

5800 YONGE STREET PROPOSED MIXED-USE DEVELOPMENT

Urban Transportation Considerations

Prepared For: Times Group Corporation

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1.0 INTRODUCTION

BA Group is retained by Times Group Corporation to provide transportation consulting services in support of a Zoning By-law Amendment application being made to the City of Toronto to permit the development of a mixed-use development at 5800 Yonge Street (herein referred to as the “site”). The site is midblock between Hendon Avenue and Drewry Avenue and is bounded by Yonge Street to the east, Fairchild Avenue to the west, Hydro One lands to the south and proposed mixed-used developments to the north.

The site is currently occupied by the former North York office for Toronto Hydro Electric System Limited (THESL) and was vacant at the time the turning movement count surveys was conducted. The site is accessed via a single signalized driveway at Yonge Street / Turnberry Court.

Figure 1 and **Figure 2** illustrate the site location and context, respectively.

Key development parameters are summarised as follows:

- A new public road (Street ‘A’) will extend west of Yonge Street to the new proposed Beecroft Road extension;
- A new public road (Beecroft Road) will bisect the site and in the future, connect to Hendon Avenue in the south and Drewry Avenue in the north;
- a total of 1,496 residential condominium apartment units will be deployed within four (4) residential towers and podium levels;
- retail floor areas along the Yonge Street frontage will total to approximately 1,250 sq. metres;
- office floor areas within the podium levels will total to approximately 4,600 sq. metres;
- a daycare will be provided on the site and accommodate 60 children;
- a total of 1,638 parking spaces will be provided within a five-level underground garage; and,
- vehicular access to the site will be provide via a STOP controlled driveway on Street ‘A’, a STOP controlled driveway on the Beecroft Road extension, and a right-in / right-out driveway entrance on Yonge Street.



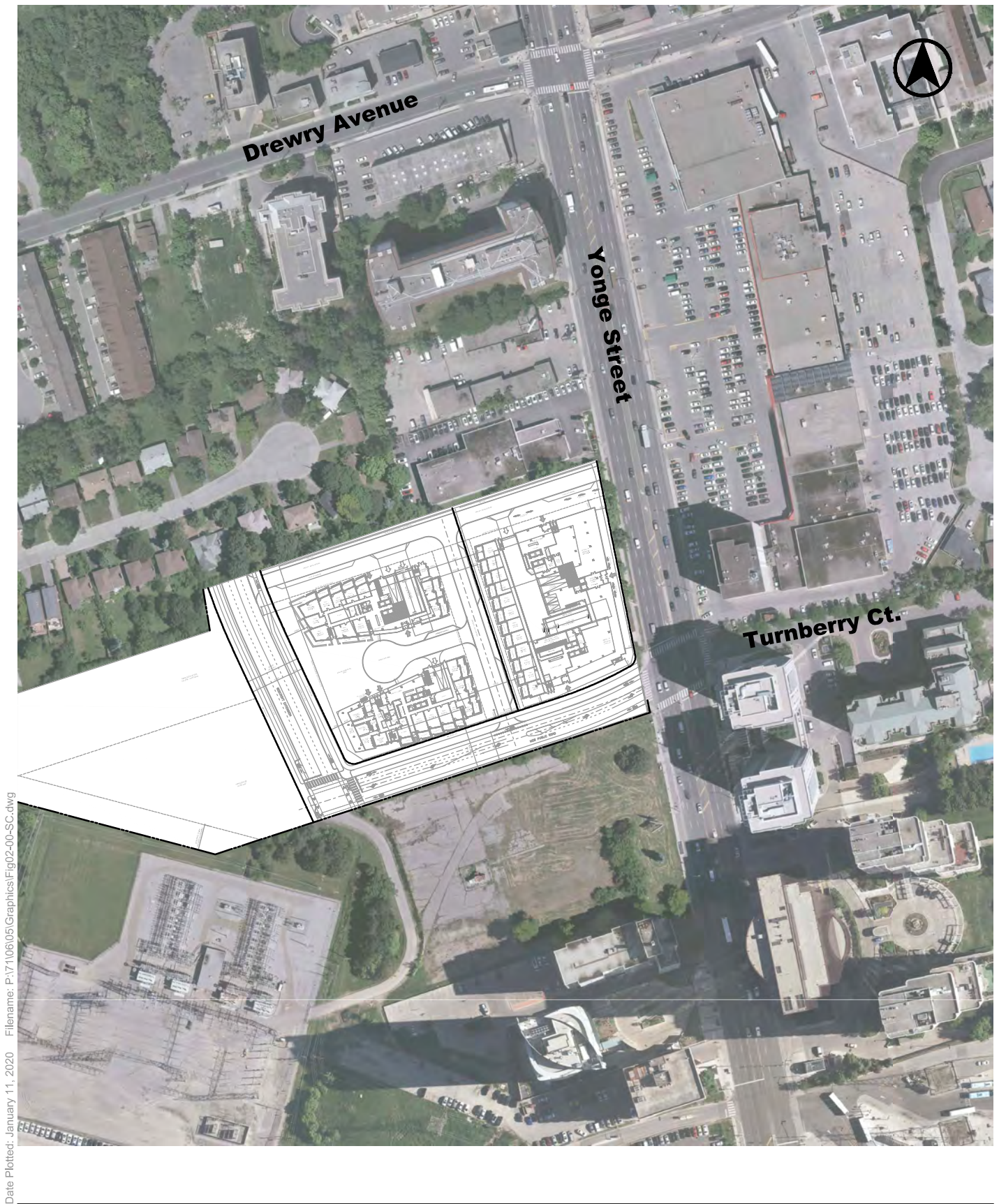
SITE LOCATION



BA Group

5800 Yonge Street
7106-05 January 2020

Figure 1



SITE CONTEXT

1.1 THIS STUDY

BA Group has undertaken a review of the key transportation related aspects of the proposed Zoning By-law Amendment and Plan of Subdivision application being submitted to the City of Toronto to permit the proposed development. Key transportation related aspects reviewed as part of this study include the following:

Transportation Context

- a review of the existing and future transportation context of the site considering the area road network, accessible area transit services, the surrounding pedestrian environment, and the area cycling network.

Development Plan

- a review of the proposed development programme;
- a review of the transportation elements of the proposed development plans including pedestrian access and circulation, bicycle facilities, vehicular access and circulation, parking, and loading facilities; and,
- an overview of Transportation Demand Management measures and initiatives to encourage prospective residents and visitors to use more active and sustainable modes of transportation.

Site Planning

- a review of parking supply requirements of the proposed development and comparison to the Zoning By-law requirements;
- a review of loading facility arrangements and provisions relative to the Zoning By-law requirements; and,
- a review of bicycle parking requirements of the proposed development and comparison to the Zoning By-law requirements and Toronto Green Standards.

Travel Demand Forecasting

- an outline of multi-modal travel characteristics and travel demand projections for the proposed development based on “First Principles” person-trip forecasting methodologies and observed travel characteristics of the existing site and area.

Multi-Modal Travel Assessment

- a review of area transit, pedestrian, and cycling activity levels today;
- development of site related person-trip forecasts for the proposed site uses, travel and modal share characteristics, and preferred routing options available to area transit riders, pedestrians, and cyclists;
- an assessment of projected site transit demands on local area transit services and operations; and,
- a discussion related to future site pedestrian and cyclist activity, and initiatives to enhance network options and encourage travel by active means of transportation.

Traffic Operations Review

- a review of the existing traffic activity levels and volumes on site and in the study area during the key weekday morning and afternoon peak hour periods;
 - development of future background traffic forecasts including specific area development and corridor growth in the study area;
 - development of new site-related traffic forecasts and assignments reflecting the proposed development plan;
 - an assessment of traffic volume changes on the area street network; and,
 - an assessment of traffic operations at the area intersections today and in the future.

2.0 DEVELOPMENT PROGRAMME

The following section provides an overview of the development programme that is currently being proposed as part of the redevelopment plans for the site. Reduced scale architectural plans are attached in **Appendix A**.

2.1 DEVELOPMENT STATISTICS

The proposed development plans incorporate a total of 1,496 residential units, 782 sq. metres of daycare GFA, 1,256 sq. metres of retail GFA, and 4,602 sq. metres of office GFA. A summary of the development programme is found in **Table 1**.

Phase I: Construction of the westerly block development consisting of Towers 1 and 2, the pick-up and drop-off (PUDO) loop and daycare occurs first.

Phase II: Construction of the easterly block development consisting of Towers 3 and 4, office and retail following the completion of Phase I construction.

TABLE 1 DEVELOPMENT PROGRAMME

Use		Phase I	Phase II	Total
Residential	Studio	50 units	46 units	96 units
	1 Bedroom	365 units	350 units	715 units
	2 Bedroom	258 units	270 units	528 units
	3 Bedroom	77 units	80 units	157 units
	<i>Total</i>	750 units	746 units	1,496 units
Retail		--	1,256 sq. metres	1,256 sq. metres
Office		--	4,602 sq. metres	4,602 sq. metres
Daycare		782 sq. metres	--	782 sq. metres
Transportation Services	Resident Parking Supply	795 spaces	634 spaces	1,429 spaces
	Non-Resident Parking Supply	87 spaces	127 spaces	209 spaces
	Loading Supply	1 Type 'B' space 1 Type 'G' space	1 Type 'B' space 1 Type 'G' space 2 Type 'C' space	2 Type 'B' space 2 Type 'G' space 2 Type 'C' space
	Bicycle Parking Supply	570 spaces	586 spaces	1,156 spaces

Notes:

1. Site Statistics based upon stats provided by Wallman Architects dated December 6, 2019.

2.1.1 Site Access

Pedestrian Access

Access to the proposed development, comprised of four (4) residential towers and podium bases is provided at-grade. Shared residential and office lobbies for Tower 1 and 2 (Phase I) are located adjacent to the landscaped POPS area and pick-up / drop-off area. Shared residential and office lobbies for Tower 3 and 4 (Phase II) are located off the new east-west Newtonbrook Extension Road and the private street at the north end of the development, respectively.

The retail units and non-residential parking lobby is accessed off Yonge Street, and the daycare access is provided adjacent to the landscaped POPS area and pick-up / drop-off area.

Vehicular Access

Three (3) unsignalized driveways are proposed in order to provide vehicular access to the parking and loading facilities. They are as follows:

- Private Road / Yonge Street (± 130.0 metres north of Yonge Street / Newtonbrook Street Extension)
- Private Road / Newtonbrook Street Extension (± 100.0 metres west of Yonge Street / Newtonbrook Street Extension)
- Private Road / Beecroft Road Extension (± 140.0 metres north of Beecroft Road Extension / Newtonbrook Street Extension)

All driveways operate under STOP control, with the exception of the Private Road / Yonge Street driveway, which operates under a right-in / right-out condition.

Bicycle Parking Access

Access to the secured, weather protected residential long-term bicycle parking spaces, located on the P1 level, are provided via the underground parking / bicycle ramps. Additional width, in the form of 1.50m painted bicycle lanes are provided on the outbound (uphill) direction to provide cyclists exiting the P1 level additional space. Retail and office long-term bicycle parking spaces are provided at-grade in a secured, weather protected room in Phase II.

Short-term bicycle parking spaces are generally provided at-grade in accessible locations.

2.2 NEW PUBLIC ROADS

2.2.1 Planning Context

A pair of service roads (i.e. Beecroft Road, west of Yonge and Doris Avenue, east of Yonge) and an associated road network was planned for in the approved *Uptown Service Road and Associated Road Network Environmental Study Report (ESR)*, May 1993. The service road network provides an alternative to the arterial road system for access for employees, patrons, residents, and delivery of goods.

The west service road (Beecroft Road) currently extends north from Sheppard Avenue to Finch Avenue. As outlined in the 1993 ESR, an extension of Beecroft Road north from Finch Avenue to Drewry Avenue is planned. The service road will terminate at 51 Drewry Avenue and form an intersection with the 6000 Yonge Street driveway entrance. This service road was contemplated with a four lane cross-section. At the south end of this extension, the preferred alignment will require 34 Hendon Avenue, east of Hendon Park, and will provide the most appropriate road alignment to extend through the Hydro One lands and avoid the costs of relocated the existing transformer station.

An east-west public road straddling the property line between the 5800 Yonge property and the Hydro One property to the south was contemplated as part of the Environmental Assessment (EA). This road would connect the Beecroft Extension with Yonge Street and was initially contemplated as a four-lane road.

2.2.2 Recent Background

In 2017, BA Group was retained by Cresa and Toronto Hydro to consult on the transportation planning aspects of a potential development site at 5800 Yonge, in particular, the impacts on the site's development potential as a result of the Beecroft Extension alignment between Hendon Avenue and Drewry Avenue. BA Group prepared a preliminary design, which responded to the plans outlined in the 1993 ESR to extend Beecroft Road north and provide an east-west connection to Yonge Street in the vicinity of the site. These plans were shared with the City of Toronto.

Since then, the City of Toronto has been generally involved in the planning process and has been part of the discussions revolving around the planning of the new pedestrian, bicycle, and road network.

It is our understanding that the City of Toronto has retained their own consultant to undertake a review and prepare a preliminary design for the right-of-way protection purposes for the Beecroft Road Extension. The process would run concurrent to the municipal approvals process for the 5800 Yonge development.

2.2.3 Proposed New Public Roads

East-West Newtonbrook Road Extension

This planned future road link, first planned for as part of the 1993 EA, will provide an east-west connection between the Beecroft Road Extension and Yonge Street, and will connect with the planned Newtonbrook Road. It will have a 13.20 metre pavement width within an ultimate 23.70 metre right-of-way. The new road will intersect Yonge Street at the south site limit and will properly align with the planned future Newtonbrook Road (constructed as part of the Newtonbrook Development) at a 70 degree intersection angle. It is assumed that Newtonbrook Road be constructed as part of the scope of this report. The new east-west Newtonbrook Road Extension will also intersect the future Beecroft Road Extension.

The width of the pavement (13.20 metres) allows for the continuation of the Newtonbrook road cross-section west of Yonge Street (two-lanes with centre turning lane, and on-street bicycle lanes). It should be noted that the proposed alignment of the road allows for the entire pavement and northern boulevard to be constructed on the subject site, in addition to a 1.0 metre buffer to the south property line for construction and light-standard installation. Construction of the south boulevard will require lands from the property to the south.

This road will provide for an on-street cycling connection from the subject site and the Newtonbrook development to the future park located west of the Beecroft connection. One (1) site driveway is located approximately 95 metres from the Beecroft Road Extension and 80 metres from Yonge Street, measured centreline to centreline.

North-South Beecroft Road Extension

The extension of Beecroft Road north from Finch Avenue to Drewry Avenue is part of the ultimate Uptown Service Road plan. When completed, it will provide a parallel route to Yonge Street between Drewry Avenue to Sheppard Avenue West. The section between Finch Avenue West and Drewry Avenue is currently being planned. Beecroft Road in the vicinity of the site will have a 12.4 metre pavement width within a 26.00 metre right-of-way. Cycle tracks are planned as part of the cross-section, which will provide a safe cycling north-south cycling route. The cross section of Beecroft Road is generally consistent with the "Transform 1" cross section outlined by the City of Toronto in the REImagine Yonge Environmental Assessment.

An alignment for the Beecroft Extension through the site has been proposed based on a 50 kilometre per hour design speed (posted 40km/h) to respond to the speed management strategy identified as part of the City of Toronto's Vision 2.0 Road Safety Plan. Geometric modifications to the design of the road are known to be an effective way of achieving the intended target speed. A lower design speed through this area has been adopted to respond to the adjacent park and area context.

One (1) site driveway is located approximately 110 metres north of the East-West Newtonbrook Road Extension intersection, measured centreline to centreline.

A functional road plan has been included in **Appendix H**.

2.3 TRAVEL DEMAND MANAGEMENT (TDM) PLAN

Transportation Demand Management (TDM) measures will be incorporated within the planned development to minimize the need for automobile travel to and from the site and to encourage and facilitate the use of non-automobile travel modes on a daily basis. The following outlines recommended physical and operational strategies that complement the site design with the goal of encouraging a shift in the travel pattern of future residents to sustainable modes of transportation. These measures will continue to be explored by the client team through the planning process of the proposed development. Please note that the details of the TDM plan will be finalized at the Site Plan Approval stage of the development application process.

2.3.1 Framework

The mobility framework pursued by the redevelopment plan is organized into several categories that aim to effectively allow for sustainable transportation options to be viable, attractive, and preferred by development residents, while still enabling multi-modal access and circulation to the site. Mobility framework categories are briefly identified in the following:

- **Promote Reduced Car Ownership and Usage** through the introduction of car share facilities and support for taxi, ride-share and car-pooling initiatives, and the minimization of vehicle parking supply.
- **Minimize and Manage Vehicle Parking Supply** to prevent the oversupply of both resident and visitor parking with respect to site demands. Parking provisions based on observed demands will minimize supply while appropriately accommodating site parking needs.
- **Enhance Pedestrian Access and Movement** through the introduction of new pedestrian infrastructure across the development lands, including new pedestrian pathways between site buildings and the surrounding public realm network.
- **Enhance Access to Public Transit Services** by providing direct, quality, pedestrian connections that tie into the public street network where transit services can be accessed. Making local transit information and schedules available to site residents and visitors will also facilitate and encourage transit travel to / from the site.
- **Encourage and Facilitate Cycling Usage** by providing appropriate, readily accessible, bicycle parking facilities for residents and visitors of the proposed development. Informing residents of surrounding multi-use trail systems and cycling facilities.

2.3.2 Strategies

The existing site context provides for good public transit service as well as pedestrian connectivity. Additional TDM strategies, which we recommend the client team explore through the planning process, are summarized in **Table 2**.

Based upon the site context and proposed land use, the recommended TDM strategies have been selected to further support non-automobile modes of travel. The measures fall into two general categories: a 'hard' or 'soft' measure. A 'hard' TDM measure is a physical infrastructure component, where the applicant or land developer is responsible for implementations. On the contrary, a 'soft' TDM measure is where the applicant or land developer is responsible for notifying a third party for implementations (i.e. City Staff or Transit Agency). The following sections provide additional details regarding each proposed TDM strategy.

TABLE 2 RECOMMENDED SITE TDM MEASURES

Measure	Description	TDM Plan Objective	Hard or Soft Measure
Promote Reduced Car Ownership and Usage			
Car-Share Plan	Explore opportunities to offer car-share service on the site, ideally with car-share stations (i.e. ZipCar, Enterprise AutoShare, etc. parking spaces) located within the parking area of the site or on surface parking lots.	<ul style="list-style-type: none"> Reduce auto-oriented dependence Reduce reliance on privately owned / operated vehicles 	Hard Measure
Minimize and Manage Vehicle Parking Supply			
Unbundling of Residential Unit / Vehicle parking spaces sales	Unbundling of unit leases and parking leases will benefit potential tenants who do not need or want parking space.	<ul style="list-style-type: none"> Reduce auto dependence and the need for everyday travel. 	Soft Measure
Electric Vehicle Charging	Provide parking spaces with electric vehicle charging equipment in accordance with the requirements of the Toronto Green Standard (i.e. 20% of all parking spaces). The remaining parking supply should be designed to permit future vehicle charging equipment installation	<ul style="list-style-type: none"> Promote low emission options for transportation 	Hard Measure
Reduced Vehicular Parking Supply	Reduce automobile parking ratios are proposed for the site given the proximity to existing transit facilities and area amenities.	<ul style="list-style-type: none"> Reduce car dependence and the need for everyday travel. Promote car-sharing and transit. 	Hard Measure
Enhance Pedestrian Access and Movement			
Pedestrian Connections	Provide pedestrian sidewalks and cycling connections to connect to the existing sidewalk network and to the emerging pedestrian network.	<ul style="list-style-type: none"> Make walking and cycling an attractive option for travel during the peak travel periods. 	Hard Measure
Enhance Access to Public Transit Services			
Transit Information Centre	Provide an information centre on site that ensures current transit information sources (arrival times, route information, advisory notices) such as electronic applications for smart phones or tablets are available to all residents and visitors of the site.	<ul style="list-style-type: none"> Reduce car dependence and the need for everyday travel. Promote non single-occupancy vehicle travel 	Hard Measure
Travel Mode Information Package	Implement marketing programs aimed at new residential unit purchasers to ensure that new residents are aware of available modal choices in the area.	<ul style="list-style-type: none"> Reduce auto-oriented dependence Promote non-auto modes of travel during peak periods 	Soft Measure

TABLE 2 RECOMMENDED SITE TDM MEASURES (CONT.)

Measure	Description	TDM Plan Objective	Hard or Soft Measure
Encourage and Facilitate Cycling Usage			
Bicycle Parking	Provide bicycle parking in accordance with the Toronto Green Standard for Tier 1. Provide 1,154 parking spaces (1,027 long-term and 127 short-term) in total for the residents and visitors of the site.	<ul style="list-style-type: none">• Make cycling an attractive option for travel during the peak travel periods.	Hard Measure
Implement Bike Repair Stations	Consider a bicycle repair / maintenance station within the residential bike parking storage area or near the visitor bicycle parking locations within the site.	<ul style="list-style-type: none">• Make cycling an attractive option for travel during the peak travel periods.	Hard Measure

3.0 AREA TRANSPORTATION CONTEXT

3.1 AREA ROAD NETWORK

The site is well served by the surrounding area road system. Significant broader connections are provided east-west along Finch Avenue south of the site, Steeles Avenue north of the site, north-south along Yonge Street, as well as connections to the Don Valley Parkway and Highway 401 highways, respectively.

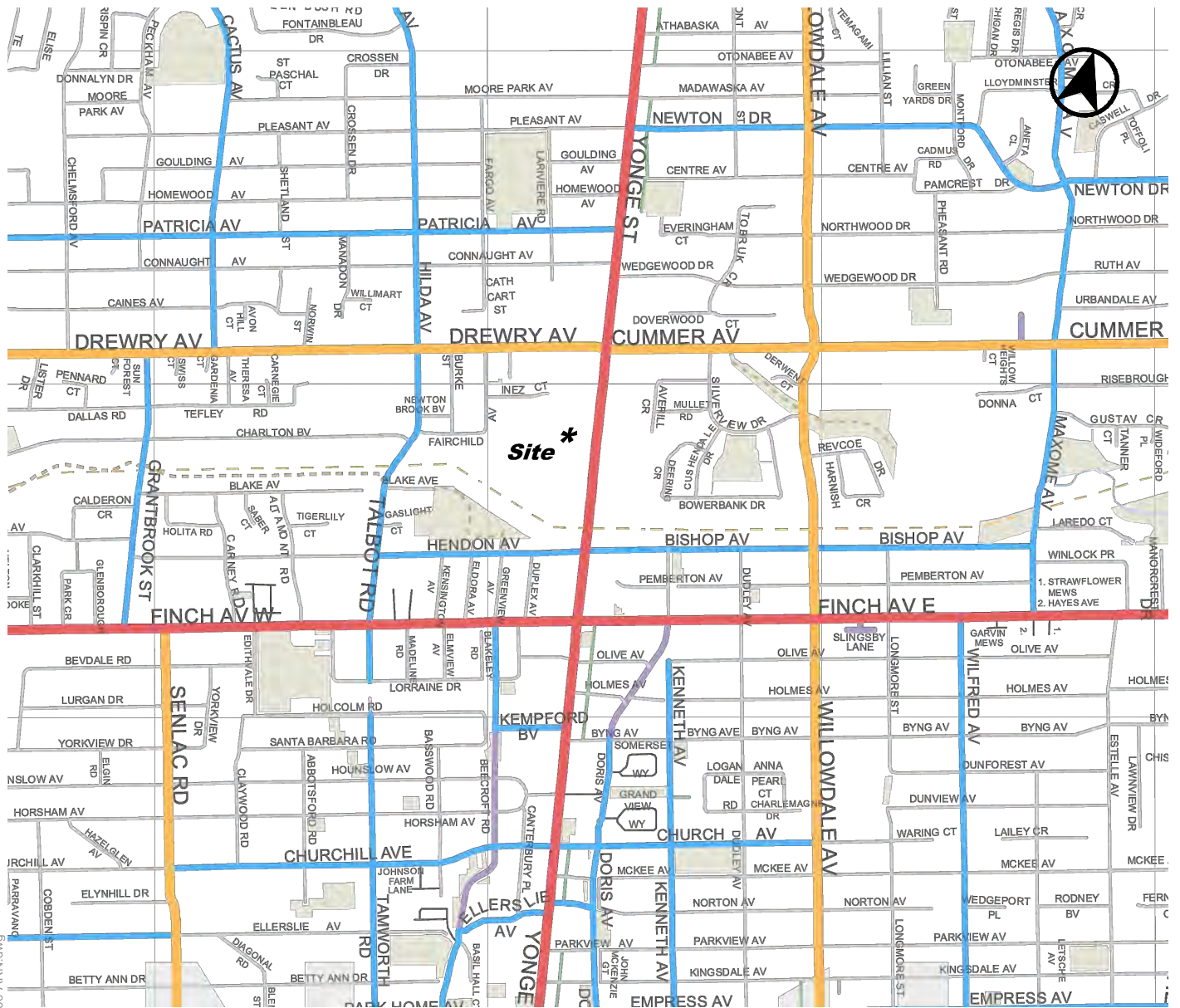
The classification of the existing area road network and area lane configurations are illustrated in **Figure 3** and **Figure 4**. The study area road network is further described in **Table 3**.

TABLE 3 AREA ROAD NETWORK

Street Name	Road Cross Section	Parking, Regulations	Posted Speed	Description
Major Arterial Road				
Yonge Street	7 Lanes with Centre Turning Lanes	Pay and display on-street parking is available along Yonge Street during non-peak periods.	50 km / hr	Yonge Street extends northwards from downtown Toronto to beyond the City limits and provides connections to the Gardiner Expressway, Highway 401 and Highway 407, as well as, many other key east-west oriented arterial roadways that extend across the City.
Finch Avenue	5 lanes with Centre Turning Lanes	No Parking is permitted in the vicinity of the study area	50 km / hr	Finch Avenue is a major east-west arterial road that terminates at Steeles Avenue in the west and Morningside Avenue in the east.
Minor Arterial Road				
Drewry Avenue	2 lanes	Parking is generally permitted in the vicinity of the study area	40 km / hr	Drewry Avenue extends westwards from Yonge Street to Bathurst Street. It continues as Cummer Avenue east of Yonge Street.
Cummer Avenue	2 lanes	No Parking is permitted in the vicinity of the study area	50 km / hr	Cummer Avenue extends eastwards from Yonge Street to Leslie Street. It continues as Drewry Avenue west of Yonge Street.

TABLE 3 AREA ROAD NETWORK (CONT.)

Street Name	Road Cross Section	Parking, Regulations	Posted Speed	Description
Collector Roads				
Hendon Avenue	2 lanes	Parking is permitted on the south side of the street between 8am and 6pm, Monday to Saturday	40 km/ hr	Hendon Avenue extends westwards from Yonge Street to Grantbrook Street. It is designated as a Collector Road between Yonge Street and Talbot Road, and is a local road between Talbot Road and Grantbrook Street. Hendon Avenue continues as Bishop Avenue east of Yonge Street.
Bishop Avenue	2 lanes	Pay and display parking on the north side is enforced between 8am and 9pm Monday to Saturday, and 1pm to 9pm on Sunday. No Parking is permitted on the south side.	50 km / hr	Bishop Avenue extends eastwards from Yonge Street to Maxome Avenue. It continues as Hendon Avenue west of Yonge Street.
Hilda Avenue	2 lanes	Parking is generally permitted on the west side of the street. No parking is permitted on the east side of the street.	40 km / hr	Hilda Avenue is a north-south road that runs from Steeles Avenue south to Drewry Avenue. It continues as Talbot Road south of Drewry Avenue to Park Home Avenue.



Legend

Road Classification System

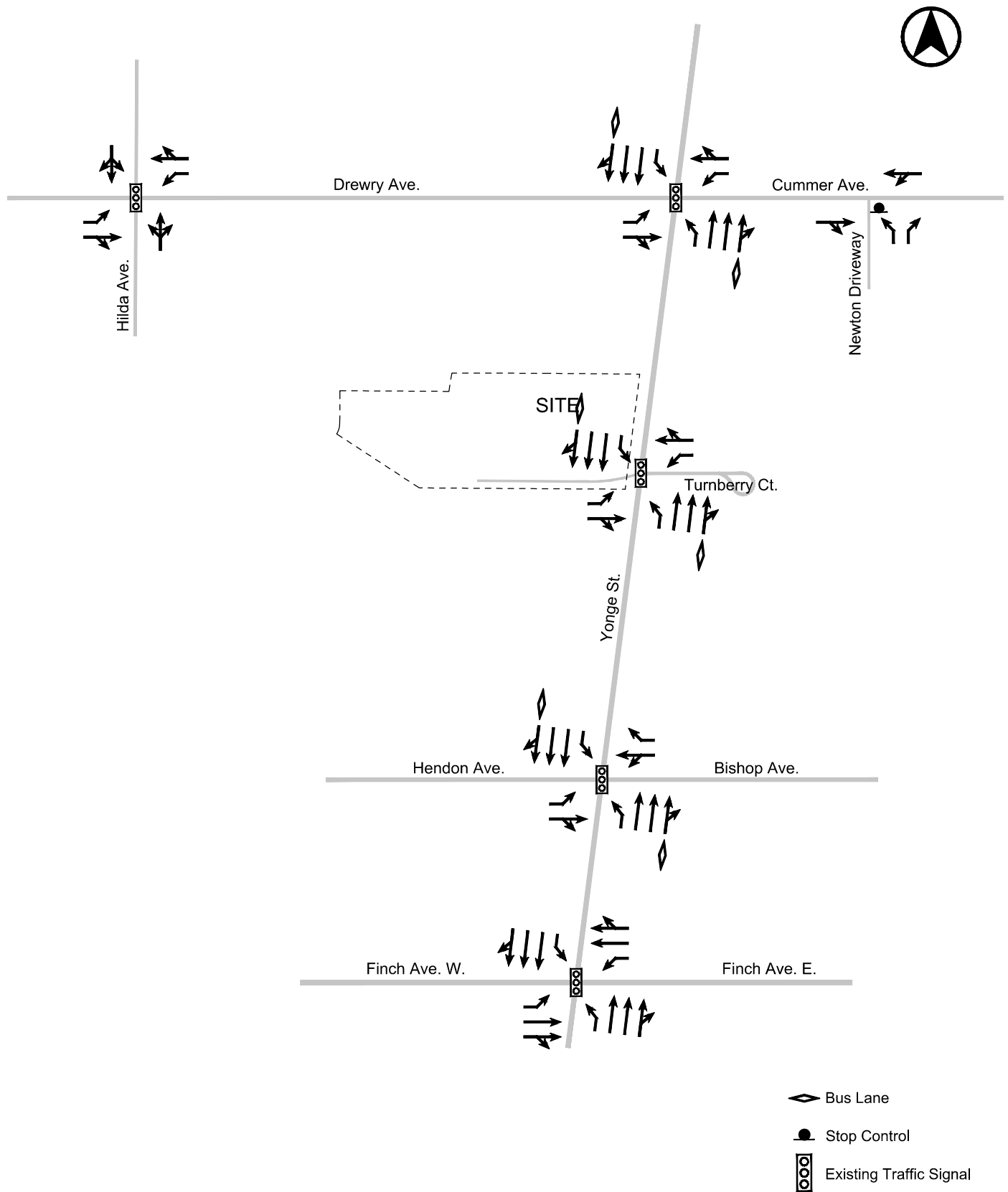
- Provincial Expressway
- City Expressway
- Major Arterial
- Minor Arterial
- Collector
- Reserved Bus Lane
- Local
- Other
- Laneway
- Pending
- Park Road

Physical Features

- River
- Railway
- Shoreline
- Trail
- Hydro Line
- Walkway

- District Boundary
- Municipal Boundary
- Parks & Recreation Area

AREA ROAD NETWORK



EXISTING LANE CONFIGURATIONS

3.2 AREA TRANSIT CONTEXT

The site is well served by a number of high-frequency bus services on Yonge Street operated by three transit agencies, including Toronto Transit Commission (TTC), York Region Transit (YRT), and GO Transit / Metrolinx. The site is located approximately 300 metres from Finch Station which is a Mobility Hub and terminus for services from all three agencies. In addition to being the terminus to the Line 1 Yonge-University-Spadina subway line, it forms as the terminal for a number of Toronto Transit Commission (TTC) surface transit routes, York Region Transit (YRT) surface transit routes, and GO regional bus routes, providing area residents / employees with good access to the Greater Toronto and Hamilton Region (GTHA).

The nearest bus stops to the site on Yonge Street are located immediately adjacent to the site, at Yonge Street / Turnberry Court. The existing area transit services and walking distances to each service are found in **Table 4** and illustrated in **Figure 5**.

TABLE 4 AREA TRANSIT SERVICES

Route	Headways	Closest Stop	Route Description
Subway			
Line 1 Yonge-University-Spadina	2 -3 min. during weekday peak periods 4 – 5 min. during off peak periods	Finch Station (300 m or a 5 min. walk)	The route is a “U-shape” running generally in the north-south direction along Yonge Street and University Avenue / Allen Road. This route operates between Finch Avenue in the north and Front Street (Union Stn.) in the south. Line 1 connects to Line 2 at the Bloor-Yonge and St. George stations and connects to Line 4 at Sheppard-Yonge station.
Bus (Toronto Transit Commission)			
42 Cummer	6-7 min during weekday peak periods	Cummer Avenue / Yonge Street (300 m or a 5 min walk)	The 42 Cummer bus route operates between Finch Station on Line 1 Yonge-University, the area of Gordon Baker Road and Victoria Park Avenue, the area of McNicoll Avenue and Kennedy Road, and the area of Dynamic Drive and Passmore Avenue, generally in an east-west direction.
53 / 53A / 53B Steeles East	53A – 25 min during weekday peak periods 53B – 5 min during weekday peak periods	Yonge Street / Turnberry Court (50m / <5 min walk)	The bus service operates between Finch Subway Station to the area of Markham Road and Steeles Avenue (53B / 953B) and to the area of Morningside Avenue and Staines Road (53A / 953A) in the east. Route 953 is the express route of route 53.
60 / 60A / 60B / 60D Steeles West	60A – 7-8 min during weekday peak periods 60B – 7-8 min during PM peak only 60D – 7-8 min during weekday peak periods	Yonge Street / Turnberry Court (50m / <5 min walk)	The bus service operates between the Finch subway station to the area of Steeles Avenue West and Highway 27 in the west and Pioneer Village Station. Route 960 is the express route of route 60. Route 60A operates between Finch Station and Pioneer Village Station. Route 60B operates between Finch Station and the area of Steeles Avenue West / Martin Grove Road. Route 60D operates between Finch Station and the area of Steeles Avenue West and Highway 27.
97 F – Yonge	30 minutes or less during weekday peak periods	Yonge Street / Turnberry Court (50m / <5 min walk)	The 97 Yonge bus route operates generally in a north-south direction between Davisville Station on Line 1 Yonge-University, and Steeles Avenue West / Hilda Avenue.
125 Drewry	6-7 min during AM peak periods 10 min during PM peak periods	Drewry Avenue / Yonge Street (300 m or a 5 min walk)	The 125 Drewry bus route operates between Finch Station on the Yonge-University-Spadina Subway and the area of Torresdale Avenue and Antibes Drive, generally in an east-west direction.

TABLE 4 AREA TRANSIT SERVICES (CONT.)

Route	Headways	Closest Stop	Route Description
Bus (York Region Transit)			
2 Milliken	20-25 mins during AM peak (7am-9:30am) 25-30 mins during PM peak (4pm-6pm)	Yonge Street / Turnberry Court (50m / <5 min walk)	This bus service operates between the Finch GO Bus Terminal (located adjacent to the Finch subway station) in the City of Toronto in the south to the area of Markham Road / Denison Street in York Region in the northeast. Within the study area, the route operates along Yonge Street to Meadowview Avenue in the north, then via Meadowview Avenue to / from the northeast.
5 Clark	16-19 mins during AM peak (7am-9:30am) and PM peak (4pm-6pm)	Yonge Street / Turnberry Court (50m / <5 min walk)	This bus service operates between the Finch GO Bus Terminal (located adjacent to the Finch subway station) in the City of Toronto in the south to the area of Dufferin Street and Glen Shields Avenue in York Region in the northwest. Within the study area, the route operates along Yonge Street to Clark Avenue West in the north, then via Clark Avenue West to / from the west.
23 Thornhill Woods	33-34 mins during AM peak (7am-9:30am) and PM peak (4pm-6pm)	Yonge Street / Turnberry Court (50m / <5 min walk)	This bus service operates between the Finch GO Bus Terminal (located adjacent to the Finch subway station) in the City of Toronto in the south to Promenade Terminal (located adjacent to Promenade Mall) in York Region, then to the area of Teston Road / Via Romano Boulevard in York Region in the northwest. Within the study area, the route operates along Yonge Street to Steeles Avenue where it connects to Hilda Avenue and the northern part of the route.
77 Highway 7	Route 77 15-16 mins during AM peak (7am-9:30am) 17 mins during PM peak (4pm-6pm) Route 77A 41-48 mins during AM peak (7am-9:30am) 46-47 mins during PM peak (4pm-6pm)	Yonge Street / Turnberry Court (50m / <5 min walk)	This bus service operates between the Finch GO Bus Terminal (located adjacent to the Finch subway station) in the City of Toronto in the south to the area of Highway 7 and Vaughan Valley Road in York Region in the west. There are 2 bus services provided along this route. Bus route 77A is an express route that operates on the 407 for a segment of the route during the AM peak and PM peak. Bus route 77 operates with a regular schedule. Within the study area, both routes operate along Yonge Street to Centre Street, where route 77A travels along Highway 407 to / from the west, and route 77 continues along Centre Street to / from the west.
88 Bathurst	16-17 mins during AM peak (7am-9:30am) and PM peak (4pm-6pm)	Yonge Street / Turnberry Court (50m / <5 min walk)	This bus service operates between the Finch GO Bus Terminal (located adjacent to the Finch subway station) in the City of Toronto in the south to Seneca College King Campus in York Region in the north. Within the study area, the route operates along Yonge Street to Steeles Avenue, where it travels east-west to connect to / from the north via Bathurst Street.
91 / 91A / 91E Bayview	Route 91 / 91A 24 mins during AM peak (7am-9:30am) 28 mins during PM peak (4pm-6pm) Route 91E 20-27 mins during AM peak (7am-9:30am) *3 buses	Yonge Street / Turnberry Court (50m / <5 min walk) Route 91E does not stop within the site area	This bus service has 3 routes that operate within the vicinity of the site. All 3 routes operate between the Finch GO Bus Terminal (located adjacent to the Finch subway station) in the City of Toronto in the south to the area of Bayview Plaza (located at Bayview Avenue and Taylor Mills Drive South) in York Region in the north. Route 91 loops around using Taylor Mills Drive, while Route 91A continues north towards the area of Bayview Avenue and Subrisco Avenue. Route 91E is an express service that only operates southbound towards the Finch GO Bus Terminal from the area of Bayview Avenue and Subrisco Avenue and only during AM peak period. Within the study area, all 3 routes operate along Yonge Street to Steeles Avenue, then continues to / from Bayview via Steeles Avenue East.

TABLE 4 AREA TRANSIT SERVICES (CONT.)

Route	Headways	Closest Stop	Route Description
Bus (York Region Transit)			
98E / 99 Yonge Limited Express	Route 99 32-34 mins during AM peak (7am-9:30am) 28-32 mins during PM peak (4pm-6pm) Route 98E Northbound PM only One bus	Yonge Street / Turnberry Court (50m / <5 min walk) Route 98E does not stop within the study area.	This bus service operates between the Finch GO Bus Terminal (located adjacent to the Finch subway station) in the City of Toronto in the south to the area of Yonge Street and Green Lane in York Region in the north.
300 / 301 / 302 / 303 / 304 (Business Express / Markham Express / Unionville Express / Bur Oak Express / Mount Joy Express)	300 15 mins NB during AM peak (7am-9:30am) 21-34 mins SB during PM peak (4pm-6pm) 301 / 302 / 303 / 304 8-30 mins during AM peak (7am-9:30am) 10-45 mins during PM peak (4pm-6pm)	Finch Subway Station (300 m or a 5 min. walk)	These bus services operate between the Finch GO Bus Terminal (located adjacent to the Finch subway station) in the City of Toronto in the south to various locations northeast in Markham in York Region. Within the study area Route 300 travels northbound along Yonge Street from the Finch GO Bus Terminal to Highway 407 without any stops in the AM peak and southbound along Yonge Street from Highway 407 to the Finch GO Bus Terminal without any stops in the PM peak. Route 301, Route 302, Route 303, and Route 304 travels southbound along Yonge Street from Highway 407 to the Finch GO Bus Terminal without any stops in the AM peak.
VIVA Blue / VIVA Blue A	15 mins during AM peak (7am-9:30am) and PM peak (4pm-6pm)	Finch Subway Station (300 m or a 5 min. walk)	This bus service operates between the Finch GO Bus Terminal (located adjacent to the Finch subway station) in the City of Toronto in the south to the Newmarket GO Bus Terminal (located at Davis Drive West and Eagle Street West) in the City of Newmarket. Both routes operate along Yonge Street within the study area. Route Blue A is an express route that does not stop at intermediate terminals. The VIVA Blue and VIVA Blue A both operate southbound only along Yonge Street during the AM Peak and northbound only during the PM Peak. The VIVA Blue has 2 routes servicing different end terminals.
VIVA Pink	15 mins during AM peak (7am-9:30am) and PM peak (4pm-6pm)	Finch Subway Station (300 m or a 5 min. walk)	This bus service operates between the Finch GO Bus Terminal (located adjacent to the Finch subway station) in the City of Toronto in the south to the Unionville GO Bus Terminal (located near YMCA Boulevard and Ravis Rd) in the City of Markham. Within the study area, the route operates along Yonge Street to Highway 7 in the north, then to / from the Unionville GO Bus Terminal via Highway 7.
GO Transit / Metrolinx			
GO Bus Route 32 / 32A / 32B (Brampton Trinity Common / North York)	Route 32 15-30 min during the AM peak and 21-30 min during the PM peak. Route 32A 25-45 min during the AM Peak, 1 bus in PM Peak Route 32B 25 min during the AM peak and 26-30 min during the PM peak.	Finch Subway Station (300 m or a 5 min. walk)	This bus service has 3 routes, which operates between the York Mills GO Bus Terminal (located at the York Mills subway station) in the City of Toronto and Bramalea GO Train station (located at Steeles Avenue East / Bramalea Road), Bramalea Bus Terminal (located at Kensington Road / Central Park Drive), and Trinity Common Mall (located adjacent to Highway 410 on Bovaird Drive East) in the City of Brampton. This service operates southbound only on Yonge Street during the AM peak and northbound only on Yonge Street during the PM peak



EXISTING AREA TRANSIT SERVICES

3.3 AREA CYCLING CONTEXT


The site is located in the vicinity of Yonge Street and Drewry Avenue / Cummer Avenue area and is within cycling distance to a number of services, entertainment, retail and amenity centres in North York. Planned cycling infrastructure will improve connections to other cycling routes.

The existing and planned cycling context is illustrated in **Figure 6** and described in the following sections.

3.3.1 Existing Cycling Network

Currently, cycling infrastructure in the area is limited to the Finch Hydro Corridor multi-use trail. The existing cycling network is summarised in **Table 5**.

TABLE 5 EXISTING CYCLING NETWORK

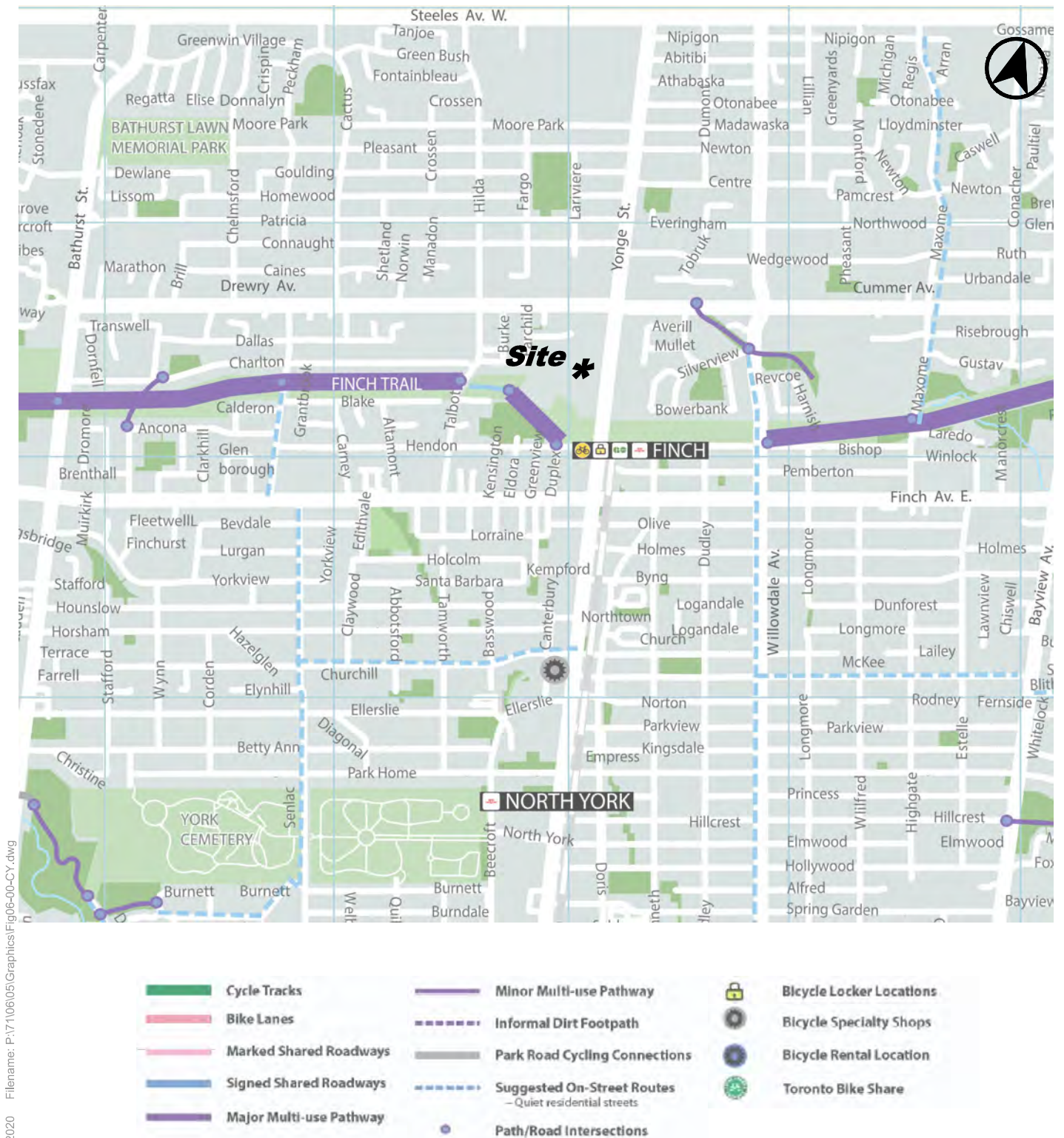
Route	Type of Cycling Infrastructure	Description	Image
East – West Bicycle Connections			
Finch Hydro Corridor Trail	Multi-Use Trail	The multi-use trail within the Finch Hydro Corridor is part of a network that will provide future connections to Dufferin Street in the west and Scarborough in the east.	 <p>Maxome Avenue – Facing West</p>

3.4 AREA PEDESTRIAN ENVIRONMENT

The site is located within the North York Centre area which provides a high level of pedestrian accessibility to a variety of employment, retail, entertainment, institutional and recreational facilities and uses that can be readily reached on-foot. The site is also located within a 10 minute walk of Finch subway station.

This proximity of these uses and facilities, and the convenient level of non-automobile dependent accessibility this affords, provides prospective residents of the proposed condominium building opportunity to travel to / from many destinations and amenities without the use of a car on a day to day basis. This in turn has the potential to reduce vehicular activity levels of the proposed building, particularly during the peak hour periods.

Within the vicinity of the site, sidewalks are provided along both sides of Yonge Street. Sidewalks will be widened on the Yonge Street frontage to provide a better environment for pedestrians.



EXISTING AND PLANNED CYCLING INFRASTRUCTURE



BA Group

5800 Yonge Street
7106-05 January 2020

Figure 6

4.0 EVOLVING TRANSPORTATION CONTEXT

4.1 YONGE SUBWAY LINE EXTENSION

An Environmental Assessment (EA) was completed in 2009 for the extension of the Yonge subway line, north to an emerging centre in Richmond Hill just north of Highway 407. A new station is planned at Drewry / Cummer Avenue. While the EA was approved, the City of Toronto placed a number of pre-conditions prior to implementation. These requirements were aimed at providing additional capacity on the Yonge subway line and included: (1) use of new larger and integrated subway cars, (2) improvements to the signalling system, and (3) improvements at the Bloor-Yonge interchange or alternative capacity relief south of Bloor Street. New subway cars have been phased into active service, and signal improvements are currently being made. Studies related to the third requirement are ongoing.

Metrolinx has responsibility for the prioritization of major new regional transit initiatives across the Greater Toronto (and beyond) area. The Yonge Subway Extension remains one of several unfunded projects still identified within the Metrolinx 15-year time frame. A preliminary Benefit Case Analysis (BCA) was completed for the extension in 2009; a subsequent more detailed BCA based on supplemental concept design work undertaken by the TTC was completed in 2013. As well, City of Toronto / TTC staff are currently undertaking a study of alternatives to improve the transit accessibility of Downtown Toronto; i.e., south of Bloor Street.

For the purpose of this assessment, implementation of the Yonge Subway Extension is assumed to be beyond the scope of the 5 year time frame considered herein.

4.2 AREA CYCLING FACILITY IMPROVEMENTS

4.2.1 Future Cycling Network

The *City of Toronto 10-year Cycling Plan (2016 – 2025)* has identified numerous changes to the area cycling network. The planned routes are illustrated in **Figure 6**.

North – South Direction

- **Willowdale Avenue** (east of Yonge Street) – Bicycle lanes or cycle tracks are proposed on Willowdale Avenue from Steeles Avenue in the north south to Avondale Avenue (south of Sheppard Avenue).
- **Senlac Road** (west of Yonge Street) – Bicycle lanes or cycle tracks are proposed on Senlac Road from the Finch Hydro Corridor Trail in the north to Sheppard Avenue in the south.
- **Hilda Avenue** (west of Yonge Street) – A quiet street route (which can consist of “sharrow” markings, traffic calming, and wayfinding signage) is proposed on Hilda Avenue from the Finch Hydro Corridor Trail north to Steeles Avenue.
- **Yonge Street** – As part of the 2013 *Yonge Street North Planning Study*, a Yonge Street Promenade was recommended on Yonge Street south of Steeles Avenue (to Finch Avenue). Elements of the Yonge Street promenade were not detailed, however the street was imagined to become a complete street space (which typically includes a bicycle facility).

East – West Direction

- **Drewry Avenue / Cummer Avenue** - Bicycle lanes or cycle tracks are proposed on Drewry Avenue and Cummer Avenue between Hilda Avenue in the west to McNicoll Avenue in the east.
- **Hendon Avenue / Bishop Avenue** – an off-street multi-use trail is proposed on Hendon Avenue and Bishop Avenue to provide a formal connection between the Finch Hydro Corridor west of Greenview Avenue and Willowdale Avenue.

5.0 VEHICULAR PARKING CONSIDERATIONS

5.1 ZONING BY-LAW REQUIREMENTS

5.1.1 North York Centre Secondary Plan Parking Requirements

Application of the North York Centre Secondary Plan parking requirements to the ultimate proposed development requires a minimum of 1,554 parking spaces (1,346 residential, 149 residential visitor spaces and 59 non-residential spaces) to be provided. A summary of the minimum parking requirements, by phase, is provided in **Table 6**.

TABLE 6 NORTH YORK CENTRE SECONDARY PLAN PARKING REQUIREMENTS

Use	Rate	Phase I	Phase II	Total
Residential				
Resident	0.9 spaces / unit	750 units 675 spaces	746 units 671 spaces	1,496 units 1,346 spaces
Non-Residential				
Residential Visitor	0.1 spaces / unit	750 units 75 spaces	746 units 74 spaces	1,496 units 149 spaces
Non-Residential (Office, Institutional, Ancillary Retail, Service Commercial)	0.9 spaces / 100 sq. metres GFA	782 sq. metres 7 spaces	5,857 sq. metres 52 spaces	6,639 sq. metres 59 spaces
<i>Sub-Total</i>	--	82 spaces	126 spaces	208 spaces
Site Total	--	757 spaces	797 spaces	1,554 spaces

Notes:

1. Site Statistics based upon stats provided by Wallman Architects dated January 24, 2020.
2. Parking space calculations resulting in a number containing a fraction shall be rounded down to the nearest whole number per the parent North York Zoning By-law 7625.

5.1.2 Accessible Parking Requirements

Application of Zoning By-law 579-2017 accessible parking requirements to the ultimate proposed development requires a minimum of 38 accessible parking spaces (19 in Phase I and Phase II, each) to be provided. A summary of the minimum parking requirements, by phase, is provided in **Table 7**.

TABLE 7 ZONING BY-LAW 579-2017 ACCESSIBLE PARKING REQUIREMENT

Rate	Phase I	Phase II	Total
5 + 2% spaces or part thereof in excess of 100 parking spaces	757 parking spaces 19 accessible spaces	797 parking spaces 19 accessible spaces	1,554 parking spaces 38 accessible spaces

5.2 PROPOSED PARKING FACILITIES

5.2.1 Parking Supply

It is proposed to provide 1,638 resident parking spaces in a four and-a-half (4 ½) level underground garage. Access to the underground parking facilities is provided via a loading and parking driveway north of the site off Yonge Street. The proposed supply meets / exceeds the requirements of the North York Centre Secondary Plan.

A total of 209 non-residential (150 visitor spaces and 59 commercial spaces) parking spaces are proposed on the P1 level of the underground garage, meeting the non-resident parking requirements for the site. A total of 1,429 resident spaces are proposed, exceeding the minimum residential requirement.

A summary of the proposed parking supply is provided in **Table 8**.

TABLE 8 PROPOSED PARKING SUPPLY

Level	Phase I			Phase II		
	Residential	Residential Visitor	Non-Residential	Residential	Residential Visitor	Non-Residential
P1	87	75	7	--	62	52
P2	235	--	--	143	13	--
P3	235	--	--	161	--	--
P4	238	--	--	161	--	--
P5	--	--	--	169	--	--
Sub-total	795	75	7	634	75	52
Sub-total	877			761		
Total	1,638					

5.2.2 Accessible Parking Supply

It is proposed to meet the new accessible standards outlined in Zoning By-law 579-2017. A total of forty-two (42) accessible spaces with dimensions 3.4m x 5.6m x 2.1m are proposed in the underground garage. Shared access aisles 1.5m are provided adjacent to the spaces, meeting the requirements outlined in the new Zoning By-law. A summary of the proposed accessible parking supply is provided in **Table 9**.

TABLE 9 PROPOSED ACCESSIBLE PARKING SUPPLY

	Phase I	Phase II	Total
Parking Spaces	877 spaces	761 spaces	1,638 spaces
Accessible Spaces	22 spaces	20 spaces	42 spaces

6.0 LOADING CONSIDERATIONS

6.1 ZONING BY-LAW LOADING REQUIREMENTS

6.1.1 Former City of North York Zoning By-law 7625 Loading Requirements

Application of the former City of North York Zoning By-law 7625 loading requirements to each phase of the development requires a total of five (5) loading spaces to be provided. A summary of the requirements is provided in **Table 10**.

TABLE 10 FORMER CITY OF NORTH YORK ZONING BY-LAW 7625 LOADING REQUIREMENTS

Use	Units / GFA	Minimum Loading Requirement
Phase I		
Residential	750 units	1 loading space
Non-Residential	782 sq. metres GFA	1 loading space
<i>Sub-Total</i>	--	<i>2 loading spaces</i>
Phase II		
Residential	746 units	1 loading space
Non-Residential	5,857 sq. metres GFA	2 loading spaces
<i>Sub-Total</i>	--	<i>3 loading spaces</i>
Site Total	--	5 loading spaces

Notes:

1. Site Statistics based upon stats provided by Wallman Architects dated January 24, 2020.

6.1.2 City of Toronto Zoning By-law 569-2013 Loading Requirements

It is proposed to adopt the loading standards outlined in the new consolidated Zoning By-law 569-2013 to the proposed development notwithstanding that this area is technically exempted from the provisions of this By-law. These standards are proposed to be adopted given that they reflect the City's most contemporary requirements from a loading perspective for new buildings across the City.

Application of the contemporary Zoning By-law 569-2013 loading requirements with CR sharing rules to each phase of the development requires a minimum of five (5) loading spaces (2 Type 'G' and 3 Type 'C' spaces) to be provided on the site.

A summary of the requirements is provided in **Table 11**.

TABLE 11 ZONING BY-LAW 569-2013 LOADING REQUIREMENTS

Use	Units / GFA	Minimum Loading Requirement				
		Type 'A'	Type 'B'	Type 'C'	Type 'G'	Total
Phase I						
Residential	750 units	--	--	1	1	2
Daycare	741 sq. metres	--	--	--	--	0
Sub-total		--	--	1	1	2
Phase II						
Residential	746 units	--	--	1	1	2
Office	4,601 sq. metres	--	2	2	--	4
Retail	1,255 sq. metres	--	1	--	--	1
Total before sharing		--	3	3	1	7
Total after sharing per 220.5.10.1 (9) ¹		--	2	3	1	6
Total after sharing per 40.10.90.1 (1) ²		--	1	3	1	5
Total after sharing per 40.10.90.1 (2) ³		--	1	2	1	4
Site Total		--	1	3	2	6

Notes:

1. Site Statistics based upon stats provided by Wallman Architects dated January 24, 2020.
2. The loading space requirement for a building in Policy Area 1 (PA1) or Policy Area 2 (PA2) and which has two or more of the following uses; Office, Retail Store, Eating Establishment, Personal Service Shop, or Hotel, may take the largest of the Type 'B' and Type 'C' loading space requirement for any of the non-residential uses listed above.
3. Mixed-use buildings in a Commercial Residential Zone (CR) with more than 30 dwellings units may share the requirement for a Type 'B' space with a Type 'G' space per City of Toronto Zoning By-law 569-2013 Section 40.10.90.1 (1).
4. Mixed-use buildings in a Commercial Residential Zone (CR) with more than 400 dwellings units may share the requirement for a Type 'C' space with a Type 'A', Type 'B', or Type 'C' space per City of Toronto Zoning By-law 569-2013 Section 40.10.90.1 (2).

6.2 PROPOSED LOADING SUPPLY

There is provision for one (1) Type 'G' loading space and one (1) Type 'B' loading space for Phase I and provision for one (1) Type 'G' loading space, one (1) Type 'B' loading space and two (2) Type 'C' loading spaces for Phase II. In total, there are six (6) proposed loading spaces for the site. Access to the Type 'G' loading space for Phase I and all loading spaces for Phase II are provided off the east-west private road. Access to the Type 'B' loading space for Phase I is provided off the pick-up and drop-off loop.

The proposed loading supply of two (2) Type 'G' and two (2) Type 'B' and two (2) Type 'C' loading spaces meets the loading space requirements of two (2) Type 'G', one (1) Type 'B' and three (3) Type 'C' loading spaces based on the contemporary City of Toronto Zoning By-law 569-2013. It is noteworthy that the loading supply intention meets / exceeds the loading requirements by phase.

A summary of the proposed loading supply is provided in **Table 12**.

TABLE 12 PROPOSED LOADING SUPPLY

	Type 'A'	Type 'B'	Type 'C'	Type 'G'	Total
Phase I					
Phase I Loading Supply	--	1	--	1	2
Phase II					
Phase II Loading Supply	--	1	2	1	4
Site Total	--	2	2	2	6

6.3 LOADING FACILITY ARRANGEMENTS

6.3.1 Residential Refuse / Recycling Collection Facilities

Residential refuse / recycling collection for the proposed residential components of the building will occur within the proposed loading facility.

Appropriate bin storage provisions are provided adjacent to the loading spaces in accordance with the design provisions outlined in the *“City of Toronto Requirements for Garbage and Recycling Collection for New Developments and Redevelopments”* (May 2012). Provision for a minimum bin staging area of 70 square metres on each have been provided adjacent to the loading space to accommodate a total of approximately 14 bins within each of the two allocated areas (including 1 bin in each of the Type ‘G’ spaces). The City policy requirements (i.e. size of bin staging area = 5 square metres for every 50 units provided in excess of the first 50 units) requires a minimum of 140 square metres.

The residential garbage and recycling rooms for the four (4) residential towers are provided on the P1 level of the underground parking garage, adjacent to the elevator cores of each tower.

6.3.2 Non-Residential Garbage and Recycling Facilities

The non-residential refuse / recycling rooms are located at-grade adjacent to the loading areas. Non-residential refuse / recycling is proposed to be collected by a private refuse collection company.

6.3.3 Operations and Manoeuvring

Turning movement diagrams have been developed demonstrating the ability for the City of Toronto front loading refuse collection vehicles and other service delivery vehicles to manoeuvre appropriately within the site when accessing / departing each of the loading spaces proposed within the loading area.

The design vehicles used to assess the design arrangements of the proposed loading spaces are as follows:

- City of Toronto Front-Loading Refuse Collection Vehicle;
- TAC Single Unit Vehicle (SU);
- TAC Heavy Single Unit Vehicle (HSU);
- Wheel Trans; and
- Passenger Vehicle.

Vehicle Manoeuvring Diagrams for loading facilities (VMD-01 to VMD-14) are provided in **Appendix B** and illustrate the turning movements for the design vehicles entering / departing the proposed loading spaces and pick-up and drop-off loop.

These diagrams confirm that the proposed loading arrangements are appropriate and will facilitate the manoeuvring needs of the vehicles that will make deliveries to the site.

6.3.4 Height Clearances

The loading area has been designed such that a minimum 4.5 metre clearance is maintained along the route leading up to the loading area. A minimum height clearance of 6.1 metres is provided above the Type 'G' loading spaces and bin staging areas to enable compacted bulk lift bin collection, meeting the City of Toronto Zoning By-law 569-2013 standards.

7.0 BICYCLE PARKING CONSIDERATIONS

7.1 ZONING BY-LAW REQUIREMENTS

7.1.1 North York Centre Secondary Plan Bicycle Parking Requirements

Application of the bicycle requirements outlined in the North York Centre Secondary Plan requires a minimum of 154 bicycle parking spaces to be provided on the lot to support the proposed development, as planned. A summary of the bicycle parking requirements is found in **Table 13**.

TABLE 13 NORTH YORK CENTRE SECONDARY PLAN BICYCLE PARKING REQUIREMENTS

Use	Total Units/NFA	Minimum Parking Rate	Minimum Parking Required ¹
Residential	1,496 units	0.1 spaces / unit	150 spaces
Commercial Uses	6,639 sq. m GFA	Greater of 4 spaces or 1 bicycle parking space for every 2,000 sq. metres of commercial GFA	4 spaces
Total	--	--	154 spaces

Notes:

1. Site Statistics based upon stats provided by Wallman Architects dated January 24, 2020.

7.1.2 Zoning By-law 569-2013 / Toronto Green Standards Tier 1, Zone 2 Bicycle Parking Requirements

Application of the bicycle requirements outlined in the City of Toronto Zoning By-law 569-2013 / Toronto Green Standard Version 3.0 (Tier 1, Zone 2) requires a minimum of 1,154 bicycle parking spaces (1,027 long-term and 127 short-term) bicycle parking spaces to be provided on the lot to support the proposed development, as planned. A summary of the bicycle parking requirements is found in **Table 14**.

**TABLE 14 ZONING BY-LAW 569-2013 / TORONTO GREEN STANDARDS VERSION 3.0 TIER 1
(ZONE 2) BICYCLE PARKING REQUIREMENTS**

Use		Total Units/NFA	Minimum Parking Rate	Minimum Parking Required ²
Phase I				
Residential	Long-term	750 units	0.68 spaces / unit	510 spaces
	Short-term		0.07 spaces / unit	53 spaces
Daycare	Long-term	782 sq. m GFA	0.06 spaces / 100 sq. m IFA	1 space
	Short-term		3 + 0.06 sps. / 100 sq. m. IFA	4 spaces
Sub-Total	Long-term	--	--	511 spaces
	Short-term			57 spaces
Phase II				
Residential	Long-term	746 units	0.68 spaces / unit	508 spaces
	Short-term		0.07 spaces / unit	53 spaces
Retail	Long-term	1,255 sq. m GFA	0.13 spaces / 100 sq. m IFA	2 spaces
	Short-term		3 + 0.25 sps. / 100 sq. m. IFA	7 spaces
Office	Long-term	4,601 sq. m GFA	0.13 spaces / 100 sq. m IFA	6 spaces
	Short-term		3 + 0.15 sps. / 100 sq. m. IFA	10 spaces
Sub-Total	Long-term	--	--	516 spaces
	Short-term			70 spaces
Site Total	Long-term	--	--	1,027 spaces
	Short-term			127 spaces

Notes:

1. Site Statistics based upon stats provided by Wallman Architects dated January 24, 2020.
2. Zoning By-law 569-2013 specifies that if the calculation of the number of required bicycle parking spaces results in a number with a fraction, the number is rounded up to the nearest whole number.
3. For the purposes of this analysis, the interior floor area (IFA) was assumed to be equal to the gross floor area (GFA)

7.2 PROPOSED BICYCLE PARKING SUPPLY

A total of 1,156 bicycle parking spaces (1,029 long-term spaces and 127 short-term spaces) are being proposed to support the development, as planned. 570 bicycle parking spaces (512 long-term and 58 short-term) are being provided in Phase I and 586 bicycle parking spaces (517 long-term and 69 short-term) are being provided in Phase II.

The long-term residential bicycle parking spaces will be located in weather protected, secured, bicycle storage rooms in the underground garage. Long-term retail and office bicycle parking spaces are located at-grade. The short-term bicycle parking spaces will be located primarily at-grade in easily accessible locations with adequate signage to promote visibility.

The bicycle parking supply meets the requirements of the Toronto Zoning By-law 569-2013 and Toronto Green Standard Version 3.0 (Tier 1, Zone 2).

A summary of the proposed bicycle parking supply is provided in **Table 15**.

TABLE 15 PROPOSED BICYCLE PARKING SUPPLY

Use		Bicycle Parking Supply
Phase I		
Residential	Long-term	511
	Short-term	54
Daycare	Long-term	1
	Short-term	4
Sub-Total	Long-term	512
	Short-term	58
Phase II		
Residential	Long-term	509
	Short-term	52
Retail	Long-term	2
	Short-term	7
Office	Long-term	6
	Short-term	10
Sub-Total	Long-term	517
	Short-term	69
Site Total	Long-term	1,029
	Short-term	127

8.0 MULTI-MODAL TRAVEL DEMAND FORECASTS

The site is located within the North York Centre area, near the Finch Station and within a transportation network that provides significant opportunities for non-automobile modes of travel (i.e. transit, walking and cycling). As part of this study, BA Group has established travel demand forecast for auto-based and non-auto based trips for the site. Further details are provided in the following sections.

As part of this study, BA Group has developed travel demand forecasts for the site for each mode of travel (transit, walking, cycling and auto) in order to better assess the characteristics of each mode. Anticipated travel demand to / from the site reflects a high level of pedestrian, cycling and transit usage, based on the site's located, pedestrian / cycling / transit supportive infrastructure and the proposed site plan which are all supportive of non-auto based travel to and from the site, particularly during the weekday peak periods of travel.

8.1 APPROACH AND BASELINE PARAMETERS

Travel demand forecasts have been developed for each of the proposed land use components (i.e. residential, office, retail and day care) based on the following:

- **Gross Person Trip Forecasting** – application of an adopted person trip rate derived based on a comparison of rates established from 'first principles' methodology using 2016 TTS information and assumptions specified within the *North York Centre Secondary Plan* and ITE Trip Generation Manual 10th Edition formulations for gross person trips in a general urban setting;
- **Interaction and Pass-By Considerations** – account for interaction effects for each land use pairing based upon interaction effects for each land use pairing based upon interaction rates documented within the NCHRP Report 684 and pass-by rates from the ITE Trip Generation Manual 10th Edition for retail uses; and
- **Application of Mode Share Assumptions** – application of future mode split and vehicle occupancy to the resultant net person trips for each land use to determine site travel demand by mode.

Travel demand forecasts for the site have been developed to reflect pedestrian, cycle and transit usage that is reflective of the existing travel characteristics of the area. The site is located adjacent to planned improvements, to transit services, and active transportation support site plan and a mix of uses that are supportive of non-auto based travel to and from the site, particularly during the weekday peak periods of travel.

The following sections discuss the steps outlined above for each of the land uses proposed for the site. References are made in regard to four types of trip making throughout the following sections. The terminology for these trip types are described below.

- **External Primary Trip** – refers to new trips directly generated by the proposed development where the other end of the trip is external to the site and not within the site vicinity;

- **External Pass-By Trip** – refers to existing trips along the travel corridor, where both ends of the trip are external to the site, that are attracted to the site by some new land use (typically retail) provided by the proposed development while these trip makers are on route for their existing trip;
- **Internal Interaction Trip** – refers to trips made between the component land uses internal to the site and would use the internal site network exclusively as pedestrians; and
- **Adjacent Area Interaction Trip** – refers to new pedestrian trips to / from the proposed development that realize their interaction potential with land uses adjacent to the site. Although these are effectively external primary trips, they have a walk exclusive travel mode given the proximity of interaction.

For the purposes of this analysis, travel demand to and from the site has been developed for the residential, office and retail land uses proposed on the site with a person-trip generation methodology by applying person occupancy, modal split, direction of travel and time of travel assumptions obtained from the North York Centre Secondary Plan, the 2016 Transportation Tomorrow Survey (TTS) and data collection studies conducted by BA Group.

Trip generation estimates have been developed based upon the new (proposed) building and are outlined in the following sections.

8.2 EVOLVING TRAVEL CHARACTERISTICS

8.2.1 Existing Modal Choice

Existing travel characteristics in the site area reflects high levels of non-vehicular travel by area residents and visitors.

BA Group have undertaken a review of the 2016 Transportation Tomorrow Survey (TTS) data for travel characteristics of existing residential, work and shopping trips being made to / from the North York Centre area during the weekday peak periods.

8.2.1.1 Residential

Existing mode share characteristics for residential (home-based) travel demands during the weekday morning and afternoon peak periods and peak direction are summarized in **Table 16**.

TABLE 16 RESIDENTIAL MODE SPLITS

Mode	AM Peak Period	PM Peak Period	Average
Auto	40%	40%	40%
PuDo	0%	0%	0%
Transit	50%	50%	50%
Walk	10%	10%	10%
Cycle	0%	0%	0%

Approximately 40% of trips to and from home are made using a vehicle (auto-driver and auto passenger combined). The other 60% of home-based travel demands in the area is currently made by other means of sustainable transportation modes (i.e. transit, walking and cycling).

8.2.1.2 Office

Mode share characteristics for office (work-based) travel demands during the weekday morning and afternoon peak periods and peak direction are summarized in **Table 17**.

TABLE 17 OFFICE MODE SPLITS

Mode	AM Peak Period	PM Peak Period	Average
Auto	90%	85%	90%
PuDo	0%	0%	0%
Transit	5%	5%	5%
Walk	5%	10%	5%
Cycle	0%	0%	0%

Approximately 90% of trips to and from work are made using a vehicle (auto-driver and auto passenger combined). The other 10% of work-based travel demands in the area is currently made by other means of sustainable transportation modes (i.e. transit, walking and cycling).

8.2.1.3 Retail

Mode share characteristics for daily retail travel demands during the weekday morning and afternoon peak periods and peak direction are summarized in **Table 18**.

TABLE 18 RETAIL MODE SPLITS

Mode	AM Peak Period	PM Peak Period	Average
Auto	80%	75%	80%
PuDo	0%	0%	0%
Transit	10%	20%	15%
Walk	10%	5%	5%
Cycle	0%	0%	0%

Approximately 80% of shopping trips to and from retail are made using a vehicle (auto-driver and auto passenger combined). The other 20% of retail-based travel demands in the area is currently made by other means of sustainable transportation modes (i.e. transit, walking and cycling). Note that approximately 5% of retail trips in the area are made by walking. Redevelopment of the site will further introduce a mix of land-uses to the area, particularly street-related and community-serving retail that will further encourage travel by foot.

The existing area travel characteristics illustrate that the area supports a high level of transit travel that is similar to other dense, mixed-use urban areas of the city. Area residents and visitors rely on other modes of transportation than private vehicles travel and often by transit, walking, or cycling.

8.2.2 Future Modal Choice

As part of the *North York Centre Secondary Plan*, suggested auto modal splits were specified in order to encourage more non-automobile travel that would support reduced level of automobile reliance for trips made to / from planned residential, employment and retail uses. In addition to reducing the auto modal splits, the Secondary Plan main objective is to attain a high transit modal split in order to maintain consistency with the specified parking policy outlined in the *North York Centre Secondary Plan*.

The existing modal splits for the proposed uses on site have been adjusted to the suggested modal splits specified in the *North York Centre Secondary Plan* and are summarized in **Table 19**.

TABLE 19 FUTURE MODAL SPLITS SUMMARY

Mode	Residential	Office	Retail
Auto	35%	45%	45%
PuDo	0%	0%	0%
Transit	55%	50%	50%
Walk	10%	5%	5%
Cycle	0%	0%	0%

These have been adopted in the forecast of multi-modal trip-making as outlined in the following sections.

8.3 GROSS PERSON TRIP FORECASTING

8.3.1 Residential Demand

Residential person trip rates were established based on a comparison between 'first principles' methodology using 2016 TTS data and assumptions specified in the *North York Centre Secondary Plan* and ITE Trip Generation Manual 10th Edition formulations.

Forecast travel demand forecast for residential trips to and from the site in the weekday morning and afternoon peak hours are summarized in **Table 20**.

The residential component is anticipated to have a gross person trip rate in the order of 0.60 and 0.50 two-way person trips per unit during the weekday morning and afternoon peak hours, respectively.

Application of these rates to the proposed residential development of 1,496 units results in the order of 900 and 750 two-way person trips during the weekday morning and afternoon peak hour periods, respectively.

TABLE 20 GROSS RESIDENTIAL PERSON TRIP GENERATION

Methodology	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
First Principles	0.10	0.39	0.49	0.28	0.19	0.47
ITE LUC 222 Dense Multi-Use Urban	0.14	0.55	0.69	0.31	0.22	0.53
Average Rate	0.12	0.47	0.59	0.30	0.21	0.51
Adopted Rate	0.10	0.50	0.60	0.30	0.20	0.50
Gross Person Trips (1,496 units)	150	750	900	450	300	750

Notes:

1. Trips are rounded to the nearest 5 trips.

8.3.2 Office Demand

Office person trip rates were established based on a comparison between 'first principles' methodology using 2016 TTS data and assumptions specified in the *North York Centre Secondary Plan* and ITE Trip Generation Manual 10th Edition formulations. Forecast travel demands for the office trips to and from the site are summarized in **Table 21**.

Based on a review of the *North York Centre Secondary Plan*, the following assumptions were made:

- employee density is approximately 1 person per 30 m² of GFA;
- typical daily attendance is approximately 90% of employees (to reflect absenteeism);
- 45% of employees travel within the weekday morning peak hour and weekday afternoon peak hour periods.

The office component of the site is anticipated to have trip rates in the order of 1.55 and 1.60 two-way person trips per 1,000 square feet of office GFA during the weekday morning and afternoon peak hours, respectively.

Application of these rates to the proposed office use of approximately 49,532 square feet GFA results in the order of 75 and 80 two-way person office trips during the weekday morning and afternoon peak hour periods, respectively.

TABLE 21 GROSS OFFICE PERSON TRIP GENERATION

Methodology	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
First Principles	1.14	0.17	1.31	0.29	1.02	1.31
ITE LUC 710 General Urban/Suburban	1.76	0.27	2.03	0.32	0.18	2.12
ITE LUC 710 Dense Multi-Use Urban	1.14	0.18	1.32	0.31	1.10	1.41
Average Rate	1.35	0.21	1.56	0.31	1.31	1.62
Adopted Rate	1.35	0.20	1.55	0.30	1.30	1.60
Gross Person Trips (49,532 ft²)	65	10	75	15	65	80

Notes:

1. Trips are rounded to the nearest 5 trips.

8.3.3 Retail Demand

Retail related travel forecasts for the site have been established from “first principles” based upon a review of anticipated people accumulation inside the retail uses throughout the day.

To understand the patterns of person density inside the retail developments, BA Group has undertaken detailed person accumulation counts at selected retail developments. These studies recorded the total number of people inside each individual store at each of the sites throughout a typical weekday, including both customers and employees. Based upon the known GFA of these stores, a profile was created for the people density inside each of these retail sites for a typical day. As expected, people density at each study site varied based upon the time of day and type of use.

For the purpose of this study, the following people densities have been adopted to estimate the total accumulation of people inside the retail component of the site at different times of the day and week, based upon the style of retail that is expected at the site and the styles of retail that were surveyed:

- Weekday morning peak hour: 1.4 people / 1,000 ft² of GLA
- Weekday afternoon peak hour: 2.8 people / 1,000 ft² of GLA

Note that it has been assumed that people will shop at the retail stores for approximately an hour length.

Forecast travel demands for the retail trips to and from of the site are summarized in **Table 22**.

Based on the foregoing, the general retail component of the site is anticipated to have trip rates in the order of 2.46 and 5.75 two-way person trips per 1,000 square feet of GLA during the weekday morning and afternoon peak hour periods, respectively.

Application of these rates to the retail component of the proposed development results in the order of 30 and 70 two-way person trips during the weekday morning and afternoon peak hour periods, respectively.

TABLE 22 GROSS RETAIL PERSON TRIP GENERATION

Methodology	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
ITE LUC 820 General Urban/Suburban	4.36	3.72	8.08	7.60	7.60	15.20
ITE LUC 820 Dense Multi-Use Urban	2.17	2.01	4.18	5.37	6.06	11.43
Average Rate	3.27	2.87	6.14	6.49	6.83	13.32
Adopted Rate	3.30	2.85	6.5	6.50	6.85	13.35
Gross Person Trips (21,052.1 ft²)	70	60	130	135	145	280

Notes:

1. Trips are rounded to the nearest 5 trips.

8.3.4 Day Care Demand

Day care travel forecasts for the site have been established based upon a review of ITE Trip Generation Manual 10th Edition for Land Use Code 565 – Day Care Centre. Forecast travel demands for the day care trip to and from the site are summarized in **Table 23**.

Recognizing that there will be a significant increase of residential units within the proposed development and the adjacent developments in the immediate area, it has been assumed that all day care trips during the weekday morning and afternoon peak hours are captured within the residential trips. These trips have been assumed to be captured within the residential gross trips as intersection trips internally with the residential uses on site. Therefore, no additional allowances was considered as part of the day care uses proposed on site as part of this review.

TABLE 23 GROSS DAY CARE PERSON TRIP GENERATION

Methodology	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
ITE LUC 565 – Day Care Centre	0.42	0.42	0.84	0.33	0.42	0.75
Gross Person Trips (60 students)	25	25	50	20	25	45

Notes:

1. Trips are rounded to the nearest 5 trips.

8.3.5 Summary of Gross Person Trip Forecasting

The total gross person trips generated by the proposed development are summarized in **Table 24**. The gross person trips are the summary of the individual contributions from the new component residential, office and retail land uses.

The land use components of the proposed development are forecast to generate approximately 1,005 and 900 two-way person trips in the morning and afternoon peak hours, respectively.

TABLE 24 SITE GROSS PERSON TRIP GENERATION

Land Use	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Residential Trips	150	750	900	450	300	750
Office Trips	65	10	75	15	65	80
Retail Trips	15	15	30	35	35	70
Site Person Trips	230	775	1,005	500	400	900

Notes:

1. Trips are rounded to the nearest 5 trips.

8.4 INTERACTION CONSIDERATIONS

Interaction effects reflect the tendency of people trips from the different land uses proposed on site to overlap with one another. These interaction effects have been studied and summarized as a set of ratios between different land uses. These interaction rates are based upon the gross demand of each land use within Report 684 published by the National Cooperative Highway Research Program (NCHRP). These rates, with respect to each land use pairing, are summarized in **Table 25**.

TABLE 25 INTERACTION TRIP RATE BY LAND USE

Methodology	AM Peak Hour		PM Peak Hour	
	In	Out	In	Out
Site Residential				
With Retail	2%	1%	46%	42%
With Office	0%	2%	4%	4%
Site Office				
With Residential	3%	1%	57%	2%
With Retail	4%	28%	31%	20%
Site Retail				
With Residential	17%	14%	10%	26%
With Office	32%	29%	8%	2%

Application of these rates to the gross person trips established in the previous section yields the potential interaction for each land use. However, the actualized site internal trips will be the small of the potential intersection trips calculated for each end of the land use pairing.

The potential interaction trips for each land use are summarized in **Table 26**. The smaller of the two interaction potential for each land use pairing was taken as the actualized site internal trip and the balance of the interaction potential for each land use was treated as the interaction effect with adjacent land uses immediately adjacent to the site.

TABLE 26 INTERACTION TRIP POTENTIAL BY LAND USE

Methodology	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Site Residential						
With Retail	5	10	15	210	125	335
With Office	0	15	15	15	15	30
Site Office						
With Residential	0	0	0	10	0	10
With Retail	5	5	10	5	15	20
Site Retail						
With Residential	5	0	5	5	10	15
With Office	5	5	10	5	0	5

The resultant actualized site internal interaction trips and adjacent area interaction trips are summarized in **Table 27**.

TABLE 27 INTERACTION TRIPS BY LAND USE

Methodology	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Site Residential						
Internal Retail	5	5	10	10	5	15
Adjacent Retail	0	5	5	200	120	320
Internal Office	0	0	0	0	10	10
Adjacent Office	0	15	15	15	5	20
Total Interaction	5	25	30	225	140	365
Site Office						
Internal Residential	0	0	0	10	0	10
Adjacent Residential	0	0	0	0	0	0
Internal Retail	5	5	10	0	5	5
Adjacent Retail	0	0	0	5	10	15
Total Interaction	5	5	10	15	15	30
Site Retail						
Internal Residential	5	0	5	5	10	15
Adjacent Residential	0	0	0	0	0	0
Internal Office	5	5	10	5	0	5
Adjacent Office	0	0	0	0	0	0
Total Interaction	10	5	15	10	10	20

8.5 SUMMARY OF PRIMARY PERSON TRIPS

8.5.1 Residential Demand

A summary of the forecast residential gross, intersection and net primary trips is provided in **Table 28**.

TABLE 28 RESIDENTIAL PERSON TRIP SUMMARY

	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Gross Trips	150	750	900	450	300	750
Interaction Trips	5	25	30	225	140	365
Primary Trips	145	725	870	225	160	385

The total primary residential trips forecast for the site are in the order of 870 and 385 two-way person trips during the weekday morning and afternoon peak hours, respectively.

8.5.2 Office Demand

A summary of the forecast office gross, intersection and net primary trips is provided in **Table 29**.

TABLE 29 OFFICE PERSON TRIP SUMMARY

	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Gross Trips	65	10	75	15	65	80
Interaction Trips	5	5	10	15	15	30
Primary Trips	60	5	65	0	50	50

The total primary office trips forecast for the site are in the order of 65 and 50 two-way person trips during the weekday morning and afternoon peak hours, respectively.

8.5.3 Retail Demand

A summary of the forecast office gross, intersection and net primary trips is provided in **Table 30**.

Pass-by considerations are also given to the proposed retail land use. The adopted pass-by rate is based upon the average percentage provided within volume 1 of the ITE Trip Generation Manual 10th Edition.

The pass-by rate for the proposed retail was based on application of the best fit for ITE Land Use Code 820 to the average retail parcel size within each proposed building. Retail pass-by trips were calculated by applying the established ratio to the total retail trips (before pass-by considerations) and are also summarized in **Table 30**.

TABLE 30 RETAIL PERSON TRIP SUMMARY

	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Gross Trips	15	15	30	35	35	70
Interaction Trips	10	5	15	10	10	20
Total Trips	5	10	15	25	25	50
Pass-By Trips (AM: 0%, PM: 26%)	0	0	0	-5	-5	-10
Primary Trips	5	10	15	20	20	40

The total retail pass-by trips forecast for the site is 0 and 10 two-way person trips. The total primary retail trips forecast for the site are in the order of 15 and 40 two-way person trips during the weekday morning and afternoon peak hours, respectively.

8.5.4 Summary of Total Site Primary Person Trips

The total primary person trips forecast for the site considering all proposed new land uses is summarized in **Table 31**.

TABLE 31 TOTAL SITE PRIMARY PERSON TRIPS

	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Residential Trips	145	725	870	225	160	385
Office Trips	60	5	65	0	50	50
Retail Trips	5	10	15	20	20	40
Total Trips	210	740	950	245	230	475

The site is forecast to generate in the order of 950 and 475 primary person trips. With consideration of interaction and pass-by trips for each land use, the site is forecast to generate in the order of 1,005 and 900 two-way gross person trips in the weekday morning and afternoon peak hours, respectively.

8.6 SITE TRAVEL DEMAND BY MODE

8.6.1 Residential Multi-Modal Demand

The mode split for the proposed residential land use component of the development was adopted based on the future mode share characteristics of the site-surrounding area based on the *North York Centre Secondary Plan*.

Note that the auto mode share includes both auto drivers and auto passengers, which have a combined mode share of approximately 35%. The resultant residential trips are summarized in **Table 32**.

TABLE 32 RESIDENTIAL MULTI-MODAL TRIP SUMMARY

Mode	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Residential Primary Trips by Mode						
Auto (35%)	50	255	305	80	55	135
PuDo (0%)	0	0	0	0	0	0
Transit (55%)	80	400	480	120	90	210
Walk (10%)	15	70	85	25	15	40
Cycle (0%)	0	0	0	0	0	0
Total	145	725	870	225	160	385
Residential Interaction Trips by Mode						
Walk (internal interaction)	5	5	10	10	15	25
Walk (adjacent interaction)	0	20	20	215	125	340
Total	5	25	30	225	140	365
Residential Total Trip by Mode						
Auto	50	255	305	80	55	135
PuDo	0	0	0	0	0	0
Transit	80	400	480	120	90	210
Walk	20	95	115	250	155	405
Cycle	0	0	0	0	0	0
Total	150	750	900	450	300	750

8.6.2 Office Multi-Modal Demand

The mode split for the proposed office land use component of the development was adopted based on the existing mode share characteristics of the site-surrounding area based on the *North York Centre Secondary Plan*.

Note that the auto mode share includes both auto drivers and auto passengers, which have a combined mode share of approximately 45%. The resultant residential trips are summarized in **Table 33**.

TABLE 33 OFFICE MULTI-MODAL TRIP SUMMARY

Mode	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Office Primary Trips by Mode						
Auto (45%)	25	0	25	0	20	20
PuDo (0%)	0	0	0	0	0	0
Transit (50%)	30	5	35	0	25	25
Walk (5%)	5	0	5	0	5	5
Cycle (0%)	0	0	0	0	0	0
Total	60	5	65	0	50	50
Office Interaction Trips by Mode						
Walk (internal interaction)	5	5	10	10	5	15
Walk (adjacent interaction)	0	0	0	5	10	15
Total	5	5	10	15	15	30
Office Total Trips by Mode						
Auto	25	0	25	0	20	20
PuDo	0	0	0	0	0	0
Transit	30	5	35	0	25	25
Walk	10	5	15	15	20	35
Cycle	0	0	0	0	0	0
Total	65	10	75	15	65	80

8.6.3 Retail Multi-Modal Demand

The mode split for the proposed retail land use component of the development was adopted based on the existing mode share characteristics of the site-surrounding area as per *North York Centre Secondary Plan*.

Note that the auto mode share includes both auto drivers and auto passengers, which have a combined mode share of approximately 45%. The resultant residential trips are summarized in **Table 34**.

TABLE 34 RETAIL MULTI-MODAL TRIP SUMMARY

Mode	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Retail Primary Trips by Mode						
Auto (45%)	0	5	5	10	10	20
PuDo (0%)	0	0	0	0	0	0
Transit (50%)	5	5	10	10	10	20
Walk (5%)	0	0	0	0	0	0
Cycle (0%)	0	0	0	0	0	0
Total	5	10	15	20	20	40
Retail Interaction Trips by Mode						
Walk (internal interaction)	10	5	15	10	10	20
Walk (adjacent interaction)	0	0	0	0	0	0
Total	10	5	15	10	10	20
Retail Pass-By Trips by Mode						
Transit	0	0	0	-5	-5	-10
Total	0	0	0	-5	-5	-10
Retail Total Trips by Mode						
Auto	0	5	5	10	10	20
PuDo	0	0	0	0	0	0
Transit	5	5	10	15	15	30
Walk	10	5	15	10	10	20
Cycle	0	0	0	0	0	0
Total	15	15	30	35	35	70

8.7 SUMMARY OF SITE TRAVEL DEMAND BY MODE

The combined multi-modal travel demand for the site is the sum of the demand contributions from the proposed residential, office and retail land uses and is summarized in **Table 35**.

TABLE 35 SITE MULTI-MODAL TRIP SUMMARY

Mode	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Site Primary Trips by Mode						
Auto	75	260	335	90	85	175
PuDo	0	0	0	0	0	0
Transit	115	410	525	130	125	255
Walk	20	70	90	25	20	45
Cycle	0	0	0	0	0	0
Total	210	740	950	245	230	475
Site Interaction Trips by Mode						
Walk (internal interaction)	20	15	35	30	30	60
Walk (adjacent interaction)	0	20	20	220	135	355
Total	20	35	55	250	165	415
Site Pass-By Trips by Mode						
Transit	0	0	0	-5	-5	-10
Total	0	0	0	-5	-5	-10
Site Total Trips by Mode						
Auto	75	260	335	90	85	175
PuDo	0	0	0	0	0	0
Transit	115	410	525	135	130	265
Walk	40	105	145	275	185	460
Cycle	0	0	0	0	0	0
Total	230	775	1,005	500	400	900

Note that the total site trip summary includes the adjustments for the residential, office and retail vehicle trip generation specific as outlined in the *North York Centre Secondary Plan*.

Overall, the site is forecast to generate in the order of 1,005 and 900 gross two-way person trips during the weekday morning and afternoon peak hours, with approximately 950 and 475 primary two-way trips during the respective peak hours.

8.8 APPROPRIATENESS OF AUTO TRIP GENERATION

Given that the proposed development is located within the North York Centre Secondary, BA Group has also reviewed the vehicular trip generation rates for the proposed residential, office and retail uses based upon the rates provided in the *North York Centre Secondary Plan*.

Based on the specified vehicle trip rates outlined in the *North York Centre Secondary Plan* for the peak hour and peak direction, the following assumptions were made for the proposed residential, office and retail uses on site.

- Weekday afternoon peak hour residential auto trip rate: 0.16 trips per dwelling unit, inbound
- Weekday afternoon peak hour office auto trip rates: 0.58 trips per 100 m² GFA, outbound
- Weekday afternoon peak hour retail auto trip rates: 0.58 trips per 100 m² GFA, outbound

Note that the trip rates for the weekday morning peak hour and directions were calculated based upon the directional splits and ratios calculated in the ITE Trip Generation Manual 10th Edition for the corresponding land uses proposed on site.

Vehicular trip generation rates adopted for the proposed development based upon the *North York Centre Secondary Plan* is summarized in **Table 36**.

TABLE 36 VEHICULAR TRIP GENERATION RATES – NORTH YORK CENTRE SECONDARY PLAN

	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Residential Trip Rates	0.03	0.22	0.25	0.16	0.07	0.23
Office Trip Rates	0.57	0.09	0.66	0.12	0.58	0.70
Retail Trip Rates	0.30	0.25	0.55	0.54	0.58	1.12

In our opinion, it is believed that these rates are considerably higher given that the site is located along a major corridor with higher-order transit located within 250 metres proximity of the site. In addition, it is located along a corridor that is serviced by multiple transit operators including TTC, YRT and Metrolinx, which provides the residents and visitors of the site opportunities to connect throughout the City locally and regional. As such, BA has undertaken a review of the vehicular trip generation rates for the proposed residential uses based upon proxy trip generation rates surveyed at residential developments in the vicinity of the site with similar characteristics. The proxy vehicular trip generation rates are summarized in **Table 37**.

TABLE 37 RESIDENTIAL PROXY VEHICULAR TRIP GENERATION RATES

Site Location	Number of Units	AM Peak Hour			PM Peak Hour		
		In	Out	2-Way	In	Out	2-Way
5795 Yonge Street ¹	179 units	0.03	0.15	0.18	0.11	0.11	0.22
5795 Yonge Street ²	179 units	0.06	0.21	0.27	0.12	0.11	0.23
5791 & 5793 Yonge Street ¹	396 units	0.05	0.14	0.19	0.08	0.07	0.15
5791 & 5793 Yonge Street ²	396 units	0.03	0.15	0.18	0.12	0.06	0.18
7161-7171 Yonge Street ³	1,250 units	0.03	0.15	0.18	0.14	0.05	0.19
Average		0.04	0.16	0.20	0.11	0.08	0.19
Adopted		0.05	0.15	0.20	0.10	0.10	0.20

Notes:

1. Proxy site surveyed on Thursday, June 4, 2015.
2. Proxy site surveyed on Tuesday, November 6, 2018
3. Proxy site surveyed on Tuesday, December 4, 2018
4. Trips rounded to the nearest 5 trips.

The adopted vehicular trip generations rates for the proposed development is summarized in **Table 38**.

TABLE 38 ADOPTED VEHICULAR TRIP GENERATION RATES

	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Residential Trip Rates	0.05	0.15	0.20	0.10	0.10	0.20
Office Trip Rates	0.57	0.09	0.66	0.12	0.58	0.70
Retail Trip Rates	0.30	0.25	0.55	0.54	0.58	1.12

A summary of the vehicular trips for the proposed development is summarized in **Table 39**.

TABLE 39 SITE VEHICULAR TRIPS

	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Gross Vehicle Trips						
Residential Gross Vehicle Trips	75	225	300	150	150	300
Office Gross Vehicle Trips	25	5	30	5	25	30
Retail Gross Vehicle Trips	5	5	10	5	10	15
Total Gross Vehicle Trips	100	235	340	160	185	345
Interactions						
Residential Interaction	0	5	5	75	70	145
Office Interaction	0	0	0	5	5	10
Retail Interaction	0	0	0	0	5	5
Total Interaction	0	5	5	80	80	160
Primary Trips						
Residential Primary Trips	75	220	295	75	80	155
Office Primary Trips	25	5	30	0	20	20
Retail Primary Trips	5	5	10	5	5	10
Total Primary Vehicle Trips	105	230	335	80	105	185

Based upon the above, the proposed development will generate approximately 335 and 185 two-way primary vehicle trips during the weekday morning and afternoon peak hours, respectively.

Based on the 'first principles' methodology the proposed development will generate approximately 335 and 175 two-way primary vehicle trips during the weekday morning and afternoon peak hours, respectively. By comparison, the trips developed from the 'first principles' methodology are comparable to the trips developed from the *North York Centre Secondary Plan* and proxy sites. Therefore, the trips developed from the 'first principles' methodology is reasonable and has been adopted for the purposes of this analysis. Therefore, the proposed development is anticipated generate approximately 335 and 175 two-way primary vehicle trips during the weekday morning and afternoon peak hours, respectively.

9.0 MULTI-MODAL TRAVEL ASSESSMENT

9.1 TRANSIT TRAVEL ASSESSMENT

BA Group has undertaken a review of the area transit travel conditions under existing and future conditions. As part of the assessment, the following has been considered:

- overview of area transit service;
- summary of the existing transit activity for each of the transit routes that service the site area; and
- review of existing transit facility conditions and capacity to accommodate new site related transit volumes.

9.1.1 Context

The site is well situated relative to transit today, given the proximity to higher-order transit within a 500 metres walk to Finch Station, located south-east of the site. It is also serviced by multiple surface transit routes operated by Toronto Transit Commission (TTC), York Region Transit (YRT / VIVA) and Metrolinx (GO). These routes are located at Finch Station or at bus stops adjacent to the site. These area transit network generally offer frequent services and certain routes operate under busy conditions today, while other are used less heavily.

9.1.2 Existing Transit Ridership Conditions

The transit assessment reviews existing services in the context of the local transit network and identifies the level of use and capacity for key routes in the site environs. Generally, capacity is discussed in the form of the “crowding standard”, which is utilized by the transit operators to understand when service frequencies should be increased / decreased given prevailing demands. It should be noted that the actual theoretical capacity is generally high than the transit operator’s crowding standard.

Both Metrolinx and TTC offer several fare options for customers depending on the number of trips that they would need to take in a given day or month. TTC charges the same fare regardless of distance travelled in the system. Metrolinx charges a distance-based fare, which is calculated based on the fare zone of boarding and the fare zone of alighting. Metrolinx does not offer the option to purchase a monthly pass, rather, automatic discounts are applied once a passenger has taken 35 trips in a given month. Once a passenger has taken 40 trips in a month, the remainder of the month is free of charge. Passengers with a PRESTO card can transfer between TTC and GO services for a 50 cent charge as opposed to paying a separate fare for each.

9.1.2.1 Area Surface Routes

The site is currently well-served by multiple local transit services operated by TTC, York Region Transit and Metrolinx. The closest transit stop is located immediately adjacent to the site along Yonge Street. Majority of the local bus routes and higher-order transit can be accessed at Finch Station, approximately less than 5-minute walk from the site.

9.1.2.2 Line 1 – Yonge University Spadina Subway

The site is also within proximity to the Finch Subway Station along the Yonge-University-Spadina Subway Line, which provides access to rapid transit and excellent connection to area throughout the City. Line 1 provides many opportunities to connect with other transit routes, including Line 4 Sheppard and surface routes operated by TTC, GO Transit and York Region Transit (YRT).

9.1.3 Proposed Development Transit Volumes

Forecast transit volumes for the proposed development were established based on existing transit travel characteristics in the area surrounding the site and nearby areas with similar land uses. Data for existing transit travel characteristics was retrieved from the 2016 Transportation Tomorrow Survey for residential, work and retail-based trips during weekday peak periods.

The new site transit trips during the morning and afternoon peak hours is summarized for each land use in **Table 40**. A summary of the new site trips for each adjacent transit route is broken down in **Table 41**. This includes the anticipated passengers per trip on each route, assuming passengers are evenly distributed access the peak hours as outlined in **Table 42**.

TABLE 40 PROPOSED SITE TRANSIT DEMANDS

Land Use	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Residential	80	400	480	120	90	210
Office	30	5	35	0	25	25
Retail	5	5	10	15	15	30
Total	115	410	525	135	130	265

TABLE 41 PROPOSED SITE TRANSIT DEMANDS BY SERVICE

Route		AM Peak Hour			PM Peak Hour		
		In	Out	2-Way	In	Out	2-Way
TTC Services							
36 Finch West	Eastbound	5	0	5	0	0	0
	Westbound	0	5	5	0	5	5
53 Steeles East	Eastbound	0	0	0	0	5	5
	Westbound	5	0	5	5	0	5
60 Steeles West	Eastbound	0	0	0	0	0	0
	Westbound	0	0	0	0	5	5
125 Drewry	Eastbound	0	0	0	0	0	0
	Westbound	0	40	40	0	10	10
Line 1 Yonge-University Subway	Northbound	105	0	105	120	0	120
	Southbound	0	355	355	0	105	105
YRT Services							
2 Milliken	Eastbound	0	10	10	0	0	0
	Westbound	0	0	0	5	0	5
88 Bathurst	Northbound	0	0	0	0	0	0
	Southbound	0	0	0	5	0	5
Total		115	410	525	135	130	265

TABLE 42 PROPOSED PASSENGER VOLUMES PER TRANSIT TRIP

Route		AM Peak Hour			PM Peak Hour		
		# of Passengers	# of Trips Per Hour	Passengers Per Trip	# of Passengers	# of Trips Per Hour	Passengers Per Trip
TTC Services							
36 Finch West	Eastbound	5	13	0 to 1	0	11	0
	Westbound	5	13	0 to 1	5	11	0 to 1
53 Steeles East	Eastbound	0	11	0	5	11	0 to 1
	Westbound	5	11	0 to 1	5	11	0 to 1
60 Steeles West	Eastbound	0	15	0	0	12	0
	Westbound	0	15	0	5	12	0 to 1
125 Drewry	Eastbound	0	7	0	0	6	0
	Westbound	40	7	5 to 6	10	6	1 to 2
Line 1 Yonge-University Subway	Northbound	105	20 to 30	3 to 6	120	20 to 30	4 to 6
	Southbound	355	20 to 30	11 to 18	105	20 to 30	3 to 6
YRT Services							
2 Milliken	Eastbound	10	3	3 to 4	0	2	0
	Westbound	0	3	0	5	2	2 to 3
88 Bathurst	Northbound	0	2	0	0	1	0
	Southbound	0	2	0	5	1	5

9.1.4 Transit Travel Evaluation – Assessment Criteria

BA Group has undertaken a general review of the transit infrastructure located within the vicinity of the site. Existing and projected transit passenger volumes were accounted for in the assessment. The review considered the following assessment criteria:

Availability:

- Higher order transit service is highly available to the site, with stations located in close proximity; and
- Transit options facilitate City-wide transit accessibility with minimal or no transfer required between routes;

Access:

- Adjacent or nearby transit stations offer convenient and accessible entrance and exit, and do not encourage jaywalking activity;
- Access points are weather-protected; and
- Multiple access points are preferable.

Capacity:

- There is capacity for adjacent transit service to accommodate an increase in transit usage; and
- Where capacity is limited, plans are in place to alleviate capacity concerns via service expansion and/or the construction of new higher order transit route(s).

Operations:

- Bus stops have transit shelters;
- Surface transit routes are well integrated with general traffic network; and
- Preferably, the site is functionally integrated with adjacent higher order transit station, facilitating seamless access to stations.

9.1.5 Transit Travel Evaluation – Evaluation Results

An assessment of the existing transit network was conducted based upon the criteria established in the previous section and based upon the assessment, specific improvements have been identified. A summary of the key findings of the transit assessment is provided in **Table 43**.

TABLE 43 TRANSIT ASSESSMENT KEY FINDINGS

Assessment Criteria	Existing Condition	Proposed Site Development Improvements	Potential Improvements by Others
Availability	<ul style="list-style-type: none"> Existing north-south and east-west transit connections are provided close to the site for travel to and from all directions Higher-order and local routes are available to choose from with the Line 1 Subway, in conjunctions with the GO, YRT and TTC bus services 	<ul style="list-style-type: none"> ✓ Bus stop and shelters to numerous TTC and YRT routes are within a 300 metre (5-6 min walk) ✓ Finch Subway Station / Finch GO station provides higher order and regional transit connections. The station is approximately 300 metres from the proposed developments 	City and Toronto Transit Commission: A new planned Cummer Avenue station along the Yonge Subway North extension would provide higher order transit service north to Richmond Hill.
Access	<ul style="list-style-type: none"> Finch Station is located within walking distance, with signalized intersections providing safe crossing to the station entrance Surface bus stops along Yonge Street are provided adjacent to the site, with safe pedestrian crossings at intersections 	<ul style="list-style-type: none"> ✓ Providing safe pedestrian crossing at intersections and sidewalks on all road extensions 	City of Toronto: signalize new intersections when warranted / road network has been built out to improve transit accessibility to residents / employees in the area
Capacity	<ul style="list-style-type: none"> Trains travelling southbound from Finch Station during morning peak period currently operating under capacity Bus services within the vicinity of the site currently operate under capacity during weekday peak periods 		
Operations	<ul style="list-style-type: none"> Bus stops in the vicinity of the site along Yonge Street have transit shelters 		

9.2 PEDESTRIAN TRAVEL ASSESSMENT

This section provides an overview of the forecasted pedestrian trips generated by the proposed development including transit-based and direct primary pedestrian volumes. Specifically, it will:

1. Provide an overview of the opportunities for walking trips to and from key destinations in the site vicinity;
2. Provide an overview of future direct pedestrian and transit-based pedestrian volumes in the site vicinity;
3. Establish a qualitative assessment criteria to analyze existing and future pedestrian connections; and
4. Assess future pedestrian conditions and identify potential improvements opportunities that can be completed by the City and/or the developer.

9.2.1 Pedestrian Accessibility Review

The site is located within the North York Centre area which provides a high level of pedestrian accessibility to a variety of land uses. Within a 10-minute walk of the site, pedestrians can reach many attractions including education, recreational, employment and retail. The site is also within a 250 metres of the Finch Subway Station where pedestrians can easily access and connect to other area around GTA.

Within the existing context, the site is already highly supportive of non-automobile modes of travel, including transit, cycling and walking.

9.2.2 Proposed Development Pedestrian Volumes

Forecasted pedestrian volumes for the proposed development plan were established based upon a 'first principle' person-based trip generation methodology. Pedestrian trip for the proposed development plan can be classified into two (2) categories and include:

- **Transit-based pedestrian trips** - these are pedestrian trips that walk to and from TTC stations and stops; and
- **Primary pedestrian trips** – these are pedestrian there where their primary mode of travel to their destination is walking.

Transit-based and primary pedestrian trips generated by the site are summarized in **Table 44**. The number of two-way pedestrian generated by the site is in the order of approximately 585 and 290 during the weekday morning and afternoon peak hours, respectively.

TABLE 44 SITE PEDESTRIAN VOLUMES

Land Use	Trip	AM Peak Hour			PM Peak Hour		
		In	Out	2-Way	In	Out	2-Way
Residential	Transit-Based	80	400	480	120	90	210
	Direct	15	70	85	25	15	40
	Overall	95	470	565	145	105	250
Office	Transit-Based	30	5	35	0	25	25
	Direct	5	0	5	0	5	5
	Overall	35	5	40	0	30	30
Retail	Transit-Based	5	5	10	10	10	20
	Direct	0	0	0	0	0	0
	Overall	5	5	10	10	10	20
Retail Pass-By	Transit-Based	0	0	0	5	5	10
	Direct	0	0	0	0	0	0
	Overall	0	0	0	5	5	10
Total	Transit-Based	115	410	525	135	130	265
	Direct	20	70	90	25	20	45
	Overall	135	480	615	160	150	310

Based on the transit trip assignment derived from the 2016 TTS, transit-related pedestrian trips will predominantly access or egress the transit services provided at Finch Station (i.e. TTC Line 1). In addition to the subway transit accessed at Finch Station, there are a number of local and regional transit routes in the vicinity of the site operated by TTC, York Region Transit and Metrolinx with stops located a Finch Station or adjacent to the site along the Yonge Street corridor.

A total of 525 and 265 transit-based pedestrian trips are forecast to and from the site during the weekday morning and afternoon peak hours, respectively. The generation and distribution of the transit based pedestrian trips is discussed in **Section 9.1**.

The site is also anticipated to generate approximately 90 and 45 primary pedestrian trips during the weekday morning and afternoon peak hours. It is assumed that pedestrian will travel on the sidewalk on the site closest to the pedestrian doorway access for the proposed development. In addition, pedestrian are assumed to cross streets only at pedestrian crosswalks (no jaywalkers) and they do so at the earliest opportunity on route to their destinations. Based on existing pedestrian activity levels and the key destinations within the vicinity of the site, it is assumed majority of the primary pedestrians will utilized the Yonge Street / Finch Avenue intersection.

Interactions trips between all site uses and adjacent uses in the immediate site-surrounding area are assumed to occur on foot.

The intersection trips have therefore been included in the total site pedestrian trips and are summarized in **Table 45**.

TABLE 45 SITE INTERACTION PEDESTRIAN VOLUMES

Land Use	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Residential	5	25	30	225	140	365
Office	5	5	10	15	15	30
Retail	10	5	15	10	10	20
Total	20	35	55	250	165	415

The site is forecast to generate a total of 55 and 415 two-way pedestrian interaction trips across the site and immediate neighbourhood.

Considering each of the types of pedestrian trips outlined above (i.e. direct pedestrian trips, transit-based pedestrian trips and interaction pedestrian trips) results in a total pedestrian activity of approximately 670 and 725 pedestrian trips during the weekday morning and afternoon peak hours, respectively. The total pedestrian activity is summarized in **Table 46**.

TABLE 46 SITE TOTAL PEDESTRIAN ACTIVITY

Land Use	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Residential	100	495	595	370	245	615
Office	40	10	50	15	45	60
Retail	15	10	25	25	25	50
Total	155	515	670	410	315	725

9.2.3 Pedestrian Travel Evaluation – Assessment Criteria

BA Group has undertaken a review of the area pedestrian system and facilities under existing and future pedestrian volumes. The review considered the following assessment criteria:

Walking:

- pedestrian facilities are wide enough to allow pedestrians to walk and pass comfortably under expected pedestrian volumes;
- walking paths have minimal interaction with vehicular crossings (i.e. driveway, laneways, etc.);
- adequate lighting is provided along pedestrian facilities;
- pedestrian facilities are separated from roads carrying vehicular traffic by a setback or other barrier where appropriate to ensure pedestrian comfort; and
- width of sidewalks, walkways, stairs, ramps and other pedestrian facilities is maintained under winter/snow removal conditions.

Waiting:

- pedestrian waiting facilities provided at intersections should be designed to accommodate the volume of pedestrians expected to accumulate between crossing cycles and minimize pedestrians' exposure to hazards; and
- actuated/callable pedestrian signals are provided at signalized crossings.

Crossing:

- formal pedestrian crossings are provided at the intersections or desired locations of crossing;
- formal crossings in the area pedestrian network provide efficient routes for pedestrians to cross to reach desired destinations and discourage jay-walking or informal crossings; and
- crosswalks are wide enough to accommodate expected two-way crossing volumes.

Connecting:

- pedestrian facilities make up a well-connected network provided a high level of area coverage without "gaps" or disconnected links in the network; and
- pedestrian facilities provide efficient routes between key destinations.

Accessible:

- pedestrian facilities are available to all regardless of age or ability and are designed to be accessible, where possible and practical.

9.2.4 Pedestrian Travel Evaluation – Evaluation Results

BA Group has undertaken a review of the area pedestrian system based upon criteria such as: the adequacy of pedestrian facilities to accommodate anticipated pedestrian volumes and provide a safe, comfortable environment that encourages pedestrian travel; the ability of area pedestrian facilities to provide a well-connected and efficient pedestrian network; the adequacy of pedestrian crossing opportunities of the area street network; the adequacy of pedestrian storage (i.e. waiting areas) and crossing opportunities at area signalized intersections; and the overall accessibility of pedestrian facilities to accommodate pedestrians of all ages and abilities. A summary of the key findings of the pedestrian assessment are provided in **Table 47**.

TABLE 47 PEDESTRIAN ASSESSMENT KEY FINDINGS

Assessment Criteria	Existing Condition	Proposed Site Development Improvements	Potential Improvements by Others
Walking	<ul style="list-style-type: none"> Sidewalks provided on all streets in the vicinity of the site 	<ul style="list-style-type: none"> ✓ Provide a 2.1 metres wide sidewalk connecting into the site directly from Yonge Street ✓ Provide a 2.1 metres wide sidewalk on the north side of the East-West Newtonbrook Street Extension connecting into the site directly ✓ Provide a 2.1 metres wide sidewalk on both sides of the North-South Beecroft Road Extension connecting into the site directly ✓ Provide a 2.1 metres wide sidewalk on both sides of the private road internally throughout the site. 	City and other property owners: potentially widen other area sidewalks not adjacent to the site.
Waiting / Crossing	<ul style="list-style-type: none"> Formal pedestrian crossing exist at signalized intersections Pedestrian signal heads located at all signalized intersections to accommodate pedestrian activity Distance between intersections is not large (i.e. less than 300 metres) to discourage jaywalking activities 	<ul style="list-style-type: none"> ✓ Provide formal pedestrian crossing at new signalized intersections ✓ Provide pedestrian signal heads at new signalized intersection to accommodate pedestrian activity 	
Connecting	<ul style="list-style-type: none"> Direct connection to the existing building on site from Yonge Street Pedestrian connections to the transit services 	<ul style="list-style-type: none"> ✓ Provide pedestrian access to the building lobby from Yonge Street and all new road extensions ✓ Provide connections to the transit services 	
Accessible	<ul style="list-style-type: none"> Narrower sidewalks do not allow users with mobility aids and the passing of a pedestrian. Site is currently not accessible 	<ul style="list-style-type: none"> ✓ Provide accessible access to the buildings on site, free of steps ✓ Provide direct access to the lobby from Yonge Street and new road extensions ✓ Comply with AODA guidelines for widths and design of on-site pedestrian pathways 	City: increase area accessibility by widening the sidewalks in the vicinity of the site.

9.3 CYCLING TRAVEL ASSESSMENT

The following section provides an overview of the forecast new cycling trips generated by the proposed development. More specifically, this section will:

1. Provide an overview of the opportunities for cycling trips to and from key destinations in the vicinity of the site;
2. Provide for an overview of future direct cycling volumes in the site vicinity;
3. Establish qualitative assessment criteria to analyze the existing and future cycling connections; and
4. Assess future cycling conditions and identify potential improvement opportunities that can be completed by the City and /or the developer.

9.3.1 Cycling Accessibility Review

The site is currently located in an area with limited cycling infrastructure to provide connections to and from throughout the City. Cycling infrastructure is currently provided along the Finch Hydro Corridor multi-use trail, which provides an east-west connection between Talbot Road and Dufferin Street. The site is located in the vicinity of Yonge Street and Drewry Avenue / Cummer Avenue area and is within cycling distance to a number of services, entertainment, retail and amenity centres in North York. Planned cycling infrastructure will improve connections to other cycling routes.

9.3.2 Proposed Development Cycling Volumes

Forecasted cycling volumes for the proposed development plan were established based upon a 'first principle' person-based trip generation methodology as outlined in **Section 2.0**. The total site related cycling trips forecast for the proposed development are summarized in **Table 48**.

TABLE 48 SITE CYCLING VOLUMES

Land Use	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Residential	0	0	0	0	0	0
Office	0	0	0	0	0	0
Retail	0	0	0	0	0	0
Total	0	0	0	0	0	0

The proposed development is anticipated to generate in the order of approximately 0 two-way cycling trips during the weekday morning and afternoon peak hours. It is anticipated that these cyclists will travel along the multi-use paths and street corridors with cycling infrastructure provided for connections throughout the City.

9.3.3 Cycling Travel Evaluation – Assessment Criteria

BA Group has undertaken a review of the performance of the cycling system and facilities under existing and future conditions to understand the environment within the vicinity of the site. The review considered the following assessment criteria:

Bicycle Parking:

- The site must have an adequate bicycle parking supply, inclusive of short-term bicycle parking that is located in highly visible and publicly accessible locations.

Connecting:

- It is beneficial if the site is well-connected as part of the City of Toronto's cycling network via infrastructure that is safe, convenient and has high capacity.

Support

- Bicycle repair stations provided on-site are an amenity that adds convenience to local cycling.

9.3.4 Cycling Travel Evaluation – Evaluation Results

An assessment of the cycling network and facilities was conducted based upon the abovementioned criteria. A summary of the key finding of the cycling assessment is provided in **Table 49**.

TABLE 49 CYCLING ASSESSMENT KEY FINDINGS

Assessment Criteria	Existing Condition	Proposed Site Development Improvements	Potential Improvements by Others
Bicycle Parking	<ul style="list-style-type: none"> • No current bicycle parking facilities today, neither on-site nor on sidewalk 	<ul style="list-style-type: none"> ✓ Provide a total of 1,156 bicycle parking spaces (i.e. 127 short-term and 1,029 long-term) on site to meet City of Toronto and Toronto Green Standard Requirements 	City and other property owners: incorporate additional bicycle parking within the boulevards along Yonge Street and Finch Avenue.
Connecting	<ul style="list-style-type: none"> • No current bicycle connection on-site • Finch Hydro Corridor multi-use path for an east-west connection between Talbot Road and Dufferin Street 	<ul style="list-style-type: none"> ✓ Provide a cycling lane along the future Beecroft Road extension adjacent to the site to potentially connect to the existing Finch Hydro Corridor 	City: provide cycling lanes on Hendon Avenue and Cummer Avenue / Drewry Avenue, as noted in the <i>Cycling Network Ten Year Plan</i> . Also, conduct major corridor study along Yonge Street, as noted in the <i>Cycling Network Ten Year Plan</i> .
Support	<ul style="list-style-type: none"> • No current bicycle repair stations provided on-site or in the area 	<ul style="list-style-type: none"> ✓ Consider the provision of a bicycle repair station on-site ✓ Consider the provision of a change and shower facility on-site 	

10.0 VEHICLE TRAVEL ASSESSMENT

10.1 TRAFFIC ANALYSIS SCENARIOS AND DESIGN PERIODS

Traffic operations analyses have been undertaken during weekday morning and afternoon street peak hours under the following conditions:

- Existing traffic (2019) – traffic activity level under current conditions;
- Future background traffic (2024) – traffic activity level 5 years into the future which include allowances for corridor growth and background developments; and
- Future total traffic (2024) – traffic activity level 5 years into the future with site developed and projected site generated traffic added to the road network.

For the future background and future total conditions, two (2) scenarios have been considered and assessed:

- Beecroft Road extended from Finch Avenue West to approximately where Inez Court is current located, with a cul-de-sac at the north end of the extension; and
- Beecroft Road extended from Finch Avenue West to Drewry Avenue, with an unsignalized intersection at Beecroft Road / Drewry Avenue.

10.2 EXISTING TRAFFIC VOLUMES

10.2.1 Existing Baseline Traffic Volumes

Existing baseline traffic volumes were established at intersections and driveways within the study area for the weekday morning and afternoon peak hour periods using traffic count information obtained from surveys undertaken by Spectrum Traffic Data Inc. in 2018 and 2019. A listing of the count data and sources are provided in **Table 50**.

TABLE 50 EXISTING TRAFFIC DATA SOURCES

Intersection	Count Date	Time Periods	Source
Yonge Street / Finch Avenue	Wednesday January 30, 2019	Weekday: 7:00 to 9:00 a.m. 4:00 to 6:00 p.m.	Spectrum Traffic Data Inc.
Yonge Street / Bishop Avenue / Hendon Avenue			
Yonge Street / Cummer Avenue / Drewry Avenue			
Drewry Avenue / Hilda Avenue			
Yonge Street / Turnberry Court / Ex. Site Dwy.			
Drewry Ave. / 55-71 Drewry Ave. Site Driveway			
Cummer Ave. / Newtonbrook Plaza East Access	Thursday, February 22, 2018		

The existing turning movement counts were reviewed in detail to ensure a general consistency in the traffic volumes on roadways between intersections. Where necessary, minor adjustments were made to balance traffic volumes between intersections to create a representative traffic volume base for the purposes of the traffic operations analyses undertaken as part of this study.

The existing tuning movement counts are provided in **Appendix C**.

Existing, balanced baseline area traffic volumes for the weekday morning and afternoon peak traffic hours are summarized in **Figure 7**.

10.2.2 Existing Site Traffic Volumes

Existing site related traffic volumes were collected during the weekday morning and afternoon peak traffic periods at the Yonge street / Turnberry Court / Site Driveway Access on Thursday, February 22, 2018 by Spectrum Traffic Data Inc. on behalf of BA Group through traffic count surveys and are summarized in **Table 51**.

TABLE 51 EXISTING SITE TRAFFIC VOLUMES

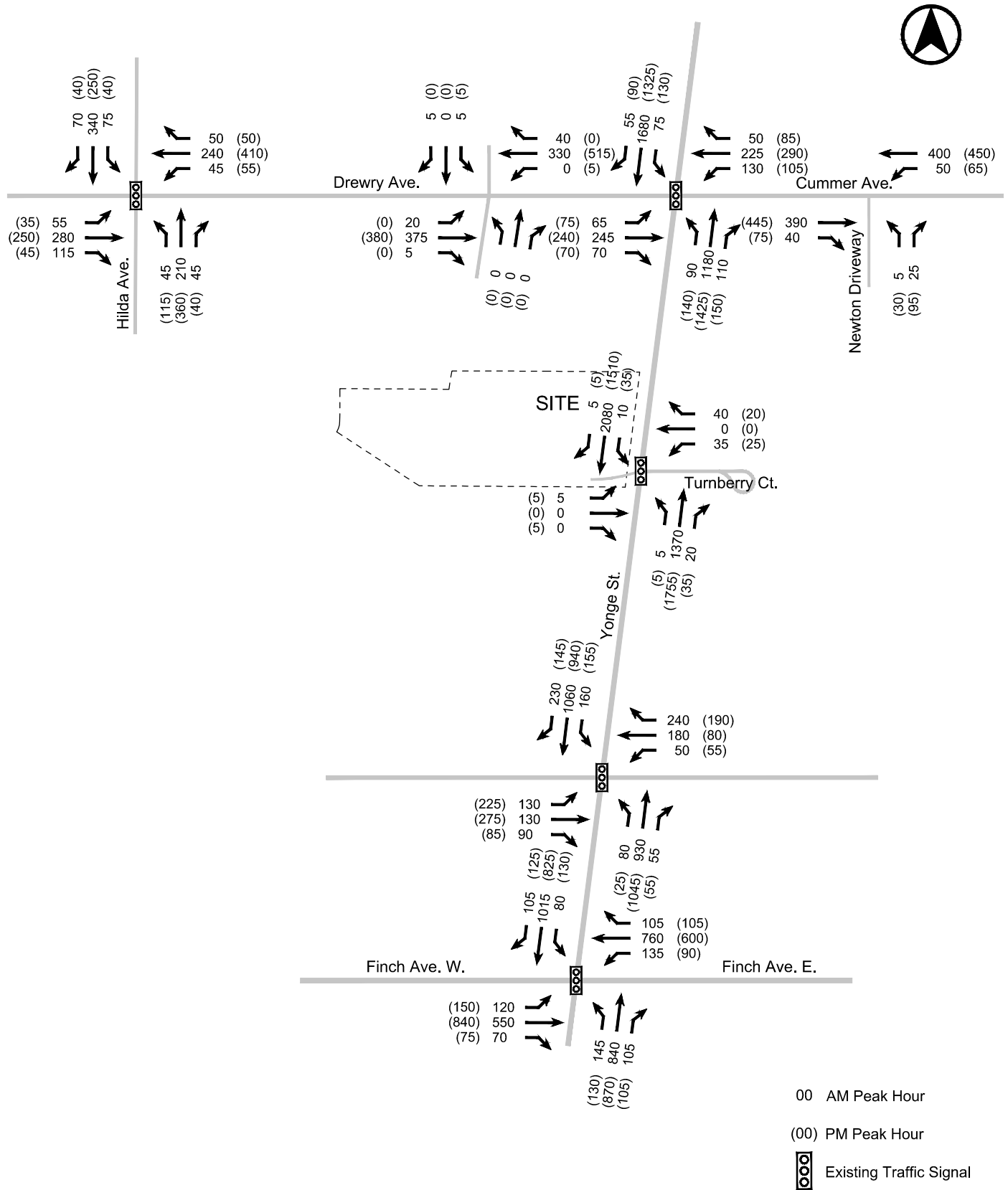
Intersections	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Yonge Street / Site Access	10	5	15	10	10	20

Notes:

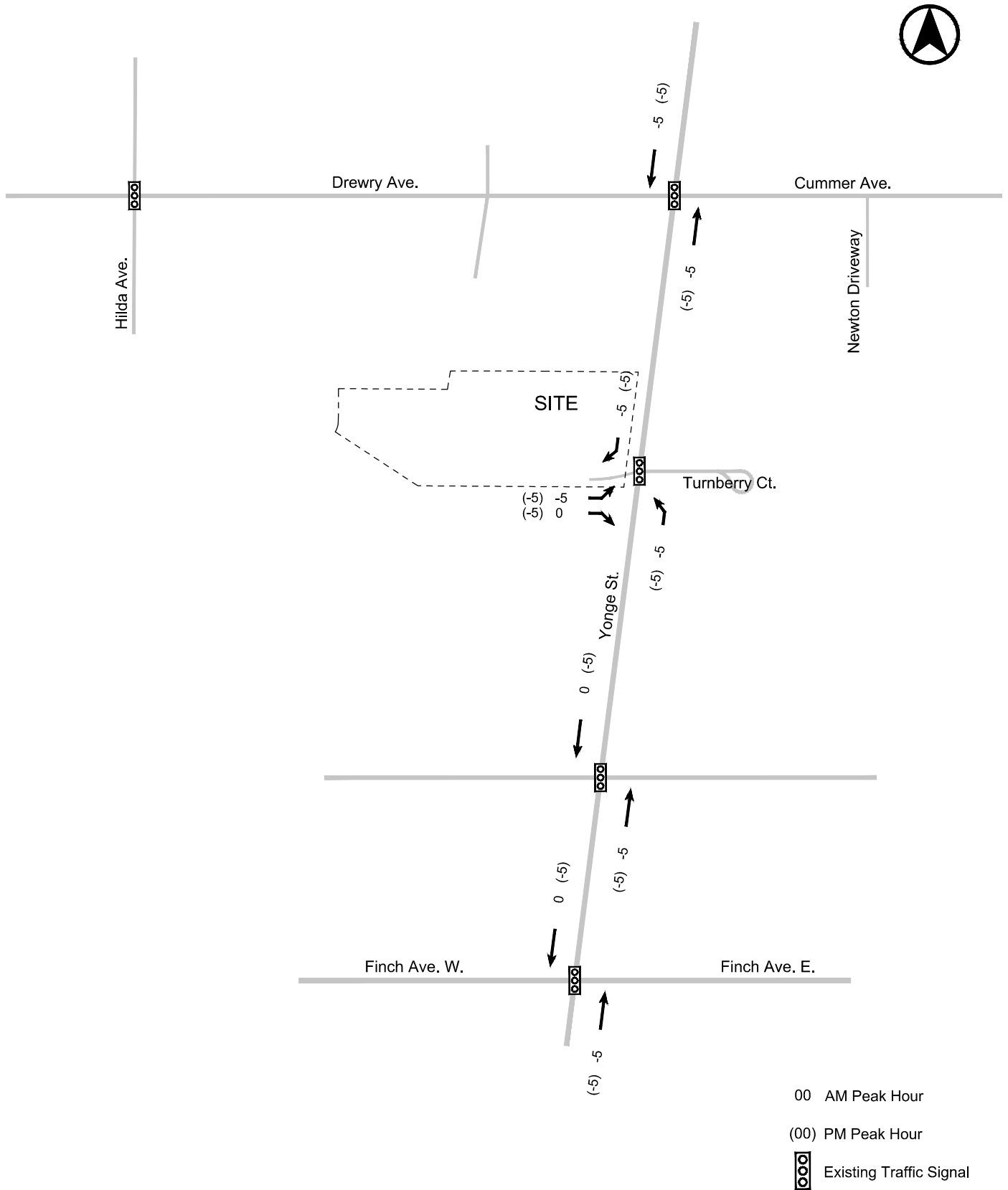
1. Vehicle trip volumes rounded to the nearest 5 vehicles.

The existing site, as counted, generates approximately 15 and 20 two-way vehicle trips during the weekday morning and afternoon peak hours, respectively.

As part of the proposed development, the existing site traffic volumes will be removed. The removal of existing site traffic volumes are illustrated in **Figure 8**.



EXISTING TRAFFIC VOLUMES



REMOVAL OF EXISTING SITE TRAFFIC VOLUMES

10.3 FUTURE BACKGROUND TRAFFIC VOLUMES

Traffic growth in the subject site vicinity has been considered based upon an evaluation of traffic volumes changes related to:

- General corridor traffic growth on the area arterial roads (i.e. Yonge Street and Finch Avenue); and
- Specific area development traffic (i.e. background development traffic).

10.3.1 General Corridor Traffic Growth

Historical traffic volume counts at the Yonge Street / Finch Avenue intersection from 2010 to 2019 were reviewed to determine if there have been any changes in traffic activity due to general corridor traffic growth within the study area.

The observed trends indicated negative traffic growth in the north-south direction along Yonge Street during the weekday morning and afternoon peak hours. Given the negative growth trend in both analyzed weekday peak periods, no general corridor traffic growth rate has been applied to the Yonge Street corridor.

In comparison, the observed trends indicated positive traffic growth in the east-west direction along Finch Avenue during the weekday morning and afternoon peak hours. It is observed that the traffic growth along Finch Avenue sustains approximately 1% per annum. Given the positive growth trend in both analyzed weekday peak periods, a 1% (compounded) per annum has been applied to the east-west through movements along the Finch Avenue corridor for a 5-year horizon during weekday morning and afternoon peak hour periods.

Corridor growth rate calculation sheets are provided in **Appendix D**.

10.3.2 Background Development Growth

Traffic allowances were made for other specific proposed developments in the area, based on a review of the City of Toronto's list of current development projects as of May 2019. These sites represent a total development in the order of 4,594 residential units, 12,407 m² GFA of retail space, 15,220 m² GFA of office space, 500 m² GFA of industrial space and 3,648 m² GFA of institutional space.

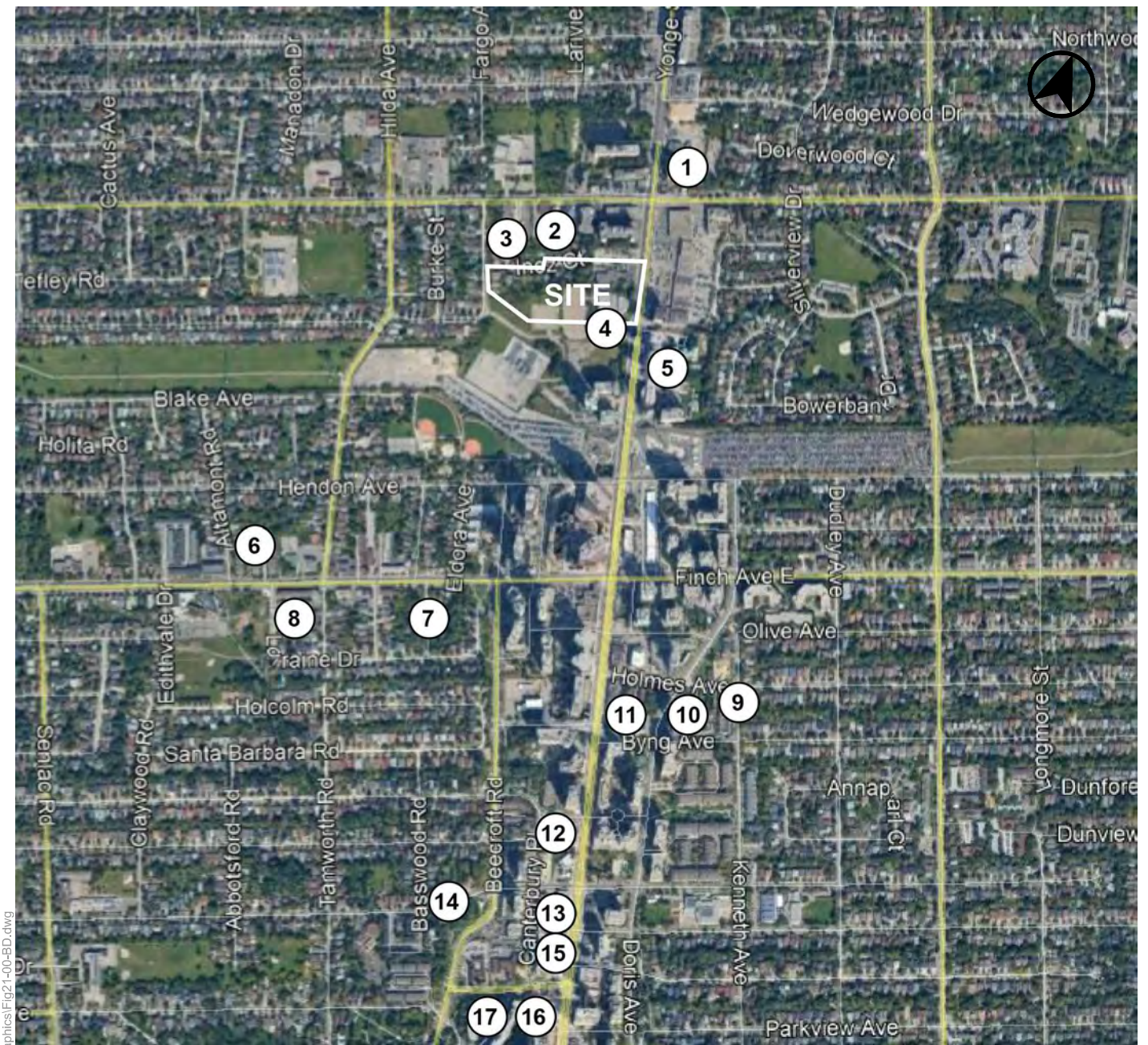
Area background developments are summarized in **Table 52** together with a description of the key development statistics for each. Traffic allowances made for each development were based upon traffic impact studies submitted to the City of Toronto as part of the development application process, unless otherwise noted.

TABLE 52 AREA BACKGROUND DEVELOPMENTS

Site Location / Name	Development Statistics				Trip Generation Notes / Sources
	Residential Units	Office Space GFA	Retail Space GFA	Other Space GFA	
5959 Yonge Street	371 units	-	-	-	GHD
51 Drewry Avenue	580 units	-	-	-	Generated and Assigned by BA Group
43 Drewry Avenue	45 units	-	-	-	Generated and Assigned by BA Group
5840 Yonge Street	408 units	-	-	-	WSP
5799-5915 Yonge Street	810 units	3,915 m ²	3,718 m ²		BA Group
11 Altamont Road	32 units	-	-	-	MMM Group
57 Finch Avenue West	42 units	-	-	-	Generated and Assigned by BA Group
100 Finch Avenue East	75 units	-	-	-	Cole Engineering
448 Kenneth Avenue	29 units	-	-	-	Generated and Assigned by BA Group
35 Holmes Avenue	154 units	-	-	-	LEA
15 Holmes Avenue	358 units	-	-	-	WSP
5400 Yonge Street	324 units	-	-	-	LEA
5350 Yonge Street	385 units	-	-	-	BA Group
36 Churchill Avenue	18 units	-	-	-	Generated and Assigned by BA Group
5306 Yonge Street	328 units	-	-	-	Generated and Assigned by BA Group
5220 Yonge Street	308 units	11,305 m ²	6,760 m ²	-	nexTrans
5182-5190 Yonge Street	372 units	-	1,929 m ²	4,148 m ²	Generated and Assigned by BA Group

Figure 9 illustrates the locations of the area background developments considered in this assessment.

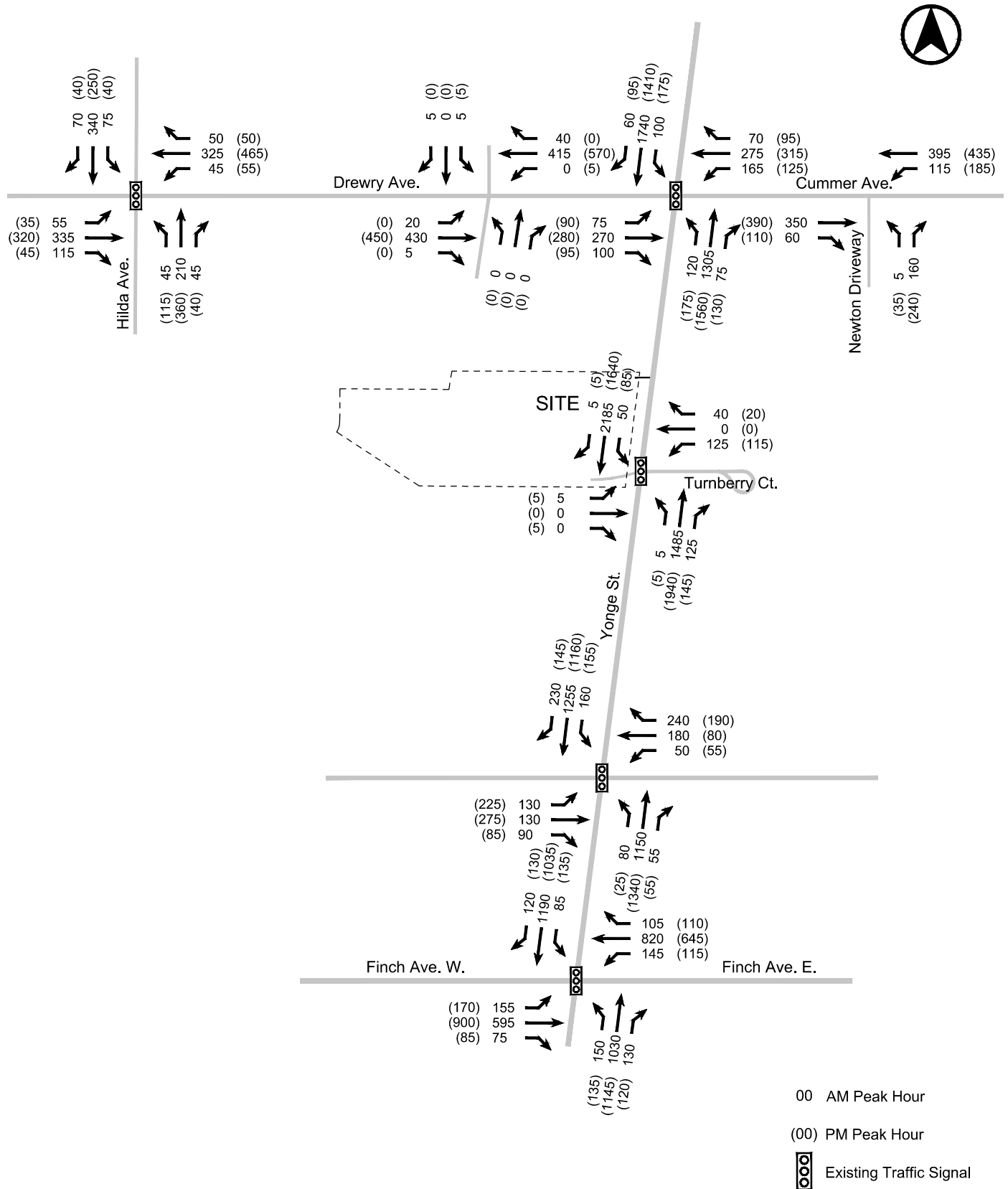
Figure 10 and **Figure 11** summarizes the future background traffic volumes for the weekday morning and afternoon peak hours, which were developed by adding the abovementioned allowances for corridor traffic growth and the specific background development to the base existing traffic volumes.



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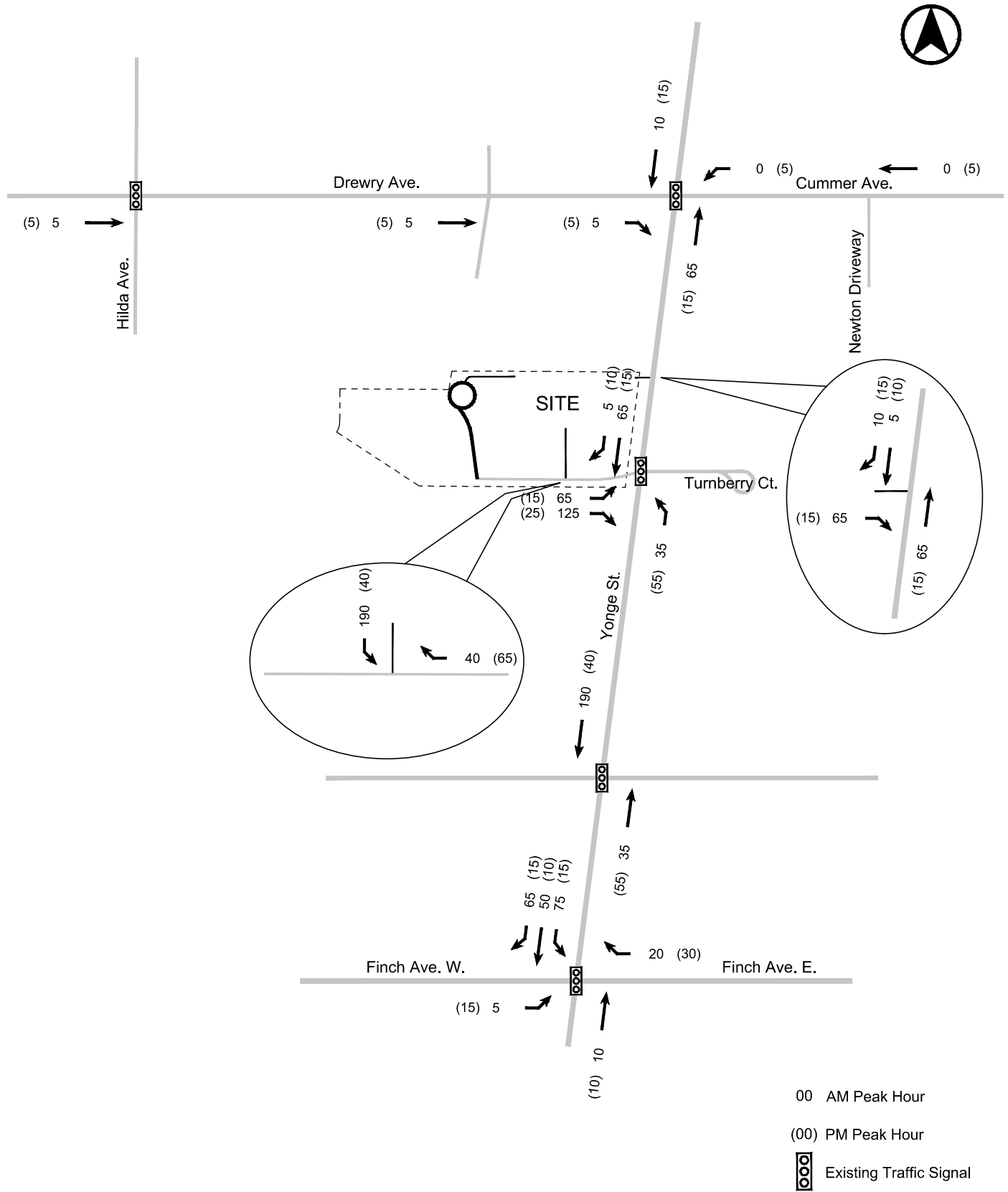
ID	Development	Site Location / Name				Description	ID	Development	Site Location / Name				Description
		Residential Units	Office Space GFA	Retail Space GFA	Office Space GFA				Residential Units	Office Space GFA	Retail Space GFA	Office Space GFA	
1	5959 Yonge Street	371 units	-	-	-	GHD	10	35 Holmes Avenue	154 units	-	-	-	LEA
2	51 Drewry Avenue	580 units	-	-	-	Generated and Assigned by BA Group	11	15 Holmes Avenue	358 units	-	-	-	WSP
3	43 Drewry Avenue	45 units	-	-	-	Generated and Assigned by BA Group	12	5400 Yonge Street	324 units	-	-	-	LEA
4	5840 Yonge Street	810 units	3,915 m ²	3,718 m ²	-	WSP	13	5350 Yonge Street	385 units	-	-	-	BA Group
5	5799-5915 Yonge Street	408 units	-	-	-	BA Group	14	36 Churchill Avenue	18 units	-	-	-	Generated and Assigned by BA Group
6	11 Altamont Road	32 units	-	-	-	MMM Group	15	5306 Yonge Street	328 units	-	-	-	Generated and Assigned by BA Group
7	57 Finch Avenue West	42 units	-	-	-	Generated and Assigned by BA Group	16	5220 Yonge Street	308 units	11,305 m ²	6,760 m ²	-	nexTrans
8	100 Finch Avenue East	75 units	-	-	-	Cole Engineering	17	5182-5190 Yonge Street	372 units	-	1,929 m ²	4,148 m ²	Generated and Assigned by BA Group
9	448 Kenneth Avenue	29 units	-	-	-	Generated and Assigned by BA Group							

AREA BACKGROUND DEVELOPMENTS



FUTURE BACKGROUND TRAFFIC VOLUMES





RESIDENTIAL SITE (INTERIM) TRAFFIC VOLUMES



10.4 SITE TRAFFIC VOLUMES

10.4.1 Trip Generation

Vehicular trip generation for the proposed development is discussed in **Section 8.0**. Based on the 'first principle' person-based trip generation methodology, vehicular site traffic related to the site parking facility and pick-up / drop-off (PUDO) activity (i.e. auto-driver and passenger) has been generated. The resultant vehicular site traffic related to the site is summarized in **Table 53**.

TABLE 53 TRIP GENERATION

Land Use	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Residential (1,496 units)	50	255	305	80	55	135
Office (4,601.7 m ² GFA)	25	0	25	0	20	20
Retail (1,255.7 m ² GFA)	0	5	5	10	10	20
Daycare (741.3 m ² GFA)	0	0	0	0	0	0
Total	75	260	335	90	85	175
Primary Trips	75	260	335	90	85	175
Pass-By Trips	0	0	0	0	0	0

Notes:

1. Reflects auto occupancy for auto-driver and passenger.
2. Trips rounded to the nearest 5 trips.

The proposed development will generate approximately 335 and 175 two-way vehicle trips during the weekday morning and afternoon peak hours, respectively.

10.4.2 Trip Distribution and Assignment

The trip distribution pattern for the site traffic was established based on a review of 2016 Transportation Tomorrow Survey (TTS) data and of existing travel patterns in the site vicinity. The distribution of inbound and outbound residential, office and retail site traffic distribution adopted for the proposed development is summarized in **Table 54**.

TABLE 54 SITE TRIP DISTRIBUTION

To / From	Residential ¹		Office ²		Retail ³	
	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound
North on Yonge Street	30%	30%	45%	40%	45%	45%
South on Yonge Street	20%	30%	20%	20%	35%	30%
East on Finch Avenue East	20%	20%	15%	15%	5%	5%
East on Cummer Avenue	15%	10%	15%	15%	5%	10%
West on Finch Avenue West	10%	5%	5%	5%	5%	5%
West on Drewry Avenue	5%	5%	0%	5%	5%	5%
Total	100%	100%	100%	100%	100%	100%

Notes:

1. Based on 2016 TTS data for home-based trips to / from 2006 TTS Zone 444, 448 and 452 during the weekday morning and afternoon peak periods.
2. Based on 2016 TTS data for work-based trips to / from 2006 TTS Zone 444, 448 and 452 during the weekday morning and afternoon peak periods.
3. Based on a review of existing travel patterns within the vicinity of the site.
4. Percentages rounded to the nearest 5 percent.

The residential, office, retail and total net-new site traffic volumes assigned to the area interim and ultimate road network are illustrated in **Figure 12** through **Figure 19**.

10.4.3 Toronto Green Standard Version 3

The Toronto Green Standard (TGS) is Toronto's sustainable design requirements for new developments that aim to promote sustainable site and building design. TGS consists of multiple tiers of sustainable performance measures (from Tier 1 to Tier 4) where Tier 1 is mandatory as part of the planning approval process, whereas Tiers 2 to 4 are voluntary. The TGS Version 3 is applicable to development applications submitted on May 1, 2018 and on.

The Tier 1 standard within the updated TGS requires all development proposals to reduce single occupancy auto vehicle trips generated by the proposed development by 15% through the adopted TDM measures and multimodal infrastructure strategies for the site. As such, the impact of the adopted TDM measures and site context on the proposed site trip generation must be quantified. The combined effect of the adopted TDM measures and multimodal infrastructure strategies were assessed based on a comparison to default trip generation derived from the ITE Trip Generation Manual 10th Edition for an urban location context and is summarized in **Table 55**.

TABLE 55 TRIP GENERATION REDUCTION SUMMARY

Land Use	In	Out	2-Way
Residential			
ITE (Land Use 222)	110 (335)	345 (210)	455 (545)
Site Trip Generation	50 (80)	255 (55)	305 (135)
Office			
ITE (Land Use 710)	20 (5)	0 (15)	20 (20)
Site Trip Generation	25 (0)	0 (20)	25 (20)
Retail			
ITE (Land Use 820)	10 (40)	10 (40)	20 (80)
Site Trip Generation	0 (10)	5 (10)	5 (20)
Site Total			
ITE	140 (380)	355 (265)	495 (645)
Site Trip Generation	75 (90)	260 (85)	335 (175)
Reduction	46% (76%)	27% (68%)	32% (73%)

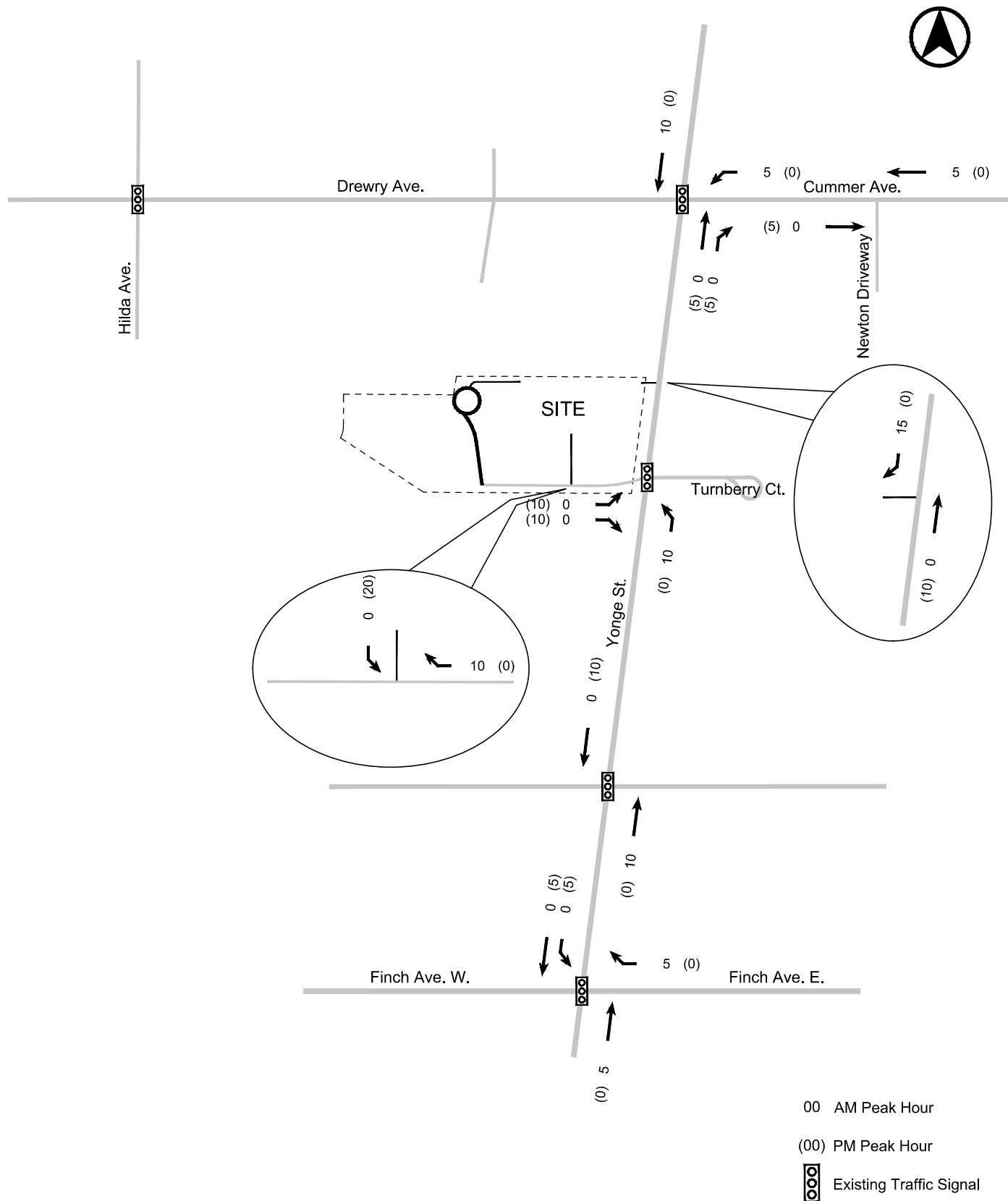
Note:

1. 00 (00) [00] – weekday morning peak hour (weekday afternoon peak hour) [Saturday mid-day peak hour].

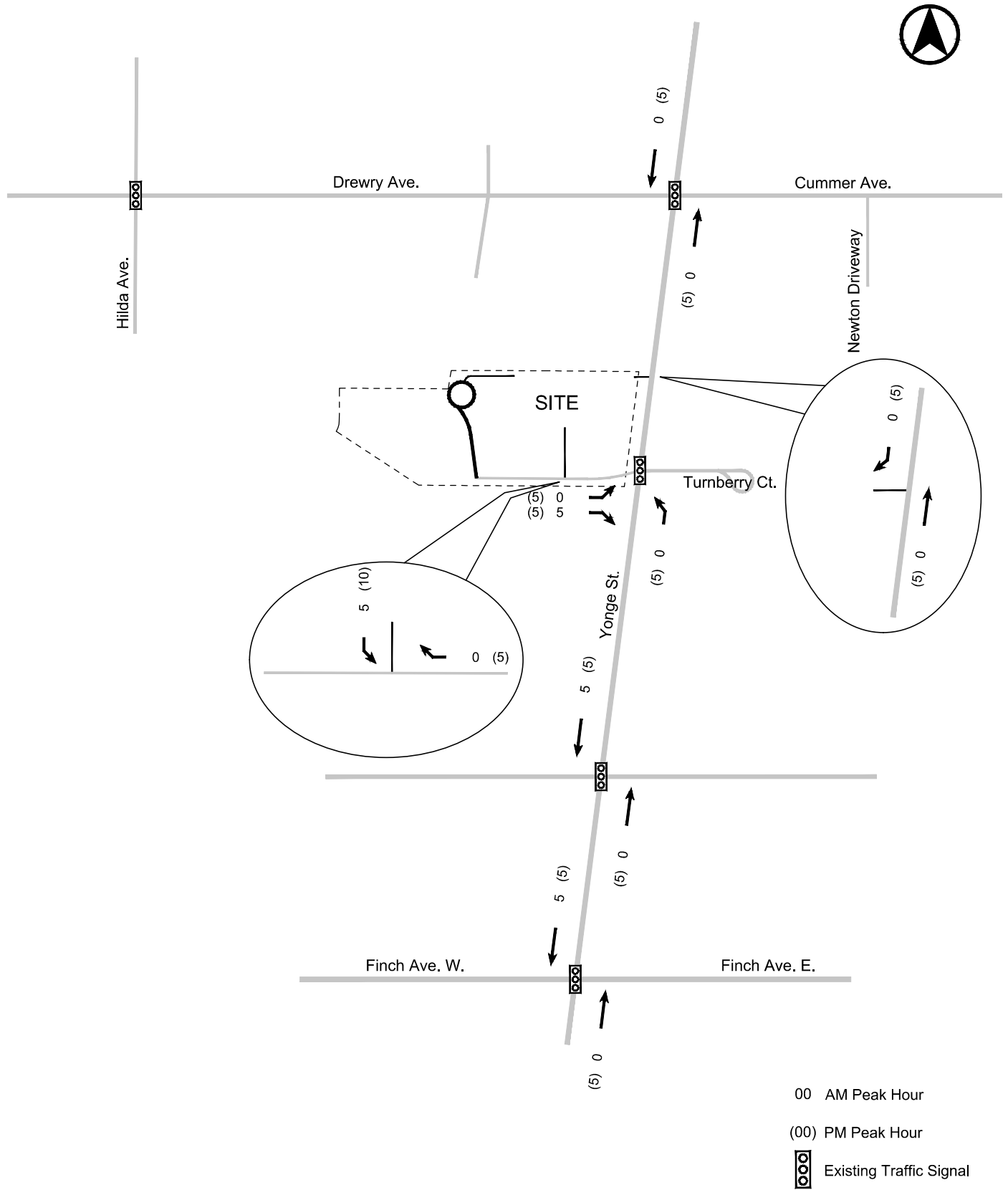
As outlined above, a comparison of the projected site trip generation to the trip generation based on a review of ITE Trip Generation Manual 10th Edition indicates reduced two-way trips by approximately 32% to 73% during peak hours. As such, these reductions meet and exceed the requirements set out within the TGS Version 3 Tier 1.

10.5 FUTURE TOTAL TRAFFIC VOLUMES

Future total traffic volumes were established by adding site-generated traffic to future background traffic volumes. **Figure 20** and **Figure 21** illustrates the future total traffic volumes for the weekday morning and afternoon peak hours.



OFFICE SITE (INTERIM) TRAFFIC VOLUMES



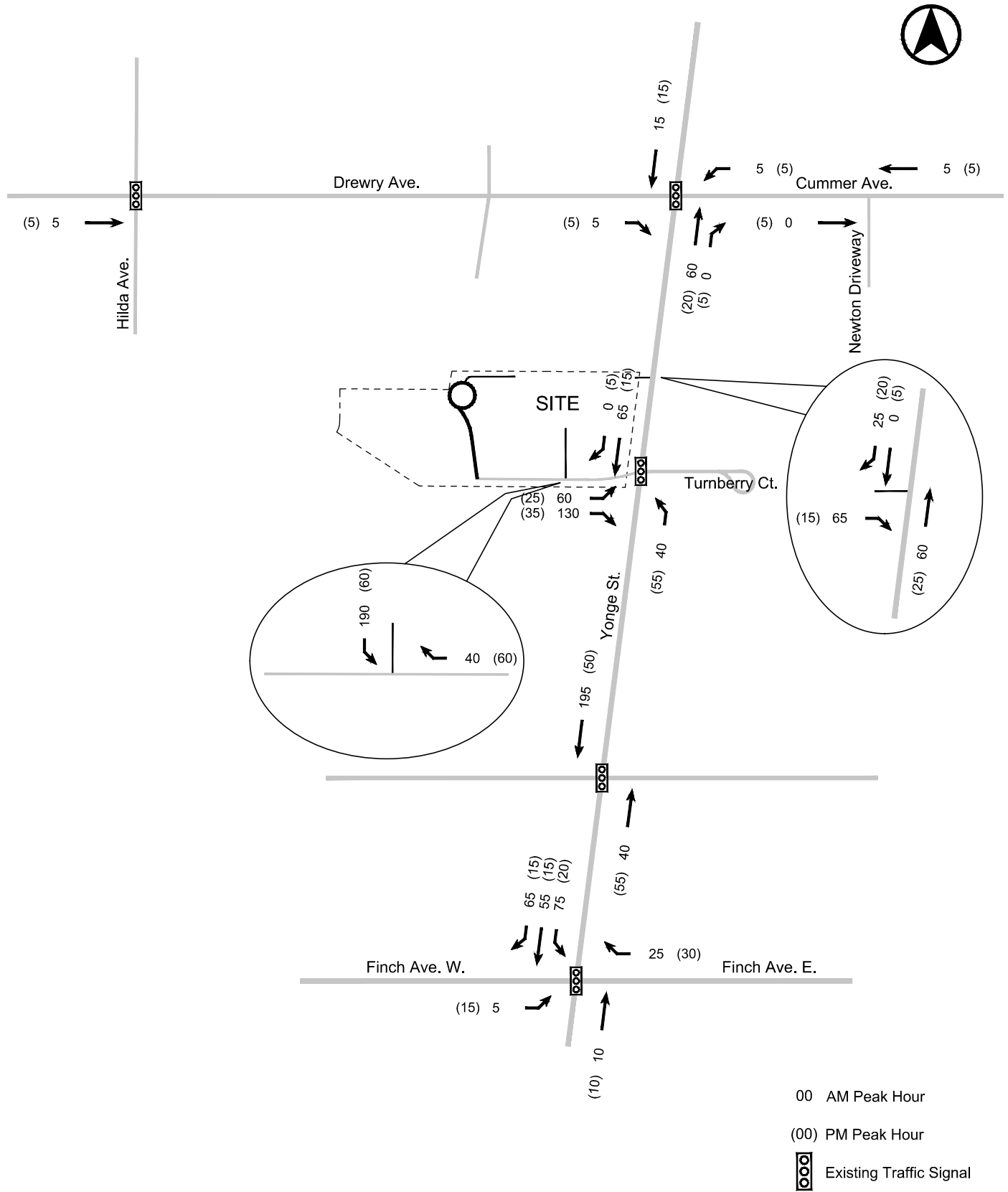
RETAIL SITE (INTERIM) TRAFFIC VOLUMES



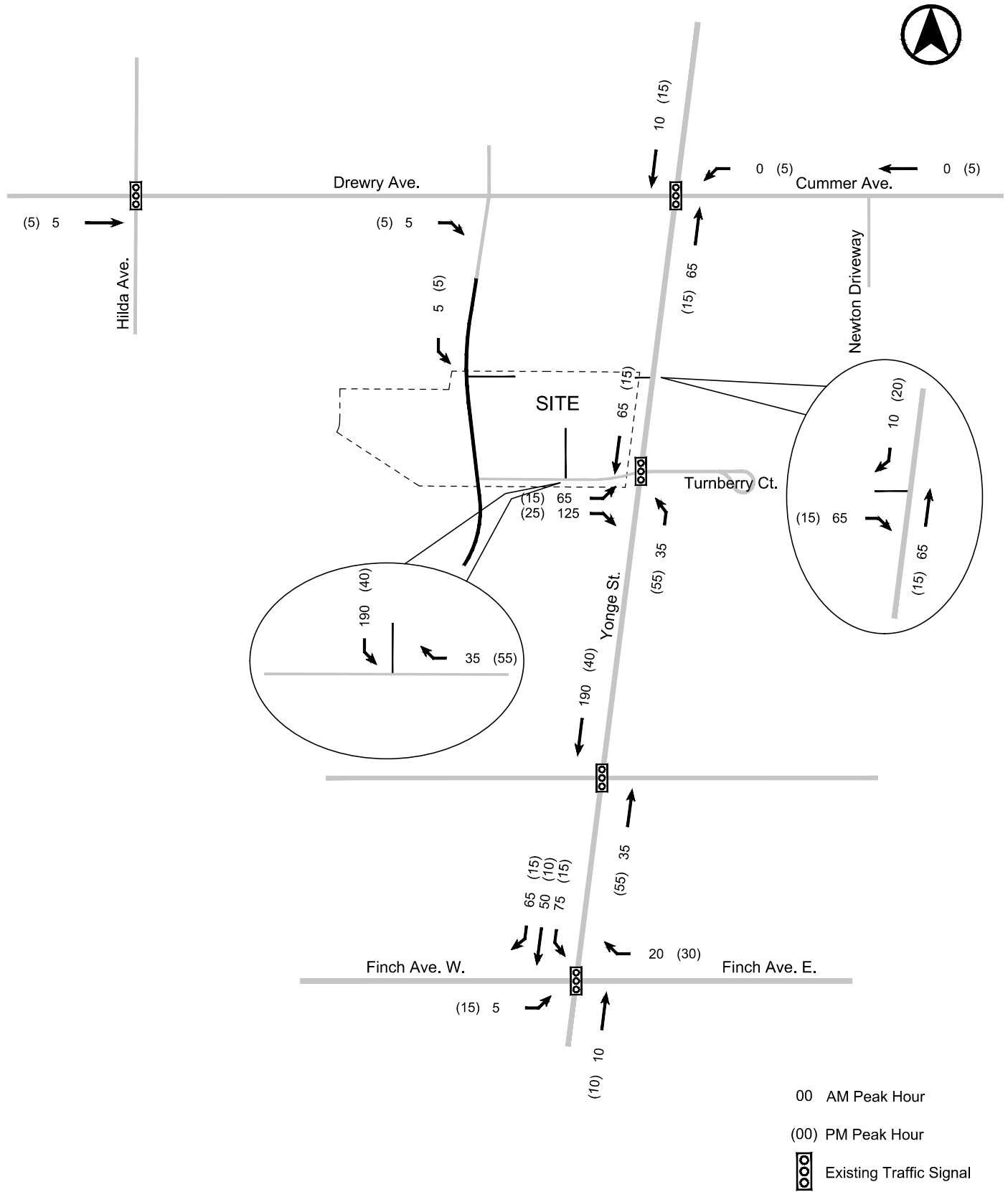
BA Group

5800 Yonge Street
7106-05 January 2020

Figure 13

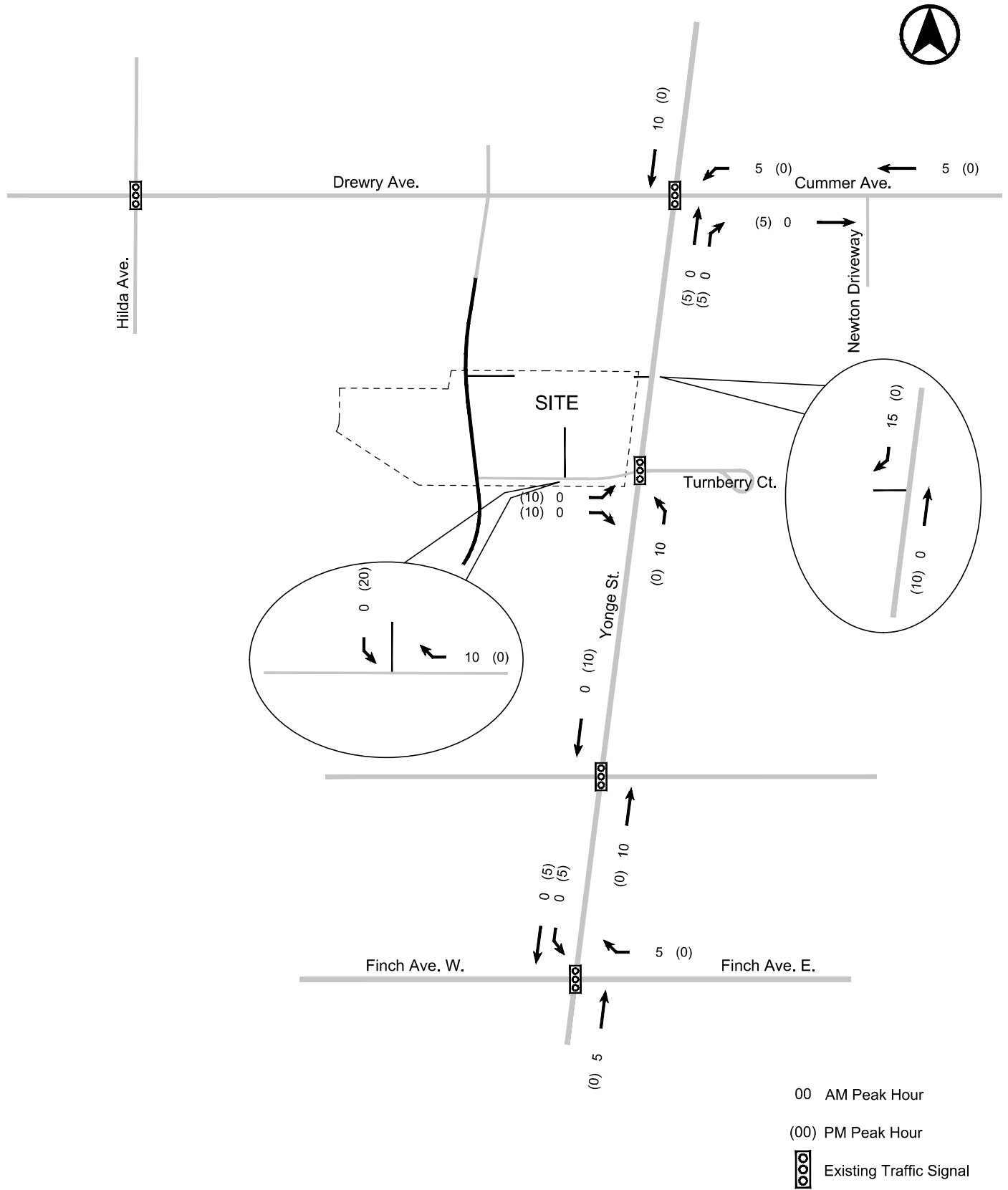


NET-NEW SITE (INTERIM) TRAFFIC VOLUMES

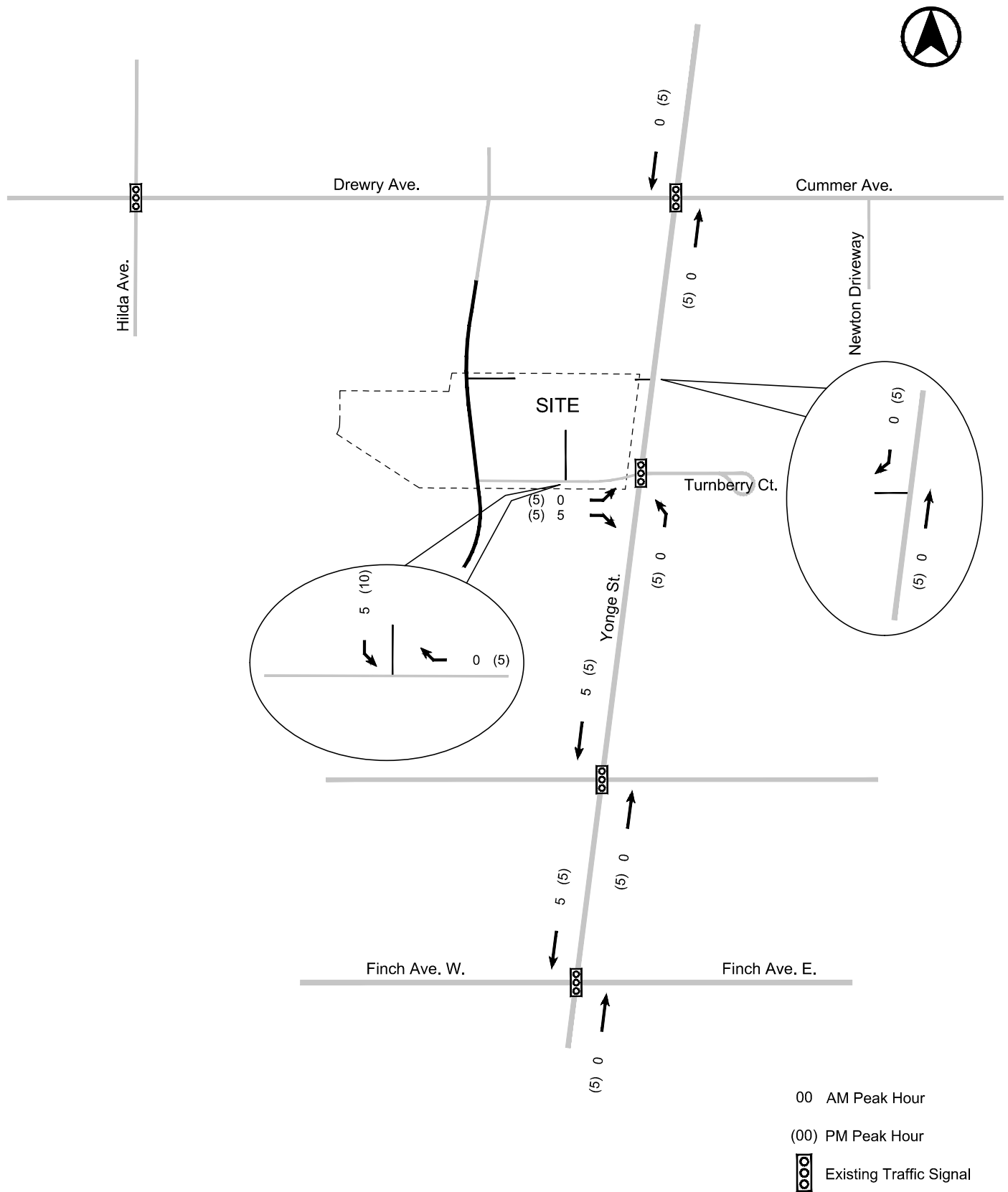


RESIDENTIAL SITE (ULTIMATE) TRAFFIC VOLUMES

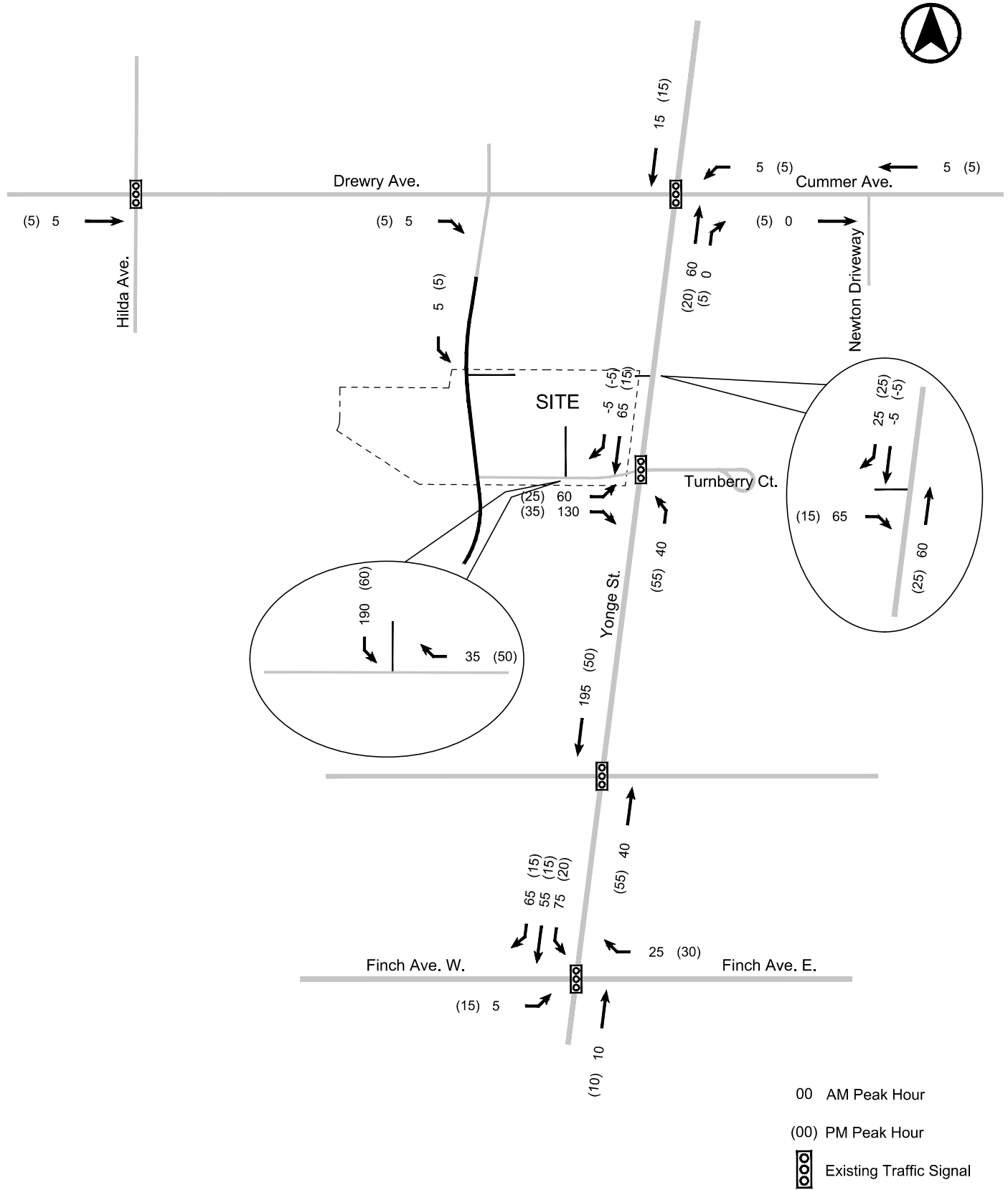




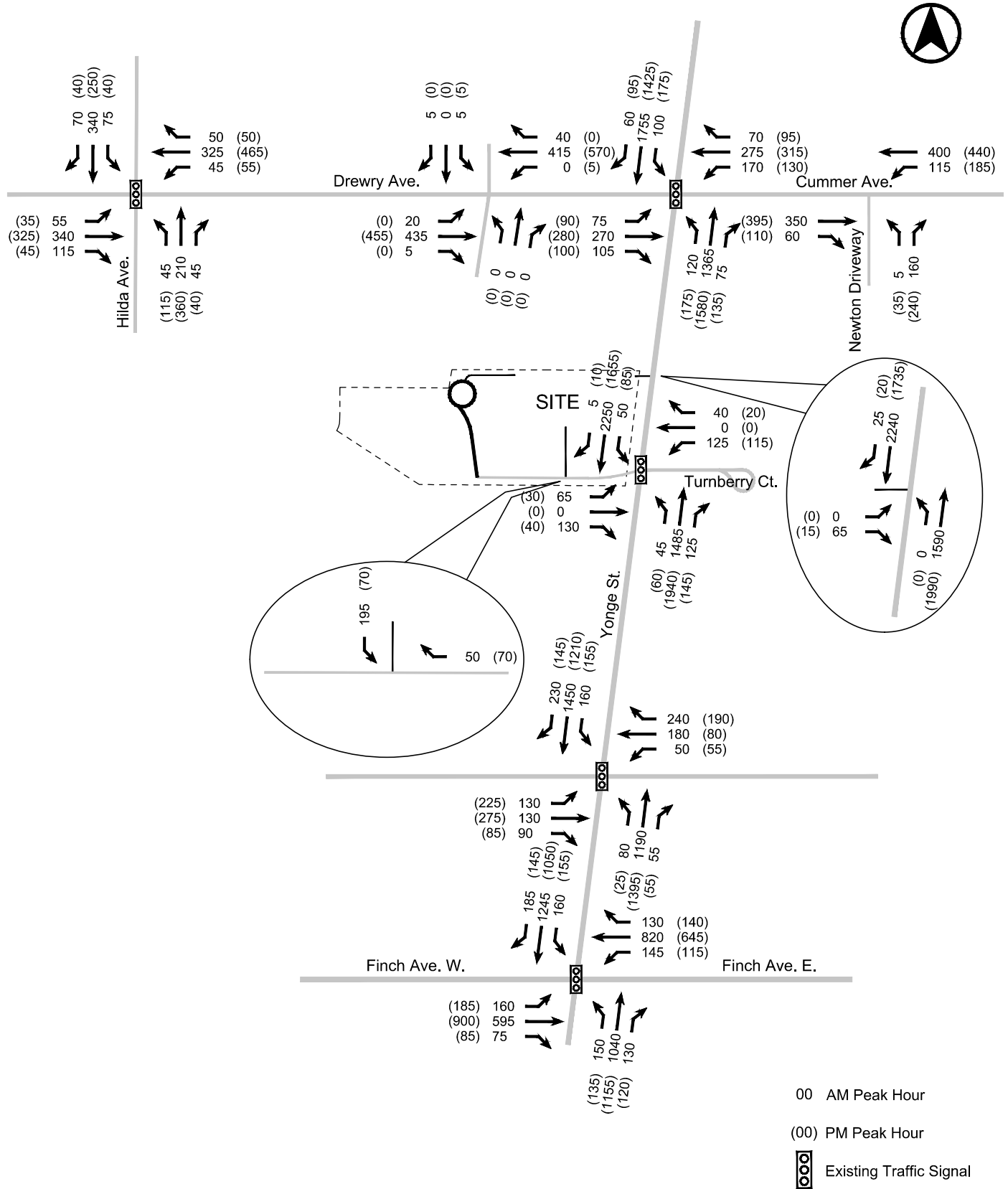
OFFICE SITE (ULTIMATE) TRAFFIC VOLUMES



RETAIL SITE (ULTIMATE) TRAFFIC VOLUMES

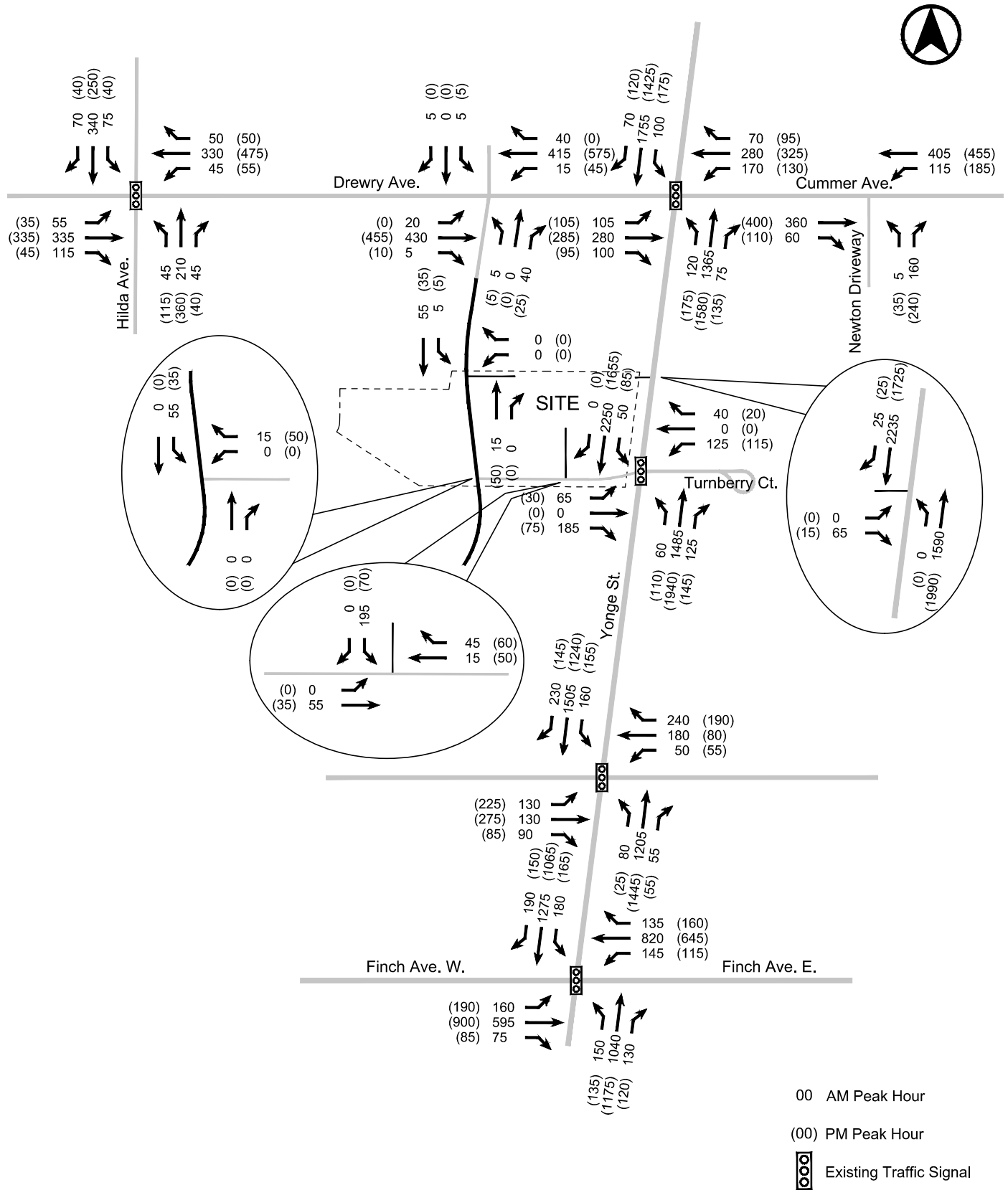


NET-NEW SITE (ULTIMATE) TRAFFIC VOLUMES



FUTURE TOTAL (INTERIM) TRAFFIC VOLUMES





FUTURE TOTAL (ULTIMATE) TRAFFIC VOLUMES



BA Group

5800 Yonge Street
7106-05 January 2020

Figure 20

11.0 TRAFFIC OPERATIONS ANALYSIS

The following section provides an assessment of existing and future traffic operation conditions on the area road system considering, for the future, the development of the proposed site, as planned.

Analyses have been undertaken at the intersections within the study area and are based upon the existing and forecast future traffic volumes (as outlined in **Section 10.1**).

Signalized Intersections

- Yonge Street / Drewry Avenue / Cummer Avenue
- Yonge Street / Turnberry Court
- Yonge Street / Hendon Avenue / Bishop Avenue
- Yonge Street / Finch Avenue East / Finch Avenue West
- Drewry Avenue / Hilda Avenue

Unsignalized Intersections

- Drewry Avenue / Driveway / Beecroft Road extension
- Cummer Avenue / Newtonbrook Access
- Beecroft Road extension / Site Access
- Beecroft Road extension / Site Access
- Yonge Street / Site Access
- Site Access / Site Driveway

11.1 METHODOLOGY

Traffic operations analyses have been undertaken at the following area intersections using standard capacity analysis procedures as follows.

Signalized Intersection Methodology

Analyses undertaken at intersections operating under traffic signal control have been undertaken using the methodologies and procedures outlined in the Highway Capacity Manual (HCM) 2000 Edition using the Synchro 9.0 software package. The key performance indicator utilized for signalized analysis is the volume to capacity (V/C) ratio.

Unsignalized Intersection Methodology

Unsignalized intersections were also analysed using the Highway Capacity Manual (HCM) 2000 Edition using the Synchro 9.0 software package. The key performance indicator for unsignalized traffic operations analysis is the level of service (LOS) indicator, which ranges between LOS A and LOS F. This indicator represents a relative indication of the level of delay experienced by motorists completing a manoeuvre at an intersection. LOS A represents conditions under which motorists would experience little delay and LOS F reflects conditions where more extended delays can be expected.

Signal Timings

Existing signal timings, phasing plans, and cycle lengths were obtained from the City of Toronto. These parameters were maintained during the analysis of existing and future conditions. Existing signal timings adopted as the basis for the traffic operations analyses are provided in **Appendix E**.

Heavy Vehicle Assumptions

Heavy and medium truck percentages incorporated into the analysis were based upon information provided in the existing intersection turning movement counts.

Saturation Flow Assumptions

The City of Toronto *Guidelines for using Synchro 9 (including Simtraffic 9)*, dated March 18, 2016, specifies a base saturation flow rate of 1,900 passenger cars per hour of green time per lane (pcphgpl) for unsignalized intersections. These default rates were adopted in the analysis for the proposed development.

Lost Time Adjustments

The City of Toronto *Guidelines for using Synchro 9 (including Simtraffic 9)*, dated March 18, 2016, as well as the *Canadian Capacity Guide for Signalized Intersections*, dated February 2008, specify a base lost time adjustment factor of -1.0 seconds (i.e. a total loss time per phase equal to the amber plus all-red time minus 1 second). This default value was adopted in the analysis.

Peak Hour Factor

The City of Toronto *Guidelines for using Synchro 9 (including Simtraffic 9)*, dated March 18, 2016, specifies that default peak hour factors should be used except where site specific values can be calculated from existing traffic count information. These guidelines specify that a default peak hour factor of 0.90 should be used for through and left turn movements during the morning peak hour; and 0.95 for the through movements and 0.90 for the left turn movements during the afternoon peak hour.

The City of Toronto default values were used in the analysis of the proposed site driveway. At other area intersections, peak hour factors were calculated based on the existing traffic volume data extracted from the traffic counts utilized in this study for the operations analysis. The calculated peak hour factors are summarized in **Table 56**.

TABLE 56 SUMMARY OF CALCULATED PEAK HOUR FACTORS

Intersection	AM Peak Hour	PM Peak Hour
Yonge Street / Finch Avenue	0.99	0.95
Yonge Street / Hendon Avenue & Bishop Avenue	0.97	0.95
Yonge Street / Turnberry Court	0.96	0.97
Yonge Street / Drewry Avenue & Cummer Avenue	0.97	0.95
Drewry Avenue / Hilda Avenue	0.98	0.95
Cummer Avenue / Newtonbrook Access	0.99	0.94
Drewry Avenue / Drewry Secondary School Access	0.93	0.93

Calibration of Existing Movements

In the vicinity of the site, the northbound and southbound curb lanes on Yonge Street are designated as High Occupancy Vehicle (HOV 3+) lanes between the hours of 7:00 to 10:00 a.m. and 3:00 to 7:00 p.m. from Monday to Friday. Only buses, taxis, motorcycles, cyclists and vehicles with 3 or more occupants are permitted to use this lane during these times.

As such, in order to more accurately model traffic operations at intersections along Yonge Street within the study area, a traffic lane distribution count was undertaken at the intersections along Yonge Street within the study area to determine a suitable northbound and southbound lane utilization factor that would account for the skewed lane volume balance due to the HOV lane.

Based upon the lane distribution studies (summarized data sheets included in **Appendix F**) a decreased lane utilization factor was calculated for Yonge Street within the study area. The lane utilization factor formula is shown below:

$$f_{LU} = \frac{\text{Total Lane Group Volume}}{(\text{Highest Lane Volume}) \times (\# \text{ of Lanes in Group})}$$

The lane utilization factors calculated based on the foregoing at the study area intersections along Yonge Street are summarized in **Table 57**.

TABLE 57 LANE UTILIZATION SUMMARY

Intersection	AM Peak Hour		PM Peak Hour	
	NB	SB	NB	SB
Yonge Street / Hendon Avenue & Bishop Avenue	0.69	0.85	0.73	0.78
Yonge Street / Turnberry Court	0.78	0.82	0.79	0.77
Yonge Street / Drewry Avenue & Cummer Avenue	0.76	0.79	0.79	0.79

11.2 TRAFFIC ANALYSIS RESULTS

The traffic operations analysis results for the area signalized and unsignalized intersections for the existing, future background and future total conditions are summarised in the following section. The Synchro analysis worksheets are provided in **Appendix G**.

11.2.1 Signalized Intersections

A summary of the traffic analysis results for the signalized intersections within the study area is provided in the following.

Yonge Street / Finch Avenue

The Yonge Street / Finch Avenue intersection operates under traffic signal control with a cycle length of 128 seconds during the weekday morning and afternoon peak hours. The existing cycle length and signal timings were maintained in all analysis scenarios. A summary of traffic analysis results for this intersection is summarized in **Table 58**.

TABLE 58 YONGE STREET / FINCH AVENUE CAPACITY ANALYSIS RESULTS

Key Movements	Existing Traffic		Future Background Traffic		Future Total Traffic	
	v/c	LOS	v/c	LOS	v/c	LOS
EBL	0.60 (0.60)	C (C)	0.86 (0.75)	E (D)	0.98 (0.86)	F (E)
EBTR	0.58 (0.82)	D (D)	0.59 (0.83)	D (D)	0.58 (0.83)	C (D)
WBL	0.48 (0.48)	C (C)	0.56 (0.70)	C (D)	0.58 (0.72)	C (D)
WBTR	0.81 (0.66)	D (D)	0.81 (0.65)	D (C)	0.82 (0.68)	D (D)
NBL	0.56 (0.55)	C (C)	0.62 (0.66)	C (C)	0.64 (0.67)	C (C)
NBTR	0.52 (0.62)	C (D)	0.67 (0.84)	D (D)	0.76 (0.88)	D (D)
SBL	0.32 (0.55)	B (B)	0.41 (0.67)	D (D)	0.62 (0.68)	D (D)
SBTR	0.68 (0.62)	C (C)	0.84 (0.79)	E (C)	0.91 (0.81)	E (C)
Overall	0.71 (0.70)	C (C)	0.82 (0.81)	D (D)	0.91 (0.85)	D (D)

Notes:

1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour)

Under existing traffic conditions, the intersection operates at an acceptable level of service during the weekday morning and afternoon peak hours with overall v/c ratios of 0.71 and 0.70, respectively.

Under future background with the allowances of specific area development, the intersection operates at an acceptable level of service during the weekday morning and afternoon peak hours with overall v/c ratios of 0.82 and 0.81, respectively.

With the addition of site-related traffic under future total traffic conditions, the intersection continues to operate at an acceptable level of service during the weekday morning and afternoon peak hours with overall v/c ratios of 0.91 and 0.85, respectively. In the morning peak hour, the eastbound left is a critical movement approaching theoretical capacity and operating with an individual v/c ratio of 0.98.

Based on the foregoing, the traffic generated by the proposed development can be acceptably accommodated at the Yonge Street / Finch Avenue intersection. No mitigation measures or improvements are recommended at this intersection.

Yonge Street / Hendon Avenue / Bishop Avenue

The Yonge Street / Hendon Avenue / Bishop Avenue intersection operates under traffic signal control with a cycle length of 128 seconds during the weekday morning and afternoon peak hours. The existing cycle length and signal timings were maintained in all analysis scenarios. A summary of traffic analysis results for this intersection is summarized in **Table 59**.

TABLE 59 YONGE STREET / HENDON AVENUE / BISHOP AVENUE CAPACITY ANALYSIS RESULTS

Key Movements	Existing Traffic		Future Background Traffic		Future Total Traffic	
	v/c	LOS	v/c	LOS	v/c	LOS
EBL	0.68 (0.64)	D (D)	0.68 (0.60)	D (C)	0.68 (0.61)	D (D)
EBTR	0.46 (0.60)	D (D)	0.46 (0.58)	D (C)	0.46 (0.58)	D (C)
WBLT	0.69 (0.52)	D (D)	0.69 (0.48)	D (D)	0.69 (0.49)	D (D)
WBR	0.38 (0.16)	D (D)	0.39 (0.30)	D (D)	0.39 (0.30)	D (D)
NBL	0.38 (0.14)	C (D)	0.43 (0.19)	D (B)	0.50 (0.19)	D (B)
NBTR	0.74 (0.85)	C (D)	0.89 (0.88)	D (C)	0.92 (0.91)	D (C)
SBL	0.50 (0.53)	C (C)	0.52 (0.92)	C (F)	0.52 (0.92)	C (F)
SBTR	0.53 (0.54)	B (C)	0.61 (0.67)	B (C)	0.69 (0.69)	C (C)
Overall	0.66 (0.72)	C (C)	0.74 (0.83)	C (C)	0.77 (0.84)	C (C)

Notes:

1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour)

Under existing traffic conditions, the intersection operates at an acceptable level of service during the weekday morning and afternoon peak hours with overall v/c ratios of 0.66 and 0.72, respectively.

Under future background with the allowances of specific area development, the intersection operates at an acceptable level of service during the weekday morning and afternoon peak hours with overall v/c ratios of 0.74 and 0.83, respectively. In the afternoon peak hour, the southbound left is a critical movement approaching theoretical capacity and operating with an individual v/c ratio of 0.92.

With the addition of site-related traffic under future total traffic conditions, the intersection continues to operate at an acceptable level of service during the weekday morning and afternoon peak hours with overall v/c ratios of 0.77 and 0.84, respectively. In the afternoon peak hour, the southbound left is a critical movement approaching theoretical capacity and continues to operate with an individual v/c ratio of 0.92.

Based on the foregoing, the traffic generated by the proposed development can be acceptably accommodated at the Yonge Street / Hendon Avenue / Bishop Avenue intersection. No mitigation measures or improvements are recommended at this intersection.

Yonge Street / Newtonbrook Road Extension

The Yonge Street / Newtonbrook Road Extension intersection operates under traffic signal control with a cycle length of 120 seconds during the weekday morning and afternoon peak hours. The existing cycle length and signal timings were maintained in all analysis scenarios. A summary of traffic analysis results for this intersection is summarized in **Table 60**.

TABLE 60 YONGE STREET / NEWTONBROOK ROAD EXTENSION CAPACITY ANALYSIS RESULTS

Key Movements	Existing Traffic		Future Background Traffic		Future Total Traffic	
	v/c	LOS	v/c	LOS	v/c	LOS
EBL	0.02 (0.02)	D (D)	0.01 (0.01)	C (C)	0.20 (0.09)	C (C)
EBTR	0.00 (0.00)	A (A)	0.00 (0.00)	A (A)	0.38 (0.03)	D (C)
WBL	0.14 (0.13)	D (D)	0.40 (0.35)	D (D)	0.46 (0.36)	D (D)
WBTR	0.03 (0.01)	D (D)	0.03 (0.01)	C (C)	0.03 (0.01)	C (C)
NBL	0.05 (0.03)	B (A)	0.05 (0.05)	B (B)	0.31 (0.41)	C (B)
NBTR	0.57 (0.67)	B (B)	0.78 (0.98)	C (D)	0.78 (0.98)	C (D)
SBL	0.07 (0.26)	A (A)	0.38 (0.51)	C (C)	0.38 (0.51)	C (C)
SBTR	0.79 (0.56)	B (B)	0.91 (0.71)	B (B)	0.99 (0.77)	C (C)
Overall	0.62 (0.55)	B (B)	0.74 (0.75)	C (C)	0.79 (0.75)	C (C)

Notes:

1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour)

Under existing traffic conditions, the intersection operates at an acceptable level of service during the weekday morning and afternoon peak hours with overall v/c ratios of 0.62 and 0.55, respectively.

Under future background with the allowances of specific area development, the intersection operates at an acceptable level of service during the weekday morning and afternoon peak hours with overall v/c ratios of 0.74 and 0.75, respectively. In the afternoon peak hour, the northbound through-right is a critical movement approaching theoretical capacity and operating with an individual v/c ratio of 0.98.

With the addition of site-related traffic under future total traffic conditions, the intersection continues to operate at an acceptable level of service during the weekday morning and afternoon peak hours with overall v/c ratios of 0.79 and 0.75, respectively. In the morning peak hour, the southbound through-right is a critical movement approaching theoretical capacity and operating with an individual v/c ratio of 0.99. In the afternoon peak hour, the northbound through-right is a critical movement approaching theoretical capacity and continues to operate with an individual v/c ratio of 0.98.

Based on the foregoing, the traffic generated by the proposed development can be acceptably accommodated at the Yonge Street / Newtonbrook Road Extension intersection. No mitigation measures or improvements are recommended at this intersection.

Yonge Street / Drewry Avenue / Cummer Avenue

The Yonge Street / Drewry Avenue / Cummer Avenue intersection operates under traffic signal control with cycle lengths of 120 seconds and 128 seconds during the weekday morning and afternoon peak hours, respectively. The existing cycle lengths were maintained in all analysis scenarios. A slight adjustment was made to the signal timings in the future analysis scenarios. A summary of traffic analysis results for this intersection is summarized in **Table 61**.

TABLE 61 YONGE STREET / DREWRY AVENUE / CUMMER AVENUE CAPACITY ANALYSIS RESULTS

Key Movements	Existing Traffic		Future Background Traffic		Future Total Traffic	
	v/c	LOS	v/c	LOS	v/c	LOS
EBL	0.24 (0.38)	C (D)	0.31 (0.58)	C (D)	0.31 (0.57)	C (D)
EBTR	0.66 (0.69)	D (D)	0.78 (0.88)	D (E)	0.79 (0.88)	D (E)
WBL	0.42 (0.40)	C (C)	0.72 (0.65)	D (D)	0.75 (0.69)	D (D)
WBTR	0.39 (0.59)	C (C)	0.53 (0.70)	C (D)	0.53 (0.70)	C (D)
NBL	0.48 (0.68)	D (D)	0.67 (0.93)	E (F)	0.67 (0.95)	E (F)
NBTR	0.79 (0.93)	C (D)	0.80 (0.97)	C (D)	0.84 (0.98)	C (D)
SBL	0.46 (0.66)	C (C)	0.57 (0.93)	C (F)	0.57 (0.95)	C (F)
SBTR	1.00 (0.82)	E (D)	0.97 (0.82)	D (C)	0.98 (0.83)	D (C)
Overall	0.78 (0.80)	D (D)	0.86 (0.92)	D (D)	0.88 (0.93)	D (D)

Notes:

1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour)

Under existing traffic conditions, the intersection operates at an acceptable level of service during the weekday morning and afternoon peak hours with overall v/c ratios of 0.78 and 0.80, respectively. In the morning peak hour, the southbound through-right is a critical movement operating at theoretical capacity with an individual v/c ratio of 1.00.

Under future background with the allowances of specific area development and adjustments to the signal timings, the intersection operates at an acceptable level of service during the weekday morning and afternoon peak hours with overall v/c ratios of 0.86 and 0.92, respectively. In the morning peak hour, the southbound through-right is a critical movement approaching theoretical capacity and operating with an individual v/c ratio of 0.97. In the afternoon peak hour, the northbound through-right, northbound and southbound left movements are critical movements approaching theoretical capacity and operating with individual v/c ratios of 0.97 and 0.93, respectively.

With the addition of site-related traffic under future total traffic conditions, the intersection continues to operate at an acceptable level of service during the weekday morning and afternoon peak hours with overall v/c ratios of 0.88 and 0.93, respectively. In the morning peak hour, the southbound through-right is a critical movement approaching theoretical capacity and operating with an individual v/c ratio of 0.98. In the afternoon peak hour, the northbound through-right, northbound and southbound left movements are critical movements approaching theoretical capacity and operating with individual v/c ratios of 0.98 and 0.95, respectively.

Based on the foregoing, the traffic generated by the proposed development can be acceptably accommodated at the Yonge Street / Drewry Avenue / Cummer Avenue intersection. No mitigation measures or improvements are recommended at this intersection.

Drewry Avenue / Hilda Avenue

The Drewry Avenue / Hilda Avenue intersection operates under traffic signal control with a cycle length of 70 seconds during the weekday morning and afternoon peak hours. The existing cycle length and signal timings were maintained in all analysis scenarios. A summary of traffic analysis results for this intersection is summarized in **Table 62**.

TABLE 62 DREWRY STREET / HILDA AVENUE CAPACITY ANALYSIS RESULTS

Key Movements	Existing Traffic		Future Background Traffic		Future Total Traffic	
	v/c	LOS	v/c	LOS	v/c	LOS
EBL	0.20 (0.18)	B (B)	0.25 (0.23)	B (B)	0.25 (0.23)	B (B)
EBTR	0.65 (0.43)	C (B)	0.74 (0.54)	C (B)	0.75 (0.55)	C (B)
WBL	0.23 (0.17)	B (B)	0.27 (0.21)	B (B)	0.28 (0.21)	B (B)
WBTR	0.48 (0.67)	B (C)	0.63 (0.77)	C (C)	0.63 (0.77)	C (C)
NBLTR	0.37 (0.71)	B (B)	0.37 (0.71)	B (B)	0.37 (0.71)	B (B)
SBLTR	0.58 (0.42)	B (B)	0.58 (0.42)	B (B)	0.58 (0.42)	B (B)
Overall	0.61 (0.69)	B (B)	0.65 (0.74)	B (C)	0.65 (0.74)	B (C)

Notes:

1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour)

Under existing traffic conditions, the intersection operates at an acceptable level of service during the weekday morning and afternoon peak hours with overall v/c ratios of 0.61 and 0.69, respectively.

Under future background with the allowances of specific area development, the intersection operates at an acceptable level of service during the weekday morning and afternoon peak hours with overall v/c ratios of 0.65 and 0.74, respectively.

With the addition of site-related traffic under future total traffic conditions, the intersection continues to operate at an acceptable level of service during the weekday morning and afternoon peak hours with overall v/c ratios of 0.65 and 0.74, respectively.

Based on the foregoing, the traffic generated by the proposed development can be acceptably accommodated at the Drewry Avenue / Hilda Avenue intersection. No mitigation measures or improvements are recommended at this intersection.

11.2.2 Unsignalized Intersections

Traffic operations at all unsignalized intersections within the study area are at acceptable level of service under all scenarios without any need for road improvements or mitigation measures. All movements will function at LOS A to LOS E in the future total scenarios. The results of the capacity analysis undertaken at the unsignalized intersections are summarized in **Table 63**.

Vehicular access to the site will be provided via three (3) site driveways (Yonge Street, Newtonbrook Road Extension, and Beecroft Road Extension). These driveways will provide a convenient two-way vehicular access to the proposed parking garage, pick-up / drop-off facility and loading facility for the various uses on-site. The driveway on Yonge Street operates at good level of service (LOS B or better) under the future total scenario.

TABLE 63 UNSIGNALIZED INTERSECTION CAPACITY ANALYSIS SUMMARY

Intersections / Key Movements	Existing Traffic		Future Background Traffic		Future Total Traffic	
	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
Cummer Avenue / Newtonbrook Access						
WBLT	1.5 (2.0)	A (A)	2.9 (4.8)	A (A)	2.9 (4.9)	A (A)
NBLR	13.1 (20.3)	B (C)	12.9 (40.8)	B (E)	12.9 (42.4)	B (E)
Drewry Avenue / Private Driveway						
EBLTR	0.6 (0.0)	A (A)	0.6 (0.0)	A (A)	0.6 (0.0)	A (A)
WBLTR	0.0 (0.1)	A (A)	0.0 (0.1)	A (A)	0.0 (0.1)	A (A)
NBLR	0.0 (0.0)	A (A)	0.0 (0.0)	A (A)	0.0 (0.0)	A (A)
SBLTR	15.5 (20.2)	C (C)	15.4 (19.6)	C (C)	15.2 (19.5)	C (C)
Yonge Street / Site Access						
EBLR	-- (--)	-- (--)	-- (--)	-- (--)	11.2 (9.8)	B (A)
East-West Newtonbrook Extension / Site Access						
SBLR	-- (--)	-- (--)	-- (--)	-- (--)	9.6 (9.0)	A (A)
Beecroft Road Extension / Site Access						
WBLR	-- (--)	-- (--)	-- (--)	-- (--)	0.0 (0.0)	A (A)

Notes:

1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour)

12.0 SENSITIVITY ANALYSIS

A sensitivity analysis that considers the traffic impact in the area road network with the extension of Beecroft Road between Drewry Avenue in the north and the new East-West Newtonbrook Street Extension in the south was conducted. It is assumed that the new road extension will provide a secondary route to access the proposed development and help alleviate traffic along the Yonge Street corridor. Recognizing that with the extension of Beecroft Road developments along Drewry Avenue will be redeveloped in order to accommodate the new Beecroft Road extension.

For the purposes of this analysis, the proposed development is anticipated to remain the same and will continue to generate in the order of 335 and 175 two-way vehicle trips during the weekday morning and afternoon peak hours, respectively. In addition, with the new road extension additional background developments have been included into the analysis for the future total traffic conditions. A summary of the capacity analysis results undertaken at the area signalized and unsignalized intersections within the vicinity of the site are summarized in **Table 64** and **Table 65**, respectively. Synchro analysis worksheets are attached in **Appendix G**.

TABLE 64 SIGNALIZED INTERSECTIONS CAPACITY ANALYSIS RESULTS – SENSITIVITY ANALYSIS

Intersection / Key Movements	Existing Traffic		Future Background Traffic		Future Total Traffic	
	v/c	LOS	v/c	LOS	v/c	LOS
Yonge Street / Finch Avenue						
EBL	0.60 (0.60)	C (C)	0.86 (0.75)	E (D)	0.99 (0.93)	F (E)
EBTR	0.58 (0.82)	D (D)	0.59 (0.83)	D (D)	0.58 (0.83)	C (D)
WBL	0.48 (0.48)	C (C)	0.56 (0.70)	C (D)	0.57 (0.73)	C (D)
WBTR	0.81 (0.66)	D (D)	0.81 (0.65)	D (C)	0.82 (0.70)	D (D)
NBL	0.56 (0.55)	C (C)	0.62 (0.66)	C (C)	0.65 (0.67)	C (D)
NBTR	0.52 (0.62)	C (D)	0.67 (0.84)	D (D)	0.79 (0.90)	D (D)
SBL	0.32 (0.55)	B (B)	0.41 (0.67)	D (D)	0.67 (0.70)	C (E)
SBTR	0.68 (0.62)	C (C)	0.84 (0.79)	E (C)	0.94 (0.82)	C (C)
Overall	0.71 (0.70)	C (C)	0.82 (0.81)	D (D)	0.94 (0.89)	D (D)
Yonge Street / Hendon Avenue / Bishop Avenue						
EBL	0.68 (0.64)	D (D)	0.68 (0.60)	D (C)	0.68 (0.62)	D (D)
EBTR	0.46 (0.60)	D (D)	0.46 (0.58)	D (C)	0.46 (0.59)	D (D)
WBLT	0.69 (0.52)	D (D)	0.69 (0.48)	D (D)	0.69 (0.50)	D (D)
WBR	0.38 (0.16)	D (D)	0.39 (0.30)	D (D)	0.39 (0.30)	D (D)
NBL	0.38 (0.14)	C (D)	0.43 (0.19)	D (B)	0.52 (0.20)	C (B)
NBTR	0.74 (0.85)	C (D)	0.89 (0.88)	D (C)	0.93 (0.92)	D (C)
SBL	0.50 (0.53)	C (C)	0.52 (0.92)	C (F)	0.52 (0.94)	C (F)
SBTR	0.53 (0.54)	B (C)	0.61 (0.67)	B (C)	0.71 (0.70)	C (C)
Overall	0.66 (0.72)	C (C)	0.74 (0.83)	C (C)	0.78 (0.85)	D (C)

Intersection / Key Movements	Existing Traffic		Future Background Traffic		Future Total Traffic	
	v/c	LOS	v/c	LOS	v/c	LOS
Yonge Street / Newtonbrook Road Extension						
EBL	0.02 (0.02)	D (D)	0.01 (0.01)	C (C)	0.20 (0.09)	C (C)
EBTR	0.00 (0.00)	A (A)	0.00 (0.00)	A (A)	0.67 (0.05)	D (C)
WBL	0.14 (0.13)	D (D)	0.40 (0.35)	D (D)	0.54 (0.37)	D (D)
WBTR	0.03 (0.01)	D (D)	0.03 (0.01)	C (C)	0.03 (0.01)	C (C)
NBL	0.05 (0.03)	B (A)	0.05 (0.05)	B (B)	0.42 (0.66)	C (C)
NBTR	0.57 (0.67)	B (B)	0.78 (0.98)	C (D)	0.78 (0.98)	C (D)
SBL	0.07 (0.26)	A (A)	0.38 (0.51)	C (C)	0.38 (0.51)	C (C)
SBTR	0.79 (0.56)	B (B)	0.91 (0.71)	B (B)	0.99 (0.78)	C (C)
Overall	0.62 (0.55)	B (B)	0.74 (0.75)	C (C)	0.85 (0.77)	C (C)
Yonge Street / Drewry Avenue / Cummer Avenue						
EBL	0.24 (0.38)	C (D)	0.31 (0.58)	C (D)	0.44 (0.70)	D (D)
EBTR	0.66 (0.69)	D (D)	0.78 (0.88)	D (E)	0.80 (0.89)	D (E)
WBL	0.42 (0.40)	C (C)	0.72 (0.65)	D (D)	0.76 (0.69)	D (D)
WBTR	0.39 (0.59)	C (C)	0.53 (0.70)	C (D)	0.53 (0.71)	C (D)
NBL	0.48 (0.68)	D (D)	0.67 (0.93)	E (F)	0.67 (0.94)	E (F)
NBTR	0.79 (0.93)	C (D)	0.80 (0.97)	C (D)	0.84 (0.98)	C (D)
SBL	0.46 (0.66)	C (C)	0.57 (0.93)	C (F)	0.57 (0.94)	C (F)
SBTR	1.00 (0.82)	E (D)	0.97 (0.82)	D (C)	0.99 (0.85)	D (D)
Overall	0.78 (0.80)	D (D)	0.86 (0.92)	D (D)	0.89 (0.93)	D (D)
Drewry Avenue / Hilda Avenue						
EBL	0.20 (0.18)	B (B)	0.25 (0.23)	B (B)	0.25 (0.24)	B (B)
EBTR	0.65 (0.43)	C (B)	0.74 (0.54)	C (B)	0.74 (0.57)	C (B)
WBL	0.23 (0.17)	B (B)	0.27 (0.21)	B (B)	0.27 (0.22)	B (B)
WBTR	0.48 (0.67)	B (C)	0.63 (0.77)	C (C)	0.63 (0.78)	C (C)
NBLTR	0.37 (0.71)	B (B)	0.37 (0.71)	B (B)	0.37 (0.71)	B (B)
SBLTR	0.58 (0.42)	B (B)	0.58 (0.42)	B (B)	0.58 (0.42)	B (B)
Overall	0.61 (0.69)	B (B)	0.65 (0.74)	B (C)	0.65 (0.74)	B (C)

Notes:

1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour)

Under future total traffic conditions, with the Beecroft Road Extension constructed and the full build-out of the site, traffic operations at all area signalized intersections operate at an acceptable level of service during the weekday morning and afternoon peak hours, with an overall v/c ratio of 0.93 or better.

TABLE 65 UNSIGNALIZED INTERSECTIONS CAPACITY ANALYSIS SUMMARY – SENSITIVITY ANALYSIS

Intersections / Key Movements	Existing Traffic		Future Background Traffic		Future Total Traffic	
	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
Cummer Avenue / Newtonbrook Access						
WBLT	1.5 (2.0)	A (A)	2.9 (4.8)	A (A)	2.9 (4.9)	A (A)
NBLR	13.1 (20.3)	B (C)	12.9 (40.8)	B (E)	13.0 (45.6)	B (E)
Drewry Avenue / Private Driveway						
EBLTR	0.6 (0.0)	A (A)	0.6 (0.0)	A (A)	0.6 (0.0)	A (A)
WBLTR	0.0 (0.1)	A (A)	0.0 (0.1)	A (A)	0.0 (0.1)	A (A)
NBL(R)	0.0 (0.0)	A (A)	0.0 (0.0)	A (A)	0.0 (0.0)	A (A)
NBTR	-- (--)	-- (--)	-- (--)	-- (--)	11.9 (11.5)	B (B)
SBLTR	15.5 (20.2)	C (C)	15.4 (19.6)	C (C)	15.2 (19.5)	C (C)
Beecroft Road Extension / East-West Newtonbrook Extension						
WBL	-- (--)	-- (--)	-- (--)	-- (--)	6.5 (6.4)	A (A)
NBT	-- (--)	-- (--)	-- (--)	-- (--)	6.4 (6.4)	A (A)
SBLT	-- (--)	-- (--)	-- (--)	-- (--)	7.3 (7.2)	A (A)
Yonge Street / Site Access						
EBLR	-- (--)	-- (--)	-- (--)	-- (--)	11.2 (9.9)	B (A)
East-West Newtonbrook Extension / Site Access						
SBLR	-- (--)	-- (--)	-- (--)	-- (--)	10.2 (9.4)	B (A)
Beecroft Road Extension / Site Access						
WBLR	-- (--)	-- (--)	-- (--)	-- (--)	0.0 (0.0)	A (A)
SBLT	-- (--)	-- (--)	-- (--)	-- (--)	1.5 (2.1)	A (A)

Notes:

1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour)

Under future total traffic conditions, with the Beecroft Road Extension constructed and the full build-out of the site, traffic operations at all area unsignalized intersections function at an acceptable level of service during the weekday morning and afternoon peak hours, without any need for road improvements or mitigation measures. All movements will function at LOS A to LOS E in the future total with the Beecroft Road Extension. The site driveways will be maintained as part of the Beecroft Road Extension and will operate at good level of service (LOS B or better) under future total scenario.

Based on the foregoing, the Beecroft Road Extension related impacts are minimal and will not noticeably affect traffic operations at the area signalized and unsignalized intersections within the study area. Site related traffic can be reasonably accommodated without any need for road improvements or mitigation measures.

13.0 TRAFFIC CERTIFICATION

As outlined in the North York Centre Secondary Plan, Section 4.8.1, there are five criteria with respect to traffic certification in the evaluation of the proposed residential development. The five criteria are outlined below:

- levels of service on nearby arterial roads;
- impact on existing and planned transportation infrastructure;
- impacts on local residential road traffic;
- parking; and,
- site layout.

Criterion 1 – Level of Service on Nearby Arterial Roads

“auto traffic resulting from occupancy of the proposed development will not significantly contribute to reducing the level of service on nearby arterial roads and their intersections with local and collector roads to below a generally acceptable level”

Commentary:

The proposed residential development is expected to generate in the order of 335 and 175 two-way auto trips during the weekday morning and afternoon peak hours. Based on the assessment, traffic operations for future total traffic conditions are expected to be comparable to the levels under the future background traffic conditions.

Traffic volume changes on the area arterial street system and at the local and collector street intersections are small given the distribution of new development related traffic across the area street system. Related intersection impacts are, accordingly, small and will not noticeably change operating conditions or significantly contribute to a reduction in level of service.

Criterion 2 – Impact on Existing and Planned Transportation Infrastructure

“the project can be accommodated by the existing and planned transportation infrastructure, including any identified new functional sections of the North York Centre South or North York Centre North Service Roads, except those excluded by Section 4.8.2, taking into account all existing developments and zoned developments approved but not yet constructed or fully occupied in the North York Centre North and North York Centre South”

Commentary:

The proposed development can be accommodated by the existing transportation infrastructure, taking into account the existing and significant future developments within North York City Centre neighbourhood. A number of future developments (including over 1,582 residential units and 5,079 square metres of commercial floor space) were considered as part of the transportation study prepared in support of this development application.

In accordance with Section 4.8.2 of the North York Centre Secondary Plan, the theoretical capacity provided by major improvements (Beecroft Road extension) is excluded for the purposes of the base analysis. A sensitivity analysis was performed to identify the potential impacts to the capacity at local area intersections once the planned Beecroft extension from the East-West Newtonbrook Extension is completed.

Criterion 3 – Impacts on Local Residential Road Traffic

“the project will not increase local residential road traffic so significantly as to produce appreciable new hazards, noise, dust and fumes for nearby residential communities”

Commentary:

The proposed residential development is expected to generate in the order of 335 and 175 two-way auto trips during both the weekday morning and afternoon peak hour, respectively. The vehicular traffic is expected to travel along the established and emerging North York Centre arterial & collector road network and is not expected to appreciably impact and infiltrate through the established nearby residential communities.

Criterion 4 – Parking

“the project provides enough parking so that the building’s occupants and visitors will be unlikely to disrupt off-site roadways and unaffiliated parking areas, but does not provide so much parking as to discourage achievement of the transit modal split targets of this Secondary Plan”

Commentary:

A total of 1,638 parking spaces, including 1,429 spaces allocated for resident use, 150 spaces for visitors, and 59 spaces for non-residential users, will be provided on-site. This satisfies the parking requirement of 1,554 spaces, as per the North York Centre Parking Policy and is expected to provide sufficient parking to meet the needs of residents, without oversupplying parking to the detriment of public transit usage, walking, cycling and other modes of transport.

Furthermore, the site will provide 1,156 bicycle storage spaces, meeting the requirements of the Toronto Green Standard (Tier 1) Zone 2 requirements. The provision of bike storage will also promote this alternative mode of transportation.

In summary, the design of the proposed development addresses the principles of travel demand management related to minimizing dependency on the private automobile as a travel mode.

Criterion 5 – Site Layout

“the site layout provides adequately for the movement needs of visiting pedestrians, automobiles and commercial vehicles without disrupting bordering streets and properties”

Commentary:

The site is proposed to have a total of 1,638 parking spaces, all located within a four-and-a-half-level underground parking garage. The loading and garbage collection area is to be located on the ground floor of the proposed condominium building. All parking and loading elements can be accessed via the site driveway onto Yonge Street, the Beecroft Road extension, and the new East-West Newtonbrook Road extension.

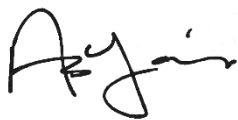
The proposed site layout and proposed site access arrangements adequately provide for the movement needs of pedestrians, automobiles and commercial vehicles (including City garbage collection vehicles) without disrupting adjacent streets and properties.

The turning movement needs of vehicles are appropriately met within the planned vehicular facilities incorporated into the proposed condominium building development plans.

Certification

It is the opinion of BA Group that the proposed development can be readily accommodated on the boundary road network, on-site parking and circulation are adequate for the uses proposed, and the development satisfies the five requirements set out in Section 4.8.1 of the North York Centre Secondary Plan:

- the proposed development traffic will not have significant impacts on the traffic operations at the boundary road intersections;
- the proposed development can be accommodated by both the existing and planned transportation infrastructure;
- the proposed development is expected to generate modest traffic increases and thus is not expected to produce any appreciable new hazards, noise, dust, and fumes for nearby residential communities;
- the proposed auto and bicycle parking supply meets the applicable requirements, and addresses the principles of travel demand management related to minimizing dependency on the private automobile as a travel mode; and,
- the site plan adequately accommodates all site-related activities without disrupting bordering streets and properties.



Anthony B. Yates, P. Eng.
CEO

14.0 SUMMARY AND CONCLUSIONS

The following provides a summary overview of the study findings of our assessment of the transportation related aspects of the proposed development.

Background and Context

1. The site is located in the vicinity of Yonge Street / Drewry Avenue in North York and is currently occupied by the former North York office for Toronto Hydro Electric System Limited (THESL) and is currently vacant.
2. An Official Plan Amendment and Zoning By-law Amendment application is being made to the City of Toronto to permit the a mixed-use development with 1,496 residential units, 1,256 sq. metres of retail GFA, 4,602 sq. metres of office GFA, and 741 sq. metres of daycare GFA.
3. A total of 1,638 (1,429 resident spaces and 209 non-resident spaces) vehicular parking spaces, two (2) Type 'G' loading spaces, two (2) Type 'B' loading spaces, two (2) Type 'C' loading spaces, and 1,156 bicycle parking spaces are proposed to support the development as planned.
4. Three (3) unsignalized all-moves driveways off Yonge Street, the future Beecroft Road Extension and the East-West Newtonbrook Extension will provide vehicular access to the private streets, loading spaces and underground parking ramps.
5. The site is well located relative to higher order transit. Finch Station is currently within a 5 minute walk from the site. Finch Station is a terminus for a number of Toronto Transit Commission (TTC), York Region Transit (YRT) surface transit routes, and GO regional bus routes.
6. The site is subject to the North York Centre Secondary Plan and Former City of North York Zoning By-law 7625.

Travel Demand Management Plan

7. Strategies being considered in the TDM Plan are as follows (note that the details of the TDM plan will be finalized in the Site Plan Approval stage of the development application process):
 - **Car-Ownership Strategy** – operate or allow the operation of car-share programmes on site
 - **Parking Strategy** – to prevent the oversupply of both resident and non-resident parking with respect to site demands
 - **Pedestrian Strategy** – enhance the pedestrian environment adjacent to the site
 - **Transit Strategy** – provide direct, quality, pedestrian connections that tie into the public street network where transit services can be accessed. Making local transit information and schedules available to site residents and visitors to encourage transit travel to / from the site
 - **Cycling Strategy** – provide secure, accessible long-term bicycle parking for residents and conveniently-situated and readily accessible short-term bicycle parking for visitors, consistent with the Toronto Green Standards. Other strategies include the provision of on-site

communication items / information to generate awareness of surrounding multi-use trail systems and cycling network

Parking Considerations

8. Application of the North York Secondary Plan (NYSP) parking Requirements to the proposed development requires a minimum of 1,654 parking spaces (1,346 resident spaces, 149 residential visitor and 59 non-resident spaces) to be provided.
9. A total of 1,638 parking spaces (1,429 resident spaces, 150 residential visitor spaces, and 59 non-residential spaces) will be provided on the site, meeting the NYSP parking requirements.
10. Forty-two (42) accessible spaces (22 for Phase I and 20 for Phase II) are provided in accordance with the new Zoning By-law 579-2017.

Loading Considerations

11. Application of the former City of North York Zoning By-law 7625 loading requirements to each phase of the development requires a total of five (5) loading spaces to be provided.
12. Application of the By-law 569-2013 loading requirements to the proposed development requires six (6) loading spaces (2 Type 'G', 1 Type 'B' and 3 Type 'C' spaces).
13. Two (2) Type 'G' loading spaces, two (2) Type 'B' loading spaces and two (2) Type 'C' loading spaces are provided on the site. Access to the loading spaces are given via the northern private access road and the pick-up and drop-off loop. The proposed loading spaces meeting the requirements from a phased perspective.
14. Furthermore, the Type 'G' loading space and related access arrangements are designed in accordance with the provisions outlined in the City of Toronto Requirements for Garbage and Recycling Collection for New Developments and Redevelopments (May 2012) including:
 - the loading space location to enable City of Toronto garbage and recycling vehicles to enter / leave the site in a forward direction, and;
 - the provision of an appropriate bin storage areas (70 sq. metres) located adjacent to each the Type 'G' loading space in each Phase.
 - the allowance for a minimum of 6.1 metres of clearance above the loading space and bin staging area
15. Non-residential refuse / recycling is proposed to be collected by a private refuse collection company
16. The proposed loading supply and arrangements are appropriate and can adequately support the loading and garbage / recycling collection needs of the proposed development.

Bicycle Parking Considerations

17. Application of the bicycle requirements outlined in the North York Centre Secondary Plan requires a minimum of 154 bicycle parking spaces to be provided on the lot to support the proposed development.
18. Application of the bicycle requirements outlined in the City of Toronto Zoning By-law 569-2013 / Toronto Green Standards Version 3.0 (Tier 1, Zone 2) requires a minimum of 1,154 spaces (1,027 long-term and 127 short-term) bicycle parking spaces to be provided.
19. The current development proposal includes the provision of 1,154 bicycle parking spaces (1,027 long-term and 127 short-term spaces). Long-term spaces will be located on the P1 level of the underground garage while short-term spaces will be located on the P1 level and at-grade in easily accessible and visible locations.
20. The proposed bicycle parking supply and design arrangements incorporated are considered to be appropriate and will support the bicycle parking demands of the proposed development.

Multi Modal Travel Demand Forecasts

21. A review of multi-modal travel demand was undertaken for the proposed residential, office and retail uses on-site.
22. Residential, office and retail trip generation rates were developed based on a person-based trip generation using first principle methodology, a review of the *North York Centre Secondary Plan*, a review of TTS data and a review of proxy sites within similar context.
23. Residential is anticipated to generate a total of 900 and 750 two-way gross person trips, office is anticipated to generate a total of 75 and 80 two-way gross person trips and retail is anticipated to generate a total of 30 and 70 two-way gross person trips during the weekday morning and afternoon peak hours, respectively. Overall, the proposed development is anticipated to generate a total of 1,005 and 900 two-way gross person trips during the respective peak hours.
24. Given the mixed-use nature of the proposed development, interactions are anticipated to occur within the site and the surrounding area within the vicinity of the site. The interactions have been considered as part of this study and included within the person trips. The proposed development is anticipated to generate a total of 55 and 415 interaction trips during the morning and afternoon peak hours, respectively.
25. With the consideration of intersections, the overall site is anticipated to generate a total of 950 and 485 two-way person trips during the weekday morning and afternoon peak hours, respectively.
26. It is anticipated that the proposed development will generate approximately 335 and 175 two-way vehicle trips (i.e. auto-driver and pick-up / drop-off) during the weekday morning and afternoon peak hours, respectively. These auto trips are comparable to the observed vehicular trips surveyed at neighbouring proxy site and assumptions outlined in the *North York Centre Secondary Plan*. Therefore, the trips developed from 'first principles' methodology is reasonable and has been adopted for this analysis.

Multi-Modal Travel Assessment

Transit Assessment

27. Transit related trips have been distributed to the different transit routes based on existing travel characteristics and the 2016 TTS transit dataset.
28. It is anticipated that approximately 525 and 265 two-way transit trips are forecast to / from the proposed development during the weekday morning and afternoon peak hours, respectively.
29. Higher-order and local transit routes are located within walking distances of the site, providing both north-south and east-west routes across the local area and broader City of Toronto. The Line 1 subway at Finch Station provide an attractive option for people heading directly downtown.
30. The new transit passengers generated by the proposed development can be accommodated with the existing transit services. Transit services and travel patterns to transit users will respond to capacity constraints.

Pedestrian Assessment

31. Pedestrian volumes have been generated for both primary pedestrian trips and transit-based trips. It is anticipated that the site will generate a total of 615 and 310 primary pedestrian trips during the weekday morning and afternoon peak hours, respectively.
32. Sidewalks are generally provided on both sides of the road network within the vicinity of the site. With the development of the site, sidewalks will be installed along all sides of the new road extensions.
33. Formal pedestrian crossings are provided at all signalized intersection in the vicinity of the site. Adequate distance is provided between crossings. The surrounding area is composed of a variety of residential, office and retail uses that are readily accessible on foot.

Cycling Assessment

34. Given that, in the vicinity of the site, there are limited cycling facilities; it is anticipated that negligible cycling trips will be generated as part of the proposed development during the peak hours. Notwithstanding, bicycle parking facilities will be provided on-site and trips may occur during off-peak periods for leisure.
35. The City may want to review the cycling connections provided in the vicinity of the site to further promote the use of cycling as a viable travel mode for everyday use.
36. Short and long term bicycle parking spaces are provided on the site in accordance with the Toronto Green Standards.

Vehicle Traffic Assessment

Vehicle Volumes

37. Vehicular trips have been distributed throughout the area road network based on existing travel patterns and the 2016 TTS data.
38. The existing site, as counted, is anticipated to generated approximately 15 and 20 two-way vehicle trips during the weekday morning and afternoon peak hours, respectively. As part of the proposed development programme, the existing site traffic volumes will be removed.
39. It is anticipated that the site will generated approximately 335 and 175 two-way vehicle trips. These trips will include the both auto trips for the parking garage and pick-up / drop-off facility, which are accessed by the same driveways.

Traffic Operations

40. A review of existing traffic operation in the area indicated that the area signalized intersections were shown to operate at acceptable level of service during the weekday peak hours, with morning and afternoon peak hours operating with an overall v/c ratio of 0.80 or better.
41. Under future background traffic conditions with allowances of specific area development, signal timings were optimized at the Yonge Street / Drewry Avenue / Cummer Avenue intersection and all area signalized intersections operate at acceptable level of service during the weekday morning and afternoon peak hours with an overall v/c ratio of 0.92 or better.
42. With the addition of site-related traffic under future total traffic conditions, the area signalized intersections continue to operate at acceptable level of service during the weekday morning and afternoon peak hours with an overall v/c ratio of 0.93 or better.
43. All unsignalized intersections within the vicinity of the site will function at LOS A to LOS E in the future total scenarios. Site driveways will operate at good level of service (LOS B or better) under future conditions.
44. Based on the foregoing, the traffic generated by the proposed development can be acceptably accommodated at the area signalized and unsignalized intersections. No mitigation measures or improvements are recommended at these intersections.

Traffic Certification

45. It is the opinion of BA Group that the proposed development can be readily accommodated on the boundary road network, on-site parking and circulation are adequate for the uses proposed, and the development satisfies the five requirements set out in Section 4.8.1 of the North York Centre Secondary Plan:
- the proposed development traffic will not have significant impacts on the traffic operations at the boundary road intersections;
 - the proposed development can be accommodated by both the existing and planned transportation infrastructure;
 - the proposed development is expected to generate modest traffic increases and thus is not expected to produce any appreciable new hazards, noise, dust, and fumes for nearby residential communities;
 - the proposed auto and bicycle parking supply meets the applicable requirements, and addresses the principles of travel demand management related to minimizing dependency on the private automobile as a travel mode; and,
 - the site plan adequately accommodates all site-related activities without disrupting bordering streets and properties.