CITY OF RICHMOND HILL

CROSBY AVENUE EXTENSION FEASIBILITY STUDY

RICHMOND HILL

MAY 29, 2025

FINAL REPORT

CROSBY AVENUE EXTENSION FEASIBILITY STUDY

RICHMOND HILL

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FINAL REPORT - VERSION 2.2

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WSP
105 COMMERCE VALLEY DRIVE WEST
THORNHILL, ON
CANADA L3T 7Z3

T: +1 905 882-1100
F: +1 905 882-0055
WSP.COM

REVISION HISTORY

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Prepared by	**Reviewed by**	**Approved By**
Matan Yihia, Transportation Planner	Shawn Smith, Lead Engineer	Shawn Smith, Lead Engineer

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May 29, 2025		
Prepared by	**Reviewed by**	**Approved By**
Matan Yihia, Senior Transportation Planner	Shawn Smith, Lead Engineer	Shawn Smith, Lead Engineer

SIGNATURES

PREPARED BY

May 16, 2025

Matan Yihia
Transportation Planner

Date

APPROVED[1] BY

May 29 2025

Shawn Smith, P.Eng.
Lead Engineer

Date

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CONTRIBUTORS

CLIENT

Review	Irfan Akram
	Hubert Ng
	Tong Wang

WSP

Transportation Planning and Science	Shawn Smith
	Matan Yihia
	Patrick Malloy
	Joshua Tong
	Shubham Bohra
	Devashree Rege
	Stefan Papuc
	Dave McLaughlin

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EXECUTIVE SUMMARY

The City of Richmond Hill ("the City") has undertaken a strategic initiative to enhance connectivity, improve traffic flow, and promote Active Transportation through the planning of a new local road within the Village Local Centre of Richmond Hill and hereon in referred to as the **Crosby Avenue Extension**. This project aligns with the City's Transportation Master Plan and Official Plan, underscoring its significance in facilitating growth and development within the community.

The Crosby Avenue Extension Feasibility Study reviewed extending Crosby Avenue to a new north-south road on the west side of Yonge Street connecting Benson Avenue and Wright Street. **This planned road is not expected to serve as a relief road for Yonge Street to alleviate existing traffic conditions. The intention of the road is to support access for future development growth in the area and improved access management for development parcels by having vehicular access via Crosby Avenue rather than multiple access points along Yonge Street.**

Various alternative alignment design options were developed and assessed based on design criteria, site observations, background information, stakeholder feedback and discussions with City staff. The evaluation criteria included property impact, geometric constraints, safety and public realm.

Two virtual stakeholder meetings were held during the project process. The first meeting provided stakeholders with an opportunity to ask questions and offer feedback on the project and alternative alignment options. A preferred alternative was identified, and a functional design was prepared, incorporating comments and feedback from the first meeting. The preferred alignment was presented in a second stakeholder meeting.

Traffic analysis was conducted as part of the study to assess the impact of the road extension on the surrounding road network to a 2051 horizon year. To ensure an acceptable Level of Service at the Yonge Street and Crosby Avenue intersection, the future lane configurations were modified to have a permissive eastbound left (EBL) turn lane with a storage length of 30m.

The need for phasing was identified, acknowledging future developments would not be constructed at the same time. The École secondaire Norval-Morrisseau located at 51 Wright Street is not expected to redevelop in the foreseeable future. Two interim phases and an ultimate phase have been provided. The interim options allow for the roadway to be advanced in phases.

The ultimate condition design represents the completed future state of the Crosby Avenue Extension. In this condition, the public access road from Yonge Street will connect directly to the stub street at Wright Street, forming a continuous corridor. The existing École secondaire Norval-Morrisseau school, located at 51 Wright Street, will remain unaffected until the implementation of this ultimate design phase. Efforts were made to minimize impacts to adjacent properties to the greatest extent possible while maintaining compliance with applicable design standards and guidelines.

The complete set of preferred preliminary design plans is attached as **Appendix E** of this report. These include the preliminary interim and ultimate condition design options, a property impact estimation plan, and a preliminary roadway profile.

It is the City's expectation that this road will also be designed and constructed through redevelopment opportunities. Therefore, the future road will be development-application driven through land conveyances to the City.

If for any reason the east-west portion of the planned road cannot be constructed under interim conditions, and only the north-south road is constructed, this entire north-south road will need to be public ROW.

1 INTRODUCTION

The City of Richmond Hill ("the City") has undertaken a strategic initiative to enhance connectivity, improve traffic flow, and promote Active Transportation (AT) through the planning of a new local road within the Village Local Centre of Richmond Hill and hereon in referred to as the **Crosby Avenue Extension**. This project aligns with the City's Transportation Master Plan (TMP) and Official Plan (OP), underscoring its significance in facilitating growth and development within the community.

The Crosby Avenue Extension Feasibility Study involves the westerly extension of Crosby Avenue, from the existing Yonge Street and Crosby Avenue intersection, which will then connect to a north-south road connecting Benson Avenue to the north and Wright Street to the south. This road is contained within both the City's updated TMP, adopted by Council on December 13, 2023, and OPA 18.6 - Village Local Centre, adopted by Council on November 22, 2023. The TMP emphasizes the need for greater interconnections between existing roads and new AT opportunities. This finer grid network aims to provide more travel options for pedestrians and increase access for residential and service vehicles to new developments along the Crosby Avenue Extension. The proposed extension is not expected to serve as a relief road for Yonge Street to support existing traffic conditions. Rather, the intention of the road is to provide access for future development growth in the area and improved access management for development parcels by having vehicular access via Crosby Avenue rather than multiple access points on Yonge Street.

Located within the Village Local Centre Secondary Plan area, a key growth and intensification corridor along Yonge Street, the extension is intended to help disperse servicing traffic and provide access for new developments and enhance AT capacity. The Crosby Avenue Extension underwent two internal functional designs, with the latest in 2023, envisioning a 15.5 metre Right-Of-Way (ROW) width. This alignment was presented to potentially impacted property owners for feedback.

Exempt from a Municipal Class Environmental Assessment (MCEA) due to its classification as a local road construction, the segment extension is set to connect to existing and proposed AT facilities, including bike lanes on Crosby Avenue and Wright Street, and a future bicycle connection on Yonge Street.

This study developed and assessed several alternative alignment design options, identified the preferred option, and prepared a functional design with unit quantities. Throughout this study, City staff, stakeholders, and agencies were consulted. **It is the City's expectation that this road will be designed and constructed through redevelopment opportunities. Therefore, the future road will be development-application driven through land conveyances to the City.**

This feasibility study and preliminary design project, launched in May 2024, included site investigations and a topographic survey. By August 2024, three alternatives were developed. Two stakeholder meetings were held: the first in September 2024 to present the alternative alignment options, and the second in November 2024 to present the preferred alignment. Feedback was collected after each meeting. In December 2024, the final alignment was refined, and a preliminary design was developed and is presented in this report. The Crosby Road extension is not required to serve existing traffic conditions and will only be advanced when redevelopment occurs in this area through planning applications received by the City.

2 PROJECT OVERVIEW

2.1 PROJECT CONTEXT

The City is proactive in providing multi-modal transportation solutions to support development and growth across the City of Richmond Hill. The future road alignment is expected to provide a north-south connection between Benson Avenue and Wright Street with an east-west segment extending Crosby Avenue west from Yonge Street. **Figure 2-1** shows the study area along with the conceptual location of the extension.

Figure 2-1: Study Area

2.2 GOALS AND OBJECTIVES

The study goals are to:

- Establish the optimal alignment for the Crosby Avenue Extension to maximize connectivity, support future redevelopment opportunities and improve access management;
- Identify property requirements and assess potential impacts to ensure a smooth integration of the extension into existing and future infrastructure;
- Engage with stakeholders to ensure a comprehensive understanding of their needs; and
- Provide a preliminary design of the preferred alignment and cross-section.

2.3 IMPACTED PROPERTIES

As of the date of this study, Planning Act development applications have been received by the City for one area property located at 107 Hall Street. This property received City Council approval of its Official Plan Amendment (OPA) and Zoning Bylaw Amendment (ZBLA) applications in March 2025 for the construction of two residential towers containing 265 dwelling units.

In addition, the following properties within the study area would be impacted by the extension to varying degrees:

- 31 Wright Street
- 51 Wright Street – École secondaire Norval-Morrisseau
- 10288 Yonge Street
- 10300 Yonge Street
- 10312 Yonge Street
- 10318 Yonge Street
- 10330 Yonge Street
- 10350 Yonge Street
- 10366 Yonge Street
- 26 Benson Avenue

Acknowledging that the École secondaire Norval-Morrisseau school is not expected to redevelop in the foreseeable future, a full connection to Wright Street is not anticipated in the near term. However, an interim phase of the road has been developed that would allow access to the properties at 10288 to 10366 Yonge Street and 26 Benson Avenue, as well as a stub connection from Wright Street to access 10288 Yonge Street. Further information about the differences between the two phases (interim and ultimate) is discussed in Chapter 3. **Figure 2-3** and **Figure 2-3** depicts all impacted properties.

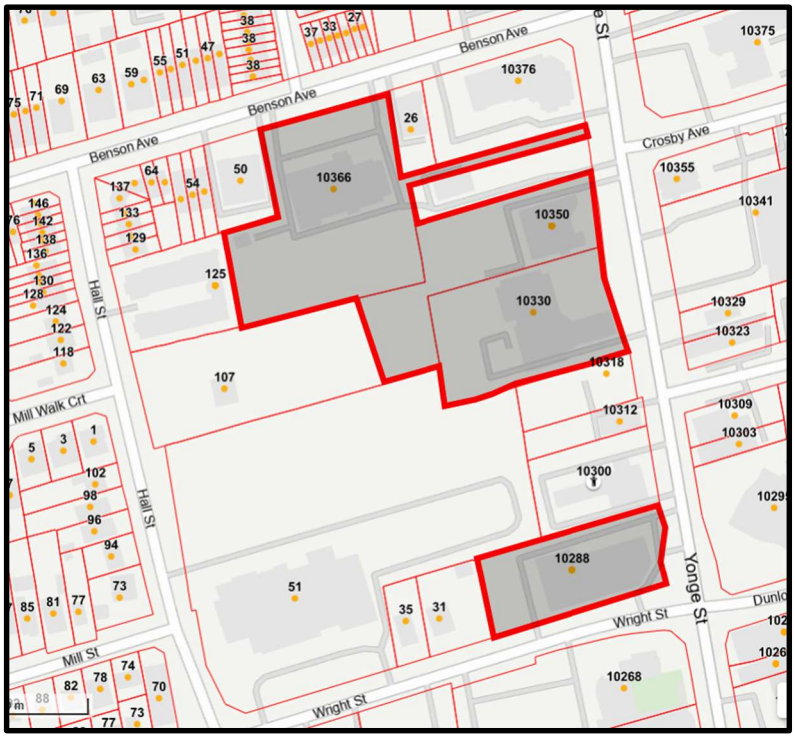


Figure 2-2: Impacted Properties – Interim Conditions

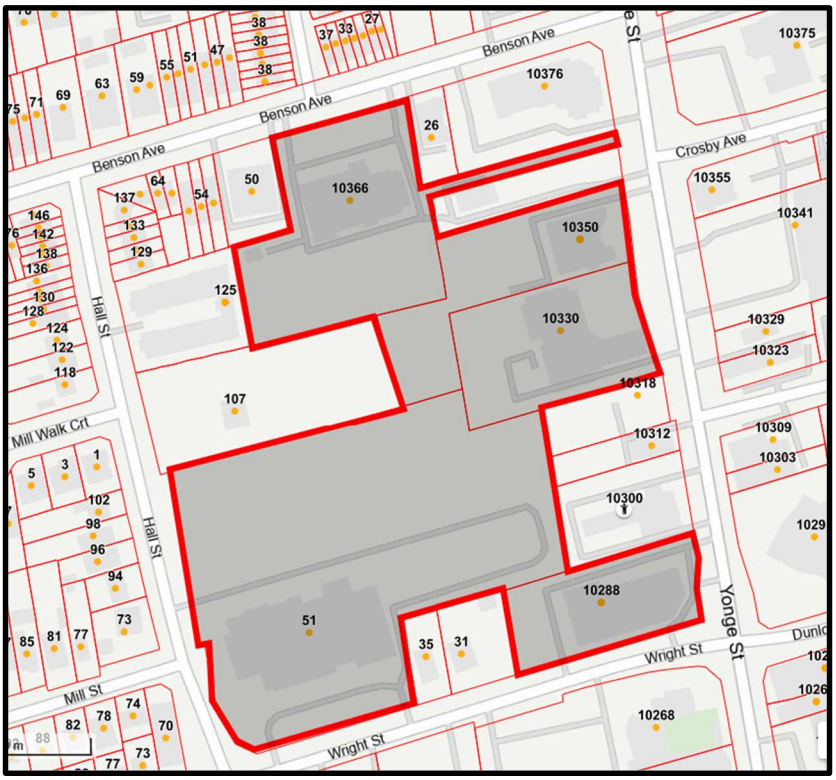


Figure 2-3: Impacted Properties – Ultimate Conditions

Figure 2-4, Figure 2-5, and **Figure 2-6** show photos of the study area taken during the sit visit conducted in Spring of 2024.

Figure 2-4: West leg at Yonge Street

Figure 2-5: Location of Future North Connection

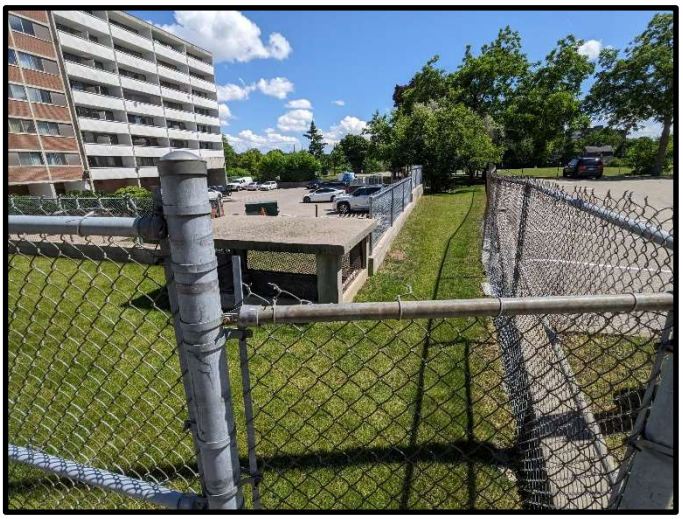


Figure 2-6: Location of Future South Connection

2.4 ROAD IMPLEMENTATION THROUGH PLANNING ACT DEVELOPMENT APPLICATIONS

Since the Crosby Avenue Extension will be a local road, its execution falls under the Local Service Policy of the City's Development Charges Background Study dated December 2023. Section E.1.1 in Appendix E of the DC study states that:

*"Laneways, **local** and collector roads including those that are identified to **support future growth** in the City of Richmond Hill's approved policy documents, and studies including, such as the Official Plan, Secondary and Tertiary Plans (inclusive of supporting Transportation Studies), the Transportation Master Plan, and the Urban Master Environmental Servicing Plan, will be considered as follows:*

- ***Local roads**, both new and existing infrastructure upgrades, inclusive of all land and associated infrastructure has **direct developer responsibility** under s.59 of the D.C.A. **as a local service**."*

This policy stipulates that the construction of the road will be the exclusive responsibility of area developers. It must therefore be emphasized that the Crosby Avenue Extension will be accomplished primarily via land conveyance to the City through area development planning applications.

3 POLICY REVIEW

The need for the extension of Crosby Avenue is embodied in various policies approved by the City: the Richmond Hill Transportation Master Plan (TMP), the updated Richmond Hill Official Plan and the Development Charges Background Study, all dated 2023. These documents have been adopted by City Council.

3.1 RICHMOND HILL TRANSPORTATION MASTER PLAN

The TMP provides infrastructure recommendations and policy direction that will shape the City's transportation network. Two of the four strategic priorities that are identified include:

- Balancing Growth and Green
- Getting Around the City

Figure 9 in Appendix C of the TMP identifies the southbound portion of Yonge Street, north and south of Crosby Avenue, as congested in any scenario (Do nothing, with Provincial/Regional improvements, and with City improvements). The extension is expected to serve developments on the west side of Crosby Avenue and reduce local traffic and site access on Yonge Street. On Schedule A2 in Appendix C, the area is identified as a Downtown Local Centre.

In Appendix D of the TMP, the Crosby Avenue Extension is shown in several maps:

- **Rapid Transit Network Map:** The portion of Crosby Avenue west of Yonge Street as well as the north-south connection between Benson Avenue and Wright Street as a future road.
- **Existing and Proposed Road Network:** The Extension is identified as a "New Local Road Construction or Extension". It also is noted that**:**
    - Proposed Local Roads are selectively shown to highlight the importance of these connections to support planned growth in addition to the collector road network.
    - The proposed road network within intensification areas is subject to further Official Plan studies and transportation processes that will determine their final alignment.
- **Existing and Proposed Active Transportation and Trails Network**: Proposed bike lanes are shown as part of the Extension in addition to the following notes:
    - Active Transportation recommended network will be subject to further feasibility study, at a project level.
    - The proposed road network within intensification areas is subject to further Official Plan studies and transportation processes that will determine their final alignment.
- **Active Transportation and Trails Phasing**: The Extension is listed under the "Short Term" for AT phasing.
- **Sidewalk Gaps** – Sidewalks are shown on both sides of the Extension.

3.2 OFFICIAL PLAN

The Official Plan (OP) is a strategic policy framework designed to guide Richmond Hill's growth until 2041. It outlines land use and other policies that shape the city's physical, social, and economic development. The City updated the OP in 2023. Connectivity and Mobility are listed as one of the guiding principles and specifically:

- Plan for transit and pedestrian oriented development.
- Promote connectivity, mobility and accessibility within and between neighbourhoods, employment lands, parks and open spaces.

The Village Local Centre where Crosby Avenue is situated is listed as one of the Downtown Local Centres Districts. Local Centres are defined at the OP as “Local Centres are intended to function as mixed use centres to serve adjacent neighbourhoods. They will be transit supportive, complete community areas, each with a unique character due to the existing built context, cultural heritage and/or natural heritage that exists within them. Five Local Centres (Village, Oak Ridges, Newkirk, Bathurst/Highway 7, and East Beaver Creek/Highway 7) are identified in the City’s structure…”. In addition, it is noted that “Local Centres will accommodate intensification at a scale and intensity that is less than the Key Development Areas. Local Centres will be important community focal points and will develop as revitalized, mixed-use centres with pedestrian-oriented, human-scaled main streets…”.

The OP focuses on densities, land uses and design.

3.3 DEVELOPMENT CHARGES BACKGROUND STUDY

The Development Charges Background Study (DCB) was prepared in accordance with the Development Charges Act (D.C.A.), recommends new development charges and policies for Richmond Hill. The report meets the statutory requirements applicable to the City’s Development Charges (D.C.).

Appendix E of the DC study outlines the City's guidelines for development charges and local service funding related to infrastructure projects such as highways, stormwater management, watermains, sanitary sewers, green spaces, parks, and recreational trails. It specifies which projects are funded by development charges and which are considered local services to be handled separately by landowners through development agreements. Based on the DCB, each development application is evaluated according to these guidelines and the D.C.A., 1997, considering factors like the nature, type, and location of the development and the required services.

Section E.1.1 discusses laneways, local and collector roads. These types of roads, that are identified for future growth in Richmond Hill's approved policy documents and studies (such as the OP and the TMP), will be considered based on guidelines elaborated in the section. Regarding laneways and local roads, it is mentioned that:

- **Laneways:** All new and existing infrastructure upgrades are the developer's direct responsibility.
- **Local roads:** Both new and existing infrastructure upgrades, including all land and associated infrastructure, are the developer's responsibility under section 59 of the D.C.A. as a local service.

Section E.1.4 details the developer responsibilities regarding streetlights. For both non-arterial roads leading to a development and local roads, streetlights are considered part of the complete street and are included as a direct developer responsibility under section 59 of the D.C.A.

AT facilities for pedestrians and cyclists are discussed in section E.1.5. These facilities include, but are not limited to, sidewalks, shared or dedicated cycling facilities (multi-use paths, cycle tracks, bike lanes, and bike boulevards). They are considered under the same provisions for non-arterial corridors. For local roads,

sidewalks are considered a direct developer responsibility through the local service provisions under section 59 of the D.C.A. Implementation or upgrades for existing systems to adequately service a specific development will be the sole responsibility of the developer. These systems include utilities such as storm sewers, stormwater facilities, watermains, and sanitary sewers.

Section E.6.2 elaborates on the responsibilities of developers in providing base condition park development for various types of parks, including destination parks, community parks, neighborhood parks, linear parks, and urban squares. Developers must ensure proper installation of sediment/erosion control, service connections, fencing, grading, and sodding, as well as the removal of hazardous trees and compliance with environmental regulations. Additionally, parkland development beyond the base condition and the inclusion of program facilities, amenities, and furniture within parkland are covered under the D.C.

4 EVALUATION OF ALTERNATIVES

4.1 PRE-STUDY DESIGN

An initial functional design for the Crosby Avenue Extension was carried out by City staff in 2018 following an area development pre-application meeting. A subsequent functional design was undertaken in 2023 in response to a second area development pre-application meetings. As part of the 2023 functional design, a ROW width of 15.5 metres was proposed for the entire extension. This alignment, illustrated in **Figure 4-1**Error! Reference source not found., was then presented to potentially impacted property owners to introduce the project and gather feedback on the initial alignment concept.

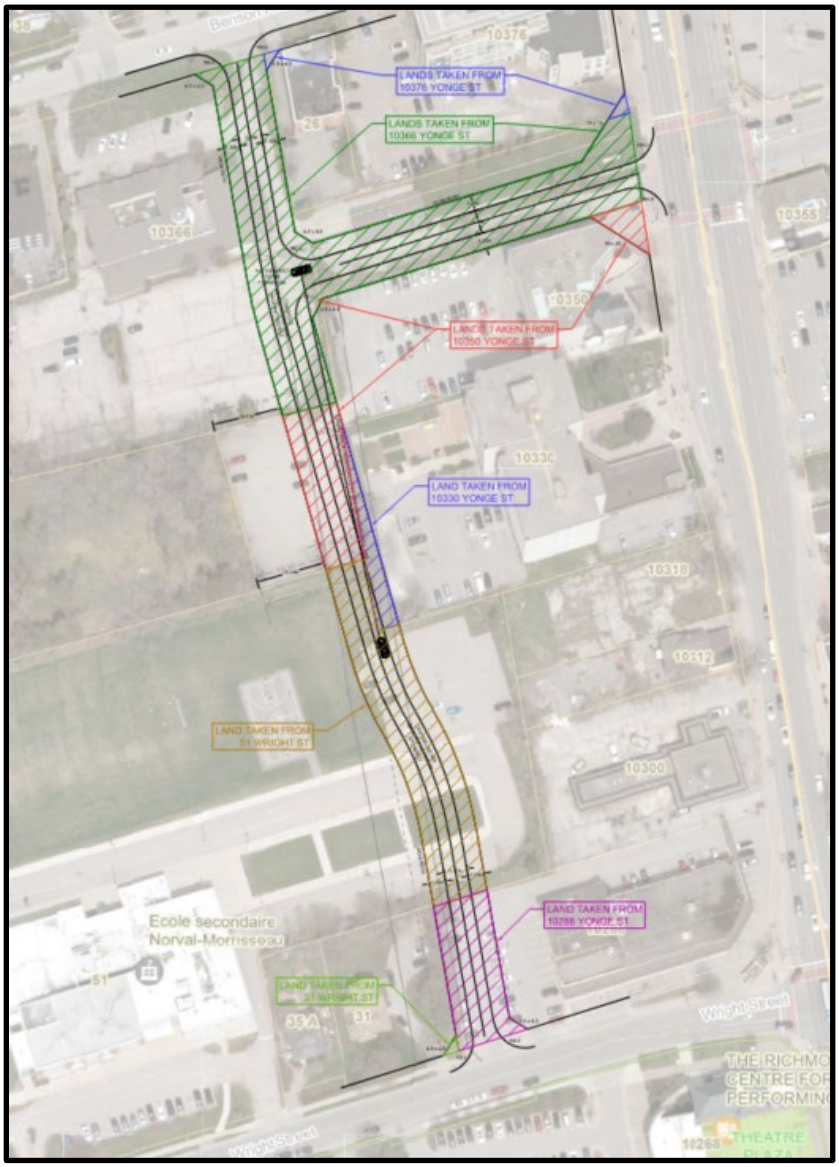


Figure 4-1: 2023 Initial Alignment Concept

4.2 ALIGNMENT ALTERNATIVE DEVELOPMENT

Following discussions with property owners, three alternative alignment options were developed, each with interim and ultimate design configurations, based on site observations, a review of background information, established design criteria, and consultation with City staff. These alternatives are illustrated in **Section 4.2.2** and attached as **Appendix A**. The ultimate design phase reflects a future full build-out scenario, which assumes redevelopment of adjacent properties and will be driven solely by Planning Act development applications. **The City does not intend to expropriate land from property owners for the purpose of constructing the roadway.**

4.2.1 DESIGN CRITERIA

To support the development of the conceptual design alignment alternatives, design criteria were established based on the City of Richmond Hill's Standards and Specifications Manual. A summary of the design criteria for the proposed road can be found below in **Table 4-1**.

Table 4-1: Design Criteria

	CITY OF RICHMOND HILL DESIGN STANDARDS*
Description	**Crosby Avenue Extension**
Road Classification	LOCAL (ULU)
Road Allowance (m)	15.5 – 20
Lanes	2
Design Speed (km/h)	50
Pavement Width MIN. (m)	6.6
No. of Parking Sides	1
Centerline Radius MIN. (m)	90
Stopping Sight Distance MIN. (m)	65
Minimum SAG K	12
Minimum Crest K	8
Through Lane Range (m)	3.0 – 3.3
Through Lane Min. (m)	3.0
Curb Lane Range	3.0 – 3.5
Curb Lane Min. (m)	3.0
Intersection Horizontal Angle MIN. (degrees)	80 – 100
Daylighting Dimension (m)	4.5
Curb Radii (m)	7.5

*Developed based on the City of Richmond Hill Standards and Specifications Manual Division 'C' – Transportation and Roadworks

4.2.2 ALIGNMENT ALTERNATIVE CONCEPTS

As part of the Crosby Avenue Extension Feasibility study, a new public roadway connection has been proposed from Wright Street to Benson Avenue to provide rear-lot access for future development. Additionally, a new east-west connection to Yonge Street is included as part of the planned road.

Multiple alignment design alternatives have been developed for the proposed north-south roadway connection between Wright Street and Benson Avenue. These alternatives are illustrated in the figures below. Each alignment alternative includes both interim and ultimate condition designs. The interim condition designs feature a temporary roadway turnaround, designed according to the City's Standard Drawing No. C-24 attached as **Appendix B**, which temporarily terminates the roadway before reaching the property boundary of École secondaire Norval-Morrisseau school located at 51 Wright Street. The temporary roadway turnaround will remain in place until a potential redevelopment of 51 Wright Street takes place.

In each figure, the green hatched area represents a proposed linear park that includes an AT connection from the new north-south road to Yonge Street, while the yellow hatched area represents a potential outdoor plaza area.

These alignment options were presented to internal and external stakeholders at the first stakeholder meeting held in August 2025 for feedback.

ALIGNMENT ALTERNATIVE 1

The ultimate condition design for Alignment Alternative 1 is shown in **Figure 4-2**. This alignment alternative features an obtuse angle at the T-intersection along the northern connection to Benson Avenue, allowing the ROW limit to align with the property boundary of 26 Benson Avenue. Similarly, the connection to Wright Street is designed to align the ROW limit with the property boundary of 31 Wright Street. The interim condition design, shown in **Figure 4-3**, includes a temporary turnaround to support roadway operations until the redevelopment of 51 Wright Street takes place. it is noted that upon redevelopment of 10288 Yonge St under interim conditions, a stub connection will be constructed to serve the properties of 10288 and 10300 Yonge Street, which is reflected in the final drawings attached as **Appendix E**.

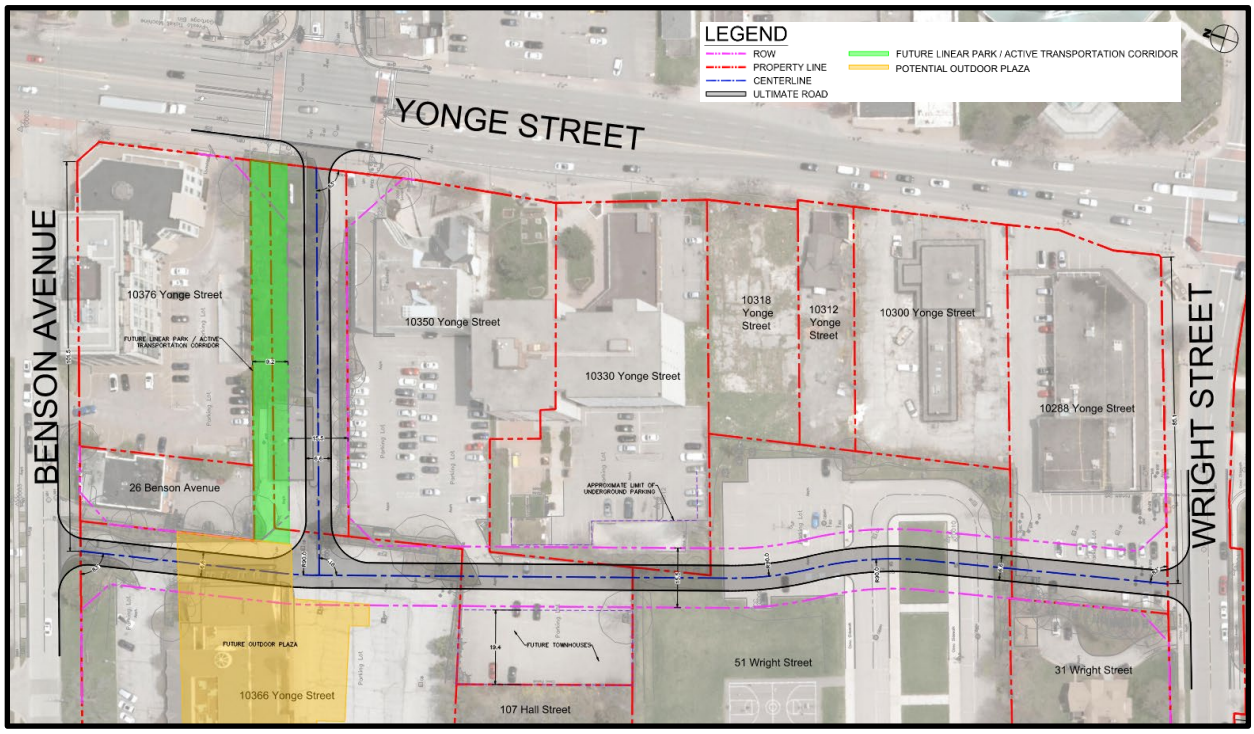


Figure 4-2: Alignment Alternative 1 – Ultimate Condition

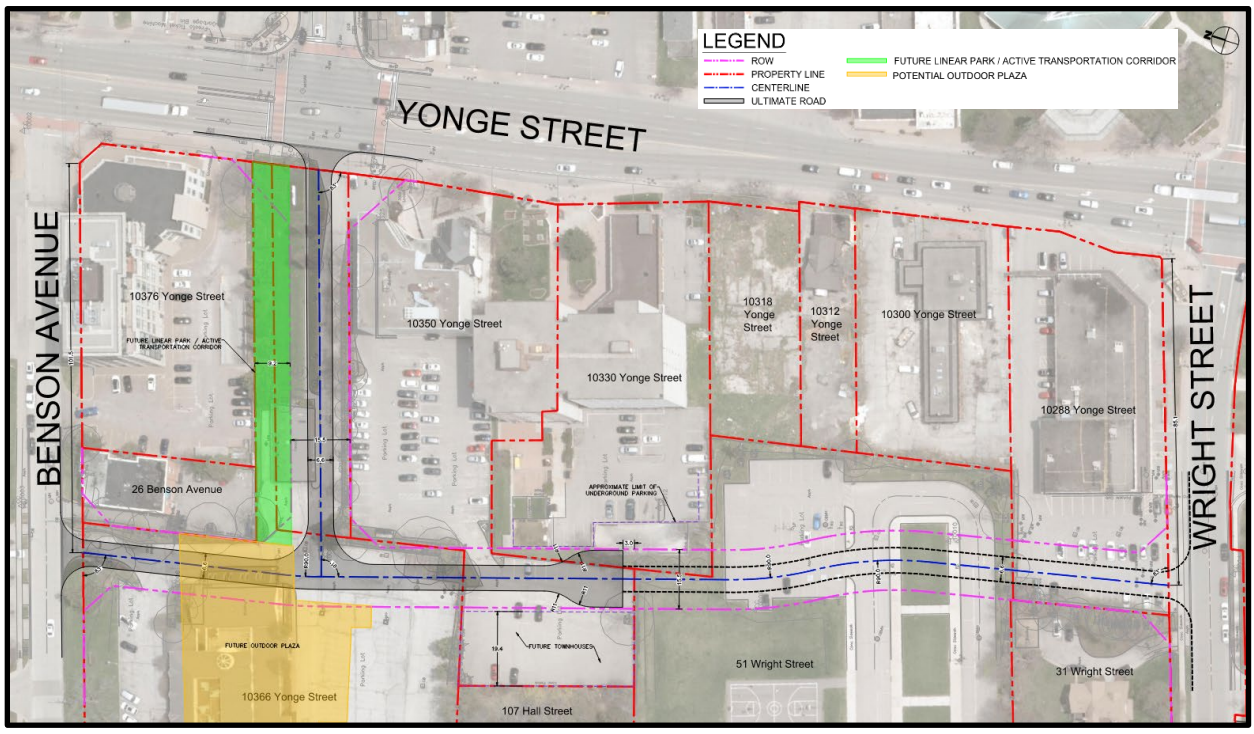


Figure 4-3: Alignment Alternative 1 – Interim Condition

ALIGNMENT ALTERNATIVE 2

The ultimate condition design for Alignment Alternative 2 is shown in **Figure 4-4**. This alignment features a continuous Crosby Avenue extension west of Yonge Street, continuing south to Wright Street. Unlike Alternative 1, this option does not include a T-intersection. Instead, it provides a private roadway access to Benson Avenue at the Crosby Avenue Extension 90-degree crescent, or elbow. However, it must be emphasized that if the east-west section of the extension cannot be constructed in the context of area development applications, the north-south road will be entirely public right-of-way.

This alternative also includes additional pavement width to accommodate an eastbound left-turn lane for northbound access onto Yonge Street. The connection to Wright Street remains consistent as Alternative 1, aligning the ROW limit with the property boundary of 31 Wright Street. As with Alternative 1, the interim condition design, shown in **Figure 4-5**, includes a temporary turnaround to support roadway operations until the redevelopment of 51 Wright Street takes place. Additionally, it is noted that upon redevelopment of 10288 Yonge St under interim conditions, a stub connection will be constructed to serve the properties of 10288 and 10300 Yonge Street, which is reflected in the final drawings attached as **Appendix E**.

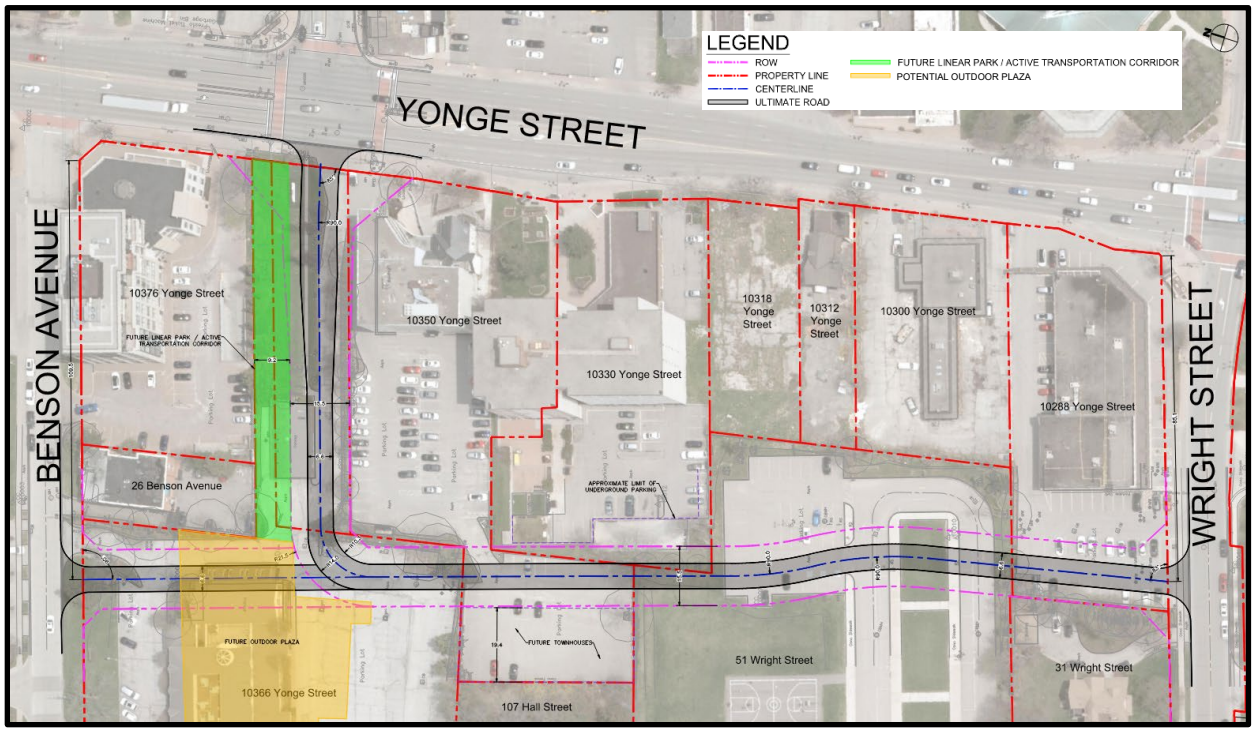


Figure 4-4: Alignment Alternative 2 – Ultimate Condition

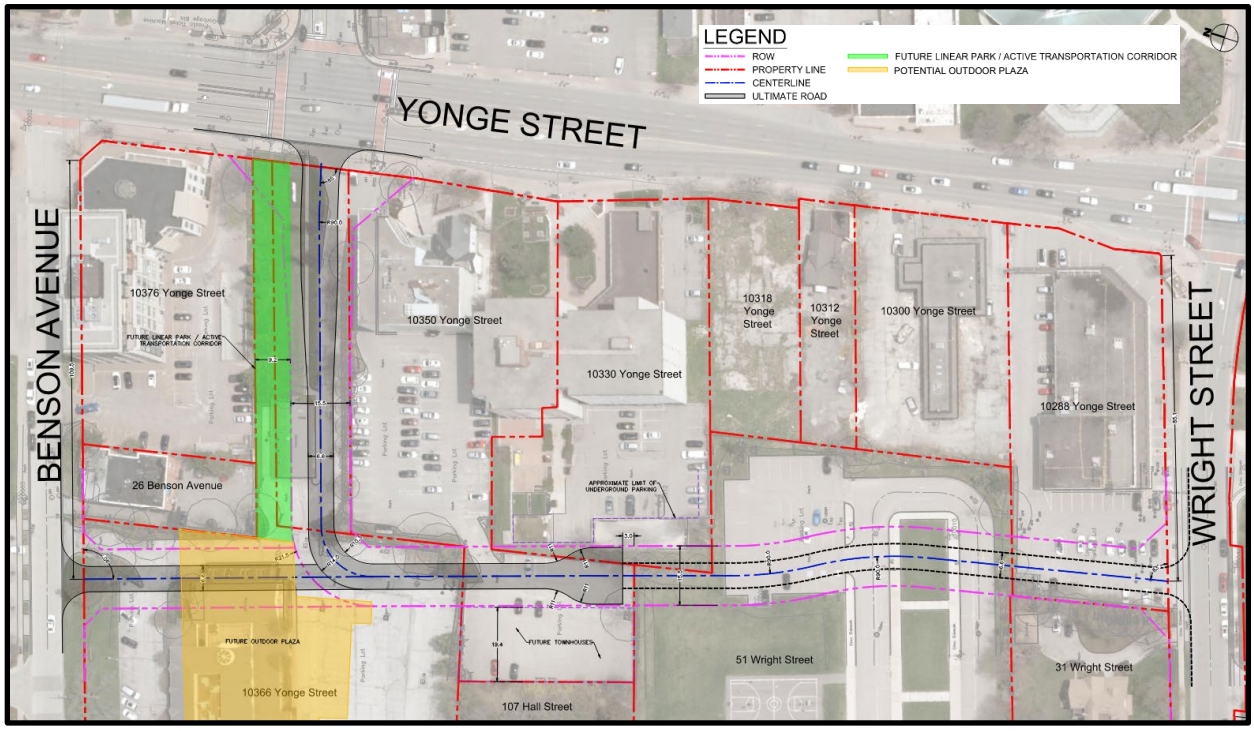


Figure 4-5: Alignment Alternative 2 – Interim Condition

ALIGNMENT ALTERNATIVE 3

The ultimate condition design for Alignment Alternative 3 is shown in **Figure 4-6**. This design features a straight, linear alignment for the north-south roadway, without horizontal curves, unlike Alternatives 1 and 2. Like Alternative 1, Alternative 3 includes a T-intersection connecting the Crosby Avenue Extension with the north-south roadway between Wright Street and Benson Avenue. However, in this alternative, there is no obtuse angle in the road since the north leg of the intersection with Benson Avenue meets the north-south roadway at a 90-degree angle. This option also provides additional pavement width to accommodate an eastbound left-turn lane for northbound access onto Yonge Street. As with the previous alternatives, the interim condition design, shown in **Figure 4-7**, includes a temporary turnaround to support roadway operations until the redevelopment of 51 Wright Street takes place. Additionally, it is noted that upon redevelopment of 10288 Yonge St under interim conditions, a stub connection will be constructed to serve the properties of 10288 and 10300 Yonge Street, which is reflected in the final drawings attached as **Appendix E**.

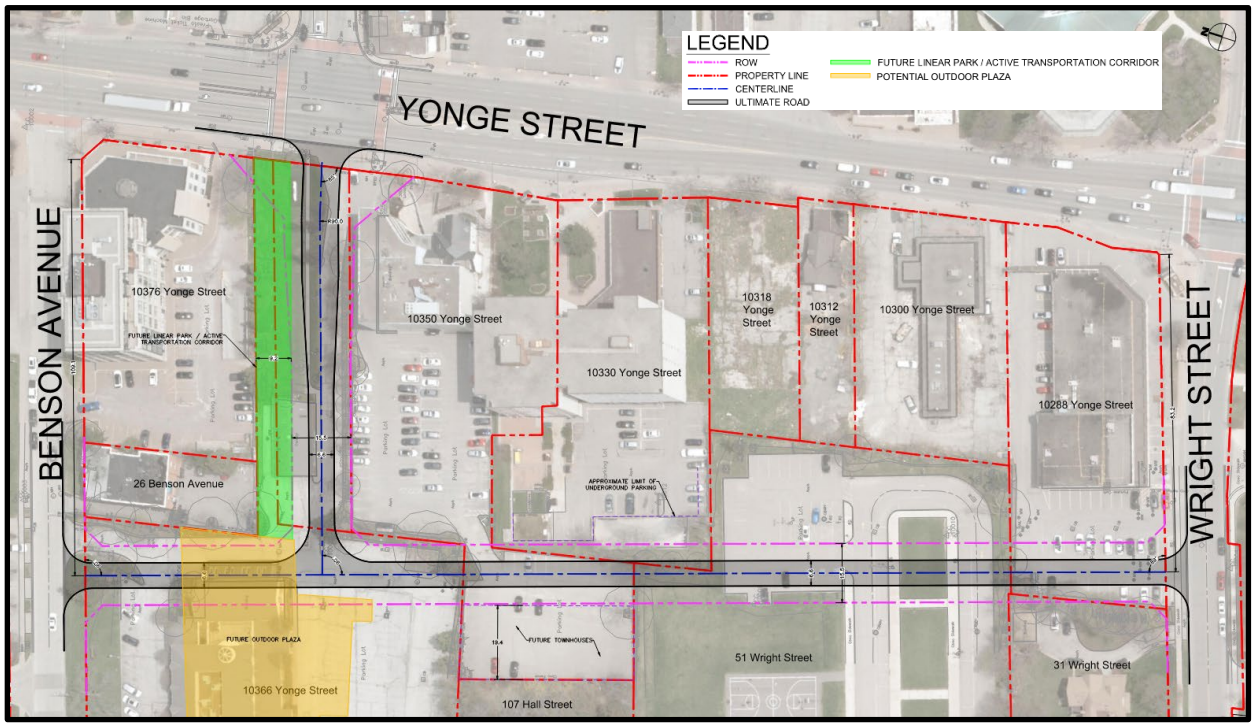


Figure 4-6: Alignment Alternative 3 – Ultimate Condition

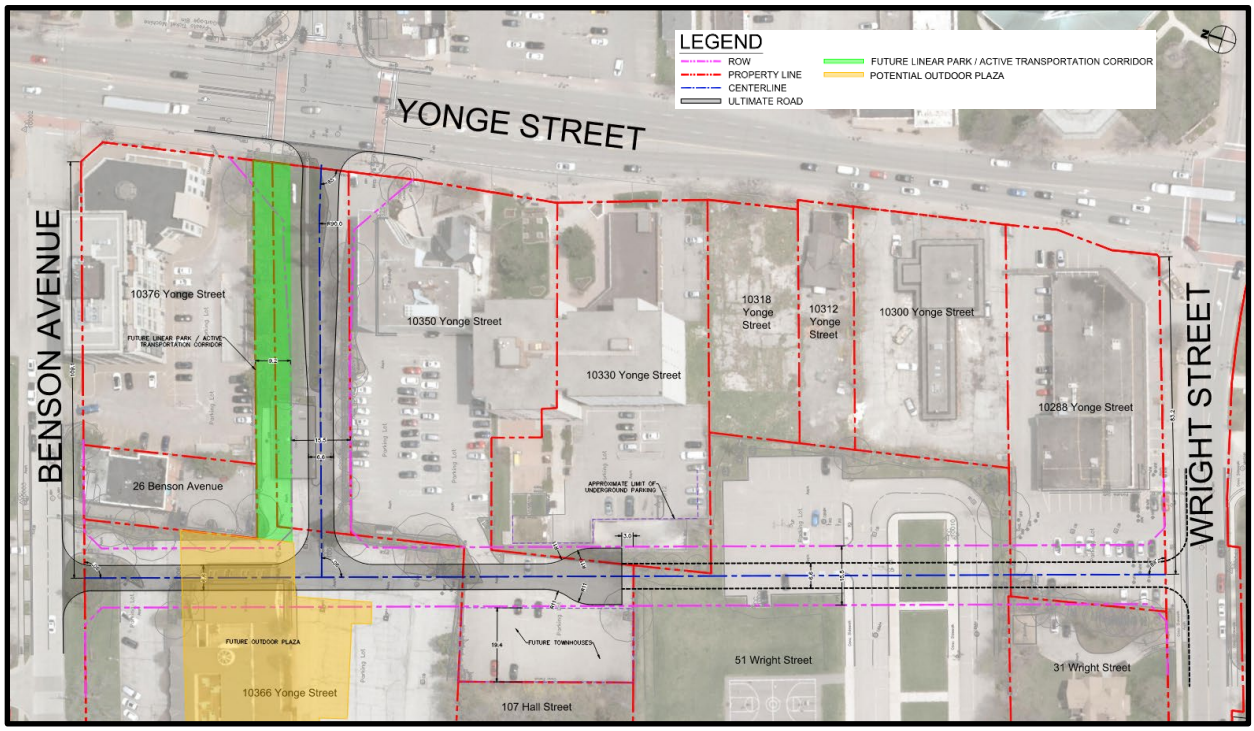


Figure 4-7: Alignment Alternative 3 – Interim Condition

4.2.3 ALIGNMENT ALTERNATIVES COMPARISON

A summary of the differences between the ultimate alignment alternatives is provided in Error! Reference source not found.. The alternatives explore various access scenarios, including public versus private road access to Benson Avenue, geometric roadway layout variations, connections to the existing road network, and potential associated property impacts.

Table 4-2: Alignment Ultimate Condition Comparison Summary

Criteria	Alternative 1	Alternative 2	Alternative 3
Crosby Avenue Extension Geometry	• 2-lane roadway from west of Yonge Street to T-intersection at the north-south roadway between Wright Street and Benson Avenue. • Crosby Avenue Alignment terminates at T-intersection.	• One westbound and eastbound lane with an additional eastbound left-turn lane. • One continuous Crosby Avenue Extension alignment from Yonge Street to Wright Street utilizing a 90-degree crescent at 10366 Yonge Street.	• One westbound and eastbound lane with an additional eastbound left-turn lane. • Crosby Avenue Alignment terminates at T-intersection.
North-south Alignment Geometry	• Roadway connection alignments to Wright Street and Benson Avenue designed to align ROW limits with property boundaries to minimize property impacts. • T-intersection located at 10366 Yonge Street to connect Crosby Avenue Extension with north-south road. • Large alignment obtuse angle for roadway connection from T-intersection to Benson Avenue. • Back-to-back horizontal curve design at 51 Wright Street.	• Roadway alignment to Wright Street designed to align ROW lines with property boundaries to minimize property impacts. ROW limits for roadway connection to Benson Avenue do not align with property boundaries. • Northbound movements from / southbound movements to Wright Street transition to eastbound / westbound movements along Crosby Avenue Extension via 90-degree crescent. • No alignment obtuse angle for access road from Crosby Avenue Extension 90-degree crescent to Benson Avenue. • Back-to-back horizontal curve design at 51 Wright Street.	• Straight roadway alignment between Benson Avenue and Wright Street. ROW limits do not align with property boundaries. • T-intersection connecting north-south roadway to Crosby Avenue Extension. • No alignment obtuse angle for access road to Benson Avenue. • No horizontal curve design at 51 Wright Street along north-south roadway alignment.
Access from Crosby Avenue Extension to Benson Avenue (Public / Private)	• Public road connection to Benson Avenue from Crosby Avenue Extension at T-intersection.	• Private access road connection to Benson Avenue from Crosby Avenue Extension at 90-degree crescent (elbow).	• Public road connection to Benson Avenue from Crosby Avenue Extension at T-intersection.
Property Impacts	• Approximately 4,785 m^2 of private property impacted on 8 properties	• Approximately 4,785 m^2 of private property impacted on 7 properties	• Approximately 5,020 m^2 of private property impacted on 7 properties

It should be noted that additional property area may be required to fully accommodate the proposed roadway design as it is further refined in subsequent stages of design.

4.3 CROSS-SECTION ALTERNATIVES

Two cross-section alternatives were developed for the 15.5 m ROW north-south extension. **Alternative A**, illustrated in **Figure 4-8**, does not include dedicated cycling facilities, which would require cyclists to ride on the roadway in mixed traffic. This alternative allows for wider sidewalks, increased boulevard space for street trees and utilities, and a narrower roadway width, which can contribute to natural traffic calming. **Alternative B**, shown in **Figure 4-9**, includes dedicated bike lanes, providing greater comfort for cyclists but resulting in a constrained boulevard. **Alternative A** is recommended to be carried forward due to the advantages outlined above and to accommodate the pedestrian volumes through the area as a result of future development growth.

On-street parking was not considered in the cross-section design. The primary function of the roadway is to support new and future developments by providing access and accommodating logistical needs, while also promoting AT. Dedicated space for on-street parking is not desirable in this area, as parking will be accommodated on private properties. Additionally, incorporating on-street parking would negatively impact the cross-section design, as would the inclusion of dedicated bike lanes. Based on feedback from the City's Urban Design and Parks staff, the cross-section design prioritizes wider sidewalks and buffer spaces in anticipation of increased pedestrian activity generated by surrounding developments. These features enhance walkability and landscaping opportunities, contributing to a more pedestrian-friendly public realm. For these reasons, the proposed 15.5 m ROW for this local road is not conducive to supporting on-street parking.

Figure 4-8: Cross-Section Alternative A – North-South Extension (Preferred)

Figure 4-9: Cross-Section Alternative B – North-South Extension

The east-west Crosby Avenue Extension will incorporate a 9.2 m wide linear park integrated with the proposed roadway design on the north side. This feature is intended to provide recreational opportunities in the area, enhance AT connectivity between new and existing infrastructure, and improve overall mobility within the surrounding community. The proposed cross-section is illustrated in **Figure 4-10**.

Figure 4-10: Cross-Section – East-West Extension Looking East (Preferred)

4.4 EVALUATION CRITERIA

The evaluation criteria used to assess each alignment alternative are outlined in **Table 4-3**.

Table 4-3: Evaluation Criteria

Criteria	Characteristics
Property Impact	▪ Minimize number of properties impacted. ▪ Minimize the number of properties that are bisected.
Geometric Constraints	▪ Meets requirements for design / control vehicles, including loading and deliveries, emergency services, waste collection, and snow clearing / street sweeping. ▪ Impacts to traffic operations
Safety	▪ Provides a safe, accessible and comfortable environment for vulnerable road users. ▪ Minimizes conflicts between turning motorists and cyclists.
Public Realm	▪ Opportunities to enhance the pedestrian environment and streetscape. ▪ Alignment with existing plans and concepts. ▪ Consideration of overall user experience.
Socio-Economic Impact to Existing and Future Adjacent Communities	▪ Impacts to existing built form. ▪ Access to developable land.

4.5 EVALUATION

Table 4-4 summarizes the evaluation of each alignment alternative based on the criteria outlined above. Cross-Section Alternative A was identified as the City's preferred option, and the alignment was designed accordingly. In the table, Cross-Section Alternative A is assessed alongside each ultimate condition alignment alternative (1, 2, and 3). Additional considerations include:

- Alternative 1 scores lower for Geometric Constraints due to the obtuse angle at the road connection to Benson Avenue and the proposed internal T-intersection.
- Alternative 2 scores higher for Public Realm as it proposes private driveway access to Benson Avenue. This design discourages through traffic and enhances public realm opportunities, incorporating the future proposed linear park and outdoor plaza.
- Alternative 3 scores less for Property Impact and Socio-Economic Impact due to the additional property required at 31 and 51 Wright Street.

Table 4-4: Ultimate Condition Alignment Evaluation with Preferred Cross-Section (A)

	Alternative 1	Alternative 2	Alternative 3
Property Impact	●	●	◔
Geometric Constraints	◕	●	●
Safety	●	●	●
Public Realm	◕	●	◕
Socio-economic Impact to Existing and Future Communities	●	●	◑
		Carry Forward	

It is important to note that a connection to an existing road (Yonge Street or Benson Avenue) under interim conditions will be provided regardless of the construction staging. For example, if the east-west portion of the Crosby Avenue Extension, connecting to Yonge Street, is not constructed in the initial phase, the north-south road will be entirely public to ensure access for future developments to the wider road network, that is, Benson Avenue and beyond.

5 STAKEHOLDER ENGAGEMENT

Two virtual stakeholder meetings were held during the project process. Participants in both meetings included property owners, property owner consultants, City staff and the project team.

5.1 FIRST STAKEHOLDER MEETING

The first stakeholder meeting was held virtually on September 13th, 2024. The primary goal of this meeting was to provide stakeholders with an opportunity to ask questions and offer feedback on the project and alternative alignment options.

During the meeting, an overview of the work completed up to that point was presented. The evaluation criteria, to aid in determining the preferred alignment, was also presented to the stakeholders. Two cross-sections were presented, along with three alternative alignment options. Each alternative included both an interim phase and an ultimate phase, providing stakeholders with an understanding of the advantages and disadvantages of each being considered.

Stakeholders were encouraged to ask questions and provide their feedback during the meeting. This interactive session aimed to address any concerns and gather valuable input from the stakeholders. Participants were given a two-week period to review the shared plans and documents and provide their input and comments, ensuring they had ample opportunity to consider the information and contribute thoughtfully.

Minutes of the meeting were recorded and distributed to all participants, including a summary of the discussions, decisions made, and action items assigned.

The presentation is attached as **Appendix C-1** and the meeting minutes are attached in **Appendix C-2**.

STAKEHOLDER FEEDBACK

- **10350 & 10366 Yonge Street and 26 Benson Avenue (Land Consortium):** Feedback was provided via a letter dated September 27, 2024. Preferred Alternative A for the cross-section and Alternative 2 for the road alignment. This letter is attached as **Appendix C-3**.
- **10312, 10318 & 10330 Yonge Street:** Feedback was provided via email dated October 6, 2024 opposing the public ROW being on any part of owner's property. This email is contained in **Appendix C-3**. The owner's position is that would interfere with the owner's original concept redevelopment plan. It was communicated to the owner that a new road would provide access to the property and does not render the land undevelopable.
- **10288 and 10300 Yonge Street:** A separate meeting was held on October 4, 2024, between City staff and the property owners with their legal representation. The meeting was an extension of the first stakeholders meeting but with a larger focus on the implications of the road on the owner's development potential. The City explained the pre-submission process and that all departments, including Planning, would be involved once that pre-submission was scheduled. They were advised to return to the City with development concept plans that would incorporate the new road. Feedback was also provided about the need for interim access via Wright Street to these properties.
- **31 Wright Street:** The resident has no plans to sell and would not be required to sell to the City for the purposes of this road. Driveway modification may be required to provide the proper daylighting, which would be determined during the detailed design stage.

- **51 Wright Street (school):** The School Board initially had concerns about the proposal, particularly regarding the impact on the school's parking lot and bus loop. However, the City clarified that no land conveyance would be required if the school submitted a Site Plan Amendment and/or Minor Variance application. Additionally, the road connection to Wright Street would only be realized if an application for the complete redevelopment of the school was received.

5.2 SECOND STAKEHOLDER MEETING

The second stakeholder meeting was held virtually on November 21st, 2024. The same participants from the first meeting attended this session. The primary focus of this meeting was to present the preferred alignment option to the participants, which would be moving forward for preliminary design, based on stakeholder feedback from the first meeting.

The meeting began with a brief overview of the project, highlighting the key developments since the last meeting. This was followed by a summary of the first stakeholder meeting to ensure all participants were up to date with the previous discussions and decisions.

During this session, the preferred alignment was presented to the stakeholders. This included detailed explanations of the preferred cross-sections for each section (east-west and north-south). The preferred alignment was also presented, incorporating comments and feedback from the first meeting. Additionally, a new option was added to the interim phase, which was shared with the participants during the meeting.

Following the presentations, an open discussion was held with property owners and their representatives. This session allowed stakeholders to raise concerns and share their comments. Similar to the first meeting, an online portal was shared with the participants, providing them with a way to review the materials and submit further comments. A two-week period was given to participants to share any additional feedback they might have.

Minutes of the meeting were recorded and distributed to all participants, including a summary of the discussions and the presentation. These are also attached as **Appendix C-1 and C-2.**

STAKEHOLDER FEEDBACK

- **10350 & 10366 Yonge Street and 26 Benson Avenue (Land Consortium):** Feedback provided post-meeting via a letter dated December 2, 2024, which is attached as **Appendix C-3**. Generally supported the chosen cross section and the north-east connection, which is expected to be a private driveway differentiated from the public ROW. Requested to modify the location of the pedestrian connection to the property of 107 Hall Street, west of the future extension, asking to shift it south of the 107 Hall Street property and not straddle the adjacent property. Feedback from the owner of 107 Hall Street and their consultants on the location of a potential reciprocal pedestrian connection was received by the City and the plan was adjusted accordingly.
- **10312, 10318 & 10330 Yonge St:** Feedback provided post-meeting via a letter dated December 5, 2024 from the owner's legal representation, which is attached as **Appendix C-3**. The owners expressed concerns about the City's proposed Crosby Avenue Extension alignment. They highlighted conflicts with their future redevelopment plans, issues with both interim and ultimate alignment options, and the disproportionate impacts on their property. Two interim options were provided because of their previous feedback, with option 1 completely avoiding any property impacts. The ultimate design does offer access to their property.
- **City Parks and Natural Heritage Planning:** A minimum of a 10-metre-wide space is required to be considered a linear park, which has been provided. They also expressed a desire for the landscape buffer along the road extension to be a minimum 2.5 metres to be consistent with City Urban Forest Planting Guidelines, which are to be read together with Division K – Planting of the City Standards

and Specifications. The proposed cross section shows a 2.35 metre landscape buffer, which can be refined during detailed design.

- **51 Wright Street (school):** After the City addressed the concerns from the first stakeholder meeting, the school had no further comments or objections.

6 TRAFFIC ANALYSIS

Traffic analysis was conducted as part of the study to assess the impact of the road extension on the surrounding environment. The analysis reviewed existing traffic conditions in the study area, using traffic counts and signal timing plans provided by the City. Future conditions for the year 2051 were also evaluated by applying growth rates to the existing conditions, considering future developments in the area, and the addition of the extension. Error! Reference source not found. shows the future lane configuration that was used for the traffic analysis.

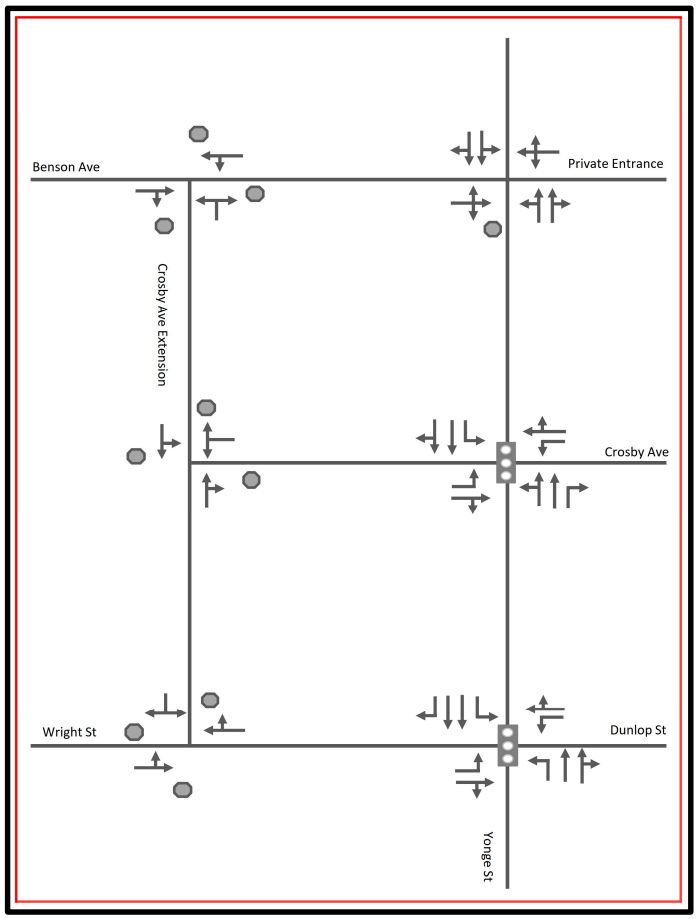


Figure 6-1: Future Lane Configuration, extracted from the Traffic Analysis Memo

It was assumed that the Crosby Avenue Extension will be used to access future sites. Additionally, an assumption was made that provisions for access along other streets, such as Yonge Street, may help reduce traffic volumes on the Crosby Avenue Extension.

Based on the analysis, the following conclusions were made:

- Under existing conditions, all study intersections are operating at an acceptable Level of Service (LOS) C or better during both the AM and PM peak hours.
- Under 2051 Future Total conditions and with the recommended geometric changes, the study intersections are expected to operate at an LOS C or better during AM and PM peak hours, except for

the Yonge Street and Crosby Avenue intersection due to it being a key gateway for large amounts of vehicular traffic accessing future developments in the area.

To ensure that the LOS at the Yonge Street and Crosby Avenue intersection is acceptable (D and above), the future lane configurations were modified to have a permissive eastbound left (EBL) turn lane with a storage length of 30m. The 30m storage length accommodates the 50th percentile queue and was selected for the following reasons:

- To avoid overengineering the EBL turn lane.
- There is an alternate opportunity for vehicles to use the EBL turn lane at the signalized Yonge St/Dunlop St/Wright St intersection to travel northbound on Yonge Street.
- 30m is the maximum length that can be designed without impacting the ROW corridor and surrounding properties. In terms of ROW, the EBL turn lane can be accommodated within the 18.5 m ROW for Crosby Avenue approaching Yonge Street, as presented in the preferred alternative.

No other intersections within the study area required lane configuration modifications based on projected future volumes.

The full traffic analysis memo is attached as **Appendix D.**

7 PRELIMINARY DESIGN

7.1 PREFERRED DESIGN

A preferred design based on Alternative 2 (with Preferred Cross-Section A) was further developed into interim and ultimate conditions following stakeholder feedback. The interim and ultimate conditions are illustrated in the figures below (**Figure 7-1**, **Figure 7-2**, and **Figure 7-3**).

7.1.1 INTERIM CONDITIONS

Two interim condition design options have been developed to support flexible construction staging in accordance with the redevelopment timelines of adjacent properties. Preliminary Interim Condition Design Option 1 (**Figure 7-1**) addresses a scenario in which 10350 Yonge Street proceeds with redevelopment of its western portion—adjacent to 107 Hall Street—prior to the redevelopment of 10330 Yonge Street. This option provides public roadway access and incorporates a turnaround area (designed in accordance with the City's standard outlined in **Section 4.2.2**), while avoiding any ROW development or encroachment on 10330 Yonge Street. Preliminary Interim Condition Design Option 2 (**Figure 7-2**) reflects a scenario where both 10350 and 10330 Yonge Street have completed redevelopment of their western portions. In this option, the public access road and associated turnaround area are extended further south to provide access to both properties.

In both interim condition design scenarios, the public roadway terminates north of École secondaire Norval-Morrisseau school, located at 51 Wright Street. The interim condition will remain in effect until redevelopment of 51 Wright Street occurs. Additionally, both interim condition designs include a stub connection from Wright Street to the property boundary between 10288 Yonge Street and 51 Wright Street, which would be completed following redevelopment of 10288 Yonge Street.

7.1.2 ULTIMATE CONDITIONS

The ultimate condition design represents the completed future state of the Crosby Avenue Extension. In this condition, the public access road from Yonge Street will connect directly to the stub street at Wright Street, forming a continuous corridor. The existing École secondaire Norval-Morrisseau school, located at 51 Wright Street, will remain unaffected until the implementation of this ultimate design phase. Efforts were made to minimize impacts to adjacent properties to the greatest extent possible while maintaining compliance with applicable design standards and guidelines.

The complete set of preferred preliminary design plans are attached as **Appendix E** of this study. These include the preliminary interim and ultimate condition design options, a property impact estimation plan, and a preliminary roadway profile.

7.1.3 ACTIVE TRANSPORTATION CONNECTIONS

A multi-use path (MUP), shown in blue, provides an AT connection between Yonge Street and the north-south road through a future proposed linear park. Further refinement of the AT crossing and transition details will occur during a detailed design stage. Cyclists traveling north or south would transition to the roadway via the (assumed) private driveway to Benson Avenue or the public section of the extension.

A future public or private pedestrian connection to Hall Street is also shown in magenta, with specific design details to be confirmed through future development applications. The final location of this Hall Street connection will be determined during later design phases and is anticipated to be constructed on the properties at 107 Hall Street and 10350 Yonge Street.

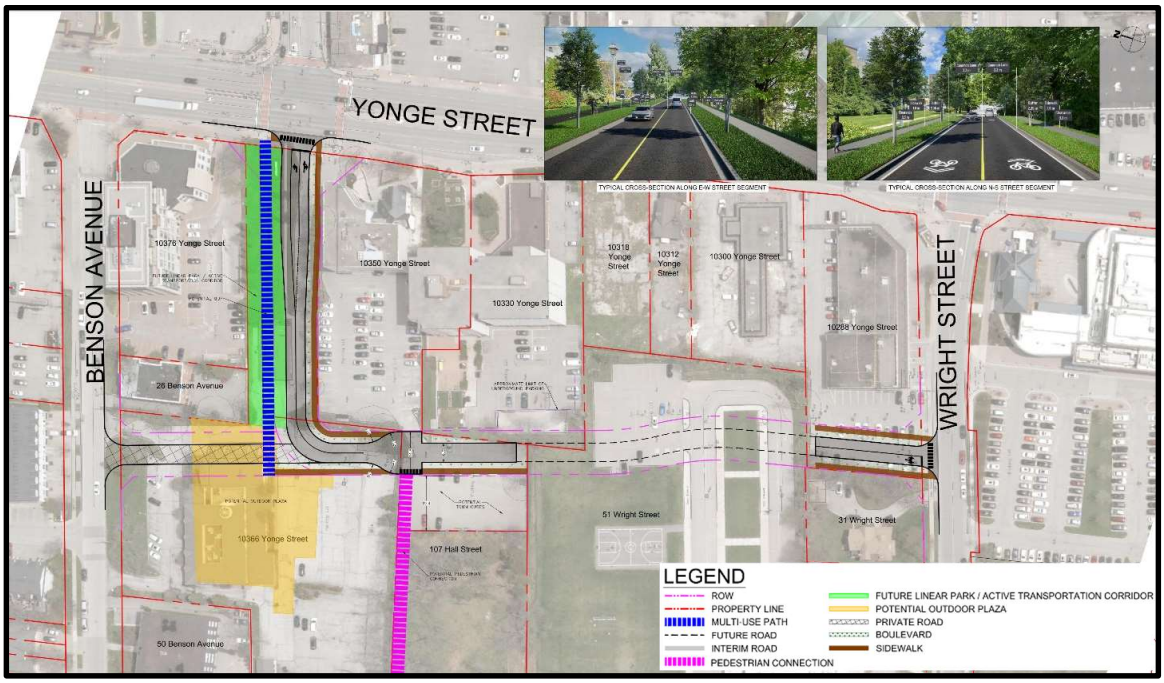


Figure 7-1: Preliminary Interim Condition Design Option 1

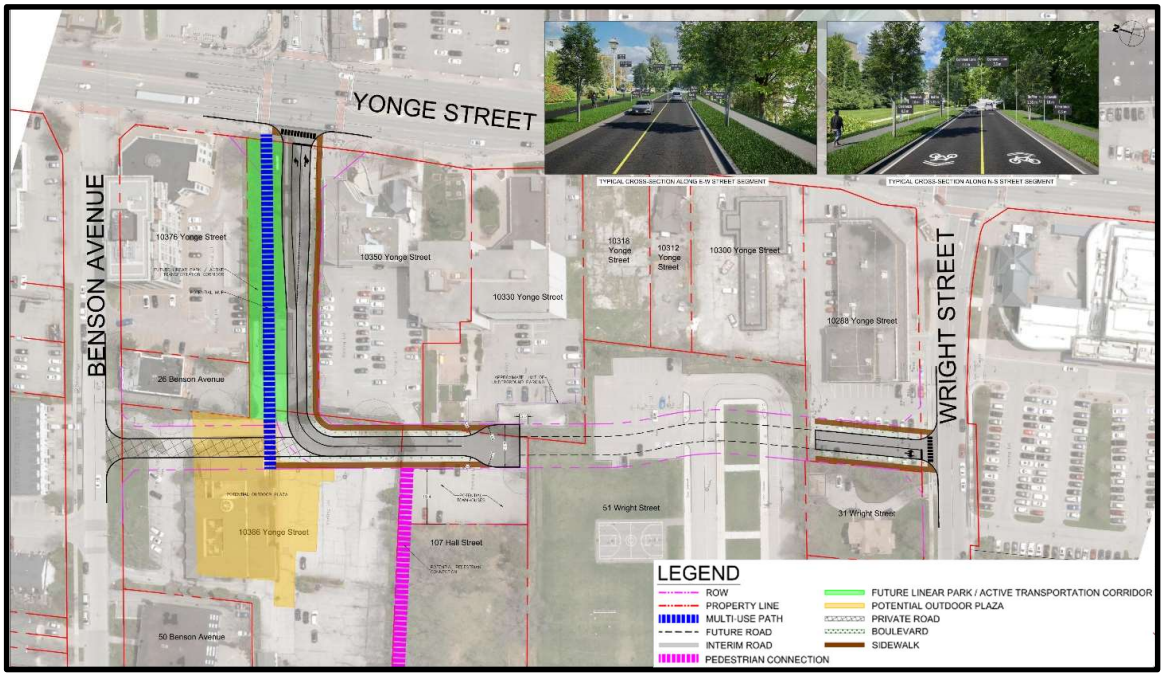


Figure 7-2: Preliminary Interim Condition Design Option 2

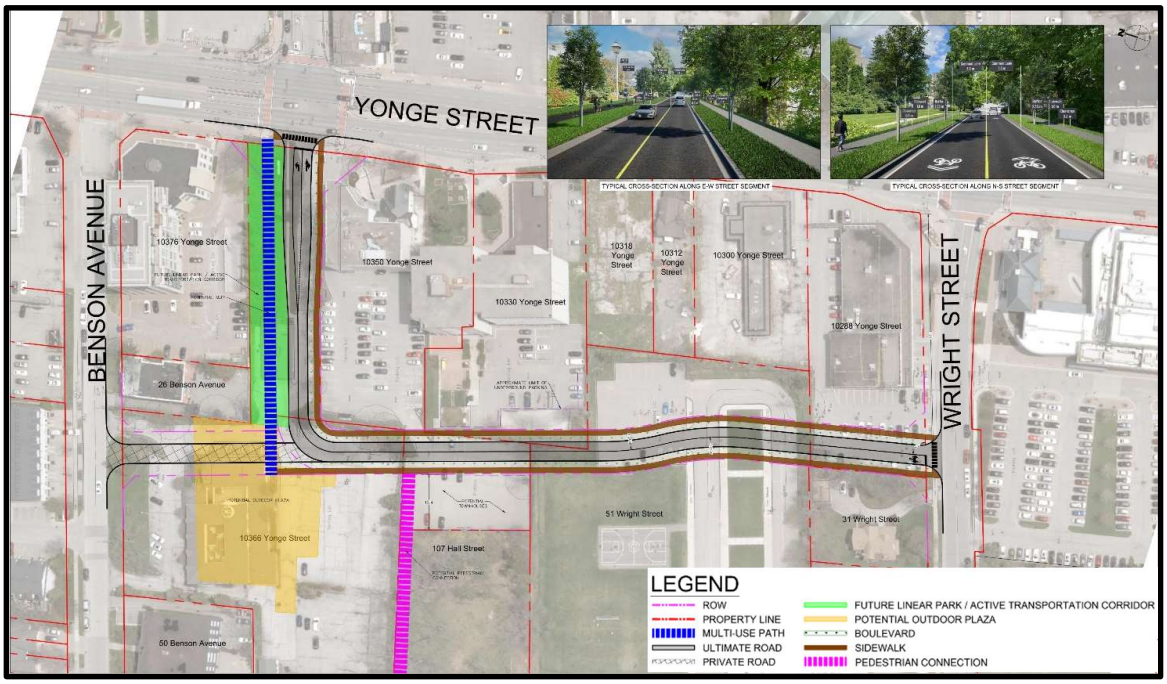


Figure 7-3: Preliminary Ultimate Condition Design

8 SUMMARY OF RECOMMENDATIONS AND NEXT STEPS

The study reviewed the feasibility of extending Crosby Avenue westwards from the existing Yonge Street and Crosby Avenue intersection and connect, as a T-intersection, to a north-south road between Benson Avenue to Wright Street, as outlined in the City's updated Transportation Master Plan and Official Plan. The main objectives of the extension are to support future development growth, improved access management for development parcels by having vehicular access for residential and service vehicles via Crosby Avenue rather than multiple driveways on Yonge Street and provide new Active Transportation opportunities for local neighbourhoods. **The road extension is needed for future growth and not to accommodate existing traffic needs or to act as a relief road for Yonge Street. Furthermore, the future road will be development-application driven via land conveyances to the City through area planning applications.**

8.1 ALTERNATIVE ALIGNMENT OPTIONS

Three alignment design alternatives were developed and assessed based on design criteria, site observations, background information, stakeholder feedback and discussions with City staff. The evaluation criteria included property impact, geometric constraints, safety, public realm, and socio-economic impact to existing and future adjacent communities.

8.2 STAKEHOLDER ENGAGEMENT

Two virtual stakeholder meetings were held during the project process. The first meeting provided stakeholders with an opportunity to ask questions and offer feedback on the project and alignment alternatives. The preferred alternative was identified, and a functional design was prepared, incorporating comments and feedback from the first meeting. The alignment was presented in a second stakeholder meeting.

8.3 TRAFFIC ANALYSIS

Traffic analysis was conducted as part of the study to assess the impact of the road extension on the surrounding environment to the 2051 horizon year. To ensure an acceptable Level of Service at the Yonge Street and Crosby Avenue intersection, the future lane configurations were modified to have a permissive eastbound left (EBL) turn lane with a storage length of 30 m.

8.4 PREFERRED OPTION AND PRELIMINARY DESIGN

While reviewing the alignments, the need for phasing was identified, acknowledging future developments would not necessarily would be constructed at the same time. École secondaire Norval-Morrisseau school located at 51 Wright Street is not expected to redevelop in the foreseeable future. Two interim phases and an ultimate phase have been provided.

Interim options allow for the roadway to be advanced in phases. Preliminary Interim Condition Design Option 1 addresses a scenario in which 10350 Yonge Street proceeds with redevelopment of its western portion—adjacent to 107 Hall Street—prior to the redevelopment of 10330 Yonge Street. This option provides public

roadway access and incorporates a turnaround area (designed in accordance with the City's standard, while avoiding any ROW development or encroachment on 10330 Yonge Street. Preliminary Interim Condition Design Option 2 reflects a scenario where both 10350 and 10330 Yonge Street have completed redevelopment of their western portions. In this option, the public access road and associated turnaround area are extended further south to provide access to both properties.

If the east-west section of the extension cannot be constructed in the context of area development applications, the north-south road will be entirely public right-of-way.

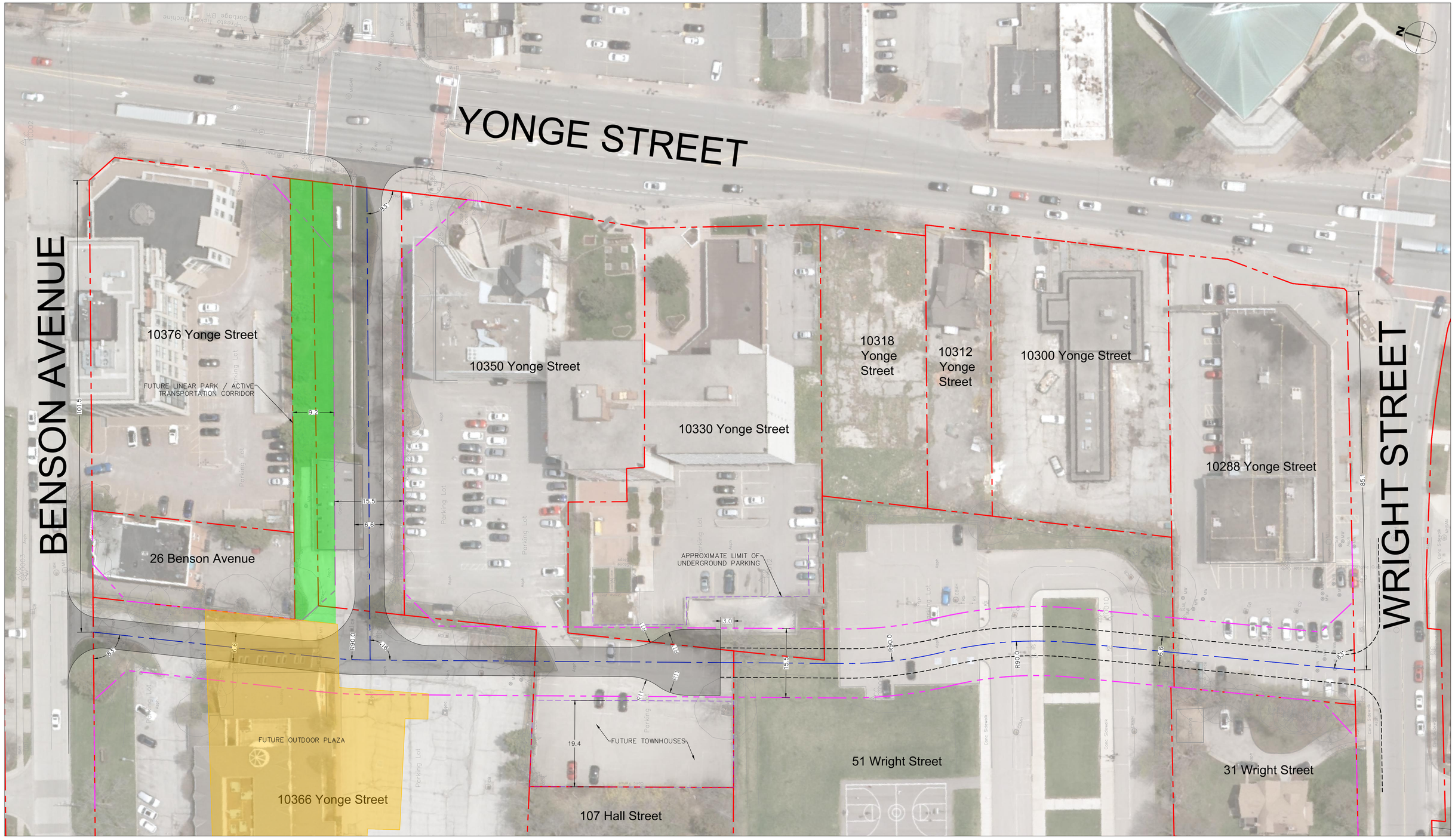
The ultimate condition design represents the completed future state of the Crosby Avenue Extension. In this condition, the public access road from Yonge Street will connect directly to the stub street at Wright Street, forming a continuous corridor. The existing École secondaire Norval-Morrisseau school, located at 51 Wright Street, will remain unaffected until the implementation of this ultimate design phase. Efforts were made to minimize impacts to adjacent properties to the greatest extent possible while maintaining compliance with applicable design standards and guidelines.

8.5 NEXT STEPS

Future stages of design would need to confirm details such as grading, drainage, utilities, accesses, underground structures, tree protection, landscaping and streetscaping, property conveyance, traffic signal modifications at Yonge Street, pavement markings, signage, and other elements in the road right-of-way, which will be the responsibility of developers as part of the development application process.

APPENDIX

A ALTERNATIVE DESIGN OPTION DRAWINGS



LEGEND

- ROW
- PROPERTY LINE
- CENTERLINE
- FUTURE ROAD
- INTERIM ROAD
- FUTURE LINEAR PARK / ACTIVE TRANSPORTATION CORRIDOR
- POTENTIAL OUTDOOR PLAZA

CROSBY AVENUE EXTENSION

RICHMOND HILL, ONT.

ALIGNMENT OPTION 1
INTERIM CONDITION

wsp

Date:	2024-09-12
Scale:	1:400
Consultant File No.	CA0034856.2442
Drawing No.	C-100

YONGE STREET

BENSON AVENUE

WRIGHT STREET

10376 Yonge Street

10350 Yonge Street

10330 Yonge Street

10318 Yonge Street

10312 Yonge Street

10300 Yonge Street

10288 Yonge Street

26 Benson Avenue

10366 Yonge Street

107 Hall Street

51 Wright Street

31 Wright Street

FUTURE LINEAR PARK / ACTIVE TRANSPORTATION CORRIDOR

FUTURE OUTDOOR PLAZA

FUTURE TOWNHOUSES

APPROXIMATE LIMIT OF UNDERGROUND PARKING

9.2

15.5

6.6

19.4

101.5

85.1

R30.0

N

LEGEND

- ROW
- PROPERTY LINE
- CENTERLINE
- ULTIMATE ROAD
- FUTURE LINEAR PARK / ACTIVE TRANSPORTATION CORRIDOR
- POTENTIAL OUTDOOR PLAZA

CROSBY AVENUE EXTENSION RICHMOND HILL, ONT.	ALIGNMENT OPTION 1 ULTIMATE CONDITION

wsp

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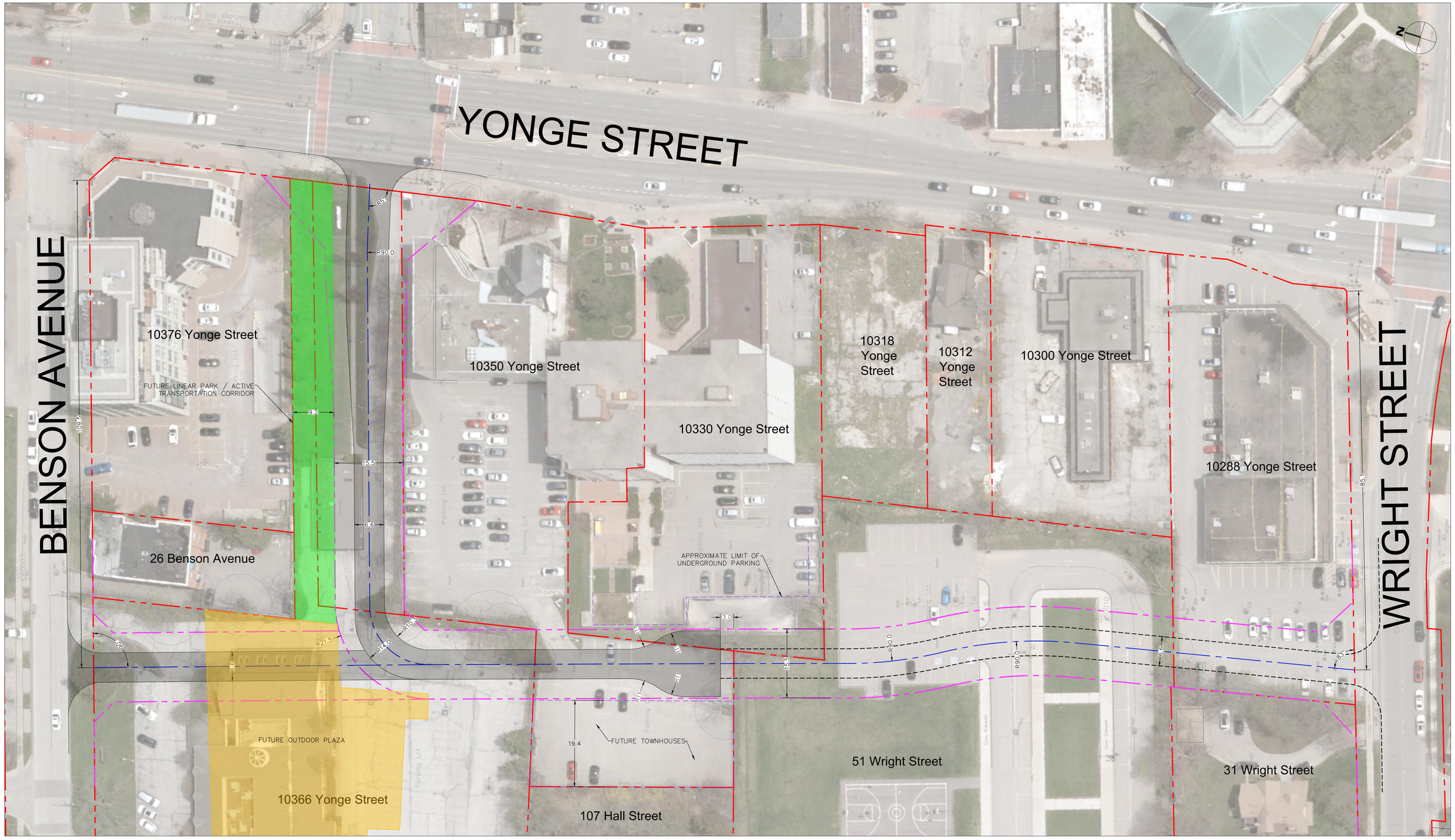

LEGEND

- ROW
- PROPERTY LINE
- CENTERLINE
- FUTURE ROAD
- INTERIM ROAD
- FUTURE LINEAR PARK / ACTIVE TRANSPORTATION CORRIDOR
- POTENTIAL OUTDOOR PLAZA

CROSBY AVENUE EXTENSION

RICHMOND HILL, ONT.

ALIGNMENT OPTION 2
INTERIM CONDITION

wsp

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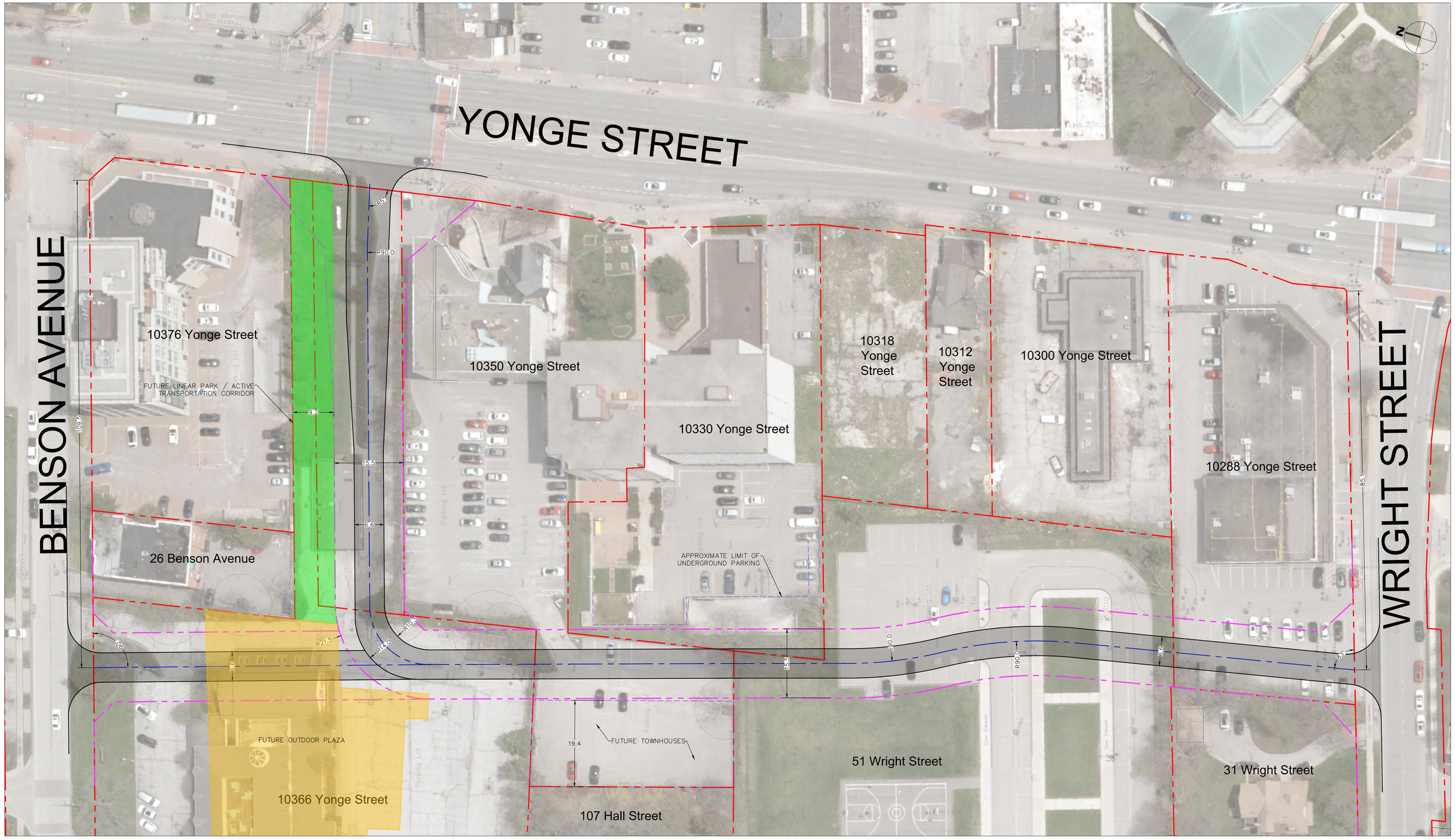
Consultant File No.	CA0034856.2442
Drawing No.	C-200



LEGEND

- ROW
- PROPERTY LINE
- CENTERLINE
- ULTIMATE ROAD
- FUTURE LINEAR PARK / ACTIVE TRANSPORTATION CORRIDOR
- POTENTIAL OUTDOOR PLAZA

CROSBY AVENUE EXTENSION

RICHMOND HILL, ONT.

ALIGNMENT OPTION 2
ULTIMATE CONDITION

wsp

Date:	2024-09-12
Scale:	1:400
Consultant File No.	CA0034856.2442
Drawing No.	C-210

YONGE STREET

BENSON AVENUE

WRIGHT STREET

10376 Yonge Street

10350 Yonge Street

10330 Yonge Street

10318 Yonge Street

10312 Yonge Street

10300 Yonge Street

10288 Yonge Street

26 Benson Avenue

10366 Yonge Street

107 Hall Street

51 Wright Street

31 Wright Street

FUTURE LINEAR PARK / ACTIVE TRANSPORTATION CORRIDOR

FUTURE OUTDOOR PLAZA

FUTURE TOWNHOUSES

APPROXIMATE LIMIT OF UNDERGROUND PARKING

R90.0

9.2

15.5

6.6

19.4

3.0

83.2

LEGEND

- ROW
- PROPERTY LINE
- CENTERLINE
- FUTURE ROAD
- INTERIM ROAD
- FUTURE LINEAR PARK / ACTIVE TRANSPORTATION CORRIDOR
- POTENTIAL OUTDOOR PLAZA

CROSBY AVENUE EXTENSION RICHMOND HILL, ONT.	ALIGNMENT OPTION 3 INTERIM CONDITION
Date: 2024-09-12	
Scale: 1:400	
Consultant File No. CA0034856.2442	
Drawing No. C-300	

YONGE STREET

BENSON AVENUE

WRIGHT STREET

10376 Yonge Street

10350 Yonge Street

10330 Yonge Street

10318 Yonge Street

10312 Yonge Street

10300 Yonge Street

10288 Yonge Street

26 Benson Avenue

10366 Yonge Street

107 Hall Street

51 Wright Street

31 Wright Street

FUTURE LINEAR PARK / ACTIVE TRANSPORTATION CORRIDOR

FUTURE OUTDOOR PLAZA

FUTURE TOWNHOUSES

APPROXIMATE LIMIT OF UNDERGROUND PARKING

R9.0

9.2

15.5

6.6

10.9

19.4

83.2

LEGEND

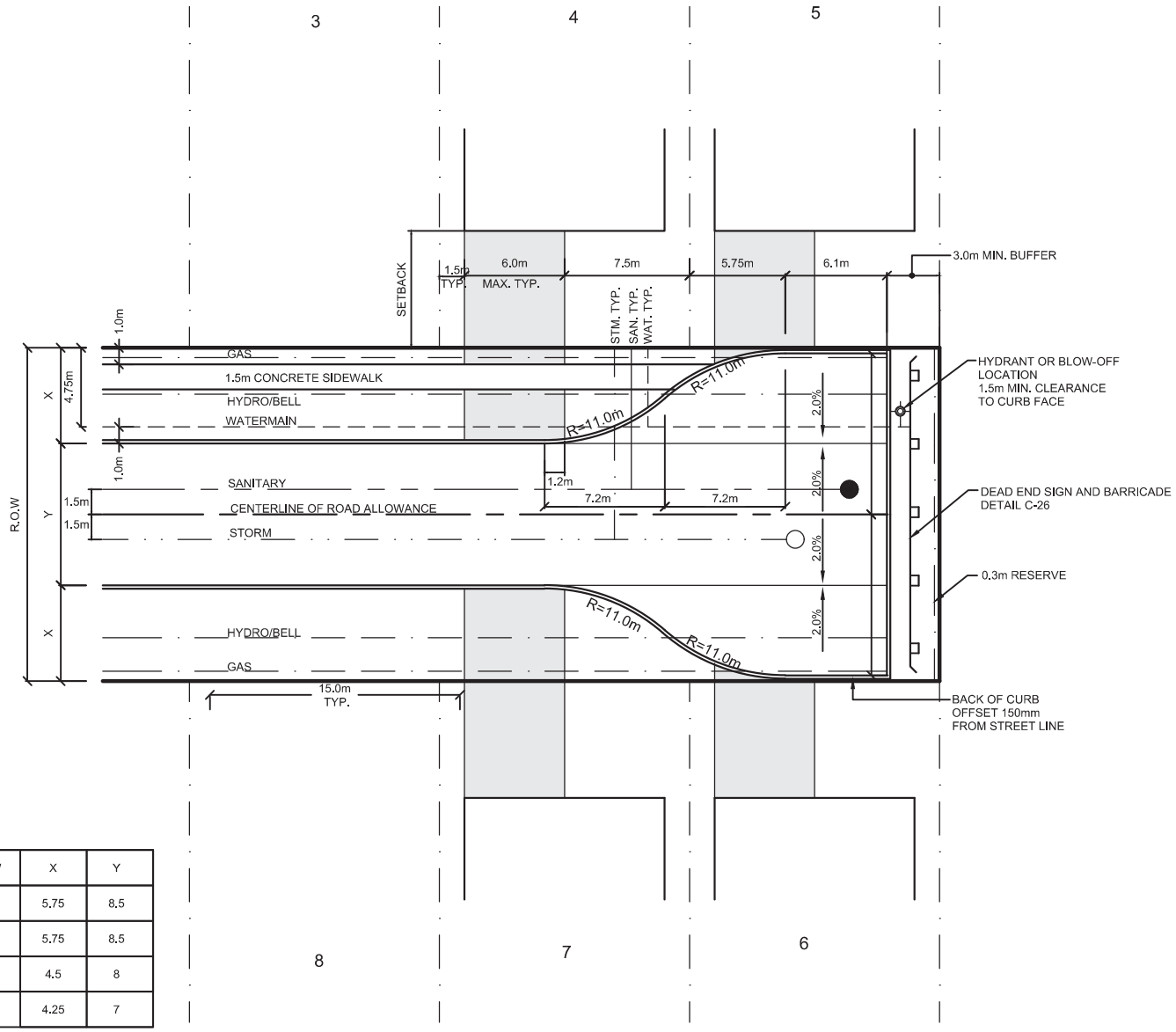
- ROW
- PROPERTY LINE
- CENTERLINE
- ULTIMATE ROAD
- FUTURE LINEAR PARK / ACTIVE TRANSPORTATION CORRIDOR
- POTENTIAL OUTDOOR PLAZA

CROSBY AVENUE EXTENSION RICHMOND HILL, ONT.	ALIGNMENT OPTION 3 ULTIMATE CONDITION
Date: 2024-09-12	
Scale: 1:400	
Consultant File No. CA0034856.2442	
Drawing No. C-310	

	Alternative 1	Alternative 2	Alternative 3
Property Impacts	• Approximately 1,690 sqm of 10366 Yonge Street will be impacted by roadway ROW limits and ROW clear sight triangle. ROW limits at Benson Avenue have been aligned with the property boundary between 10366 Yonge Street and 26 Benson Avenue to reduce impact area. • Approximately 30 sqm of 26 Benson Avenue will be impacted by the roadway ROW clear sight triangle. • Approximately 15 sqm of 10376 Yonge Street will be impacted by the roadway ROW clear sight triangle. • Approximately 700 sqm of 10350 Yonge Street will be impacted by roadway ROW and ROW clear sight triangle. • Approximately 245 sqm of 10330 Yonge Street will be impacted by the roadway and ROW limits. • Approximately 1415 sqm of 51 Wright Street will be impacted by the proposed north-south roadway alignment and ROW limits. • Approximately 660 sqm of 10288 Yonge Street will be impacted by the roadway and ROW limits. • Approximately 30 sqm of 31 Wright Street will be impacted by the roadway ROW clear sight triangle (daylighting triangle). ROW limits at Wright Street have been aligned with the property boundary between 10288 Yonge Street and 31 Wright Street to reduce impact area.	• Approximately 1,680 sqm of 10366 Yonge Street will be impacted by roadway ROW limits and ROW clear sight triangle. • No impact anticipated to 26 Benson Avenue by the proposed roadway ROW and ROW clear sight triangle. • Approximately 20 sqm of 10376 Yonge Street will be impacted by the roadway ROW clear sight triangle. • Approximately 750 sqm of 10350 Yonge Street will be impacted by roadway ROW and ROW clear sight triangle. • Approximately 225 sqm of 10330 Yonge Street will be impacted by the roadway and ROW limits. • Approximately 1,420 sqm of 51 Wright Street will be impacted by the proposed north-south roadway alignment and ROW limits. • Approximately 660 sqm of 10288 Yonge Street will be impacted by the roadway and ROW limits. • Approximately 30 sqm of 31 Wright Street will be impacted by the roadway ROW clear sight triangle (daylighting triangle). ROW limits at Wright Street have been aligned with the property boundary between 10288 Yonge Street and 31 Wright Street to reduce impact area.	• Approximately 1,690 sqm of 10366 Yonge Street will be impacted by roadway ROW limits and ROW clear sight triangle. • No impact anticipated to 26 Benson Avenue by the proposed roadway ROW and ROW clear sight triangle. • Approximately 20 sqm of 10376 Yonge Street will be impacted by the roadway ROW clear sight triangle. • Approximately 750 sqm of 10350 Yonge Street will be impacted by roadway ROW and ROW clear sight triangle. • Approximately 225 sqm of 10330 Yonge Street will be impacted by the roadway and ROW limits. • Approximately 1,410 sqm of 51 Wright Street will be impacted by the proposed north-south roadway alignment and ROW limits. • Approximately 625 sqm of 10288 Yonge Street will be impacted by the roadway and ROW limits. • Approximately 30 sqm of 31 Wright Street will be impacted by the roadway ROW clear sight triangle (daylighting triangle).

APPENDIX

B CITY OF RICHMOND HILL DESIGN STANDARDS



R.O.W	X	Y
20m	5.75	8.5
18m	5.75	8.5
17m	4.5	8
15.5m	4.25	7

NOTES:

1. ALL CURB AND GUTTER SHALL BE CONCRETE BARRIER TYPE AS PER OPSD-600.04
2. CURB STANDARD AT SIDEWALK SHALL CONFORM TO OPSD-600.11
3. PROPOSED DRIVEWAYS SHALL BE LOCATED AS INDICATED ON THIS STANDARD. CONSIDERATION WILL NOT BE GIVEN TO ALTERNATIVE LAYOUTS
4. SERVICE CONNECTIONS SHALL BE LOCATED IN ACCORDANCE WITH CITY STANDARD.

No.	REVISIONS	DATE	APP'D

Richmond Hill

PLANNING AND INFRASTRUCTURE DEPARTMENT

TEMPORARY TURNAROUND

SCALE: N.T.S.	DATE: FEB. 2022
DRAWN: S.M.	DWG. No. C-24

APPENDIX

C STAKEHOLDER ENGAGEMENT

September 27, 2024
File No. 24-12

City of Richmond Hill
Infrastructure Planning & Development Engineering Division
Infrastructure & Engineering Services Department
225 East Beaver Creek Road
Richmond Hill, ON L4B 3P4

Reference: Crosby Avenue Extension Alignment Response
10350 Yonge Street, 10366 Yonge Street and 26 Benson Avenue

Groundswell Urban Planners Inc ("Groundswell") and MHBC Planning Limited ("MHBC") are providing the following feedback on behalf of our Clients Lalu 26 Benson Holdings Inc and Sunup Realty Inc, for their lands municipally known as 10350 Yonge Street, 10366 Yonge Street and 26 Benson Avenue (the "subject lands").

This feedback is in response to the Crosby Avenue extension alignment alternatives presented at the Stakeholder Meeting #1 held on September 13, 2024.

In relation to the proposed cross sections presented, we support 'Alternative A', consistent with what was identified as the City's preferred alternative.

Regarding the right-of-way alignments presented, our preference of the options presented is 'Alternative 2'. This alignment contemplates a private right-of-way connection up to Benson Avenue to the north, with the balance of the Crosby Avenue extension to be a public right-of-way for the east-west and southern sections.

We prefer the incorporation of a private right-of-way in this location as it mitigates potential site constraints and supports more efficient use of land in a key location; such as facilitating opportunities for construction of structures above the right-of-way. Furthermore, the private right-of-way could be designed as a privately owned but publicly accessible space, that would allow for movement and connection for pedestrians, cyclists and vehicles (including emergency) between Benson Avenue and the Crosby Extension.

The proposed northern private right-of-way up to Benson Avenue should be revised on future alignment drawings to clearly differentiate this section from the public ROW, as the current Alternative 2 drawings do not clearly depict this and may be incorrectly interpreted.

We also request the City support stratification to permit structures below the future public right-of-way, for the construction of underground parking associated with private developments. Permitting these structures below the public right-of-way mitigates the significant constraints that result from the severing of parcels from the roadway alignment, and instead would support more efficient land use and parking design, as well as for more cost effective construction.

95 MURAL STREET, SUITE 402
RICHMOND HILL, ON L4B 3G2
(905) 597-8204
www.groundswellplan.com

The Owners of the subject lands are supportive of the City's goals and objectives as it relates to the extension of Crosby Avenue, and look forward to working together with the City to achieve a realisation of this new roadway.

We would be pleased to meet with City Staff and their project consultants to provide additional feedback.

Sincerely,

GROUNDSWELL URBAN PLANNERS INC.

Brad Rogers, MCIP, RPP
Principal Planner, President
brad@groundswellplan.com

MHBC PLANNING LIMITED INC.

Eldon Theodore, BES, MUDS, MLAI, MCIP, RPP
Partner
etheodore@mhbcplan.com

cc: *Shawn Smith, WSP Canada Inc.*
Sunup Realty Inc.
Lalu 26 Benson Holdings Inc.

December 02, 2024
File No. 24-12

City of Richmond Hill
Infrastructure Planning & Development Engineering Division
Infrastructure & Engineering Services Department
225 East Beaver Creek Road
Richmond Hill, ON L4B 3P4

Reference: Crosby Avenue Extension Alignment Response #2
10350 Yonge Street, 10366 Yonge Street and 26 Benson Avenue

Groundswell Urban Planners Inc ("Groundswell") and MHBC Planning Limited ("MHBC") are providing the following additional feedback on behalf of our Clients Lalu 26 Benson Holdings Inc and Sunup Realty Inc, for their lands municipally known as 10350 Yonge Street, 10366 Yonge Street and 26 Benson Avenue (the "subject lands").

Initial written feedback was provided in response to the Stakeholder Meeting #1 held on September 13, 2024, in the form of a written submission dated September 27, 2024. This additional feedback is in response to the Crosby Avenue extension preferred alignment conditions presented at the Stakeholder Meeting #2 held on November 21, 2024.

In relation to the preferred cross sections presented, we generally support the City's chosen cross sections, with the north-south extension featuring shared cycling and vehicle lanes, and the east-west extension featuring dedicated vehicle lanes with an adjacent multi-use path.

Regarding the preferred alignment presented, we continue to support the private right-of-way as shown connecting to the north at Benson Avenue, and also the acknowledge the revisions on the new alignment drawings which address our previous comments to ensure this private right-of-way is differentiated from the public right-of-way.

As it relates to the interim condition options, we support Option #2. The roadway design of Option #2 locates the 'bulb' at the southern limit of the interim roadway, which facilitates safe and efficient vehicle turn around movements at the dead-end point of this interim condition if required.

We are supportive of the ultimate Crosby Avenue extension ultimate right-of-way conditions as presented.

We do not support the location of the proposed future pedestrian connection (identified in Pink) as shown on both interim and ultimate condition plans. The current delineation of this pedestrian connection bisects our Clients' 10366 Yonge Street and 10350 Yonge Street parcels, creating a site constraint which may restrict future redevelopment options within this portion of the subject lands.

95 MURAL STREET, SUITE 402
RICHMOND HILL, ON L4B 3G2
(905) 597-8204
www.groundswellplan.com

We do support pedestrian connections from Hall Street which promote interconnection of the adjacent neighbourhood to a future mixed use hub, and permeability through the properties to facilitate and promote efficient active transportation. However, we request that this future pedestrian connection be realigned to be on the south side of the properties as shown in *Figure 1* below.

This proposed connection realignment continues to achieve the objectives for the pedestrian connections through to the future Crosby Avenue extension, but in this location straddles the property lines of 107 Hall Street, 51 Wright Street and 10350 Yonge Street so that no parcels are being bisected by the pathway. Additionally, a future pedestrian connection along the north edge of the open space associated with the school would provide a safer and more attractive route compared to a path located between two buildings.

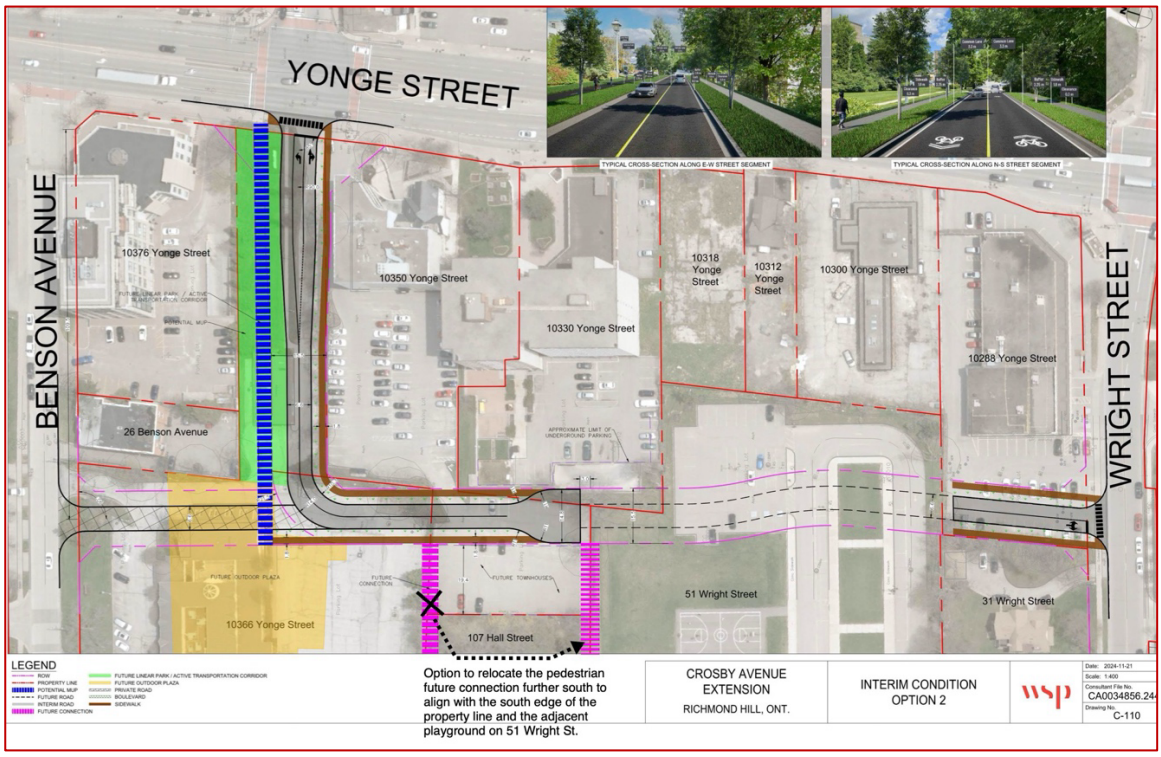


Figure 1 - Proposed Future Connection Realignment

We continue to request that the City support stratification to permit structures below the future public right-of-way, for the construction of underground parking associated with private developments. Permitting these structures below the public right-of-way mitigates the significant constraints that result from the severing of parcels from the roadway alignment, and instead would support more efficient land use and parking design, as well as for more cost effective construction.

The Owners of the subject lands continue to be supportive of the City's goals and objectives as it relates to the extension of Crosby Avenue, and look forward to working together with the City to achieve a realisation of this new roadway and its associated pedestrian connections.

95 MURAL STREET, SUITE 402
RICHMOND HILL, ON L4B 3G2
(905) 597-8204
www.groundswellplan.com

We would like to request a meeting (virtual or in-person) with City Staff to further discuss our feedback prior to the City and it's consultants finalising the project deliverable scheduled for December 20, 2024.

Sincerely,

GROUNDSWELL URBAN PLANNERS INC.

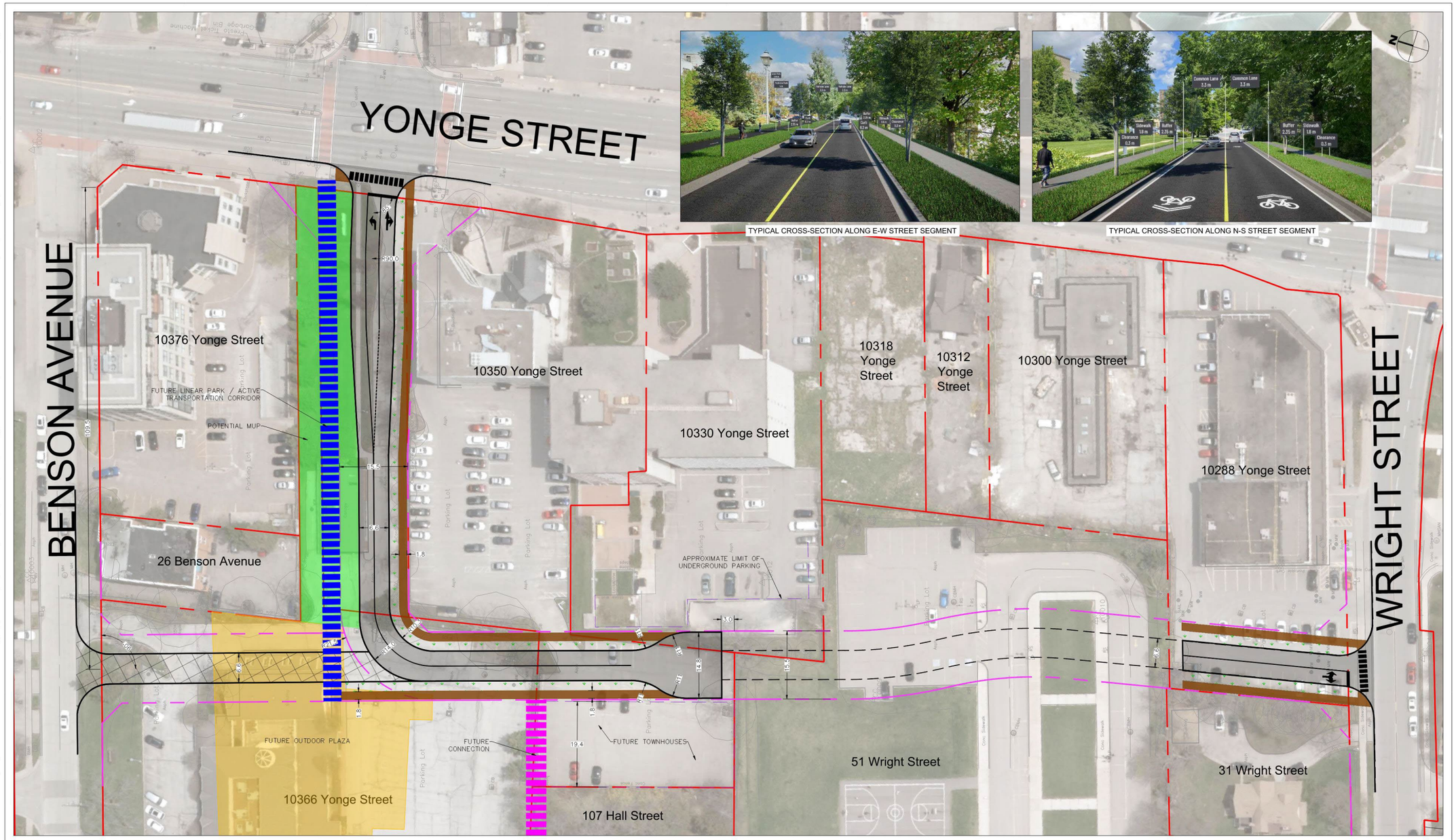
Brad Rogers, MCIP, RPP
Principal Planner, President
brad@groundswellplan.com

MHBC PLANNING LIMITED INC.

Eldon Theodore, BES, MUDS, MLAI, MCIP, RPP
Partner
etheodore@mhbcplan.com

cc: *Shawn Smith, WSP Canada Inc.*
Sunup Realty Inc.
Lalu 26 Benson Holdings Inc.

Interim Option 2



LEGEND

- ROW
- PROPERTY LINE
- POTENTIAL MUP
- FUTURE ROAD
- INTERIM ROAD
- FUTURE CONNECTION
- FUTURE LINEAR PARK / ACTIVE TRANSPORTATION CORRIDOR
- FUTURE OUTDOOR PLAZA
- PRIVATE ROAD
- BOULEVARD
- SIDEWALK

CROSBY AVENUE EXTENSION RICHMOND HILL, ONT.	INTERIM CONDITION OPTION 2	wsp	Date: 2024-11-21 Scale: 1:400 Consultant File No. CA0034856.2442 Drawing No. C-110

Kagan | Shastri
DeMelo | Winer | Park
LAWYERS | LLP

ADRIAN FRANK
Direct: 416.645.4582
afrank@ksllp.ca

December 5, 2024

DELIVERED BY EMAIL (irfan.akram@richmondhill.ca)

City of Richmond Hill
225 East Beaver Creek Road
Richmond Hill, ON L4B 3P4

Attention: Irfan Akram, Senior Transportation Planner

Dear Irfan:

Re: Crosby Avenue Extension Stakeholder Consultation

Feedback Provided on behalf of SK Properties & Development Inc. and 10318 Yonge Street Holdings Inc.

Please be advised that we have been retained by SK Properties & Development Inc. and 10318 Yonge Street Holdings Inc., which together are the registered owners of the property municipally known as 10330, 10318, and 10312 and Yonge Street in the City of Richmond Hill (collectively, the "**Site**").

Through our client, we have received information regarding the City's Feasibility Study and Preliminary Design work respecting the proposed Crosby Avenue Extension (the "**Crosby Extension**" or the "**Extension**"), from Yonge Street to Wright Street.

We are writing on behalf of our client to express concerns with the current design options for the Extension being advanced by the City and its consultant WSP, and to request that the City reconsider the options available in light of the disproportionate impacts that these options will have on specific landowners like our client. Generally speaking, these concerns can be summarized in three areas: conflicts with our client's plans for the Site, issues with the interim alignment options, and issues with the ultimate alignment options.

General Conflict with Redevelopment Concept Plans for the Site

As you may be aware, our client originally submitted a pre-application concept to the City in late 2018 and early 2019. While initial feedback received from the City suggested that a new road to the rear of the Site may be possible, it did not indicate that the City intended to rely on a portion of the Site itself for that purpose. A revised development proposal was pre-submitted to the City in January 2022, with a reply from the City being provided in

March 2022. Once again, response letters from the City did not indicate that the proposed road would be located on the Site itself.

Our client was subsequently informed about the City's interest in a feasibility study regarding the Crosby Extension, and in correspondence to the City beginning in October 2022, our client highlighted the significant impacts on the Site that may result from the contemplated alignment through the rear of the Site. Since that time, our client has engaged in further discussions with staff, and has participated in the subsequent stakeholder meetings regarding this matter in September (Stakeholder Meeting 1) and November (Stakeholder Meeting 2) 2024. It does not appear that our client's development concepts were taken into account when options were selected for consultation in the Stakeholder Meetings, as all alignment options would impose detrimental impacts that conflict with our client's concept plans.

During the Stakeholder Meetings, our client therefore raised concerns respecting the proposed alignment of the Crosby Extension, including its impacts on the development options for our client's Site. Notwithstanding this feedback, the proposed options for both Interim and Ultimate Alignment of the Extension continue to impose impacts on the development potential for the Site, as evidenced by the options put forward at Stakeholder Meeting 2.

As our client has previously advised, one of the redevelopment options for the Site would involve retention of the existing rental building at 10330 Yonge Street, and reliance upon the existing parking ramp to the underground garage located at the rear of the site. Another would include the locating of a new building in the same location. In either case, the proposed Extension location would be directly in conflict with an existing or proposed part of the development on the Site. Given our client's efforts over the past five years to inform the City of this issue and its encouragement for the City and its consultants to explore alternatives, and given further the abundance of land available at 10350 Yonge Street and the abutting school site, these impacts are entirely avoidable.

Based on the above, there are other options available which would prevent any impacts on the Site, including re-alignment of the Extension in a manner that runs parallel to the rear property boundary of 10330 Yonge Street. We strongly urge the City to reconsider the alignment options for this Extension in light of the concept plans for the Site that have been under consideration since well before consultation on the Crosby Extension began.

Concerns with Ultimate Alignment Options

It is clear from the options put forward for the Extension that a measure of care has been put into avoiding impacts on certain properties in the area. For example, Alignment 1 (as presented at the first Stakeholder Meeting) shows a clear intention to align the Benson Avenue connection parallel to the side property line at 26 Benson Avenue. Similarly, Alignment Options 1 and 2 (again, as presented at the first Stakeholder Meeting) show connections to Wright Street which run parallel to the rear property lines of the properties at 10288 Yonge Street and 31 Wright Street.

Moreover, all alignment options have clearly been designed to preserve a rectangular parcel to the rear of the property abutting 107 Hall Street, which is marked as “Future Townhouses”.

In spite of the care taken in these areas—or potentially because of it, in the case of the “Future Townhouses”—all alignment options result in an unnecessary and unnecessarily large portion of the proposed right of way to be located across at the rear of the site at 10330 Yonge Street. The effect of this location would be to effectively sterilize a significant portion of the rear yard at 10330 Yonge Street, including both the area to be taken for the right-of-way itself and any additional area required as a setback from the proposed right-of-way.

We urge the City to consider alternatives which would avoid these impacts, including an alignment of the extension in parallel with the rear property line of 10330 Yonge Street (and with Yonge Street itself), which could readily be designed to connect with the proposed intersection at Wright Street, or consideration of a narrower right-of-way that does not require sterilization of any part of the rear property at 10330 Yonge Street.

Concerns with Interim Alignment Options

The “Interim Options” presented at the second Stakeholder Meeting present similar issues for the future development potential of the Site. An alignment that is parallel to the rear property line at 10330 Yonge Street would prevent these issues and forego the resulting impacts.

If the City nevertheless chooses to go forward with an interim alignment that overlaps and sterilizes a portion of our client’s site, it is our client’s preference that an attempt be made to minimize such impacts, as is demonstrated by the advantages of Interim Option 1 over Interim Option 2.

Request for Further Notice

We kindly ask that we be provided with notice of any future meetings, agenda items, and decisions made in respect of this matter.

Our client remains committed to participating in further discussions and stakeholder engagements on this subject, in the interest of exploring additional options which better balance the interests of private landowners, the City and the public at large.

Should you have any questions, or require additional information, please do not hesitate to contact me.

Yours very truly,

KAGAN SHASTRI DeMELO WINER PARK LLP

Adrian Frank
AGF/ss

Please reply to the: Downtown Office

cc. Client

Hubert Ng, City of Richmond Hill, Traffic & Transportation (hubert.ng@richmondhill.ca)

Shawn Smith, WSP (shawn.smith@wsp.com)

APPENDIX

C-1 PRESENTATIONS

Crosby Avenue Extension

Benson Avenue to Wright Street

Feasibility Study and Preliminary Design

Stakeholder Meeting #1

13 September 2024

Agenda

Meeting Objective: Provide an opportunity for stakeholders to ask questions and provide feedback

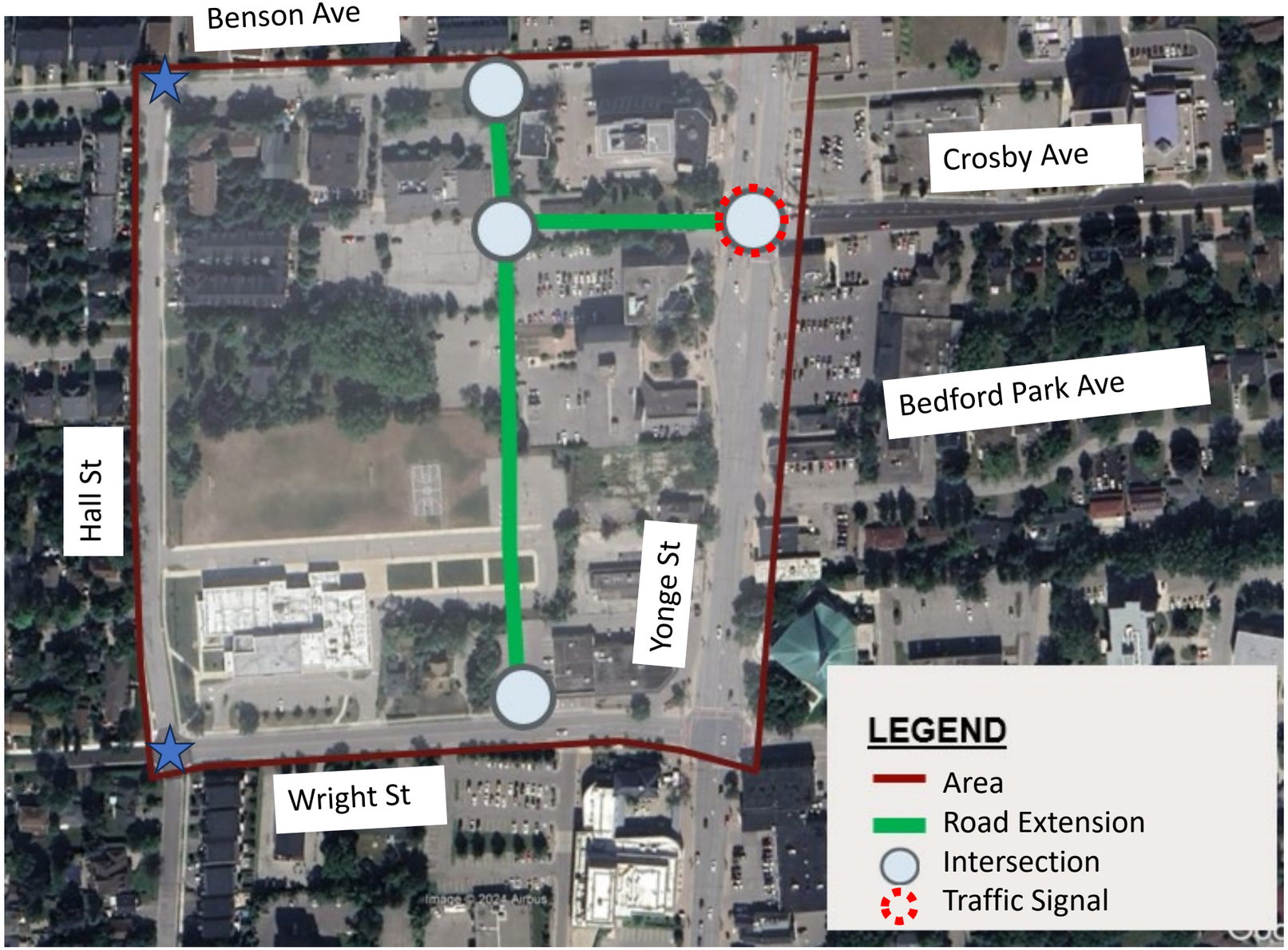
1. **Introductions** (10 mins)
2. **Project Overview, Goals, Evaluation Criteria** (15 mins)
   - Discussion (10 mins)
3. **Cross Section Alternatives** (10 mins)
   - Discussion (10 mins)
4. **Alignment Alternatives Overview** (20 mins)
   - Miro Board Exercise and Discussion (40 mins)
5. **Next Steps** (5 mins)

Introductions

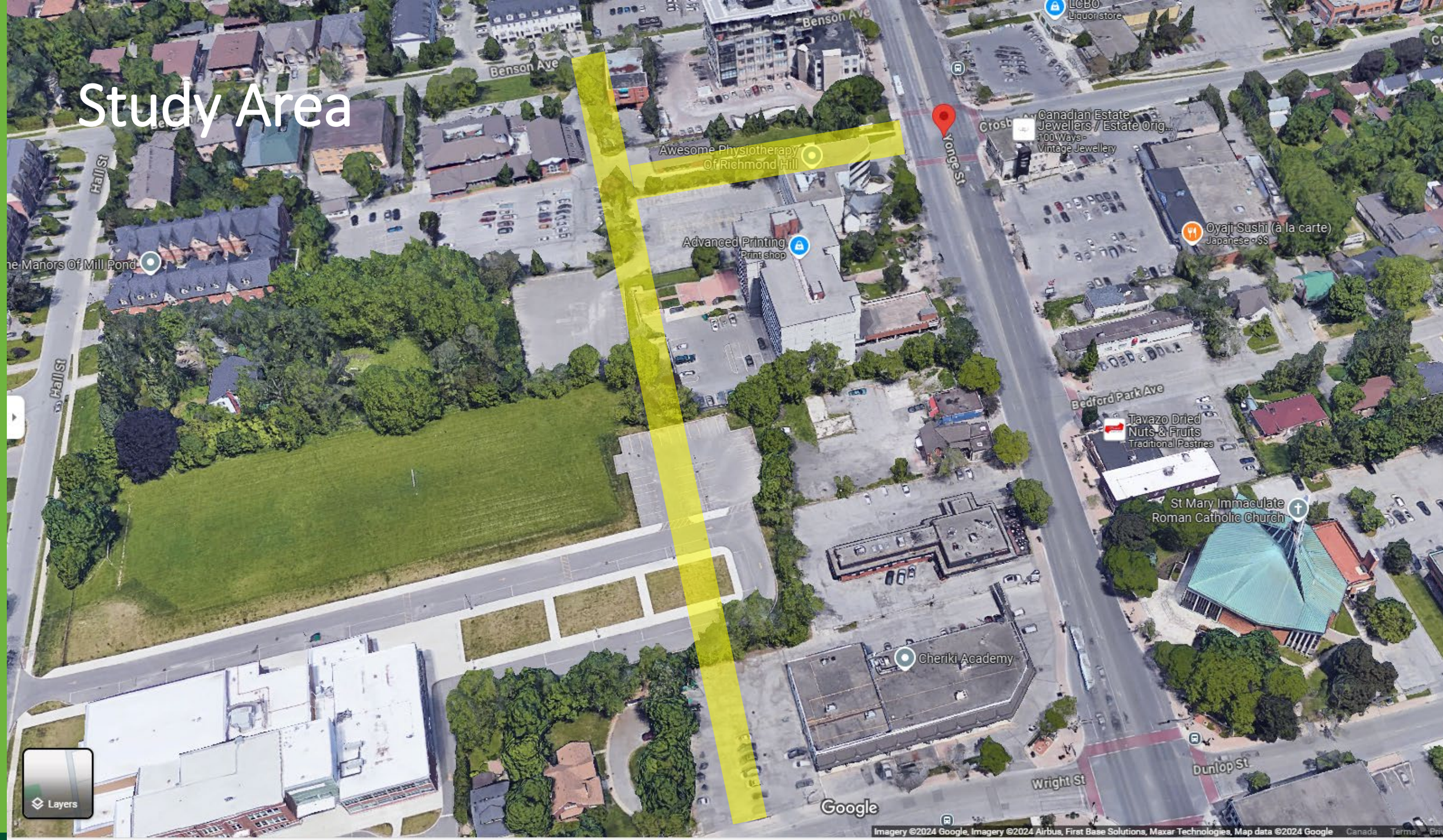
1. Name
2. Organization
3. Interest in the Study

Project Overview, Goals, Evaluation Criteria

Study Area

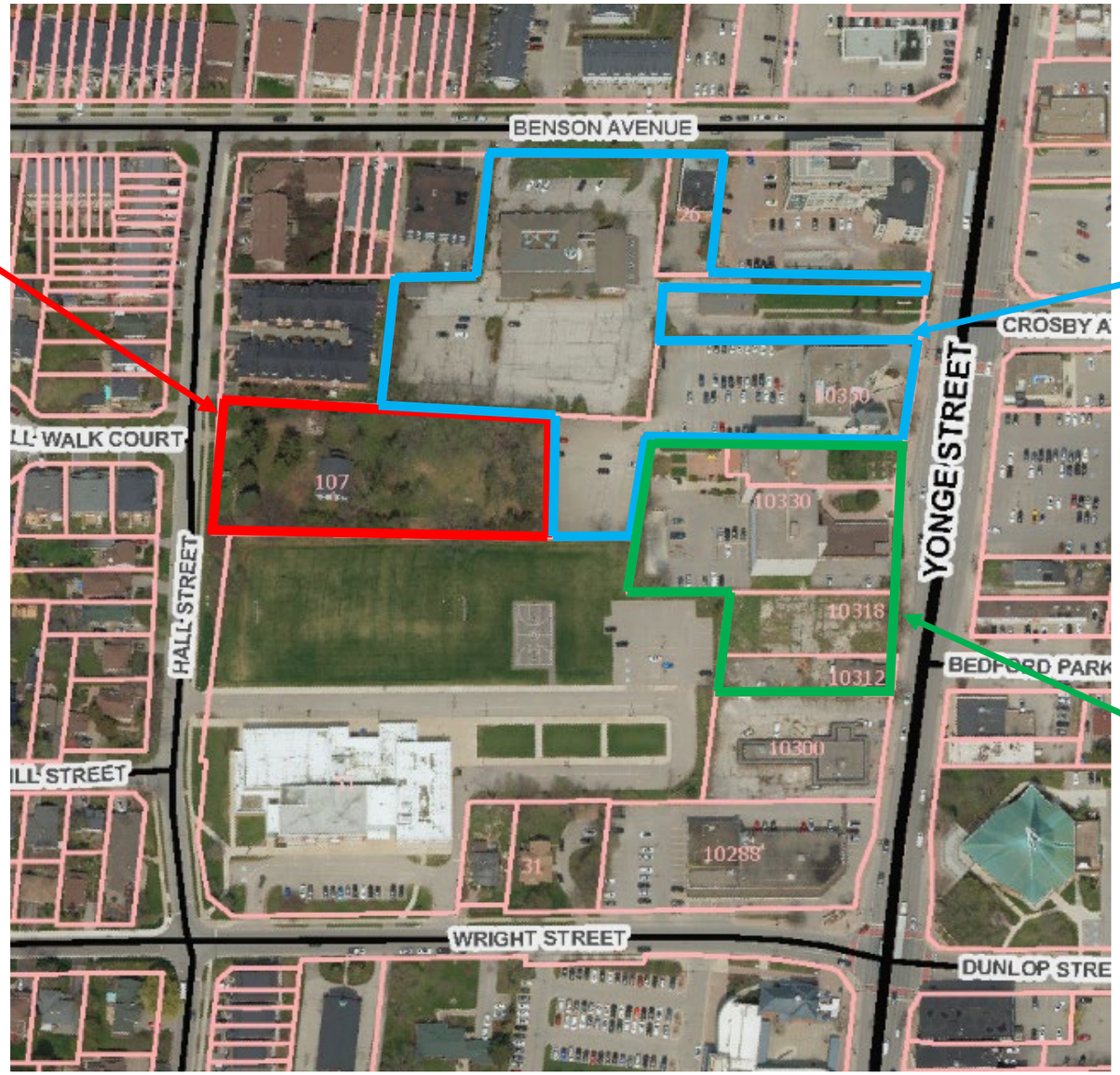

Benson Ave
Crosby Ave
Bedford Park Ave
Hall St
Yonge St
Wright St
LEGEND
Area
Road Extension
Intersection
Traffic Signal

Study Area


Benson Ave
Hall St
Awesome Physiotherapy Of Richmond Hill
Advanced Printing
Print shop
Yonge St
Canadian Estate Jewellers / Estate Orig...
100 Ways - Vintage Jewellery
Oyaji Sushi (à la carte)
Japanese · $$
Bedford Park Ave
Tavazo Dried Nuts & Fruits
Traditional Pastries
St Mary Immaculate Roman Catholic Church
Cheriki Academy
Wright St
Dunlop St
Google
Layers
Imagery ©2024 Google, Imagery ©2024 Airbus, First Base Solutions, Maxar Technologies, Map data ©2024 Google

Current Area Applications / Pre-Applications

- **107 Hall Street – OPA & ZBA applications submitted for two towers containing 265 residential units.**



- **10350 & 10366 Yonge Street and 26 Benson Avenue – pre-submission meeting held**
- **10312, 10318 and 10330 Yonge Street – pre-submission meeting held**

Conceptual Alignment from 2023

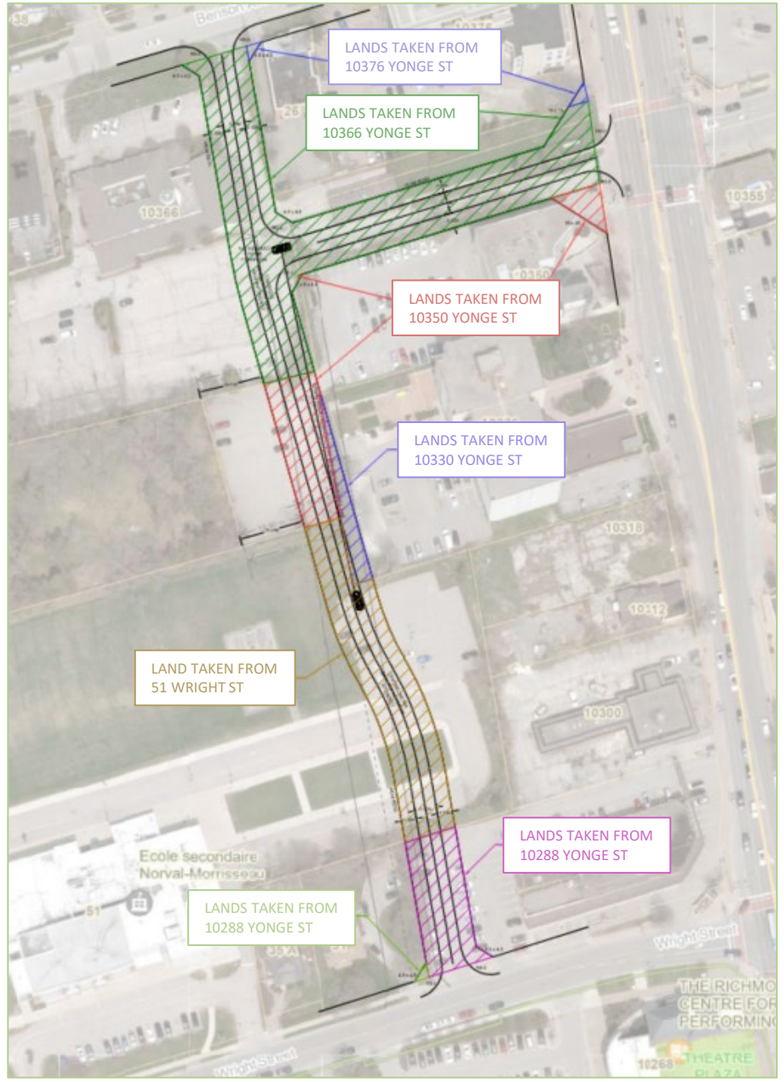


Image
Red: Red
Green: Green
Blue: Blue

Parks and Open Space
Park

City Owned
Parcels
Road Segments
Regional Roads label
Recreation Centre

Performing Arts Centre

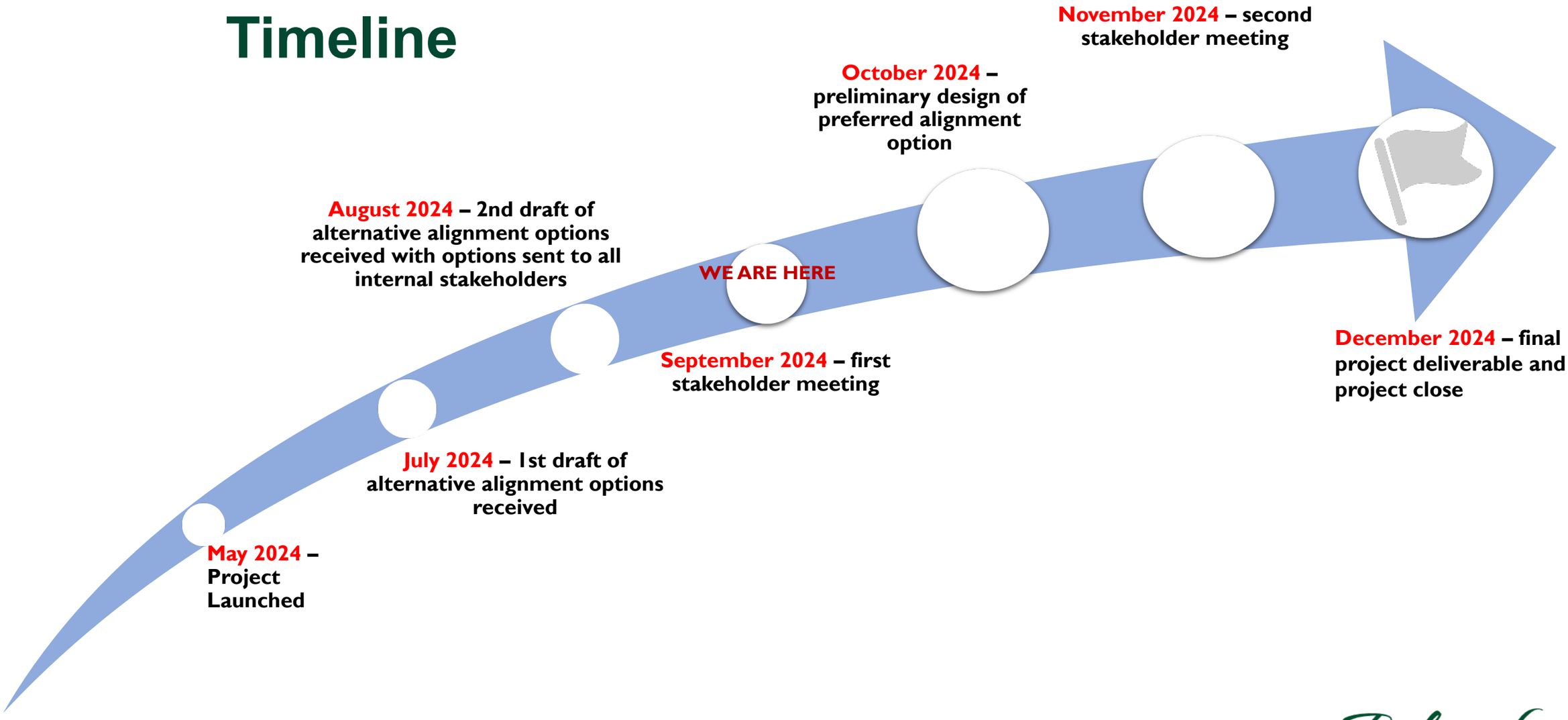
Schools
French Public

Address Point

PROPERTIES AFFECTED:
- 10366 Yonge St
- 26 Benson Ave (daylight tri only)
- S of 10376 Yonge St
- 10350 Yonge St
- 10330 Yonge St
- 51 Wright St
- 31 Wright St (daylight tri only)
- 10288 Yonge St

Feasibility Study

Timeline



9

Purpose of the Road

- Facilitates the need for **greater interconnections between existing roads** with a view to creating a finer grid network, as well as **new Active Transportation (AT) opportunities**, for local neighbourhoods within the City.

- These finer grid networks would not only facilitate greater travel options for vehicles and pedestrians, but also **increase options for residential and servicing vehicular access opportunities for new developments**. Dispersing traffic will also provide greater transit and AT capacity along Yonge Street.

- The section of Yonge Street between Benson Avenue and Major Mackenzie Drive West is one of the City's **key growth and intensification corridors**.

10

Site Observations | West Leg at Yonge St

Site Observations | East-West and North Connections

Site Observations | East-West and North Connections

Site Observations | South Connection

Proposed Evaluation Criteria

Criteria	Description
Property Impact	- Minimize number of impacted properties - Minimize third-party property impacts/conveyance
Geometric Constraints	- Meets requirements for design/control vehicles (Emergency services/waste collection/snow clearing/street sweeping) - Impacts to traffic operations - Loading and deliveries
Safety	- Safety and comfort for vulnerable road users - Provides accessible environment for users - Provides appropriate infrastructure for all ages and abilities - Reduces conflicts between turning motorists and cyclists
Public Realm	- Opportunities to improve the pedestrian environment and streetscape - Alignment with existing plans and concepts - User experience
Socio-economic Impacts	- Vehicle parking supply - Noise impacts/air quality - Aesthetics - Developable Land

What We've Done So Far– Key Activities

- Site visit
- Topographic survey
- Issues / opportunities
- Alignments and cross sections alternative development
- Develop cross section design alternatives
- Stakeholder meeting #1 ← We Are here
- Choose a preferred alternative based on a design criteria
- Development of preliminary design
- Traffic assessment
- Stakeholder meeting #2
- Finalize feasibility report, preliminary design

Cross Section Alternatives

Proposed Cross Section – Alternative A (Preferred)

Shared Lanes:

- Following the City's engineering standard for a 15.5m local road with the shared lanes

Proposed Cross Sections – Alternative B

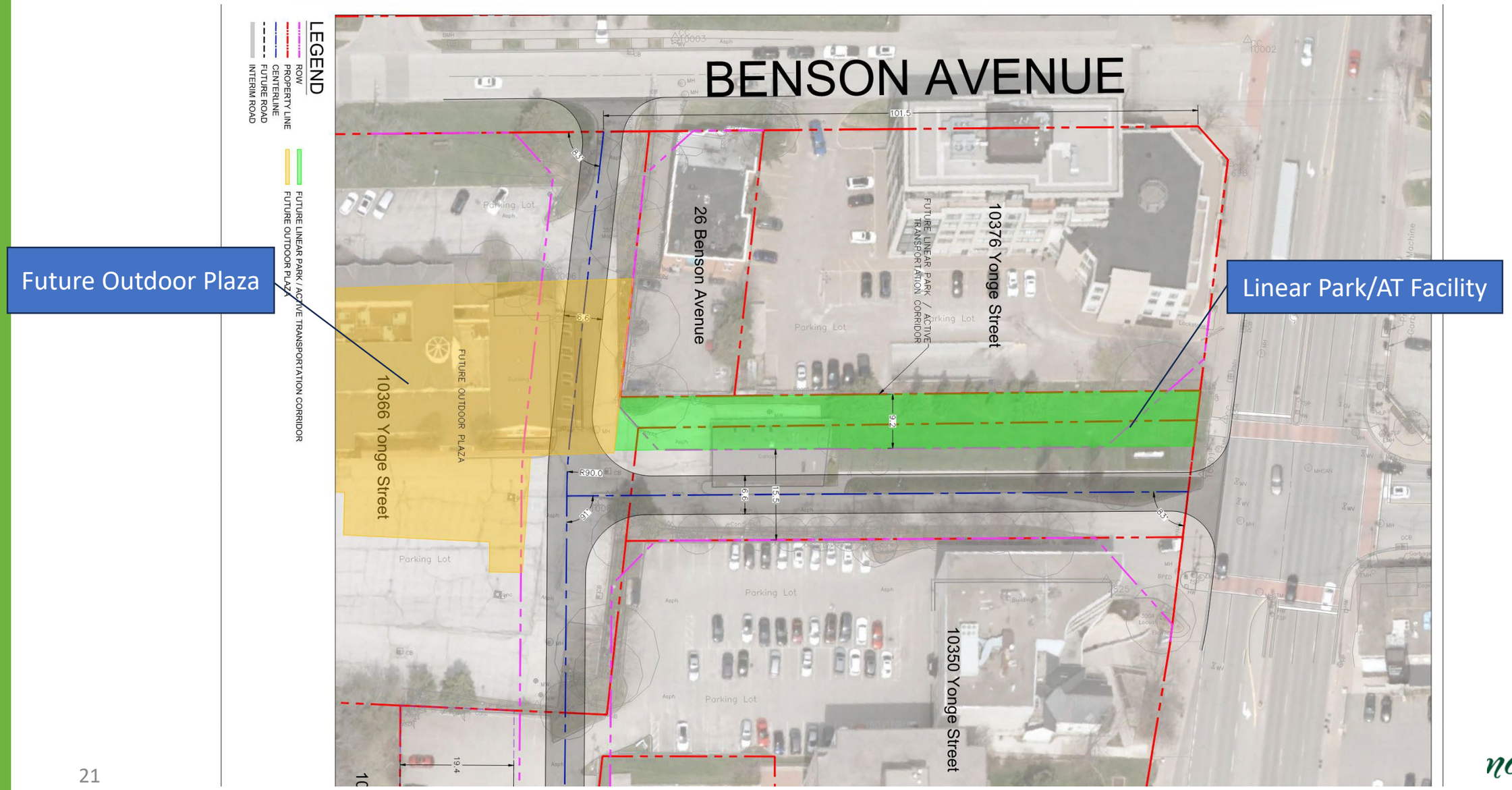
Bike Lanes, Option B:

- 1.5m sidewalks, 1.75m buffer, 1.5m bike lanes, 3.0m vehicular lanes

Cross-section Comparison

	Pros	Cons
Alternative A – No bike lanes **(Preferred)**	• Narrower road width provides traffic calming • Wider sidewalks and more buffer from road • Wider boulevard provides opportunities for better landscaping and public realm	No cycling facilities
Alternative B – Bike lanes	• Dedicated cycling facilities	• Wider curb-to-curb width encourages higher speeds • Narrow sidewalks • Narrow buffer limits opportunities for plantings

East-West Linear Park Concept



East-West Linear Park Concept

West Toronto Railpath,
source: nowtoronto.com

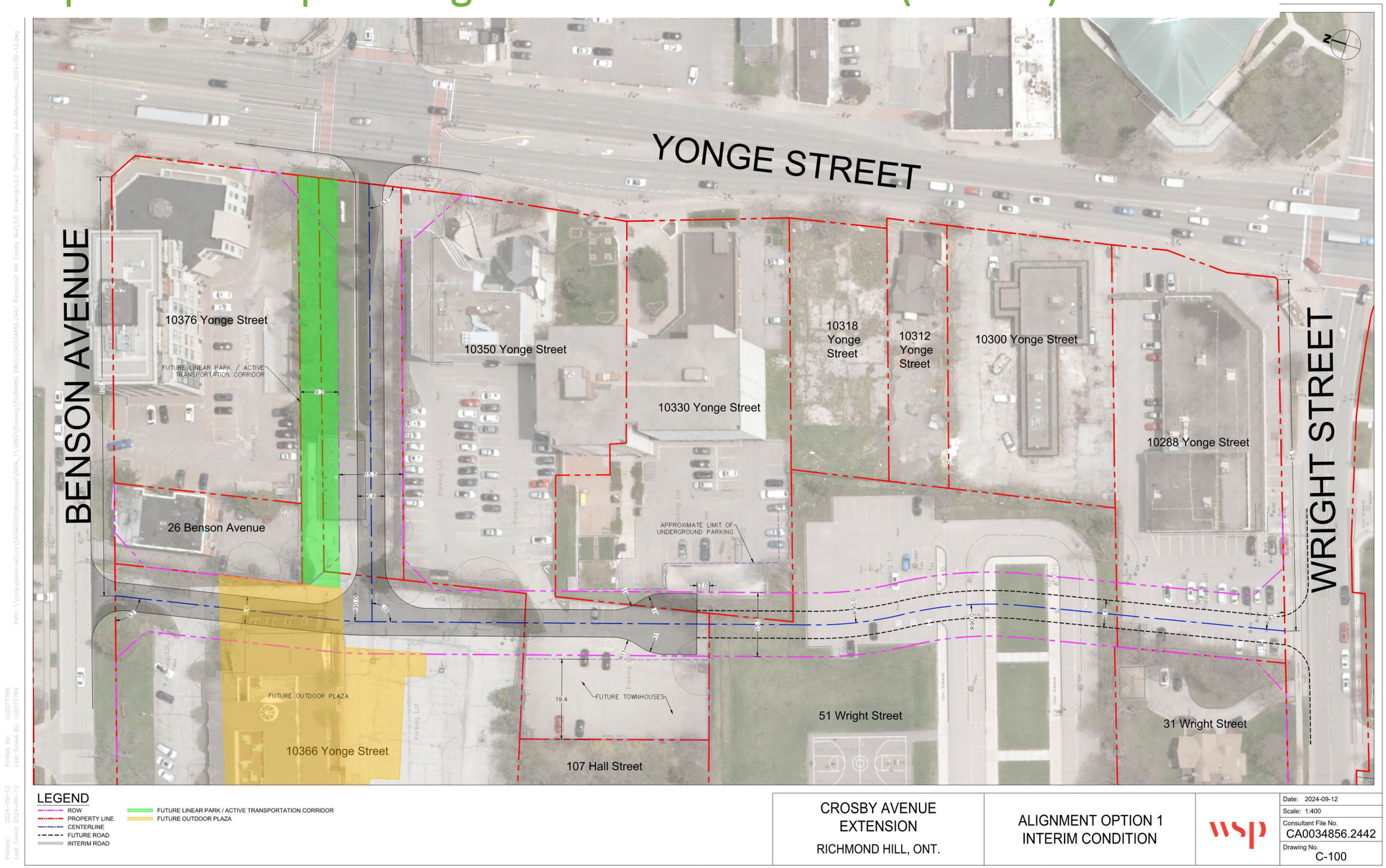
Monon Trail, Carmel, Indiana
Source: American Fietser

Avenue Road Linear Park,
source: streetsoftoronto.com

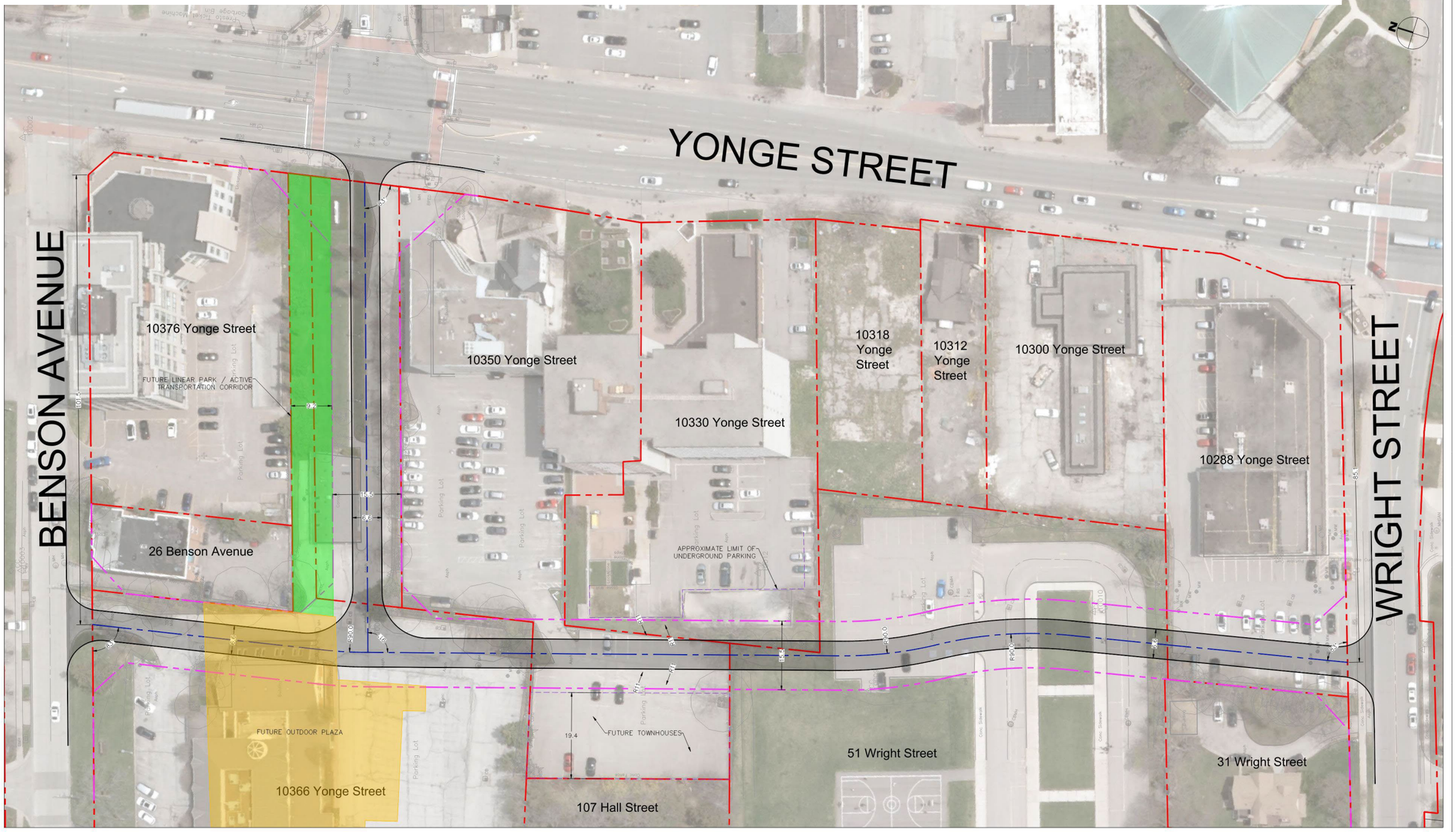
Alignment Alternatives

- Three alignment alternatives
- Interim & ultimate condition

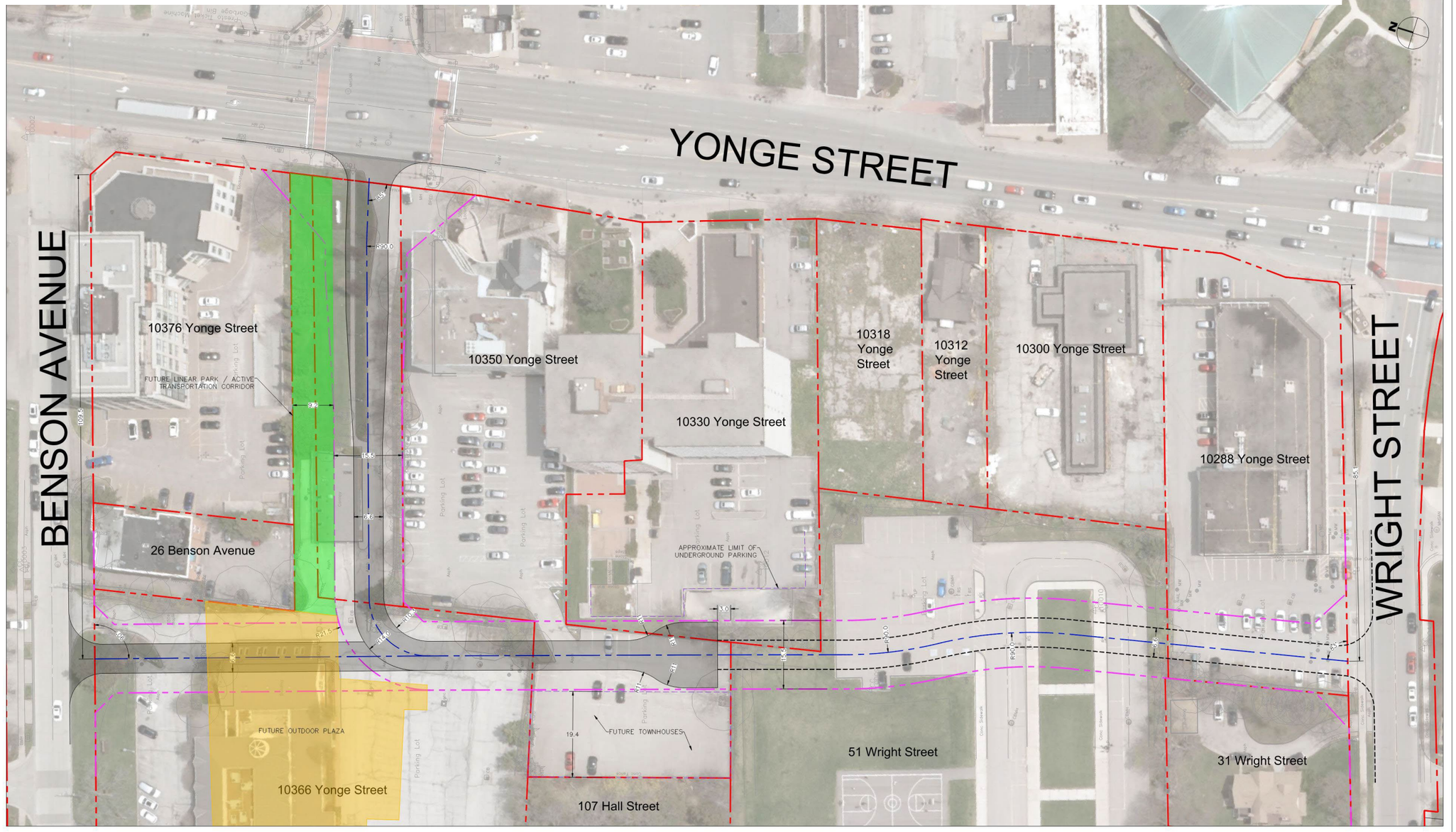
Proposed Conceptual Alignments – Alternative 1 (Interim)



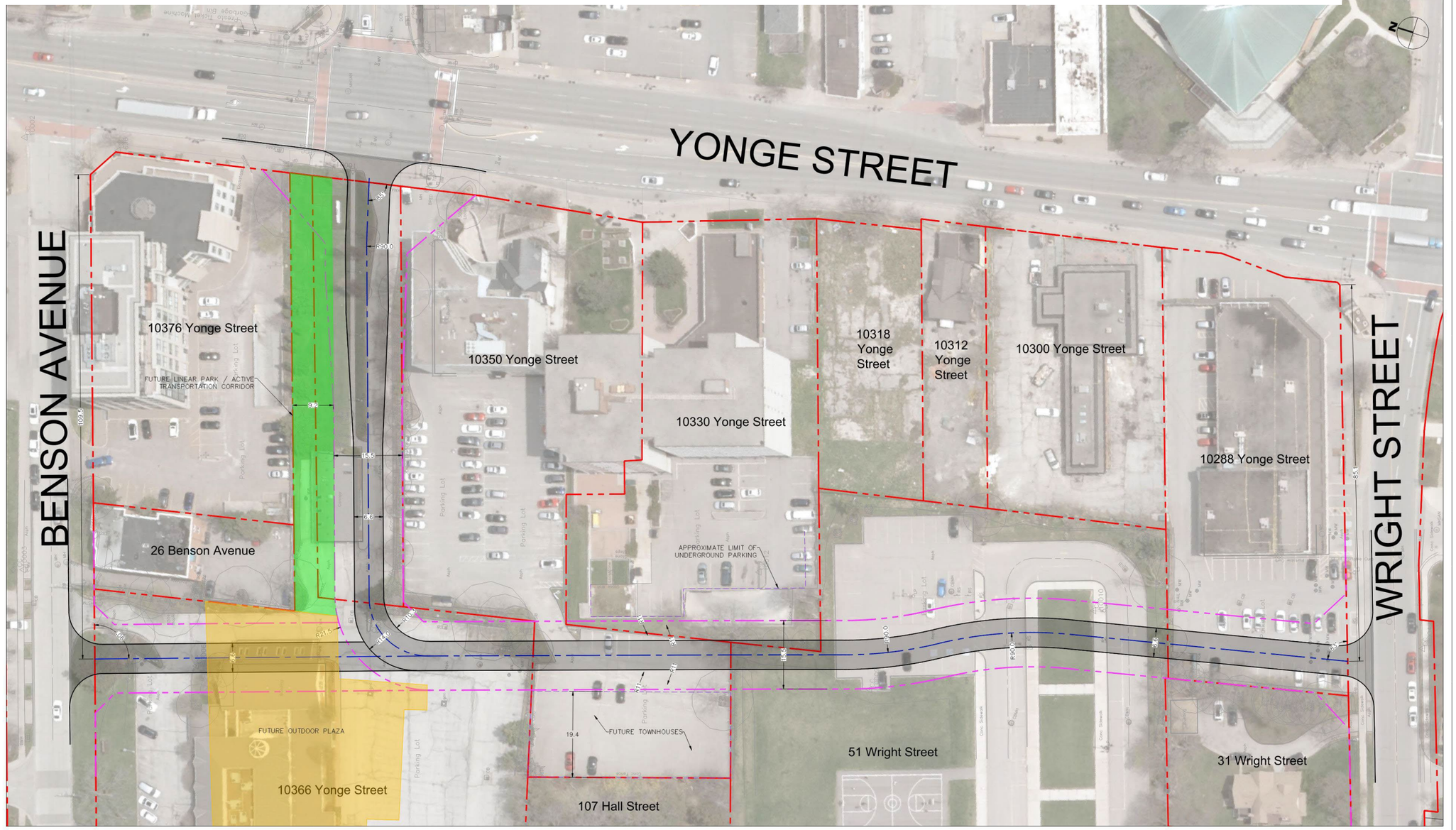
Proposed Conceptual Alignments – Alternative 1 (Ultimate)



Proposed Conceptual Alignments – Alternative 2 (Interim)



Proposed Conceptual Alignments – Alternative 2 (Ultimate)

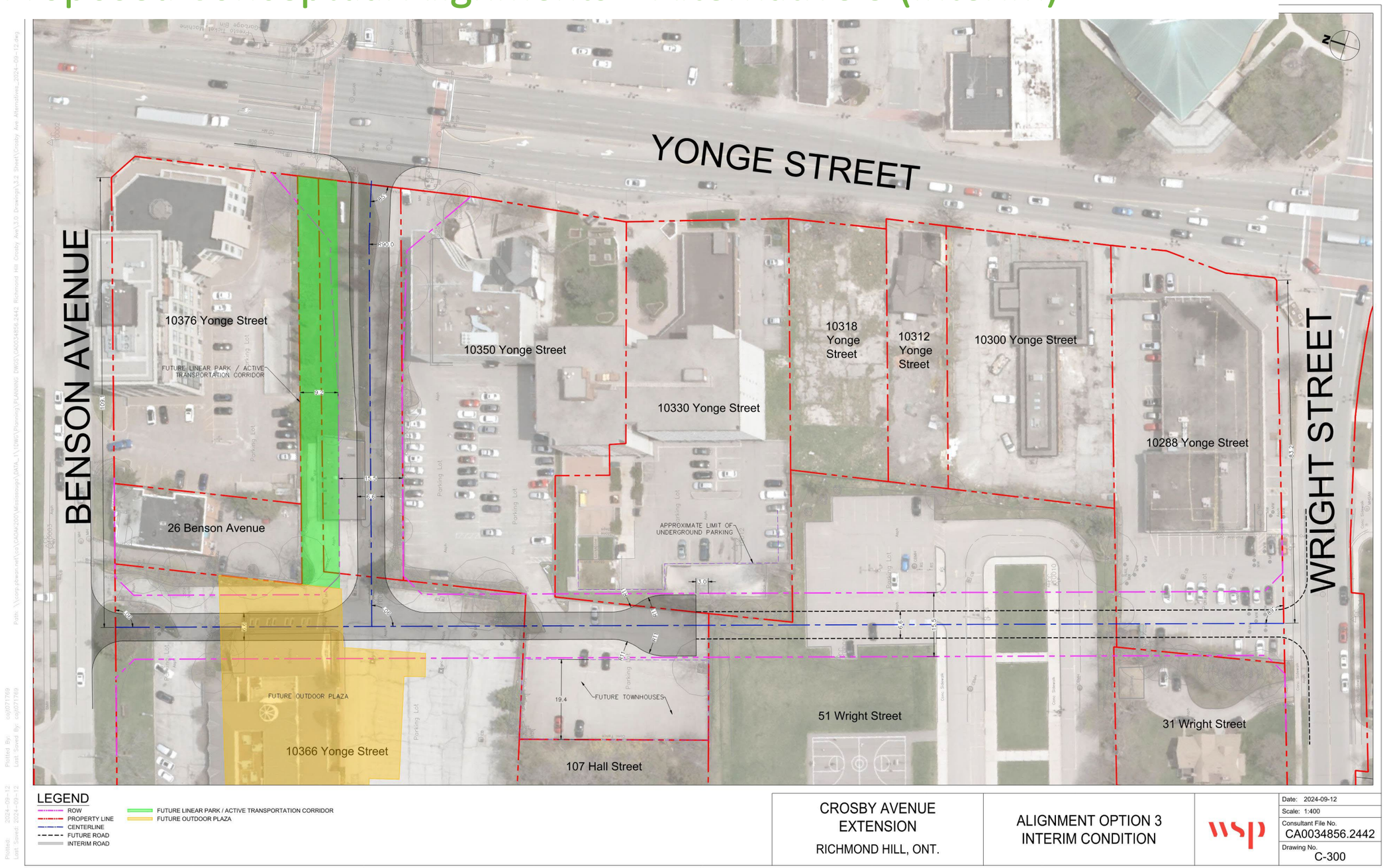


LEGEND

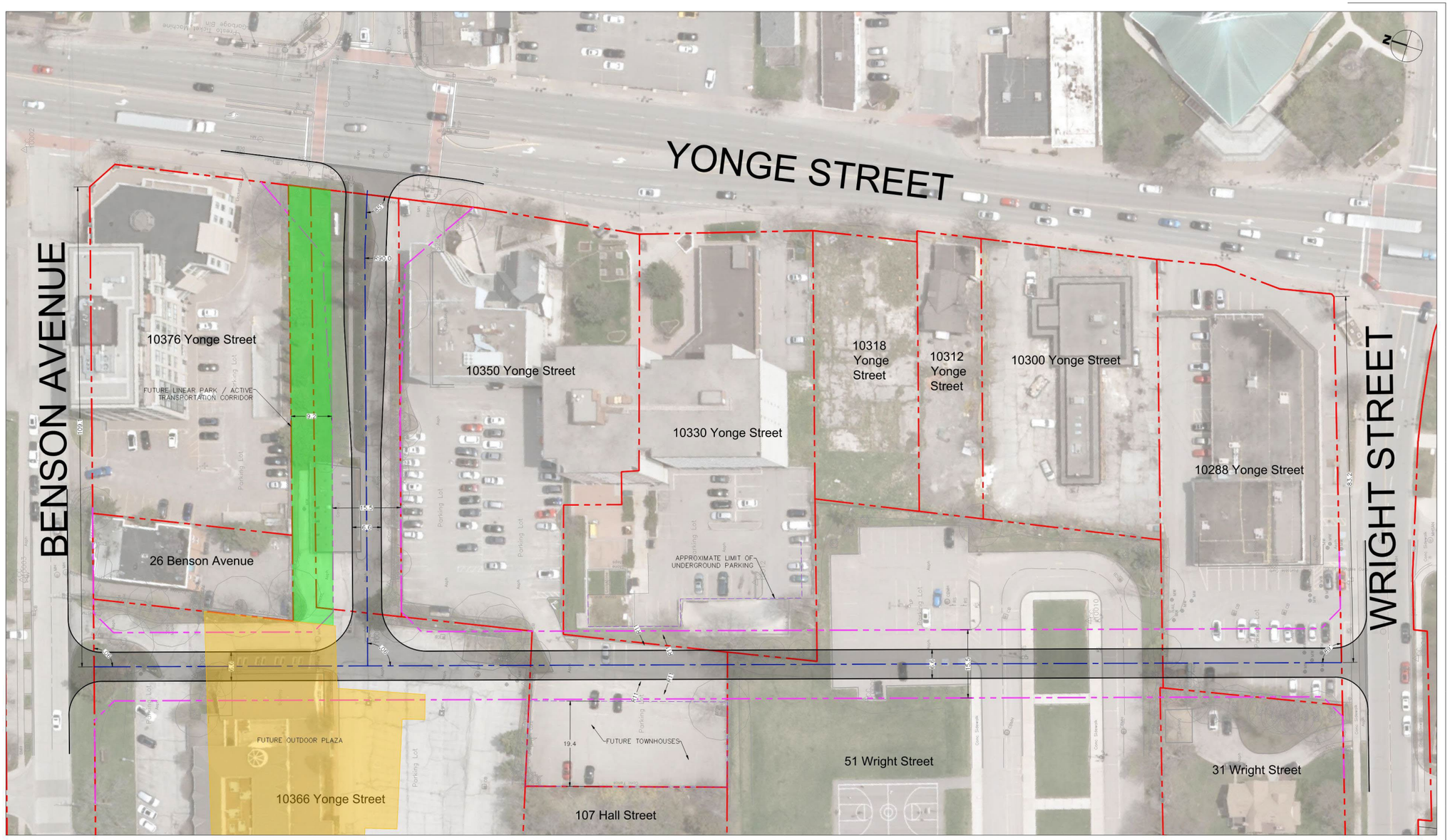
- ROW
- PROPERTY LINE
- CENTERLINE
- ULTIMATE ROAD
- FUTURE LINEAR PARK / ACTIVE TRANSPORTATION CORRIDOR
- FUTURE OUTDOOR PLAZA

CROSBY AVENUE EXTENSION RICHMOND HILL, ONT.	ALIGNMENT OPTION 2 ULTIMATE CONDITION	wsp	Date: 2024-09-12 Scale: 1:400 Consultant File No. CA0034856.2442 Drawing No. C-210

Proposed Conceptual Alignments – Alternative 3 (Interim)



Proposed Conceptual Alignments – Alternative 3 (Ultimate)

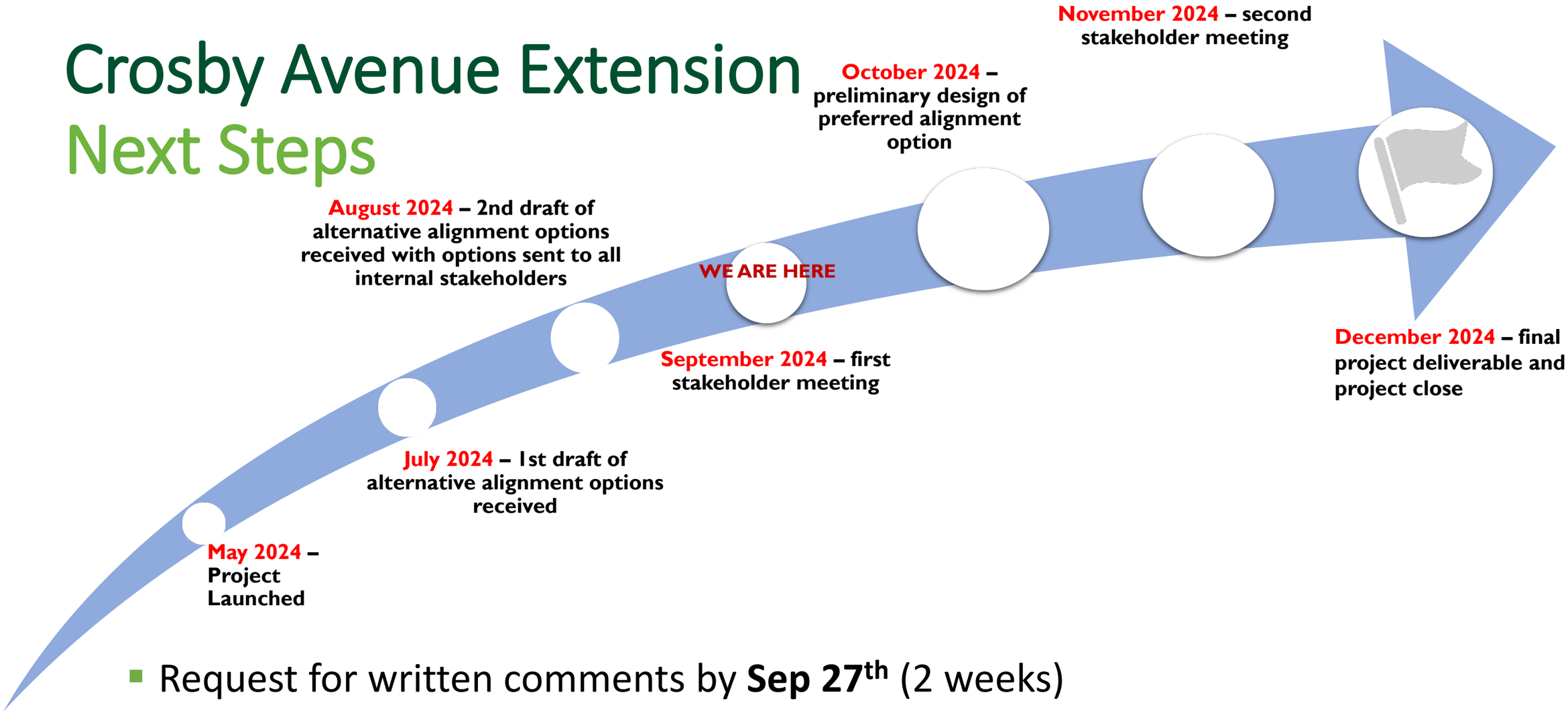


Alignment Comparison

Feature	Alternative 1	Alternative 2	Alternative 3
Public or Private Road	• Public access to Benson Avenue from Crosby Avenue Extension	• Private access road to Benson Avenue • Public road from Wright Street to Yonge Street with elbow design per City standards	• Public access to Benson Avenue from Crosby Avenue Extension
North-South Alignment	• Connections to Wright Street and Benson Avenue align with property lines to minimize impacts • Slight T-intersection skew for connection from Benson Avenue • Back-to-back curve at 51 Wright Street	• No skew angle for Benson Avenue access road • Retained back-to-back curve design at 51 Wright Street	• Straight north-south corridor. No alignment skew angle for access road to Benson Avenue and Wright Street.

We Want to Hear From You!

Crosby Avenue Extension
Next Steps



- Request for written comments by **Sep 27th** (2 weeks)
- Preliminary design development for the preferred alternative (**Oct 2024**)
- Second stakeholder meeting (**Nov 2024**)
- Feasibility study report and preliminary design drawings (**Dec 2024**)

Crosby Avenue Extension

Yonge Street to Wright Street

Feasibility Study and Preliminary Design

Stakeholder Meeting #2

November 21, 2024

Agenda

Meeting Objective: Present the preferred design and provide an opportunity for stakeholders to ask questions and provide feedback

1. **Introductions** (5 mins)
2. **Recap of Feedback from Stakeholder Meeting #1** (15 mins)
3. **Preferred Design Overview** (20 mins)
    - Alignment – Interim and Ultimate
4. **Miro Board Exercise and Discussion** (40 mins)
5. **Next Steps** (5 mins)
6. **Open Forum**

Introductions

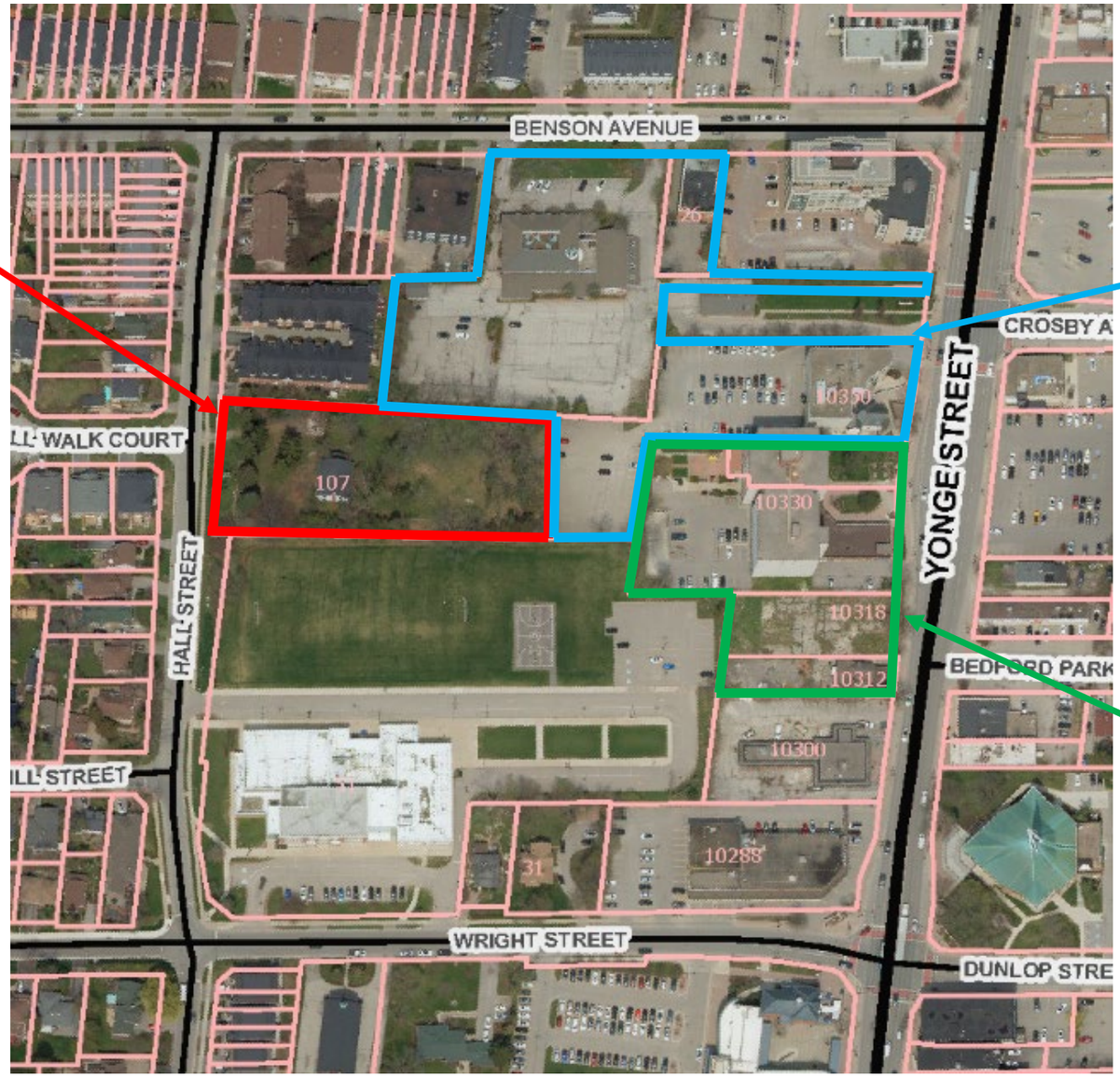
1. Name
2. Organization
3. Interest in the Study

Recap from Stakeholder Meeting #1


Study Area
Benson Ave
Hall St
Yonge St
Crosby Ave
Bedford Park Ave
Wright St
Awesome Physiotherapy Of Richmond Hill
Advanced Printing
Print shop
Cheriki Academy
St Mary Immaculate Roman Catholic Church
Tavazo Dried Nuts & Fruits
Traditional Pastries
Oyaji Sushi (à la carte)
Japanese · $$
LCBO
Liquor store
Dunlop St
Layers

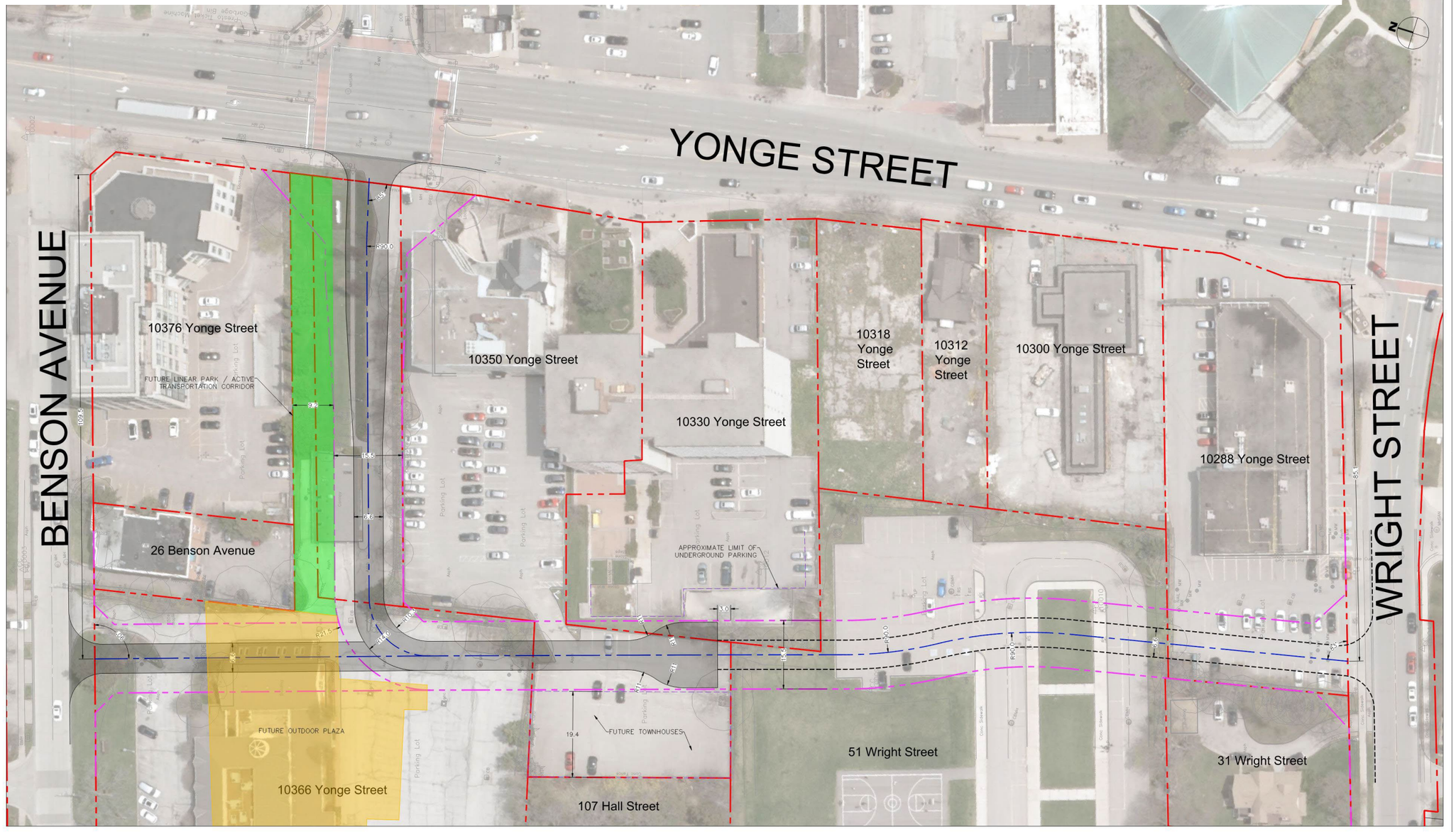
Current Area Applications / Pre-Applications

- **107 Hall Street – OPA & ZBA application approved for two towers containing 265 residential units.**

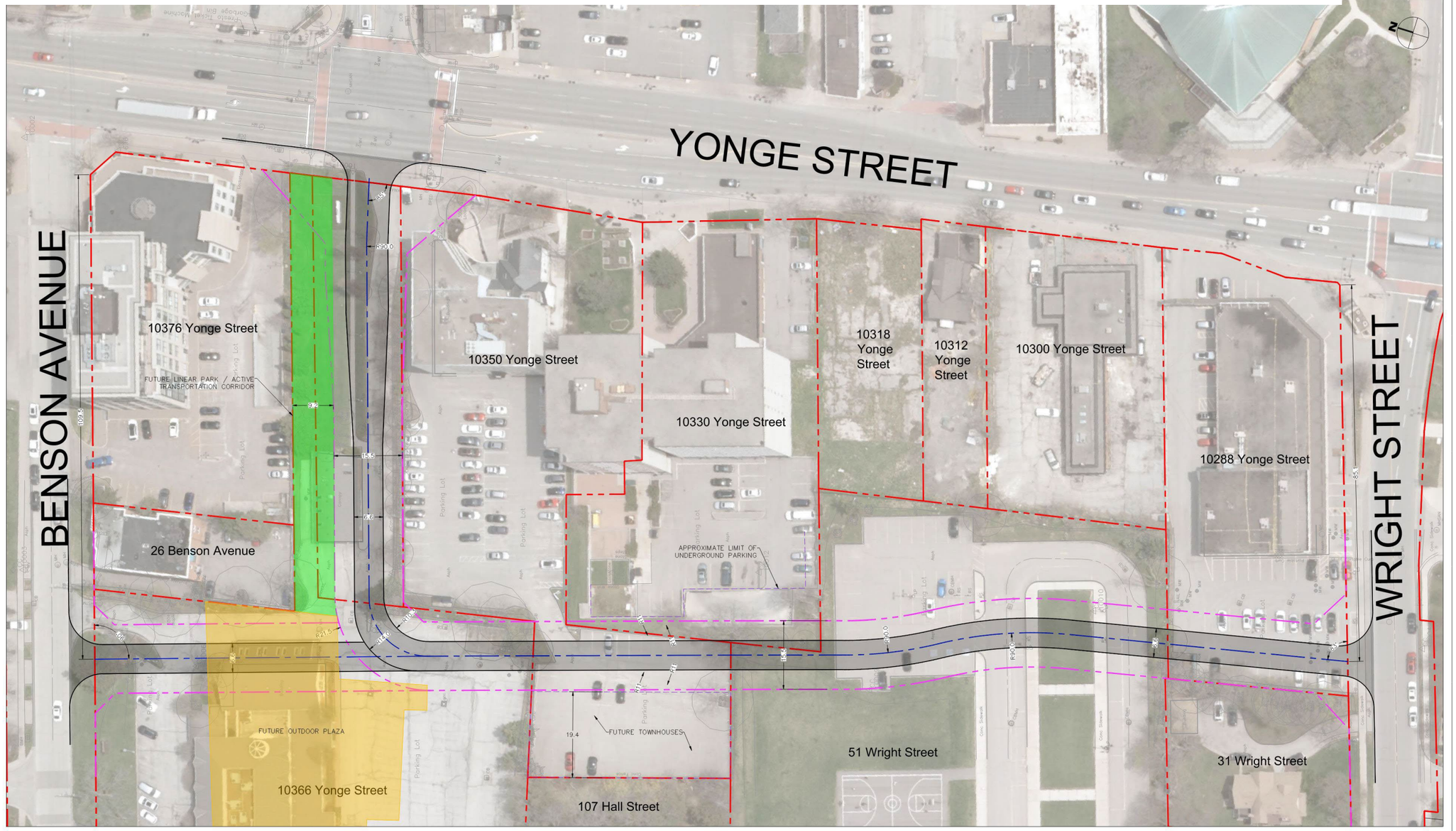


- **10350 & 10366 Yonge Street and 26 Benson Avenue – pre-submission meeting held**
- **10312, 10318 and 10330 Yonge Street – pre-submission meeting held**

Sept 13, 2024 Conceptual Alignment – Alternative 2 (Interim)



Sept 13, 2024 Conceptual Alignment – Alternative 2 (Ultimate)



LEGEND

- ROW
- PROPERTY LINE
- CENTERLINE
- ULTIMATE ROAD
- FUTURE LINEAR PARK / ACTIVE TRANSPORTATION CORRIDOR
- FUTURE OUTDOOR PLAZA

CROSBY AVENUE EXTENSION RICHMOND HILL, ONT.	ALIGNMENT OPTION 2 ULTIMATE CONDITION	wsp	Date: 2024-09-12 Scale: 1:400 Consultant File No. CA0034856.2442 Drawing No. C-210

Preferred Design Overview

Preferred Cross Section – East-West Extension

Linear Park with Multi-use Path on North Side (Looking East)

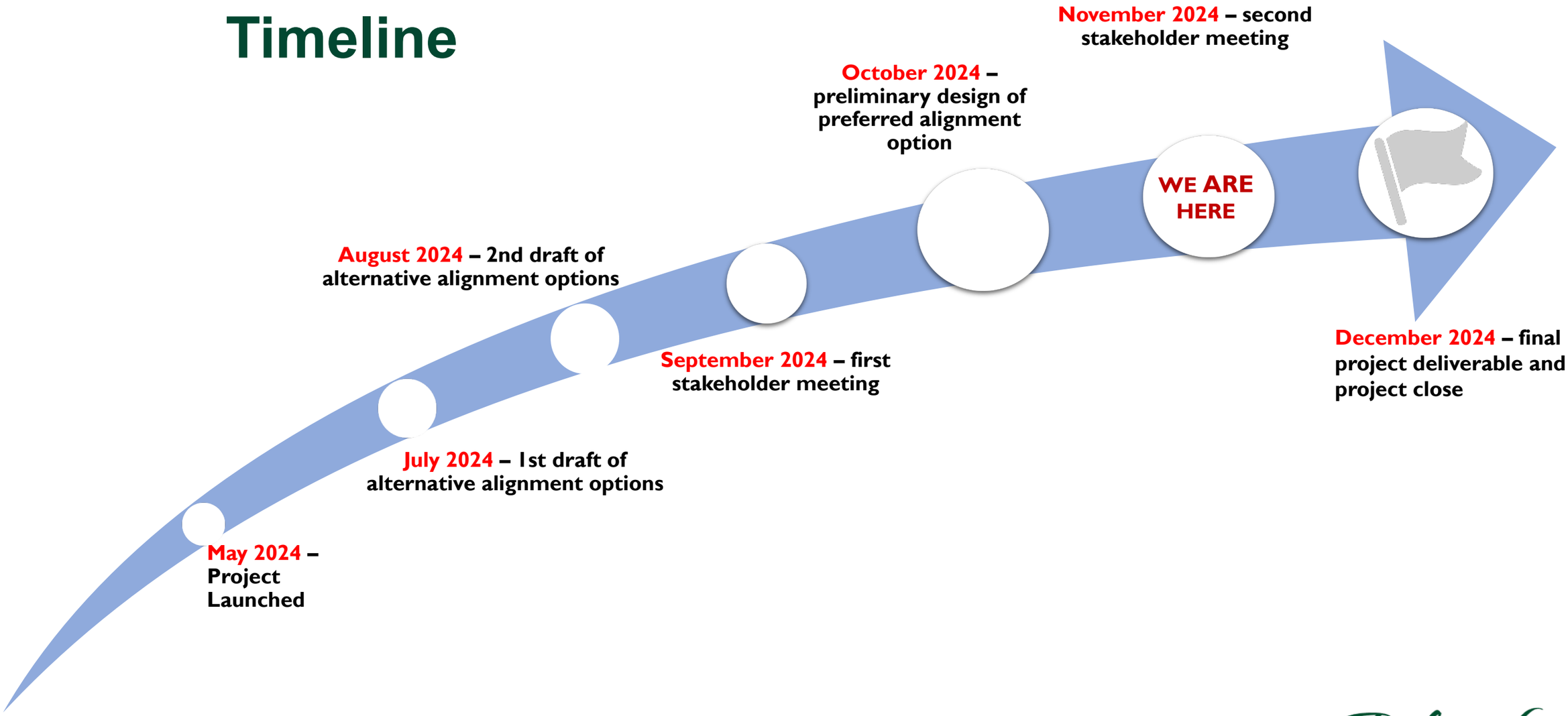
Preferred Cross Section – North-South Extension

Shared Lanes

- Following the City's engineering standard for a 15.5m local road with the shared lanes

Feasibility Study

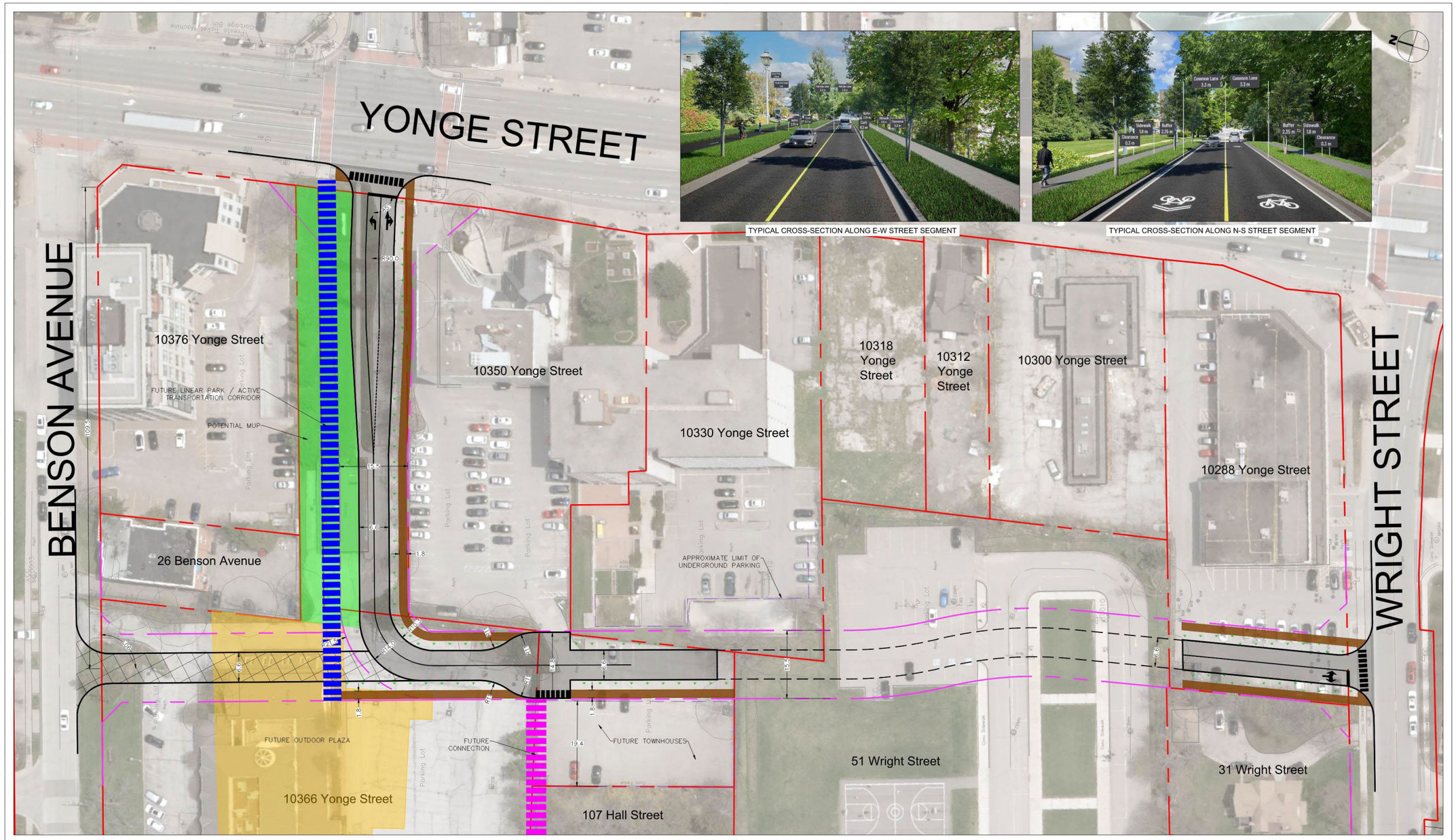
Timeline



12

Preferred Alignment

Interim Option 1

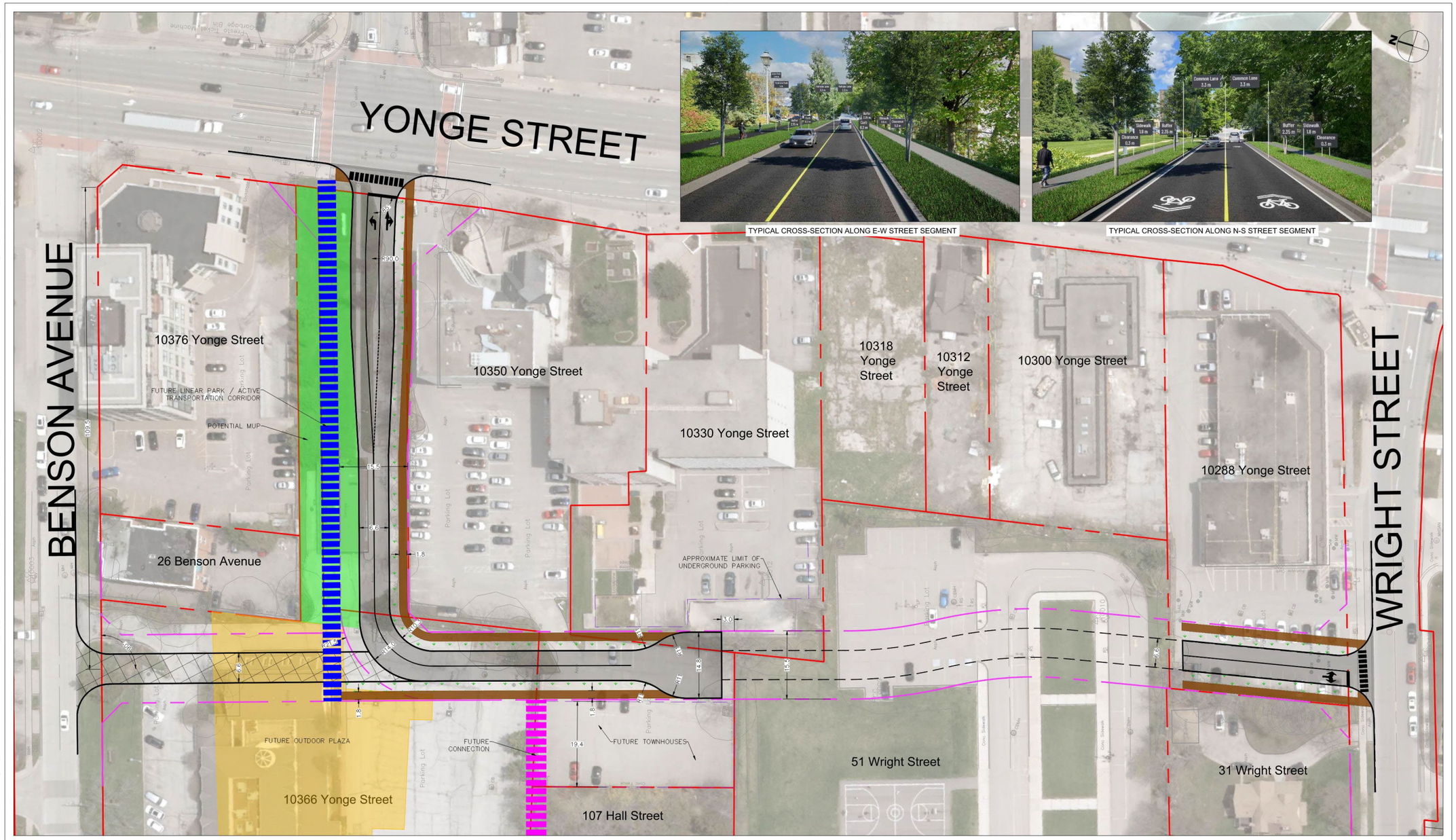


LEGEND

- ROW
- PROPERTY LINE
- POTENTIAL MUP
- FUTURE ROAD
- INTERIM ROAD
- FUTURE CONNECTION
- FUTURE LINEAR PARK / ACTIVE TRANSPORTATION CORRIDOR
- FUTURE OUTDOOR PLAZA
- PRIVATE ROAD
- BOULEVARD
- SIDEWALK

CROSBY AVENUE EXTENSION RICHMOND HILL, ONT.	INTERIM CONDITION OPTION 1	wsp	Date: 2024-11-21 Scale: 1:400 Consultant File No. CA0034856.2442 Drawing No. C-100

Interim Option 2

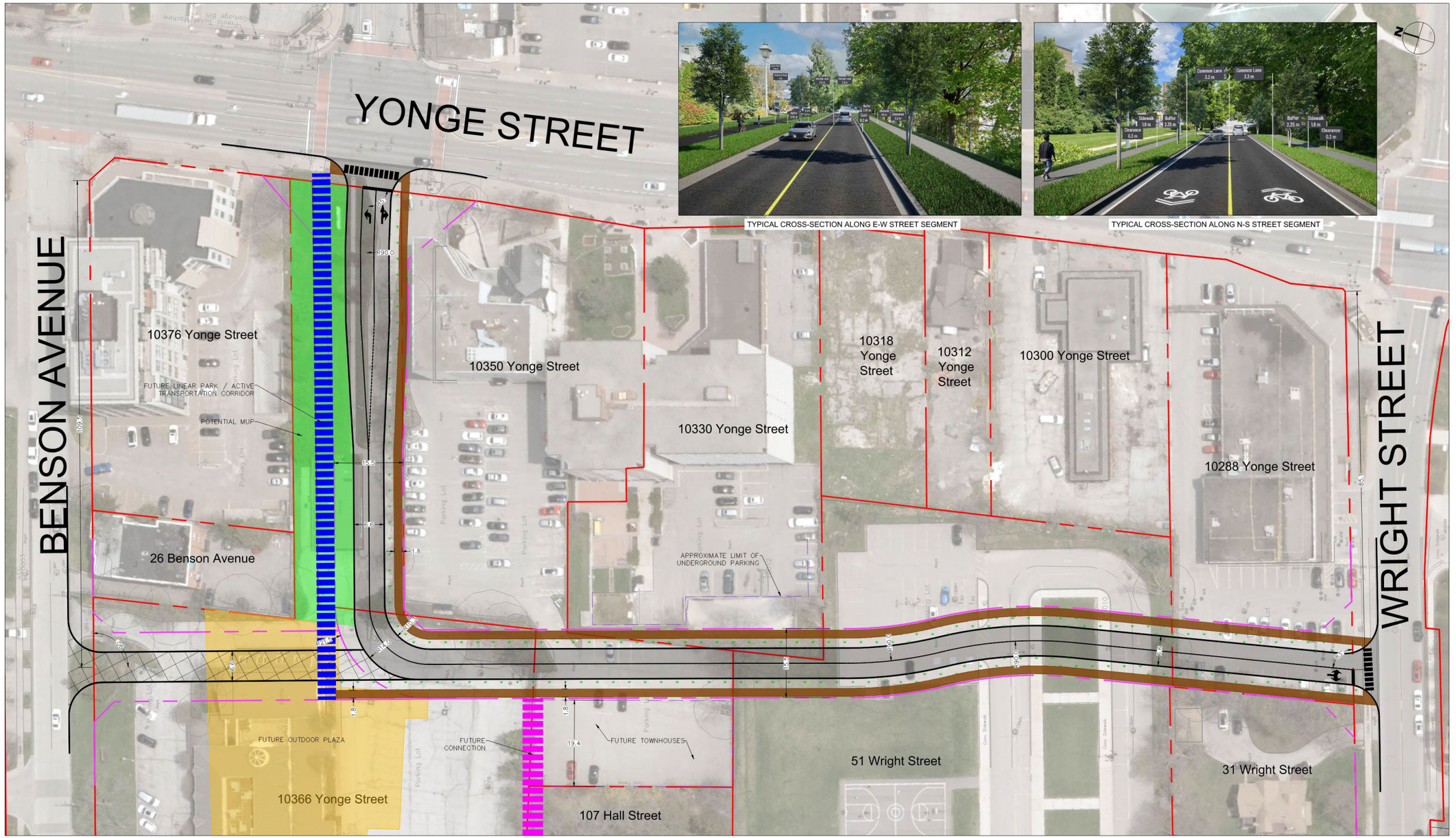


LEGEND

- ROW
- PROPERTY LINE
- POTENTIAL MUP
- FUTURE ROAD
- INTERIM ROAD
- FUTURE CONNECTION
- FUTURE LINEAR PARK / ACTIVE TRANSPORTATION CORRIDOR
- FUTURE OUTDOOR PLAZA
- PRIVATE ROAD
- BOULEVARD
- SIDEWALK

CROSBY AVENUE EXTENSION RICHMOND HILL, ONT.	INTERIM CONDITION OPTION 2	wsp	Date: 2024-11-21 Scale: 1:400 Consultant File No. CA0034856.2442 Drawing No. C-110

Ultimate



LEGEND

- ROW
- PROPERTY LINE
- POTENTIAL MUP
- ULTIMATE ROAD
- PRIVATE ROAD
- FUTURE LINEAR PARK / ACTIVE TRANSPORTATION CORRIDOR
- FUTURE OUTDOOR PLAZA
- BOULEVARD
- SIDEWALK
- FUTURE CONNECTION

CROSBY AVENUE EXTENSION RICHMOND HILL, ONT.	ULTIMATE CONDITION	wsp	Date: 2024-11-15 Scale: 1:400 Consultant File No. CA0034856.2442 Drawing No. C-120

We Want to Hear From You!

https://miro.com/app/board/uXjVKhnmmng=/?share_link_id=908273300298

Crosby Avenue Extension
Next Steps

- Request for written comments by **Dec 5th, 2024** (2 weeks)
- Feasibility study report and preliminary design drawings (**Dec 20, 2024**)

APPENDIX

C-2 MEETING MINUTES

MEETING NOTES

JOB TITLE	Richmond Hill - Crosby Ave Extension Feasibility Study		
PROJECT NUMBER	CA0034856.2442	**DATE**	13 January 2024
TIME	Meeting time	**VENUE**	Virtual (Teams)
SUBJECT	Stakeholder #1		
CLIENT	City of Richmond Hill		

Name	Company	Email
PROJECT TEAM		
Irfan Akram	City of Richmond Hill	irfan.akram@richmondhill.ca
Hubert Ng	City of Richmond Hill	Hubert.NG@richmondhill.ca
Shawn Smith	WSP	Shawn.Smith@wsp.com
Dave McLaughlin	WSP	Dave.McLaughlin@wsp.com
Patrick Malloy	WSP	Patrick.Malloy@wsp.com
Matan Yihia	WSP	Matan.Yihia@wsp.com
ADDITIONAL CITY STAFF		
Anant Patel	City of Richmond Hill	
Kunal Chaudhry	City of Richmond Hill	
James Pavlidis	City of Richmond Hill	
Michelle Dobbie	City of Richmond Hill	
Diogo Oliviera	City of Richmond Hill	
Darlene Myrie	City of Richmond Hill	
Kaitlyn Graham	City of Richmond Hill	
STAKEHOLDERS		
Ali Vakili		
Adam Seif	10298, 10300 Yonge Owner	
Amir Keshev	10330 Yonge Owner	
Angela K. Pollard	31 Wright St	
Brad Rogers	Groundswell Plan	
Charles Hajj	Groundswell Plan	
Don Burton		
Heath Purtell	Groundswell Plan	
Eldon Theodore	Groundswell Plan	
Ian Hwang	LEA Consulting	
Jim Meng		
Vincent Lacoursiere	École secondaire Norval-Morrisseau	
Miguel Ladouceur	École secondaire Norval-Morrisseau	
Ross Carter-Wingrove		
Shadi Adab	MHBC Plan	
Stefan Balakji	107 Hall St	
Peter Lengyel	Sunup Realty	

MATTERS ARISING	ACTION
1.0 INTRODUCTION	
2.0 PROJCET BACKGROUND — Shawn Smith provided a project overview (refer to presentation slides) — Two 15.5 m ROW cross section alternatives were presented, with the City's preferred being no dedicated cycling facilities — A comment was raised that the renderings depict a suburban condition but the area is identified as an urban/downtown context. Shawn noted that the context would be reflected in the actual plan, and that the cross sections shown are for discussion purposes.	
3.0 ALIGNMENT OVERVIEW — Three alignment alternatives were shared. Each alternative has interim phase and ultimate phase. Ultimate Phase reflects a distant future scenario where the school located in 51 Wright St will be redeveloped. — Miguel Ladouceur (ML) requested clarifications regarding the purpose of the new road. He noted the school objects the project as it impacts the school's parking lot and the bus loop. — Irfan Akram (IA) replied that during the interim condition the school will not be affected regardless of the chosen alternative. — Hubert Ng (HN) added the ultimate condition refers to a distant future scenario. As long as school is operating, there will be no road through the school property. Plans will come to light as part of development applications, with the understanding that the school will still being there until such time for redevelopment. It's highly unlikely in short term, and not an expropriation — ML wanted to note on record that if the intent is to expropriate, the school board is opposed to the plan — Ali Vakili (AV) noted he thinks this meeting should be held in person to allow stakeholders the opportunity to review the alignments properly. — Shawn said that the project team will consider this for next time, and is also willing to meet individually with stakeholders. — Angela K. Pollard (AP) requested clarification: Do any of the alternatives affect 31 Wright St? And will the City proceed with developing the road regardless of the responses in the meeting? Also asked for a definition of a daylight triangle. — Shawn noted that a daylight triangle is the property required at an intersection to ensure there are clear sightlines for turning motorists. — ML asked if the City could impose changes to the property, or it will change it only in case the property was sold or if an application comes through for additions to the school site. — HN clarified that if an application comes through for additions to school site, the City wouldn't request road to go through. It would be through an actual redevelopment where lands are sold. — Adam Seif (AS) asked if an application were to be submitted over the space where the future road is proposed, would the City object? — HN replied that this situation will be handled on a case-by-case basis depending on the context of the application — HN asked if the school plans to propose any permanent structures. ML replied they do not. AS added, he does not see a similar case on Yonge St, where a parallel road is located so close to. He does not see how this road can assist with traffic issues in the area. — Shawn Smith (SS) answered the road would improve pedestrian and cycling connections in the area. Patrick Malloy added that the road will brings major accesses to a signal, helps orient traffic and reduces number of driveways off of the main road (Yonge Street) — AS raised a concern regarding collisions near the south end of the future road near the Wright St intersection. – HN replied the new road is not expected to solve traffic issues on Yonge St. It will solve access issues, improve the public realm in the area, reduce conflicts on Yonge St. It will	

improve loading and waste management in the area since these will not be conducted on Yonge St. — AS asked if access will be only through the new road. — HN replied that applications will be reviewed on a case by case-by-case basis. 10280, 10300 proposal - opportunity to move accesses - potentially on Wright or extension. Determine what the traffic impacts will be. Can't provide answer without seeing full context of full proposal, but might not make sense to have to laneways. — AS raised another concern regarding the fact the school will not be redeveloped in the near future, and it would hold up potential new development on the south side. — HN replied new applications will not be affected. PM added issues can be solved, for example, a portion of the road can be constructed on the south without impacting the school. — Amir Keshev (AK) seconded AS inquiry regarding the effects of the school not being redeveloped. HN replied applications will be considered with the school. IA added the road can be built in phases so new developments in the area will not be affected. — AP asked to note on record that she has no intention on selling/redeveloping her property at 31 Wright Street. The building she owns is a historical property that was recently renovated. — PM answered that efforts will be made to maintain the existing condition in the area and reduce impacts from the daylight triangle. — AV requested to conduct a meeting with the consulting team (WSP) and asked IA to share contact information with him. — Ben Wong/Skybourne Developments requested a copy of the presentation materials be sent to bwong@skybournedevelopments.com	
4.0 NEXT STEPS AND MEETING CONCLUSION — Miro board link was shared with the attendees in the meeting (https://miro.com/app/board/uXjVKhnmmng=/). Commenting process was demonstrated. Comments where requested within two weeks (by September 27, 2024) via email or on the Miro board. — Project milestones were discussed and shared. — A second stakeholder meeting is planned for November 2024. The City will reach out to stakeholders to coordinate.	

These minutes are considered to be accurate recording of all items discussed. Written notice of discrepancies, errors or omission must be given within seven (7) days, otherwise the minutes will be accepted as written.

NEXT MEETING

An invitation will be issued if an additional meeting is required.

MEETING NOTES

JOB TITLE	City of Richmond Hill - Crosby Avenue Extension Feasibility Study		
PROJECT NUMBER	CA0034856.2442	**DATE**	Thursday, November 21, 2024
TIME	13:00	**VENUE**	Virtual (Teams)
SUBJECT	Stakeholder Meeting #2		
CLIENT	City of Richmond Hill		

Name	Organization/Address	Email
PROJECT TEAM		
Irfan Akram	City of Richmond Hill – Traffic & Transportation	irfan.akram@richmondhill.ca
Hubert Ng	City of Richmond Hill – Traffic & Transportation	hubert.ng@richmondhill.ca
Shawn Smith	WSP	shawn.smith@wsp.com
Patrick Malloy	WSP	patrick.malloy@wsp.com
Matan Yihia	WSP	matan.yihia@wsp.com
ADDITIONAL CITY STAFF		
Anant Patel	City of Richmond Hill – Parks	anant.patel@richmondhill.ca
Kunal Chaudhry	City of Richmond Hill – Urban Design	kunal.chaudhry@richmondhill.ca
James Pavlidis	City of Richmond Hill – Urban Design	james.pavlidis@richmondhill.ca
Leila Bal	City of Richmond Hill – Waste Management	leila.bal@richmondhill.ca
Tong Wang	City of Richmond Hill – Traffic & Transportation	tong.wang@richmondhill.ca
Darlene Myrie	City of Richmond Hill – Traffic & Transportation	darlene.myrie@richmondhill.ca
Kaitlyn Graham	City of Richmond Hill – Planning	kaitlyn.graham@richmondhill.ca
PROPERTY OWNERS/CONSULTANTS		
Ali Vakili	Owner/10288 & 10300 Yonge Street	
Amir Keshev	Owner/10312, 10318 & 10330 Yonge Street	
Angela K. Pollard	Resident/31 Wright Street	
Debang Chen	LEA Consulting/26 Benson Avenue, 10366 Yonge Street and 10350 Yonge Street	
Jim Meng	Avenu Properties/26 Benson Avenue, 10366 Yonge Street and 10350 Yonge Street	
Charles Hajj	Lemay Architects/26 Benson Avenue, 10366 Yonge Street and 10350 Yonge Street	
Ross Carter-Wingrove		
Brad Rogers	Groundswell Planning/26 Benson Avenue, 10366 Yonge Street and 10350 Yonge Street	
Heath Purtell-Sharp		
Eldon Theodore	MHBC Planning/26 Benson Avenue, 10366 Yonge Street and 10350 Yonge Street	
Shadi Adab		
Vincent Lacoursiere	École secondaire Norval-Morrisseau/51 Wright Street	

MATTERS ARISING	ACTION
1.0 INTRODUCTION	
2.0 PROJECT OVERVIEW — Shawn Smith (SS) provided a recap of the presentation given at the first stakeholder meeting as well as what has been completed on the project since the last meeting. — Last meeting's stakeholder input was incorporated into the preferred design. — A second interim conditions option was added to the project stages to reflect comments received after the first stakeholder meeting. — Preferred cross sections were presented.	
3.0 ALIGNMENT OVERVIEW — Patrick Malloy (PM) presented the preferred alignment, incorporating comments from the first stakeholder meeting. — The linear park north of the future east-west section of the future public road will include a Multi-Use Path (MUP), which will provide an Active Transportation connection between Yonge Street and the future Privately-Owned Publicly Accessible Space (POPS) on the 10366 Yonge St property. — A future public pedestrian connection is envisioned to connect through the properties of 107 Hall Street and 10350 Yonge Street to provide greater pedestrian permeability between Hall Street and Yonge Street via the new Crosby Avenue extension. — The future north-south section portion of the road connecting to Benson Ave will serve as a private laneway. — Interim Option 1 would involve a laneway connection to the future townhouse parcel south of the temporary turnaround space, which would be north of the laneway. The townhouse connection will function as a laneway with no impact to the 10330 Yonge St property. — Interim Option 2 would involve the turnaround area would be located further south and would impact the 10330 Yonge St property. — The school will not be impacted in either interim option. — The alignment has not changed significantly since the first stakeholder meeting held in September 2024.	
4.0 QUESTIONS — Angela Pollard (APO) asked what the effects of the preferred alignment on 31 Wright St. PM responded that the purple dashed line in the plan represents the new right-of-way. A daylight triangle will be required at the connection to Wright St. Trees are not expected to be impacted by the plan, though shrubbery closest to Wright Street may have to be removed. During further design stages, site-specific decisions will have to be made (e.g. driveway location). — Eldon Theodore (ET) inquired if there are plans for the linear park aside from the MUP. Anant Patel (APA) answered that details were not decided yet; fitness areas, benches, and other amenities will be considered. — Amir Keshev (AK) raised concerns both in emails sent to the City and in the meeting. They focused on the preferred alignment and the effects on 10330 Yonge St. He added that it impacts the ability to develop 10330 Yonge Street as per the existing concept plans dating back to 2021 and that there is no access from the new road to 10318, 10312, and 10300 Yonge St. Irfan Akram (IA) replied to AK, saying interim option 2 would most certainly provide access to the lands in question and that the City does not consider the lands undevelopable in the context of interim option 2. — Ali Vakili (AV) mentioned he agrees with AK and echoed the concern regarding the connection of 10318, 10312, and 10300 Yonge St to the new road. — Debang Chen (DC) wanted to confirm that the private road was requested by the developer; IA confirmed. — AK asked if further discussions were made with the school (51 Wright St) since the last meeting and what would be the purpose of the property east of the new alignment. SS said the school still opposes the plan and has no plans to redevelop. The school wouldn't operate with the full extension built. The property east of the new alignment would be developable land. IA added that this portion of the road will be constructed in the long term.	

	— Shadi Adab (SA) asked about the trails and the difference between each of them. Blue represents the MUP, and magenta represents the pedestrian path. SA also inquired about what happens in a case where one owner owns both sides of the pedestrian trail (townhouses, 10366 Yonge St, 107 Hall St). IA answered that the purpose of the trail is to provide a seamless pedestrian connection and encourage the usage of active transportation as a method of travel (e.g., walking, biking), and is conceptual at this stage. The details of the trail will be discussed per application. The application at 107 Hall St has received zoning approval. The City can share the development plans. — Meng (JM) asked if it is necessary to have pedestrian facilities on both sides of the road. SS echoed IA's previous response regarding the City's aspiration to promote active transportation and create a walkable area. IA added that the City aims to provide safe space for cyclists and pedestrians, to promote Active Transportation, and to encourage residents to use other modes of transportation besides automobiles. — DC mentioned there are existing curb cuts at 10350 Yonge St. and the current access to the property is from Yonge St. IA replied that the intent is to provide access consolidation off of Yonge Street.	
5.0	**NEXT STEPS AND MEETING CONCLUSION** — Miro board link was shared with the attendees in the meeting (https://miro.com/app/board/uXjVKhnmmng=/). Commenting process was demonstrated. Comments were requested within two weeks (**by December 5, 2024**) via email or on the Miro board. — The project team aims to submit the final project deliverable by **December 20, 2024.**	

These minutes are considered to be accurate recording of all items discussed. Written notice of discrepancies, errors or omission must be given within seven (7) days, otherwise the minutes will be accepted as written.

APPENDIX

C-3 FEEDBACK CORRESPONDENCE

APPENDIX

D TRAFFIC ANALYSIS MEMORANDUM

MEMO

TO: Irfan Akram - City of Richmond Hill

FROM: Shawn Smith; Shubham Bohra; Devashree Rege - WSP

SUBJECT: **Crosby Extension Traffic Assessment**

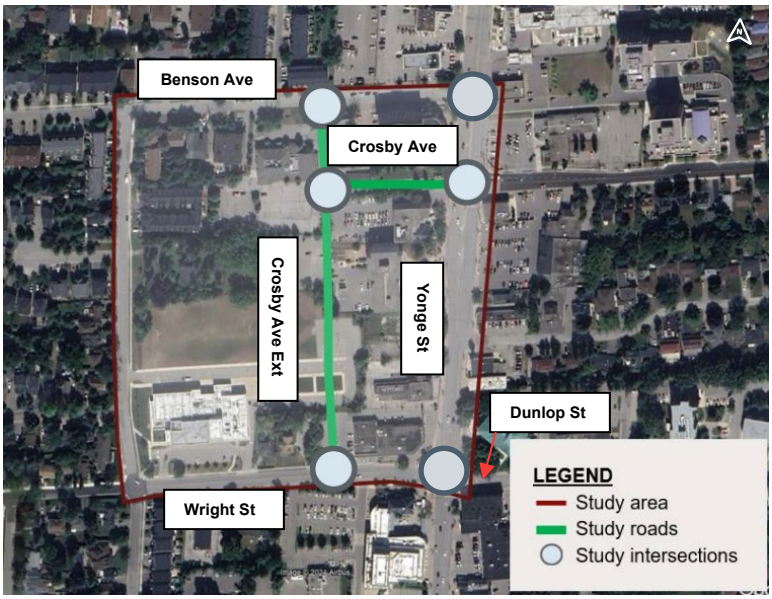
DATE: **November 19, 2024**

INTRODUCTION AND BACKGROUND

WSP was retained by City of Richmond Hill to conduct a Feasibility Study for the Crosby Avenue Extension. The project is a strategic initiative aimed at enhancing connectivity, improving traffic flow, and promoting active transportation within the City. This project is an extension of Crosby Avenue from Benson Avenue to Wright Street within the City of Richmond Hill, as recognized in the City's updated Transportation Master Plan (TMP) and Official Plan (OP). The TMP, adopted by Council on December 13, 2023, highlights the need for greater interconnections between existing roads and new active transportation opportunities.

The memo outlines the traffic assessment and impacts due to the background development in the area and along the Crosby Avenue Extension from Benson Avenue to Wright Street. **Figure 1** shows the proposed extension and the intersections analyzed as part of this memo, hereby referred to as the Study Area.

Figure 1. Study Area and Study Intersections



TRAFFIC ANALYSIS DATA, ASSUMPTIONS, AND METHODOLOGY

TRAFFIC DATA

Traffic data used for the analysis including Turning Movement Counts (TMCs) and Signal Timing Plans (STPs) were obtained from the City of Richmond Hill. TMCs provided included AM and PM peak hours from 2022 and 2023. **Table 1** provides a summary of dates of TMCs and STPs received.

For the TMC data prior to 2024, a 1.9% annual growth rate obtained from the City was applied to bring these to 2024 base year. The annual growth rate calculation was based on future 2051 volumes anticipated in the TMP along the Yonge St corridor, and confirmed with prior Traffic Impact Study (TIS) in the area (107 Hall Street) provided by the City. The 1.9% growth rate was also applied to grow existing through volumes along the Yonge St corridor to the horizon year.

Table 1. Traffic Data Inventory and Dates Collected

No.	Intersection	TMC Data	STP Data
1	Crosby Avenue at Yonge Street	November 9, 2023	September 7, 2018
2	Dunlop Steet/ Wright Street at Yonge Street	May 18, 2022	October 6, 2005
3	Benson Avenue at Yonge Street	November 9, 2023	N/A

MODEL ASSUMPTIONS

The Synchro input parameters used in the analysis are in accordance with the York Region Mobility Plan Guideline for Development Applications (the "YR Mobility Plan Guideline"), November 2016. The key Synchro input parameters are listed below:

- Existing lane configurations obtained from Google Maps' satellite and street views.
- Existing speed limits were obtained from Google Maps' street view, if available. A speed limit of 50 km/h was assumed along Yonge St within the study area, and 40 km/h was assumed along Crosby Ave and Benson Ave. Dunlop St/Wright St was assigned 40 km/h, as posted.
- Existing on-street parking amenities and restrictions were reviewed from Google Maps' street view. Parking lane/maneuvers were considered for the Yonge St northbound through movement at Dunlop St in the AM peak period, as per parking signage visible through Google Maps.
- A horizon year of 2051 was assumed, in alignment with the City's TMP.
- Bus blockages were considered for Routes 83A, 99, and VIVA Blue at Yonge St/Crosby Ave, as well as Routes 83A and 99 at Yonge St/Wright St/Dunlop St.
- STPs provided by the City of Richmond Hill.
- Heavy vehicle percentages and conflicting pedestrian volumes as derived from the existing turning movement counts.
- Ideal saturation flow in vehicles per hour per lane (vphpl) was coded as 2000 vphpl.
- Lost time adjustment default of zero was applied at the signalized intersections during the weekday a.m. and p.m. peak hours.
- The intersection peak hour factor (PHF) was calculated based on the TMC's for all the intersections within the study area.

METHODOLOGY

To analyze existing traffic conditions in the study area, capacity analyses were undertaken using the Synchro 11 traffic analysis software. This software incorporates the methodology outlined in the Highway Capacity Manual (HCM), Transportation Research Board, 2000 and 2010. For the purpose of this study, all reported results are based on the Synchro 11 methodologies for the signalized intersections and HCM 2000 methodologies for the unsignalized intersections. An intersection capacity analysis provides an indication of traffic operations based on calculations of volume-to capacity (v/c) and delays for individual movements at an intersection. Level of Service (LOS) denoted by letters 'A' through 'D', represent satisfactory traffic operations. LOS denoted by the letters 'E' and 'F' represents congested traffic operations. **Table 2** presents LOS assignment criteria for both signalized and unsignalized intersections.

As the proposed Crosby Avenue Extension falls within an urban area, a v/c ratio threshold of 0.85 (LOS D) or greater applies for critical movements and overall v/c for signalized intersections, as per the YR Mobility Plan Guideline. In addition, both the projected critical queue length (95th percentile) and projected 50th percentile queue length were considered when reviewing future storage length requirements.

Table 2: Level of Service Assignment Criteria

LOS	Control Delay (seconds/veh)	v/c
A	<=10	0-0.60
B	>10-20	0.61-0.70
C	>20-35	0.70-0.80
D	>35-55	0.81-0.90
E	>55-80	0.91-1.00
F	>80	>1.00

TRAFFIC ANALYSIS – 2024 BASE SCENARIO

This section of the memo presents the analysis of existing conditions (2024 Base Scenario) within the Study Area. An analysis of existing traffic operations at the study intersections has been undertaken to serve as a reference for the future scenario to be modelled.

The results of the analysis have been summarized in **Table 3**. The existing lane configurations are presented in **Figure 2.** The AM and PM peak hour results are presented in **Figure 3.** During the AM and PM peak for analysis of the existing traffic operations in the study area shows that all the movements at the study intersections operate at LOS of C or better, indicating acceptable traffic operations.

Table 3. Existing Traffic Operations

Movement	Weekday AM Peak Hour				Weekday PM Peak Hour			
	LOS	V/C	Delay (s)	95th %ile Q	LOS	V/C	Delay (s)	95th %ile Q
Yonge St & Crosby Ave								
EBTLR	C	0.02	23.1	4.4	C	0.07	21.9	9.4
WBL	C	0.46	33.7	35.4	C	0.31	28.3	28.4
WBTR	A	0.40	6.8	16.5	A	0.45	6.6	18.6
NBTL	B	0.44	14.6	37.1	B	0.60	19.2	100.1
NBR	A	0.10	2.2	2.1	A	0.17	3.3	8.9
SBL	A	0.39	9.3	25.4	B	0.54	12.9	27.5
SBT	B	0.47	10.2	74.1	B	0.41	10.5	59.0
Yonge St & Wright St/Dunlop St								
EBL	C	0.34	33.3	23.2	C	0.24	28.3	19.4
EBTR	C	0.23	20.6	17.9	B	0.20	18.5	17.9
WBL	C	0.09	26.9	7.9	C	0.07	24.6	8.4
WBTR	B	0.27	15.6	17.1	B	0.28	12.6	19.1
NBL	A	0.03	6.7	3.2	A	0.06	7.3	5.1
NBTR	A	0.25	6.6	36.0	A	0.37	8.9	52.0
SBL	A	0.07	5.8	m3.8	B	0.15	10.8	9.8
SBT	A	0.40	5.6	29.6	A	0.38	9.1	40.1
SBR	A	0.05	0.1	m0.2	A	0.07	1.0	1.7

Figure 2. Existing Lane Configurations

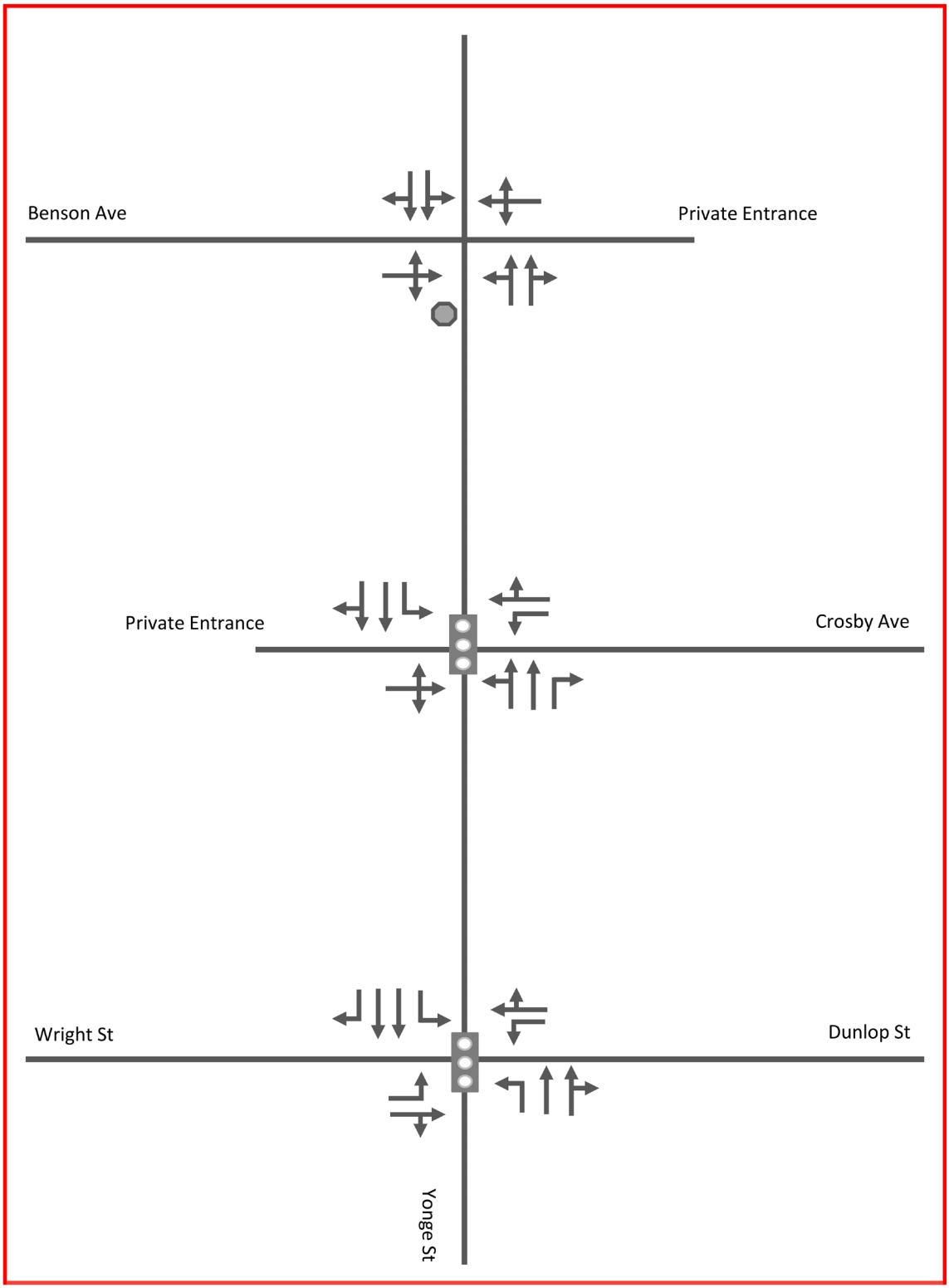
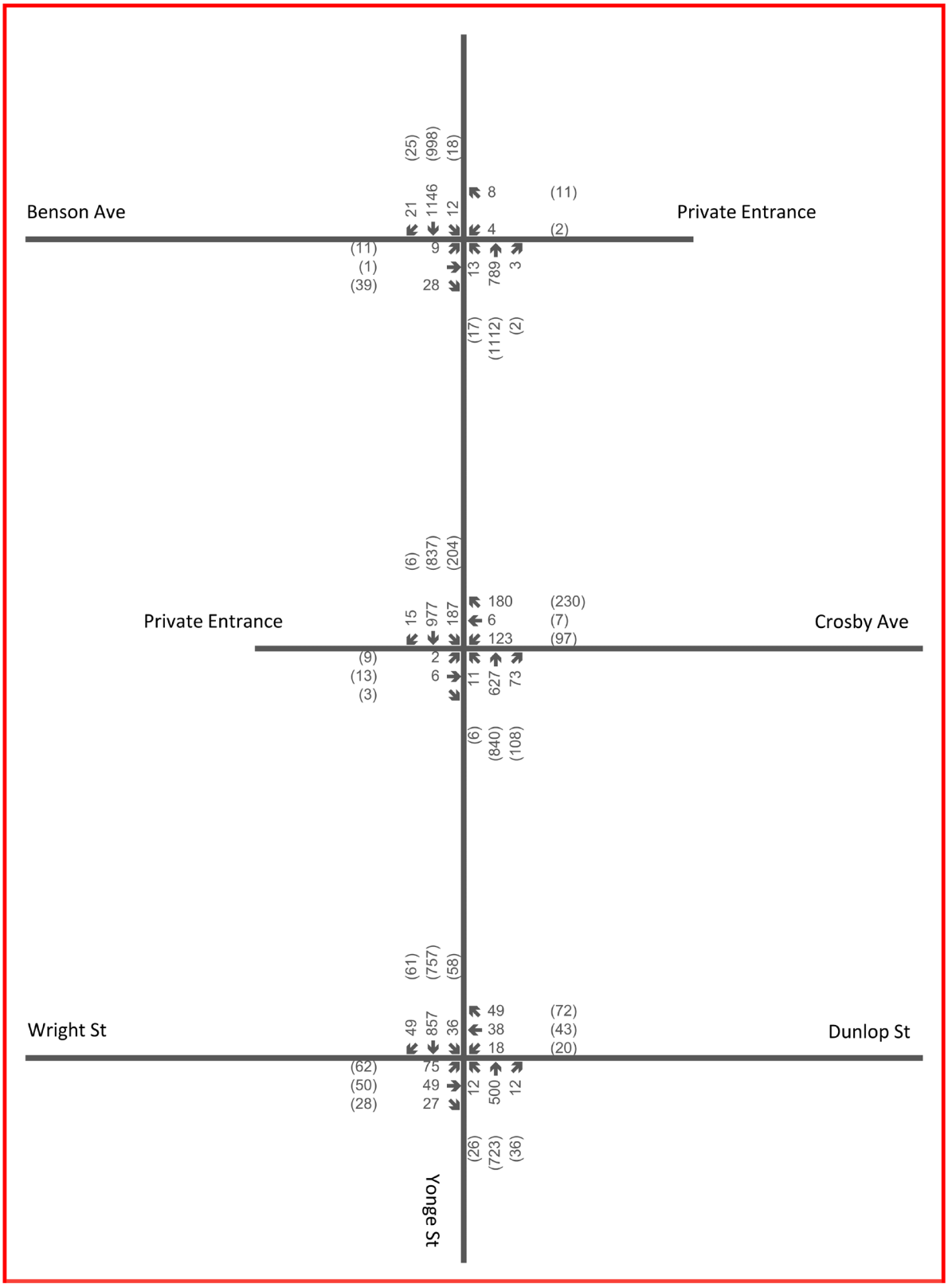


Figure 3. Existing AM and PM Peak Hour Volumes, AM (PM)



TRAFFIC ANALYSIS – 2051 FUTURE BACKGROUND

This section provides details on the assumptions regarding the 2051 Future Background growth rate and the background developments considered in the analysis. As described in **Table 4**, the City identified 107 Hall Street as a background development with a submitted TIS. The site traffic volumes from this TIS were used for the Future Background analysis. In addition to volumes derived from the 107 Hall Street report, existing traffic volumes were projected by applying a growth rate of 1.9% to all through movements along the Yonge Street corridor, extending them to the 2051 horizon year.

The results of the 2051 Future Background analysis have been summarized in **Table 5.** The AM and PM peak hour results are presented in **Figure 4.** During the AM and PM peak for analysis of the existing traffic operations in the study area shows that all the movements at the study intersections operate at LOS of C or better, indicating acceptable traffic operations.

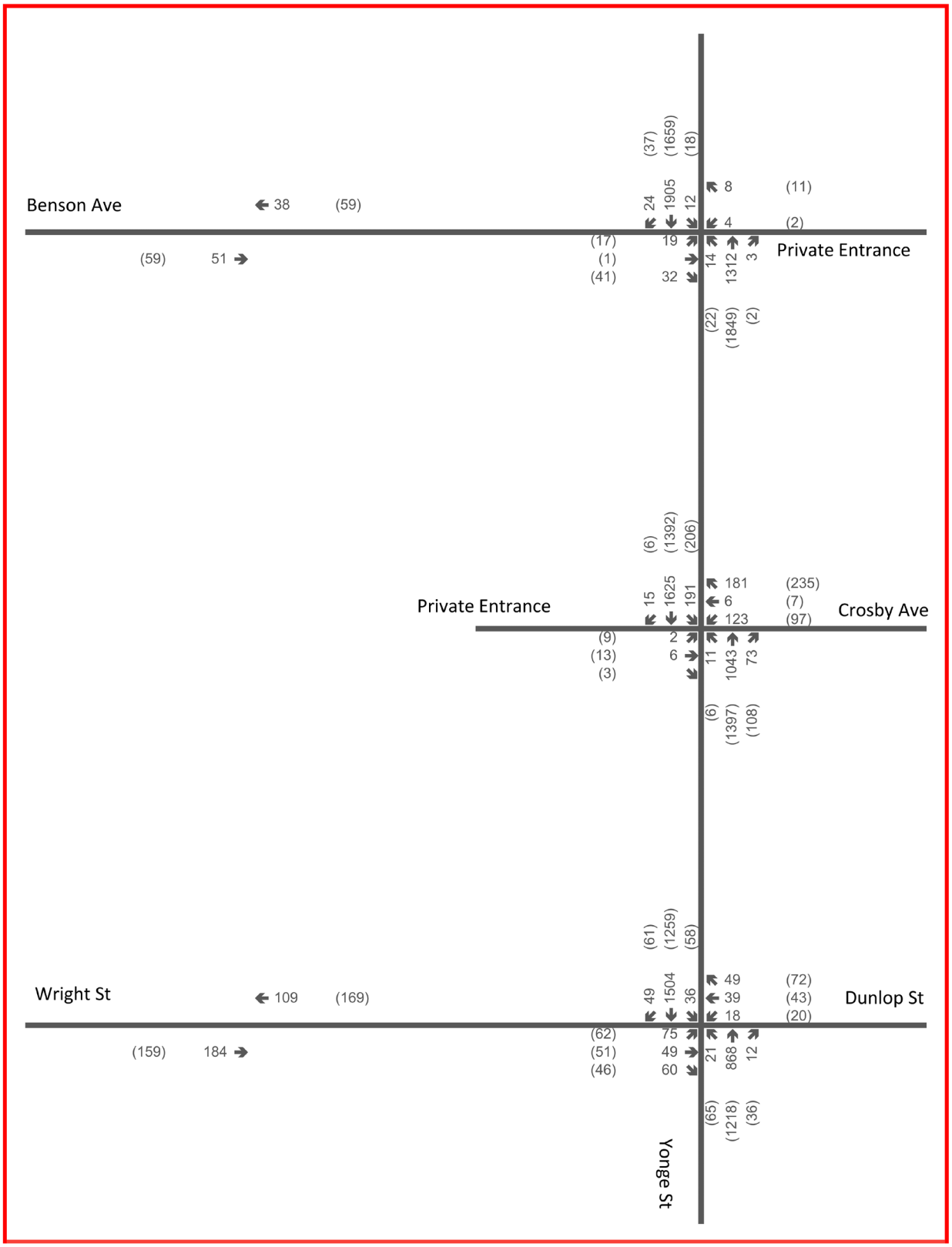
Table 4. 107 Hall Street Description

Development Location	107 Hall Street
Statistics	High-rise residential building containing 300 units.
Date	Last updated December 21, 2023
Source	LEA Consulting

Table 5. Future Background Traffic Operations

Movement	Weekday AM Peak Hour				Weekday PM Peak Hour			
	LOS	V/C	Delay (s)	95th %ile Q	LOS	V/C	Delay (s)	95th %ile Q
Yonge St & Crosby Ave								
EBTLR	C	0.02	23.1	4.4	C	0.07	21.9	9.4
WBL	C	0.46	33.7	35.4	C	0.31	28.3	28.4
WBTR	A	0.4	6.8	16.6	A	0.46	6.6	18.8
NBTL	C	0.74	20.5	#149.6	D	1	46	#221.4
NBR	A	0.1	1.7	2	A	0.17	1.9	m4.6
SBL	B	0.59	15.9	32.3	C	0.72	29.7	46.1
SBT	B	0.78	16.5	170.9	B	0.68	14.6	122.8
Yonge St & Wright St/Dunlop St								
EBL	C	0.34	33.3	23.2	C	0.24	28.3	19.4
EBTR	B	0.32	16.2	20.1	B	0.25	16.1	19.3
WBL	C	0.09	27	7.9	C	0.08	24.7	8.4
WBTR	B	0.27	15.8	17.1	B	0.3	17.9	23.3
NBL	A	0.11	7.3	4.6	A	0.25	9.2	10
NBTR	A	0.44	8.6	66.8	B	0.6	11.9	103.3
SBL	A	0.11	8.7	m3.0	C	0.3	20.6	m9.6
SBT	B	0.74	12.8	#205.8	B	0.68	16.9	84.8
SBR	A	0.05	0.9	m0.4	A	0.08	4.7	m3.4
Wright St/Dunlop St & Crosby Ave Extension								
EBT	A	0.22	8.2	-	A	0.2	8.1	-
WBT	A	0.14	7.8	-	A	0.21	8	-
Benson Ave & Crosby Ave Extension								
EBT	A	0.05	7.2	-	A	0.07	7.3	-
WBT	A	0.06	7.2	-	A	0.07	7.3	-

Figure 4. Future Background Peak Hour Traffic Volumes, AM (PM)



SITE GENERATED TRAFFIC

This section provides details on the assumptions regarding the 2051 Site Generated traffic considered in the analysis. This traffic is from proposed developments adjacent to the Crosby Ave Extension and was included for robustness as per client request. As there were no TIS reports available for these developments, traffic volumes were projected from trip generation, distribution, and assignment. **Table 6** further describes the proposed developments, sourced from concept plans provided by the City.

Table 6. Site statistics for proposed developments along the Crosby Avenue Extension

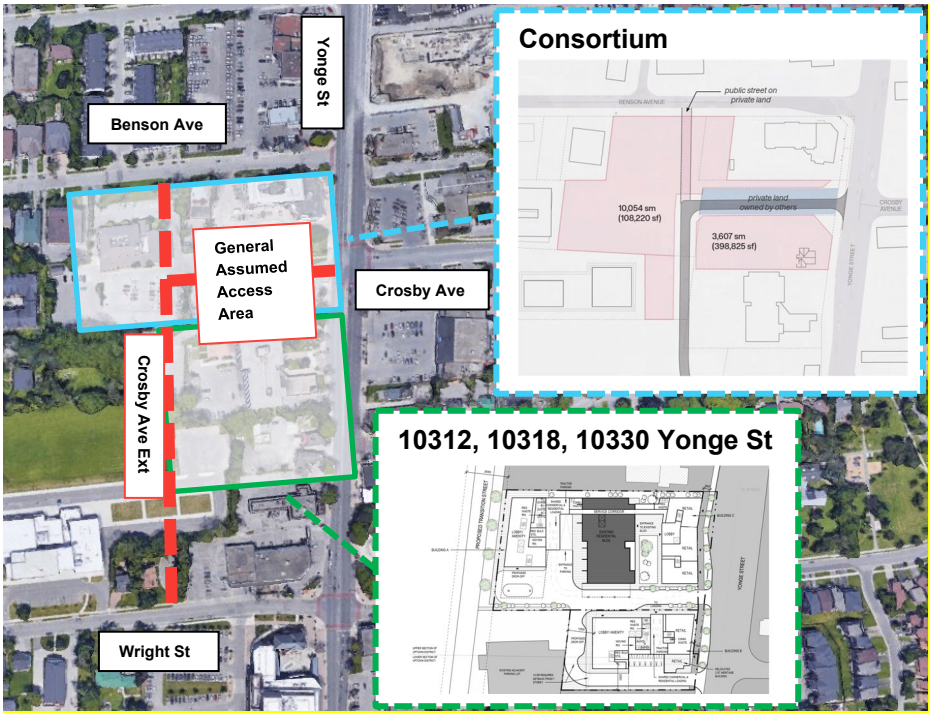
Name	**Development Type**	**Statistics**
10312, 10318, & 10330 Yonge St	Mixed-use (Residential, Ground Floor Retail)	304 new dwelling units, 396 total dwelling units 343 new parking spaces, 474 total required parking spaces.
Consortium Lot 1 – 10350 Yonge St Lot 2 – 26 Benson Ave & 10366 Yonge St	Mixed-use (Residential, Ground Floor Retail and Office)	799 apartment units, 8 townhome units. 711 total required parking spaces

GENERAL SITE ACCESS

Figure 5 presents the location of each development in relation to the Crosby Avenue Extension. To remain conservative, it was assumed that the Crosby Avenue Extension will be used to access these sites, and as later described in this section, traffic was distributed to the general access area identified between the Crosby Avenue Extension in the west and Yonge Street in the east.

It is important to note that this is a conservative approach done to estimate the maximum possible impact of planned development traffic volumes on the Crosby Avenue Extension itself. Provisions of accesses along other streets, such as Yonge Street, may support reduction of the traffic volumes along the Crosby Avenue Extension and would require further study to understand the impact on the Extension.

Figure 5. Proposed development locations along the Crosby Avenue Extension



TRIP GENERATION

The vehicle trips generated by developments during the weekday AM and PM peak hours were estimated using the trip generation rates outlined in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition. **Table 7** summarizes the ITE parameters applied for the AM and PM. The following assumptions were applied:

- A multi-use share factor was applied for trip reductions, accounting for ground floor retail and office.
- No pass-by trips were assigned as the anticipated developments are mixed-use, and not solely commercial/retail.
- To remain conservative, no non-automobile trip reduction factors were used.

The trip generation rates and resulting trip generation is summarized in **Table 8.** Based on the results, developments surrounding the Crosby Avenue Extension are projected to generate approximately 571 trips during the AM peak hour (265 inbound and 306 outbound), and 829 trips during the PM peak hour (426 inbound and 403 outbound).

Table 7. ITE Parameters for AM and PM peak hours

Development	ITE Parameters	**A.M. Peak Hour**	**P.M. Peak Hour**
Consortium - Residential (Lots N/W/E), 10312-8/1030 Yonge St (Building B) (X = 978 units)	ITE Land Use 222 (Multifamily Housing (High-Rise)) Equation	T = 0.22 X + 18.85	T = 0.26 X + 23.12
	Directional Split (Inbound, Outbound)	34%, 66%	56%, 44%
10312-8, 10330 Yonge St - Residential (Building A) (X = 113 units)	ITE Land Use 221 (Multifamily Housing (Mid-Rise))	T = 0.44 X - 11.61	T = 0.39 X + 0.34
	Directional Split (Inbound, Outbound)	23%, 77%	61%, 39%
Consortium - Residential (SW Lot), 10312-8, 10330 Yonge St (Building C) (X = 20 units)	ITE Land Use 220 (Multifamily Housing (Low-Rise))	T = 0.31 X + 22.85	T = 0.43 X + 20.55
	Directional Split (Inbound, Outbound)	24%, 76%	63%, 37%
Consortium – Retail (X = 65.14 * 1000ft2)	ITE Land Use 821 (Shopping Plaza (40-150k) with Supermarket)	Average rate of 3.53[1]	T = 7.67 X + 118.86
	Directional Split (Inbound, Outbound)	62%, 38%	48%, 52%
10312-8/1030 Yonge St (Buildings A - C) (X = 17.03 * 1000ft2)	ITE Land Use 822 (Strip Retail Plaza (<40k))	Ln(T) = 0.66 Ln(X) + 1.84	Ln(T) = 0.71 Ln(X) + 2.72
	Directional Split (Inbound, Outbound)	60%, 40%	50%, 50%
Consortium - Commercial/Office (X = 5.27 * 1000ft2)	ITE Land Use 712 (Small Office Building)	Average rate of 1.67[2]	Average rate of 2.16[2]
	Directional Split (Inbound, Outbound)	82%, 18%	34%, 66%

Notes

[1] **Average used as a conservative estimate, as less than 20 studies were conducted for the AM equation.**

[2] **The standard deviation for the equation is greater than 55%. This typically calls for collection of local data. As this was not possible, the average was used as a conservative estimate.**

Table 8. ITE Trip Generation Results

Land Use	Basis/Parameter	Weekday **Vehicle Trips**			
		A.M. Peak Hour		**P.M. Peak Hour**	
		Inbound	**Outbound**	**Inbound**	**Outbound**
Consortium - Residential (Lots N/W/E), 10312-8/1030 Yonge St (Building B)	ITE Land Use 222 (Multifamily Housing (High-Rise))	80	154	155	122
	Internal Trip Reduction	(2)	(2)	(72)	(31)
	Total	**78**	**153**	**84**	**92**
10312-8, 10330 Yonge St - Residential (Building A)	ITE Land Use 221 (Multifamily Housing (Mid-Rise))	9	29	27	17
	Internal Trip Reduction	-	-	(12)	(4)
	Total	**9**	**29**	**15**	**13**
Consortium - Residential (SW Lot), 10312-8, 10330 Yonge St (Building C)	ITE Land Use 220 (Multifamily Housing (Low-Rise))	7	22	18	11
	Internal Trip Reduction	-	-	(8)	(3)
	Total	**7**	**22**	**10**	**8**
Consortium - Retail	ITE Land Use 821 (Shopping Plaza (40-150k) with Supermarket)	143	87	297	322
	Internal Trip Reduction	-	-	(31)	(80)
	Total	**140**	**86**	**266**	**242**
10312-8/1030 Yonge St (Buildings A - C)	ITE Land Use 822 (Strip Retail Plaza (<40k))	25	16	57	57
	Internal Trip Reduction	-	-	(6)	(14)
	Total	**24**	**16**	**51**	**43**
Consortium - Commercial/Office	ITE Land Use 712 (Small Office Building)	7	2	4	8
	Internal Trip Reduction	-	-	(3)	(2)
	Total	**7**	**1**	**0**	**6**
Overall Total		**265**	**306**	**426**	**403**

TRIP DISTRIBUTION AND ASSIGNMENT

Trip distribution for the study network was developed using the 2016 TTS travel data. **Table 9** summarizes the resulting TTS trip distribution. In addition to the vehicle trip distribution, the site-generated auto traffic assignments were also assumed based on the location of the Crosby Avenue Extension and the most logical paths for vehicles to travel to minimize travel time and distance. Key inbound/outbound gateways identified were north and south along Yonge Street, as well as east on Crosby Ave. These gateways were selected due to their connectivity to the wider road network. Finally, the inbound and outbound site-generated trip volumes were distributed along the Crosby Avenue Extension through the three gateways as follows:

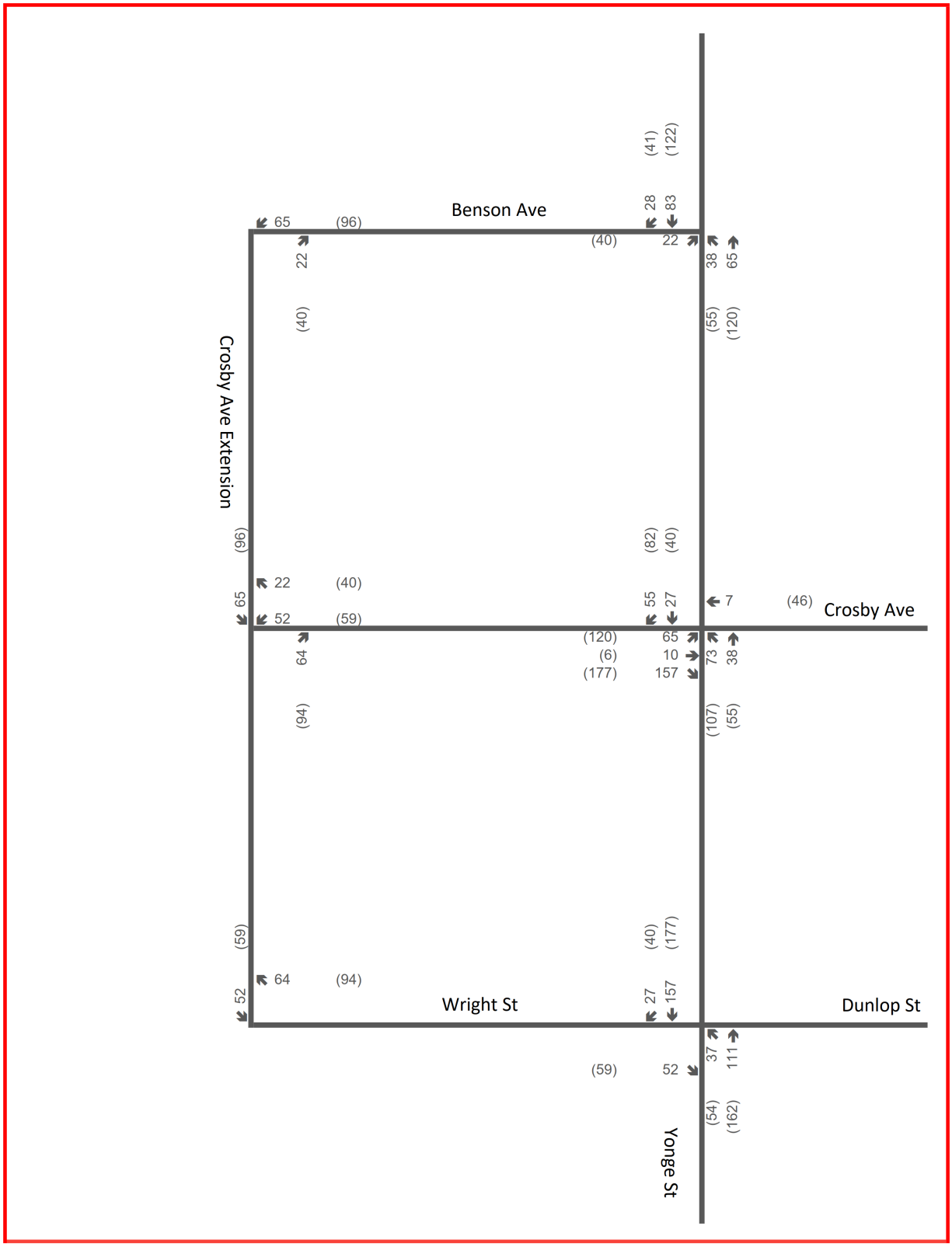
- **Inbound from north and south of Yonge St:** 25% entering through Wright St, 50% entering through Crosby Ave, 25% entering through Benson Ave
- **Outbound towards north of Yonge St:** 75% exit from Crosby Ave, 25% exit from Benson Ave
- **Outbound towards south of Yonge St:** 75% exit from Crosby Ave, 25% exit from Wright St
- **Inbound and outbound to/from the east:** 100% entering/exiting from Crosby Ave.

The resultant distribution for new site-generated vehicle trips is illustrated in **Figure 6.**

Table 9. Vehicle Trip Distribution

Direction	AM Peak Hour		PM Peak Hour	
	Inbound	**Outbound**	**Inbound**	**Outbound**
Northwest	5%	10%	30%	19%
North	21%	7%	0%	15%
Northeast	7%	4%	11%	2%
East	11%	11%	0%	6%
Southeast	8%	13%	33%	9%
South	24%	31%	0%	18%
Southwest	15%	18%	26%	28%
West	9%	8%	0%	3%
Total	**100%**	**100%**	**100%**	**100%**

Figure 6. Site-Generated Traffic Volumes, AM (PM)



TRAFFIC ANALYSIS – 2051 FUTURE TOTAL

This section of the memo presents the analysis of 2051 Future conditions at the study intersections. The future total traffic volumes were developed by combining the future background and site-generated traffic.

The LOS at the Yonge St/Crosby Ave intersection was found to be poor due to it being a key gateway for large amounts of vehicular traffic accessing future developments in the area. In order to ensure LOS is acceptable (D and above), the future lane configurations were modified to have a permissive EBL at Yonge St/Crosby Ave with a storage length of 30m. The 30m storage length accommodates the 50th percentile queue and was selected for the following reasons:

- To avoid overdesigning the left-turn lane in the interim, as per client request.
- There is an alternate opportunity to turn EBL at the Yonge St/Dunlop St/Wright St signal
- 30m is also the maximum length that can be designed without impacting the ROW corridor and surrounding properties.

No other intersections within the study area required lane configuration modifications based on projected future volumes.

The results of the 2051 Future Total analysis after signal optimization and geometric changes have been summarized in **Table 10.** Movements operating at LOS E or F are due to background developments and the proposed developments along the Crosby Ave Extension.

The lane configurations are presented in **Figure 7**, and the volumes are presented in **Figure 8.**

Table 10. Future Total Traffic Operations

Movement	Weekday AM Peak Hour				Weekday PM Peak Hour			
	LOS	V/C	Delay (s)	95th %ile Q	LOS	V/C	Delay (s)	95th %ile Q
Yonge St & Crosby Ave								
EBL	C	0.32	30.5	22	E	0.79	61.4	#52.3
EBTR	C	0.52	32	44.7	C	0.52	30.2	51.2
WBL	D	0.58	40.2	37.8	C	0.42	32.1	30.3
WBTR	A	0.42	8.5	20.1	B	0.59	17.6	47.4
NBTL	F	1.25	142.3	#208.9	F	1.8	383.9	#293.7
NBR	A	0.1	1.2	1.3	A	0.16	3.4	m5.5
SBL	C	0.76	30.3	#50.1	E	0.97	73.6	#71.2
SBT	B	0.83	18.6	#214.4	B	0.76	16.4	144.2
Yonge St & Wright St/Dunlop St								
EBL	C	0.34	33.3	23.2	C	0.24	28.3	19.4
EBTR	B	0.44	13.3	23	B	0.37	12	22.6
WBL	C	0.11	27.6	8	C	0.08	24.9	8.5
WBTR	B	0.27	15.8	17.1	C	0.31	21.3	26
NBL	A	0.3	9.6	9.8	B	0.54	19.9	24.7
NBTR	A	0.5	9.3	79.5	B	0.67	13.3	127.3
SBL	B	0.13	13.4	m4.4	B	0.41	17.9	m7.1
SBT	C	0.88	21	#242.1	B	0.81	16.5	#182.1
SBR	A	0.09	3.8	m1.9	A	0.13	2.3	m2.1
Wright St/Dunlop St & Crosby Ave Extension								
EBTL	A	0.24	8.6	-	A	0.21	8.6	-
WBTR	A	0.21	8.2	-	A	0.33	9	-
SBLR	A	0.08	8.4	-	A	0.09	8.6	-
Benson Ave & Crosby Ave Extension								
EBTR	A	0.06	7.4	-	A	0.07	7.5	-
WBLT	A	0.13	7.8	-	A	0.2	8.2	-
NBLR	A	0.02	6.8	-	A	0.05	7	-
Crosby Ave & Crosby Ave Extension								
WBLR	A	0.1	7.6	-	A	0.13	7.9	-
NBTR	A	0.07	6.9	-	A	0.11	7.1	-
SBLR	A	0.09	7.8	-	A	0.13	8.1	-

Figure 7. Future Lane Configurations

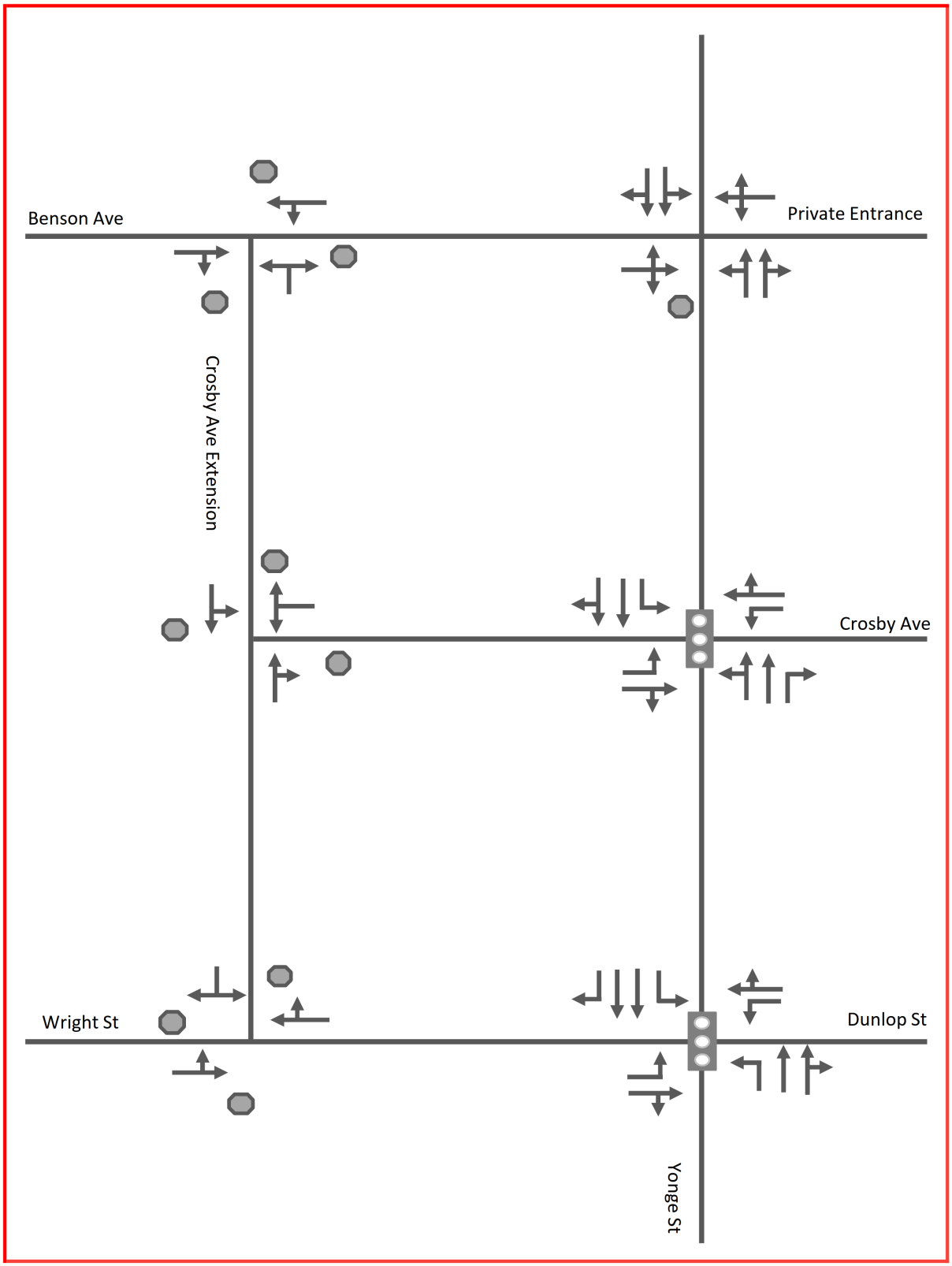
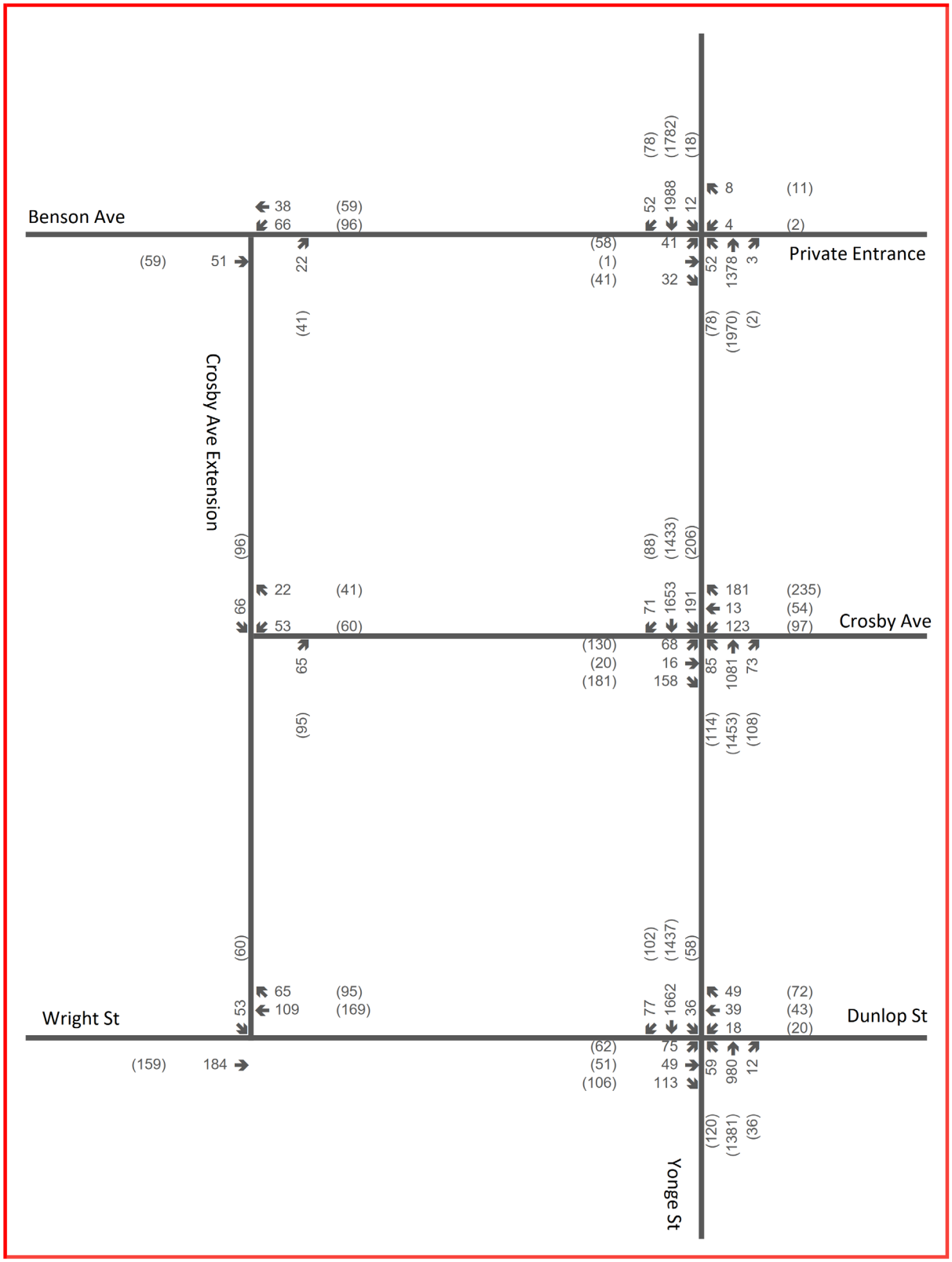


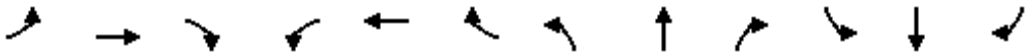
Figure 8. Future Total Traffic Volumes, AM (PM)



CONCLUSIONS AND RECOMMENDATIONS

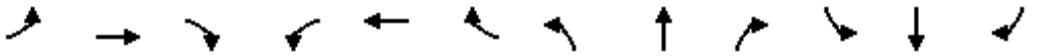
This traffic analysis has evaluated the impact of corridor growth along Yonge St, background development traffic from 107 Hall St, and developments proposed along Crosby Avenue Extension in the City of Richmond Hill. Based on the analysis contained in this memo, the conclusions and recommendations are as follows:

- Under existing conditions, all of the study intersections are operating at an acceptable LOS C or better during both the AM and PM peak hours;
- Developments proposed around along the Crosby Avenue Extension are projected to generate 265 inbound and 306 outbound trips in the AM peak hour, and 426 inbound and 403 outbound trips in the PM peak hour.
- Under future conditions (2051) and with the recommended geometric changes, the study intersections are expected to operate at an LOS C or better during AM and PM peak hours, with exception to Yonge St and Crosby Ave intersection during Future Total conditions.
- While the 50th percentile queue will be accommodated with the 30 m storage length, the 2051 results indicate that the 95th percentile queue would require approximately 55 m of available storage in a full-build out scenario.

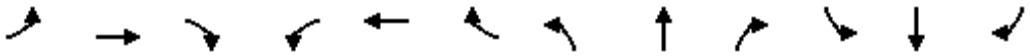


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	0	28	4	0	8	13	789	3	12	1146	21
Future Volume (vph)	9	0	28	4	0	8	13	789	3	12	1146	21
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width (m)	3.3	3.7	3.3	3.7	3.7	3.7	3.3	3.3	3.7	3.3	3.3	3.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor												
Frt		0.897			0.907			0.999			0.997	
Flt Protected		0.988			0.985			0.999			0.999	
Satd. Flow (prot)	0	1689	0	0	1807	0	0	3491	0	0	3454	0
Flt Permitted		0.988			0.985			0.999			0.999	
Satd. Flow (perm)	0	1689	0	0	1807	0	0	3491	0	0	3454	0
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		124.7			45.9			73.0			105.4	
Travel Time (s)		11.2			4.1			5.3			7.6	
Confl. Peds. (#/hr)			1	1			20		27	27		20
Confl. Bikes (#/hr)												1
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Heavy Vehicles (%)	0%	2%	8%	0%	2%	0%	0%	5%	34%	0%	6%	5%
Adj. Flow (vph)	9	0	29	4	0	9	14	831	3	13	1206	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	38	0	0	13	0	0	848	0	0	1241	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane											Yes	
Headway Factor	0.98	0.92	0.98	0.92	0.92	0.92	0.98	0.98	0.92	0.98	0.98	0.98
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Free			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	49.1%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	6	0	123	6	180	11	627	73	187	977	15
Future Volume (vph)	2	6	0	123	6	180	11	627	73	187	977	15
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width (m)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.7
Storage Length (m)	0.0		0.0	60.0		0.0	0.0		102.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	1		0
Taper Length (m)	7.5			56.0			7.5			80.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor		1.00		0.96	0.97			1.00	0.90	0.98	1.00	
Frt					0.854				0.850		0.998	
Flt Protected		0.988		0.950				0.999		0.950		
Satd. Flow (prot)	0	1895	0	1717	1556	0	0	3449	1611	1783	3490	0
Flt Permitted		0.937		0.752				0.929		0.314		
Satd. Flow (perm)	0	1791	0	1304	1556	0	0	3206	1451	575	3490	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					194				85		3	
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		124.0			353.0			234.1			73.0	
Travel Time (s)		11.2			31.8			16.9			5.3	
Confl. Peds. (#/hr)	19		39	39		19	36		52	52		36
Confl. Bikes (#/hr)												2
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	2%	7%	0%	3%	0%	5%	2%	3%	5%	0%
Bus Blockages (#/hr)	0	2	0	0	0	0	0	7	0	0	0	0
Adj. Flow (vph)	2	6	0	132	6	194	12	674	78	201	1051	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	8	0	132	200	0	0	686	78	201	1067	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.98	0.99	0.98	0.98	0.98	0.98	0.98	1.00	0.98	0.98	0.98	0.92
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	

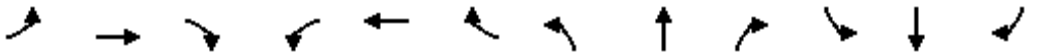


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8			6		5	2	
Permitted Phases	4			8			6		6	2		
Detector Phase	4	4		8	8		6	6	6	5	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		29.0	29.0	29.0	7.0	29.0	
Minimum Split (s)	32.0	32.0		32.0	32.0		35.0	35.0	35.0	11.0	35.0	
Total Split (s)	32.0	32.0		32.0	32.0		40.0	40.0	40.0	18.0	58.0	
Total Split (%)	35.6%	35.6%		35.6%	35.6%		44.4%	44.4%	44.4%	20.0%	64.4%	
Maximum Green (s)	26.0	26.0		26.0	26.0		34.0	34.0	34.0	14.0	52.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	1.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0		6.0	6.0			6.0	6.0	4.0	6.0	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		0.2	0.2	0.2	3.0	0.2	
Recall Mode	None	None		None	None		C-Max	C-Max	C-Max	None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		15.0	15.0	15.0		15.0	
Flash Dont Walk (s)	19.0	19.0		19.0	19.0		14.0	14.0	14.0		14.0	
Pedestrian Calls (#/hr)	39	39		19	19		52	52	52		36	
Act Effct Green (s)		20.0		20.0	20.0			44.2	44.2	60.0	58.0	
Actuated g/C Ratio		0.22		0.22	0.22			0.49	0.49	0.67	0.64	
v/c Ratio		0.02		0.46	0.40			0.44	0.10	0.39	0.47	
Control Delay		23.1		33.7	6.8			14.6	2.2	9.3	10.2	
Queue Delay		0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Delay		23.1		33.7	6.8			14.6	2.2	9.3	10.2	
LOS		C		C	A			B	A	A	B	
Approach Delay		23.1			17.5			13.3			10.1	
Approach LOS		C			B			B			B	
90th %ile Green (s)	26.0	26.0		26.0	26.0		34.8	34.8	34.8	13.2	52.0	
90th %ile Term Code	Ped	Ped		Ped	Ped		Coord	Coord	Coord	Gap	Coord	
70th %ile Green (s)	26.0	26.0		26.0	26.0		36.7	36.7	36.7	11.3	52.0	
70th %ile Term Code	Ped	Ped		Ped	Ped		Coord	Coord	Coord	Gap	Coord	
50th %ile Green (s)	26.0	26.0		26.0	26.0		38.0	38.0	38.0	10.0	52.0	
50th %ile Term Code	Ped	Ped		Hold	Hold		Coord	Coord	Coord	Gap	Coord	
30th %ile Green (s)	11.8	11.8		11.8	11.8		54.7	54.7	54.7	7.5	66.2	
30th %ile Term Code	Hold	Hold		Gap	Gap		Coord	Coord	Coord	Gap	Coord	
10th %ile Green (s)	10.0	10.0		10.0	10.0		57.0	57.0	57.0	7.0	68.0	
10th %ile Term Code	Hold	Hold		Min	Min		Coord	Coord	Coord	Min	Coord	
Queue Length 50th (m)		1.1		19.0	0.8			51.3	0.0	15.1	57.3	
Queue Length 95th (m)		4.4		35.4	16.5			37.1	2.1	25.4	74.1	
Internal Link Dist (m)		100.0			329.0			210.1			49.0	
Turn Bay Length (m)				60.0					102.0			
Base Capacity (vph)		517		376	587			1575	756	571	2251	
Starvation Cap Reductn		0		0	0			0	0	0	0	

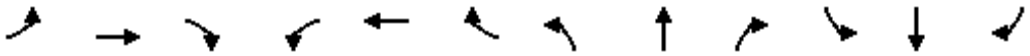
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Spillback Cap Reductn		0		0	0			0	0	0	0	
Storage Cap Reductn		0		0	0			0	0	0	0	
Reduced v/c Ratio		0.02		0.35	0.34			0.44	0.10	0.35	0.47	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 85 (94%), Referenced to phase 2:SBTL and 6:NBTL, Start of 1st Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.47			
Intersection Signal Delay: 12.2		Intersection LOS: B	
Intersection Capacity Utilization 83.4%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 2: Yonge St & Crosby Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	49	27	18	38	49	12	521	12	36	904	49
Future Volume (vph)	75	49	27	18	38	49	12	521	12	36	904	49
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width (m)	3.3	3.3	3.3	3.3	3.3	3.7	3.3	3.0	3.0	3.3	3.3	3.3
Storage Length (m)	30.0		0.0	40.0		0.0	36.0		0.0	30.0		20.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	16.0			35.0			18.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00	0.99		0.98	0.99		0.99	1.00		0.98		0.95
Frt		0.947			0.915			0.997				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1766	1770	0	1640	1663	0	1685	3127	0	1783	3470	1595
Flt Permitted	0.696			0.704			0.244			0.436		
Satd. Flow (perm)	1289	1770	0	1193	1663	0	431	3127	0	804	3470	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29			53			4				85
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		103.5			110.2			123.6			234.1	
Travel Time (s)		9.3			9.9			8.9			16.9	
Confl. Peds. (#/hr)	4		20	20		4	18		25	25		18
Confl. Bikes (#/hr)			1						1			1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	4%	0%	4%	12%	6%	5%	9%	7%	0%	3%	5%	3%
Bus Blockages (#/hr)	0	2	0	0	0	0	0	2	0	0	4	0
Parking (#/hr)								0				
Adj. Flow (vph)	81	53	29	19	41	53	13	560	13	39	972	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	81	82	0	19	94	0	13	573	0	39	972	53
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.98	0.99	0.98	0.98	0.98	0.92	0.98	1.10	1.02	0.98	0.99	0.98
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	

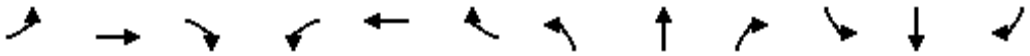


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases		4			8		1	6			2	
Permitted Phases	4			8			6			2		2
Detector Phase	4	4		8	8		1	6		2	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	28.0		28.0	28.0	28.0
Minimum Split (s)	32.0	32.0		32.0	32.0		11.0	34.0		34.0	34.0	34.0
Total Split (s)	32.0	32.0		32.0	32.0		11.0	58.0		47.0	47.0	47.0
Total Split (%)	35.6%	35.6%		35.6%	35.6%		12.2%	64.4%		52.2%	52.2%	52.2%
Maximum Green (s)	26.0	26.0		26.0	26.0		7.0	52.0		41.0	41.0	41.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		1.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		4.0	6.0		6.0	6.0	6.0
Lead/Lag							Lead			Lag	Lag	Lag
Lead-Lag Optimize?							Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	0.2		0.2	0.2	0.2
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0		7.0	7.0			14.0		14.0	14.0	14.0
Flash Dont Walk (s)	19.0	19.0		19.0	19.0			14.0		14.0	14.0	14.0
Pedestrian Calls (#/hr)	20	20		4	4			25		18	18	18
Act Effct Green (s)	16.6	16.6		16.6	16.6		66.6	65.8		63.6	63.6	63.6
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.74	0.73		0.71	0.71	0.71
v/c Ratio	0.34	0.23		0.09	0.27		0.03	0.25		0.07	0.40	0.05
Control Delay	33.3	20.6		26.9	15.6		6.7	6.6		5.8	5.6	0.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	33.3	20.6		26.9	15.6		6.7	6.6		5.8	5.6	0.1
LOS	C	C		C	B		A	A		A	A	A
Approach Delay		26.9			17.5			6.6			5.3	
Approach LOS		C			B			A			A	
90th %ile Green (s)	26.0	26.0		26.0	26.0		7.0	52.0		41.0	41.0	41.0
90th %ile Term Code	Ped	Ped		Ped	Ped		Max	Coord		Coord	Coord	Coord
70th %ile Green (s)	26.0	26.0		26.0	26.0		0.0	52.0		52.0	52.0	52.0
70th %ile Term Code	Ped	Ped		Hold	Hold		Skip	Coord		Coord	Coord	Coord
50th %ile Green (s)	11.0	11.0		11.0	11.0		0.0	67.0		67.0	67.0	67.0
50th %ile Term Code	Gap	Gap		Hold	Hold		Skip	Coord		Coord	Coord	Coord
30th %ile Green (s)	10.0	10.0		10.0	10.0		0.0	68.0		68.0	68.0	68.0
30th %ile Term Code	Min	Min		Min	Min		Skip	Coord		Coord	Coord	Coord
10th %ile Green (s)	0.0	0.0		0.0	0.0		0.0	84.0		84.0	84.0	84.0
10th %ile Term Code	Skip	Skip		Skip	Skip		Skip	Coord		Coord	Coord	Coord
Queue Length 50th (m)	14.0	8.9		3.1	6.8		0.5	13.8		0.9	15.9	0.0
Queue Length 95th (m)	23.2	17.9		7.9	17.1		3.2	36.0		m3.8	29.6	m0.2
Internal Link Dist (m)		79.5			86.2			99.6			210.1	
Turn Bay Length (m)	30.0			40.0			36.0			30.0		20.0
Base Capacity (vph)	372	531		344	518		416	2287		568	2452	1097

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.22	0.15		0.06	0.18		0.03	0.25		0.07	0.40	0.05

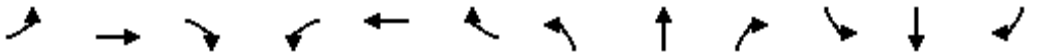
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of 1st Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.40			
Intersection Signal Delay: 8.2		Intersection LOS: A	
Intersection Capacity Utilization 54.4%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 3: Yonge St & Wright St/Dunlop St

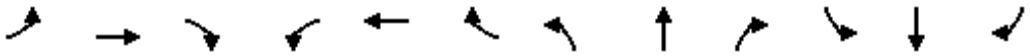


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	1	39	2	0	11	17	1112	2	18	998	25
Future Volume (vph)	11	1	39	2	0	11	17	1112	2	18	998	25
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width (m)	3.3	3.7	3.3	3.7	3.7	3.7	3.3	3.3	3.7	3.3	3.3	3.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor												
Frt		0.896			0.884						0.996	
Flt Protected		0.990			0.993			0.999			0.999	
Satd. Flow (prot)	0	1794	0	0	1775	0	0	3599	0	0	3586	0
Flt Permitted		0.990			0.993			0.999			0.999	
Satd. Flow (perm)	0	1794	0	0	1775	0	0	3599	0	0	3586	0
Link Speed (k/h)		40			50			50			50	
Link Distance (m)		124.7			45.9			73.0			105.4	
Travel Time (s)		11.2			3.3			5.3			7.6	
Confl. Peds. (#/hr)							39		81	81		39
Confl. Bikes (#/hr)									2			4
Peak Hour Factor	0.97	0.92	0.97	0.92	0.92	0.92	0.97	0.97	0.92	0.92	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%	0%	2%	0%	0%	2%	0%
Adj. Flow (vph)	11	1	40	2	0	12	18	1146	2	20	1029	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	52	0	0	14	0	0	1166	0	0	1075	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane											Yes	
Headway Factor	0.98	0.92	0.98	0.92	0.92	0.92	0.98	0.98	0.92	0.98	0.98	0.98
Turning Speed (k/h)	25		15	100		100	25		100	100		15
Sign Control		Stop			Free			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	13	3	97	7	230	6	840	108	204	837	6
Future Volume (vph)	9	13	3	97	7	230	6	840	108	204	837	6
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width (m)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.7
Storage Length (m)	0.0		0.0	60.0		0.0	0.0		102.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	1		0
Taper Length (m)	7.5			56.0			7.5			80.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor		0.98		0.96	0.92			1.00	0.84	0.97	1.00	
Frt		0.985			0.855				0.850		0.999	
Flt Protected		0.982		0.950						0.950		
Satd. Flow (prot)	0	1843	0	1783	1513	0	0	3551	1595	1818	3594	0
Flt Permitted		0.871		0.740				0.949		0.202		
Satd. Flow (perm)	0	1609	0	1328	1513	0	0	3369	1345	376	3594	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			247				116		1	
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		124.0			353.0			234.1			73.0	
Travel Time (s)		11.2			31.8			16.9			5.3	
Confl. Peds. (#/hr)	65		44	44		65	98		89	89		98
Confl. Bikes (#/hr)									2			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	3%	0%	1%	0%	2%	3%	1%	2%	0%
Bus Blockages (#/hr)	0	2	0	0	0	0	0	7	0	0	0	0
Adj. Flow (vph)	10	14	3	104	8	247	6	903	116	219	900	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	27	0	104	255	0	0	909	116	219	906	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.98	0.99	0.98	0.98	0.98	0.98	0.98	1.00	0.98	0.98	0.98	0.92
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	

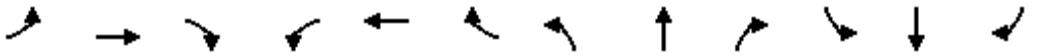


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8			6		5	2	
Permitted Phases	4			8			6		6	2		
Detector Phase	4	4		8	8		6	6	6	5	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		29.0	29.0	29.0	7.0	29.0	
Minimum Split (s)	32.0	32.0		32.0	32.0		35.0	35.0	35.0	11.0	35.0	
Total Split (s)	32.0	32.0		32.0	32.0		40.0	40.0	40.0	18.0	58.0	
Total Split (%)	35.6%	35.6%		35.6%	35.6%		44.4%	44.4%	44.4%	20.0%	64.4%	
Maximum Green (s)	26.0	26.0		26.0	26.0		34.0	34.0	34.0	14.0	52.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	1.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0		6.0	6.0			6.0	6.0	4.0	6.0	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		0.2	0.2	0.2	3.0	0.2	
Recall Mode	None	None		None	None		C-Max	C-Max	C-Max	None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		15.0	15.0	15.0		15.0	
Flash Dont Walk (s)	19.0	19.0		19.0	19.0		14.0	14.0	14.0		14.0	
Pedestrian Calls (#/hr)	44	44		65	65		89	89	89		98	
Act Effct Green (s)		22.8		22.8	22.8			40.7	40.7	57.2	55.2	
Actuated g/C Ratio		0.25		0.25	0.25			0.45	0.45	0.64	0.61	
v/c Ratio		0.07		0.31	0.45			0.60	0.17	0.54	0.41	
Control Delay		21.9		28.3	6.6			18.1	3.0	12.9	10.5	
Queue Delay		0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Delay		21.9		28.3	6.6			18.1	3.0	12.9	10.5	
LOS		C		C	A			B	A	B	B	
Approach Delay		21.9			12.9			16.4			11.0	
Approach LOS		C			B			B			B	
90th %ile Green (s)	26.0	26.0		26.0	26.0		34.0	34.0	34.0	14.0	52.0	
90th %ile Term Code	Ped	Ped		Ped	Ped		Coord	Coord	Coord	Max	Coord	
70th %ile Green (s)	26.0	26.0		26.0	26.0		36.3	36.3	36.3	11.7	52.0	
70th %ile Term Code	Ped	Ped		Ped	Ped		Coord	Coord	Coord	Gap	Coord	
50th %ile Green (s)	26.0	26.0		26.0	26.0		37.6	37.6	37.6	10.4	52.0	
50th %ile Term Code	Ped	Ped		Ped	Ped		Coord	Coord	Coord	Gap	Coord	
30th %ile Green (s)	26.0	26.0		26.0	26.0		38.8	38.8	38.8	9.2	52.0	
30th %ile Term Code	Hold	Hold		Ped	Ped		Coord	Coord	Coord	Gap	Coord	
10th %ile Green (s)	10.0	10.0		10.0	10.0		57.0	57.0	57.0	7.0	68.0	
10th %ile Term Code	Hold	Hold		Min	Min		Coord	Coord	Coord	Min	Coord	
Queue Length 50th (m)		3.2		14.5	1.1			71.1	2.7	16.6	45.2	
Queue Length 95th (m)		9.4		28.4	18.6			98.9	9.6	27.5	59.0	
Internal Link Dist (m)		100.0			329.0			210.1			49.0	
Turn Bay Length (m)				60.0					102.0			
Base Capacity (vph)		466		383	612			1524	672	462	2204	
Starvation Cap Reductn		0		0	0			0	0	0	0	

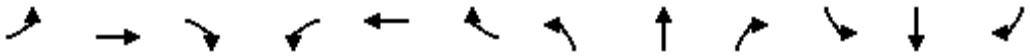
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Spillback Cap Reductn		0		0	0			0	0	0	0	
Storage Cap Reductn		0		0	0			0	0	0	0	
Reduced v/c Ratio		0.06		0.27	0.42			0.60	0.17	0.47	0.41	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 17 (19%), Referenced to phase 2:SBTL and 6:NBTL, Start of 1st Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 13.5		Intersection LOS: B	
Intersection Capacity Utilization 84.6%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 2: Yonge St & Crosby Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	50	28	20	43	72	26	732	36	58	757	61
Future Volume (vph)	62	50	28	20	43	72	26	732	36	58	757	61
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width (m)	3.3	3.3	3.3	3.3	3.3	3.7	3.3	3.0	3.0	3.3	3.3	3.3
Storage Length (m)	30.0		0.0	40.0		0.0	36.0		0.0	30.0		20.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	16.0			35.0			18.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	0.99	0.98		0.96	0.98		0.98	1.00		0.98		0.91
Frt		0.947			0.906			0.993				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1766	1778	0	1837	1698	0	1837	3400	0	1837	3538	1565
Flt Permitted	0.679			0.704			0.289			0.346		
Satd. Flow (perm)	1243	1778	0	1302	1698	0	549	3400	0	659	3538	1432
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29			76			9				85
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		103.5			110.2			123.6			234.1	
Travel Time (s)		9.3			9.9			8.9			16.9	
Confl. Peds. (#/hr)	17		47	47		17	41		29	29		41
Confl. Bikes (#/hr)												1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	0%	0%	0%	0%	2%	0%	3%	0%	0%	3%	5%
Bus Blockages (#/hr)	0	2	0	0	0	0	0	2	0	0	4	0
Adj. Flow (vph)	65	53	29	21	45	76	27	771	38	61	797	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	82	0	21	121	0	27	809	0	61	797	64
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.98	0.99	0.98	0.98	0.98	0.92	0.98	1.03	1.02	0.98	0.99	0.98
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	

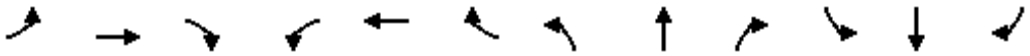


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases		4			8		1	6			2	
Permitted Phases	4			8			6			2		2
Detector Phase	4	4		8	8		1	6		2	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	28.0		28.0	28.0	28.0
Minimum Split (s)	32.0	32.0		32.0	32.0		11.0	34.0		34.0	34.0	34.0
Total Split (s)	32.0	32.0		32.0	32.0		11.0	58.0		47.0	47.0	47.0
Total Split (%)	35.6%	35.6%		35.6%	35.6%		12.2%	64.4%		52.2%	52.2%	52.2%
Maximum Green (s)	26.0	26.0		26.0	26.0		7.0	52.0		41.0	41.0	41.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		1.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		4.0	6.0		6.0	6.0	6.0
Lead/Lag							Lead			Lag	Lag	Lag
Lead-Lag Optimize?							Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	0.2		0.2	0.2	0.2
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0		7.0	7.0			14.0		14.0	14.0	14.0
Flash Dont Walk (s)	19.0	19.0		19.0	19.0			14.0		14.0	14.0	14.0
Pedestrian Calls (#/hr)	47	47		17	17			29		41	41	41
Act Effct Green (s)	19.6	19.6		19.6	19.6		60.4	58.4		54.0	54.0	54.0
Actuated g/C Ratio	0.22	0.22		0.22	0.22		0.67	0.65		0.60	0.60	0.60
v/c Ratio	0.24	0.20		0.07	0.28		0.06	0.37		0.15	0.38	0.07
Control Delay	28.3	18.5		24.6	12.6		7.3	8.9		10.8	9.1	0.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	28.3	18.5		24.6	12.6		7.3	8.9		10.8	9.1	0.9
LOS	C	B		C	B		A	A		B	A	A
Approach Delay		22.8			14.4			8.9			8.6	
Approach LOS		C			B			A			A	
90th %ile Green (s)	26.0	26.0		26.0	26.0		7.0	52.0		41.0	41.0	41.0
90th %ile Term Code	Ped	Ped		Ped	Ped		Max	Coord		Coord	Coord	Coord
70th %ile Green (s)	26.0	26.0		26.0	26.0		7.0	52.0		41.0	41.0	41.0
70th %ile Term Code	Ped	Ped		Hold	Hold		Max	Coord		Coord	Coord	Coord
50th %ile Green (s)	26.0	26.0		26.0	26.0		0.0	52.0		52.0	52.0	52.0
50th %ile Term Code	Ped	Ped		Hold	Hold		Skip	Coord		Coord	Coord	Coord
30th %ile Green (s)	10.0	10.0		10.0	10.0		0.0	68.0		68.0	68.0	68.0
30th %ile Term Code	Min	Min		Min	Min		Skip	Coord		Coord	Coord	Coord
10th %ile Green (s)	10.0	10.0		10.0	10.0		0.0	68.0		68.0	68.0	68.0
10th %ile Term Code	Hold	Hold		Min	Min		Skip	Coord		Coord	Coord	Coord
Queue Length 50th (m)	8.9	7.1		2.8	6.0		1.8	39.3		3.5	29.5	0.0
Queue Length 95th (m)	19.4	17.9		8.4	19.1		5.1	52.0		9.6	39.6	1.7
Internal Link Dist (m)		79.5			86.2			99.6			210.1	
Turn Bay Length (m)	30.0			40.0			36.0			30.0		20.0
Base Capacity (vph)	359	534		376	544		468	2209		395	2122	893
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.18	0.15		0.06	0.22		0.06	0.37		0.15	0.38	0.07

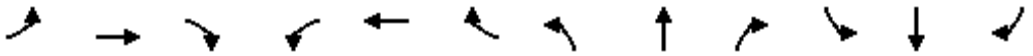
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 5 (6%), Referenced to phase 2:SBTL and 6:NBTL, Start of 1st Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.38			
Intersection Signal Delay: 10.2		Intersection LOS: B	
Intersection Capacity Utilization 75.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Yonge St & Wright St/Dunlop St

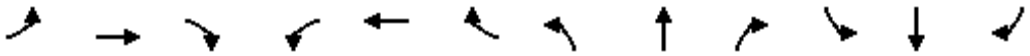


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	0	32	4	0	8	14	1312	3	12	1905	24
Future Volume (vph)	19	0	32	4	0	8	14	1312	3	12	1905	24
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width (m)	3.3	3.7	3.3	3.7	3.7	3.7	3.3	3.3	3.7	3.3	3.3	3.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor												
Frt		0.915			0.907						0.998	
Flt Protected		0.982			0.985			0.999				
Satd. Flow (prot)	0	1730	0	0	1807	0	0	3495	0	0	3460	0
Flt Permitted		0.982			0.985			0.999				
Satd. Flow (perm)	0	1730	0	0	1807	0	0	3495	0	0	3460	0
Link Speed (k/h)		40			50			50			50	
Link Distance (m)		124.7			45.9			73.0			105.4	
Travel Time (s)		11.2			3.3			5.3			7.6	
Confl. Peds. (#/hr)			1	1			20		27	27		20
Confl. Bikes (#/hr)												1
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Heavy Vehicles (%)	0%	2%	8%	0%	2%	0%	0%	5%	34%	0%	6%	5%
Adj. Flow (vph)	20	0	34	4	0	9	15	1381	3	13	2005	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	54	0	0	13	0	0	1399	0	0	2043	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane											Yes	
Headway Factor	0.98	0.92	0.98	0.92	0.92	0.92	0.98	0.98	0.92	0.98	0.98	0.98
Turning Speed (k/h)	25		15	100		100	25		100	100		15
Sign Control		Stop			Free			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 69.7%		ICU Level of Service C	
Analysis Period (min) 15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	6	0	123	6	181	11	1043	73	191	1625	15
Future Volume (vph)	2	6	0	123	6	181	11	1043	73	191	1625	15
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width (m)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.7
Storage Length (m)	0.0		0.0	60.0		0.0	0.0		102.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	1		0
Taper Length (m)	7.5			56.0			7.5			80.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor		1.00		0.96	0.97			1.00	0.90	0.99	1.00	
Frt					0.854				0.850		0.999	
Flt Protected		0.988		0.950				0.999		0.950		
Satd. Flow (prot)	0	1895	0	1717	1556	0	0	3448	1611	1783	3494	0
Flt Permitted		0.937		0.752				0.919		0.140		
Satd. Flow (perm)	0	1791	0	1304	1556	0	0	3172	1451	260	3494	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					195				85		2	
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		124.0			353.0			234.1			73.0	
Travel Time (s)		11.2			31.8			16.9			5.3	
Confl. Peds. (#/hr)	19		39	39		19	36		52	52		36
Confl. Bikes (#/hr)												2
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	2%	7%	0%	3%	0%	5%	2%	3%	5%	0%
Bus Blockages (#/hr)	0	2	0	0	0	0	0	7	0	0	0	0
Adj. Flow (vph)	2	6	0	132	6	195	12	1122	78	205	1747	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	8	0	132	201	0	0	1134	78	205	1763	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.98	0.99	0.98	0.98	0.98	0.98	0.98	1.00	0.98	0.98	0.98	0.92
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	



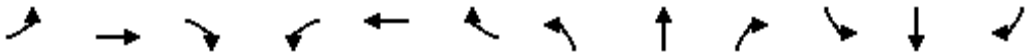
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8			6		5	2	
Permitted Phases	4			8			6		6	2		
Detector Phase	4	4		8	8		6	6	6	5	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		29.0	29.0	29.0	7.0	29.0	
Minimum Split (s)	32.0	32.0		32.0	32.0		35.0	35.0	35.0	11.0	35.0	
Total Split (s)	32.0	32.0		32.0	32.0		40.0	40.0	40.0	18.0	58.0	
Total Split (%)	35.6%	35.6%		35.6%	35.6%		44.4%	44.4%	44.4%	20.0%	64.4%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	1.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0		6.0	6.0			6.0	6.0	4.0	6.0	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Recall Mode	None	None		None	None		C-Max	C-Max	C-Max	None	C-Max	
Act Effct Green (s)		20.0		20.0	20.0			43.6	43.6	60.0	58.0	
Actuated g/C Ratio		0.22		0.22	0.22			0.48	0.48	0.67	0.64	
v/c Ratio		0.02		0.46	0.40			0.74	0.10	0.59	0.78	
Control Delay		23.1		33.7	6.8			20.5	1.7	15.9	16.5	
Queue Delay		0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Delay		23.1		33.7	6.8			20.5	1.7	15.9	16.5	
LOS		C		C	A			C	A	B	B	
Approach Delay		23.1			17.5			19.3			16.5	
Approach LOS		C			B			B			B	
Queue Length 50th (m)		1.1		19.0	0.8			99.1	0.5	15.4	133.0	
Queue Length 95th (m)		4.4		35.4	16.6			#149.6	2.0	32.3	170.9	
Internal Link Dist (m)		100.0			329.0			210.1			49.0	
Turn Bay Length (m)				60.0					102.0			
Base Capacity (vph)		517		376	588			1537	747	410	2253	
Starvation Cap Reductn		0		0	0			0	0	0	0	
Spillback Cap Reductn		0		0	0			0	0	0	0	
Storage Cap Reductn		0		0	0			0	0	0	0	
Reduced v/c Ratio		0.02		0.35	0.34			0.74	0.10	0.50	0.78	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 85 (94%), Referenced to phase 2:SBTL and 6:NBTL, Start of 1st Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 17.5		Intersection LOS: B	
Intersection Capacity Utilization 103.9%		ICU Level of Service G	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Yonge St & Crosby Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	49	60	18	39	49	21	868	12	36	1504	49
Future Volume (vph)	75	49	60	18	39	49	21	868	12	36	1504	49
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width (m)	3.3	3.3	3.3	3.3	3.3	3.7	3.3	3.0	3.0	3.3	3.3	3.3
Storage Length (m)	30.0		0.0	40.0		0.0	36.0		0.0	30.0		20.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	16.0			35.0			18.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00	0.98		0.98	0.99			1.00		0.99		0.95
Frt		0.917			0.916			0.998				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1766	1689	0	1640	1664	0	1685	3130	0	1783	3470	1595
Flt Permitted	0.695			0.681			0.076			0.302		
Satd. Flow (perm)	1287	1689	0	1155	1664	0	135	3130	0	561	3470	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		65			53			3				85
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		103.5			110.2			123.6			234.1	
Travel Time (s)		9.3			9.9			8.9			16.9	
Confl. Peds. (#/hr)	4		20	20		4	18		25	25		18
Confl. Bikes (#/hr)			1						1			1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	4%	0%	4%	12%	6%	5%	9%	7%	0%	3%	5%	3%
Bus Blockages (#/hr)	0	2	0	0	0	0	0	2	0	0	4	0
Parking (#/hr)								0				
Adj. Flow (vph)	81	53	65	19	42	53	23	933	13	39	1617	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	81	118	0	19	95	0	23	946	0	39	1617	53
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.98	0.99	0.98	0.98	0.98	0.92	0.98	1.10	1.02	0.98	0.99	0.98
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases		4			8		1	6			2	
Permitted Phases	4			8			6			2		2
Detector Phase	4	4		8	8		1	6		2	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	28.0		28.0	28.0	28.0
Minimum Split (s)	32.0	32.0		32.0	32.0		11.0	34.0		34.0	34.0	34.0
Total Split (s)	32.0	32.0		32.0	32.0		11.0	58.0		47.0	47.0	47.0
Total Split (%)	35.6%	35.6%		35.6%	35.6%		12.2%	64.4%		52.2%	52.2%	52.2%
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		1.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		4.0	6.0		6.0	6.0	6.0
Lead/Lag							Lead			Lag	Lag	Lag
Lead-Lag Optimize?							Yes			Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	C-Max
Act Effct Green (s)	16.6	16.6		16.6	16.6		63.4	61.4		57.0	57.0	57.0
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.70	0.68		0.63	0.63	0.63
v/c Ratio	0.34	0.32		0.09	0.27		0.11	0.44		0.11	0.74	0.05
Control Delay	33.3	16.2		27.0	15.8		7.3	8.6		8.7	12.8	0.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	33.3	16.2		27.0	15.8		7.3	8.6		8.7	12.8	0.9
LOS	C	B		C	B		A	A		A	B	A
Approach Delay		23.1			17.6			8.6			12.3	
Approach LOS		C			B			A			B	
Queue Length 50th (m)	14.0	8.9		3.1	7.0		0.8	26.8		1.0	29.3	0.0
Queue Length 95th (m)	23.2	20.1		7.9	17.1		4.6	66.8		m3.0	#205.8	m0.4
Internal Link Dist (m)		79.5			86.2			99.6			210.1	
Turn Bay Length (m)	30.0			40.0			36.0			30.0		20.0
Base Capacity (vph)	371	534		333	518		215	2136		355	2197	991
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.22	0.22		0.06	0.18		0.11	0.44		0.11	0.74	0.05

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 12.0		Intersection LOS: B	
Intersection Capacity Utilization 65.5%		ICU Level of Service C	

Analysis Period (min) 15

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

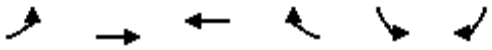
Splits and Phases: 3: Yonge St & Wright St/Dunlop St

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	51	0	0	38	0	0
Future Volume (vph)	51	0	0	38	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Lane Width (m)	3.7	3.7	3.7	3.7	3.3	3.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1983	0	0	1983	1895	0
Flt Permitted						
Satd. Flow (perm)	1983	0	0	1983	1895	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	40.6			124.7	69.8	
Travel Time (s)	3.7			11.2	6.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	55	0	0	41	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	55	0	0	41	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.3	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	0.92	0.92	0.92	0.92	0.98	0.98
Turning Speed (k/h)		15	25		25	15
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 6.7%		ICU Level of Service A	
Analysis Period (min) 15			

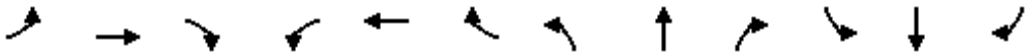
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Lane Width (m)	3.3	3.3	3.3	3.3	3.7	3.7
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1895	0	1895	0	0	1983
Flt Permitted						
Satd. Flow (perm)	1895	0	1895	0	0	1983
Link Speed (k/h)	40		40			40
Link Distance (m)	124.0		226.8			69.8
Travel Time (s)	11.2		20.4			6.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.3		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	0.98	0.98	0.98	0.98	0.92	0.92
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Stop			Stop

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 0.0%		ICU Level of Service A	
Analysis Period (min) 15			



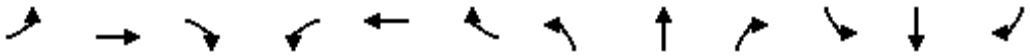
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	184	109	0	0	0
Future Volume (vph)	0	184	109	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Lane Width (m)	3.3	3.3	3.3	3.3	3.3	3.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	0	1895	1895	0	1895	0
Flt Permitted						
Satd. Flow (perm)	0	1895	1895	0	1895	0
Link Speed (k/h)		40	40		40	
Link Distance (m)		151.5	103.5		226.8	
Travel Time (s)		13.6	9.3		20.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	200	118	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	200	118	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.3	3.3		3.3	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	0.98	0.98	0.98	0.98	0.98	0.98
Turning Speed (k/h)	25			15	25	15
Sign Control		Stop	Stop		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 12.5%		ICU Level of Service A	
Analysis Period (min) 15			

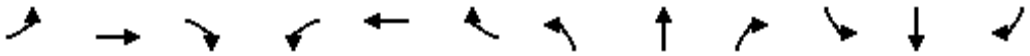


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	1	41	2	0	11	22	1849	2	18	1659	37
Future Volume (vph)	17	1	41	2	0	11	22	1849	2	18	1659	37
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width (m)	3.3	3.7	3.3	3.7	3.7	3.7	3.3	3.3	3.7	3.3	3.3	3.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor												
Frt		0.907			0.884						0.997	
Flt Protected		0.985			0.993			0.999			0.999	
Satd. Flow (prot)	0	1807	0	0	1775	0	0	3599	0	0	3589	0
Flt Permitted		0.985			0.993			0.999			0.999	
Satd. Flow (perm)	0	1807	0	0	1775	0	0	3599	0	0	3589	0
Link Speed (k/h)		40			50			50			50	
Link Distance (m)		124.7			45.9			73.0			105.4	
Travel Time (s)		11.2			3.3			5.3			7.6	
Confl. Peds. (#/hr)							39		81	81		39
Confl. Bikes (#/hr)									2			4
Peak Hour Factor	0.97	0.92	0.97	0.92	0.92	0.92	0.97	0.97	0.92	0.92	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%	0%	2%	0%	0%	2%	0%
Adj. Flow (vph)	18	1	42	2	0	12	23	1906	2	20	1710	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	61	0	0	14	0	0	1931	0	0	1768	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane											Yes	
Headway Factor	0.98	0.92	0.98	0.92	0.92	0.92	0.98	0.98	0.92	0.98	0.98	0.98
Turning Speed (k/h)	25		15	100		100	25		100	100		15
Sign Control		Stop			Free			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	75.8%	ICU Level of Service	D
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	13	3	97	7	235	6	1397	108	206	1392	6
Future Volume (vph)	9	13	3	97	7	235	6	1397	108	206	1392	6
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width (m)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.7
Storage Length (m)	0.0		0.0	60.0		0.0	0.0		102.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	1		0
Taper Length (m)	7.5			56.0			7.5			80.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor		0.98		0.96	0.92			1.00	0.84		1.00	
Frt		0.985			0.855				0.850		0.999	
Flt Protected		0.982		0.950						0.950		
Satd. Flow (prot)	0	1843	0	1783	1513	0	0	3551	1595	1818	3596	0
Flt Permitted		0.870		0.740				0.947		0.090		
Satd. Flow (perm)	0	1607	0	1328	1513	0	0	3363	1345	172	3596	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			253				116		1	
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		124.0			353.0			234.1			73.0	
Travel Time (s)		11.2			31.8			16.9			5.3	
Confl. Peds. (#/hr)	65		44	44		65	98		89	89		98
Confl. Bikes (#/hr)									2			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	3%	0%	1%	0%	2%	3%	1%	2%	0%
Bus Blockages (#/hr)	0	2	0	0	0	0	0	7	0	0	0	0
Adj. Flow (vph)	10	14	3	104	8	253	6	1502	116	222	1497	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	27	0	104	261	0	0	1508	116	222	1503	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.98	0.99	0.98	0.98	0.98	0.98	0.98	1.00	0.98	0.98	0.98	0.92
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	

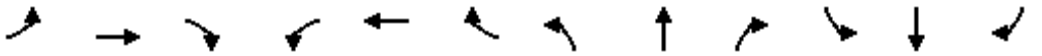


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8			6		5	2	
Permitted Phases	4			8			6		6	2		
Detector Phase	4	4		8	8		6	6	6	5	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		29.0	29.0	29.0	7.0	29.0	
Minimum Split (s)	32.0	32.0		32.0	32.0		35.0	35.0	35.0	11.0	35.0	
Total Split (s)	32.0	32.0		32.0	32.0		40.0	40.0	40.0	18.0	58.0	
Total Split (%)	35.6%	35.6%		35.6%	35.6%		44.4%	44.4%	44.4%	20.0%	64.4%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	1.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0		6.0	6.0			6.0	6.0	4.0	6.0	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Recall Mode	None	None		None	None		C-Max	C-Max	C-Max	None	C-Max	
Act Effct Green (s)		22.8		22.8	22.8			40.2	40.2	57.2	55.2	
Actuated g/C Ratio		0.25		0.25	0.25			0.45	0.45	0.64	0.61	
v/c Ratio		0.07		0.31	0.46			1.00	0.17	0.72	0.68	
Control Delay		21.9		28.3	6.6			46.0	1.9	29.7	14.6	
Queue Delay		0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Delay		21.9		28.3	6.6			46.0	1.9	29.7	14.6	
LOS		C		C	A			D	A	C	B	
Approach Delay		21.9			12.8			42.9			16.5	
Approach LOS		C			B			D			B	
Queue Length 50th (m)		3.2		14.5	1.1			~166.3	1.5	22.3	96.5	
Queue Length 95th (m)		9.4		28.4	18.8			#221.4	m4.6	46.1	122.8	
Internal Link Dist (m)		100.0			329.0			210.1			49.0	
Turn Bay Length (m)				60.0					102.0			
Base Capacity (vph)		466		383	617			1501	664	365	2206	
Starvation Cap Reductn		0		0	0			0	0	0	0	
Spillback Cap Reductn		0		0	0			0	0	0	0	
Storage Cap Reductn		0		0	0			0	0	0	0	
Reduced v/c Ratio		0.06		0.27	0.42			1.00	0.17	0.61	0.68	

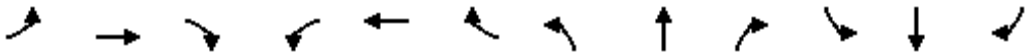
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 17 (19%), Referenced to phase 2:SBTL and 6:NBTL, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.00			
Intersection Signal Delay: 27.6		Intersection LOS: C	
Intersection Capacity Utilization 109.9%		ICU Level of Service H	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Yonge St & Crosby Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	51	46	20	43	72	65	1218	36	58	1259	61
Future Volume (vph)	62	51	46	20	43	72	65	1218	36	58	1259	61
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width (m)	3.3	3.3	3.3	3.3	3.3	3.7	3.3	3.0	3.0	3.3	3.3	3.3
Storage Length (m)	30.0		0.0	40.0		0.0	36.0		0.0	30.0		20.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	16.0			35.0			18.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	0.99	0.97		0.96	0.98			1.00		0.99		0.91
Frt		0.929			0.906			0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1766	1732	0	1837	1698	0	1837	3412	0	1837	3538	1565
Flt Permitted	0.679			0.691			0.113			0.190		
Satd. Flow (perm)	1243	1732	0	1279	1698	0	218	3412	0	365	3538	1432
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		48			49			5				85
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		103.5			110.2			123.6			234.1	
Travel Time (s)		9.3			9.9			8.9			16.9	
Confl. Peds. (#/hr)	17		47	47		17	41		29	29		41
Confl. Bikes (#/hr)												1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	0%	0%	0%	0%	2%	0%	3%	0%	0%	3%	5%
Bus Blockages (#/hr)	0	2	0	0	0	0	0	2	0	0	4	0
Adj. Flow (vph)	65	54	48	21	45	76	68	1282	38	61	1325	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	102	0	21	121	0	68	1320	0	61	1325	64
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.98	0.99	0.98	0.98	0.98	0.92	0.98	1.03	1.02	0.98	0.99	0.98
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases		4			8		1	6			2	
Permitted Phases	4			8			6			2		2
Detector Phase	4	4		8	8		1	6		2	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	28.0		28.0	28.0	28.0
Minimum Split (s)	32.0	32.0		32.0	32.0		11.0	34.0		34.0	34.0	34.0
Total Split (s)	32.0	32.0		32.0	32.0		11.0	58.0		47.0	47.0	47.0
Total Split (%)	35.6%	35.6%		35.6%	35.6%		12.2%	64.4%		52.2%	52.2%	52.2%
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		1.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		4.0	6.0		6.0	6.0	6.0
Lead/Lag							Lead			Lag	Lag	Lag
Lead-Lag Optimize?							Yes			Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	C-Max
Act Effct Green (s)	19.6	19.6		19.6	19.6		60.4	58.4		49.6	49.6	49.6
Actuated g/C Ratio	0.22	0.22		0.22	0.22		0.67	0.65		0.55	0.55	0.55
v/c Ratio	0.24	0.25		0.08	0.30		0.25	0.60		0.30	0.68	0.08
Control Delay	28.3	16.1		24.7	17.9		9.2	11.9		20.6	16.9	4.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	28.3	16.1		24.7	17.9		9.2	11.9		20.6	16.9	4.7
LOS	C	B		C	B		A	B		C	B	A
Approach Delay		20.8			18.9			11.7			16.5	
Approach LOS		C			B			B			B	
Queue Length 50th (m)	8.9	7.2		2.8	9.7		4.7	80.3		5.1	59.0	0.0
Queue Length 95th (m)	19.4	19.3		8.4	23.3		10.0	103.3		m9.6	84.8	m3.4
Internal Link Dist (m)		79.5			86.2			99.6			210.1	
Turn Bay Length (m)	30.0			40.0			36.0			30.0		20.0
Base Capacity (vph)	359	534		369	525		272	2215		201	1949	827
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.18	0.19		0.06	0.23		0.25	0.60		0.30	0.68	0.08

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 5 (6%), Referenced to phase 2:SBTL and 6:NBTL, Start of 1st Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 14.7		Intersection LOS: B	
Intersection Capacity Utilization 80.5%		ICU Level of Service D	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

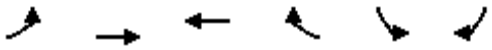
Splits and Phases: 3: Yonge St & Wright St/Dunlop St

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	59	0	0	59	0	0
Future Volume (vph)	59	0	0	59	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Lane Width (m)	3.7	3.7	3.7	3.7	3.3	3.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1983	0	0	1983	1895	0
Flt Permitted						
Satd. Flow (perm)	1983	0	0	1983	1895	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	40.6			124.7	69.8	
Travel Time (s)	3.7			11.2	6.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	64	0	0	64	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	64	0	0	64	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.3	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	0.92	0.92	0.92	0.92	0.98	0.98
Turning Speed (k/h)		100	100		100	100
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 6.7%		ICU Level of Service A	
Analysis Period (min) 15			

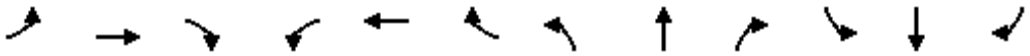
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Lane Width (m)	3.3	3.3	3.3	3.3	3.7	3.7
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1895	0	1895	0	0	1983
Flt Permitted						
Satd. Flow (perm)	1895	0	1895	0	0	1983
Link Speed (k/h)	40		40			40
Link Distance (m)	124.0		226.8			69.8
Travel Time (s)	11.2		20.4			6.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.3		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	0.98	0.98	0.98	0.98	0.92	0.92
Turning Speed (k/h)	100	100		100	100	
Sign Control	Stop		Stop			Stop

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 0.0%		ICU Level of Service A	
Analysis Period (min) 15			



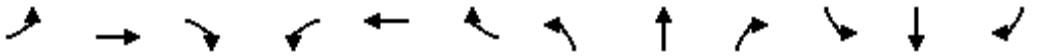
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	159	169	0	0	0
Future Volume (vph)	0	159	169	0	0	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Lane Width (m)	3.3	3.3	3.3	3.3	3.3	3.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	0	1895	1895	0	1895	0
Flt Permitted						
Satd. Flow (perm)	0	1895	1895	0	1895	0
Link Speed (k/h)		40	40		40	
Link Distance (m)		151.5	103.5		226.8	
Travel Time (s)		13.6	9.3		20.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	173	184	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	173	184	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.3	3.3		3.3	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	0.98	0.98	0.98	0.98	0.98	0.98
Turning Speed (k/h)	100			100	100	100
Sign Control		Stop	Stop		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 11.8%		ICU Level of Service A	
Analysis Period (min) 15			

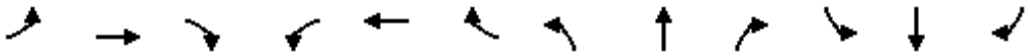


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	0	32	4	0	8	52	1378	3	12	1988	52
Future Volume (vph)	41	0	32	4	0	8	52	1378	3	12	1988	52
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width (m)	3.3	3.7	3.3	3.7	3.7	3.7	3.3	3.3	3.7	3.3	3.3	3.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor												
Frt		0.940			0.907						0.996	
Flt Protected		0.973			0.985			0.998				
Satd. Flow (prot)	0	1786	0	0	1807	0	0	3496	0	0	3454	0
Flt Permitted		0.973			0.985			0.998				
Satd. Flow (perm)	0	1786	0	0	1807	0	0	3496	0	0	3454	0
Link Speed (k/h)		40			50			50			50	
Link Distance (m)		124.7			45.9			73.0			105.4	
Travel Time (s)		11.2			3.3			5.3			7.6	
Confl. Peds. (#/hr)			1	1			20		27	27		20
Confl. Bikes (#/hr)												1
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Heavy Vehicles (%)	0%	2%	8%	0%	2%	0%	0%	5%	34%	0%	6%	5%
Adj. Flow (vph)	43	0	34	4	0	9	55	1451	3	13	2093	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	77	0	0	13	0	0	1509	0	0	2161	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane											Yes	
Headway Factor	0.98	0.92	0.98	0.92	0.92	0.92	0.98	0.98	0.92	0.98	0.98	0.98
Turning Speed (k/h)	25		15	100		100	25		100	100		15
Sign Control		Stop			Free			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 86.0%		ICU Level of Service E	
Analysis Period (min) 15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	16	158	123	13	181	85	1081	73	191	1653	71
Future Volume (vph)	68	16	158	123	13	181	85	1081	73	191	1653	71
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width (m)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.7
Storage Length (m)	30.0		0.0	60.0		0.0	0.0		102.0	0.0		0.0
Storage Lanes	1		0	1		0	0		1	1		0
Taper Length (m)	7.5			56.0			7.5			80.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor	0.99	0.95		0.97	0.97			1.00	0.90	0.99	1.00	
Frt		0.864			0.860				0.850		0.994	
Flt Protected	0.950			0.950				0.996		0.950		
Satd. Flow (prot)	1837	1551	0	1717	1570	0	0	3448	1611	1783	3473	0
Flt Permitted	0.530			0.574				0.557		0.121		
Satd. Flow (perm)	1010	1551	0	1006	1570	0	0	1928	1451	225	3473	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			181				85		8	
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		124.0			353.0			234.1			73.0	
Travel Time (s)		11.2			31.8			16.9			5.3	
Confl. Peds. (#/hr)	19		39	39		19	36		52	52		36
Confl. Bikes (#/hr)												2
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	2%	7%	0%	3%	0%	5%	2%	3%	5%	0%
Bus Blockages (#/hr)	0	2	0	0	0	0	0	7	0	0	0	0
Adj. Flow (vph)	73	17	170	132	14	195	91	1162	78	205	1777	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	73	187	0	132	209	0	0	1253	78	205	1853	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.98	0.99	0.98	0.98	0.98	0.98	0.98	1.00	0.98	0.98	0.98	0.92
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8			6		5	2	
Permitted Phases	4			8			6		6	2		
Detector Phase	4	4		8	8		6	6	6	5	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		29.0	29.0	29.0	7.0	29.0	
Minimum Split (s)	32.0	32.0		32.0	32.0		35.0	35.0	35.0	11.0	35.0	
Total Split (s)	32.0	32.0		32.0	32.0		47.0	47.0	47.0	11.0	58.0	
Total Split (%)	35.6%	35.6%		35.6%	35.6%		52.2%	52.2%	52.2%	12.2%	64.4%	
Maximum Green (s)	26.0	26.0		26.0	26.0		41.0	41.0	41.0	7.0	52.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0	6.0	4.0	6.0	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		0.2	0.2	0.2	3.0	0.2	
Recall Mode	None	None		None	None		C-Max	C-Max	C-Max	None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		15.0	15.0	15.0		15.0	
Flash Dont Walk (s)	19.0	19.0		19.0	19.0		14.0	14.0	14.0		14.0	
Pedestrian Calls (#/hr)	39	39		19	19		52	52	52		36	
Act Effct Green (s)	20.3	20.3		20.3	20.3			46.7	46.7	59.7	57.7	
Actuated g/C Ratio	0.23	0.23		0.23	0.23			0.52	0.52	0.66	0.64	
v/c Ratio	0.32	0.52		0.58	0.42			1.25	0.10	0.76	0.83	
Control Delay	30.5	32.0		40.2	8.5			142.3	1.2	30.3	18.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Delay	30.5	32.0		40.2	8.5			142.3	1.2	30.3	18.6	
LOS	C	C		D	A			F	A	C	B	
Approach Delay		31.6			20.8			134.1			19.8	
Approach LOS		C			C			F			B	
90th %ile Green (s)	26.0	26.0		26.0	26.0		41.0	41.0	41.0	7.0	52.0	
90th %ile Term Code	Ped	Ped		Ped	Ped		Coord	Coord	Coord	Max	Coord	
70th %ile Green (s)	26.0	26.0		26.0	26.0		41.0	41.0	41.0	7.0	52.0	
70th %ile Term Code	Ped	Ped		Ped	Ped		Coord	Coord	Coord	Max	Coord	
50th %ile Green (s)	26.0	26.0		26.0	26.0		41.0	41.0	41.0	7.0	52.0	
50th %ile Term Code	Ped	Ped		Hold	Hold		Coord	Coord	Coord	Max	Coord	
30th %ile Green (s)	13.3	13.3		13.3	13.3		53.7	53.7	53.7	7.0	64.7	
30th %ile Term Code	Hold	Hold		Gap	Gap		Coord	Coord	Coord	Max	Coord	
10th %ile Green (s)	10.0	10.0		10.0	10.0		57.0	57.0	57.0	7.0	68.0	
10th %ile Term Code	Min	Min		Min	Min		Coord	Coord	Coord	Max	Coord	
Queue Length 50th (m)	10.1	25.2		19.6	3.7			~166.3	0.8	15.4	148.0	
Queue Length 95th (m)	22.0	44.7		37.8	20.1			#208.9	1.3	#50.1	#214.4	
Internal Link Dist (m)		100.0			329.0			210.1			49.0	
Turn Bay Length (m)	30.0			60.0					102.0			
Base Capacity (vph)	291	458		290	582			1001	794	270	2231	
Starvation Cap Reductn	0	0		0	0			0	0	0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Spillback Cap Reductn	0	0		0	0			0	0	0	0	
Storage Cap Reductn	0	0		0	0			0	0	0	0	
Reduced v/c Ratio	0.25	0.41		0.46	0.36			1.25	0.10	0.76	0.83	

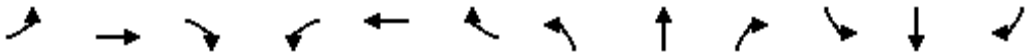
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of 1st Green			
Natural Cycle: 140			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.25			
Intersection Signal Delay: 58.8		Intersection LOS: E	
Intersection Capacity Utilization 124.1%		ICU Level of Service H	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Yonge St & Crosby Ave

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	49	113	18	39	49	59	980	12	36	1662	77
Future Volume (vph)	75	49	113	18	39	49	59	980	12	36	1662	77
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width (m)	3.3	3.3	3.3	3.3	3.3	3.7	3.3	3.0	3.0	3.3	3.3	3.3
Storage Length (m)	30.0		0.0	40.0		0.0	36.0		0.0	30.0		20.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	16.0			35.0			18.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00	0.98		0.98	0.99			1.00		0.99		0.95
Frt		0.895			0.916			0.998				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1766	1631	0	1640	1664	0	1685	3130	0	1783	3470	1595
Flt Permitted	0.695			0.573			0.072			0.268		
Satd. Flow (perm)	1287	1631	0	973	1664	0	128	3130	0	498	3470	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		122			53			2				85
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		103.5			110.2			123.6			234.1	
Travel Time (s)		9.3			9.9			8.9			16.9	
Confl. Peds. (#/hr)	4		20	20		4	18		25	25		18
Confl. Bikes (#/hr)			1						1			1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	4%	0%	4%	12%	6%	5%	9%	7%	0%	3%	5%	3%
Bus Blockages (#/hr)	0	2	0	0	0	0	0	2	0	0	4	0
Parking (#/hr)								0				
Adj. Flow (vph)	81	53	122	19	42	53	63	1054	13	39	1787	83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	81	175	0	19	95	0	63	1067	0	39	1787	83
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.98	0.99	0.98	0.98	0.98	0.92	0.98	1.10	1.02	0.98	0.99	0.98
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases		4			8		1	6			2	
Permitted Phases	4			8			6			2		2
Detector Phase	4	4		8	8		1	6		2	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	28.0		28.0	28.0	28.0
Minimum Split (s)	32.0	32.0		32.0	32.0		11.0	34.0		34.0	34.0	34.0
Total Split (s)	32.0	32.0		32.0	32.0		11.0	58.0		47.0	47.0	47.0
Total Split (%)	35.6%	35.6%		35.6%	35.6%		12.2%	64.4%		52.2%	52.2%	52.2%
Maximum Green (s)	26.0	26.0		26.0	26.0		7.0	52.0		41.0	41.0	41.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		1.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		4.0	6.0		6.0	6.0	6.0
Lead/Lag							Lead			Lag	Lag	Lag
Lead-Lag Optimize?							Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	0.2		0.2	0.2	0.2
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0		7.0	7.0			14.0		14.0	14.0	14.0
Flash Dont Walk (s)	19.0	19.0		19.0	19.0			14.0		14.0	14.0	14.0
Pedestrian Calls (#/hr)	20	20		4	4			25		18	18	18
Act Effct Green (s)	16.6	16.6		16.6	16.6		63.4	61.4		52.6	52.6	52.6
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.70	0.68		0.58	0.58	0.58
v/c Ratio	0.34	0.44		0.11	0.27		0.30	0.50		0.13	0.88	0.09
Control Delay	33.3	13.3		27.6	15.8		9.6	9.3		13.4	21.0	3.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	33.3	13.3		27.6	15.8		9.6	9.3		13.4	21.0	3.8
LOS	C	B		C	B		A	A		B	C	A
Approach Delay		19.7			17.7			9.3			20.1	
Approach LOS		B			B			A			C	
90th %ile Green (s)	26.0	26.0		26.0	26.0		7.0	52.0		41.0	41.0	41.0
90th %ile Term Code	Ped	Ped		Ped	Ped		Max	Coord		Coord	Coord	Coord
70th %ile Green (s)	26.0	26.0		26.0	26.0		7.0	52.0		41.0	41.0	41.0
70th %ile Term Code	Ped	Ped		Hold	Hold		Max	Coord		Coord	Coord	Coord
50th %ile Green (s)	11.0	11.0		11.0	11.0		7.0	67.0		56.0	56.0	56.0
50th %ile Term Code	Gap	Gap		Hold	Hold		Max	Coord		Coord	Coord	Coord
30th %ile Green (s)	10.0	10.0		10.0	10.0		7.0	68.0		57.0	57.0	57.0
30th %ile Term Code	Min	Min		Min	Min		Max	Coord		Coord	Coord	Coord
10th %ile Green (s)	10.0	10.0		10.0	10.0		0.0	68.0		68.0	68.0	68.0
10th %ile Term Code	Min	Min		Hold	Hold		Skip	Coord		Coord	Coord	Coord
Queue Length 50th (m)	14.0	8.9		3.2	7.0		2.2	32.1		2.5	68.7	0.2
Queue Length 95th (m)	23.2	23.0		8.0	17.1		9.8	79.5		m4.4	#242.1	m1.9
Internal Link Dist (m)		79.5			86.2			99.6			210.1	
Turn Bay Length (m)	30.0			40.0			36.0			30.0		20.0
Base Capacity (vph)	371	557		281	518		211	2136		290	2027	921

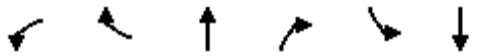
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.22	0.31		0.07	0.18		0.30	0.50		0.13	0.88	0.09

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 16.4		Intersection LOS: B	
Intersection Capacity Utilization 72.6%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 3: Yonge St & Wright St/Dunlop St

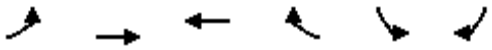
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	51	0	66	38	0	22
Future Volume (vph)	51	0	66	38	0	22
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Lane Width (m)	3.7	3.7	3.7	3.7	3.3	3.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.969		
Satd. Flow (prot)	1983	0	0	1921	1640	0
Flt Permitted				0.969		
Satd. Flow (perm)	1983	0	0	1921	1640	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	40.6			124.7	69.8	
Travel Time (s)	3.7			11.2	6.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	55	0	72	41	0	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	55	0	0	113	24	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.3	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	0.92	0.92	0.92	0.92	0.98	0.98
Turning Speed (k/h)		15	25		25	15
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 22.0%		ICU Level of Service A	
Analysis Period (min) 15			



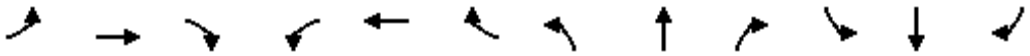
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	53	22	0	65	66	0
Future Volume (vph)	53	22	0	65	66	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Lane Width (m)	3.3	3.3	3.3	3.3	3.7	3.7
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.960		0.865			
Flt Protected	0.966					0.950
Satd. Flow (prot)	1758	0	1640	0	0	1883
Flt Permitted	0.966					0.950
Satd. Flow (perm)	1758	0	1640	0	0	1883
Link Speed (k/h)	40		40			40
Link Distance (m)	124.0		226.8			69.8
Travel Time (s)	11.2		20.4			6.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	58	24	0	71	72	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	82	0	71	0	0	72
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	6.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	0.98	0.98	0.98	0.98	0.92	0.92
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Stop			Stop

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 20.9%		ICU Level of Service A	
Analysis Period (min) 15			



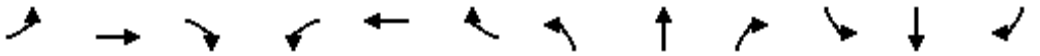
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	184	109	65	53	0
Future Volume (vph)	0	184	109	65	53	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Lane Width (m)	3.3	3.3	3.3	3.3	3.3	3.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.949			
Flt Protected					0.950	
Satd. Flow (prot)	0	1895	1799	0	1801	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1895	1799	0	1801	0
Link Speed (k/h)		40	40		40	
Link Distance (m)		151.5	103.5		226.8	
Travel Time (s)		13.6	9.3		20.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	200	118	71	58	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	200	189	0	58	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.3	3.3		3.3	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	0.98	0.98	0.98	0.98	0.98	0.98
Turning Speed (k/h)	25			15	25	15
Sign Control		Stop	Stop		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 19.2%		ICU Level of Service A	
Analysis Period (min) 15			

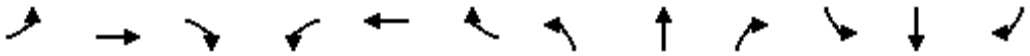


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	1	41	2	0	11	78	1970	2	18	1782	78
Future Volume (vph)	58	1	41	2	0	11	78	1970	2	18	1782	78
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width (m)	3.3	3.7	3.3	3.7	3.7	3.7	3.3	3.3	3.7	3.3	3.3	3.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor												
Frt		0.945			0.884						0.994	
Flt Protected		0.972			0.993			0.998			0.999	
Satd. Flow (prot)	0	1857	0	0	1775	0	0	3597	0	0	3580	0
Flt Permitted		0.972			0.993			0.998			0.999	
Satd. Flow (perm)	0	1857	0	0	1775	0	0	3597	0	0	3580	0
Link Speed (k/h)		40			50			50			50	
Link Distance (m)		124.7			45.9			73.0			105.4	
Travel Time (s)		11.2			3.3			5.3			7.6	
Confl. Peds. (#/hr)							39		81	81		39
Confl. Bikes (#/hr)									2			4
Peak Hour Factor	0.97	0.92	0.97	0.92	0.92	0.92	0.97	0.97	0.92	0.92	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%	0%	2%	0%	0%	2%	0%
Adj. Flow (vph)	60	1	42	2	0	12	80	2031	2	20	1837	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	103	0	0	14	0	0	2113	0	0	1937	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane											Yes	
Headway Factor	0.98	0.92	0.98	0.92	0.92	0.92	0.98	0.98	0.92	0.98	0.98	0.98
Turning Speed (k/h)	25		15	100		100	25		100	100		15
Sign Control		Stop			Free			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 124.8%		ICU Level of Service H	
Analysis Period (min) 15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	20	181	97	54	235	114	1453	108	206	1433	88
Future Volume (vph)	130	20	181	97	54	235	114	1453	108	206	1433	88
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width (m)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.7
Storage Length (m)	30.0		0.0	60.0		0.0	0.0		102.0	0.0		0.0
Storage Lanes	1		0	1		0	0		1	1		0
Taper Length (m)	7.5			56.0			7.5			80.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor	0.96	0.95		0.97	0.94			1.00	0.84		0.99	
Frt		0.865			0.878				0.850		0.991	
Flt Protected	0.950			0.950				0.996		0.950		
Satd. Flow (prot)	1837	1574	0	1783	1577	0	0	3542	1595	1818	3538	0
Flt Permitted	0.373			0.536				0.539		0.083		
Satd. Flow (perm)	694	1574	0	974	1577	0	0	1915	1345	159	3538	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			164				116		12	
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		124.0			353.0			234.1			73.0	
Travel Time (s)		11.2			31.8			16.9			5.3	
Confl. Peds. (#/hr)	65		44	44		65	98		89	89		98
Confl. Bikes (#/hr)									2			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	3%	0%	1%	0%	2%	3%	1%	2%	0%
Bus Blockages (#/hr)	0	2	0	0	0	0	0	7	0	0	0	0
Adj. Flow (vph)	140	22	195	104	58	253	123	1562	116	222	1541	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	140	217	0	104	311	0	0	1685	116	222	1636	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.98	0.99	0.98	0.98	0.98	0.98	0.98	1.00	0.98	0.98	0.98	0.92
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0	2.0	2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6	2.0	2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8			6		5	2	
Permitted Phases	4			8			6		6	2		
Detector Phase	4	4		8	8		6	6	6	5	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		29.0	29.0	29.0	7.0	29.0	
Minimum Split (s)	32.0	32.0		32.0	32.0		35.0	35.0	35.0	11.0	35.0	
Total Split (s)	32.0	32.0		32.0	32.0		47.0	47.0	47.0	11.0	58.0	
Total Split (%)	35.6%	35.6%		35.6%	35.6%		52.2%	52.2%	52.2%	12.2%	64.4%	
Maximum Green (s)	26.0	26.0		26.0	26.0		41.0	41.0	41.0	7.0	52.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	3.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0	6.0	4.0	6.0	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		0.2	0.2	0.2	3.0	0.2	
Recall Mode	None	None		None	None		C-Max	C-Max	C-Max	None	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		15.0	15.0	15.0		15.0	
Flash Dont Walk (s)	19.0	19.0		19.0	19.0		14.0	14.0	14.0		14.0	
Pedestrian Calls (#/hr)	44	44		65	65		89	89	89		98	
Act Effct Green (s)	23.0	23.0		23.0	23.0			44.0	44.0	57.0	55.0	
Actuated g/C Ratio	0.26	0.26		0.26	0.26			0.49	0.49	0.63	0.61	
v/c Ratio	0.79	0.52		0.42	0.59			1.80	0.16	0.97	0.76	
Control Delay	61.4	30.2		32.1	17.6			383.9	3.4	73.6	16.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Delay	61.4	30.2		32.1	17.6			383.9	3.4	73.6	16.4	
LOS	E	C		C	B			F	A	E	B	
Approach Delay		42.4			21.2			359.4			23.3	
Approach LOS		D			C			F			C	
90th %ile Green (s)	26.0	26.0		26.0	26.0		41.0	41.0	41.0	7.0	52.0	
90th %ile Term Code	Max	Max		Ped	Ped		Coord	Coord	Coord	Max	Coord	
70th %ile Green (s)	26.0	26.0		26.0	26.0		41.0	41.0	41.0	7.0	52.0	
70th %ile Term Code	Max	Max		Ped	Ped		Coord	Coord	Coord	Max	Coord	
50th %ile Green (s)	26.0	26.0		26.0	26.0		41.0	41.0	41.0	7.0	52.0	
50th %ile Term Code	Ped	Ped		Ped	Ped		Coord	Coord	Coord	Max	Coord	
30th %ile Green (s)	26.0	26.0		26.0	26.0		41.0	41.0	41.0	7.0	52.0	
30th %ile Term Code	Hold	Hold		Ped	Ped		Coord	Coord	Coord	Max	Coord	
10th %ile Green (s)	11.0	11.0		11.0	11.0		56.0	56.0	56.0	7.0	67.0	
10th %ile Term Code	Gap	Gap		Hold	Hold		Coord	Coord	Coord	Max	Coord	
Queue Length 50th (m)	22.6	29.5		15.0	20.9			~249.4	0.0	24.4	113.0	
Queue Length 95th (m)	#52.3	51.2		30.3	47.4			#293.7	m5.5	#71.2	144.2	
Internal Link Dist (m)		100.0			329.0			210.1			49.0	
Turn Bay Length (m)	30.0			60.0					102.0			
Base Capacity (vph)	200	467		281	572			936	716	229	2166	
Starvation Cap Reductn	0	0		0	0			0	0	0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Spillback Cap Reductn	0	0		0	0			0	0	0	0	
Storage Cap Reductn	0	0		0	0			0	0	0	0	
Reduced v/c Ratio	0.70	0.46		0.37	0.54			1.80	0.16	0.97	0.76	

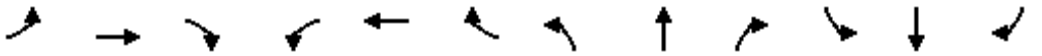
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.80			
Intersection Signal Delay: 161.3		Intersection LOS: F	
Intersection Capacity Utilization 131.8%		ICU Level of Service H	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

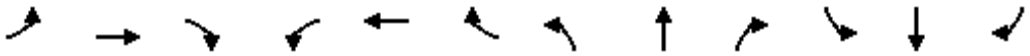
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Yonge St & Crosby Ave



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	51	106	20	43	72	120	1381	36	58	1437	102
Future Volume (vph)	62	51	106	20	43	72	120	1381	36	58	1437	102
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width (m)	3.3	3.3	3.3	3.3	3.3	3.7	3.3	3.0	3.0	3.3	3.3	3.3
Storage Length (m)	30.0		0.0	40.0		0.0	36.0		0.0	30.0		20.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	16.0			35.0			18.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	0.99	0.96		0.96	0.98			1.00		1.00		0.91
Frt		0.899			0.906			0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1766	1655	0	1837	1698	0	1837	3413	0	1837	3538	1565
Flt Permitted	0.679			0.614			0.078			0.147		
Satd. Flow (perm)	1243	1655	0	1142	1698	0	151	3413	0	283	3538	1432
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		112			32			5				85
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		103.5			110.2			123.6			234.1	
Travel Time (s)		9.3			9.9			8.9			16.9	
Confl. Peds. (#/hr)	17		47	47		17	41		29	29		41
Confl. Bikes (#/hr)												1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	0%	0%	0%	0%	2%	0%	3%	0%	0%	3%	5%
Bus Blockages (#/hr)	0	2	0	0	0	0	0	2	0	0	4	0
Adj. Flow (vph)	65	54	112	21	45	76	126	1454	38	61	1513	107
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	166	0	21	121	0	126	1492	0	61	1513	107
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.3			3.3			3.3			3.3	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	0.98	0.99	0.98	0.98	0.98	0.92	0.98	1.03	1.02	0.98	0.99	0.98
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	2.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases		4			8		1	6			2	
Permitted Phases	4			8			6			2		2
Detector Phase	4	4		8	8		1	6		2	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	28.0		28.0	28.0	28.0
Minimum Split (s)	32.0	32.0		32.0	32.0		11.0	34.0		34.0	34.0	34.0
Total Split (s)	32.0	32.0		32.0	32.0		11.0	58.0		47.0	47.0	47.0
Total Split (%)	35.6%	35.6%		35.6%	35.6%		12.2%	64.4%		52.2%	52.2%	52.2%
Maximum Green (s)	26.0	26.0		26.0	26.0		7.0	52.0		41.0	41.0	41.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		1.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		4.0	6.0		6.0	6.0	6.0
Lead/Lag							Lead			Lag	Lag	Lag
Lead-Lag Optimize?							Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	0.2		0.2	0.2	0.2
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0		7.0	7.0			14.0		14.0	14.0	14.0
Flash Dont Walk (s)	19.0	19.0		19.0	19.0			14.0		14.0	14.0	14.0
Pedestrian Calls (#/hr)	47	47		17	17			29		41	41	41
Act Effct Green (s)	19.6	19.6		19.6	19.6		60.4	58.4		47.4	47.4	47.4
Actuated g/C Ratio	0.22	0.22		0.22	0.22		0.67	0.65		0.53	0.53	0.53
v/c Ratio	0.24	0.37		0.08	0.31		0.54	0.67		0.41	0.81	0.13
Control Delay	28.3	12.0		24.9	21.3		19.9	13.3		17.9	16.5	2.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	28.3	12.0		24.9	21.3		19.9	13.3		17.9	16.5	2.3
LOS	C	B		C	C		B	B		B	B	A
Approach Delay		16.6			21.8			13.9			15.7	
Approach LOS		B			C			B			B	
90th %ile Green (s)	26.0	26.0		26.0	26.0		7.0	52.0		41.0	41.0	41.0
90th %ile Term Code	Ped	Ped		Ped	Ped		Max	Coord		Coord	Coord	Coord
70th %ile Green (s)	26.0	26.0		26.0	26.0		7.0	52.0		41.0	41.0	41.0
70th %ile Term Code	Ped	Ped		Hold	Hold		Max	Coord		Coord	Coord	Coord
50th %ile Green (s)	26.0	26.0		26.0	26.0		7.0	52.0		41.0	41.0	41.0
50th %ile Term Code	Ped	Ped		Hold	Hold		Max	Coord		Coord	Coord	Coord
30th %ile Green (s)	10.0	10.0		10.0	10.0		7.0	68.0		57.0	57.0	57.0
30th %ile Term Code	Min	Min		Min	Min		Max	Coord		Coord	Coord	Coord
10th %ile Green (s)	10.0	10.0		10.0	10.0		7.0	68.0		57.0	57.0	57.0
10th %ile Term Code	Min	Min		Min	Min		Max	Coord		Coord	Coord	Coord
Queue Length 50th (m)	8.9	7.2		2.8	12.1		9.0	99.0		3.3	96.0	0.4
Queue Length 95th (m)	19.4	22.6		8.5	26.0		24.7	127.3		m7.1	#182.1	m2.1
Internal Link Dist (m)		79.5			86.2			99.6			210.1	
Turn Bay Length (m)	30.0			40.0			36.0			30.0		20.0
Base Capacity (vph)	359	557		329	513		232	2216		148	1863	794
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.18	0.30		0.06	0.24		0.54	0.67		0.41	0.81	0.13

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 5 (6%), Referenced to phase 2:SBTL and 6:NBTL, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 15.2		Intersection LOS: B	
Intersection Capacity Utilization 95.3%		ICU Level of Service F	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

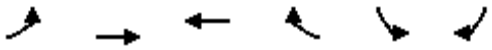
Splits and Phases: 3: Yonge St & Wright St/Dunlop St

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	59	0	96	59	0	41
Future Volume (vph)	59	0	96	59	0	41
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Lane Width (m)	3.7	3.7	3.7	3.7	3.3	3.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected				0.970		
Satd. Flow (prot)	1983	0	0	1923	1640	0
Flt Permitted				0.970		
Satd. Flow (perm)	1983	0	0	1923	1640	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	40.6			124.7	69.8	
Travel Time (s)	3.7			11.2	6.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	64	0	104	64	0	45
Shared Lane Traffic (%)						
Lane Group Flow (vph)	64	0	0	168	45	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.3	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	0.92	0.92	0.92	0.92	0.98	0.98
Turning Speed (k/h)		100	100		100	100
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 24.7%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	60	41	0	95	96	0
Future Volume (vph)	60	41	0	95	96	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Lane Width (m)	3.3	3.3	3.3	3.3	3.7	3.7
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.945		0.865			
Flt Protected	0.971					0.950
Satd. Flow (prot)	1739	0	1640	0	0	1883
Flt Permitted	0.971					0.950
Satd. Flow (perm)	1739	0	1640	0	0	1883
Link Speed (k/h)	40		40			40
Link Distance (m)	124.0		226.8			69.8
Travel Time (s)	11.2		20.4			6.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	45	0	103	104	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	110	0	103	0	0	104
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	6.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	0.98	0.98	0.98	0.98	0.92	0.92
Turning Speed (k/h)	100	100		100	100	
Sign Control	Stop		Stop			Stop

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 23.9%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	159	169	95	60	0
Future Volume (vph)	0	159	169	95	60	0
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Lane Width (m)	3.3	3.3	3.3	3.3	3.3	3.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.952			
Flt Protected					0.950	
Satd. Flow (prot)	0	1895	1804	0	1801	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1895	1804	0	1801	0
Link Speed (k/h)		40	40		40	
Link Distance (m)		151.5	103.5		226.8	
Travel Time (s)		13.6	9.3		20.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	173	184	103	65	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	173	287	0	65	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.3	3.3		3.3	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	0.98	0.98	0.98	0.98	0.98	0.98
Turning Speed (k/h)	100			100	100	100
Sign Control		Stop	Stop		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 24.0%		ICU Level of Service A	
Analysis Period (min) 15			

APPENDIX

E PRELIMINARY DESIGN DRAWINGS FOR PREFERRED OPTION

TYPICAL CROSS-SECTION ALONG E-W STREET SEGMENT

TYPICAL CROSS-SECTION ALONG N-S STREET SEGMENT

YONGE STREET

BENSON AVENUE

WRIGHT STREET

10376 Yonge Street

FUTURE LINEAR PARK / ACTIVE TRANSPORTATION CORRIDOR

POTENTIAL MUP

10350 Yonge Street

10330 Yonge Street

10318 Yonge Street

10312 Yonge Street

10300 Yonge Street

10288 Yonge Street

26 Benson Avenue

APPROXIMATE LIMIT OF UNDERGROUND PARKING

POTENTIAL OUTDOOR PLAZA

10366 Yonge Street

19.4

POTENTIAL TOWNHOUSES

107 Hall Street

POTENTIAL PEDESTRIAN CONNECTION

51 Wright Street

31 Wright Street

35A Wright Street

50 Benson Avenue

LEGEND

- ROW
- PROPERTY LINE
- MULTI-USE PATH
- FUTURE ROAD
- INTERIM ROAD
- PEDESTRIAN CONNECTION
- FUTURE LINEAR PARK / ACTIVE TRANSPORTATION CORRIDOR
- POTENTIAL OUTDOOR PLAZA
- PRIVATE ROAD
- BOULEVARD
- SIDEWALK

CROSBY AVENUE EXTENSION

RICHMOND HILL, ONT.

INTERIM CONDITION OPTION 1

wsp

Date: 2025-05-30

Scale: 1:500

Consultant File No.
CA0034856.2442

Drawing No.
C-100

TYPICAL CROSS-SECTION ALONG E-W STREET SEGMENT

TYPICAL CROSS-SECTION ALONG N-S STREET SEGMENT

YONGE STREET

BENSON AVENUE

WRIGHT STREET

10376 Yonge Street

FUTURE LINEAR PARK / ACTIVE TRANSPORTATION CORRIDOR

POTENTIAL MUP

10350 Yonge Street

10330 Yonge Street

10318 Yonge Street

10312 Yonge Street

10300 Yonge Street

10288 Yonge Street

26 Benson Avenue

APPROXIMATE LIMIT OF UNDERGROUND PARKING

3.0

14.8

19.4

POTENTIAL OUTDOOR PLAZA

POTENTIAL TOWNHOUSES

10366 Yonge Street

107 Hall Street

POTENTIAL PEDESTRIAN CONNECTION

51 Wright Street

31 Wright Street

35A Wright Street

50 Benson Avenue

LEGEND

- ROW
- PROPERTY LINE
- MULTI-USE PATH
- FUTURE ROAD
- INTERIM ROAD
- PEDESTRIAN CONNECTION
- FUTURE LINEAR PARK / ACTIVE TRANSPORTATION CORRIDOR
- POTENTIAL OUTDOOR PLAZA
- PRIVATE ROAD
- BOULEVARD
- SIDEWALK

CROSBY AVENUE EXTENSION

RICHMOND HILL, ONT.

INTERIM CONDITION OPTION 2

wsp

Date: 2025-05-30
Scale: 1:500
Consultant File No. CA0034856.2442
Drawing No. C-200

TYPICAL CROSS-SECTION ALONG E-W STREET SEGMENT

TYPICAL CROSS-SECTION ALONG N-S STREET SEGMENT

YONGE STREET

BENSON AVENUE

WRIGHT STREET

10376 Yonge Street

FUTURE LINEAR PARK / ACTIVE TRANSPORTATION CORRIDOR

POTENTIAL MUP

10350 Yonge Street

10330 Yonge Street

10318 Yonge Street

10312 Yonge Street

10300 Yonge Street

10288 Yonge Street

26 Benson Avenue

APPROXIMATE LIMIT OF UNDERGROUND PARKING

POTENTIAL OUTDOOR PLAZA

10366 Yonge Street

19.4

POTENTIAL TOWNHOUSES

107 Hall Street

POTENTIAL PEDESTRIAN CONNECTION

51 Wright Street

31 Wright Street

35A Wright Street

50 Benson Avenue

LEGEND

- ROW
- PROPERTY LINE
- MULTI-USE PATH
- ULTIMATE ROAD
- PRIVATE ROAD
- FUTURE LINEAR PARK / ACTIVE TRANSPORTATION CORRIDOR
- POTENTIAL OUTDOOR PLAZA
- BOULEVARD
- SIDEWALK
- PEDESTRIAN CONNECTION

CROSBY AVENUE EXTENSION

RICHMOND HILL, ONT.

ULTIMATE CONDITION

Date: 2025-05-30
Scale: 1:500
Consultant File No. CA0034856.2442
Drawing No. C-300

TYPICAL CROSS-SECTION ALONG E-W STREET SEGMENT

TYPICAL CROSS-SECTION ALONG N-S STREET SEGMENT

YONGE STREET

BENSON AVENUE

WRIGHT STREET

APPROXIMATELY 83m² OF 10376 YONGE STREET IMPACTED BY PROPOSED ROW

APPROXIMATELY 727m² OF 10350 YONGE STREET IMPACTED BY PROPOSED ROW

10376 Yonge Street

FUTURE LINEAR PARK / ACTIVE TRANSPORTATION CORRIDOR

POTENTIAL MUP

10350 Yonge Street

10330 Yonge Street

10318 Yonge Street

10312 Yonge Street

10300 Yonge Street

10288 Yonge Street

26 Benson Avenue

APPROXIMATE LIMIT OF UNDERGROUND PARKING

APPROXIMATELY 901m² OF 10330 YONGE STREET IMPACTED BY PROPOSED ROW

APPROXIMATELY 2645m² OF 10288 YONGE STREET IMPACTED BY PROPOSED ROW

8.0

19.0

3.0

APPROXIMATELY 2351m² OF 10350 YONGE STREET IMPACTED BY PROPOSED ROW

APPROXIMATELY 5673m² OF 51 WRIGHT STREET IMPACTED BY PROPOSED ROW

APPROXIMATELY 112m² OF 31 WRIGHT STREET IMPACTED BY PROPOSED ROW

POTENTIAL OUTDOOR PLAZA

APPROXIMATELY 6731m² OF 10366 YONGE STREET IMPACTED BY PROPOSED ROW

10366 Yonge Street

19.4

POTENTIAL TOWNHOUSES

51 Wright Street

31 Wright Street

107 Hall Street

POTENTIAL PEDESTRIAN CONNECTION

35A Wright Street

50 Benson Avenue

LEGEND

- ROW
- PROPERTY LINE
- MULTI-USE PATH
- ULTIMATE ROAD
- PRIVATE ROAD
- PROPERTY IMPACT AREA ESTIMATE
- FUTURE LINEAR PARK / ACTIVE TRANSPORTATION CORRIDOR
- POTENTIAL OUTDOOR PLAZA
- BOULEVARD
- SIDEWALK
- PEDESTRIAN CONNECTION

CROSBY AVENUE EXTENSION

RICHMOND HILL, ONT.

ULTIMATE CONDITION PROPERTY IMPACT AREAS ESTIMATE

wsp

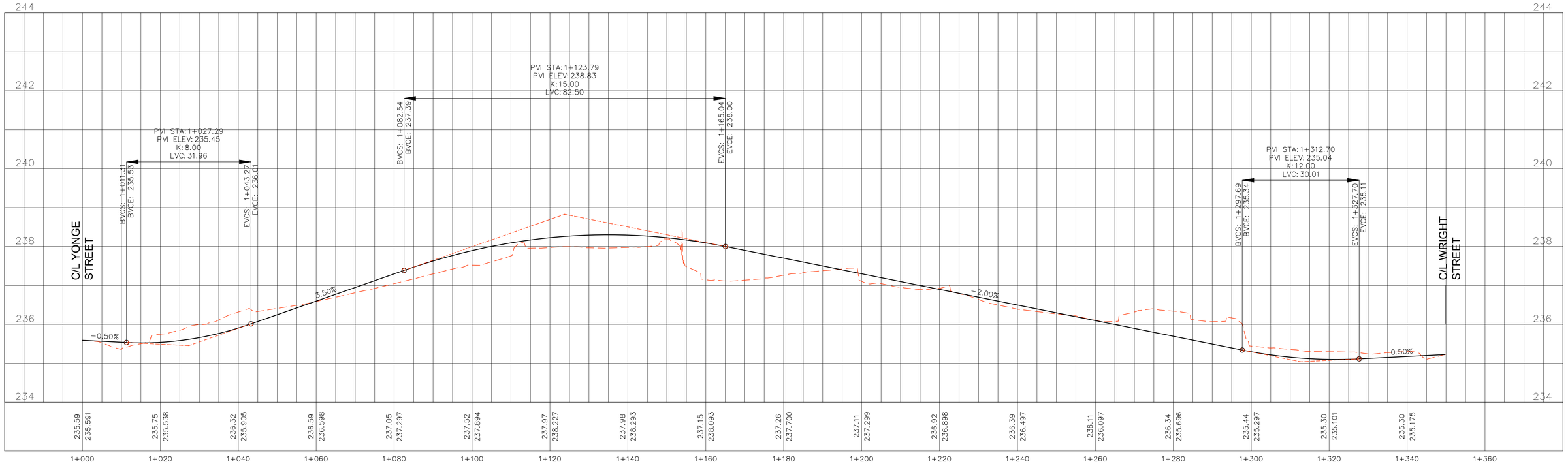
Date: 2025-05-30

Scale: 1:500

Consultant File No. CA0034856.2442

Drawing No. C-301

CROSBY AVENUE PROFILE



LEGEND

- EXISTING GROUND PROFILE
- PROPOSED CROSBY AVENUE PROFILE

CROSBY AVENUE EXTENSION RICHMOND HILL, ONT.	CROSBY AVENUE PROFILE	wsp	Date: 2025-05-30 Scale: 1:500 Consultant File No. CA0034856.2442 Drawing No. C-400