3400 Dufferin Street & 8 Jane Osler Boulevard

Urban Transportation Considerations

City of Toronto

Prepared For: Dufferin – 401 Properties Limited & Collecdev

August 10, 2022

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I. INTRODUCTION

BA Group is retained by Dufferin – 401 Properties Limited and Collecdev to provide transportation consulting services in support of a joint Zoning By-law Amendment ("ZBA"), and Site Plan Application ("SPA") submission being made to the City of Toronto (the "City") to permit a mixed-use development (the "Project") on the lands municipally known as 3400 Dufferin Street and 8 Jane Osler Boulevard (the "Site").

This report forms part of the joint ZBA / SPA submission and reviews the urban transportation aspects of the proposed development.

THE SITE TODAY

The Site is located on the west side of Dufferin Street, south of Highway 401 and north of Jane Osler Boulevard. The Site is bounded by Dufferin Street to the east, a storage building to the west, a mixed-use development that is currently under construction to the north and Jane Osler Boulevard and single family homes to the south.

The Site is currently occupied by a commercial building which operates as a vehicle dealership ("Honda Dealership") with surface parking and access via a signalized driveway on Dufferin Street.

Current uses on the Site are illustrated in **Exhibit 1** and **Exhibit 2**.

EXHIBIT 1: EXISTING SIDEWALK

EXHIBIT 2: EXISTING SITE ACCESS

The Site location and Site context are illustrated in **Figure 1** and **Figure 2**, respectfully.

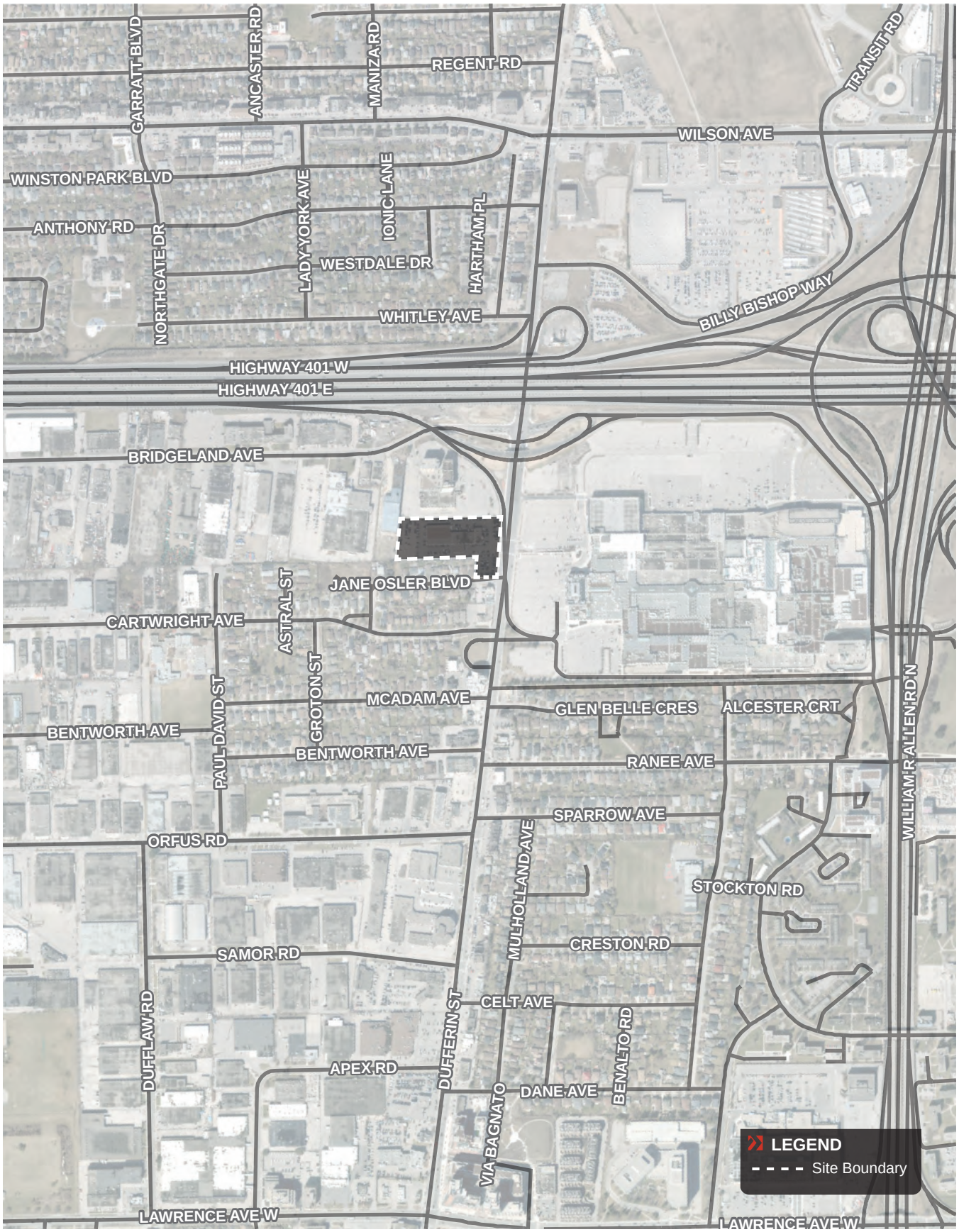

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FIGURE 1 SITE LOCATION

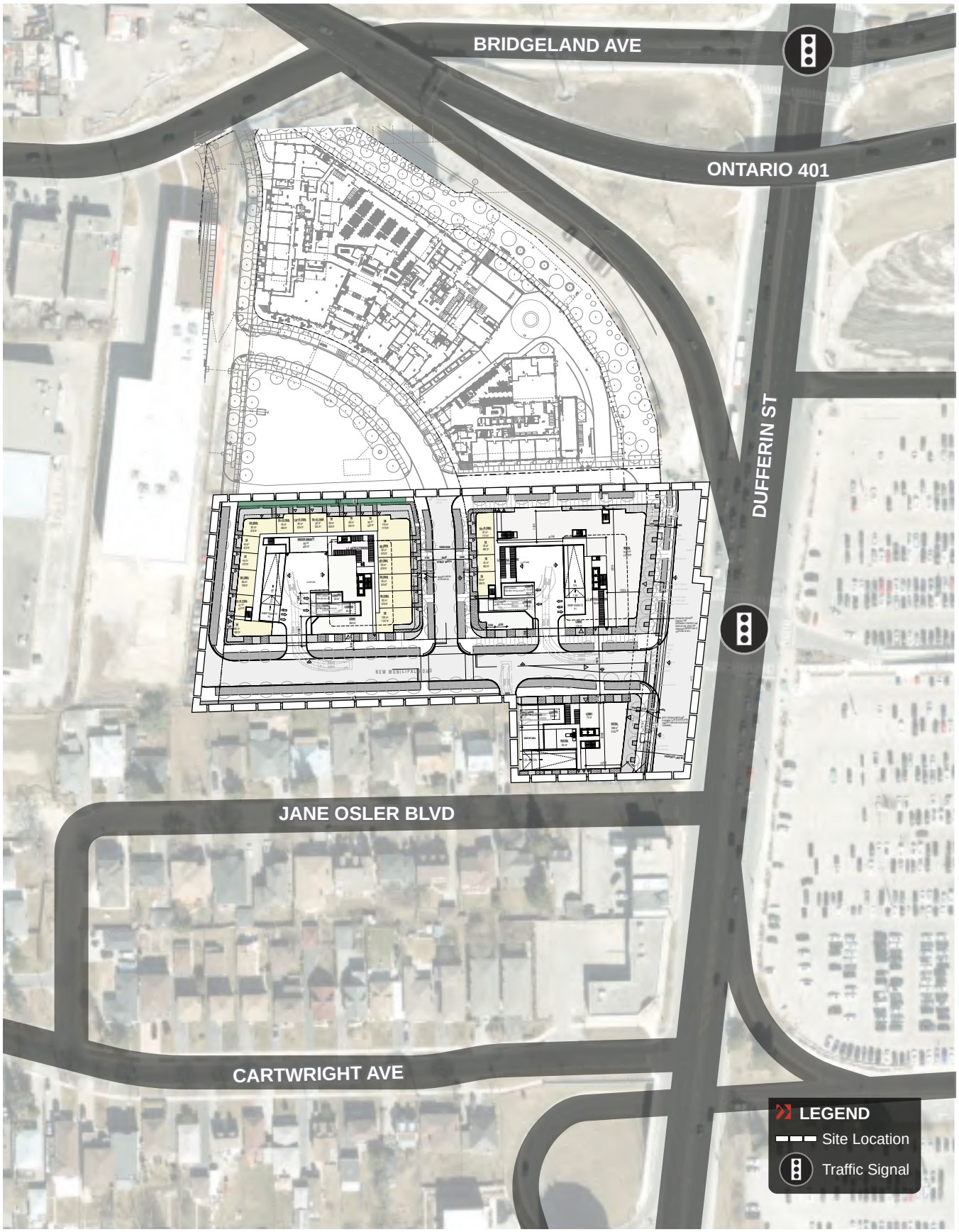

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FIGURE 2 SITE CONTEXT

PROJECT OVERVIEW

The Project proposes to redevelop the Site into a total of three (3) mixed-use building including two tower buildings of 29 storeys (Building A and Building B) and one low rise building of 9 storeys.

The Project statistics and transportation related elements of the proposal are summarized in **Table 1**. Reduced scale architectural plans are included in **Appendix A**.

TABLE 1 SUMMARY OF PROJECT STATISTICS

Use		Proposed
	Residential Units	836 units
	Retail	1,367 m^2
	Vehicular Parking	375 parking spaces (212 resident, 163 non-resident)
	Bicycle Parking	632 bicycle parking spaces (576 long-term, 56 short-term)
	Loading	3 Type G, 1 Type B and 1 Type C loading space
	Access	Site driveway off New East-West Municipal Street

Notes:
1. Based on site statistics provided by gh3 dated August 9, 2022

In addition to the proposed buildings, the Project would build a new East-West Municipal street which runs east-west from Dufferin Street to the west side of the Site where it would turn north to connect to the new North-South Municipal Street which is being constructed as part of the development project to the north (3450 Dufferin Street). A Crescent Municipal Street is also proposed to run between Buildings A and B and connect to the North-South Municipal Street constructed as part of the 3450 Dufferin Street development project.

This road network reflects the recommendations of the Dufferin Street Secondary Plan with the provision of the new East-West Municipal Street at the south edge of the Site, new North-South Municipal Street at the west edge of the Site and the Crescent Municipal Street that bisects the Site and connects the two aforementioned municipal streets.

The one street shown within Block 1 of the Dufferin Street Secondary Plan that the Project does not provide for is the east-west street that connects the Crescent Street and North-South street on the north side of the Site. While this street is shown on the Fitzrovia site plan to the north, this was intended as a temporary measure to avoid creating a cul-de-sac for each of the new municipal streets that would dead end within the Fitzrovia site. With the completion of the street network by the Project, none of the municipal streets would dead end and

require a cul-de-sac making this east-west connection unnecessary. From a traffic capacity and access perspective, this road is not required. Furthermore, the provision of this road would reduce the amount of open space that can be provided adjacent to the park.

The cycling infrastructure along Dufferin Street, the new east-west and north-south public roads outlined in the Secondary Plan is recognized by this Project, however the implementation and details for the type of facility are to be determined in at a later stage.

In order to accommodate the new intersection of the East-West Municipal Street with Dufferin Street, the existing signalized intersection is proposed to be shifted approximately 12 metres south. This will require the realignment (straightening) of the existing outbound Yorkdale truck access. The illustrative design of this intersection is provided in **Appendix B**.

This reflects an interim condition which incorporates and protects for the future design of Dufferin Street in the preliminary design concept provided to the Project proponents by the City. This includes cycle tracks on Dufferin Street as well as a southbound left turn lane into the Yorkdale access which will be converted into a two-way access with the redevelopment of Yorkdale Mall and will provide access both to underground parking as well as loading. This future southbound left turn lane will be protected by a median such that vehicles merging southbound onto Dufferin Street from the Highway 401 off-ramp are not able to access this left turn lane to avoid creating a weaving issue. These vehicles will still be able to access Yorkdale Mall through driveways further to the south on Dufferin Street.

Additionally, this southward shift of the existing signalized intersection will create additional separation from the Highway 401 merge point to Dufferin Street representing a modest improvement from existing conditions.

THIS STUDY

BA Group has undertaken a review of the key transportation-related aspects (i.e. traffic, parking, and loading) of the joint ZBA, and SPA submission being made to the City of Toronto to permit the Project. Key transportation-related aspects reviewed include:

Transportation Context

- Description of the Site's existing transportation context considering the area road network, transit system and other non-automobile dependent travel options; and
- Description of any future transportation-related changes / improvements to the area context (i.e. transit improvements, other non-automobile dependent travel options, etc.).

Development Plan

- Review of the proposed Project components;
- Overview of the area transportation elements and strategies that enable minimizing automobile travel for prospective residents and visitors to the Site; and
- Review of the transportation elements of the Project including Site pedestrian and vehicular access, vehicular and bicycle parking, and loading facilities.

Site Planning

- Review of the vehicular parking, bicycle parking, and loading supply provisions for the Project;
- Review of the functionality and appropriateness of the proposed facilities, including loading / garbage collection facility arrangements.

Travel Demand Forecasting

- Assessment of the existing traffic activity patterns and volumes in the study area during the key weekday morning and afternoon peak periods;
- Review of traffic changes that may occur in the area in the future with the construction of other area development projects; and
- Assessment of the transit, traffic, and other trip generation characteristics of the Project.

Traffic Operations Review

- Review of traffic operations at area intersections under existing and future conditions including an assessment of the operational impacts of the Project based on a five-year study horizon; and
- The intersections within the study area comprise:
    - Dufferin Street / Bridgeland Avenue-Yorkdale Road (Signalized)
    - Dufferin Street / Midtown Honda Auto Dealership Access-New Municipal Street (Signalized)
    - Dufferin Street / Highway 401 Eastbound Off-Ramp-Yorkdale Mall Access (Unsignalized)
    - Dufferin Street / Jane Osler Boulevard (Unsignalized)
    - Dufferin Street / Cartwright Avenue (Unsignalized)
    - Bridgeland Avenue / 3450 Dufferin Street Driveway (Unsignalized)

The key findings of our report are summarized in the following section.

II. KEY TRANSPORTATION FINDINGS

The following provides a summary of the key findings of our transportation assessment of the Project.

Project Summary

1. The Project proposes to redevelop the Site to include 3 mixed-use buildings including two tower buildings of 29 storeys (Building A and Building B) and one low rise building of 9 storeys with 834 units.

2. The proposed road network reflects the recommendations of the Dufferin Street Secondary Plan with the provision of the new East-West Municipal Street at the south edge of the Site, new North-South Municipal Street at the west edge of the Site and the Crescent Municipal Street that bisects the Site and connects the two aforementioned municipal streets.

3. The one street shown within Block 1 of the Dufferin Street Secondary Plan that the Project does not provide for is the east-west street that connects the Crescent Street and North-South street on the north side of the Site. This east-west connection is unnecessary as there are no dead end streets that require cul-de-sac and it is not required from a traffic capacity and access perspective. Additionally, the provision of this road would reduce the amount of open space that can be provided adjacent to the park.

4. In order to accommodate the new intersection of the East-West Municipal Street with Dufferin Street, the existing signalized intersection is proposed to be shifted approximately 12 metres south. This will require the realignment (straightening) of the existing outbound Yorkdale truck access.

Transportation Context

5. The site is located in the Yorkdale area of Toronto and within 1.2 kilometres (a 14 minute walk) of Yorkdale subway station. This proximity provides for a multitude of work, recreational, amenity and shopping opportunities within walking distance of the site.

6. The Yorkdale subway station is located on the Yonge – University – Spadina subway line and provides high-order transit access to both the downtown core and across the City of Toronto. The level of accessibility afforded to the existing subway transit system, as well as to the planned Eglinton Crosstown LRT facility that will extend east and west across the City of Toronto along Eglinton Avenue, and planned Sheppard West Subway Extension provides a highly convenient and attractive travel alternative for residents of the planned buildings on the Site.

7. This transit accessibility and the proximity of the property to a wide range of amenities and destinations within walking distance will serve to reduce the need for residents of the proposed buildings to travel on a regular day-to-day basis using a car and to own a vehicle.

8. A review of the travel characteristics information provided by the Transportation for Tomorrow Survey (TTS) confirms that a high proportion of travel (approximately 41% to 48%) undertaken by residents / tenants living in the area surrounding the site is, in fact, undertaken using non-auto means.

Vehicle and Bicycle Parking Considerations

9. Parking for residents and visitors to the proposed development will be provided within a two level below grade parking garage beneath each building.

10. The City of Toronto Zoning By-Law 569-2013 (Policy Area 4) requires the provision of a minimum of 854 parking spaces on the site for the proposed building comprising 716 resident and 138 non-residential spaces.

11. The City of Toronto Zoning By-law 89-2022 was passed in February 2022 by City Council as an amendment to Zoning By-law 569-2013 to update parking standards. This by-law removed minimum resident parking requirements, and instead established maximum resident parking standards. While this by-law has been appealed, it represents the most recent direction by City Council and City staff on vehicle parking requirements. It is proposed to adopt the parking standards of Zoning By-law 89-2022 for the subject Site.

12. Application of the Zoning By-law 89-2022 Parking Zone 'B' parking requirements to the current proposal would require the provision of a minimum of 43 spaces for visitors. There are no minimum parking requirements for residents (with the exception of accessible parking spaces, discussed below).

13. Application of the Zoning By-law 89-2022 "effective" parking standards to the subject Site, for the calculation of accessible parking spaces, would require a minimum of 20 accessible parking spaces.

14. The application of the recommended parking supply standards results in a total of 290 required physical parking spaces comprising 207 resident and 83 visitor spaces.

15. A total of 290 parking spaces are proposed within the parking garage which meets the requirements of the recommended reduced parking standards. The proposed supply will appropriately meet the needs of the residents and visitors at the site.

16. A total of 632 bicycle parking spaces are proposed to serve the planned uses on site comprising 576 resident and 56 visitor spaces. The proposed bicycle parking supply exceeds the City of Toronto's Zoning By-Law 569-2013 minimum bicycle parking requirements.

Loading and Access

17. Three Type 'G', one Type 'B', and 1 Type 'C' loading space are proposed to be provided on site. This supply meets the City of Toronto Zoning By-Law 569-2013 requirements for the site as well as the City of Toronto policy requirements for residential garbage collection for residential buildings.

18. The proposed loading facility configuration appropriately accommodates the manoeuvring requirements of City of Toronto garbage collection vehicles and other single-unit delivery vehicles that may look to deliver to the proposed building and enable such vehicles to enter / leave the site in a forward motion.

19. Vehicle access to the pick-up/drop-off area, loading facility and ramps to the below-grade parking facilities are to be provided via the new East-West Municipal Street that connects to Dufferin Avenue.

20. The proposed site access and loading arrangements will appropriately support the Project.

Transportation Demand Management Plan

21. A comprehensive TDM plan will be implemented to support the use of transit and active transportation while discouraging single-occupant vehicle trips during peak hours. The TDM measures include the provision of bicycle parking, a bike repair station, local transit service information, and improved pedestrian connectivity.

Vehicle Traffic Assessment

22. The Project is forecast to generate in the order of 291 and 332 gross new two way multi-modal person trips during the weekday morning and afternoon street peak hours, respectively.

23. With the removal of existing Site traffic, the Project is forecast to generate 95 and 115 net new vehicle trips during the weekday morning and afternoon street peak hours, respectively.

24. The Dufferin Street Transportation Master Plan identified a preferred land use scenario with prescribed development densities and associated traffic for each of the blocks within the Secondary Plan area including Block 1 (which the Project falls within) based on the transportation capacity of the Dufferin Street corridor. The TMP forecast Block 1 to generate 379 and 301 two way vehicle trips in the weekday morning and afternoon peak hour.

25. In comparison, the net new vehicle trips generated by the Fitzrovia site to the north and the Project, which combined, make up Block 1, are expected to generate 242 and 285 vehicle trips during the weekday morning and afternoon peak hours, respectively, 137 and 16 fewer vehicle trips.

26. Despite the additional density proposed by the Project, the number of vehicle trips and the associated impact on the transportation capacity in the Dufferin Street corridor is less than what was planned in the Dufferin Street TMP. This is primarily due to two conservative assumptions made by the TMP. First, that all new development would be in addition to existing land uses and no existing traffic would be removed from the corridor. Secondly, the vehicle trip generation rates used in the TMP were 40% higher, or greater than what was eventually agreed upon by the City through the settlement process for a number of development applications within the Secondary Plan area.

27. A comprehensive series of traffic growth allowances have been made within the analyses undertaken as part of this study to account for traffic generated by new area development.

28. Specific allowances were made for traffic generated by 35 other developments in the area that have either been approved and are not yet built or are being actively reviewed by the City. Combined, these proposals contemplate the development of over 9,174 residential units and 38,859 sq. metres of non-residential GFA.

Signalized Intersection Analysis

27. It is proposed to extend the cycle length of this intersection from the existing 100 seconds to 110 seconds and optimize splits of all phases during both weekday morning and afternoon peak hours. Additionally, it is proposed to extend the cycle length of all signalized intersections along the Dufferin

Street corridor to 110 seconds to retain coordination. It is recommended that the operation of this intersection be monitored in the future.

28. The addition of Site traffic has limited impacts on the overall intersection operations. All individual movements and the intersection overall would continue to operate at acceptable levels of service and within capacity.

Unsignalized Intersection Analysis

29. Despite the fact that the eastbound movements on to Dufferin Street may experience long delays during the peak hours, the overall site impacts to the intersections are minimal compared to background traffic. It is also important to note that the Project does not traffic to the most critical movements (eastbound movements on to Dufferin Street) except at the Highway 401 Eastbound Off-Ramp during the afternoon peak hour.

30. Furthermore, a characteristic of the HCM 2000 analysis methodology for unsignalized intersections is that once a certain average vehicle delay threshold is exceeded, any modest increment in the major street traffic stream (along Dufferin Street) results in a substantial increase in predicted vehicle delays of the minor street traffic stream (Highway 401 Eastbound Off-Ramp-Yorkdale Mall Access, Jane Osler Blvd and Cartwright Avenue). As such, the analysis results indicate a substantial increases in vehicle delay for the eastbound movements under the future background and future total conditions. This is despite the fact that volume increases along Dufferin Street in the future total are anticipated to be relatively minor.

31. Notwithstanding the above, these conditions are typical of unsignalized minor street intersections with multi-lane arterial roads in urban environments within the City of Toronto. However, we are seeing a trend where traffic levels remain consistent and these theoretical increases in delay do not occur in practice for a number of reasons. Generally speaking, this is because i) motorists find different routes that are less busy, ii) motorists shift to other time periods outside of the peak period, iii) more people work from home; and iv) more people choose to take alternative modes of transportation or choose different living arrangements such that they do not need a vehicle to travel to work on a daily basis.

32. Based on the foregoing, recognizing the small impact the Project is projected to have and given the continued shift towards non-auto modes in the area as it builds out, the site-related traffic activity can acceptably be accommodated by the key area unsignalized intersections.

Overall Conclusions

29. The proposed site vehicular systems and facilities are appropriate, functional and will support the Project.

30. The Site is well located from a transportation perspective and is well supported by the area transit connections.

31. New Project related traffic activity can be acceptably and appropriately accommodated on the area road network. Project related traffic impacts are small and will not noticeably change operating conditions at the area intersections during the peak hours.

TECHNICAL ASSESSMENT

1.0 PLANNING AND POLICY CONTEXT

The Site is subject to a set of policies and initiatives that are supportive of transit-oriented development and minimization of auto use and single occupancy trips.

An overview of the planning policy context related to new development across the City of Toronto and the Site – given its relationship to Yorkdale Station and the connectivity afforded to the existing and planned higher-order transit network extending across the City – is provided in the following sections.

1.1 PROVINCIAL AND REGIONAL POLICY / DIRECTIVES

1.1.1 A Place to Grow: Growth Plan for the Greater Golden Horseshoe (2020)

The *Places to Grow* Plan aims to foster economic growth, provide greater housing supply / options, increase employment, and build communities for a healthier and more affordable lifestyle within the Greater Golden Horseshoe. Specifically, the Plan is a long-term strategy that outlines the importance of reducing reliance on the automobile and promoting non-automobile travel modes.

Planning for growth along transit corridors, adopting minimum density targets in Major Transit Station Areas (MTSAs) and integrating active transportation within the existing and planned street network (i.e., complete streets) are priorities that considers minimizing the provision of parking as an important strategy.

Yorkdale station, approximately 1.4 km east of the Project, has been identified as Protected Major Transit Station Areas (PMTSAs) with a proposed minimum density target of 200 residents and jobs combined per hectare. The proposed MTSA and PMTSAs are planned to meet or exceed the minimum planned density requirements outlined in the *Growth Plan*.

1.1.2 Metrolinx Regional Transportation Plan (2018)

The Metrolinx 2041 Regional Transportation Plan – an update to *The Big Move* (2008) – sets out the planned future transportation network for the GTA that best supports intensification in accordance with sustainable transportation objectives. It includes the development of additional rapid transit options for the City of Toronto and surrounding region, including heavy and light rail and bus rapid transit options.

1.2 LOCAL AREA PLANNING POLICIES

1.2.1 City of Toronto Official Plan

The City of Toronto Official Plan ("OP") sets the planning policy framework to guide the future growth and development of the City. It recognizes that the City's settlement area is nearly built out and most of the future development in the City will occur through intensification.

Specifically, the OP implements provincial directions identified in the previous section and outlines City Council's goals and visions. The OP is intended to ensure that the City evolves, improves and realizes its full potential in areas such as transit, land use development, and the built and natural environment. Future growth will be steered by the OP to areas which are well served by transit and the existing road network.

The City of Toronto Official Plan is supportive of development occurring in transit supportive locations where automobile dependent travel can be reduced through the availability of a range of mobility options. Chapter 6 of the Official Plan contains a set of Secondary plans, which provide more detailed local development policies to guide growth and change in specific areas of the City of Toronto.

A prominent policy within the Official Plan concerns Avenues; defined as “important corridors along major streets where re-urbanization is anticipated and encouraged to create new housing and job opportunities while improving the pedestrian environment, the look of the street, shopping opportunities and transit service for community residents.”

The Site is located adjacent to an Avenue: Dufferin Street, as illustrated in Map 2 (Urban Structure) of the Official Plan. Policy pertaining to Avenues and the Dufferin Street Secondary Plan have been kept in consideration in the conceptual development of the subject site.

1.3 DUFFERIN STREET SECONDARY PLAN

The Dufferin Street Secondary Plan (“DSSP”) was adopted by Toronto City Council in 2015 and extends along Dufferin Street from Highway 401 to just south of Lawrence Avenue West and was formed via the Dufferin Street Avenue Study (Avenue Study) which was initiated by City Council in 2012. The Avenue Study examined the existing land uses along Dufferin Street and the area infrastructure.

The DSSP aims to develop a mixed-use corridor with a fine-grain street network that is supportive of a multi-modal environment and connects to surrounding neighbourhoods, employment areas, and other areas of the City. The DSSP area is illustrated on **Exhibit 3** and consists largely of Mixed-Use Areas and includes new public streets, new signalized intersections, new pedestrian routes, and a cycle track along Dufferin Street. The Site falls within the southern half of Block 1 of the DSSP while the Fitzrovia site to the north, currently under construction, makes up the balance of Block 1.

The DSSP encourages the implementation of sustainable transportation and active transportation initiatives, as well as the promotion of transit-oriented development.

The Project reflects the recommendations of the DSSP with the provision of the new east-west municipal street at the south edge of the Site, new north-south municipal street at the west edge of the Site and the crescent municipal street that bisects the Site and connects the two aforementioned municipal streets.

The one street shown within Block 1 that the Project does not provide for is the east-west street that connects the crescent street and north-south street on the north side of the Site. While this street is shown on the Fitzrovia plan, this was intended as a temporary measure to avoid creating a cul-de-sac for each of the new municipal streets that would dead end within the Fitzrovia site. With the completion of the street network by the Project, none of the municipal streets would dead end and require a cul-de-sac making this east-west connection unnecessary. From a traffic capacity and access perspective, this road is not required. Furthermore, the provision of this road would reduce the amount of open space that can be provided adjacent to the park.

The cycling infrastructure along Dufferin Street, the new east-west and north-south public roads outlined in the Secondary Plan is recognized by this Project, however the implementation and details for the type of facility are to be determined in at a later stage.

EXHIBIT 3 DUFFERIN STREET SECONDARY PLAN PUBLIC STREETS PLAN

1.4 DUFFERIN STREET TRANSPORTATION MASTER PLAN

The Dufferin Street Transportation Master Plan (TMP) has been developed in support of the Dufferin Street Avenue Study. The TMP highlight opportunities for improving the existing road network and capacity to facilitate intensification along the Dufferin Street corridor and provides a transportation framework to inform the built form and land use framework for the study area.

The TMP identified a preferred land use scenario, in part, due to the ability of the transportation network to accommodate the additional movement of people subject to a number of improvements including signal timing coordination and optimization, consolidation of turn lanes at signalized intersections, coordination of new signals, improving transit infrastructure along the Dufferin Street streetscape, provide cycling infrastructure along Dufferin Street as well as undertaking feasibility studies for new pedestrian and cycling connections across Highway 401 and railway tracks.

The TMP traffic analysis identified the number of new trips generated by the preferred land use scenario as 2,926 and 4,174 trips, two-way, in the weekday morning and afternoon peak hours, respectively. This represents the number of additional trips generated by the preferred land use scenario within the Dufferin Street corridor above and beyond the existing traffic. Details of the TMP traffic analysis are attached in **Appendix C**.

The forecasted trip generation for the site outlined in **Section 7.0**, are substantially lower than the anticipated trip generation calculated by the TMP. The large differences between the trip estimates on Block 1 undertaken as part of the TMP and in this report are primarily as a result of two factors. The TMP assumed that the traffic generated by new development would be in addition to the existing land uses and associated traffic rather than replacing existing uses; and vehicle trip generation rates in the TMP for residential uses were very conservative, 41-53% higher than the trip generation rates ultimately agreed upon by the City to be used in future studies.

1.5 YORKDALE TRANSPORTATION MASTER PLAN

The City of Toronto is currently undertaking a Transportation Master Plan for the Yorkdale Lands (located partially within the Dufferin Street Secondary Plan) to identify and address long-term transportation improvements needed to support road users within, and surrounding, the Yorkdale Shopping Centre. At the same time, the City is also undertaking a Block Master Plan study for the Yorkdale Shopping Centre as part of the review of a development application submitted by Oxford Properties, which includes a range of retail, office, hotel and residential uses proposed over the next 20+ years.

The Yorkdale Transportation Master Plan includes the creation of a fine-grain street network that promotes connectivity and supports a multi-modal environment through investment in active transportation infrastructure. The preferred solution identified through the Transportation Master Plan includes:

- The extension of Caledonia Road under Highway 401, from its current terminus at Bridgeland Road (south of Highway 401) to Wilson Avenue (north of Highway 401) opposite Murray Road;
- Modifications to the on-ramp to northbound Allen Road;
- Pedestrian and cycling bridge (east-west) over Barrie GO Rail Corridor connecting Rustic Road to Cartwright Avenue;
- Pedestrian and cycling bridge (north-south) over Highway 401 connecting Yorkdale Road to Billy Bishop Way;

- Mobility hubs on the east side of Yorkdale Mall (including GO Bus Terminal, ride share and bike share facilities) and on the west side of Yorkdale Mall (including bike share facilities);
- Dufferin Street transit priority (transit / HOV) lanes, from the Dufferin Street Secondary Plan; and
- A number of other cycling, pedestrian, transit and road infrastructure improvements including bicycle lanes, sidewalks, intersection improvements and surface transit improvements.

The Yorkdale TMP proposed street network, streetscape, and active transportation improvements associated with the preferred solution will provide a positive mobility environment for drivers, pedestrians, and cyclists.

2.0 EVOLVING AREA TRANSPORTATION CONTEXT

2.1 AREA STREET CONTEXT

The existing street network of highways, arterials, collectors, and local roads that surrounds the Site is summarized in **Table 2**. The area street network is illustrated in **Figure 3** and lane configurations and traffic control is illustrated on **Figure 4**.

The existing street area context is illustrated in **Exhibit 4**, **Exhibit 5, Exhibit 6,** and **Exhibit 7**.

EXHIBIT 4: DUFFERIN STREET

EXHIBIT 5: BRIDGELAND AVENUE

EXHIBIT 6: JANE OSLER BOULEVARD

EXHIBIT 7: HWY 401 OFF RAMP ONTO DUFFERIN STREET

TABLE 2 AREA ROAD NETWORK

Street Name	Road Cross Section	Parking Regulations	Posted Speed	Description
Provincial Highway				
Highway 401 (Macdonald-Cartier Freeway)	4 collector lanes and 4 express lanes in each direction	No parking permitted at anytime	100 km/hr	Highway 401 is a controlled access highway that extends from Windsor in the west to the Ontario-Quebec border in the east.
Major Arterial				
Dufferin Street	3 lanes in each direction, with a centre turning lane south of the Midtown Honda Access	No parking permitted in the vicinity of the study area	No posted speed signage – assumed 50 km/hr	Dufferin Street extends northward from downtown Toronto to Katherine Road, north of Wilson Avenue. It restarts at Sheppard Avenue and continues northward out of the city limits. Dufferin Street provides connections to Highway 401, Highway 407, the Gardiner, as well as other important east-west arterials in the city of Toronto.
Minor Arterial				
Bridgeland Avenue	1 lane in each direction	No parking is permitted in the vicinity of the study area.	40 km/hr	Bridgeland Avenue extends westward from Dufferin Street to Caledonia Road.
Yorkdale Road	2 lanes in each direction	No parking is permitted in the vicinity of the study area.	40 km/hr	Yorkdale Road bounds Yorkdale Mall on the north, east, and south sides. It intersects Dufferin Street south of Highway 401 and south of Cartwright Avenue.
Local				
Jane Osler Boulevard	1 lane in each direction	No parking permitted in the vicinity of the study area.	40 km/hr	Jane Osler Boulevard extends westward from Dufferin Street, and then turns southward to Cartwright Avenue.
Cartwright Avenue	1 lane in each direction	Between Dufferin Street and Jane Osler Boulevard, no parking is permitted from 8 a.m. to 6 p.m. Between Jane Osler Boulevard and Paul David Street, no parking is permitted.	40 km/hr	Cartwright Avenue extends westward from Dufferin Street to Caledonia Road.

2.1.1 Future Area Street Network

As discussed in **Section 1.0**, and specifically within the Dufferin Street Secondary Plan and Yorkdale Transportation Master Plan, the evolving context of the Site area includes the construction of a fine grain street network. As part of the Project, new east-west and north-south Public Streets are proposed, which would enhance the area road network and create more opportunities for walking and cycling within the Site Area.

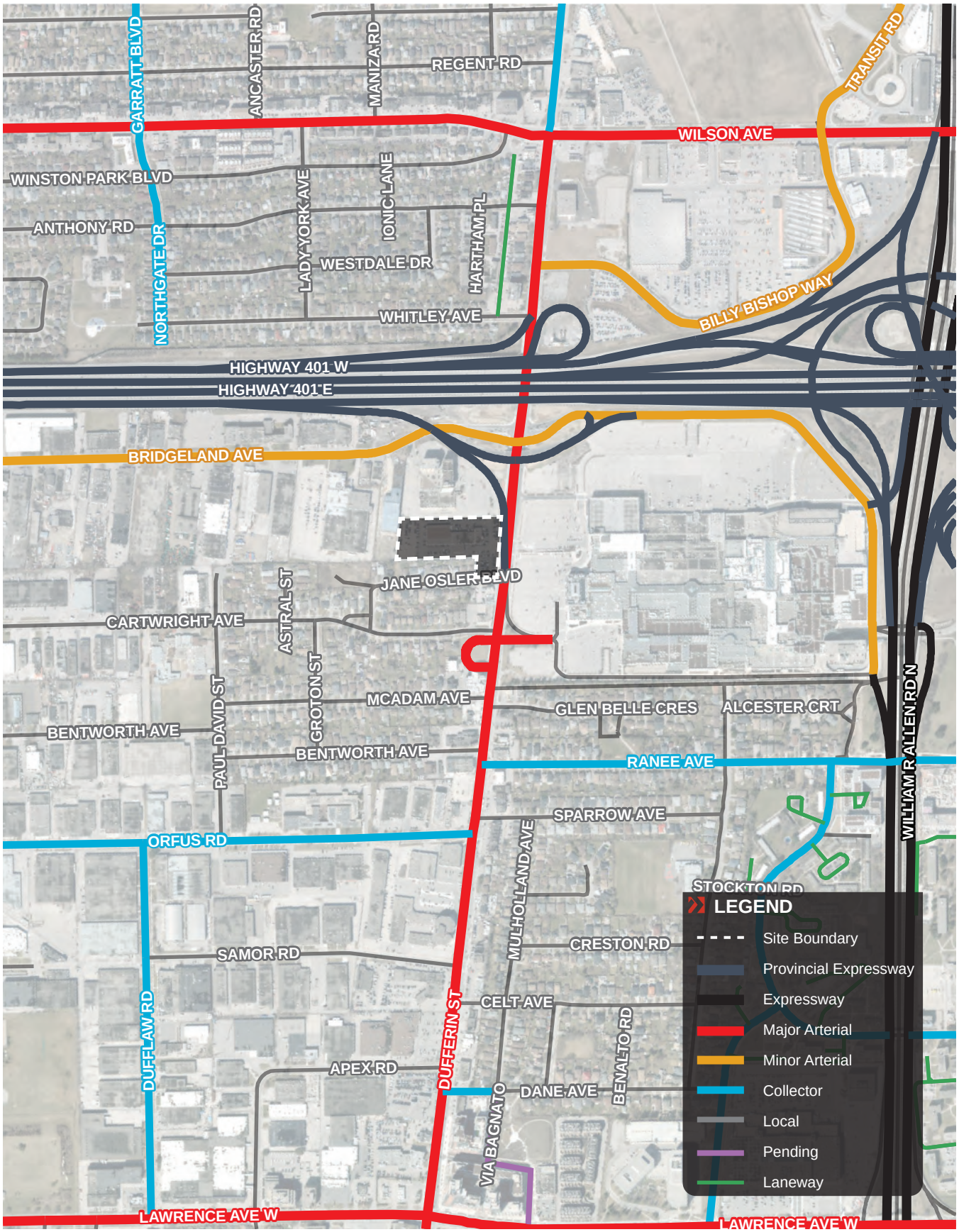

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FIGURE 3 AREA ROAD NETWORK

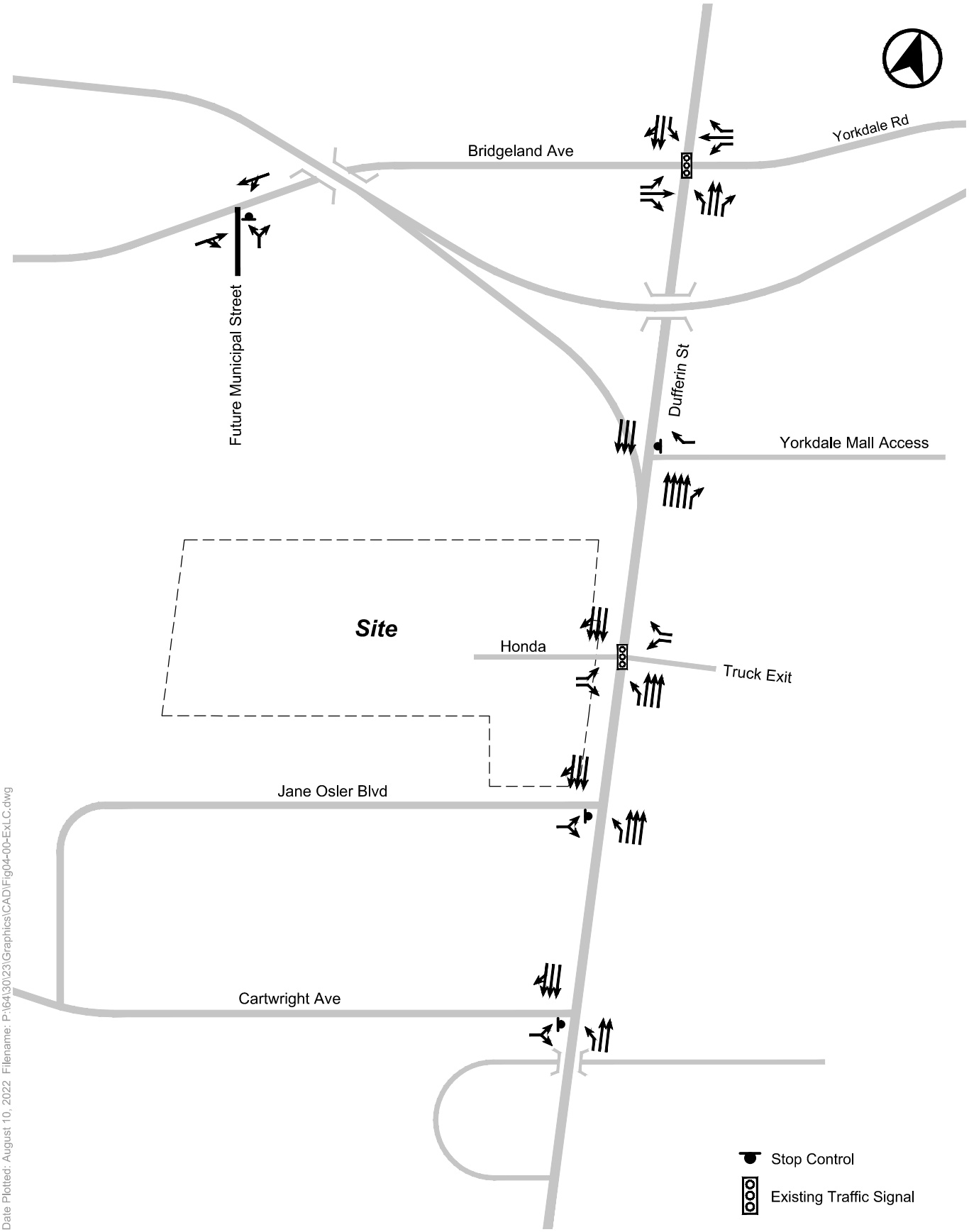

FIGURE 4 EXISTING AREA TRAFFIC CONTROL & LANE CONFIGURATION

2.2 AREA CYCLING CONTEXT

2.2.1 Existing Cycling Context

Within the immediate Site vicinity, there are limited on-street cycling facilities. However, the Site is relatively close to several multi-use trails, including the York-Beltline Trail that provides users connections to other multi-use trails across the City of Toronto. Existing cycling network connection are summarized in **Table 3** and illustrated on **Figure 5**.

TABLE 3 SUMMARY OF EXISTING CYCLING NETWORK

Route	Type of Cycling Infrastructure	Description
North Park Trail	Multi-use Trail	This a multi-use trail located within North Park, 3.3 kilometers (10-minute bike ride) away from the Site.
York Beltline Trail	Multi-use trail	This is a multi-use trail that provides connections to several other Toronto cycling trails, including the Key Gardner Beltline. The closest access point from the Site is Castlefield Avenue and Caledonia Rd, 3.6 kilometers (12-minute bike ride) from the Site.
Ranee Avenue	Cycle Lanes	Dedicated cycling lanes on both sides of Ranee Avenue between Flemington Road in the west and Varna Drive in the east.
Roselawn Avenue – Marlee Avenue	Cycle Lanes	Dedicated cycling lanes along both sides of Roselawn Avenue between Castlefield Avenue in the west and Marlee Avenue in the east, and along both sides of Marlee Avenue between Roselawn Avenue in the south and Dell Park Avenue in the north.
Faywood Boulevard	On-street shared cycling connections	Shared lanes in both directions between Wilson Avenue in the south and Sheppard Avenue West in the North. Connects to dedicated cycle lanes north of Sheppard Avenue West along Wilmington Avenue.

2.2.2 Planned Cycling Improvements

Within the City of Toronto's Cycling Network Plan, the 2024 Near-Term Implementation Plan highlights Yorkdale Road between Dufferin Street/Bridgeland Avenue and the southbound Allen Road on-ramp as a segment of street to be studied for cycling infrastructure implementation. Within the City's long-term implementation plan, cycling lanes along Lawrence Avenue West within the Site vicinity scored very high based on a cycling impact analysis. The route is likely to be considered and studied further in the next near-term implementation plans.

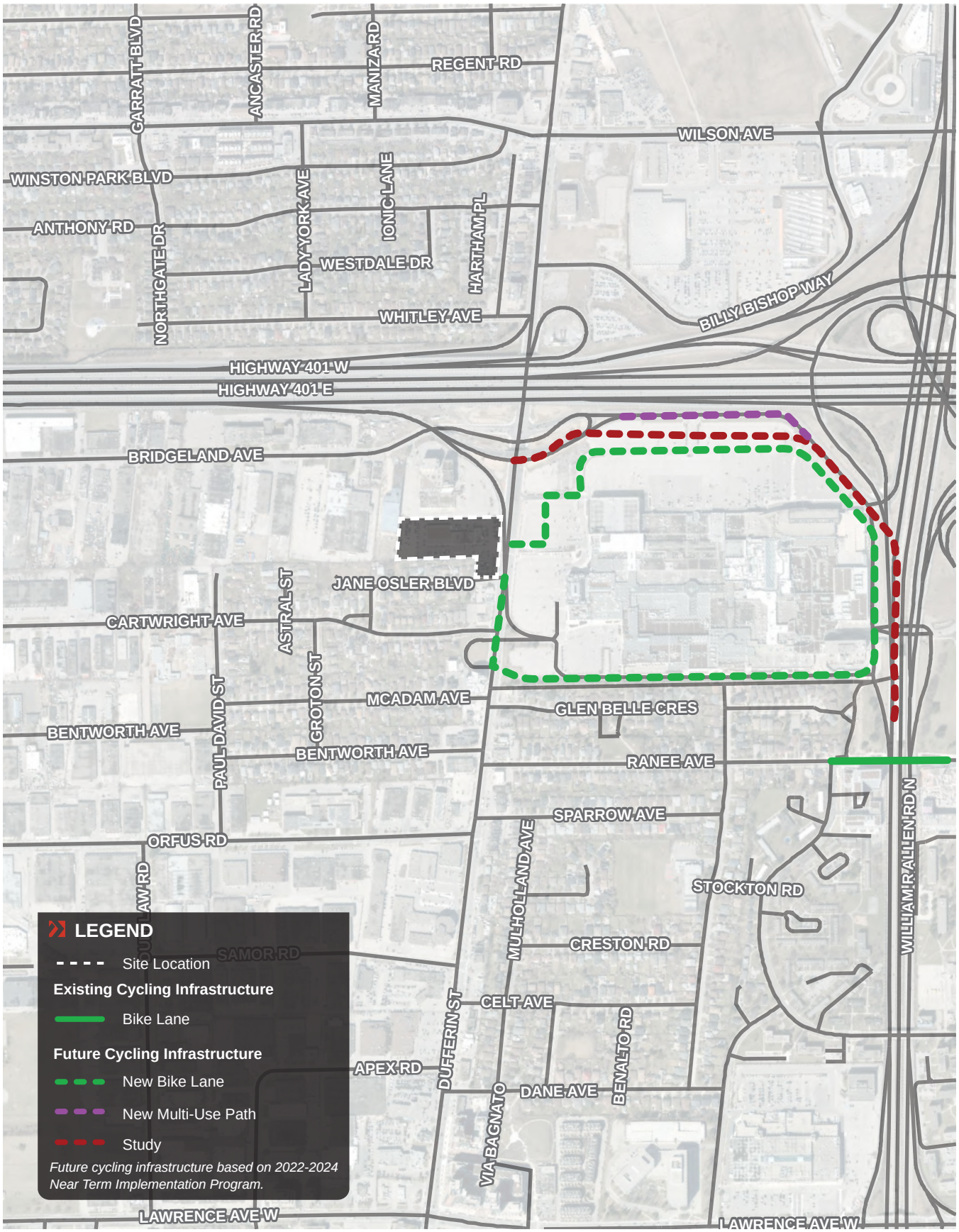

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FIGURE 5 EXISTING AND FUTURE CYCLING NETWORK

2.3 AREA TRANSIT CONTEXT

2.3.1 Existing Transit Context

The Site is well-connected to a variety of transit facilities including higher order subway service, and TTC and GO bus routes. Transit routes accessible from the Site are summarized in **Table 4** and illustrated on **Figure 6**.

TABLE 4 AREA TRANSIT SERVICES

Routes		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	Yorkdale Station (1.2 km / 14-minute walk) Wilson Station (1.6 km / 21-minute walk) Lawrence West (2.1 km / 26-minute walk)	Line 1 is a "U-shape" route that primarily runs north-south along Yonge Street and University Avenue / Allen Road. The extents of this route are Highway 7 and Jane Street (Vaughan Metropolitan Centre) in the northwest, Front Street (Union Station) in the south and Finch Avenue and Yonge Street in the northeast. Line 1 connects to Line 2 at Bloor, St-George, and Spadina stations and connects to Line 4 at Sheppard-Yonge Station.
TTC Bus	29 B / 929 Dufferin	29B – 6-8 min during weekday peak periods 929 – 7-10 min during weekday peak periods	Dufferin St / Jane Osler Blvd (150 m / 2 min walk)	This bus route operates between Exhibition Place and Wilson Subway Station, in a generally north-south direction. The 929 route is the express route of route 29.
	47B / 47C Lansdowne	47B – 18-20 min during weekday peak periods 47C – 19 min during weekday peak periods	47B - Bridgeland Ave at Dufferin St West Side (350 m / 4 min walk) 47C – Dufferin St / Jane Osler Blvd (150 m / 2 min walk)	This bus operates in a generally north-south direction along Lansdowne Avenue and Caledonia Road, from Queen Street in the south to Yorkdale station in the north. The 47B branch of this route travels to Yorkdale station via Bridgeland Avenue. The 47C branch of this route travels via Orfus Road to Yorkdale Station.
	52A / 52B / 52D / 52F / 52G / 952 Lawrence West	52A – 8-9 min during weekday peak periods 52B – 27 min during weekday peak periods 52F – 18 min during weekday peak periods 52G – 15-18 min during weekday peak periods 952 – 10 min during weekday peak periods	Dufferin St / Lawrence Ave West (1.4 km / 17 min walk)	This route operates in a generally east-west direction, between Lawrence Station and either The Westway and Martin Grove Road, Pearson International Airport or Westwood Mall. Route 52A operates between Lawrence station and Pearson Airport. Route 52B operates between Lawrence Station and Westwood Mall. Route 52F is a short-turn branch that operates between Lawrence Station and Royal York Road. Route 52G operates between Lawrence Station and The Westway / Martin Grove Road. The 952 route is the express route of route 29.
	59A / 59B Maple Leaf	59A – 24 min during weekday peak periods 59B – 21-24 min during weekday peak periods	Dufferin St / Lawrence Ave West (1.4 km / 17 min walk)	Route 59 operates between Lawrence West Station and the intersection of Weston Road with Oak St. The 59A branch operates between Lawrence West Station and Weston Rd via Gary Drive. The 59B branch operates between Lawrence West Station and Weston Rd via Church Street.
	96A/ 96B / 96D Wilson	96A – 16-17 min during weekday peak periods	Dufferin St / Wilson Ave (950 m / 13 min walk)	Route 96 travels from York Mills Station to the Humber College area. Branches 96A and D have western terminuses at Albion Rd and

		96 B – 16-17 min during weekday peak periods		Carrier Dr. The 96B branch terminates at Finch Ave W and Humberline Dr.
	109B Ranee	109B – 40 min during weekday peak periods	Ranee Ave / Yorkdale Station (1.1 km / 14 min walk)	This route travels in a generally north-south direction between Eglinton West Station and the area of Bathurst St and Hotspur Rd. 109B travels along Flemington Road to Yorkdale Station.
	118 Thistle Down	20 min during weekday peak periods	Dufferin St / Wilson Ave (950 m / 13 min walk)	Route 118 operates between Wilson Station and the area of Thistle Down Blvd and Albion Rd, in a generally east-west direction.
	120 Calvington	30 min during weekday peak periods	Dufferin St / Wilson Ave (950 m / 13 min walk)	This route travels in a generally east-west direction between Wilson Station and the area of Sheppard Ave W and Northover St.
	165 Weston Rd North	5-6 min during weekday peak periods	Dufferin St / Wilson Ave (950 m / 13 min walk)	Route 165 travels between York Mills Station and the area of Steeles Ave W and Weston Rd, in a generally east-west direction.
	996 Wilson Express	9-10 min during weekday peak periods	Wilson Station (1.6 km / 21 min walk)	This route generally travels in an east-west direction from York Mills Station to Humber College Bus Terminal.
GO Transit	GO Bus Route 19 – Mississauga North York	30 min during weekday peak periods	Yorkdale Bus Terminal (1.0 km / 12 min walk)	This GO Bus route travels in a generally east-west direction from Square One Shopping Centre to Finch Bus Terminal, along Highway 401.
	GO Bus Route 27 / 27A / 27F – Milton – North York	20 min during weekday peak periods	Yorkdale Bus Terminal (1.0 km / 12 min walk)	GO Bus Route 27 operates east-west between the Milton GO Terminal and Finch Bus Terminal, along Highway 401.
	GO Bus Route 33 – York Mills - University of Guelph	55 min during weekday peak periods	Yorkdale Bus Terminal (1.0 km / 12 min walk)	GO Bus Route 33 travels in an east-west direction between York Mills Bus Terminal and the University of Guelph.
	GO Bus Route 34 – Finch Terminal – Pearson Airport	1 hr during weekday peak periods	Yorkdale Bus Terminal (1.0 km / 12 min walk)	GO Bus Route 34 travels in a generally east-west direction between Finch Bus Terminal and Pearson International Airport.
	GO Bus Route 66 – Yorkdale Bus Terminal – East Gwillimbury GO	1 hr during weekday peak periods	Yorkdale Bus Terminal (1.0 km / 12 min walk)	This route travels in a generally north-south direction between Yorkdale Bus Terminal and East Gwillimbury GO Station.
	GO Bus Route 92 – Oshawa - Yorkdale	55 min during weekday peak periods	Yorkdale Bus Terminal (1.0 km / 12 min walk)	This GO Bus Route travels in an east-west direction between Yorkdale Bus Terminal and Oshawa GO Station.
	GO Bus Route 94 – Pickering – Square One	1 hr during weekday peak periods	Yorkdale Bus Terminal (1.0 km / 12 min walk)	GO Bus Route 94 operates in a generally east-west direction between Square One and Pickering GO Station.

2.3.2 Planned Area Transit Improvements

The Eglinton Crosstown Light Rail Transit (LRT) is a light rail-based transit service that will operate east-west across the City of Toronto along Eglinton Avenue, between Weston Road to the west and Kennedy Station (on the Bloor subway line) to the east. The Crosstown connects to the Yonge-University subway line at Eglinton West Station (at Allen Road) and Eglinton Station (at Yonge Street), the Bloor-Danforth subway line at Kennedy Station and the Barrie and Kitchener GO Train lines. Light-rail transit will be provided in at-grade and below grade sections. The below grade section is between Keele Street in the west and past Laird Street in the east, and will have a station at Laird Drive (i.e. Laird Station). The line, which has an approved length of 19 kilometres, is currently under construction and is forecast to be in service by 2022.

The Eglinton Crosstown LRT is anticipated to result in a considerable uptake in public transit ridership along its corridor. The 19 kilometre planned LRT is expected to operate with headways of in the order of 4 minutes during peak travel periods. Peak ridership is anticipated to reach 5,400 passengers per hour in the peak direction by 2031, while service capacity is planned to accommodate 15,000 passengers per hour in the peak direction.

The Site is located approximately 3.4 kilometres north of the future Fairbank Station on the Eglinton Crosstown LRT.

The Sheppard West Subway Extension is the proposed extension of the TTC Sheppard Subway Line (Line 4). The Sheppard West extension from Yonge to University (Line 1) has long been identified as an important network connection and currently forms part of the Metrolinx 2041 Regional Transportation Plan.

2.3.3 Existing and Future Site Transit Reach

In order to understand the changing transportation context, transit service area analyses for the existing and future transit network were conducted using Geographic Information Systems (GIS). These analyses looked at the service area of a transit network that a visitor of the Site had access to in a given time range. This type of analysis is useful in understanding the transit accessibility and can also be used to quantify the impact of transit service changes.

A review of the accessibility of the Site via transit was reviewed both under existing and future conditions, with the addition of the Eglinton Crosstown LRT and Sheppard West subway extension. The transit reach within a 15, 30, 40 minute trip is illustrated in **Figure 7** for existing conditions and **Figure 8** for future conditions.

TABLE 5 EXISTING AND FUTURE TRANSIT SERVICE AREA ANALYSIS COMPARISON

Transit Scenario	15 minute reach	30 minute reach	45 minute reach
Existing Conditions (Travel Away From Site)	• North along Allen Rd to Clanton Park Rd (north of Wilson Ave, north along Beffort Rd to Downsview Airport; • South along Dufferin St to nearly Eglinton Ave W; • East along Wilson Ave to just before Bathurst St; and • West along Wilson Ave to Lexfield Ave (west of Keele St), and west along Lawrence Ave W to Pimlico Rd (past Keele St).	• North along Yonge St to nearly Cummer Ave / Drewry Ave (north of Finch Ave), north along Line 1 University Subway to Vaughan Metropolitan Centre Station; • South along Dufferin St to Dupont St, and south along Line 1 University Subway to Dupont Station; • East along Sheppard Ave E to Willowdale Ave (east of Yonge St), east along York Mills Rd to nearly Fenn Ave (east of Yonge St), east along Lawrence Ave E to Ronan Ave (east of Yonge St); and • West along Elmhurst Dr to past Islington Ave, west along Dixon Rd to Golfwood Hts (west of Royal York Rd).	• North along Yonge St to High Tech Rd (north of Highway 7), north along Jane St to Bagg St / Gensal Gate (north of Highway 7); • South along Bay St and Dufferin St to the Waterfront; • East along Sheppard Ave E to just before Warden Ave, east along Danforth Ave to Greenwood Ave; and • West along Highway 7 to Kipling Ave, west along Finch Ave W to Highway 27, west along Airport Rd to American Dr (west of Highway 409), west along Eglinton Ave W to Spectrum Wy / Rakely Ct (west of Renforth Dr), west to Steeles Ave E and Bramalea Rd (Bramalea GO), and west to Eastgate Pkwy and Dixie Rd via Mississauga Transitway.
Future Conditions (Travel Away From Site)	• North along Allen Rd to Clanton Park Rd (north of Wilson Ave, north along Beffort Rd to Downsview Airport; • South along Dufferin St to Preston Rd (south of Vaughan Rd); • East along Wilson Ave to Delahaye St (east of Allen Rd), east along Lawrence Ave W to Englemount Ave (east of Allen Rd); and • West along Wilson Ave to Lexfield Ave (west of Keele St), and west along Lawrence Ave W to Pimlico Rd (past Keele St).	• North along Yonge St to Centre Ave (south of Steeles Ave W), north along Line 1 University Subway to Vaughan Metropolitan Centre Station; • South along Line 1 University Subway to Wellesley Station, south along Dufferin St to nearly Bloor St; • East along Sheppard Ave E to Leslie St, east along York Mills Rd to Bayview Ave, east along Eglinton Ave E to Laird Dr; and • West along Elmhurst Dr to past Islington Ave, west along Dixon Rd to Golfwood Hts (west of Royal York Rd).	• North along Yonge St to Bantry Ave / Scott Dr (north of Highway 7), north along Jane St to Bagg St / Gensal Gate (north of Langstaff Rd), north along Barrie GO Line to Aurora GO Station; • South along Yonge St, University Ave, and Dufferin St to the Waterfront; • East along Sheppard Ave E to Birchmount Rd, east along Eglinton Ave E to Warden Rd, east along Danforth Ave to Pape Ave, east to Eastern Ave and Broadview St; and • West along Highway 7 to Kipling Ave, west along Finch Ave W to Highway 27, west along Airport Rd to American Dr (west of Highway 409), west along Eglinton Ave W to Spectrum Wy / Rakely Ct (west of Renforth Dr), west to Steeles Ave E and Bramalea Rd (Bramalea GO), and west to Eastgate Pkwy and Dixie Rd via Mississauga Transitway.

Notable findings of this study include:

- Within 15 minutes, a large area along Dufferin St and Highway 401 are accessible from the Site location under existing conditions, with slight improvements to access along Dufferin Street heading south under future conditions.

- Within 30 minutes, the majority of Downsview and Toronto along Dufferin Street and Highway 401 are accessible from the Site location under existing conditions, with improvements in the future along Sheppard Ave E and Eglinton Ave W with the addition of the Sheppard West Subway Extension and Eglinton Crosstown W Extension respectively.

- Within 45 minutes, the vast majority of North York and Old Toronto are accessible from the site location under existing conditions. In the future, access along Eglinton Ave E is improved due to the addition of the Eglinton Crosstown East Extension. Access to Aurora GO Station, King City GO Station, Maple GO Station, become accessible due to the Barrie Line and the GO Expansion RER projects.

In summary, the Site is easily accessible by transit under present conditions. Its central location provides convenient connections to transit and active transportation modes to / from key local and regional destinations.

The evolving transportation context visualized in this analysis indicates that, at either local or intercity scales, there are suitable alternatives to driving or requiring a parking space for daily travel. The Site is in a prime location that enables future Site users to shift away from auto use and utilize the major transit investments being afforded within the area.

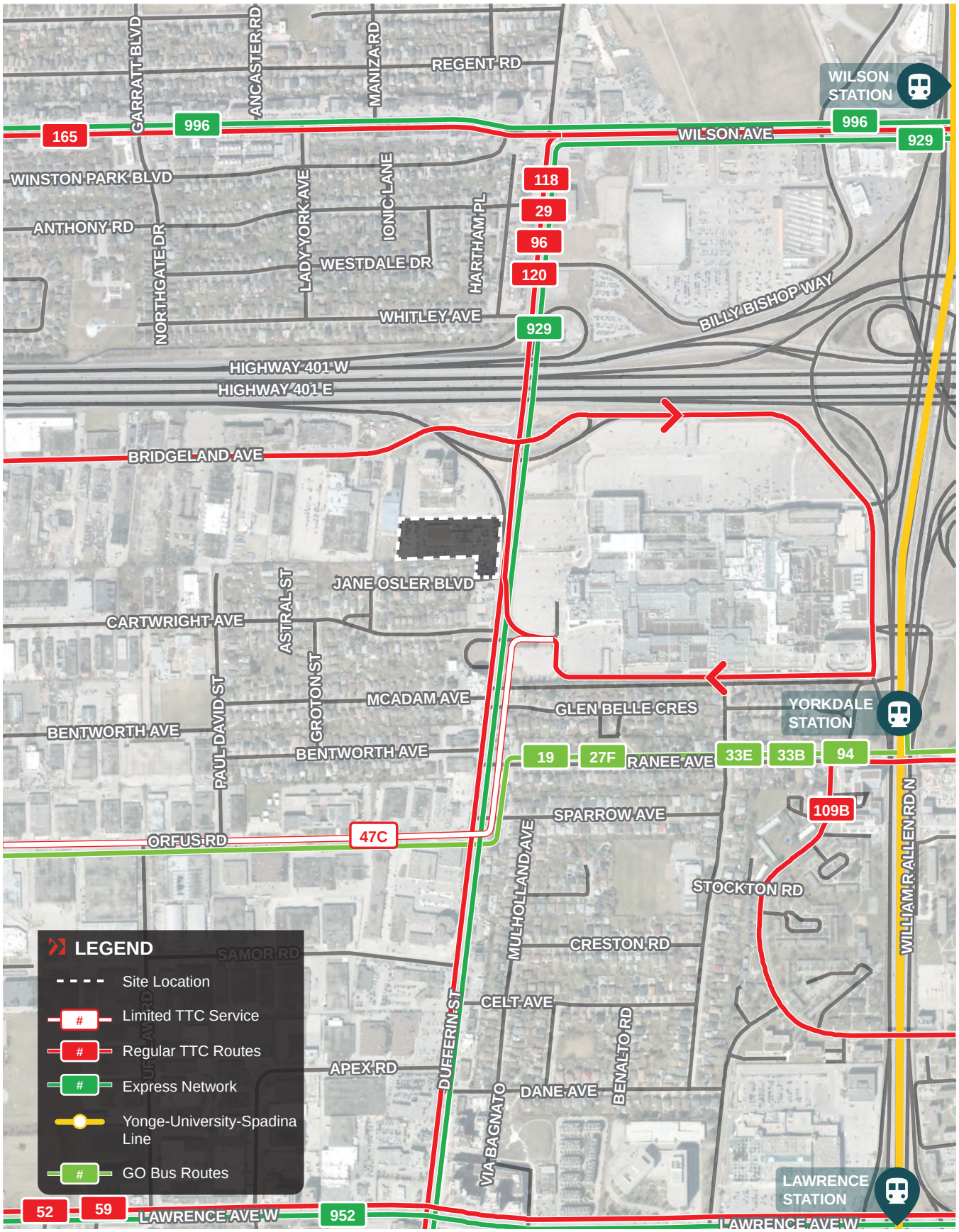

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FIGURE 6 EXISTING TRANSIT NETWORK

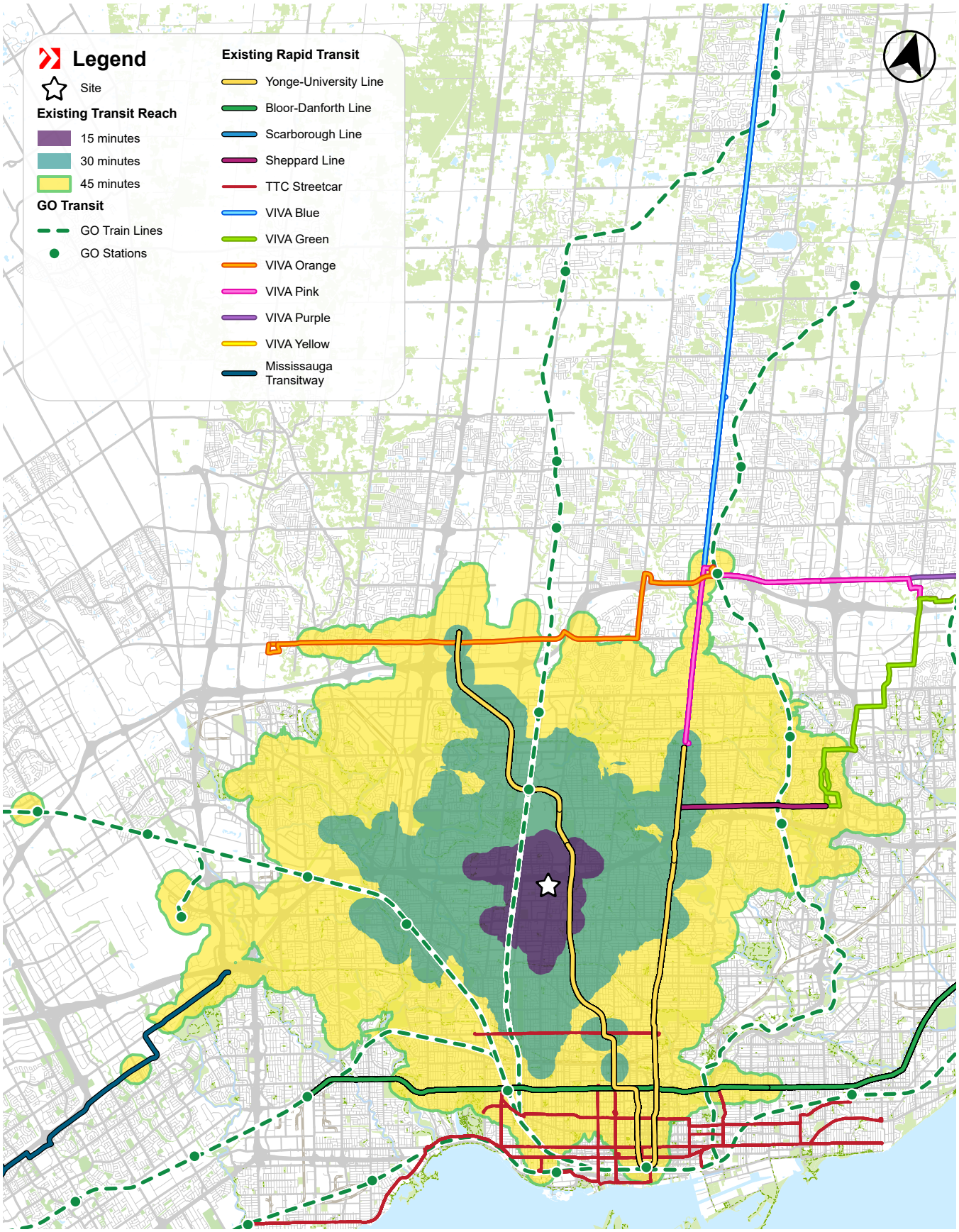

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FIGURE 7 EXISTING TRANSIT REACH

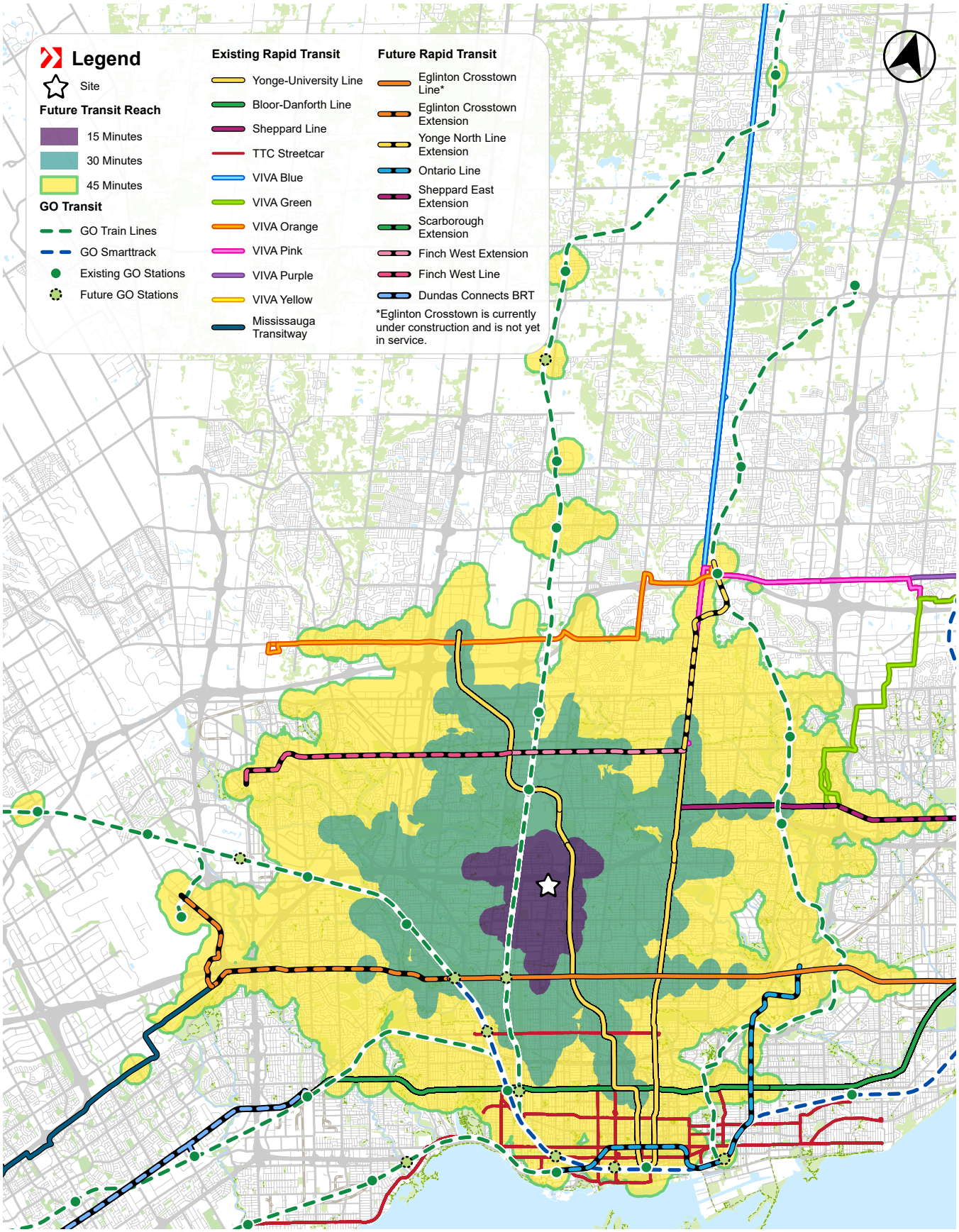

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FIGURE 8 FUTURE TRANSIT REACH

2.4 AREA PEDESTRIAN CONTEXT

Existing pedestrian facilities within and around the study area reflect little investment in the pedestrian system resulting in what is referred to as a low level of pedestrian connectivity and circulation (or “friendliness”). The condition of the pedestrian realm within the study area also reflects a system that does not encourage greater pedestrian activity to complete trips within the Site area, which is reflected in the current pedestrian mode share, as discussed further in the following sections.

2.4.1 Future Area Pedestrian Facilities

The Dufferin Street Secondary Plan and the associate Transportation Master Plan seeks to improve the area between Lawrence and the Highway 401 corridor from a multi-modal perspective. Map 7a of the Secondary Plan illustrates the recommended pedestrian network plan in close proximity to the site and is illustrated in **Exhibit 8**.

EXHIBIT 8 DUFFERIN STREET SECONDARY PLAN PEDESTRIAN CONNECTIONS

2.5 AREA TRAVEL CHARACTERISTICS

A review of the 2016 Transportation Tomorrow Survey data for current residents in the area confirms that a large majority of trips are undertaken by personal automobile and public transit. It is noteworthy that TTS data collection efforts have not surveyed weekend trips, limiting available data to weekday periods. Additionally, walking trips recorded in TTS are walking trips to / from school or work only. Walking trips for purposes such as shopping are not recorded and consequently, the percentage of walking trips tends to be underrepresented.

The 2016 TTS data has been reviewed for the general Site area (2006 TTS traffic zones 155-158, 178-180, 415, 422, and 423). Modal split data for resident (home-based) travel during the weekday morning and afternoon peak periods is summarized in **Table 6.**

TABLE 6 EXISTING RESIDENTIAL MODE SPLIT IN THE STUDY AREA

Peak Period[1]	Direction	Driver	Passenger[2]	Transit	Walk	Cycle
Morning	Outbound	45%	14%	36%	5%	0%
Afternoon	Inbound	41%	11%	41%	7%	0%

Notes:
1. Peak travel times for residential related trips: 6:00 a.m. to 9:00 a.m. and 3:00 p.m. to 6:00 p.m. Peak direction was used for both AM and PM peak periods.
2. Includes auto passengers, taxi passengers, paid rideshare, and school bus passengers
3. Based on trips to / from households in TTS zones 155-158, 178-180, 415, 422, & 423.

A review of the existing residential mode split shows that around half of residents in the Site vicinity currently travel by non-auto means during the weekday morning (41%) and afternoon (48%) peak periods. The significant reliance on non-automobile based modes of travel, and specifically transit, serves to reduce the traffic-related impact and parking supply needs of buildings in the study area.

2.6 SHARED MOBILITY SERVICES

2.6.1 Car-Share Facilities

Car sharing across central Toronto provides a low-commitment transportation alternative for automobile use, which has become common practice. The success and influence of car-share programs, which were only in their infancy a decade ago, now provide convenient, non-private automobile travel opportunities for thousands of residents, employees, and visitors of the City of Toronto.

There are 2 existing Zipcar car-share stations within 1 kilometre of the Site, which will serve the car-share needs of the Site and the local area:

- 16 McAdam Avenue (Dufferin Street / McAdam Avenue)
- 570 Wilson Avenue (Transit Road / Wilson Avenue)

This level of car-share vehicle accessibility provides access to a vehicle for residents that can be used on an occasional basis and which will serve to reduce the need for residents to own a vehicle and park it within the building. The availability of car-share facilities in the site's vicinity will assist in reducing on-site parking demand.

The locations of existing car-share spaces in the vicinity of the Site are illustrated on **Figure 9.**

2.6.2 Bike Share Facilities

The Bike Share Toronto program provides flexible cycling options within the City of Toronto with bicycles that can be used on a short-term basis and picked up / dropped off at different stations across the City. Bike Share Toronto now operates 625 stations across the City, including along the Yonge Street corridor to just north of Lawrence Avenue.

There are no existing Bike Stare stations in the vicinity of the Site. The nearest Bike Share station is located at the intersection of Oakwood Avenue and Vaughan Road, 4.5 kilometres south of the Site.

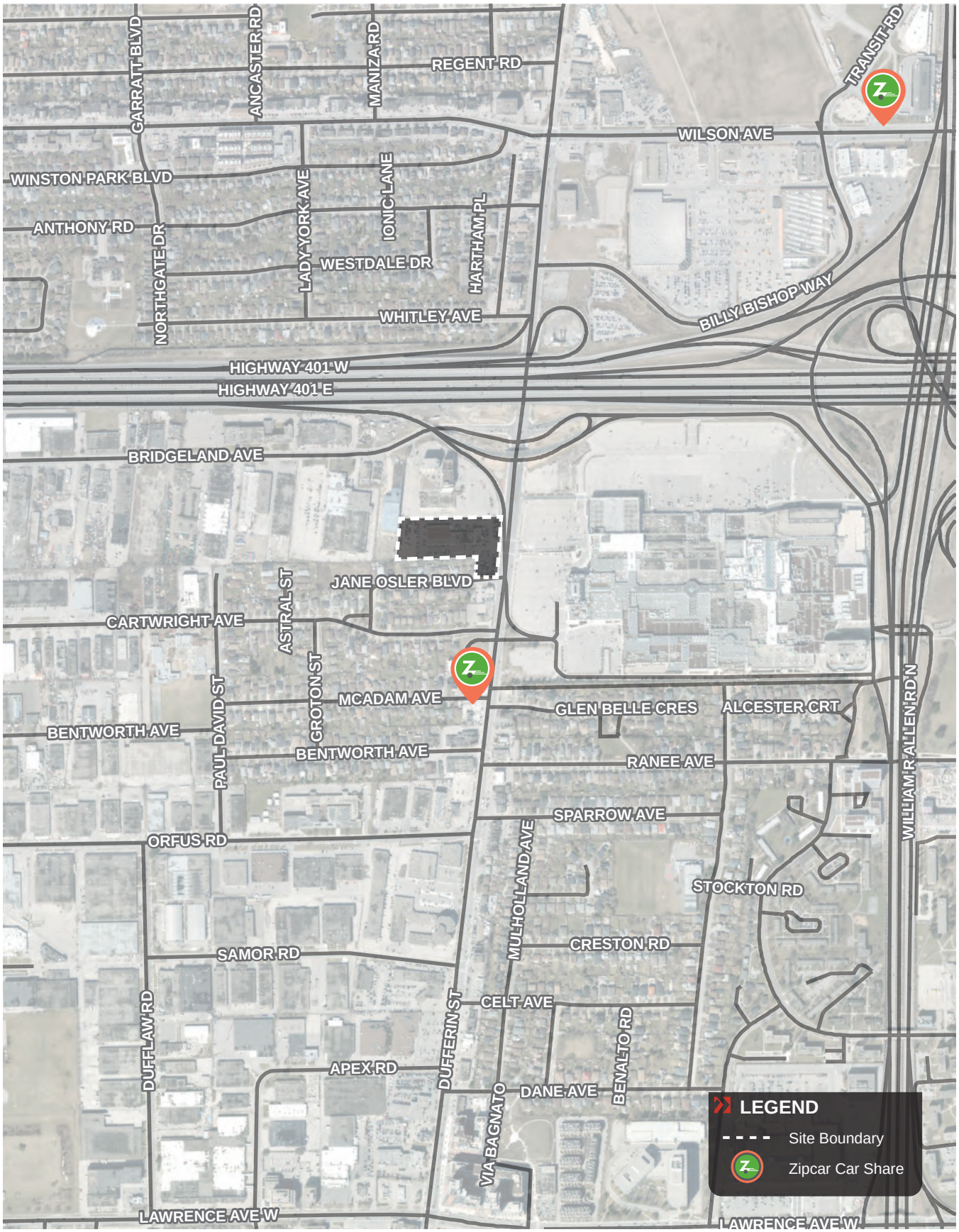

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FIGURE 9 EXISTING SHARED MOBILITY SERVICES

2.7 FUTURE TRANSPORTATION CONTEXT

As part of the Project, the realignment of the Yorkdale Shopping Centre ramp is proposed at the intersection of Dufferin Street and the new East-West Municipal Street, as illustrated in **Appendix B**. The realignment reflects an interim condition until Yorkdale Mall redevelops incorporating an inbound lane to the existing truck tunnel exit ramp. The realignment of the Yorkdale Mall ramp will also provide more spacing for the new intersection from the Highway 401 off-ramp merge point with Dufferin Street.

The ultimate design, with the redevelopment of Yorkdale Mall as part of the Yorkdale Shopping Centre Block Master Plan, reflects a median within the intersection to eliminate a weaving concern and preventing drivers from the Highway 401 off-ramp to the southbound left turn lane entering Yorkdale Mall.

The future transportation context is illustrated in **Figure 10**.

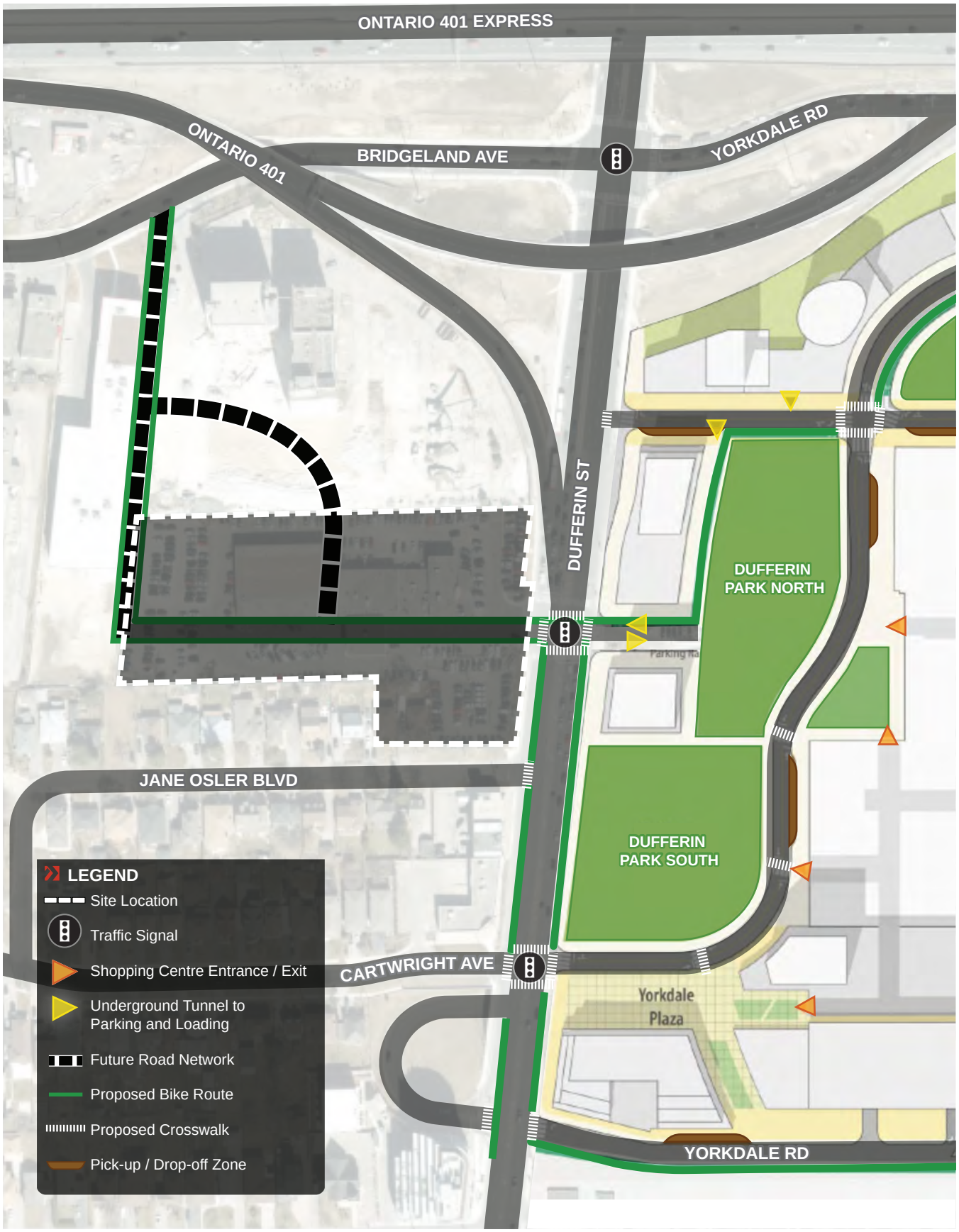

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FIGURE 10 FUTURE TRANSPORTATION CONTEXT

3.0 TRANSPORTATION DEMAND MANAGEMENT

3.1 MOBILITY CHOICE TRAVEL PLAN

A detailed Mobility Choice Travel Plan will be developed through the approvals process in consultation with the City of Toronto. This is to ensure that the projects set a sustainable precedent in urban redevelopment and encourages the use of active and sustainable modes of transportation.

The Mobility Plan is intended to prioritize viable alternative personal transportation options beyond the single-occupant, private automobile. The objective is to encourage travel behaviour and patterns that are sustainable. The primary objectives are:

- Reducing demand on road infrastructure, thereby minimizing road and parking capital expenditures;
- Increasing travel efficiency;
- Reducing climate change emissions, and
- Improving air quality.

The Mobility Choice Travel Plan is organized into several categories that aim to effectively allow for sustainable transportation options to be viable, attractive, and preferred by the development residents, employees and visitors. The Mobility Travel Plan is proposed to guide the provision of viable alternatives to single occupant vehicle trips. This plan intends to support the proposed development by outlining Transportation Demand Management (TDM) strategies to promote the use of more active and sustainable transportation modes, respond to the mobility needs of residents, employees and patrons of the Site and reduce dependence on private vehicles.

3.2 ORGANIZATIONAL FRAMEWORK

The four broader objectives can be organized within the following categories:

- Encourage Transit Use;
- Encourage and Facilitate Bicycle Use;
- Enhance Pedestrian Access and Walkability;
- Facilitation of Reduced Car Ownership and Usage;
- Vehicular Parking Supply and Management;
- Land Use and Building Infrastructure; and
- Coordination, Communication and Promotion.

Measures from the Mobility Choice Travel Plan will be incorporated into this development to minimize the need to own a personal vehicle or use an automobile when travelling to and from the Site. It is important to encourage and facilitate the use of non-automobile travel modes on a daily basis.

A summary of the Mobility Choice Travel Plan Strategies are discussed in **Table 7**.

TABLE 7 POTENTIAL MOBILITY TRAVEL PLAN STRATEGIES

	Intent	Implementation
Transit Use	 Support for and the promotion of the use of area transit services for both short and long-distance travel by residents and visitors will reduce the overall use of a vehicle and the need to own one.	• Provision of on-Site communication items / information regarding local transit services and scheduling to facilitate resident and visitor transit travel to / from the Site. • Pre-paid presto card for each unit owner who does not purchase a parking space • Information packages on area transit services for new residents
Bicycle Facilities	 Provide cycling infrastructure that supports and promotes cycling as a convenient and viable travel alternative to the personal automobile.	• Provide cycling infrastructure on new public roads within the Site plan area improving connections between Bridgeland Avenue and Dufferin Street • 632 long term and 56 short term bicycle parking spaces are proposed, meeting the Toronto Green Standard V4 Tier 1 requirements. • Electric bicycle infrastructure for 15% of required long-term spaces • Provide a bike repair station within each of the three buildings on site • Provide of on-site communication items / information to generate awareness of multi-use trail systems and cycling network in the site-vicinity.
Enhance access & walkability	 A high-quality, safe connection between the Site and transit stops, cycling network, and public street system encourages residents and visitors to travel around the Site area without a vehicle.	• All loading and parking operations will be accommodated internal to the building to avoid conflict with pedestrian movements. • The Site will provide residents with high quality, safe pedestrian connections along new public roads within the Site plan and new connections between Dufferin Street and Bridgeland Avenue.
Reduced Car Ownership	 Reduce the need for residents to own a car for occasional travel, and reduce the likelihood of privately-owned car use for general travel, particularly during peak periods.	• Provide information and communication to residents regarding availability of car share provided within the area. • Provide a reduced parking supply compared to the By-law requirements (0.25 spaces / unit for residents and 0.10 spaces / unit for visitors and retail). This can be achieved through the adopted TDM measures and multi-modal infrastructure strategies for the Site. • Sharing of non-residential spaces • Provide one car-share space in each of the tower buildings • 1-year car share membership for each unit owner who does not purchase a parking space
Parking Management	 Reduced parking standards within the proposed development encourages residents and visitors to reconsider the use or ownership of a vehicle.	• Offer parking to building residents “unbundled” from unit purchase.

4.0 VEHICLE PARKING CONSIDERATIONS

4.1 ZONING BY-LAW REQUREMENTS

4.1.1 Former City of North York Zoning By-law 765

Parking requirements for the site have been reviewed based on the former City of North York Zoning By-law 765. Application of these standards would require the provision of 1,301 vehicle parking spaces including 1,043 resident spaces and 258 non-resident spaces. Parking requirements are summarized in **Table 8**.

TABLE 8 FORMER CITY OF NORTH YORK ZONING BY-LAW 765 PARKING REQUIREMENTS

Use	Units / GFA [1]	Rate (Minimum)	Min. Requirement[2]
Residential Parking			
Building A	388 units	1.25 spaces / unit	485 spaces
Building B	371 units		464 spaces
Building C	75 units		94 spaces
Subtotal Residential Parking			**1,043 spaces**
Non-Residential Parking			
Residential Visitor	834 units	0.25 spaces / unit	209 spaces
Retail	1,365 m^2	1 space / 28 m^2 GFA	49 spaces
Subtotal Non-Residential			**258 spaces**
TOTAL			**1,301 spaces**

Notes:
1. Based upon site statistics provided by gh3 on August 9, 2022

4.1.2 City of Toronto Zoning By-law 569-2013 Policy Area 4

As a comparison, application of the City of Toronto Zoning By-law 569-2013 for Policy Area 4 requires the provision of a total of 854 spaces to support the proposed development, comprising 716 resident spaces and 138 non-resident spaces. The vehicle parking requirements under Zoning By-law 569-2013 are summarized in **Table 9**.

TABLE 9 CITY OF TORONTO ZONING BY-LAW 569-2013

Use	Units / GFA	Rate (Minimum)	Requirement
Residential Parking			
1 Bedroom	98 units	0.8	78 spaces
1 Bedroom + Den	392 units	0.8	313 spaces
2 Bedroom	216 units	0.9	194 spaces
2 Bedroom + Den	42 units	0.9	37 spaces
3 Bedroom	86 units	1.1	94 spaces
Subtotal Residential Parking			**716 spaces**
Non-Residential Parking			
Residential Visitor	834 units	0.15	125 spaces
Retail	1365 m^2	1 / 100 m^2GFA	13 spaces
Subtotal Non-Residential			**138 spaces**
TOTAL			**854 spaces**

Notes:
1. Zoning By-law 569-2013 specifies that parking calculations resulting in a fraction shall be rounded down to the nearest whole number with a minimum of 1 parking space.
2. Based upon site statistics provided by gh3 on August 9, 2022.

4.1.3 City of Toronto Zoning By-law 89-2022 Parking Zone B

The City of Toronto has, through an extensive review, established revised vehicle parking standards for new development. The revised standards are set out in City of Toronto Zoning By-law 89-2022, and are currently under an appeal period following adoption by City Council on December 15, 16, and 17, 2021. By-law 89- 2022 amends the vehicle parking standards previously outlined in City of Toronto Zoning By-law 569-2013, and represents the current policy direction of Toronto Staff and Council.

City of Toronto By-law 89-2022 removes, in many instances, minimum vehicle parking requirements for new development, while establishing vehicle parking maximums and revised accessible parking requirements. In the instance of the site, Parking Zone ‘B’ maximum parking permissions apply.

Application of Zoning By-law 89-2022 minimum and maximum parking standards to the proposed development results in a minimum requirement of 43 visitor parking spaces, of which 20 shall be designated as accessible. The Site is permitted to provide a maximum of 847 parking spaces, including 712 resident spaces, and 135 non-residential spaces; of the total 847 parking spaces, 20 shall be designated as accessible. Vehicle parking minimum and maximum requirements are summarized in **Table 10** and **Table 11**, respectfully.

TABLE 10 ZONING BY-LAW 89-2022 *MINIMUM* PARKING REQUIREMENTS – PARKING ZONE B

Use		Units / GFA	Minimum Parking Ratio	Minimum Parking Requirement	Effective Parking Ratio	Effective Parking Requirement	Accessible Parking Requirement	Adjusted Minimum Parking Requirement
Residential Parking							*if the effective parking spaces is >1000 a minimum of 5 accessible parking spaces + 1 accessible parking space for every 50 effective parking spaces of part thereof in excess of 100 parking spaces*	*43 visitor parking spaces of which a minimum of 20 shall be designated for accessible parking.*
Building A	1 BR	41	0	0	0.8	32		
	1 BR + Den	178	0	0	0.8	142		
	2 BR	108	0	0	0.9	97		
	2 BR + D	21	0	0	0.9	18		
	3 BR	40	0	0	1.1	44		
Building B	1 BR	57	0	0	0.8	45		
	1 BR + Den	167	0	0	0.8	133		
	2 BR	88	0	0	0.9	79		
	2 BR + D	21	0	0	0.9	18		
	3 BR	38	0	0	1.1	41		
Building C	1 BR	0	0	0	0.8	0		
	1 BR + Den	47	0	0	0.8	37		
	2 BR	20	0	0	0.9	18		
	2 BR + D	0	0	0	0.9	0		
	3 BR	8	0	0	1.1	8		
Subtotal Residential Parking				0		712		
Non-Residential Parking								
Residential Visitor		834	2 + 0.05 / unit	43	0.1	83		
Retail		1365	0	0	1 / 100 m^2 GFA	13		
Subtotal Non-Residential				43		96		
TOTAL				**43**		**808**	**20**	**43**

Notes:

1. Based upon site statistics provided by gh3 on August 9, 2022.

TABLE 11 ZONING BY-LAW 89-2022 *MAXIMUM* PARKING REQUIREMENTS – PARKING ZONE B

Use		Units / GFA	Maximum Parking Ratio	Maximum Parking Requirement	Effective Parking Ratio	Effective Parking Requirement	Accessible Parking Requirement	Adjusted Minimum Parking Requirement
Residential Parking							*If the effective parking spaces is >1000 a minimum of 5 accessible parking spaces + 1 accessible parking space for every 50 effective parking spaces of part thereof in excess of 100 parking spaces*	*847 spaces of which a minimum of 20 spaces shall be designated as accessible parking spaces*
Building A	1 BR	41	0.8	32	0.8	32		
	1 BR + Den	178	0.8	142	0.8	142		
	2 BR	108	0.9	97	0.9	97		
	2 BR + D	21	0.9	18	0.9	18		
	3 BR	40	1.1	44	1.1	44		
Building B	1 BR	57	0.8	45	0.8	45		
	1 BR + Den	167	0.8	133	0.8	133		
	2 BR	88	0.9	79	0.9	79		
	2 BR + D	21	0.9	18	0.9	18		
	3 BR	38	1.1	41	1.1	41		
Building C	1 BR	0	0.8	0	0.8	0		
	1 BR + Den	47	0.8	37	0.8	37		
	2 BR	20	0.9	18	0.9	18		
	2 BR + D	0	0.9	0	0.9	0		
	3 BR	8	1.1	8	1.1	8		
Subtotal Residential Parking				712		712		
Non-Residential Parking								
Residential Visitor		834	1.0/unit for the first 5 units plus 0.1 sps/unit thereafter	88	0.1	83		
Retail		1365	3.5 / 100 m^2 GFA	47	1 / 100 m^2 GFA	13		
Subtotal Non-Residential				135		96		
TOTAL				**848**		**809**	**20**	**847**

Notes:

1. Based upon site statistics provided by gh3 on August 9, 2022.

4.2 RECOMMENDED PARKING SUPPLY

It is proposed to provide a reduced parking supply compared to the requirements of both City of North York Zoning By-law 765 and City of Toronto Zoning By-law 569-2013.

It is proposed to provide 375 parking spaces, 212 resident parking spaces and 163 non-residential parking spaces to be shared between residential visitors and retail uses. Of the total proposed 375 parking spaces, 20 shall be designated as accessible spaces.

4.2.1 Rationale for Reduced Parking Supply

A reduced parking supply supports the reduction of single occupant vehicle trips and is in line with the City's near and long-term objectives to increase multi-modal travel in the Dufferin Street corridor, Yorkdale area and City of Toronto as a whole. Further discussion of the appropriateness of the proposed parking supply is summarized in the following sections.

4.2.1.1 Zoning By-law 89-2022

City of Toronto has signalled a change in policy direction regarding its Zoning By-law and minimum parking requirements. In December 2021, after approximately a year of study and consultation, City Council adopted *the Review of Parking Requirements for New Development* which recommended the elimination of minimum parking requirements for most land uses, city-wide, replacing them with maximum parking standards within Zoning By-law 569-2013.

In February 2022, By-law 89-2022 was published to amend Zoning By-law 569-2013 with the proposed changes, which included adjusted minimum accessible parking requirements for most land uses. By-law 89- 2022 was appealed during the 20-day appeal period mandated by the provincial Planning Act and remains under appeal. While the new parking supply requirement standards are under appeal, it is reasonable for them to be considered as they reflect the intended direction of City of Toronto staff and City Council.

Throughout the year of study, several staff reports provided rationale for the change. It was noted that while development applications frequently get approved with reduced parking in comparison to Zoning By-law requirements, City Council has the power to prohibit residents, visitors, and tradespeople of a building subject to a development application from parking on local area streets when there is community concern, and that many other cities have completely or partially eliminated parking minimums in their Zoning By-laws.

Staff stipulated that the "review should be guided by the principle that parking standards should allow only the maximum amount of automobile parking reasonably required for a given use and minimums should be avoided except where necessary to ensure equitable access, such as for accessible parking or in areas which would be difficult to serve with transit."

Generally, the staff report represents a definitive shift in the public position of City of Toronto staff with regards to minimum parking requirements and their enforcement. The most notable of the positions stated within the staff reports is that the current minimum parking requirements in Zoning By-law 569-2013 do not advance the policies of the City's Official Plan to reduce auto-dependence and support non-auto modes of transportation.

The proposed residential and non-residential parking supply is reflective of and consistent with City of Toronto Council's direction and the City staff reports that informed Council's decision to amend Zoning By-law 569-2013.

4.2.1.2 Toronto Green Standard (TGS)

The Toronto Green Standard (TGS) sets sustainable design requirements for new private and City-owned developments. The TGS implements the environmental policies of the City of Toronto Official Plan and the requirements of multiple City divisions through the community planning and development approvals process administered by the City Planning Division. The purpose of the TGS is to improve air quality, reduce urban heat island effect, and is an effective tool to achieve the City's greenhouse gas emission targets. Tier 1 of the TGS is a mandatory requirement of the planning approval process, while Tier 2 is a higher, voluntary standard.

The most recent version of the TGS is the Toronto Green Standard Version 4 (2022), which came into effect on May 1, 2022 for new planning applications.

The TGS v4 (Tier 1) requires a reduction in a development's single occupancy auto vehicle trips by 25% through a variety of multimodal infrastructure strategies and TDM measures. It also requires the provision of electrical vehicle infrastructure, including the provision of all resident parking spaces (100%) with an adjacent Energized Outlet capable of providing Level 2 charging or higher to the parking space, and 25% of other parking spaces with an adjacent Energized Outlet.

Providing additional parking encourages automobile ownership, which encourages single occupant automobile commuting. The most direct, effective way to effect change in travel behaviour is to reduce the amount of vehicular parking available to commuters. The implementation of various TDM initiatives are more effectively implemented in tandem with limited vehicular parking.

The proposed resident parking supply ratio of 0.25 spaces per unit is less than the prevailing zoning requirement of 0.86 spaces per unit (Zoning By-law 539-2013 Policy Area 4). This reflects a 71 percent reduction in parking supply from the minimum requirement, which theoretically would result in a 71 percent reduction in vehicle ownership and the resulting trips generated from these vehicles. This would exceed the 25 percent reduction in single occupancy auto trips that are Tier 1 standards of the TGS. Thus, reducing the parking supply requirement would align with the City's stated policy intentions.

4.2.1.3 TransformTO Climate Action Strategy

In 2017 Toronto City Council approved TransformTO to support Toronto's commitment to a global call for action to limit global temperature rise in line with international goals. The TransformTO Net Zero Strategy aims to reduce GHG emissions in Toronto to net zero by 2040. To meet emission targets, the City will use its influence to regulate and increase access to low carbon transportation options, including walking, biking, public transit and electric vehicles.

Additionally, in October 2019, the City of Toronto declared a climate change emergency and has committed to accelerating action to address it. Toronto will increase the use of active and public transportation reduces greenhouse gas emissions, energy use and congestion while promoting equity and health benefits. The City will also advance options to incentivize electric vehicle adoption and disincentivize the use of carbon polluting gasoline and diesel vehicles, through supporting the transition to electric vehicles.

The proposed parking supply for the site is less than the prevailing zoning requirement and is in conformance with Toronto's current vision to reduce carbon emissions. This shift away from providing excess residential parking highlights a changing perspective toward automobile ownership, travel, and the cost of living.

4.2.1.4 Transportation Demand Management

A TDM plan for the Site has been prepared with the intention to reduce the reliance of residents and visitors on vehicles to make trips to and from the Site. TDM measures include the provision of bicycle parking and maintenance equipment, car-share and Presto cards. These, as well as a reduced parking supply will encourage non single occupant vehicle trips.

4.3 SUMMARY OF THE PROPOSED PARKING SUPPLY

The proposed parking supply of 375 parking spaces (including 212 resident and 163 non-resident spaces) is considered to be appropriate and meet the anticipated parking demand of the building.

The parking standards outlined in the City of North York Zoning By-law 765 and City of Toronto Zoning By-law 569-2013 are considered to be high, given the locational factors that support the adoption of reduced parking standards for the Site. The Site is well situated relative to existing transit services and the mixed-use nature of the proposed development and the changing neighbourhood characteristics along the Dufferin corridor and Yorkdale area support a more diverse range of transportation options and reduce the need for a personal vehicle.

It is further noted that the proposed development plan has specific elements including two car-share spaces, a bike share station, shuttle service and pedestrian realm improvements which facilitate multi-modal trips to and from the site as well as contributing to the general urbanization of the area.

It is considered that, based on the above, the proposed parking supply will appropriately meet the resident and non-resident parking demands of the development.

5.0 LOADING CONSIDERATIONS

5.1 ZONING BY-LAW REQUIREMENTS

5.1.1 Former City of North York Zoning By-law 765

Application of the former North York Zoning By-law 765 requires the provision of 3 loading spaces as summarized in **Table 13**.

TABLE 12 FORMER CITY OF NORTH YORK ZONING BY-LAW 765 LOADING REQUIREMENTS

Use	Units / Floor Area[1]	Total
Based on GFA	More than 7,500 m^2 GFA	3 spaces
Total		**3 spaces**

Notes:
1. Based upon site statistics provided by gh3 on August 9, 2022

5.1.2 City of Toronto Zoning By-law 569-2013

City of Toronto Zoning By-law 569-2013 requires the provision of 1 Type 'B' and 3 Type 'G' loading spaces.

TABLE 13 ZONING BY-LAW 569-2013 LOADING REQUIREMENTS

Use		Units / Floor Area[1]	Type A Loading Spaces	Type B Loading Spaces	Type C Loading Spaces	Type G Loading Spaces	Total
Building A	Residential	31 to 399 dwelling units	-	-	-	1 space	1 space
Building B			-	-	-	1 space	1 space
Building C			-	-	-	1 space	1 space
Building A	Retail	-	-	-	-	-	-
Building B		500 to 1,999 m^2	-	1 space	-	1 space	1 space
Building C		0 to 499 m^2	-	-	-	-	-
Total (before Sharing)			-	**1 space**	-	**3 spaces**	**4 spaces**
Total (with Sharing)			--	**1 space**	--	**3 spaces**	**4 spaces**

Notes:
1. Based upon site statistics provided by gh3 on August 9, 2022
2. Shared loading space calculations based upon Zoning By-law 569-2013 Chapter 220.5.10.1(9) and (11).

5.2 PROPOSED LOADING SUPPLY

Current architectural plans illustrate a total of 3 Type 'G' loading spaces, 1 Type 'B' loading space and 1 Type 'C' loading space. Locations are summarized in **Table 14**.

TABLE 14 PROPOSED LOADING SUPPLY

	Type A Loading Spaces	Type B Loading Spaces	Type C Loading Spaces	Type G Loading Spaces	Total
Building A			1 space	1 space	2 spaces
Building B		1 space		1 space	2 spaces
Building C				1 space	1 space

The proposed loading facility is appropriate and will meet the loading/unloading and refuse collection needs on the Site.

Vehicle Manoeuvring Diagrams illustrating the ability of service vehicles to enter and exit the Site are attached in **Appendix D**.

5.3 PICK-UP / DROP-OFF FACILITIES

It is proposed to provide on-site pick up / drop off loops within the internal courtyard areas of each building as the primary location for accommodating the pick-up / drop-off (PUDO) activity associated with the Site.

Providing PUDO space within the Site will reduce the impact of short term parking needs associated with the residential uses on Site on the area road network, including Dufferin Street and the proposed new Public Streets.

6.0 BICYCLE PARKING CONSIDERATIONS

6.1 TORONTO GREEN STANDARDS REQUIREMENTS

The Site is subject to the minimum bicycle parking requirements set out in the City of Toronto Zoning By-law 569-2013. These requirements are consistent with the Toronto Green Standards (TGS) Version 4 Tier 1 (Bicycle Zone 2) cycling infrastructure requirements. **Table 15** summarizes the bicycle parking requirements for the Site.

TABLE 15 BICYCLE PARKING REQUIREMENTS (ZONING BY-LAW 569-2013 / TGS V.4 TIER 1 BICYCLE ZONE 2)

Use		Units / GFA [1]	Rate	Requirement (Minimum) [2]	
				Long-Term	Short-Term
Building A	Residential	388 units	Long-Term: 0.68 spaces / unit Short-Term: 0.07 spaces / unit	264 spaces	28 spaces
Building B		371 units		253 spaces-	26 spaces
Building C		75 units		51 spaces	6 spaces
Retail		1,365 m^2	N/A[3]	--	--
Sub-total by Type				**568 spaces**	**60 spaces**
Total Minimum Bicycle Parking Requirement				**628 spaces**	

Notes:
1. Based upon site statistics provided by gh3 on August 9, 2022.
2. The Zoning By-law 569-2013 specifies that bicycle parking calculations resulting in a fraction shall be rounded up to the nearest whole number.
3. Under Section 230.5.10.1(3), if a bicycle parking space is required for uses other than a dwelling unit on a lot and the interior floor area for such uses on the lot is 2,000 m^2 or less, then no bicycle parking space is required. As only a retail use is required to provide bicycle parking, the floor area for the total non-residential uses requiring bicycle parking is less than 2,000 m^2.

Application of the Toronto Green Standard (Zone 2 – Tier 1) and Zoning By-Law 569-2013 standards to the proposed development would require the provision of a minimum of 628 bicycle parking spaces (568 long-term and 60 short-term).

6.2 PROPOSED BICYCLE PARKING SUPPLY

Application of the proposed bicycle parking standards as outlined above requires a minimum of 630 bicycle spaces to support the proposed development, including 569 long-term spaces and 61 short-term spaces.

A total of 632 bicycle parking spaces are proposed for the Site, comprised of 576 long term and 56 short-term. Bicycle parking spaces are located at the Mezzanine level (Floor 1) and at grade.

The proposed bicycle parking supply meets and exceeds the standards outlined in Zoning By-law 569-2013 and the Toronto Green Standards Tier 1. As per Section 230.5.10.1(3) of Zoning By-law 569-2013, where the total space is less than 2,000 sq. metres GFA, bicycle parking for retail uses is not required.

The location of the bicycle parking areas is illustrated in the architectural plans, included in **Appendix A**.

7.0 TRAFFIC VOLUMES

7.1 ANALYSIS SCENARIOS AND HORIZONS

Traffic analyses have been completed for the following weekday morning and afternoon peak hour scenarios:

- **Existing Traffic** – volumes on the road network under existing conditions.
- **5-year Future Background Traffic** – volumes in the future prior to build-out of the Site which considers area growth and the *Dufferin Street Avenue Study TMP* (Jan 2015).
- **5-year Future Total Traffic** – volumes in the future after build-out of the Site, inclusive of area background growth.

7.2 EXISTING TRAFFIC VOLUMES

Base existing traffic volumes were established for the weekday morning and afternoon peak hours (the busiest hour of traffic between 7:30-9:30 am and 4:00-6:00 pm respectively) for intersections within the study area, based upon historical traffic count information collected by Spectrum Traffic Inc. on behalf of BA Group.

The traffic count information adopted as the basis for traffic operations analysis performed to assess the operational impacts of the proposed development is summarized in **Table 16**.

TABLE 16 EXISTING TRAFFIC COUNTS

Intersection	Date of Count	Source
Bridgeland Avenue / 3450 Dufferin Street	Tuesday, June 21, 2022	Spectrum Traffic Data Inc.
Dufferin Street / Bridgeland Avenue & Yorkdale Road		
Dufferin Street / Yorkdale Mall Access & Hwy 401 EB Off-Ramp		
Dufferin Street / Midtown Honda Access		
Dufferin Street / Jane Osler Blvd		
Dufferin Street / Cartwright Avenue		

The existing turning movement counts were reviewed in detail to ensure 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.

Weekday morning and afternoon peak hour traffic volumes in the study area adopted for this analysis are illustrated in **Figure 11**. Turning movement counts are attached in **Appendix E**.

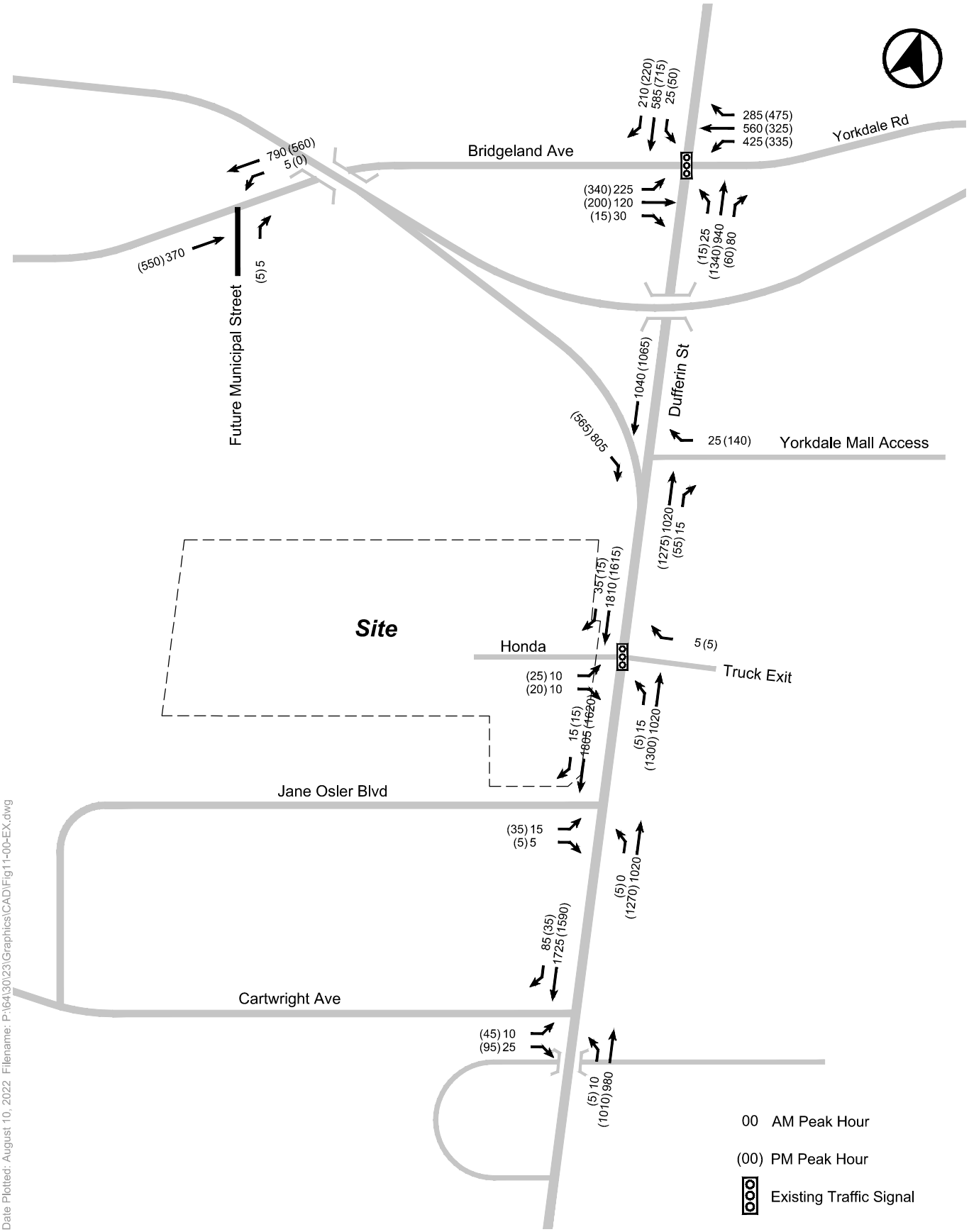

FIGURE 11 EXISTING TRAFFIC VOLUMES

7.3 BACKGROUND TRAFFIC VOLUMES

7.3.1 Background Development Growth

Allowances were made to account for new traffic generated by other development proposals in the area that are either under construction, approved, being reviewed or for which an application is expected to be submitted to the City in the near future. A total of 26 background developments were considered, and background developments included in this analysis are summarized in **Table 17** and illustrated in **Figure 12**.

The Yorkdale Block Master Plan (3401 Dufferin Street) involves the expansion of the existing shopping centre and the development of multiple residential and non-residential blocks on the existing shopping centre property. The Yorkdale Block Master Plan development is intended to take place in phases over the next 20 years and thus will not be completed by the horizon year (2027) of this study. Given that the phasing of the master plan is unclear at the moment, this report did not consider Yorkdale Block Master Plan when analyzing traffic generated by area background developments.

Trip generation rates and traffic assignments adopted for each background development are based upon the information contained in the traffic impact studies (TIS) prepared for each project. Where no traffic volumes and distributions were available for a specific background development, trip generation rates and traffic distribution assumptions have been adopted consistent with this development application.

Background developments traffic volumes are illustrated in **Figure 13**.

7.3.2 Corridor Traffic Growth

Historical weekday traffic volume counts at the Dufferin Street / Lawrence Avenue intersection were reviewed to determine:

- Changes in the traffic volumes along these corridors on a sustained basis over recent years during the weekday peak periods; and

- Appropriate allowances for future general corridor growth along these streets.

The observed trends indicate that, generally, there has been no growth in corridor traffic volumes on the area road network. Therefore, no ‘general’ corridor growth allowances have been made along Dufferin Street over and above the series of specific allowances made for other area development proposals for either horizon of consideration. Observed trends in traffic volumes are summarized in **Appendix F**.

7.3.3 Future Background Traffic Volumes

Future background traffic volumes, representing the sum of existing Site traffic volumes, corridor growth volumes and background development traffic volumes, are illustrated in **Figure 14**.

TABLE 17 BACKGROUND DEVELOPMENTS

Development		Development Statistics	Sources	Date	Status
1	3300 Dufferin Street	351 residential units 982 m^2 retail GFA	BA Group	Dec 2021	OMB Appeal
2	3080-3120 Dufferin Street	431 residential units 2,787 m^2 service centre GFA	BA Group	--	To be Submitted
3	3309 Dufferin Street	141 residential units 547 m^2 commercial GFA	BA Group	--	To be Submitted
5	3450 Dufferin Street	771 residential units 594 m^2 retail GFA 906 m^2 daycare GFA	BA Group	Sep 2021	SPA Under Review
6	Lawrence Heights (Phase 1) 1-87 Bredonhill Crt	848 market residential units 255 TCHC residential units	Dillon Consulting	Aug 2017	SPA Under Review
7	3280 Dufferin Street, 12-16 Orfus Road	352 residential units 246 m^2 commercial GFA	IBI Group	Jun 2021	ZBA Under Review
8	3180 Dufferin Street	555 residential units 1,454 m^2 retail GFA	BA Group	Feb 2021	ZBA Under Review
9	3140-3170 Dufferin Street	606 residential units 1,502 m^2 retail GFA	BA Group	Aug 2021	ZBA Under Review
10	3130 Dufferin Street	374 residential units 1,379 m^2 retail GFA	No TIS	--	OMB Appeal
11	50-70 Playfair Avenue	14,393 m^2 institutional GFA	BA Group	Mar 2021	SPA Under Review
12	3000 Dufferin Street	798 residential units 612 m^2 retail GFA	LEA Consulting Ltd.	Jul 2017	OMB Appeal
13	3019 Dufferin Street	105 residential units 438 m^2 retail GFA	BA Group	Dec 2016	OMB Approved
14	2433 Dufferin Street	69 residential units 148 m^2 commercial GFA	WSP	Dec 2016	Council Approved
15	713-723 Lawrence Avenue West	84 residential units	No TIS	--	OPA and Rezoning Closed
16	1886-1920 Eglinton Avenue West	194 residential units 1,211 m^2 retail GFA	LEA Consulting Ltd.	Jun 2021	SPA Under Review
17	1812-1818 Eglinton Avenue West	381 residential units 490 m^2 retail GFA	LEA Consulting Ltd.	Feb 2021	ZBA Under Review
18	1801-1807 Eglinton Avenue West	284 residential units 455 m^2 retail GFA	BA Group	Aug 2021	SPA Under Review
19	529 Marlee Avenue	84 residential units 362 m^2 retail GFA	Nextrans Consulting Engineers	Oct 2021	OMB Appeal
20	491 Glencairn Avenue	105 residential units 439 m^2 retail GFA	LEA Consulting Ltd.	Jan 2014	OMB Approved
21	412 Marlee Avenue	190 residential units	BA Group	Dec 2020	ZBA Under Review

Development		Development Statistics	Sources	Date	Status
22	831 Glencairn Avenue	218 residential units	No TIS	--	ZBA Closed
23	722-724 Marlee Avenue	28 residential units	Nextrans Consulting Engineers	Feb 2020	OMB Appeal
24	579 Lawrence Avenue West	25 residential units	Nextrans Consulting Engineers	Aug 2017	OMB Appeal
25	2402 Dufferin Street 4-10 Ramsden Road	405 residential units 883 m^2 retail GFA	LEA Consulting Ltd.	Nov 2021	ZBA Under Review
26	2451 Dufferin Street	462 residential units 706 m^2 retail GFA	WSP	Dec 2021	ZBA Under Review
27	2473-2483 Dufferin Street	109 residential units 392 m^2 commercial GFA	WSP	May 2022	ZBA Under Review
28	744-782 Marlee Avenue	301 residential units	LEA Consulting Ltd.	Dec 2021	ZBA Under Review
29	595 Lawrence Ave W	22 residential units	NexTrans	Oct 2020	Rezoning Under Review
30	111 Wenderly Dr 746-748 Marlee Ave	10 townhouse units	No TIS		Rezoning Closed, Under Construction
31	5788 Bathurst St	120 residential units 1,000 m^2 retail GFA 23 hotel units	BA Group	Sep 2019	Council Approved
32	151 Billy Bishop Way	3,950 m^2 auto dealership GFA	Paradigm	Feb 2021	ZBA Under Review
33	3621 Dufferin Street	166 residential units 23,560 m^2 storage GFA 3,467 m^2 retail GFA 5,691 m^2 office GFA	Parsons	Jun 2018	ZBA Under Review
34	1924-1928 Eglinton Ave W 5-7 Fairbank Ave	27 residential units	LEA Consulting Ltd	Jul 2019	Approved
35	645-655 Northcliffe Blvd	159 residential units	LEA Consulting Ltd	Oct 2021	OPA Under Review
Total		**9,174 residential units, 30,791 m^2 retail GFA, 15,299 m^2 institutional GFA, 23,560 storage GFA and 23 hotel units**			

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FIGURE 12 BACKGROUND DEVELOPMENT LOCATIONS

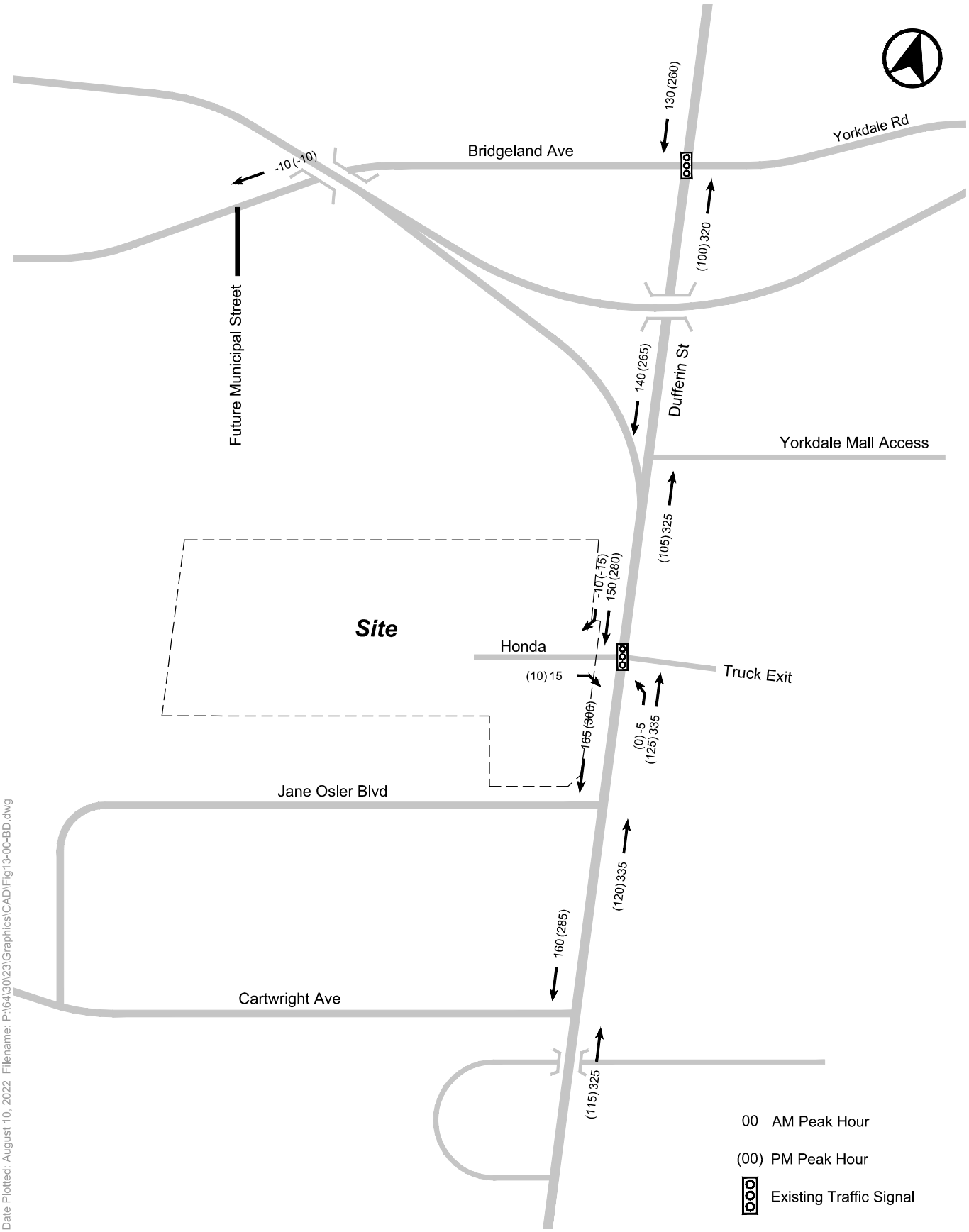


FIGURE 13 BACKGROUND DEVELOPMENT TRAFFIC VOLUMES

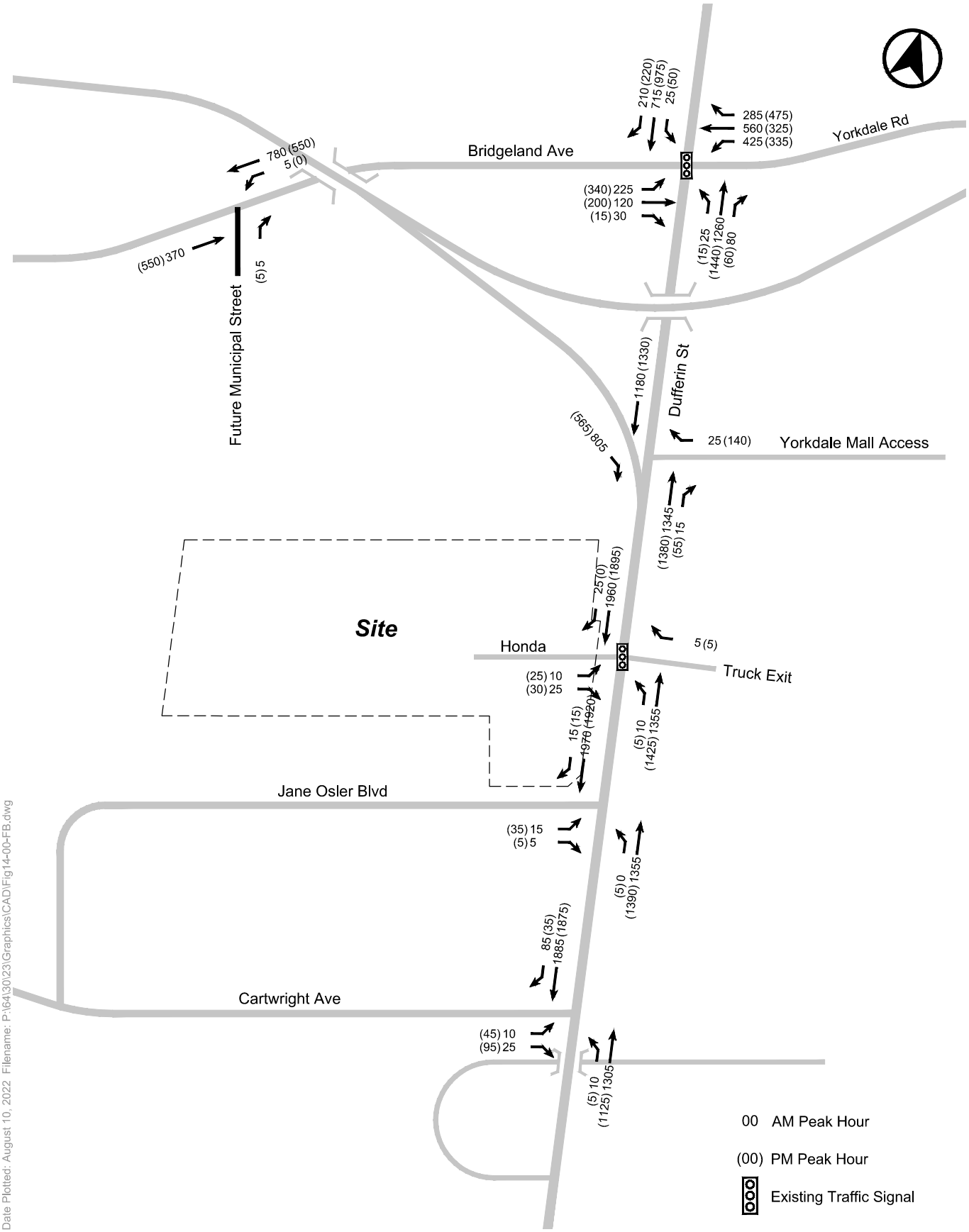


FIGURE 14 FUTURE BACKGROUND TRAFFIC VOLUMES

7.4 SITE TRAFFIC VOLUMES

7.4.1 Existing Site Traffic Volumes

Site traffic of the existing auto dealership was established based on field data collection conducted on behalf of BA Group at existing site driveways on June 21, 2022. Existing Site traffic is summarized in **Table 18**.

TABLE 18 EXISTING SITE TRAFFIC

	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Existing Site Traffic	**50**	**20**	**70**	**20**	**45**	**65**

The existing auto dealership generates in the order of 70 and 65 two-way vehicle trips during the weekday morning and afternoon peak hours, respectively. With the build-out of the proposed development, the existing retail plaza will be demolished. For this analysis, the existing site traffic was removed from the area road network.

7.4.2 Site Trip Generation

7.4.2.1 Residential Trip Generation

Forecast residential vehicular traffic generation for the Project is based on proxy site traffic surveys undertaken by BA Group at similar developments in North York. These rates are consistent with those applied for similar development applications in the immediate vicinity of the Site. Proxy trip rates are summarized in **Table 19**.

TABLE 19 PROXY RESIDENTIAL TRIP GENERATION RATE

Proxy Site Location	Survey Date	Units	AM Peak Hour			PM Peak Hour		
			In	Out	2-Way	In	Out	2-Way
800 & 830 Lawrence Ave W (Treviso Condos)	Wed, May 3, 2017	992	0.03	0.15	0.18	0.12	0.05	0.17
	Wed, Sept 20, 2017		0.03	0.15	0.17	0.13	0.05	0.18
2 & 8 Covington Rd (Crystal Towers & The Encore Condos)	Mon, Nov 21, 2016	294	0.08	0.11	0.19	0.14	0.07	0.21
	Wed, Jan 8, 2020		0.06	0.11	0.17	0.15	0.13	0.29
	Thu, Jan 9, 2020		0.04	0.12	0.17	0.15	0.10	0.25
Average Vehicle Trip Rate			**0.05**	**0.13**	**0.18**	**0.14**	**0.08**	**0.22**
Adopted Vehicle Trip Rate			**0.06**	**0.14**	**0.20**	**0.14**	**0.08**	**0.22**

Notes:
1. Proxy trip surveys conducted by BA Group at the aforementioned sites.
2. This information is property of BA Consulting Group Ltd. It should not be altered, abbreviated, taken out of context, or used for any purpose other than the intended purpose in connection with the 3400 Dufferin Street and 8 Jane Osler Boulevard development application.

Weekday morning and afternoon Site traffic volumes were projected using the vehicle trip rates from **Table 19**, as summarized in **Table 20**.

TABLE 20 RESIDENTIAL SITE TRAFFIC GENERATION

	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Trip Generation Rates (Trips / Unit)	0.06	0.14	0.20	0.14	0.08	0.22
Vehicle Trips - Building A (388 Units)	25	55	80	55	30	85
Vehicle Trips - Building B (371 Units)	20	50	70	50	30	80
Vehicle Trips - Building C (75 Units)	5	10	15	10	5	15
Total Site Vehicle Trips (834 Units)	**50**	**115**	**165**	**115**	**65**	**180**

The Project is expected to generate 165 two-way vehicle trips during the morning peak hour and 180 two-way vehicle trips during the afternoon peak hour.

7.4.2.2 Retail Site Trip Generation

The proposed retail uses are expected to operate ancillary to the overall development and are expected to primarily serve residents of the building and the immediate surrounding area. In this regard, vehicle trip generation associated with retail uses is expected to be minimal. For the purpose of this analysis, no additional trips were assumed to be generated by the proposed retail use during both the weekday morning and afternoon peak hours.

7.4.2.3 Site Trip Generation Summary

The net new vehicle trips expected as a result of the proposed development are summarized in **Table 21.**

TABLE 21 SITE VEHICULAR TRIP GENERATION SUMMARY

	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
New Residential Site Trips	50	115	165	115	65	180
New Retail Site Trips	0	0	0	0	0	0
Total New Site Trips	**50**	**115**	**165**	**115**	**65**	**180**
Existing Site Trips (To Be Removed)	-50	-20	-70	-20	-45	-65
Net New Site Trips	**0**	**95**	**95**	**95**	**20**	**115**

The existing site use generates 70 and 65 two-way trips during the morning and afternoon peak hours, respectively. The proposed site is expected to generate 165 and 180 two-way trips during the morning and afternoon peak hours, respectively. With the removal of the existing site traffic, the proposed development is expected to result in 95 and 115 net-new two-way trips during the morning and afternoon peak hours.

7.4.2.4 Comparison to Dufferin Street Transportation Master Plan

BA Group has determined the expected number of trips generated for 'Block 1' of the Dufferin Street TMP and compared it to the allowance in the TMP, as summarized in **Table 22**.

TABLE 22 COMPARISON OF 'BLOCK 1' TRIP GENERATION TO TMP ALLOWANCES (2015)

Source		AM Peak Hour	PM Peak Hour
		2-Way Trips	2-Way Trips
TMP (2015) Trip Generation	Block 1 Vehicle Trips (includes Residential, Street & Hotel)	**379**	**301**
Updated Trip Generation	3400 Dufferin Street (Site) Vehicle Trips	165	180
	Existing Site Traffic (To Be Removed)	-70	-65
	3450 Dufferin Street (Fitzrovia) Vehicle Trips[1]	147	170
	Total Trips	***242***	***285***
Difference		**-137**	**-16**

Notes:
1. Trips estimated by BA group using statistics from SPA submission package #2, June 7, 2021.

The proposed development programme results in substantially fewer trips generated on the Dufferin Street corridor than originally anticipated in the TMP during both the weekday morning and afternoon peak hours. This indicates that there exists capacity for additional density within the Dufferin Street Secondary Plan area before the trip generation threshold associated with the preferred land use scenario in the TMP is reached.

The large differences between trip estimates on Block 1 as part of the TMP and in this update are primarily a result of two factors:

1. The TMP assumed that the traffic generated by new development would be in addition to the existing land uses and associated traffic. However, many of the development applications for the larger blocks propose to replace existing uses with new development resulting in small or even negative changes in the number of vehicle trips generated depending on the size and type of uses being proposed.

2. Vehicle trip generation rates in the TMP for residential uses are overly conservative, 41-53% higher than the trip generation rates ultimately agreed upon by the City to be used in future studies.

7.4.3 Toronto Green Standard Trip Reduction

The Toronto Green Standard (TGS) is Toronto's sustainable design requirement for new developments that aim to promote the sustainable site and building design across five areas. 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. A new Version 4 of the TGS is applicable to development applications submitted after May 1, 2022.

The Tier 1 standard within the updated TGS requires all development proposals to reduce single-occupancy auto vehicle trips generated by the Project by 25% through the adopted TDM measures and multi-modal infrastructure strategies for the Site.

To achieve a 25% reduction in trips, this development provides parking at a rate of 0.25 spaces per unit, compared to the current zoning requirement of 0.86 spaces per unit. This represents a 71% reduction in parking supply, and this reduced parking supply will result in a lower percentage of vehicle ownership among Site residents. Significantly lower levels of car ownership will result in fewer single occupancy vehicle trips being produced by the site. In addition, the TDM measures applied at this site, such as the provision of local transit information and bicycle parking, will encourage the use of transit and active transportation among residents.

7.4.4 Site Trip Distribution and Assignment

The residential directional distribution for auto-related site traffic was derived based on a review of peak direction, and peak period high-rise residential trips made to and from the site vicinity as queried from the 2016 Transportation Tomorrow Survey (TTS) database. **Table 23** summarizes the resultant directional distribution pattern to and from the site for residential land use. Detailed TTS queries are attached in **Appendix G**.

TABLE 23 SITE TRIP DISTRIBUTION

Directions	Inbound[2]	Outbound[1]
To / From the North on Dufferin Street	0%	5%
To / From the South on Dufferin Street	20%	20%
To / From the East on Highway 401	15%	15%
To / From the West on Highway 401	40%	25%
To / From the East on Ranee Avenue	0%	10%
To / From the East on Lawrence Avenue	15%	15%
To / From the West on Lawrence Avenue	5%	10%
To / From the South on Allen Road	5%	0%
Total	**100%**	**100%**

Notes:
1. Based upon morning peak period residential outbound trips
2. Based upon afternoon peak period residential inbound trips
3. Based on TTS data on trips to/from households in zones 155, 157, 158, 178, 179, 180

New Site traffic generated by the development was assigned to the surrounding road network by the directional distribution summarized above in **Table 23**. Existing site traffic volumes are illustrated in **Figure 15**. Site traffic volumes for the weekday morning and afternoon peak hours are illustrated in **Figure 16**. Net new site traffic volumes for the weekday morning and afternoon peak hours are illustrated in **Figure 17**.

7.4.5 Multi-Modal New Site Trip Generation

In addition to vehicular trip generation, BA Group has forecasted site activity levels for other travel modes using modal split information collected from the 2016 TTS survey data, as well as Project-related traffic forecasts, as summarized in **Table 24**. Detailed TTS queries are provided in **Appendix G**.

TABLE 24 MULTI-MODAL NEW SITE TRIP GENERATION

Mode	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Area Mode Split						
Driver	41%	45%		41%	45%	
Passenger	11%	14%		11%	14%	
Transit	41%	36%		41%	36%	
Walk	7%	5%		7%	5%	
Cycle	0%	0%		0%	0%	
Total	**100%**	**100%**		**100%**	**100%**	
Multi-Modal Trip Generation						
Driver	39	88	127	91	50	141
Passenger	11	27	38	24	15	39
Transit	39	70	109	91	40	131
Walk	7	10	17	15	6	21
Cycle	0	0	0	0	0	0
Total	**96**	**195**	**291**	**221**	**111**	**332**

Notes:
1. Inbound mode splits based on afternoon peak period residential inbound trips
2. Outbound mode splits based on morning peak period residential outbound trips
3. Based on TTS data on trips to/from households in zones 155, 157, 158, 178, 179, 180

Based on the above multi-modal trip generation, the proposed development would generate 291 two-way person trips in the morning peak period and 332 two-way person trips in the afternoon peak period.

7.5 FUTURE TOTAL TRAFFIC VOLUMES

Future total traffic volumes which reflect the addition of existing area traffic volumes, background traffic volumes and net new Site traffic volumes are illustrated in **Figure 18**.

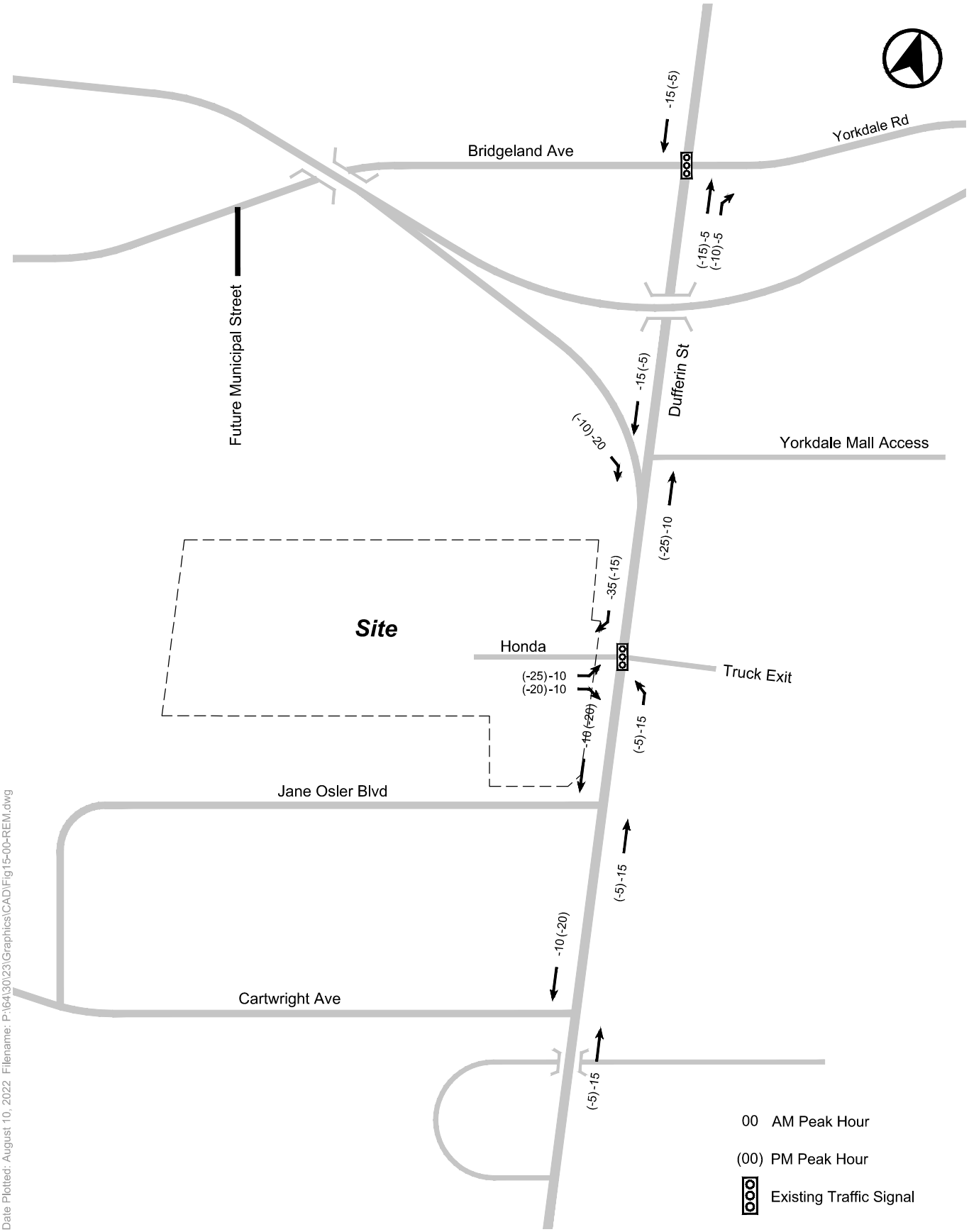


FIGURE 15 REMOVAL OF EXISTING SITE TRAFFIC VOLUMES

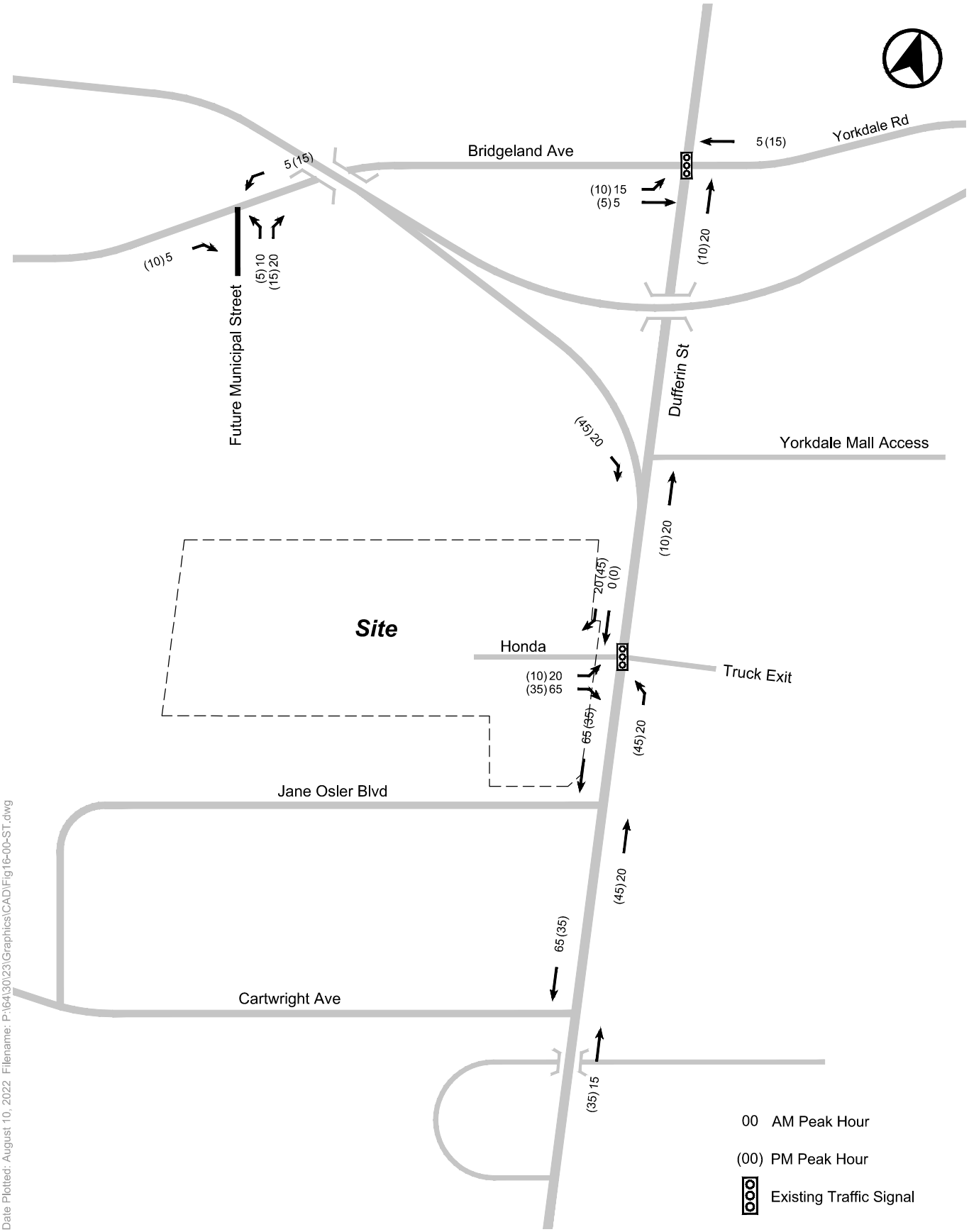
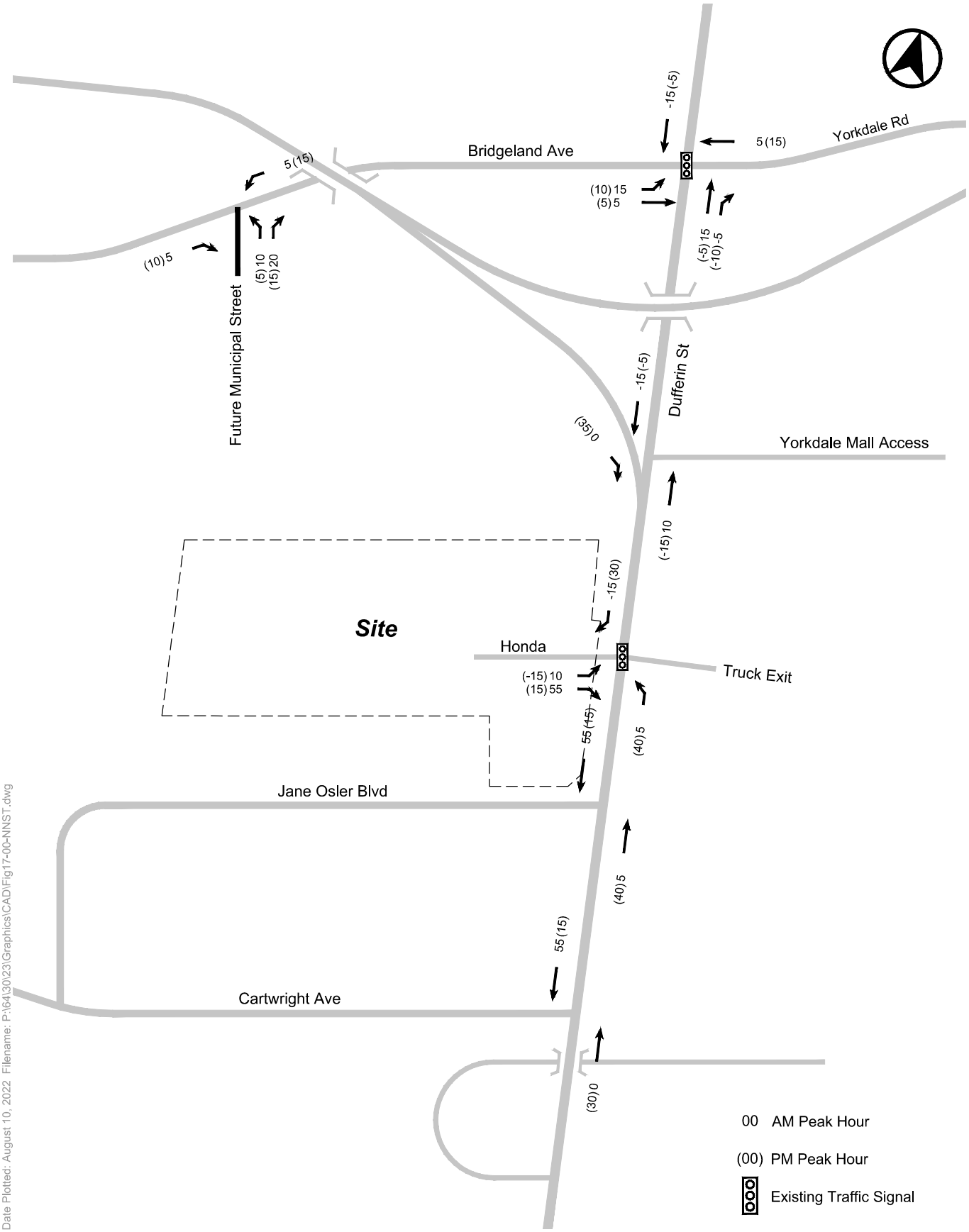


FIGURE 16 NEW SITE TRAFFIC VOLUMES



Date Plotted: August 10, 2022 Filename: P:\6430\23\Graphics\CAD\Fig17-00-NNST.dwg

FIGURE 17 NET NEW SITE TRAFFIC VOLUMES

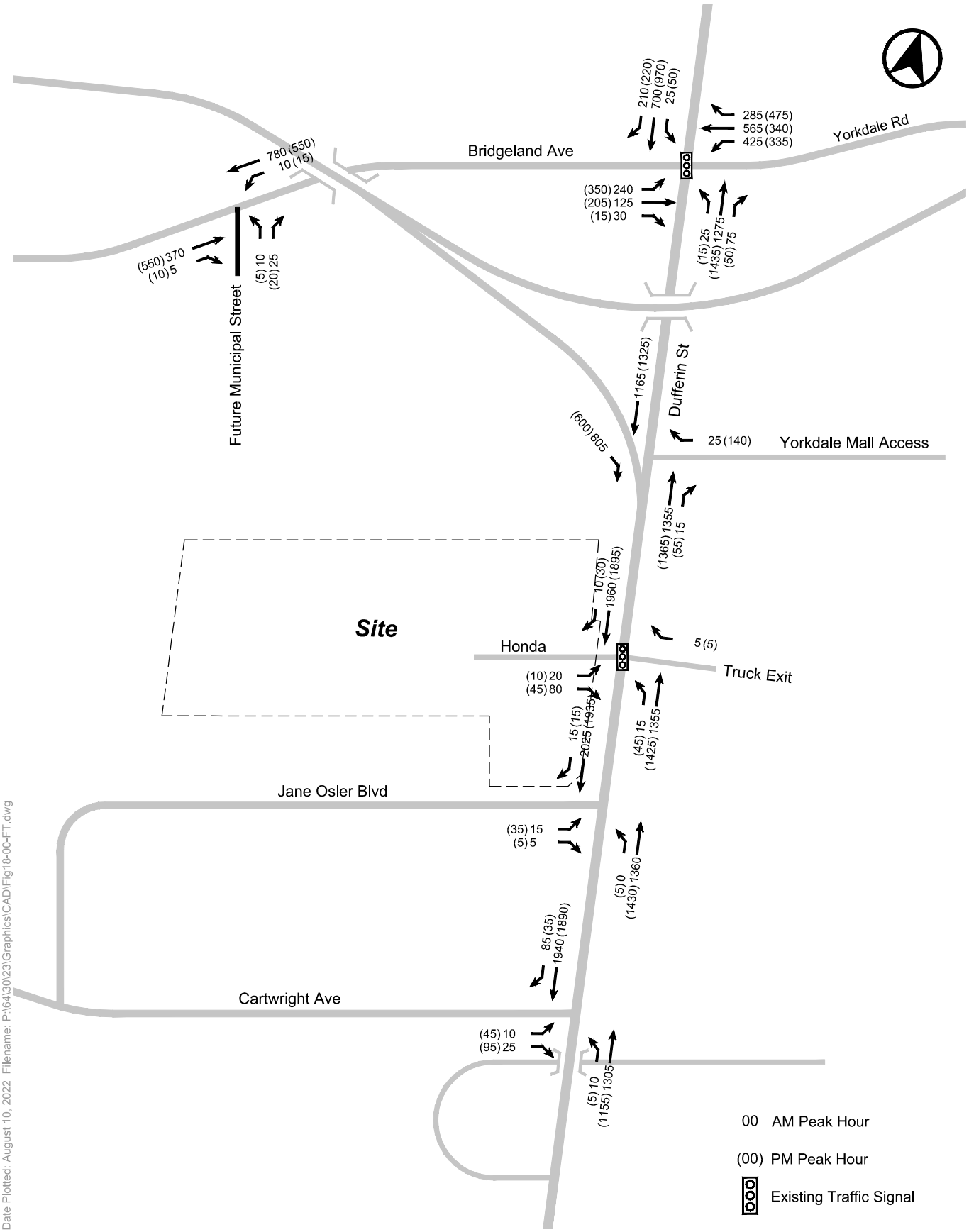


FIGURE 18 FUTURE TOTAL TRAFFIC VOLUMES

8.0 VEHICLE CAPACITY ANALYSIS

8.1 ANALYSIS METHODOLOGY

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

Signalized Intersections:

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, and in accordance with the City of Toronto's guidelines for analyses undertaken using Synchro 11.0 software. The product of the signalized intersection evaluation is an intersection performance index (volume to capacity ratio or v/c), where a v/c index of 1.00 indicates 'at or near capacity' conditions.

Unsignalized Intersections:

Unsignalized intersection analyses have been carried out using standard capacity procedures for intersections operating under "Two-way" and "All-Way" STOP control and in accordance with the methodologies outlined in the Highway Capacity Manual 2000 (HCM, 2000).

The product of these analyses is a level of service (LOS) designation, ranging from LOS of A to F; which provides a relative indication of the level of delay experienced by motorists completing a turning 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.

HCM level of service (LOS) criteria for unsignalized intersections are as follow:

- LOS A: Control Delay ≤ 10s
- LOS B: 10s < Control Delay ≤ 15s
- LOS C: 15s < Control Delay ≤ 25s
- LOS D: 25s < Control Delay ≤ 35s
- LOS E: 35s < Control Delay ≤ 50s
- LOS F: Control Delay > 50s

8.2 ANALYSIS PARAMETERS

Key analysis parameters were assumed based on requirements contained in the City of Toronto's *Guidelines for Using Synchro 11 (Including SimTraffic 11)* (January 2021), summarized as follows:

Network Assumptions

The existing area road network lane configuration and traffic control are illustrated in **Figure 4**.

The Project would build a new East-West Municipal street which runs east-west from Dufferin Street to the west side of the Site where it would turn north to connect to the new North-South Municipal Street which is being constructed as part of the development project to the north (3450 Dufferin Street). A Crescent Municipal Street

is also proposed to run between Buildings A and B and connect to the North-South Municipal Street constructed as part of the 3450 Dufferin Street development project.

Existing Signal Timing

Existing signal timings, phasing plans, and cycle lengths were obtained from the City of Toronto. Existing signal timings plans are provided in **Appendix H**.

Future Signal Timing

Existing signal timings were maintained during the analysis of future conditions whenever possible. When necessary, signal timings were optimized under future background and future total conditions, including the following:

- It is proposed to extend the cycle length of all signalized intersections along the Dufferin Street corridor to 110 seconds.

Base Saturation Flow Rates

The City of Toronto *Guidelines for Using Synchro 11 (Including SimTraffic 11)* (January 2021), specifies a base saturation flow rate of 1,900 passenger cars per hour of green time per lane (pcphgpl) for signalized and unsignalized intersections. These default rates were adopted in the analysis for the proposed development.

Heavy Vehicle Assumptions

Heavy and medium truck percentages incorporated into the analysis were based upon information provided as part of intersection turning movement counts.

Saturation Flow Assumptions

The City of Toronto *Guidelines for using Synchro 11*, January 2021, specify a base saturation flow rate of 1,900 passenger cars per hour of green time per lane (pcphgpl) for signalized and unsignalized intersections. These default rates were adopted in the analysis.

Lost Time Adjustments

The City of Toronto *Guidelines for using Synchro 11* specifies 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 of all study area intersections except the Dufferin Street / Bridgeland Avenue-Yorkdale Road intersection. The lost time adjustment calibration is discussed in Section

Peak Hour Factor

The City of Toronto *Guidelines for using Synchro 11*, specifies that default peak hour factors should be used except where site-specific values can be calculated from existing traffic count information. Values computed from available traffic counts were adopted in the analysis.

Lane Utilization Factors

Under existing conditions, default Synchro lane utilization factors (LUF) were adopted, which take into consideration the distribution of individual lane usage within each movement group.

8.3 MODEL CALIBRATIONS

Where necessary, default base analysis inputs (i.e. lane utilization, protected turning lane factors and lost time adjustments) were calibrated/adjusted in order for the traffic operations analyses of existing conditions to appropriately reflect actual operating conditions. The calibrations of existing conditions analyses, where required, were undertaken to provide volume-to-capacity (v/c) ratios of no more than 1.0 under existing conditions under existing signal timings.

Key in this regard is that observed hourly traffic volumes adopted in the analyses of existing conditions were, in fact, processed by the area intersections under existing signal timings. Turning movement capacity levels have to be, given this, at least equivalent to (if not more than) the existing observed traffic volumes on each movement in order for traffic volumes to be processed through an intersection (i.e. a v/c ratio of 1.0 or less).

The calibration assumptions that have been assumed as part of this study are listed below.

Dufferin Street / Bridgeland Avenue & Yorkdale Road

Weekday morning peak hour

- eastbound left movement
    - lost time adjusted from -1.0 to -3.0
    - left turn factor (protected) adjusted from 0.95 to 1.0
- northbound through movement
    - lost time adjusted from -1.0 to -2.0
    - lane utilization factor adjusted from 0.95 to 1.0

Weekday afternoon peak hour

- eastbound left movement
    - lost time adjusted from -1.0 to -2.5
    - left turn factor (protected) adjusted from 0.95 to 1.0
- northbound through movement
    - lost time adjusted from -1.0 to -3.0
    - lane utilization factor adjusted from 0.95 to 1.0

These calibration adjustments were applied under existing conditions (existing traffic and signal timing plans) and were carried forward under future conditions.

8.3.1 Delay Calibration

The control delay at the following unsignalized intersections was calibrated/adjusted under existing conditions to appropriately reflect actual operation conditions:

- Dufferin Street / Jane Osler Boulevard
- Dufferin Street / Cartwright Avenue

Recognizing Dufferin Street is a busy corridor with high traffic demand, it is anticipated that vehicles turning from the minor side street approaches onto Dufferin Street will experience long delays. Given the high traffic demand along Dufferin Street, it is very common for 'courtesy gaps' to occur where vehicles are permitted to complete a turning manoeuvre with permission granted by the free-flowing vehicles. This type of incident is particularly seen at unsignalized intersections when adjacent to a signalized intersection and vehicles are required to wait at the traffic signal. Due to the allowances for 'courtesy gaps', it is reasonable to assume the default critical and follow-up gap acceptance times in the Synchro model at the unsignalized intersections are quite conservative. Therefore, BA Group has adopted a 6-second critical gap acceptance time and a 3-second follow-up gap acceptance time for the purposes of this analysis.

BA Group has conducted numerous delay studies in the area and the City of Toronto at unsignalized intersections along busy major arterial corridors. These delay studies, on average, demonstrate 6 seconds and 3 seconds of critical and follow-up gap acceptance times or better, respectively. These delay studies have been adopted and accepted by the City for numerous traffic studies completed in the area by BA Group. Therefore, it is considered reasonable to adopt these parameters for the purposes of this analysis.

8.3.2 Transit Signal Priority

The Dufferin Street corridor uses a priority transit signal phase which allows transit vehicles to extend green time via detection with a start loop and stops that extension when it reaches the maximum time or the transit vehicle passes over the cancel loop before the maximum allowable extension. The transit signal priority (TSP) influences intersection operations due to variable signal cycle length with transit actuations each cycle. A signal timing study was undertaken to calibrate the Synchro model to reflect the effects of TSP extensions as observed in the field. The detailed calibration study is provided in **Appendix I**. The signal timing plans are provided in **Appendix H**.

Synchro cannot directly model transit actuations. However, BA Group has included two dummy north-south phases to represent the existing extensions actuated by the Dufferin Street buses, represented as "pedestrian" calls, at the intersection Dufferin Street / Midtown Honda Auto Dealership Access-New Municipal Street. Based on the observed actuation of the TSP phases and the resultant distribution of cycle lengths at these intersections, the "pedestrian" calls and minimum extension for the TSP phases have been calibrated as summarized in **Table 25**.

TABLE 25 DISTRIBUTION OF OBSERVED AND SYNCHRO MODELLED TSP CYCLE LENGTHS

Percentile	Observed		Model Parameters	
	AM Peak	PM Peak	AM Peak	PM Peak
90th Percentile	130	130	141	141
70th Percentile	129	130	120	136
50th Percentile	119	120	106	113
30th Percentile	100	114	89	112
10th Percentile	90	100	77	99

Notes:
1. Cycle lengths are in seconds

8.4 SIGNALIZED INTERSECTION ANALYSIS

Traffic operations analysis results and discussion for the area signalized intersections for the existing, future background and future total conditions are summarized in the following sections. Detailed capacity analysis reports are provided in **Appendix J**.

8.4.1 Dufferin Street / Bridgeland Avenue-Yorkdale Road

The intersection Dufferin Street / Midtown Honda Auto Dealership Access-New Municipal Street currently operates with a cycle length of 100 seconds. Synchro calibrations related to this intersection are discussed in **Section 8.3**. The results of the signalized intersection traffic operations analyses undertaken for the Dufferin Street / Bridgeland Avenue-Yorkdale Road are summarized in **Table 26**.

TABLE 26 DUFFERIN STREET / ORFUS ROAD CAPACITY ANALYSIS RESULTS

Lane Group	Existing		Future Background		Future Total	
	v/c	LOS	v/c	LOS	v/c	LOS
EBL	1.00 (0.95)	F (E)	0.90 (0.92)	E (E)	0.98 (0.98)	F (E)
EBTR	0.25 (0.38)	C (C)	0.25 (0.38)	C (C)	0.26 (0.39)	C (C)
WBL	0.83 (0.82)	D (D)	0.85 (0.82)	D (D)	0.85 (0.83)	D (D)
WBT	0.90 (0.59)	D (C)	0.97 (0.60)	E (C)	0.98 (0.63)	E (D)
WBR	0.33 (0.88)	C (D)	0.39 (0.97)	C (E)	0.40 (0.97)	C (E)
NBL	0.15 (0.12)	B (B)	0.17 (0.17)	C (C)	0.16 (0.17)	C (C)
NBT	0.78 (1.00)	C (D)	0.99 (1.00)	E (D)	1.00 (0.99)	E (D)
NBR	0.06 (0.04)	D (C)	0.06 (0.04)	C (C)	0.06 (0.04)	C (C)
SBL	0.19 (0.30)	C (C)	0.22 (0.34)	C (C)	0.22 (0.34)	C (C)
SBTR	0.64 (0.71)	C (C)	0.72 (0.86)	C (D)	0.71 (0.85)	C (D)
Overall	**0.83 (0.93)**	**D (D)**	**0.95 (0.96)**	**D (D)**	**0.97 (0.97)**	**D (D)**

Notes:
1. 00 (00): Weekday morning peak hour (Weekday afternoon peak hour).

Under existing conditions, the intersection operates under busy but acceptable conditions with an overall v/c ratio of 0.83 during the weekday morning peak hour and 0.93 during the afternoon peak hour. The maximum v/c ratio for any individual movement is 1.00 on the eastbound left movement in the weekday morning peak hour.

It is proposed to extend the cycle length of this intersection from the existing 100 seconds to 110 seconds and optimize splits of all phases during both weekday morning and afternoon peak hours. Additionally, it is proposed to extend the cycle length of all signalized intersections along the Dufferin Street corridor to 110 seconds to retain coordination.

Under future background conditions, with the addition of background traffic and proposed optimization of the traffic signal, the intersection will continue to operate under busy but acceptable conditions with overall v/c ratios of 0.95 and 0.96 during the morning and afternoon peak hours, respectively. The maximum v/c ratio for any individual movement is 0.97 on the southbound left movement in the weekday morning peak hour.

Under future total conditions, with the addition of Site traffic, the intersection will continue to operate under busy but acceptable conditions with overall v/c ratios of 0.97 during both morning and afternoon peak hours. The maximum v/c ratio for any individual movement is 1.00 on the northbound through movement in the weekday morning peak hour.

It is recommended that the operation of this intersection be monitored in the future. Notwithstanding the above, the addition of Site traffic has limited impacts on the overall intersection operations. All individual movements and the intersection overall would continue to operate at acceptable levels of service and within capacity.

8.4.2 Dufferin Street / Midtown Honda Auto Dealership-New Municipal Street

The intersection Dufferin Street / Midtown Honda Auto Dealership Access-New Municipal Street currently operates with a cycle length of 100 seconds and is equipped with Transit Signal Priority. Synchro calibrations related to TSP are discussed in **Section 8.3.2**. The results of existing traffic operations without and with TSP are summarized in **Table 27**.

TABLE 27 DUFFERIN STREET / MIDTOWN HONDA AUTO DEALERSHIP ACCESS-NEW MUNICIPAL STREET (EXISTING CONDITIONS)

Lane Group	Existing (Without TSP)		Existing (With TSP)	
	v/c	LOS	v/c	LOS
EBL	0.08 (0.12)	D (D)	0.07 (0.15)	D (D)
EBR	0.01 (0.01)	D (D)	0.01 (0.01)	D (D)
WBTLR	0.01 (0.01)	D (D)	0.01 (0.01)	D (D)
NBL	0.14 (0.03)	A (A)	0.27 (0.08)	C (C)
NBT	0.29 (0.38)	A (A)	0.28 (0.35)	A (A)
SBTR	0.51 (0.46)	A (A)	0.49 (0.41)	A (A)
Overall	**0.47 (0.41)**	**A (A)**	**0.47 (0.41)**	**A (A)**

Notes:
1. 00 (00): Weekday morning peak hour (Weekday afternoon peak hour).

As a result of the extension of green time in the north-south direction, the addition of TSP will increase the capacity of the north-south through movements but reduce the capacity of other movements. The introduction of TSP does not have a visible impact on the overall v/c ratios of the intersection during the weekday afternoon peak hour.

The results of the signalized intersection traffic operations analyses undertaken for Dufferin Street / Midtown Honda Auto Dealership Access-New Municipal Street are summarized in **Table 28**.

TABLE 28 DUFFERIN STREET / MIDTOWN HONDA AUTO DEALERSHIP ACCESS-NEW MUNICIPAL STREET CAPACITY ANALYSIS RESULTS

Lane Group	Existing		Future Background		Future Total	
	v/c	LOS	v/c	LOS	v/c	LOS
EBL	0.08 (0.13)	D (D)	0.09 (0.13)	D (D)	0.14 (0.05)	D (D)
EBR	0.01 (0.02)	D (D)	0.02 (0.02)	D (D)	0.32 (0.06)	D (D)
WBTLR	0.01 (0.01)	D (D)	0.01 (0.01)	D (D)	0.01 (0.01)	D (D)
NBL	0.14 (0.03)	A (A)	0.11 (0.05)	A (A)	0.16 (0.45)	A (B)
NBT	0.29 (0.38)	A (A)	0.39 (0.41)	A (A)	0.40 (0.41)	A (A)
SBTR	0.51 (0.46)	A (A)	0.53 (0.52)	A (A)	0.54 (0.53)	A (A)
Overall	**0.47 (0.41)**	**A (A)**	**0.49 (0.46)**	**A (A)**	**0.52 (0.46)**	**A (A)**

Notes:
1. 00 (00): Weekday morning peak hour (Weekday afternoon peak hour).

Under existing conditions, the intersection operates under acceptable conditions with an overall v/c ratio of 0.47 during the weekday morning peak hour and 0.41 during the afternoon peak hour. The maximum v/c ratio for any individual movement is 0.51 on the southbound through-right movement in the weekday morning peak hour.

Under future background conditions, it is proposed to extend the cycle length of this intersection from the existing 100 seconds to 110 seconds and optimize splits of all phases during both weekday morning and afternoon peak hours in order to retain in coordination with other signals (namely the Dufferin Street / Bridgeland Avenue-Yorkdale Road intersection) along Dufferin Street. With the addition of background traffic and proposed signal timing adjustments, the intersection will continue to operate under acceptable conditions with overall v/c ratios of 0.49 and 0.46 during the morning and afternoon peak hours, respectively. The maximum v/c ratio for any individual movement is 0.53 on the southbound through-right movement in the weekday morning peak hour.

Under future total conditions, with the addition of Site traffic, the intersection will continue to operate under acceptable conditions with overall v/c ratios of 0.52 and 0.46 during the morning and afternoon peak hours, respectively. The maximum v/c ratio for any individual movement is 0.54 on the southbound through-right movement in the weekday morning peak hour.

The TSP calibrations were not maintained for the analysis of future conditions. Given the changes in future traffic, the TSP may not be actuated as often and hence the existing calibrations may not be applicable to future conditions. Under existing conditions, the overall impact of TSP does not have a visible impact on the overall v/c ratios of the intersection during the weekday afternoon peak hour. The addition of TSP may have a similar impact in the future depending on traffic volumes, transit frequencies, as well as timing and operation patterns in the future, which might be adjusted based on the City's decision to prioritize surface transit operations or local vehicular traffic operations at this intersection.

Notwithstanding the above, the addition of Site traffic has limited impacts on the overall intersection operations. All individual movements and the intersection overall would continue to operate at acceptable levels of service and within capacity.

8.5 UNSIGNALIZED INTERSECTION ANALYSIS

The results of the unsignalized intersection traffic operations analyses are summarized in **Table 29**. Detailed Synchro analysis worksheets are attached in **Appendix J**.

TABLE 29 UNSIGNALIZED INTERSECTIONS CAPACITY ANALYSIS RESULTS

Lane Group	Existing		Future Background		Future Total	
	LOS	Delay	LOS	Delay	LOS	Delay
Dufferin Street / Highway 401 Eastbound Off-Ramp-Yorkdale Mall Access						
EBR	F (F)	221.7 (61.0)	F (F)	268.5 (119.2)	F (F)	262.7 (144.2)
WBR	A (A)	9.6 (9.7)	A (A)	9.8 (9.7)	A (A)	9.5 (9.7)
Dufferin Street / Jane Osler Blvd						
EBLR	E (F)	47.7 (62.6)	F (F)	80.1 (133.6)	F (F)	86.1 (143.5)
NBL	A (B)	0.0 (13.1)	A (C)	0.0 (15.5)	A (C)	0.0 (15.6)
Dufferin Street / Cartwright Avenue						
EBLR	D (E)	29.8 (44.2)	F (F)	55.6 (134.6)	F (F)	60.4 (150.3)
NBL	C (B)	15.9 (12.9)	C (C)	18.1 (15.2)	C (C)	18.6 (15.4)
Bridgeland Avenue / 3450 Dufferin St Driveway						
WBTL	A (A)	0.2 (0.0)	A (A)	0.2 (0.0)	A (A)	0.3 (0.4)
NBLR	B (B)	10.6 (12.9)	B (B)	10.6 (12.9)	C (C)	17.7 (16.1)

Notes:
1. 00 (00): Weekday morning peak hour (Weekday afternoon peak hour).
2. Control delay calculated in seconds

Under existing traffic conditions, the eastbound movements onto Dufferin Street operate under constrained conditions with control delays of 30 to 222 seconds during the weekday morning peak hour and 44 to 63 seconds during the weekday afternoon peak hour. Existing levels of delay are observed to be affected by the lower number of available safe gaps between the high volume of conflicting pedestrians and vehicles. The left-turning movements from Dufferin Street operate with LOS A to C during both the weekday morning and afternoon peak hours.

Under future background conditions, with the addition of the background traffic volumes, the eastbound movements onto Dufferin Street are expected to continue to operate under constrained conditions with control delays of 56 to 269 seconds during the weekday morning peak hour and 119 to 135 seconds during the weekday afternoon peak hour. It is noteworthy that this condition will occur regardless of any development on the Site.

Under future total conditions, with the addition of site-generated traffic, the eastbound movements onto Dufferin Street are expected to continue to operate under constrained conditions with control delays of 86 to 263 seconds during the weekday morning peak hour and 144 to 150 seconds during the weekday afternoon peak hour.

However, the overall site impacts on the intersections are minimal compared to background traffic. It is also important to note that the proposed development does not add site traffic to the most critical movements (eastbound movements onto Dufferin Street) except at the Highway 401 Eastbound Off-Ramp during the afternoon peak hour.

Furthermore, a characteristic of the HCM 2000 analysis methodology for unsignalized intersections is that once a certain average vehicle delay threshold is exceeded, any modest increment in the major street traffic stream (along Dufferin Street) results in a substantial increase in predicted vehicle delays of the minor street traffic stream (Highway 401 Eastbound Off-Ramp-Yorkdale Mall Access, Jane Osler Blvd and Cartwright Avenue). As such, the analysis results indicate a significant increase in vehicle delay for the eastbound movements under the future background and future total conditions. This is despite the fact that volume increases along Dufferin Street in the future total are anticipated to be relatively minor.

Notwithstanding the above, at busy intersections in the City of Toronto, we are seeing a trend in urban conditions where these theoretical increases in delay are not realized for a number of reasons. Generally speaking, this is because i) motorists find different routes that are less busy, ii) motorists shift to other time periods outside of the peak period, iii) more people work from home; and iv) more people choose to take alternative modes of transportation or choose different living arrangements such that they do not need a vehicle to travel to work on a daily basis.

Based on the foregoing, recognizing the small impact the site is projected to have and given the continued shift towards non-auto modes in the area as it builds out, the site-related traffic activity can acceptably be accommodated by the key area unsignalized intersections.

8.6 OVERALL TRAFFIC OPERATIONS SUMMARY

Based on the analysis conducted by BA Group, the forecast vehicle Site traffic generated by the Project will have limited impacts on the overall operation of the network signalized and unsignalized intersections. It is proposed to extend the cycle length of this intersection from the existing 100 seconds to 110 seconds and optimize splits of all phases during both weekday morning and afternoon peak hours. Additionally, it is proposed to extend the cycle length of all signalized intersections along the Dufferin Street corridor to 110 seconds to retain coordination. It is recommended that the operation of this intersection be monitored in the future. With the proposed improvements, all of the study area signalized and unsignalized intersections can acceptably accommodate Project-related traffic activity.