
				WBT	A	0.06	0	0
				NBT	A	0.27	16.7	23.6
				SBT	A	0.29	17.7	23.5
2280	QUEEN'S PARK CRES E	A	0.15	NBT	A	0.15	0	0
2306	ROXBOROUGH ST W & YONGE ST	A	0.53	EBL	C	0.07	4.4	11.8
				EBR	C	0.41	15.8	33.9
				NBT	A	0.38	26.1	35.9
				SBT	A	0.53	55.8	71.2
2318	QUEEN'S PARK CRES E	A	0.15	NBT	A	0.15	0	0
2374	BAY ST & CUMBERLAND ST	A	0.36	EBT	C	0.36	13.8	23.9
				WBT	A	0.07	0	3.5
				NBT	A	0.29	4.5	9
				SBT	A	0.29	11.9	15.7
2377	YONGE ST & YORKVILLE AVE	A	0.33	EBL	B	0.27	6.9	16
				NBT	A	0.15	8.8	13.7
				SBT	A	0.33	22.8	32.1

PM Synchro Output

Int No.	Intersection	Intersection LOS	Intersection v/c Ratio	Critical Movement				
				Movement	LOS	V/C	50% Queue (m)	95% Queue (m)
3	JARVIS ST & KING ST E	C	0.68	EBT	B	0.09	5.7	15.1
				EBR	A	0.12	1.5	7.2
				WBT	A	0.18	6.5	15.7
				WBR	A	0.14	1.7	7.4
				NBT	C	0.65	44.4	55.7
				SBT	C	0.68	33.5	39.2
4	JARVIS ST & ADELAIDE ST E	B	0.83	EBL	B	0.48	10.6	17.2
				EBT	B	0.83	30	52
				EBR	A	0.23	0.1	m0.9
				NBT	A	0.50	3.2	6.9
				SBT	B	0.53	30.5	42.2
5	JARVIS ST & RICHMOND ST E	C	0.64	WBL	B	0.20	12.5	24
				WBT	B	0.64	63.8	84.6
				WBR	A	0.12	0	3.2
				NBT	C	0.63	37.8	52.3
				SBT	C	0.50	33.3	47.9
6	JARVIS ST & QUEEN ST E	B	0.74	EBT	C	0.74	58.1	79.3
				WBT	C	0.34	21.8	33.2
				NBT	B	0.29	22.5	32.4
				SBT	B	0.30	24	33.9
7	JARVIS ST & SHUTER ST	B	0.6	EBL	C	0.32	13.6	27.5
				EBT	C	0.60	46.1	73.8
				WBL	B	0.07	1.6	6
				WBT	B	0.25	15	29.1
				NBT	B	0.53	38.2	49.9
				SBT	B	0.52	34.5	49.6
8	JARVIS ST & DUNDAS ST E	C	0.75	EBT	B	0.75	48.4	65.3
				WBT	C	0.57	33.4	49.3
				NBT	C	0.58	46.5	59.8
				SBT	C	0.59	45.5	63.2
9	JARVIS ST & GERRARD ST E	C	0.91	EBL	B	0.05	1.1	4.7
				EBT	D	0.91	75.1	#135.1
				WBL	B	0.01	0.1	1.2
				WBT	C	0.61	44.8	72.3

Int No.	Intersection	Intersection LOS	Intersection v/c Ratio	Critical Movement				
				Movement	LOS	V/C	50% Queue (m)	95% Queue (m)
10	JARVIS ST & CARLTON ST	C	0.81	NBT	B	0.61	44.2	57.8
				SBT	B	0.71	35.5	m54.7
				EBT	C	0.81	52	70.8
				WBT	C	0.36	21.4	33
				NBT	C	0.58	35.7	50.9
				SBT	C	0.61	48.4	66.8
11	JARVIS ST & WELLESLEY ST E	C	0.69	EBT	C	0.69	63.1	99.1
				WBT	C	0.55	51.5	80.4
				NBT	C	0.65	73.2	89.4
				SBT	C	0.59	63.5	83.3
12	JARVIS ST & ISABELLA ST	B	0.84	EBL	E	0.84	43	#86.0
				EBT	C	0.57	44.7	71.7
				WBT	D	0.83	29.4	#70.2
				NBT	A	0.43	28.7	33.2
				SBT	A	0.23	19.2	25.3
13	JARVIS ST/TED ROGERS WAY & MT PLEASANT RD	D	1.13	EBT	A	0.01	0	0
				WBL	E	0.55	84.4	104.4
				WBT	E	0.31	47.2	70.4
				WBR	A	0.27	0	14.2
				NBT	F	1.13	~194.7	#269.4
				NBR	B	0.79	32.9	67.2
				SBT	E	0.54	32	48.2
14	TED ROGERS WAY/JARVIS ST & BLOOR ST E	C	1.17	EBT	B	0.62	71.7	92.5
				WBL	F	1.17	~39.0	#80.9
				WBT	A	0.36	14.5	22.1
				NBT	D	0.50	22.9	42.4
				NBR	B	0.60	0	19.6
				SBT	C	0.29	11.6	25.6
16	CHURCH ST & KING ST E	B	0.6	EBR	A	0.16	2.7	9
				WBT	B	0.05	0.8	3.6
				WBR	A	0.08	0	3.7
				NBT	B	0.46	25.5	38.8
				SBT	C	0.60	35.4	52.2
17	CHURCH ST & ADELAIDE ST E	B	0.61	EBT	B	0.58	55.4	69.1
				NBT	B	0.33	22	33.1

Int No.	Intersection	Intersection LOS	Intersection v/c Ratio	Critical Movement				
				Movement	LOS	V/C	50% Queue (m)	95% Queue (m)
18	CHURCH ST & RICHMOND ST E	B	0.53	SBT	C	0.61	41.1	58.6
				WBT	B	0.53	47.9	60.5
				NBT	B	0.36	25.4	37.2
				SBT	C	0.32	31.7	45.4
19	CHURCH ST & QUEEN ST E	B	0.57	EBT	B	0.53	41	57.3
				WBT	B	0.30	18.4	28.1
				NBT	C	0.57	44	61.2
				SBT	B	0.45	27.4	41
20	CHURCH ST & SHUTER ST	B	0.58	EBL	B	0.16	4.7	12.1
				EBT	C	0.58	42.4	69.6
				WBL	B	0.12	2.5	7.8
				WBT	B	0.39	24.7	43.4
				NBT	B	0.37	21.2	32.2
				SBT	B	0.38	21.9	33.1
21	CHURCH ST & DUNDAS ST E	B	0.56	EBT	B	0.50	37.5	52.8
				WBT	B	0.43	26.7	39.4
				NBT	B	0.41	24.5	36.8
				SBT	B	0.56	41.1	57.8
22	CHURCH ST & GERRARD ST E	B	0.66	EBL	B	0.26	5	13.7
				EBT	C	0.65	49.1	79.6
				WBL	B	0.13	2.3	7.6
				WBT	C	0.66	47.3	77.8
				NBT	B	0.64	33.6	50.2
				SBT	B	0.56	26.9	38.7
23	CHURCH ST & CARLTON ST	B	0.78	EBT	C	0.78	27.1	45.7
				WBT	B	0.43	23.2	35.7
				NBT	B	0.43	25	37
				SBT	B	0.57	21	28.5
24	CHURCH ST & WELLESLEY ST E	B	0.67	EBT	C	0.64	37.1	64.1
				WBT	C	0.67	38.5	66.8
				NBT	A	0.43	15.3	22
				SBT	B	0.36	20.4	30.8
25	CHURCH ST & BLOOR ST E	D	1.46	EBL	C	0.17	3.2	9.6
				EBT	C	0.52	51.1	68.3
				WBL	C	0.53	13.1	31.7

Int No.	Intersection	Intersection LOS	Intersection v/c Ratio	Critical Movement				
				Movement	LOS	V/C	50% Queue (m)	95% Queue (m)
				WBT	C	0.53	48.7	66.1
				NBL	C	0.30	9.3	21.3
				NBT	C	0.63	47.8	66.3
				SBL	F	1.46	~70.6	#119.9
				SBT	B	0.21	19	28
26	VICTORIA ST & ADELAIDE ST E	B	0.61	EBT	A	0.60	11.4	13.4
				NBT	C	0.57	24.2	46.9
				SBL	C	0.61	25.7	42.7
27	VICTORIA ST & RICHMOND ST E	B	0.59	WBT	B	0.48	41.3	52.7
				NBT	C	0.59	33.2	58.4
				SBT	B	0.30	12.1	18
28	VICTORIA ST & QUEEN ST E	B	0.5	EBT	A	0.50	10.6	13.5
				WBT	B	0.30	20.9	30.8
				NBT	B	0.36	14.2	21.2
				SBT	B	0.29	16.7	26.5
31	YONGE ST & KING ST W/KING ST E	B	0.49	EBT	C	0.13	7.8	17.3
				EBR	B	0.33	7.8	17.7
				WBT	C	0.13	8.1	17.7
				WBR	A	0.09	0	4
				NBT	B	0.35	26.6	38.6
				SBT	B	0.49	29.4	43.3
32	YONGE ST & ADELAIDE ST W/ADELAIDE ST E	A	0.58	EBT	A	0.58	8.3	9.8
				NBT	A	0.27	3.5	5.6
				SBT	B	0.30	17	26.7
33	YONGE ST & RICHMOND ST W/RICHMOND ST E	A	0.5	WBT	A	0.50	16.5	19.4
				NBT	B	0.37	27.8	40.2
				SBT	A	0.30	0.9	1.3
34	YONGE ST & QUEEN ST W/QUEEN ST E	B	0.42	EBT	C	0.42	36.6	50.5
				WBT	B	0.38	18.2	24.3
				NBT	A	0.35	8.4	11.3
				SBT	C	0.26	29.6	41.8
35	YONGE ST & SHUTER ST	B	0.43	EBT	C	0.43	31.9	52.9
				WBL	C	0.24	7.1	17.1
				WBT	C	0.30	15.1	29.3
				NBT	A	0.38	2	4.1

Int No.	Intersection	Intersection LOS	Intersection v/c Ratio	Critical Movement				
				Movement	LOS	V/C	50% Queue (m)	95% Queue (m)
				SBT	B	0.32	18.2	27.4
36	YONGE ST & DUNDAS ST W/DUNDAS ST E	C	0.63	EBT	C	0.63	56.6	75.6
				WBT	C	0.51	42.6	62.5
				NBT	C	0.54	39.7	55.5
				SBT	C	0.53	38.4	53.8
37	YONGE ST & GERRARD ST W/GERRARD ST E	C	0.79	EBT	C	0.68	69.8	107
				WBT	C	0.61	59.2	91.5
				NBT	B	0.34	23.1	34.4
				SBT	B	0.29	12.3	17.4
				SBR	F	0.79	5.7	m#26.7
38	YONGE ST & COLLEGE ST/CARLTON ST	B	0.53	EBT	B	0.53	49.1	66.1
				WBT	B	0.39	29.2	41.7
				NBT	B	0.30	18	32.6
				SBT	B	0.31	23.3	34.1
39	YONGE ST & WELLESLEY ST W/WELLESLEY ST E	B	0.61	EBT	C	0.61	47.3	76.7
				WBL	B	0.19	5.5	13.8
				WBT	B	0.44	35.6	57.6
				NBT	B	0.48	41.4	56.7
				SBT	B	0.43	29.9	43.2
40	YONGE ST & BLOOR ST W/BLOOR ST E	C	0.68	EBT	D	0.68	62.9	83
				WBT	C	0.64	57.5	76.6
				NBT	C	0.66	56.3	75.6
				SBT	C	0.39	32.4	46.3
41	YONGE ST & DAVENPORT RD/CHURCH ST	C	0.79	EBL	C	0.55	18	31.6
				EBT	C	0.48	46.5	62.6
				WBT	D	0.79	50.4	#73.7
				WBR	A	0.48	0	19.3
				NBT	C	0.61	56.4	75.5
				SBT	C	0.65	54	m74.0
42	YONGE ST/YONGE ST] & BELMONT ST/AYLMER AVE	C	0.98	EBL	F	0.98	35.2	#79.8
				EBT	C	0.62	60.5	92
				WBT	D	0.90	88.8	#151.4
				NBT	A	0.44	49	57.5
				SBT	B	0.60	52.1	71.1
43		B	0.57	WBL	C	0.14	9.1	19.7

Int No.	Intersection	Intersection LOS	Intersection v/c Ratio	Critical Movement				
				Movement	LOS	V/C	50% Queue (m)	95% Queue (m)
	YONGE ST & CRESCENT RD			WBR	C	0.40	19	37.2
				NBT	A	0.48	45.6	59.9
				SBT	B	0.57	43.2	60
61	BAY ST & KING ST W	B	0.46	EBT	C	0.33	0	0
				EBR	B	0.17	0.2	12.3
				WBT	B	0.26	14	26.7
				WBR	A	0.07	0	2
				NBT	B	0.35	23.1	34.3
				SBT	B	0.46	31.7	45.5
62	BAY ST & ADELAIDE ST W	B	0.64	EBT	B	0.64	66.5	81.9
				NBT	B	0.46	31.1	45.1
				SBT	B	0.41	31.5	44.8
63	BAY ST & RICHMOND ST W	A	0.51	WBT	A	0.51	3.9	4.7
				NBT	B	0.35	28.5	40.6
				SBT	A	0.42	5.7	7.5
64	BAY ST & QUEEN ST W	B	0.56	EBT	B	0.53	26.5	36.2
				WBT	B	0.31	20.4	30.7
				NBT	B	0.56	22.9	29.6
				SBT	B	0.39	31.3	44.3
				SBR	B	0.27	8.9	22
65	BAY ST & ALBERT ST	B	0.31	WBL	B	0.09	4	10.6
				WBR	C	0.31	10.3	22.8
				NBT	A	0.25	16.9	25.1
				SBT	A	0.30	21.4	30.8
66	BAY ST & DUNDAS ST W	B	0.6	EBT	B	0.45	31.3	44.6
				WBT	B	0.36	22.1	33
				NBL	D	0.57	17.5	#36.7
				NBT	C	0.60	55.5	73.7
				SBT	B	0.52	31.6	46.2
67	BAY ST & GERRARD ST W	E	1.37	EBT	D	0.80	61.5	#106.1
				WBL	F	0.95	18.1	#50.5
				WBT	F	1.37	~141.1	#206.5
				NBT	B	0.73	74.7	101.2
				SBT	A	0.38	28.9	39.8
68		C	0.67	EBT	C	0.54	52.8	70.6

Int No.	Intersection	Intersection LOS	Intersection v/c Ratio	Critical Movement				
				Movement	LOS	V/C	50% Queue (m)	95% Queue (m)
	BAY ST & COLLEGE ST			WBT	C	0.42	37.1	51.4
				NBT	C	0.67	78.1	100.7
				SBT	B	0.51	47.2	63.6
69	BAY ST & WELLESLEY ST W	C	1.01	EBL	C	0.44	10.4	m11.1
				EBT	C	0.70	49.5	m46.5
				WBL	C	0.39	8.1	20.4
				WBT	C	0.66	48.3	77.6
				NBL	E	1.01	~42.9	#94.1
				NBT	B	0.42	35.5	48.4
				SBL	B	0.18	3.4	9.5
				SBT	B	0.42	32.8	45.3
70	BAY ST & BLOOR ST W	C	0.56	EBL	C	0.40	10.6	25
				EBT	C	0.56	50.7	68.7
				WBL	C	0.50	11.2	27.5
				WBT	C	0.45	39.7	54.6
				NBL	B	0.30	12.9	23
				NBT	B	0.46	60.7	84.7
				SBL	C	0.44	12	27.7
				SBT	C	0.48	41.8	56.8
72	YORK ST & KING ST W	B	0.39	EBT	A	0.11	6.4	11.1
				WBT	A	0.22	12.5	21.2
				NBT	B	0.39	19.7	27.3
73	YORK ST & ADELAIDE ST W	B	0.5	EBT	B	0.50	66.8	79
				NBT	B	0.30	25.6	32.9
74	YORK ST & RICHMOND ST W	B	0.59	WBT	C	0.48	51.9	64.3
				NBL	B	0.59	30.6	53.9
				NBT	B	0.15	13.1	17.4
				SBR	A	0.11	2.2	9.2
77	UNIVERSITY AVE & KING ST W	C	0.65	EBT	C	0.11	7.9	17.1
				EBR	A	0.25	3.4	12.4
				WBT	C	0.09	6.7	15
				WBR	A	0.32	0	10
				NBT	C	0.62	56.8	71.3
				SBT	C	0.65	49.9	62.1
78		C	0.79	EBT	C	0.56	58.9	72.7

Int No.	Intersection	Intersection LOS	Intersection v/c Ratio	Critical Movement				
				Movement	LOS	V/C	50% Queue (m)	95% Queue (m)
	UNIVERSITY AVE & ADELAIDE ST W			NBT	D	0.68	64.2	79.8
				SBL	E	0.79	41	m#65.0
				SBT	C	0.45	56	65
79	UNIVERSITY AVE & RICHMOND ST W	C	1.61	WBT	B	0.68	83.4	100.5
				NBL	F	1.61	~39.0	m#69.3
				NBT	B	0.38	20.8	24.1
				SBT	A	0.62	8.4	16
80	UNIVERSITY AVE & QUEEN ST W	B	0.64	EBT	C	0.38	32.2	45.7
				WBT	C	0.60	54.3	73.7
				NBT	A	0.48	15.4	23.2
				SBT	B	0.64	58.2	68.2
81	UNIVERSITY AVE & DUNDAS ST W	B	0.69	EBT	C	0.62	58.7	78.3
				WBT	C	0.69	72.2	94.5
				NBT	A	0.55	19.3	26.8
				SBT	B	0.53	62.9	73.7
82	UNIVERSITY AVE & ELM ST	B	0.55	EBT	D	0.55	47.3	73.7
				EBR	C	0.52	23.2	45.4
				WBT	D	0.51	43.5	68.4
				WBR	C	0.33	11	26.1
				NBT	B	0.52	59	68.6
				SBT	A	0.39	30.7	30.1
83	UNIVERSITY AVE/QUEEN'S PARK & COLLEGE ST	C	0.63	EBT	C	0.63	61.5	81.4
				WBT	C	0.56	55.7	74.1
				NBT	B	0.59	77.5	89.2
				SBT	B	0.44	44.8	53.9
84	QUEEN'S PARK CRES E & WELLESLEY ST W	D	1.43	EBT	F	1.43	~86.0	#139.0
				WBT	C	0.67	67.6	m90.5
				WBR	C	0.48	21.4	m33.6
				NBT	B	0.59	57.3	68.6
85	QUEEN'S PARK CRES E	A	0.4	NBT	A	0.40	0	0
86	QUEENS PARK/AVENUE RD & BLOOR ST W	C	0.73	EBL	C	0.39	9.9	23.8
				EBT	B	0.45	43.8	59.1
				WBL	C	0.40	11.9	26.5
				WBT	C	0.64	74.4	109.7

Int No.	Intersection	Intersection LOS	Intersection v/c Ratio	Critical Movement				
				Movement	LOS	V/C	50% Queue (m)	95% Queue (m)
				WBR	B	0.26	7.6	19.7
				NBT	C	0.73	85.8	110.6
				NBR	B	0.33	12.3	27.3
				SBT	B	0.47	39.8	51.4
107	AVENUE RD	A	0.37	WBL	C	0.21	12.3	25.4
				NBT	A	0.37	45.3	55.4
				SBT	A	0.28	29.3	37.1
108	AVENUE RD & DAVENPORT RD	C	0.74	EBT	C	0.69	72.8	95.7
				WBT	C	0.60	65.5	85.7
				WBR	A	0.28	0	0
				NBT	C	0.74	81.9	99.9
				SBT	C	1.23d I	48.2	63
132	MT PLEASANT RD & ELM AVE	C	0.81	EBT	B	0.23	13.9	26.8
				WBT	C	0.46	30.1	51.9
				NBT	C	0.81	103.4	132.9
				SBT	B	0.43	41.9	56.3
165	PARK RD & CHURCH ST	B	0.52	EBT	B	0.52	38.6	54.2
				WBT	B	0.39	28.3	40.5
				NBL	B	0.15	6	14.2
				NBT	B	0.17	11.3	22.8
				SBL	B	0.14	7.2	16.1
				SBT	B	0.15	5.2	14.7
166	UNIVERSITY AVE & ARMOURY ST	B	0.77	WBL	D	0.77	61.6	#100.2
				WBR	C	0.68	23.2	52.5
				NBT	A	0.45	11.2	12.8
				SBT	B	0.52	30.5	43.1
193	BAY ST & GROSVENOR ST	B	0.63	EBT	C	0.63	43	70.1
				EBR	A	0.07	0	4.7
				WBT	C	0.16	7.8	17.6
				WBR	A	0.09	0	5.2
				NBL	A	0.11	2.6	7.2
				NBT	B	0.48	40.7	55.1
				SBL	B	0.30	5.7	14.9
				SBT	A	0.35	27.7	38.3

Int No.	Intersection	Intersection LOS	Intersection v/c Ratio	Critical Movement				
				Movement	LOS	V/C	50% Queue (m)	95% Queue (m)
225	CHURCH ST & CHARLES ST E	B	0.6	WBT	C	0.60	37	62.1
				WBR	A	0.18	0	8.6
				NBT	A	0.35	11.1	15.2
				SBT	A	0.41	24.7	36.4
227	QUEEN'S PARK CRES E & QUEENS PARK	A	0.69	WBL	C	0.69	61.9	98.2
				WBR	A	0.56	0	10.4
				SBR	A	0.50	26.4	39.8
483	CHESTNUT ST/CHESTNUT ST & DUNDAS ST W	B	0.86	EBT	B	0.38	22.1	32.8
				WBT	B	0.44	26.5	38.8
				NBT	D	0.86	44.3	#89.6
				SBT	C	0.42	18.5	35.6
541	DAVENPORT RD & NEW ST/BELMONT ST	E	1.2	EBT	C	0.03	0.6	5.6
				WBT	C	0.83	50	#106.7
				NBL	C	0.02	0.6	3.1
				NBT	F	1.06	~150.1	#193.7
				SBL	F	1.20	~91.5	#153.9
				SBT	C	0.51	75.1	94.1
572	CHURCH ST & ISABELLA ST	B	0.54	EBT	B	0.45	26.3	39.4
				NBT	B	0.33	18.2	28.1
				SBT	B	0.54	17	21.6
867	YONGE ST & GROSVENOR ST/ALEXANDER ST	B	0.72	EBT	C	0.72	44	#85.6
				NBT	B	0.43	20.4	32
				SBT	B	0.46	20.1	32
895	BAY ST & YORKVILLE AVE	B	0.71	EBT	B	0.21	10.8	23
				WBT	C	0.53	36.2	63.4
				NBT	A	0.71	38.7	50.8
				SBT	B	0.38	24.8	36.3
896	BAY ST & DAVENPORT RD	E	1.2	EBT	D	0.80	106.1	#153.6
				EBR	A	0.32	0	8.4
				WBT	D	0.77	55.6	77.8
				NBL	F	1.20	~181.4	#253.0
				NBR	B	0.68	17.2	56.8
909	YONGE ST & GOULD ST	A	0.21	WBL	C	0.10	3.5	9.9
				NBT	A	0.20	14.1	20.4
				SBT	A	0.21	14.3	20.7

Int No.	Intersection	Intersection LOS	Intersection v/c Ratio	Critical Movement				
				Movement	LOS	V/C	50% Queue (m)	95% Queue (m)
913	BAY ST & ELM ST	C	1.06	EBT	F	1.06	~70.5	#125.3
				WBT	C	0.46	26.4	46.6
				NBT	B	0.41	35.3	47.5
				SBT	A	0.38	29.5	40.8
921	YONGE ST & CHARLES ST W/CHARLES ST E	B	0.52	WBL	C	0.50	22	41.9
				WBT	C	0.33	29.7	48.7
				WBR	B	0.33	7	20.5
				NBT	B	0.52	51.3	68.4
				SBT	B	0.36	34.1	46.5
968	AVENUE RD & PRIVATE ACCESS/YORKVILLE AVE	B	0.48	EBT	A	0.02	0	0
				WBT	B	0.22	13.4	25.8
				WBR	B	0.36	18.9	36.5
				NBT	B	0.48	52.7	64.9
				SBT	B	0.18	15.6	21.9
984	BAY ST & CHARLES ST W	B	0.58	EBT	B	0.07	2.3	8.4
				WBL	C	0.47	25.7	42.3
				WBT	C	0.55	39.9	66
				NBL	B	0.20	4.8	12.5
				NBT	B	0.58	57.1	75.9
				SBL	B	0.21	4.5	m9.5
				SBT	B	0.37	39.3	51.2
993	CHURCH ST & GOULD ST	B	0.33	EBT	B	0.26	7.2	18.4
				WBT	B	0.30	4.7	16
				NBT	B	0.28	18	26.7
				SBT	B	0.33	28.7	44.2
1351	ELIZABETH ST & COLLEGE ST	B	0.64	EBT	B	0.64	37.7	57.9
				WBT	B	0.43	24.1	37.3
				NBT	C	0.60	32.1	m53.0
				SBT	B	0.41	21.5	38.6
1358	ELIZABETH ST & GERRARD ST W	B	0.75	EBL	A	0.08	1.9	6.1
				EBT	A	0.18	12.4	23.1
				EBR	A	0.08	0	3.9
				WBL	B	0.18	5.3	13
				WBT	A	0.24	10.4	18.2
				NBT	C	0.75	32.3	#70.5

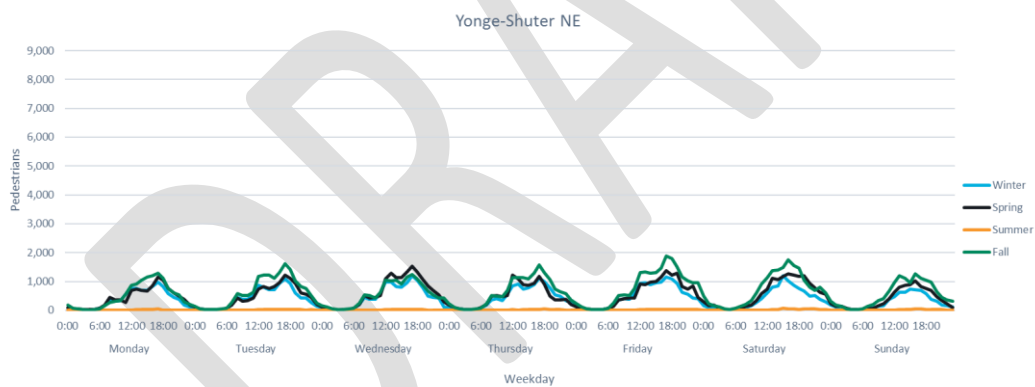
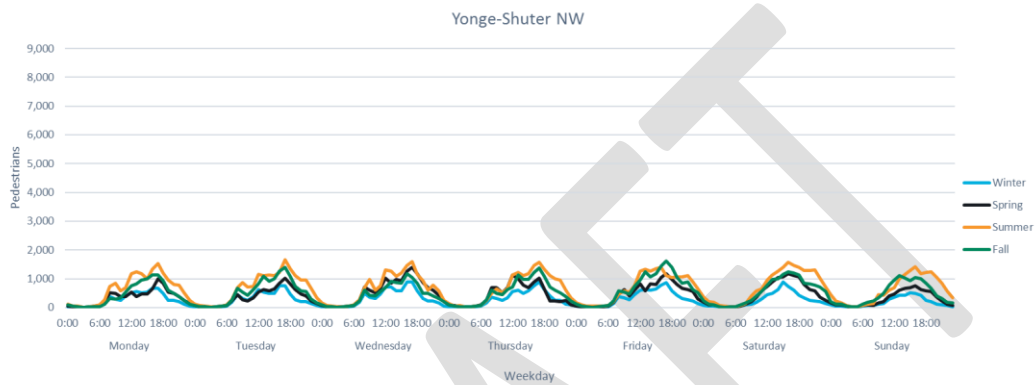
Int No.	Intersection	Intersection LOS	Intersection v/c Ratio	Critical Movement				
				Movement	LOS	V/C	50% Queue (m)	95% Queue (m)
1416	YONGE ST & IRWIN AVE	B	0.48	SBT	C	0.54	20.9	m39.9
				WBT	C	0.09	4.5	11.8
				WBR	A	0.08	0	2.5
				NBT	B	0.48	40.1	54.3
				SBT	A	0.27	20.4	29
1457	BAY ST & ST JOSEPH ST	B	0.47	EBT	C	0.28	20.1	37.5
				NBL	B	0.22	4.3	11.4
				NBT	B	0.47	39.3	53.5
				SBL	B	0.24	4.4	11.8
				SBT	B	0.47	35.2	49
1460	QUEEN ST W	A	0.18	EBT	A	0.18	0	0
				WBT	A	0.14	0	0
1478	BAY ST	B	0.38	NBT	A	0.38	27.1	38
				SBT	B	0.35	41.8	59
1480	CHURCH ST & ALEXANDER ST	A	0.33	EBT	B	0.18	5.1	11.5
				NBT	B	0.33	21.8	32.1
				SBT	A	0.32	9.5	18.3
1482	QUEEN'S PARK CRES E & HOSKIN AVE	A	0.88	EBR	C	0.88	14.3	#63.5
				SBT	A	0.53	16.3	27.9
1518	VICTORIA ST & SHUTER ST	C	0.72	EBT	C	0.72	52.1	87.1
				WBT	C	0.66	31.8	61.4
				NBT	B	0.25	11.7	19.8
				SBT	B	0.29	12.2	20.7
1608	UNIVERSITY AVE & GERRARD ST W	B	0.62	WBL	D	0.62	48.4	75.7
				WBR	A	0.27	0.2	14.7
				NBT	A	0.59	79.7	63.5
				SBT	A	0.41	29.9	35.5
1644	ADELAIDE ST W & SHEPPARD ST	B	0.44	EBT	A	0.36	27.2	34.4
				SBL	C	0.44	26	45.3
1691	YORK ST & QUEEN ST W	B	0.41	EBT	B	0.28	20.9	31
				WBT	C	0.41	38.6	52.8
				NBL	B	0.10	6.9	14.8
				NBR	B	0.22	14.9	27.4
1733		B	0.63	EBT	C	0.63	27.8	53.3
				WBL	C	0.07	2.7	8.5

Int No.	Intersection	Intersection LOS	Intersection v/c Ratio	Critical Movement				
				Movement	LOS	V/C	50% Queue (m)	95% Queue (m)
	JARVIS ST & MAITLAND ST/MAITLAND PL			WBT	C	0.13	6.8	16.5
				NBT	B	0.53	44.7	56.5
				SBT	B	0.40	36.1	48.3
1802	YONGE ST	A	0.14	NBT	A	0.14	0	0
				SBT	A	0.12	0	0
1905	VICTORIA ST & DUNDAS ST E	C	0.44	EBT	C	0.40	72.6	91.4
				WBT	B	0.25	20.3	29.3
				NBT	C	0.44	21.4	34.2
				SBT	C	0.12	5.1	10.6
1955	BLOOR ST W	A	0.22	EBT	A	0.22	0	0
				WBT	A	0.21	0	0
2016	CHURCH ST & MAITLAND ST	A	0.49	WBT	B	0.31	15.4	29.8
				NBT	A	0.49	7.4	11.4
				SBT	A	0.31	9.4	11.2
2026	BLOOR ST E	B	0.7	EBL	B	0.39	4.5	m14.7
				EBT	A	0.52	26.9	31.8
				WBL	B	0.15	2.8	10.5
				WBT	B	0.59	67.6	109.9
				NBT	D	0.70	37.6	56.7
2035	CARLTON ST & LOBLAWS PARKING	B	0.5	EBT	B	0.50	35.8	49.5
				WBT	A	0.45	11.3	15.7
				SBL	B	0.16	8.2	17.7
				SBR	A	0.12	0	8
2036	CHURCH ST & WOOD ST	B	0.56	EBT	C	0.56	26.1	48.8
				WBT	B	0.13	4.1	11.7
				NBT	A	0.48	15.2	21
				SBT	B	0.38	21.9	32.8
2085	JARVIS ST	A	0.25	NBT	A	0.25	0	0
				SBT	A	0.23	0	m0.0
2187	JARVIS ST & EARL PL	A	0.32	EBL	D	0.32	7.5	17.4
				EBT	B	0.16	0.3	7.8
				WBT	A	0.07	0	1.1
				NBT	A	0.29	19.1	28.8
				SBT	A	0.28	13.3	m17.3

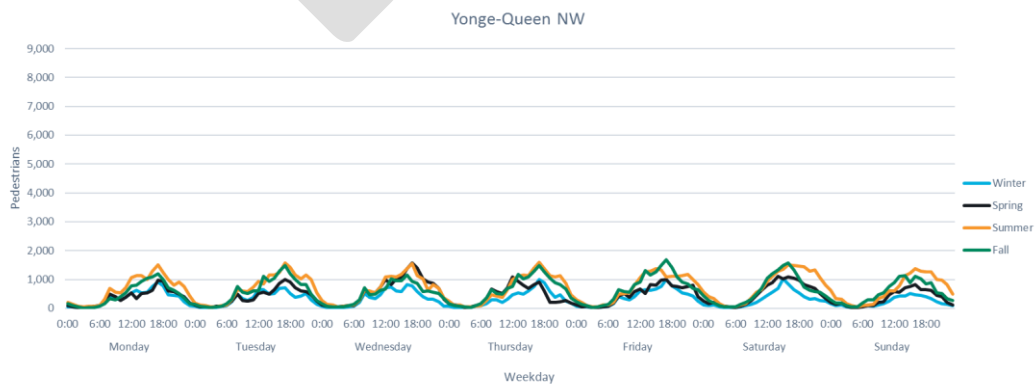
Int No.	Intersection	Intersection LOS	Intersection v/c Ratio	Critical Movement				
				Movement	LOS	V/C	50% Queue (m)	95% Queue (m)
2280	QUEEN'S PARK CRES E	A	0.24	NBT	A	0.24	0	0
2306	ROXBOROUGH ST W & YONGE ST	B	0.6	EBL	C	0.11	7	16.3
				EBR	B	0.20	1.3	12.7
				NBT	B	0.60	54.5	72.7
				SBT	A	0.39	33	43.7
2318	QUEEN'S PARK CRES E	A	0.26	NBT	A	0.26	0	m0.0
2374	BAY ST & CUMBERLAND ST	A	0.45	EBT	C	0.38	14.1	24.6
				WBT	C	0.40	10.2	25.8
				NBT	A	0.45	25.4	22.5
				SBT	A	0.26	15.5	17.5
2377	YONGE ST & YORKVILLE AVE	A	0.61	EBL	C	0.61	30.7	m49.1
				NBT	A	0.37	27.7	37.7
				SBT	A	0.24	11.3	17.6

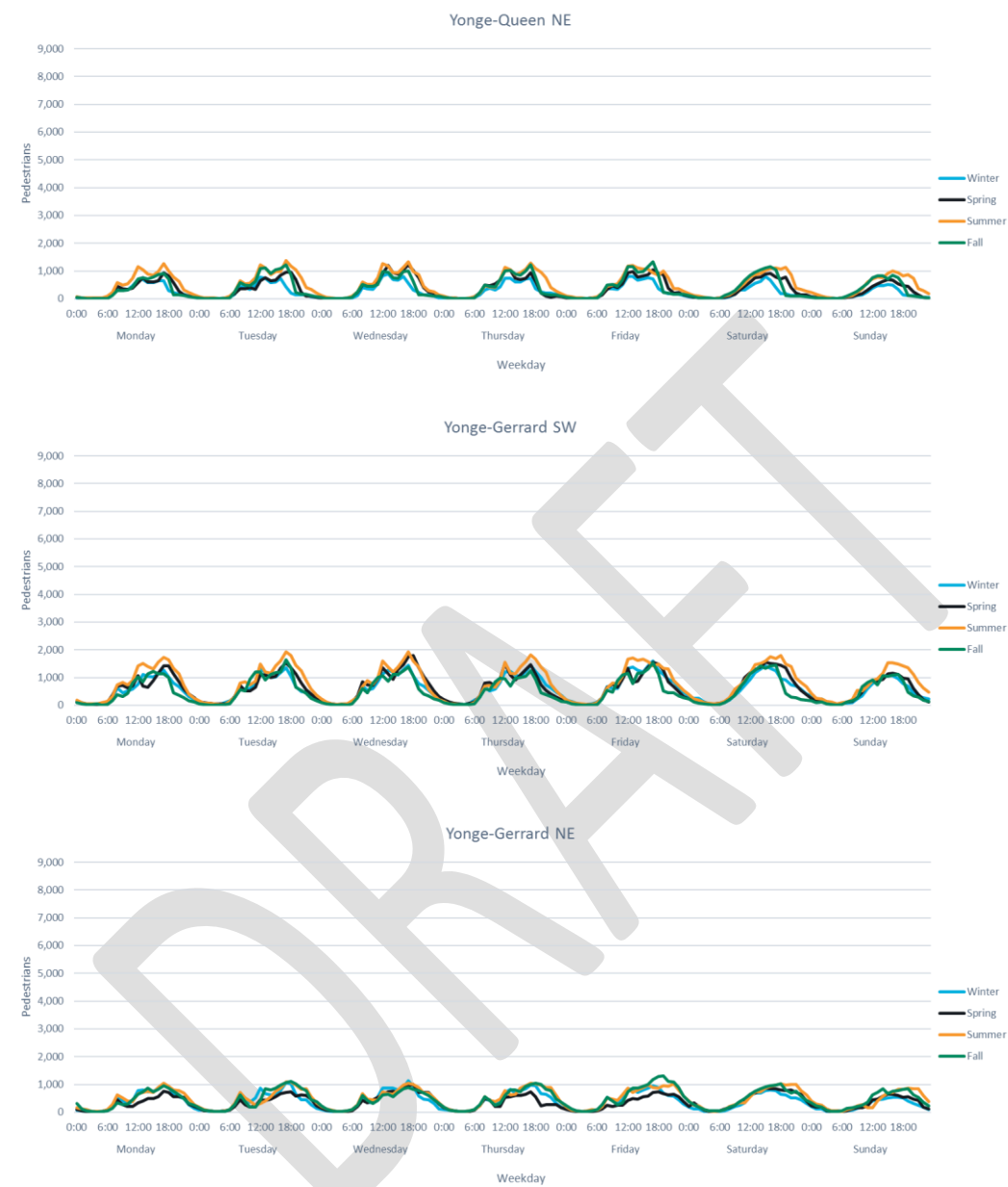
D Yonge St BIA Pedestrian Data

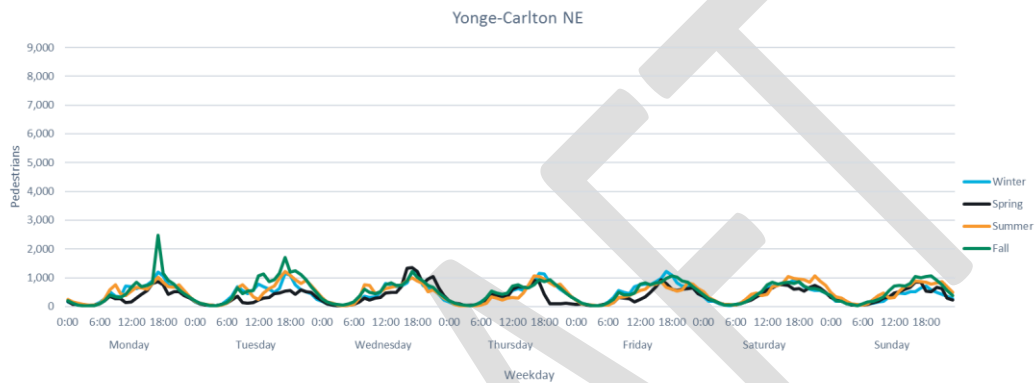
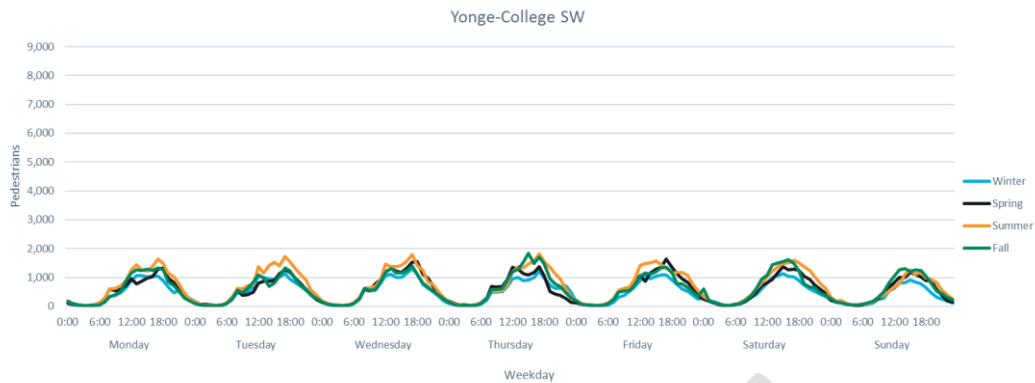
D1 Pedestrian Volumes



**Yonge-Shuter NE Counter was not working properly during the summer collection period*







E Public Transit Service Summaries

DRAFT

Streetcar Route Summary (March 31, 2019 – May 11, 2019)

Route	Operating Hours	Branch	Monday to Friday					Weekend				
			AM Peak	Midday	PM Peak	Early Evening	Late Evening	Early Morning	Morning	Afternoon	Early Evening	Late Evening
501 Queen	All day, everyday	501A 501L 501	4'15" 9'30"	4'45" 9'00"	4'50" 9'30"	4'30" 9'30"	9'00"	6'00" 10'00"	5'00" 10'00"	4'15" 10'00"	5'30" 10'00"	9'00"
502 Downtowner	Monday-Friday AM and PM Peak Periods	502	12'00"	10'00"	12'00"							
503 Kingston Rd	Monday-Friday: AM, PM, Mid-Day Peak Periods	503	12'00"		12'00"							
504 King	All day, everyday	504A and 504B	5'15"	7'00"	6'00"	6'30"	9'00"	Sat: 9'30" Sun: 10'00"	Sat: 7'30" Sun: 7'30"	Sat: 6'00" Sun: 6'00"	Sat: 7'45" Sun: 9'00"	Sat: 10'00" Sun: 10'00"
505 Dundas	All day, everyday	505	3'45"	4'00"	3'30"	4'45"	7'30"	Sat: 9'30" Sun: 9'30"	Sat: 5'15" Sun: 6'00"	Sat: 4'00" Sun: 5'15"	Sat: 5'40" Sun: 8'00"	Sat: 9'00" Sun: 9'30"
506 Carlton	All day, everyday	506	5'10" *	5'20"	5'40"	7'10"	8'30"	Sat: 7'30" Sun: 9'30"	Sat: 7'30" Sun: 10'00"	Sat: 6'00" Sun: 8'00"	Sat: 8'15" Sun: 10'00"	Sat: 9'00" Sun: 10'00"

*506 Carlton also features 4 tripper busses between Roncesvalles and Main St Station, as well as 4 tripper busses between Roncesvalles and Coxwell St during the AM peak period Monday-Friday. Tripper busses provide limited branch service where required in addition to main line service.

Bus Service Summary (March 31, 2019 – May 11, 2019)

Route	Operating Hours	Branch	Monday to Friday					Weekend				
			AM Peak	Midday	PM Peak	Early Evening	Late Evening	Early Morning	Morning	Afternoon	Early Evening	Late Evening
5 Avenue Rd	5A: All day, everyday 5B: Midday, Monday-Friday	5A	13'00"		20'00"	22'00"		Sat: 20'00"	Sat: 22'00" Sun: 20'00"	Sat: 22'00" Sun: 20'00"	Sat: 22'00" Sun: 20'00"	
		5B		30'00"								
6 Bay	6A: All day, everyday 6B: Monday-Friday AM & PM Peak	6A	9'30"	11'00"	13'00"	15'00"	25'00"	30'00"	16'00"	14'00"	20'00"	24'00"
		6B	9'30"		13'00"							
94 Wellesley	94A: All day, everyday 94C: Various times throughout the week	94A	13'00"	13'00"	16'00"	9'00"	9'00"	Sat: 17'00"	Sat: 12'00" Sun: 12'30"	Sat: 13'00" Sun: 13'00"	Sat: 9'00" Sun: 9'00"	Sat: 10'00" Sun: 9'00"
		94C	13'00"	13'00"	16'00"			Sat: 17'00"	Sat: 12'30" Sun: 12'30"	Sat: 13'00" Sun: 12'30"		
97 Yonge	Monday-Friday AM & PM Peak	97B	30'00"		30'00"							
141 Downtown / Mt Pleasant Express	Monday-Friday, AM & PM Peak	141	4 SB Trips		2 NB Trips							
142 Downtown / Avenue Rd Express	Monday-Friday, AM & PM Peak	142	30'00"		3'00"							
143 Downtown / Beach Express	Monday-Friday, AM & PM Peak	143	15'00"		12'00"							
144 Downtown / Don Valley Express	Monday-Friday AM & PM Peak	144			30'00"							
		144A 144B	5 SB Trips 7 SB Trips									
145 Downtown / Humber Bay Express	Monday-Friday AM & PM Peak	145A	EB Trips		WB Trips							
		145B	3 EB Trips		3 WB Trips							
